CYBERPLAT® TECHNOLOGIES:
PILLAR FOR GLOBAL INFRASTRUCTURE OF THE NEW ECONOMY

The largest electronic payment system

More than 1,480,000 points-of-sale

2019

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Introduction

CEO's ADDRESS

ANDREY YURIEVICH GRIBOV

Chief Executive Officer of CYBERPLAT LLC

More than a decade and a half ago, Russia entered the XXI century - the century of economy and knowledge, and the CyberPlat® system has emerged and is developing in response to the increased business needs of the third millennium. New emerging functionalities and services of ultimate availability for the ever wider segments of the population call for the creation of new payment instruments.

A while back, banks were created to store large amounts of money. Thus, banks have fortified walls, armored doors and are serviced by highly qualified and, consequently, highly paid personnel, and also use the best technical achievements to ensure the safety of money. As a result, the prime cost of a cash acceptance and payment transaction is usually at least $1.

The knowledge-based economy has created many businesses (such as those providing telecommunication services) serving tens of millions of subscribers. These businesses collect a very large number of small payments. The average amount of a transaction in the CyberPlat® system in Russia is only about $8.5. Making such small payments is not profitable for banks.

At the same time, the procedure for accepting such amounts does not require high levels of security. It is quite safe to collect payments in size of several US dollars through checkout counters of conventional retail chains (communications stores, supermarkets, pharmacies, gas stations), which is much cheaper. These days, private clients make regular small payments — for communications, Internet, cable TV services — mainly through retail networks. In addition, as changes to legislation are made, other operations shift to retail, such as bank loans repayments and bank accounts replenishment, paying traffic fines and taxes, sending money transfers, paying for housing costs and utilities. At the end of 2018, over 8 thousand payment recipients — providers of goods and services — were registered in the CyberPlat® electronic payment system.

CyberPlat® facilitates getting new sources of income and increasing turnovers for its partners and members of the electronic payment system in their core businesses.

To this end, we have created and are developing a powerful payment infrastructure. Even today, it surpasses the entire national banking system by the number of payment acceptance outlets.

Glossary

OPERATOR — any organization providing services to the public and accepting payments through CyberPlat®. These are mobile and fixed-line service companies (MTS, Beeline, MegaFon, Tele2, Rostelecom, etc.), commercial TV providers (NTV +, Akado, etc.), Internet access and IP telephony providers (Qwerty, Dom.ru, etc.), housing and utilities infrastructure and energy enterprises, air ticket sales services, etc.

SUBSCRIBER — any individual or legal entity paying for operator services through CyberPlat® either in prepaid mode (personal account replenishment operation), or in the form of a subscription fee, or in the form of payment for services that have been already provided, for example, utilities.

PAYMENT ACCEPTANCE OUTLET — any workplace where the acceptance of subscribers' payments to operators through CyberPlat® is available —a cashier's office, a payment terminal, a workplace of a bank cashier or a communications store manager, a vending kiosk seller, etc.

CASHIER — a payment acceptance outlet specialist serving the subscriber directly.

DISTRIBUTION NETWORKS — the body of payment acceptance outlets united by a brand (for example, “Euroset” communications store chain, MTS retail network, “Eldorado” retail chain); a large supermarket with a dozen of checkout counters, each of which is a payment acceptance outlet, is also considered a distribution network.

PAYMENT TERMINAL (SELF-SERVICE CASH-IN KIOSK) — a fully automated payment acceptance outlet operating without a cashier — an alternative to ATM. There are payment terminals of such networks as “Eleksnet”, “PlatezhKa”, “Plat-Forma”, etc.

PAYMENT AGENT (AGENT) — a legal entity (retail chain or a single payment acceptance outlet, for example, a shop, a kiosk or a pharmacy) or a sole entrepreneur accepting payments from subscribers through CyberPlat® to service providers.

BANK PAYMENT AGENT — a legal entity other than banks, or a sole entrepreneur engaged by a bank to provide payment services through the CyberPlat® system.

REGIONAL REPRESANTATIVE — a representative of the CyberPlat® company engaged in attracting new agents for the electronic payment system. The income of such representatives is formed based on a commission, the amount of which directly depends

Acute Need of Customers and Modern Economy for Online Payments Market

What for the banking system is needed?

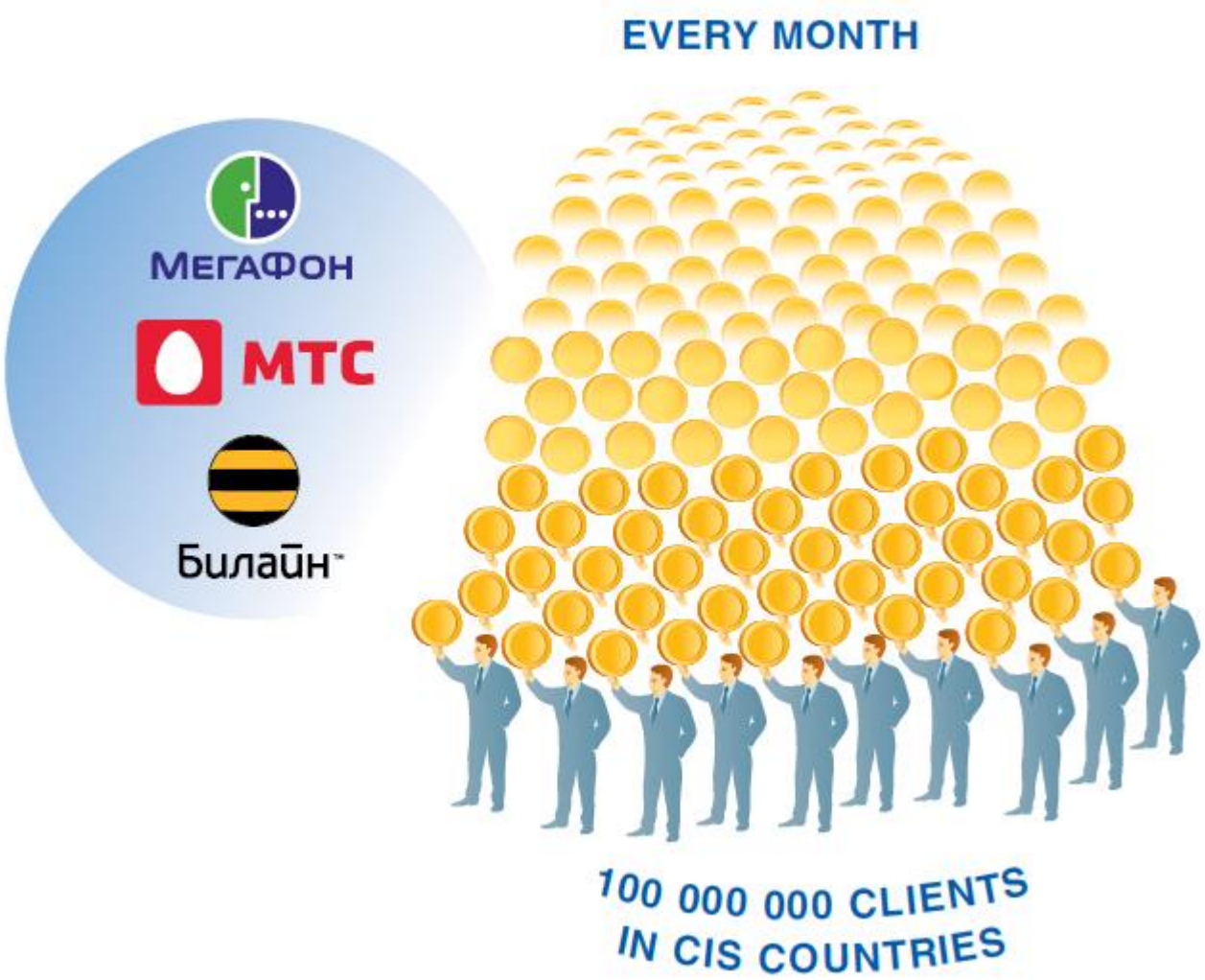
Commerce may efficiently function only in the environment of a well-developed banking network. However, the infrastructure of the existing banking system has not been tuned for making small transactions. Banks are traditionally used as a place for safe storage and transfer of large amounts of money. Fortified walls, bulletproof windows, armed guards and highly professional personnel are integral attributes of a banking institution.

For these reasons, the prime cost of a retail bank transaction is very high. The payment procedure is also time-consuming for both the client and the highly compensated bank personnel. In this connection, a retail payment in a bank cannot be a cheap transaction, and its cost is at least $ 1 for a credit institution.

Needs of the New Economy

The new, modern sectors of the economy are distinct in the network nature of services provision. Mobile communications, Internet, cable TV serve a sagan of subscribers with relatively small amounts of regular payments. The point at issue is tens and hundreds of millions of customers, each of whom often pays just $5-10 per month.

Thus, for example, the average income per user (ARPU) in mobile communications in Russia is more than $7. The average amount of a payment through the CyberPlat® system is $8.5. The average payment amount in Moscow is above $12, and $3 in the regions of Russia, $5.9 in Kazakhstan, and $2.1 in India.



Modern banking system and the needs of the of the New Economy

When a customer of a mobile operator replenishes their subscriber account for $5 at a branch of an ordinary bank (Russia has about 30.7 thousand banking units for more than 146 million people), the cost of such a transaction for the bank, as shown above, is approximately $1. Taking into account the bank margin (as the bank cannot work for free) about $1.5 will be withheld from the client, amounting approximately to 30% of the payment sum. Obviously, for the client, such a commission is unacceptable.

And this drives the need for the formation of a new, more efficient financial infrastructure for processing large numbers of relatively small payments. The natural base for this new infrastructure are retail businesses. Small payments can be easily accepted by a checkout clerk, whose salary is significantly lower than the average salary of a bank employee.

In addition, stores do not need armored walls, vault safes and ultra-reliable security systems (they are simply not needed for payments amounting to $3-5). Consequently, the prime cost of accepting payments in retail is significantly lower than in banks.

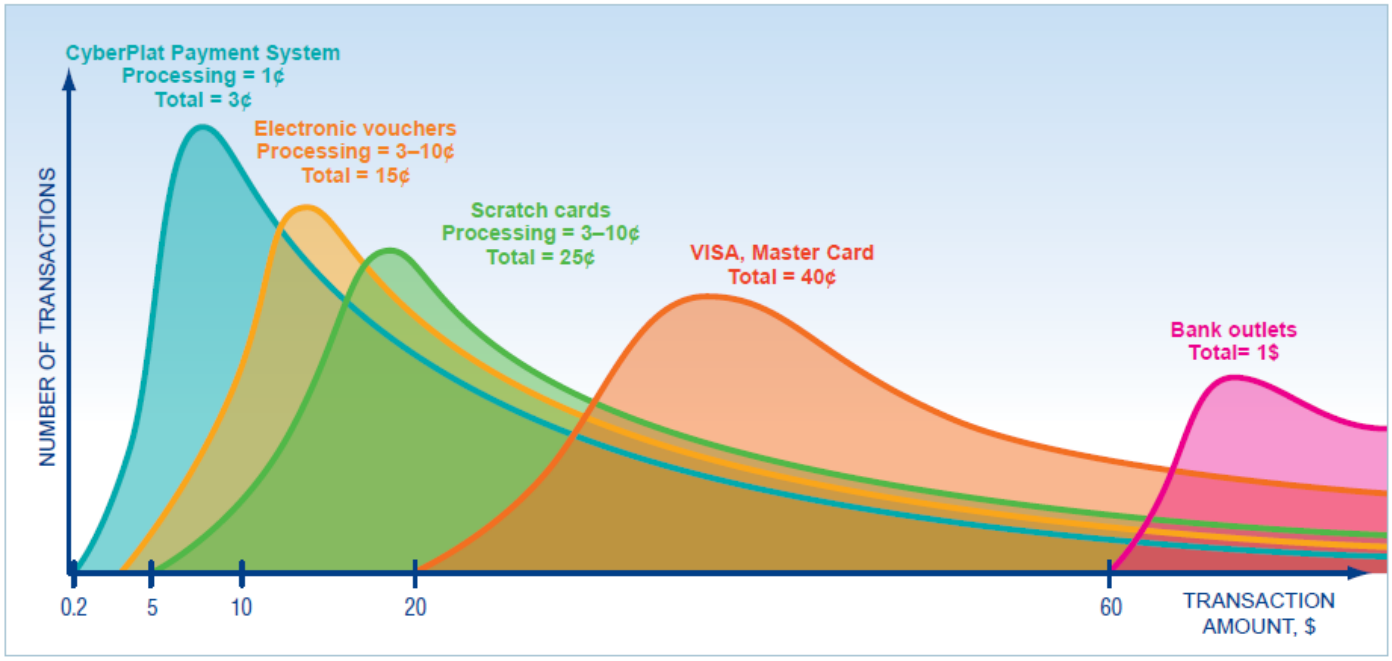
Naturally, small payments cannot be made in vast numbers without creating a new financial infrastructure. This means that in its absence the development of the new economy is seriously obstructed — businesses will not have channels to collect money for their services, and people will be restricted in their use of modern digital services. The lack of a new financial infrastructure is among the reasons for the class division of the society on the basis of access to the modern functionalities and services, which is commonly called the “Digital Divide”.

The New Economy needs less expensive financial infrastructure

Thus, it is obvious, that there is an acute need for new financial infrastructure (NFI) necessary for development of the New Economy. It does not mean that NFI will replace the existing financial infrastructure, on the contrary it will supplement it and will occupy its own niche in the market. It can be presumed, that this niche will still be acceptable for payments falling within the range of $50–100. Moreover, in the absence of new financial infrastructure, the New Economy will not develop dynamically and will not cover broad layers of population. New Economy is based mainly on those businesses with ARPU index equaling $3–5.

Super-competitiveness of CyberPlat® payment technology

Based on the analysis of existing payment technologies, cost of payments performed via CyberPlat® system is so small (see fig. below) that makes payment acceptance procedure profitable even with minimum payment amounts not exceeding the average of $5. At the same time, level of commission fees can be set up so that it will suit both, for instance, the retail company organizing payment acceptance procedure via CyberPlat® technology and the customer who is not ready to pay 10–30-percent commission fee (as shown above, in case of micropayments in the bank, the amount of commission fee can be as high as 30%, given the minimum level of profitability).



Failing to satisfy certain needs in absence of cost expensive financial infrastructure

Services such services as, for example, iTunes, which offering users content and products at relatively low prices, often less than $ 1, are well represented nowdays on the market and are have been developing dynamically. Today, on the Internet, one has the opportunity to can download from the Internet and use the enjoy hits of famous artists legally at a the price of $ 0.5, $ 0.25 or even less. It is clear that Evidently, such a business cannot develop without an appropriate cash collection money acceptance system.

This also applies to other types of distribution services selling intellectual content —, and not only in the field of entertainment — such as, including Google Earth, paid directory services, etc. For example, LexisNexis provides its clients with access to millions of documents and records from over 45,000 legal, news and business sources. The service is available for a monthly fee (approximately $50 per month). Using the technologies offered by us, you can pay $ 1, find what you need, and disconnect from the Internet service.

Such micropayment technologies are certainly capable of creating a serious momentum to the development of a new economy.

Production and distribution cost of scratch cards

As previously mentioned, micropayment infrastructure is truly essential for service providers. It allows covering all layers of society instead of using post paid method of payment, which allows covering only customers who have bank accounts and only in those countries where direct debit of accounts is permitted.

Especially for customers with average personal income, telecommunications industry has created a financial product called a scratch card. Production cost of scratch card is relatively high; each card costs at least $0.2. At the same time, scratch cards allow covering sector of economy with 5–25 dollar payments. Such payments are unprofitable if processed through banks.

Production of scratch cards with nominal value of less than $5 is simply unprofitable, as shown in the following table.

Cost of production and distribution of scratch cards (% of nominal value)

Nominal Value	Production Cost	Commission Fee	Total Expenditure
$15	1%	7%	8%
$10	2%	9%	11%
$5	4%	10%	14%
$4	5%	12%	17%
$3	10%	18%	28%
$2	20%	25%	45%
$1	30%	30%	60%

Small Payments

Thus, it is obvious that production of scratch cards with nominal value of less than $5 is impossible, as production cost of scratch cards will exceed the inadmissible 30–40% margin. Therefore, in order to cover the poorest layers of society (children, migrant workers, poor people, or average layers of populations throughout African and Asian countries) it is crucial to use inexpensive payment methods.

People with low income usually do not carry more than $2

Reliable Technology

It is crucial that inexpensive CyberPlat® payment methods are also quiet reliable.

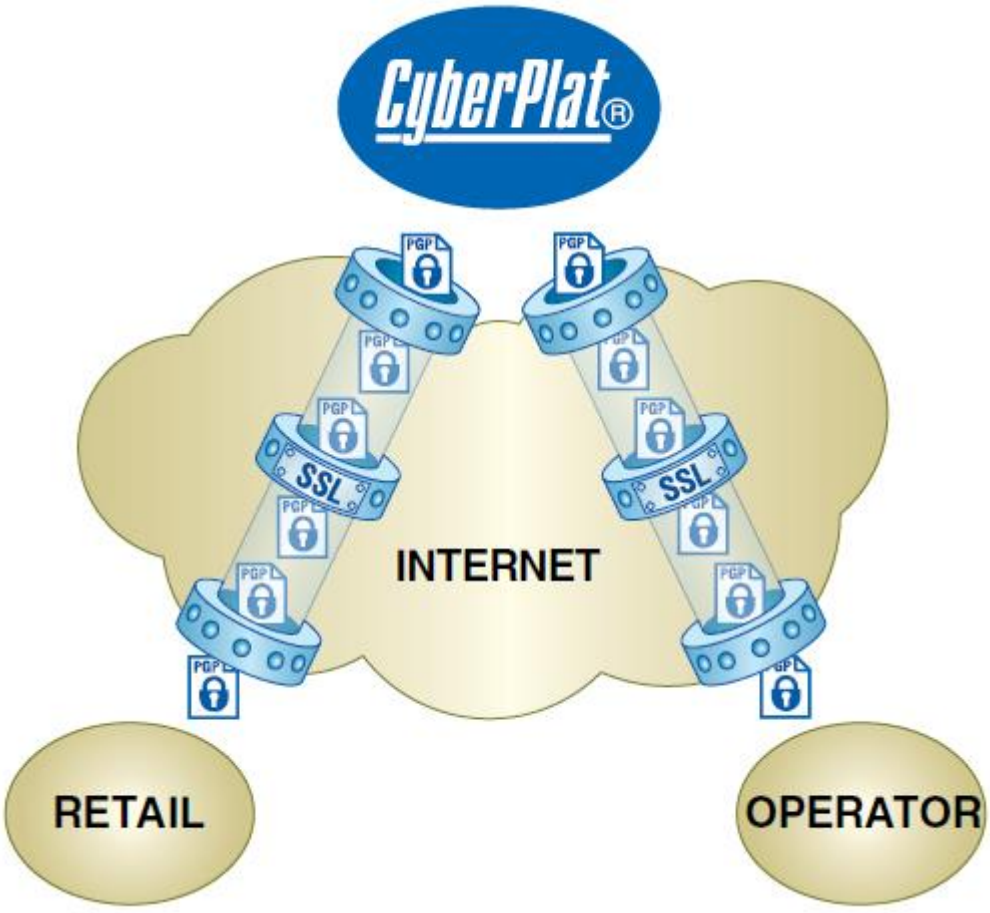
It is essential that the inexpensive payment methods offered by CyberPlat® were of the highest reliability.

Each provider and all agents of the electronic payment system are connected to the CyberPlat® processing via the Internet – — either using a dedicated line, dial-up communication or a regular GPRS batch data communications system.

With each such transaction, an SSL connection (secure connection protocol) is established, which is used to transfer, encode and certify files of 1 kilobyte with a digital signature.

Since the size of such a file is very small, it allows using any type of Internet connection - — even if it is very weak.

The reliability of such transactions is high (for encryption, a 2048-bit key is used) and is more than enough for payments of $ 5. For more than 20 years since the CyberPlat® system was put into operation, not a single case of the system hacking has occurred. Experience has shown that such a system can not be hacked, whether theoretically or practically.



The reason it is popular why?

Mobile communication coverage

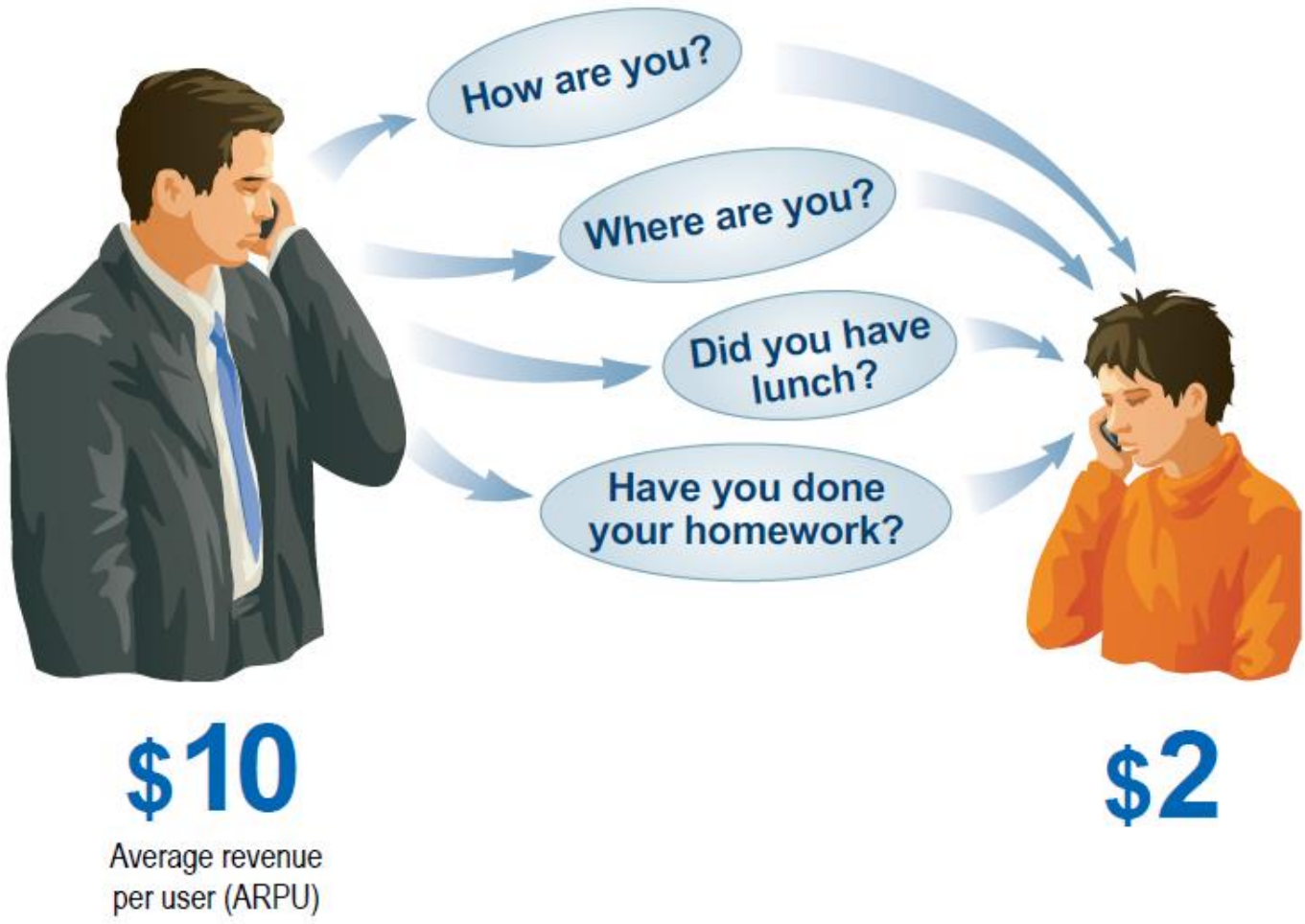
Why has CyberPlat® business was developing at such a rapid pace, for example, in Russia? Because it provided more than 100% actual coverage of the population with mobile services. Today, even a child from a low-income Russian family uses a mobile phone. Data from reputable international studies indicate that the number of SIM-cards in use has increased to 250 million for above 146 million people in Russia. To make this estimation, experts take into account people who use several mobile phones, as well as a certain number of “silent” SIM-cards. As a matter of fact, the rate of mobile services use in Russia is about 90%, proving the fact that yet every child in Russia uses mobile services.

This is only possible because children are able to transfer their pocket money, yet very modest, to their own mobile phone account.

Since the system’s launch, several million low-income young subscribers started using CyberPlat® services, as they can well afford to spend 150-200 RUB per month for mobile communications. In their tariff plans, certain regional mobile operators offer the opportunity to send up to 100 SMS messages free of charge — this is actively used by children who use voice communication less often, but actively communicate in SMS format.

Increased traffic from parents

Children generate incoming traffic from their parents. For this very reason they are an important customer category for mobile operators. Indeed, regular calls from parents to children (“Where are you?”, “When did you come home from school?”, “Have you eaten?”, “Have you done your homework?”, etc.) cause a serious increase in voice traffic from the parents, thus increasing the income received by mobile operators.



About the Company

General information

An integrated universal multibank payment system named CyberPlat® was created in 1997 on the basis of the Platina Bank's e-commerce department. It was developed with the goal to provide information and technological support of e-commerce non-cash payments for the entire range of financial services — from micropayments to interbank payments. CyberPlat® spun off as a separate entity in 2000.

CyberPlat® is the pioneer Russian electronic payment system — the first transaction was made to the Garant-Park company on March 18, 1998, and the first online payment via the Internet was made to the Beeline mobile operator on August 12, 1998.

During more than 20 years of operation on the market, the company has accumulated vast experience in organizing payment acceptance in retail and service chains. By the end of 2018, payments to more than 8,000 service providers, including mobile and fixed-line telephony companies, cable TV, wire and mobile Internet providers, security alarm systems, housing and utility service enterprises, and energy sale companies across almost all regions of the Russian Federation were accepted through the system. Using the CyberPlat® system, you can pay for airplane and railway tickets, repay bank loans and make money transfers, as well as make payments to the government: taxes and charges, traffic police fines, work permit fees, etc.

Ongoing modernization of the technological platform allows the CyberPlat® electronic payment system to conduct more than 1400 financial transactions per second — this record for Russia provides a 15-fold safety margin concerning maximum peak system loads.

This performance is complemented with the absolute security of financial transactions. Up to 16 operations (postings) are performed in the system, certified by a digital signature and carried out using secure online data transmission methods, within the framework of a single transaction. This technology ensures absolute security of financial transactions and minimizes the number of payments made in error. There has not been a single case of information system hacking or illegal transaction occurred in the CyberPlat® system.

By the criteria of reliability and uninterrupted operation, the CyberPlat® electronic payment system is also unparalleled in the Russian market — the system fault tolerance indicator exceeds that of its closest competitors by several times.

All major players in the telecommunications market, the largest Russian banks, including Sberbank of Russia, VTB, Post Bank, Alfa-Bank, Rosselkhozbank, Rosbank, Unicredit, Russia, Russian Standard Bank, etc., federal retail chains “Eldorado”, “Euroset”, etc., JSC “Kazpost”, government agencies, energy sales and transport companies, housing and utility enterprises, and many others are the partners in arranging payment acceptance that have appreciated the benefits of using the CyberPlat® system.

The CyberPlat® system performs the function of most importance for the state, specifically the ensuring of large volumes of payments from the population to various providers of goods and services, thus contributing to the active development of new economy sectors relying on provision of modern services in the areas of telecommunications, banking and insurance, and retail sales. The share of payments for housing and utilities and payments to government agencies (taxes, duties, fees, fines) has been significantly increasing these days. The CyberPlat® electronic payment system has been chosen as the partner of the Federal Treasury and the Federal Tax Service, and it has taken part in pilot projects to develop new mechanisms for financial interaction between citizens and it has taken part in pilot projects to develop new mechanisms for financial interaction between citizens and government agencies.

Awards

The steady growth of financial turnover and improvement of service quality makes CyberPlat® payment system the market leader. This is evidenced by dozens of awards and diplomas granted by corporate partners. Thus, in 2010 based on the results of complex monitoring of major partners in payment acceptance sector, MTS Company recognized CyberPlat® to be the most reliable processing system.

Beeline (Vympelkom OJSC), 2007

Beeline (Vympelkom OJSC), 2006

Beeline (Kar-Tel LLP), 2007

Beeline (Vympelkom OJSC), 2007

MegaFon OJSC 2007

MegaFon OJSC 2008

C-News Award 2007

MTS (Mobile TeleSystems OJSC) 2010

MTS (Mobile TeleSystems OJSC) 2005 г.

CyberPlat® business activity was also awarded with similar diplomas by other companies.

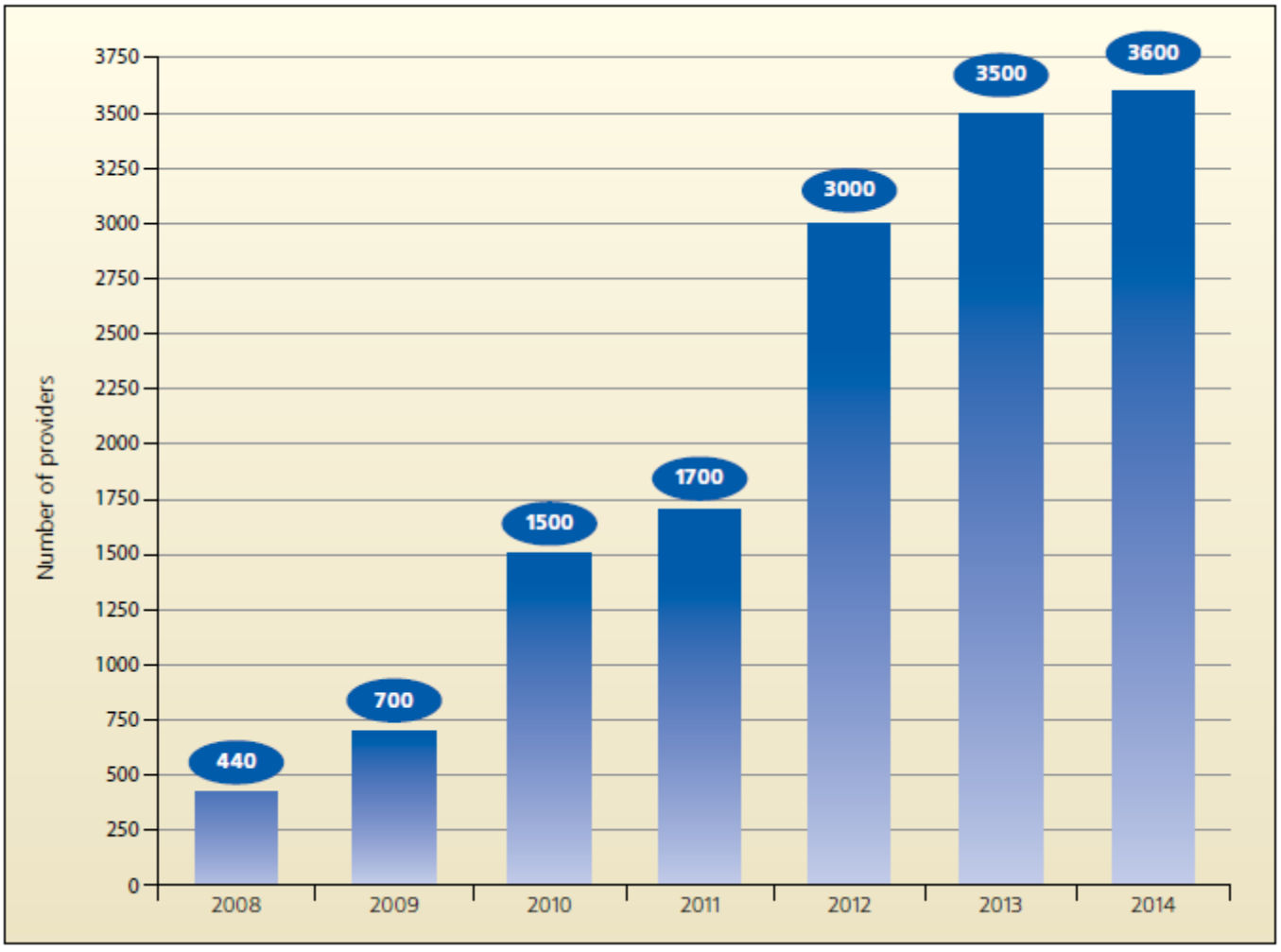
Key figures

In 2018, as in previous years, CyberPlat® showed stable business dynamics. The total number of payment acceptance outlets exceeded 1,480,000, of which more than 700,000 are located in Russia and the CIS countries, and the others — in the largest cities of many countries around the world.

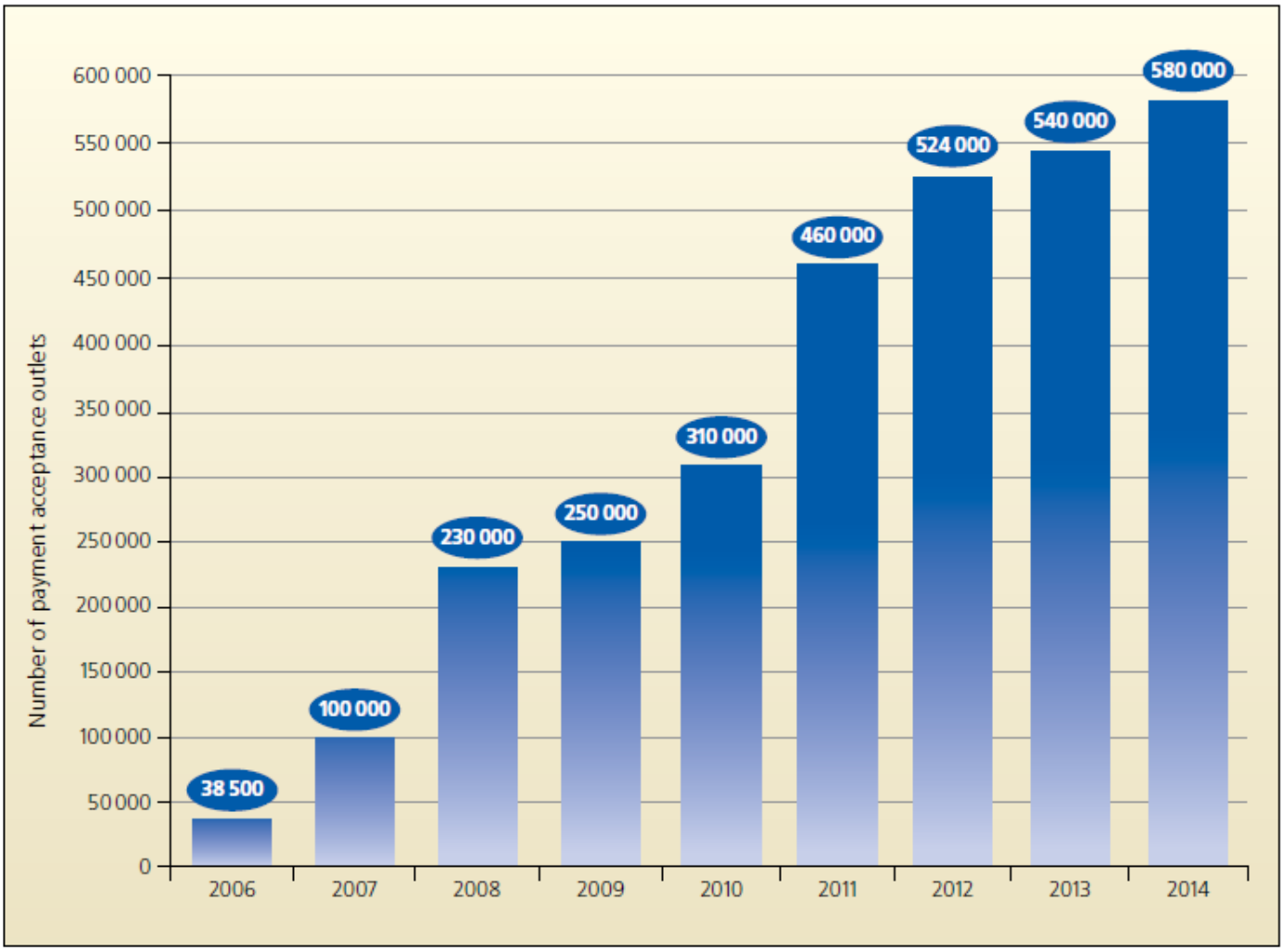
The total number of CyberPlat® payment acceptance outlets in Russia and the CIS countries is currently 20-fold larger than the size of the entire Russian banking system (as of January 1, 2019, the number of banking institutions with all branches, divisions and even mobile cash desks in the Russian Federation was about 31,000).

As of the end of 2018, more than 250 banks are members of the system.

Number of providers (dynamics)



Number of payment acceptance outlets in Russia and CIS (dynamics)



Partners' Opinion about CyberPlat®

Aleksander Vladimirovich Samokhvalov ,
Chairman of the Board of JSC "Russian Standard Bank":

Our bank is a member of the CyberPlat® electronic payment system, and I must say that for the entire period of our cooperation, we have never regretted it. CyberPlat® specialists have developed a whole range of excellent products for banks, many of which are actively used by us — we accept payments through the CyberPlat® system and have integrated this feature into our Internet banking system for our clients. The use of CyberPlat® technologies allows us to improve our business and make it more efficient.

.

Oksana Aleksandrovna Guskova ,

CEO of United Company Svyaznoy | Euroset:

CyberPlat® was a pioneer on the payment acceptance market, and for many years it worked so that the Russian consumer could pay for a variety of services in the most convenient way. CyberPlat® is our long-standing and reliable partner..

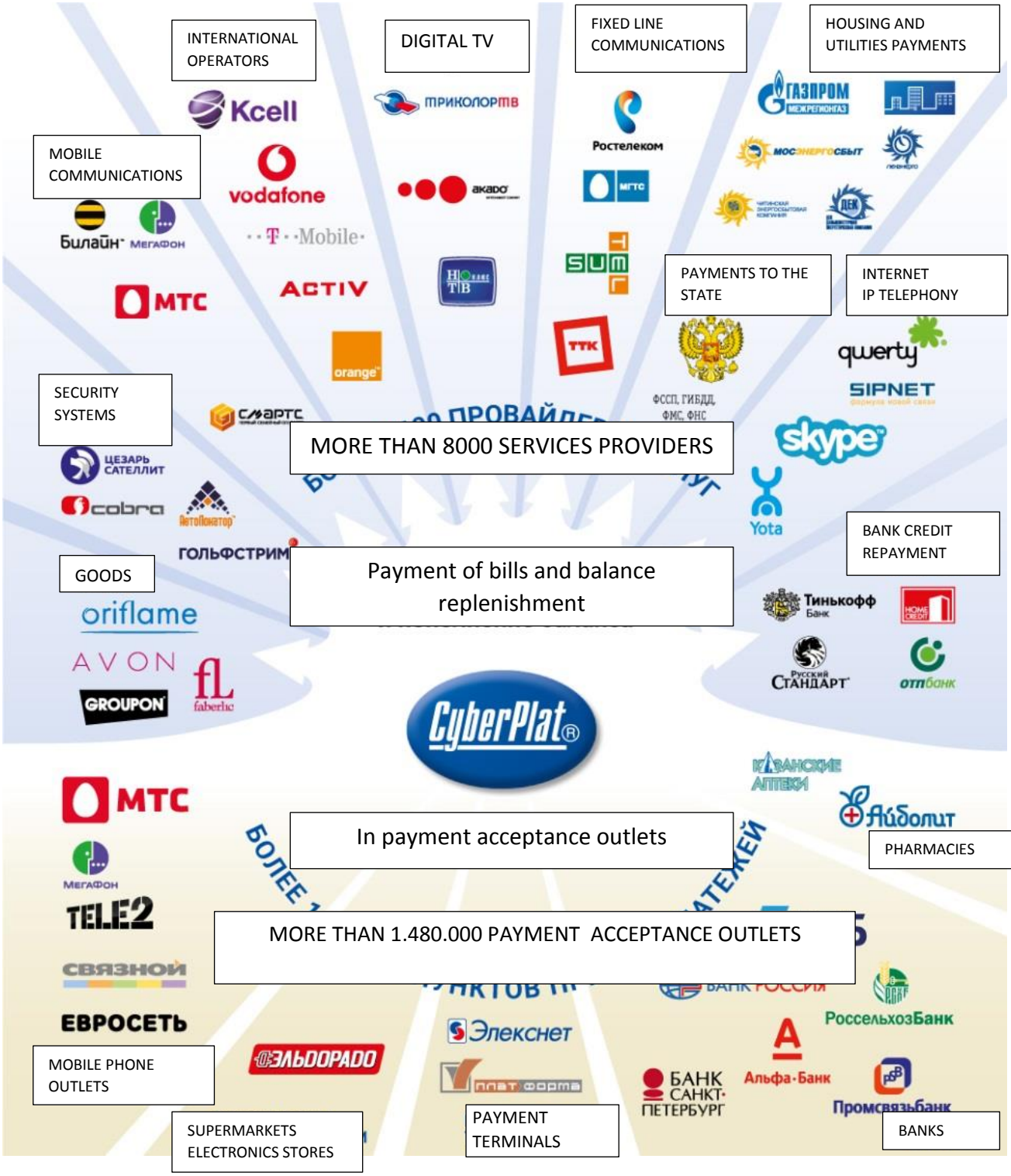
Evgeny Pavlovich Galushko,

Director General of the "MTS" retail chain:

The CyberPlat® system has made a significant contribution to the development of payment acceptance services in Russia, which, among other things, played a role in mobile communication becoming a massive and affordable service in the country. The company is constantly looking for new ways of development, improving the already launched services, and we appreciate the productive cooperation with CyberPlat® — this is one of the account replenishment channels of our users. CyberPlat® has repeatedly become the winner of MTS tenders in various regions, and we have also been cooperating with CyberPlat® on a long-term basis in accepting payments through cash desks of MTS retail outlets

CyberPlat® in Operation

CyberPlat® Business Organization Scheme



Corporate Partners

For service providers, the issue of cost optimization in collecting revenue for the services rendered becomes pressing as their customer base grows. The CyberPlat® system allows making the revenue collection process more efficient, therefore the number of organizations using CyberPlat® has been growing dynamically during the entire period of the company's operation in the market.

Today, the CyberPlat® electronic payment system integrates payment gateways to the largest service providers, including leading mobile and fixed-line operators, satellite and cable television operators, housing and utility service organizations, energy and gas retail companies, and many others.

The largest operators in their respective sectors, for accessing which direct payment gateways have been developed, are shown below. In addition, the CyberPlat® system integrates all significant service providers from all regions of the Russian Federation (including regional housing and utility, gas and energy retail companies), payments to which are made through the Banking Provider gateway.

Some of the largest operators and service providers

Mobile communication

MTS

All-Russian operator

MegaFon

All-Russian operator

Beeline

All-Russian operator

Tele2

All-Russian operator

Motiv

Yekaterinburg and Sverdlovsk regions

Fixed line communication

Rostelecom

All-Russian operator

MGTS

Moscow

Transtelecom

All-Russian operator

Sum Telecom

in St. Petersburg, Nizhny Novgorod, Tula, Tver, Orel, Lipetsk, Voronezh, Rostov-on-Don, Krasnodar and Makhachkala, Derbent, Kaspiysk, Kizilyurt

Television and Internet

NTV-Plus

All-Russian operator

Tricolor-TV

All-Russian operator

AKADO

Moscow

Yota

Moscow

Dom.ru

Orion Express

Utilities payments

Gazprom Mezhregiongaz

Mosoblgaz

TNS Energo

Mosenergosbyt

MOSOBLEIRTS JSC

“EIRTS LO”

Dalenergosbyt

Sverdlovsk Energy and Gas Company

Yakutskenergo

Tyumen Power Sales Company

Yekaterinburg Electric Grid Company

Security systems

Cesar Satellite

Satellite security system

Autolocator

Satellite anti-theft system

Cobra Connex

Satellite security search system

Golfstream

Air tickets

Ozon-Travel

Flight booking

Tour operator “Intourist”

UFS

Airplane and railway tickets booking

Bilet-On-Line

Sale of airplane and railway tickets

Tour operator "Delfin"

Goods (direct sales)

Avon

Oriflame

Faberlic

Zepter

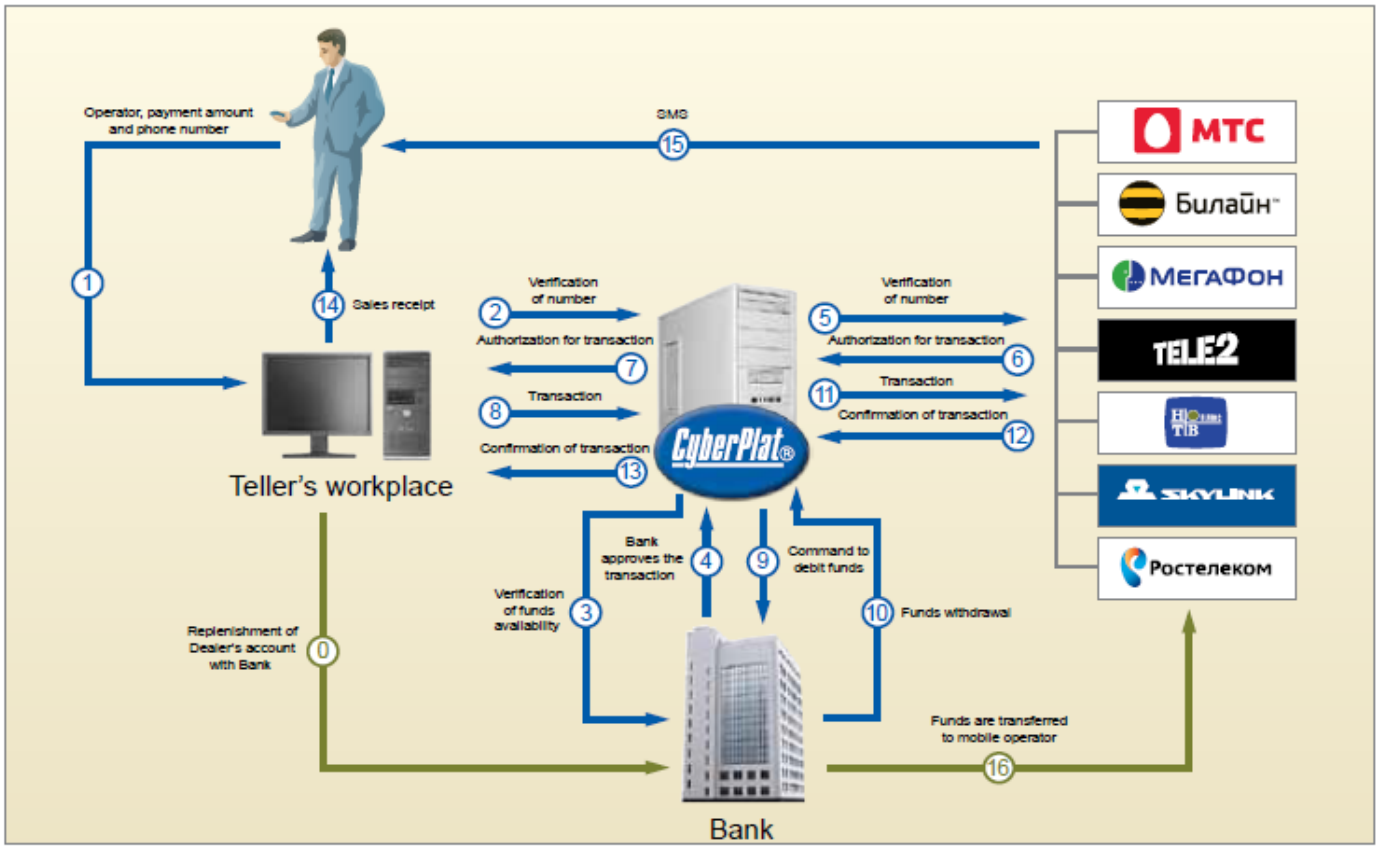
For a complete list of service providers, please visit the Company's website: http://www.cyberplat.ru/about/providers

CyberPlat® Technology: Standard Solution Scheme in Case of Domestic Top-Up

CYBERPLAT® collects payments for provided services in on-line mode.

Whilst receiving money from customers the dealer guarantees prompt top up of personal accounts in the billing system of relevant service provider. Advanced payment system known as B2B (4C) is used for processing of transactions. It unifies opportunities of existing corporate (intercompany) payment systems and electronic retail payment systems.

The process is modeled as follows:



0. The dealer transfers to the settlement bank of CyberPlat® system an amount of money, which secures the amount of payments.

1. While paying for the products, the customer informs the cashier of his/her intention to top up for desired amount his/her mobile account opened with a certain subsidiary of MTS, Beeline, MegaFon, Skylink, other mobile communication operators, as well as telecommunication service providers. The cashier enters phone number and payment amount and presses “Checkout” button.

2. A computer or any other hardware-software device (POS-terminal, cash register) at payment acceptance outlet sends a request to CyberPlat® server using a secure SSL internet protocol in order to verify the designated phone number. The request has to be verified by the electronic digital signature (EDS) of the dealer.

3. The request is then forwarded from CyberPlat® server to server of the settlement bank of CyberPlat® system for verification of funds availability at the respective dealer’s account. The application of SSL protocol and electronic digital signatures assures absolute safety of this transaction.

4. The bank server sends a response to CyberPlat® server stating whether enough funds are available on dealer’s account.

5. If the bank approves the transaction, the request to verify the number bearing EDS of CyberPlat® will be sent from CyberPlat® server to the billing system of the operator using SSL-protocol.

6. The billing system of the operator verifies the number and forwards payment approval notice back to CyberPlat® system.

7. CyberPlat® server then redirects payment approval notice to workplace of the account manager at the relevant dealer's payment acceptance outlet.

8. The account manager at payment acceptance outlet collects the designated payment amount from the customer and presses "Confirm payment" button, whereupon payment is transferred to CyberPlat® server.

9. CyberPlat® server sends a command to the server of the settlement bank (electronic invoice) to debit the dealer's account with the amount paid to the cashier.

10. Funds withdrawal confirmation is then forwarded to CyberPlat® server.

11. Payment from CyberPlat® server is transferred to billing system of the operator, whereupon the customer's personal account in the above billing system is replenished.

12, 13. Billing system of the operator sends funds receipt confirmation to the cashier's workplace at the dealer's payment acceptance outlet so that both the cashier and the customer could see it.

14. The cashier prints out and issues a sales receipt to the customer; this receipt includes all details of the accomplished payment (the name of the communications operator, date, amount of payment and phone number).

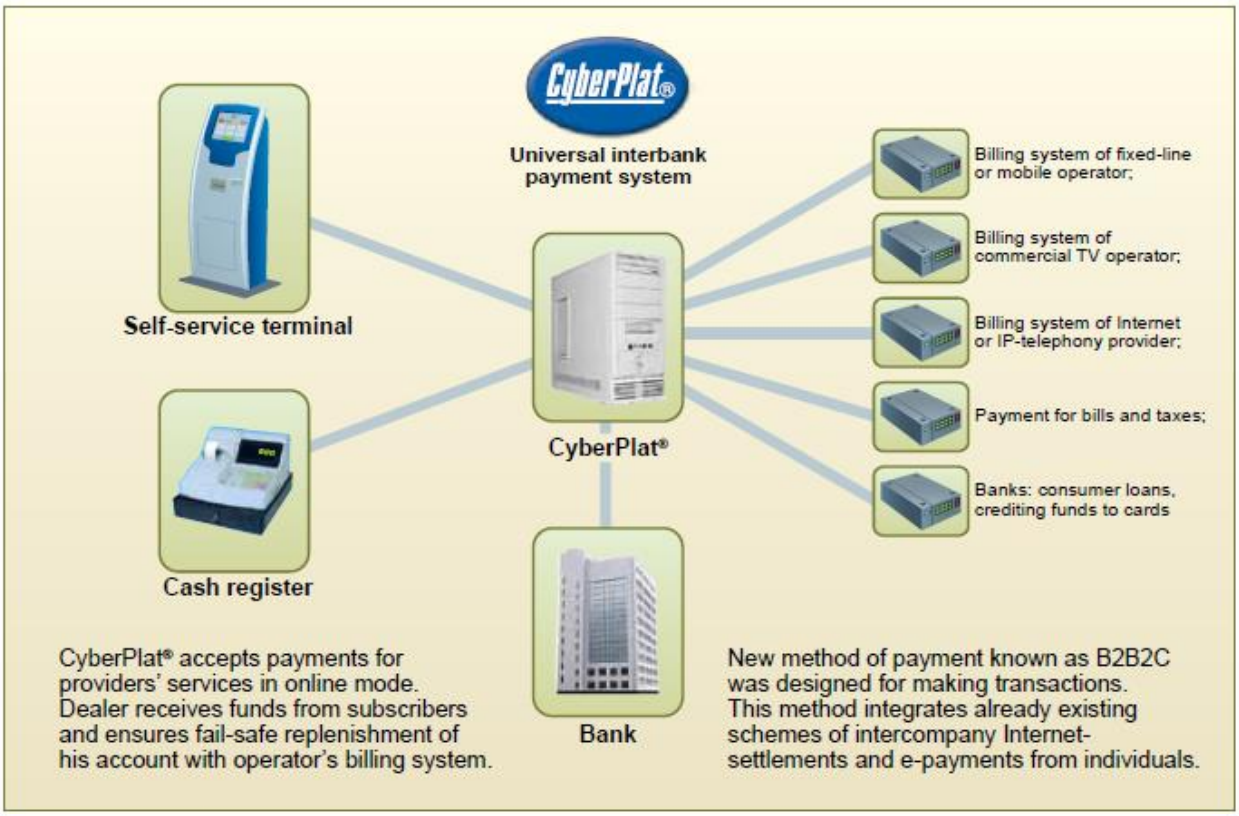
15. Billing system of the operator sends to the customer's mobile phone an SMS-message with a confirmation of the personal account refill.

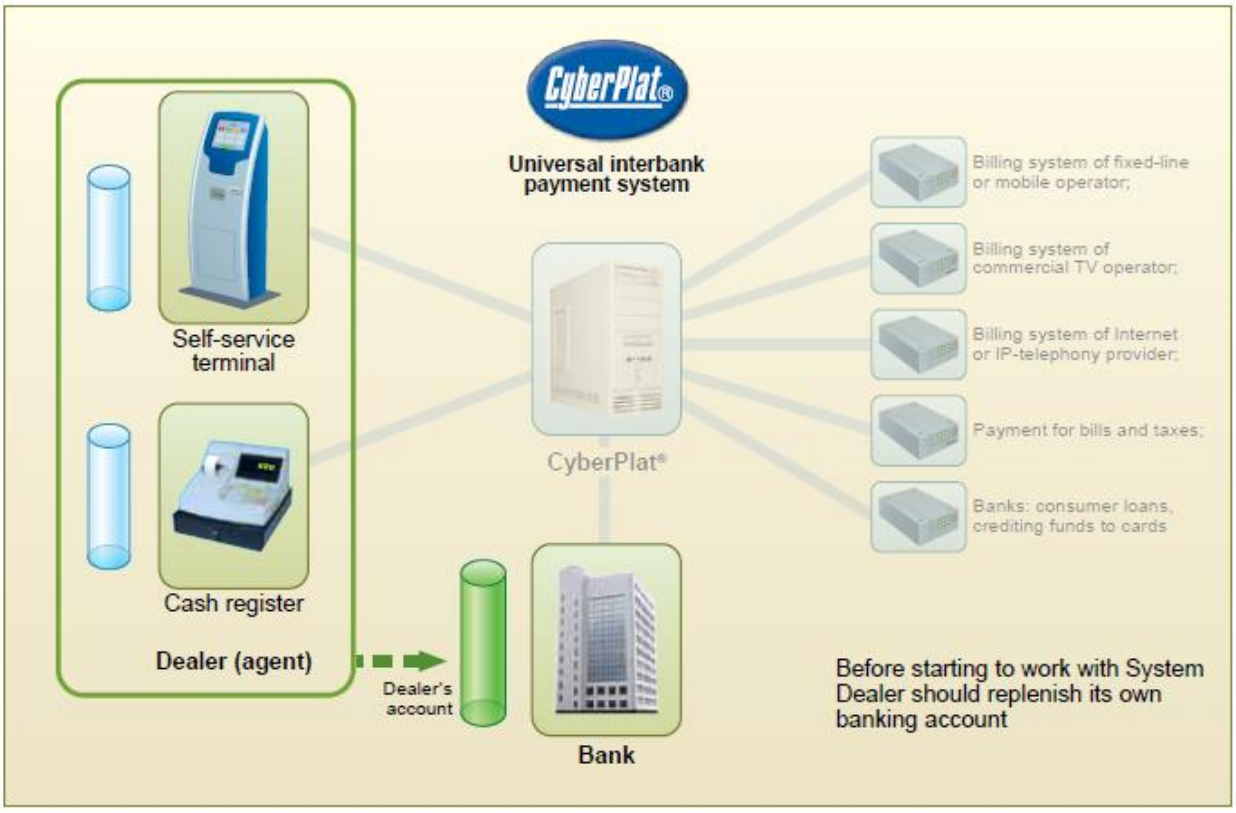
16. The funds are transferred from the dealer's account at the settlement bank to the operator's account.

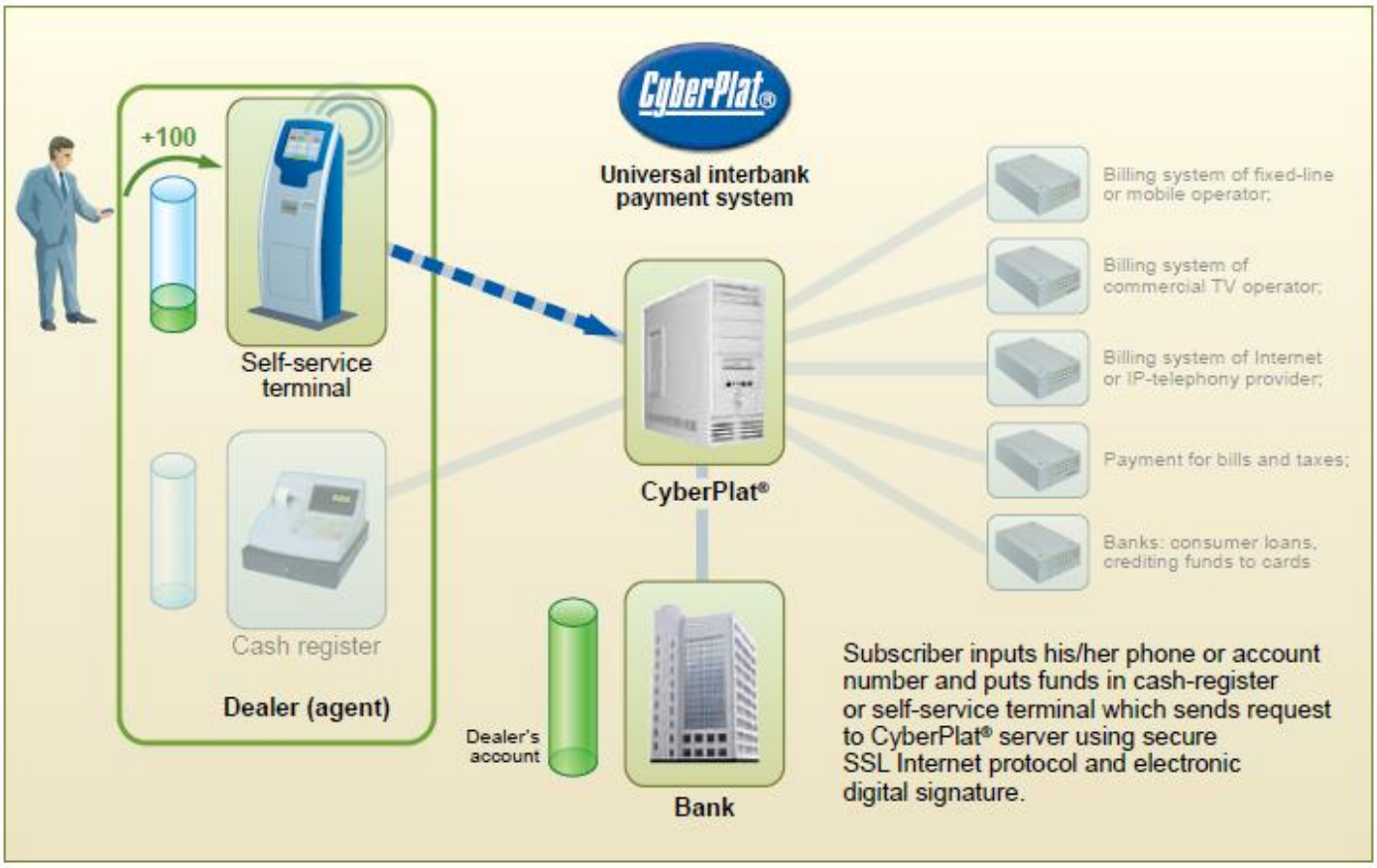
CyberCheck®, document flow technology, used in the above-mentioned procedure is fast (the standstill period of electronic payment via the system is less than 2 seconds, given a good channel of the dealer's Internet access) and safe (mandatory use of electronic digital signatures by both parties).

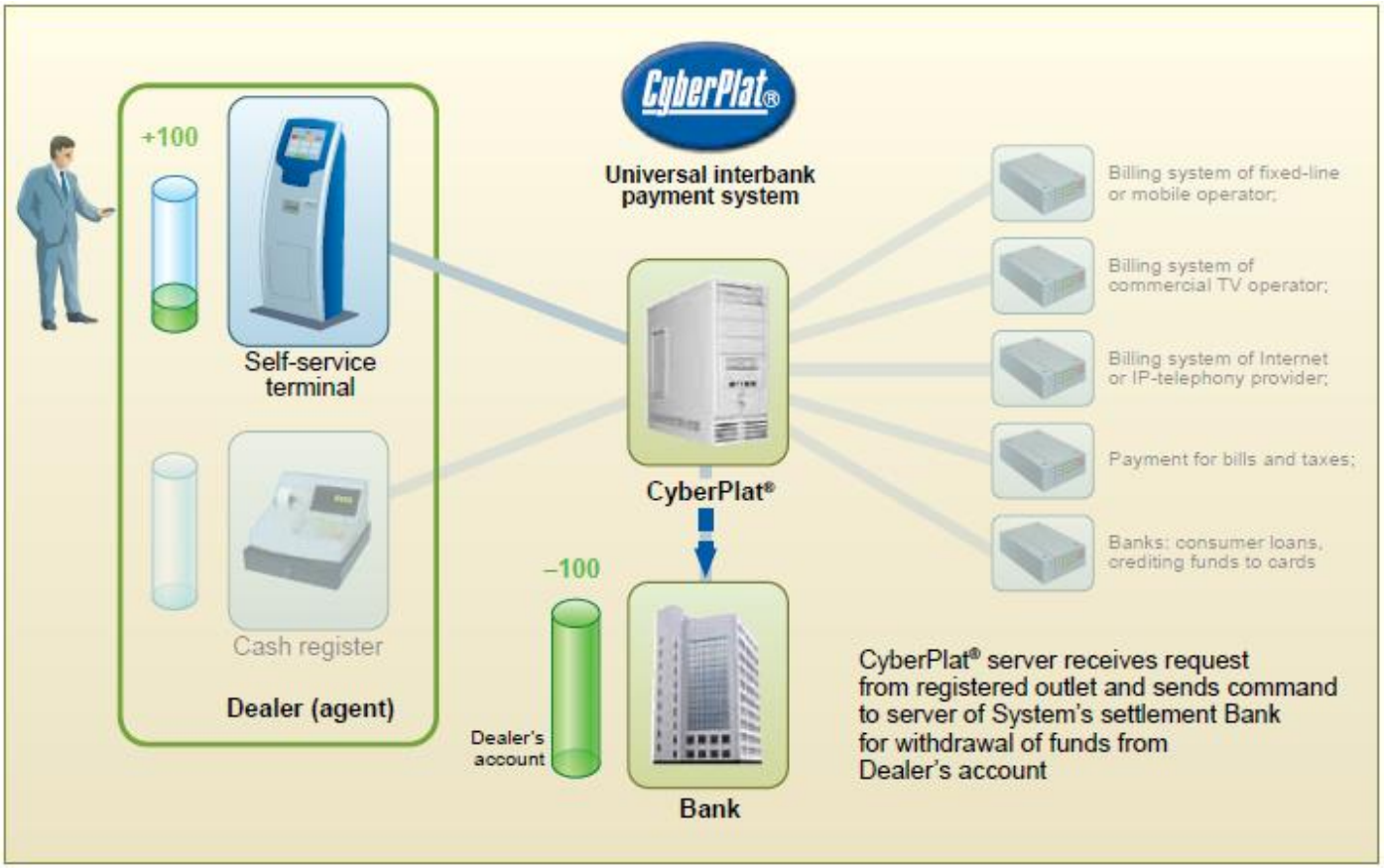
CyberPlat Operational Model

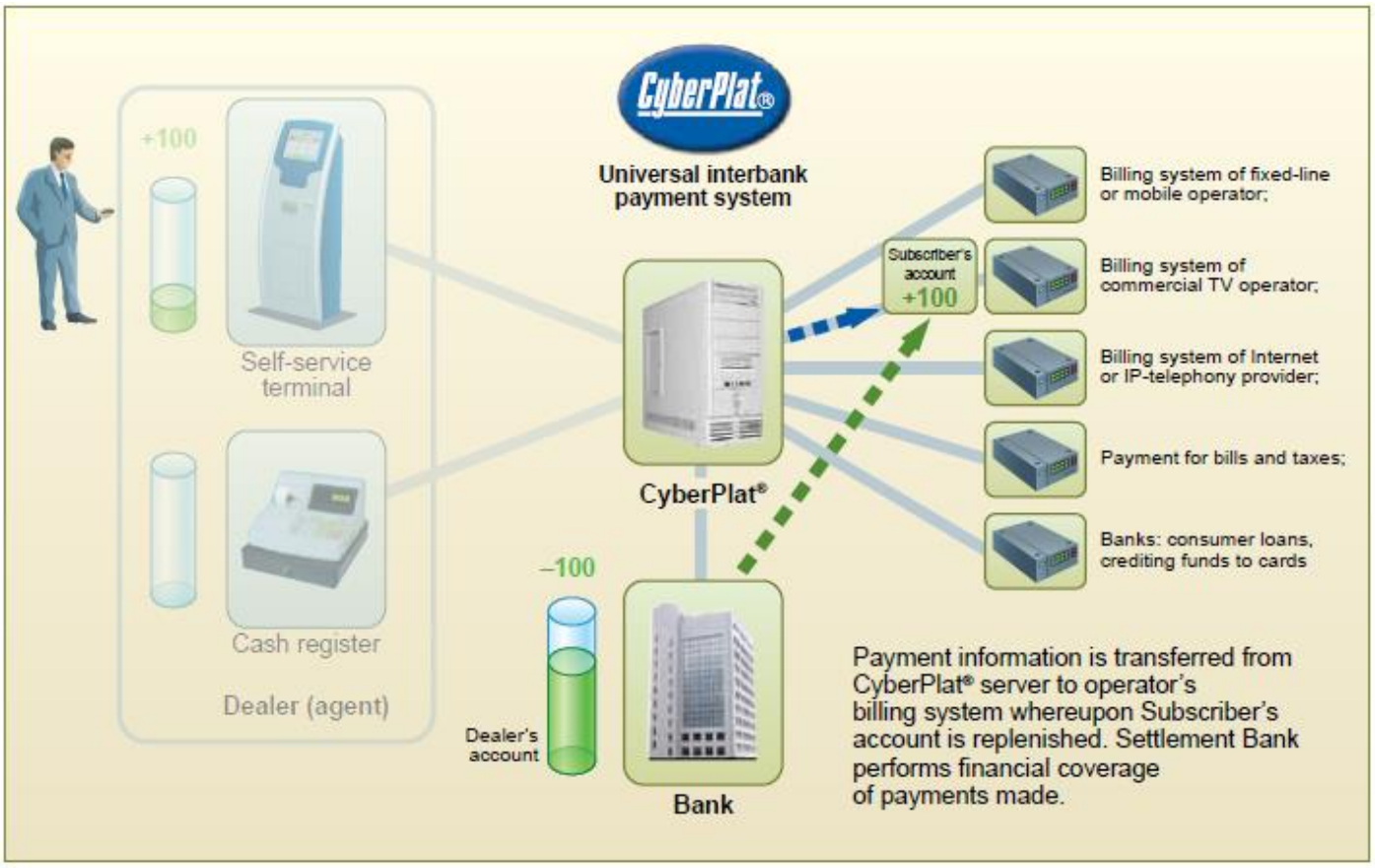
http://www.cyberplat.com/tech/how_does_it_work/

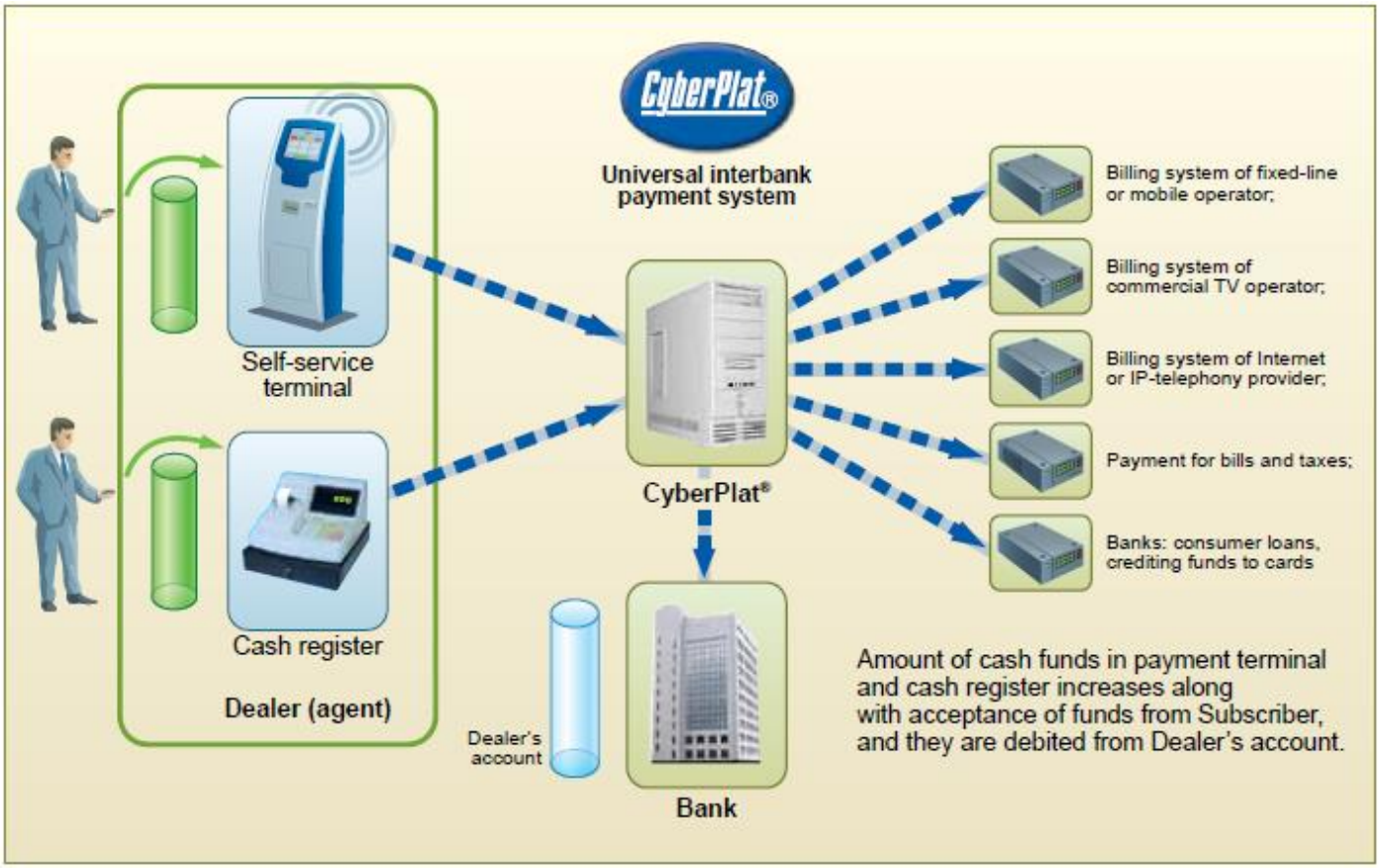





+100
Self-service terminal
Cash register
Dealer (agent)
Dealer's account
CyberPlat®
Universal interbank payment system
CyberPlat®
Bank
Billing system of fixed-line or mobile operator;
Billing system of commercial TV operator;
Billing system of Internet or IP-telephony provider;
Payment for bills and taxes;
Banks: consumer loans, crediting funds to cards
Subscriber inputs his/her phone or account number and puts funds in cash-register or self-service terminal which sends request to CyberPlat® server using secure SSL Internet protocol and electronic digital signature.


+100
Self-service terminal
Cash register
Dealer (agent)
Dealer's account
–100
CyberPlat®
Universal interbank payment system
CyberPlat®
Bank
Billing system of fixed-line or mobile operator;
Billing system of commercial TV operator;
Billing system of Internet or IP-telephony provider;
Payment for bills and taxes;
Banks: consumer loans, crediting funds to cards
CyberPlat® server receives request from registered outlet and sends command to server of System's settlement Bank for withdrawal of funds from Dealer's account


+100
Self-service terminal
Cash register
Dealer (agent)
CyberPlat®
Universal interbank payment system
Subscriber's account +100
Billing system of fixed-line or mobile operator;
Billing system of commercial TV operator;
Billing system of Internet or IP-telephony provider;
Payment for bills and taxes;
Banks: consumer loans, crediting funds to cards
CyberPlat®
–100
Dealer's account
Bank
Payment information is transferred from CyberPlat® server to operator's billing system whereupon Subscriber's account is replenished. Settlement Bank performs financial coverage of payments made.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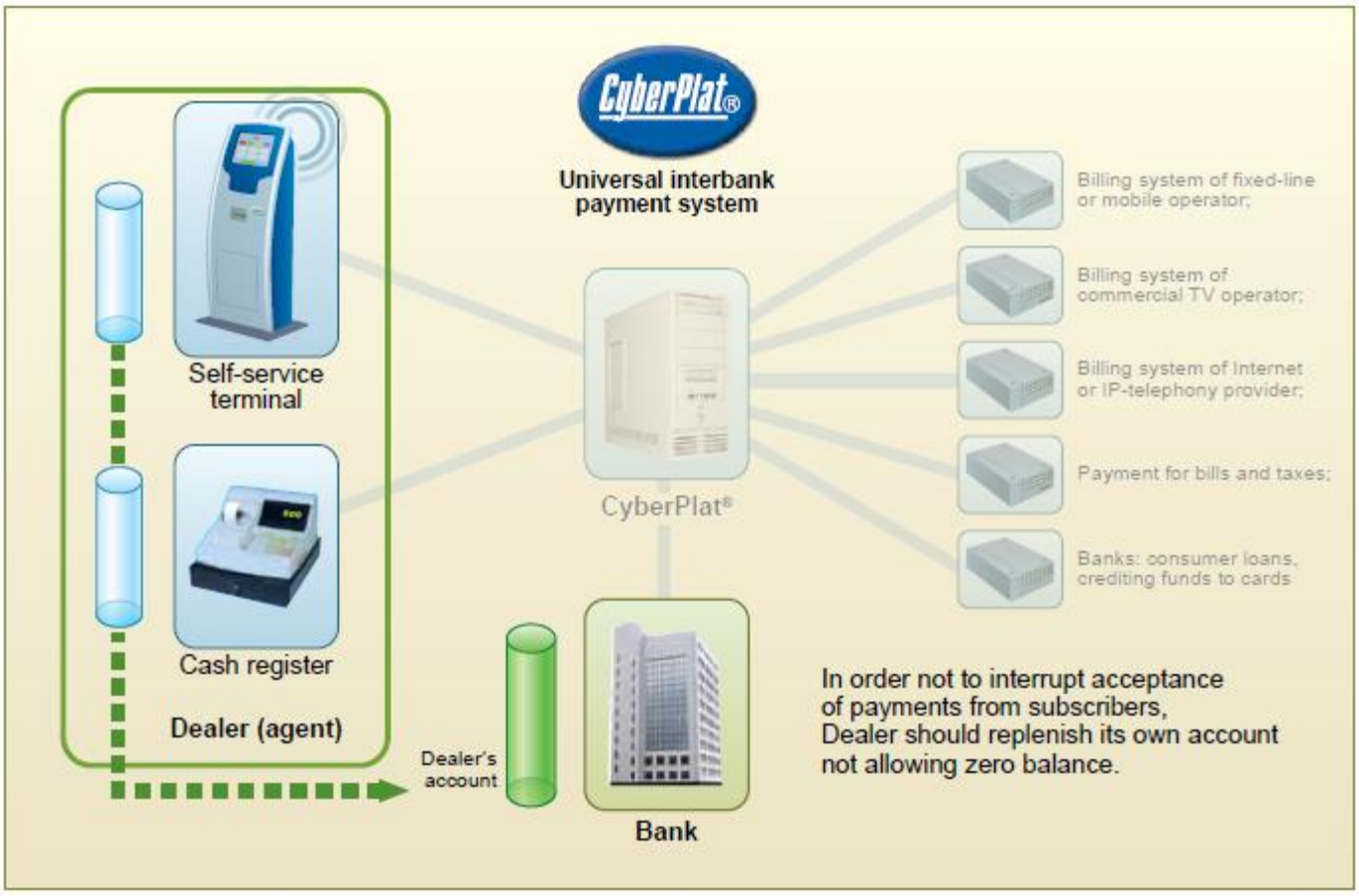
Payment for bills and taxes;
Banks: consumer loans, crediting funds to cards
CyberPlat®
Dealer's account
Bank
Amount of cash funds in payment terminal and cash register increases along with acceptance of funds from Subscriber, and they are debited from Dealer's account.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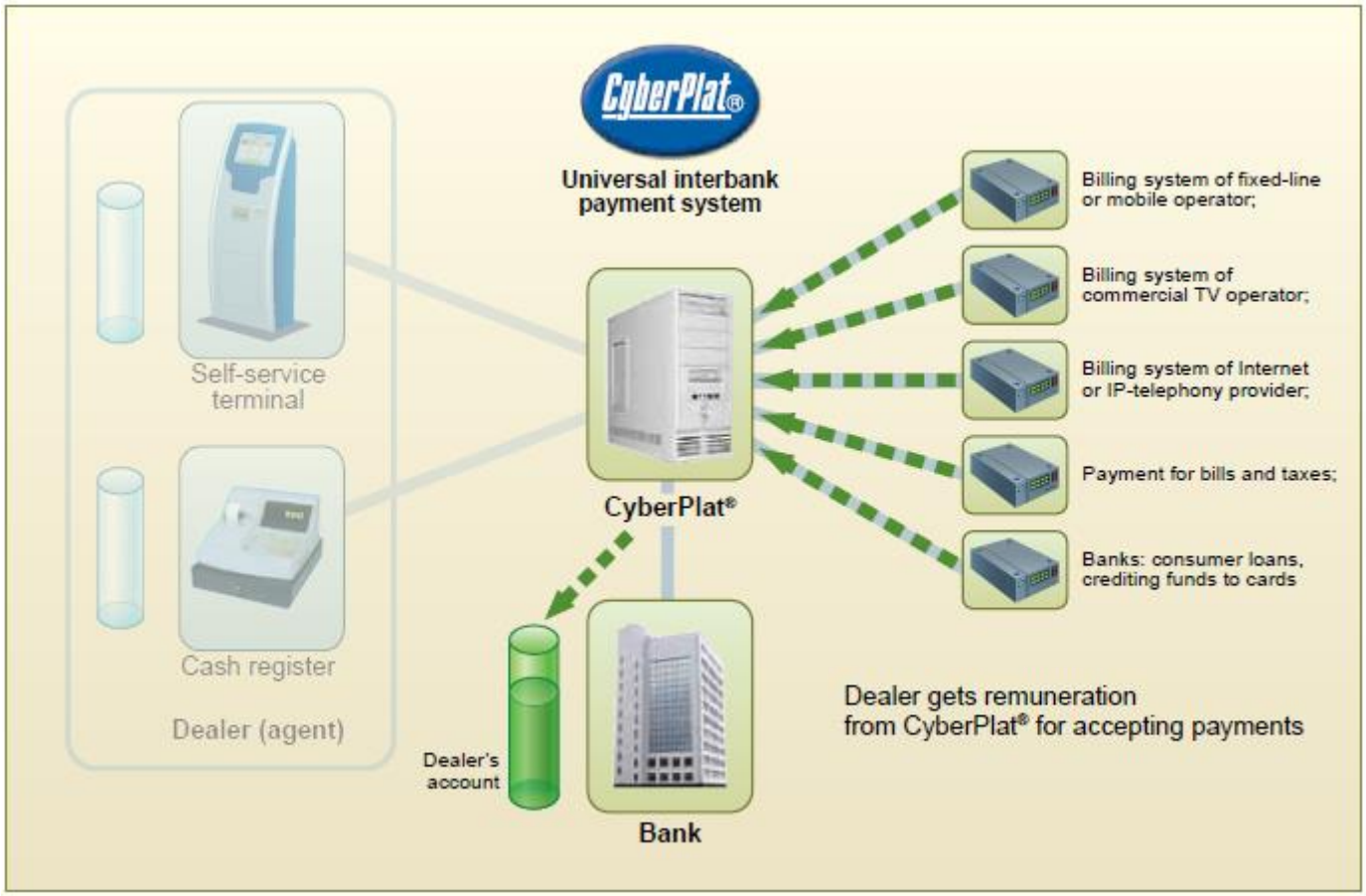
CyberPlat®
Self-service terminal
Cash register
Dealer (agent)
Dealer's account
Bank
In order not to interrupt acceptance of payments from subscribers, Dealer should replenish its own account not allowing zero balance.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CyberPlat®
Self-service terminal
Cash register
Dealer (agent)
Dealer's account
Bank
Dealer gets remuneration from CyberPlat® for accepting payments

Partner Banks of CyberPlat®

By the end of 2018, the CyberPlat® electronic payment system had contractual relations with more than 250 banks. Many banks cooperate with the system as agents, arranging for payment acceptance through the CyberPlat® system in their offices, ATMs or in the networks of self-service banking terminals. At the same time, many of them serve as operators and payment collectors by using CyberPlat® as an effective channel for repaying loans issued to individuals and replenishing bank accounts, including cards.

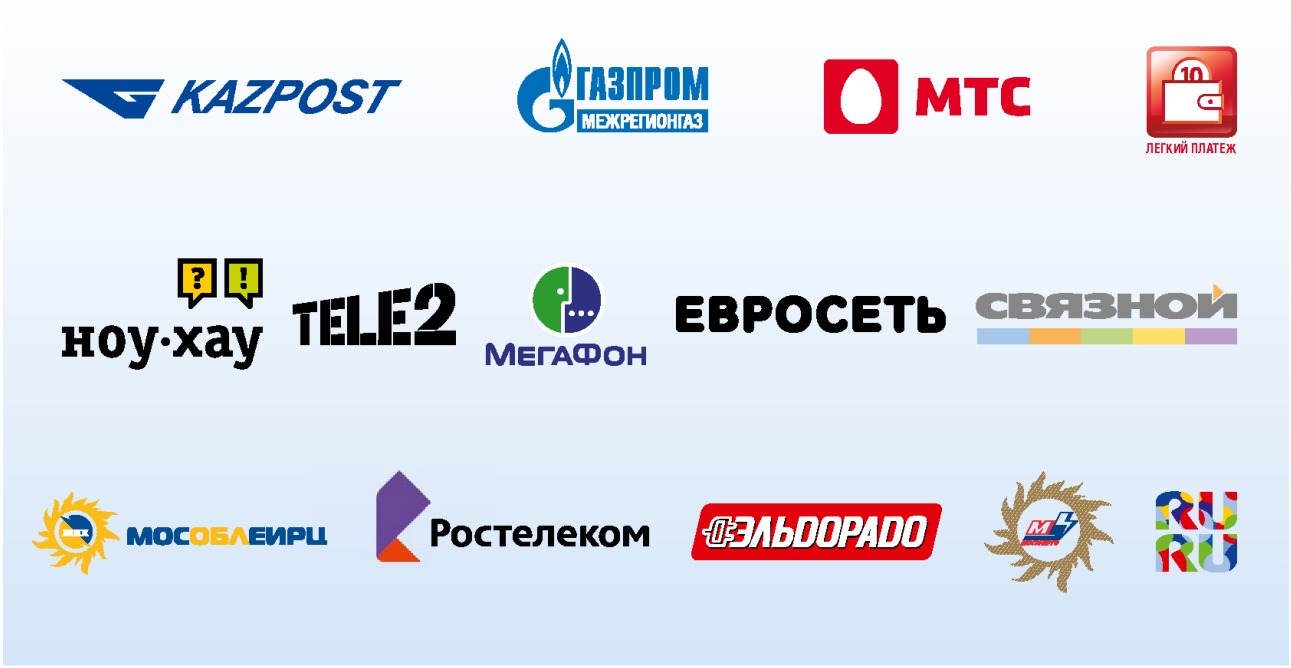
In their operations, many banks use a unique product developed by CyberPlat® specialists — the Money Transfer System Integrator (MTSI), which greatly increases the efficiency in the field of money transfer business. Some of the largest partner banks are listed below.

Payment Acceptance Network (largest retailers)

The most well-known agents of CYBERPLAT LLC currently are:

- national chains of communications stores “Svyaznoy”, “Euroset”, “Know-How”, mono-brand networks of communications stores of MTS, MegaFon, Tele2;
- JSC "Kazpost";
- Mosobleirts, Lenobleirts branches;
- Eldorado electronics stores;
- networks of payment terminals “Eleksnet”, “PlatezhKa”;
- Rosselkhozbank, Alfa-Bank, Russian Standard Bank, CB Russia Bank, SDM-Bank, Promsvyazbank, Bank Saint Petersburg, SMP Bank, and many others.

Main payment acceptance networks



CyberPlat® business geography

Regional representative offices of CyberPlat® operate successfully in various federal districts of the Russian Federation and are located in Samara, Kursk, Yekaterinburg and Stavropol.

CyberPlat® has been successfully developing its business in the CIS countries — a subsidiary of the electronic payment system operates in Kazakhstan.

CyberPlat® is the pioneer electronic payment system in Kazakhstan. Its subsidiary company in Kazakhstan — CyberPlat-Kazakhstan LLP — was registered on September 15, 2005. First payments through the system were made in April 2006. By the end of 2018, Kazakhstan had over 20 thousand payment acceptance outlets connected to the CyberPlat® system, and the company's regional representative offices operate in all major cities of Kazakhstan: Alma-Ata, Astana, Aktobe, Shymkent, Oskemen, Qaraghandy, Pavlodar, Kostanay and Oral.

Today, the partners of the CyberPlat® subsidiary in Kazakhstan are the largest banks, mobile operators, service providers, terminal networks and retail enterprises of the Republic of Kazakhstan.

One of the largest international projects of CyberPlat® was launched in 2009 in India. CyberPlat India, based in the city of Mumbai, has developed at a rapid pace and demonstrated an annual 100% growth for several years in a row, steadily outpacing its competitors.

CyberPlat India is currently among the leaders in the national financial technology industry.

The company is among the TOP-5 payment systems operating in one of the largest Asian markets, and ranks 1st in the number of payment outlets in the country: as of January 1, 2019, their number exceeded 760 thousand. More than 240 million transactions to more than 350 service providers in India and abroad, available in 600 partner networks, are performed each year in the system.

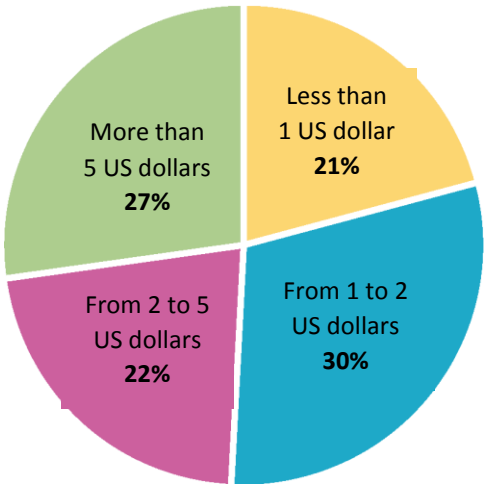
CyberPlat India is one of the few payment aggregators in India which cooperates directly with above two dozen largest providers rendering services in the field of telecommunications, satellite TV, and housing and utility services.

CyberPlat® network of representative offices in CIS countries

Social Mission of CyberPlat®

At evidenced by the statistical data, at the end of 2018, only about 28% of payments made through the CyberPlat® payment system exceeded $5. At the same time, payments of up to $1 take a share of 21%, from $1 to $2 — 30%, and from $ 2to $5 — 22%. More than 50% of all CyberPlat® transactions are payments of up to $2, or of approximately 117 RUB.)

The data given indicate that CyberPlat® provides the opportunity to use state of the art achievements in high technologies to the people with middle and low incomes. First of all, this is mobile communications and Internet access services. Since even the minimum balance allows the subscriber to stay in touch, send messages and make urgent calls.



The conditions created by the CyberPlat® system for the use of state of the art communication technologies by the widest swath of the population play the critical role in overcoming the issue of the so-called digital inequality in Russia. The statistical data on the prevalence of small payments and the overall number of transactions passing through the system clearly demonstrates that the operation of the CyberPlat® system contributes to the increasing level of mobile communication coverage in Russia.

For example, if the account of a client has run out of funds and they have not enough money to buy a scratch card at a cost of 100 RUB (minimum denomination), they can top up their balance at any payment acceptance outlet.

Any subscriber can top up their account for an amount of just 10-20 RUB and use SMS services, as well as receive incoming calls.

It is also convenient that payment acceptance outlets are the most frequently visited places — shops, pharmacies, post offices, communications stores, payment terminals, gas stations. At the same time, transaction in real-time ensures that the payment amount is transferred to the subscriber's balance instantly.

So, the functionality of topping up the account with small amounts provides access to mobile communications for people with low incomes, in particular children, students and elderly people, thus fulfilling the important social mission of reducing digital inequality.

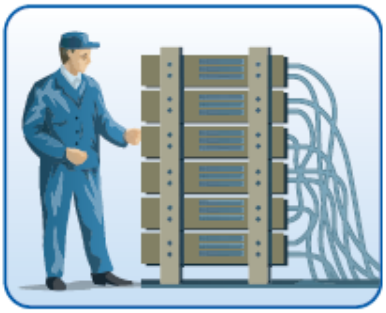
It is also convenient that payment acceptance outlets are located at the most frequently visited public places such as shops, drugstores, post offices, mobile communication brand stores, payment terminals, and gas stations. Besides, due to real-time transaction the customer may promptly top up his/her account.

Thus, due to opportunity to deposit small amounts into personal accounts low-income groups, including children, students and retired employees, get an access to mobile communications. So that implements an important social mission for elimination of digital divide.

Advantages of CyberPlat® Technology

Experience and Highly Qualified Personnel

One of the most important advantages of CyberPlat® payment system is organizational, technical, and HR potential accumulated by the company during 20-year operation at the market of retail payments which for many reasons was created due to efforts of specialists and managers of the payment system. Today the company employs over 200 specialists with unique knowledge and skills in devoted fields: systems analysts, programmers, experts in finance and banking services, experts in services automation, lawyers and financiers with knowledge and expertise in all aspects of legislation governing express payment market.



Safety and Security

CyberPlat® is a closed-end electronic payment system. Its fundamental distinctive feature making it stand out from opened-end systems is that all settlement participants — payers (agents accepting payments from subscribers) and recipients — are strictly defined. Funds from a retail outlet's account may only be transferred to the operator's account and credited to the subscriber's personal account. Withdrawal of funds from the system at will by employee of the payment acceptance outlet is impossible.

CyberPlat® is a real-time system. Any transaction in the system takes not more than two seconds. This unprecedented level of performance is complemented with absolute security of financial transactions.

Up to 16 operations (postings) are performed in the system, certified by a digital signature, within the framework of a single transaction. They involve secured methods of data transmission via the Internet, including checking existence of customers' phone numbers or personal accounts in the billing systems of service providers, identification and authorization of payment acceptance outlets, and other operations. This technology ensures the absolute security of financial transactions and minimizes the number of payments made in error.

There has not been a single case of information system hacking or illegal transaction occurred in the CyberPlat® system over the 20 years of its operation..

Cross Platforms Hardware

Ability to choose a payment method and use various devices for making a payment depending on capabilities of agents are significant achievements of the CyberPlat® electronic payment system.

Payment can be made through a cashier using:

- a computer or smartphone connected to the Internet (for example, in a dealer company) making payments through the CyberPlat® system website;
- an automated cash register (for example, in a retail store) — in this case, interaction with the CyberPlat® system is carried out through the server of the commercial enterprise;
- other hardware;

These operations support the "1C: Enterprise" technology:
Without human involvement:

- payment terminals;

Via Internet-Bank-Client:

- a bank computer connected to the Internet using the Internet-Bank-Client banking system;
- POS terminals;
- smartphones and phones supporting Java, iOS and Android systems;
- ATMs;
- mobile display units.

For example:

- POS terminals are used for retail chains;
- a special technology using the company's internal network is used for the “Eldorado” chain;
- large retail chains (“Svyaznoy”, “Euroset”, MTS, Tele2, etc.) use solutions based on 1C or own proprietary solutions;
- electronics store chains (“Eldorado”, “Tekhnodom”, etc.).

Payments can be effected through the cashier (teller) using:

- Personal computer connected to the Internet or even a smart phone (for example, at a dealer company) that performs payments through CyberPlat® system's website,
- Automated cash register (for example, at a retail network store); in this case, interaction with CyberPlat® system is carried out through the retailer's server,
- Other equipment

1C:Enterprise software is supported while these operations

- POS-terminals,

- Any phone supporting Java software, IOS

Without any human (cashier or teller) assistance, i.e. through:

- Payment terminals (self-service cash-in kiosk)

- ATMs

Through Internet-Bank-Client:

Features of CyberPlat® payment system can be easily integrated in the Internet-Bank-Client systems

The CyberPlat® system maintains detailed records of all transactions that use any of the above mechanisms, and the full payment statistics is available to the agent's administrator online on the company's website: http://www.cyberplat.ru

High Fault Tolerance and Efficiency

CyberPlat® experts constantly test the system's efficiency and stability. CyberPlat® capabilities in all aspects significantly outrun the most rigid technical requirements of payment acceptance market. In 2011, CyberPlat® had reached another speed threshold in processing complex financial transactions. Due to modernization of technological platform, performance indicator thereof exceeds the record-breaking figure of 1,400 transactions per second. CyberPlat® fault tolerance index is 5 times higher than similar index of the nearest peer. This indicator is unique for the Russian payment acceptance market.

The maximum load on CyberPlat® system does not exceed 110 trans-actions per second even in rush hour, including cases when due to any technical failures, other payment systems do not operate and payment flow through CyberPlat® increases significantly. This means that CyberPlat® capabilities ensure more than a 14-fold margin against operational maximum levels of system load. In November 2011, for the first time in the industry CyberPlat® offered its existing and potential partners a new service of load testing. Load testing is performed in industry system using its additional powers currently free from payment processing.

Unlike real torrent of transactions, interaction with external provider is simulated inside CyberPlat® system. During the load testing, the system displays an interactive chart and current performance results. Estimated duration of one load testing is from 1 min. 40 sec. for 100,000 payments and 13 min. 40 sec. for 1,000,000 payments. Cost of such service is 1 kopeck (0.01 rub.) per transaction. Payment can be made by VISA and MasterCard banking cards, via CyberPlat® Payment book or through e-commerce applications of the Russian major network operators such as Beeline, MegaFon and MTS.

24 hour/ 7 days Technical Support

In order to ensure failure-free online business-processes in CyberPlat® payment acceptance network, the company has established 24/7 technical support, whereupon corporate experts are always ready to give the required advice and provide prompt technical assistance in the following cases:

- failures and problems in configuring the software for payment terminals and cash registers of retail companies;
- when it is necessary to specify the status of payments;
- failures in operation of telecom operators or troubles in billing of certain providers;
- any other issues related to the breach of payment acceptance processes and procedures.

Legal Validity and Cogency

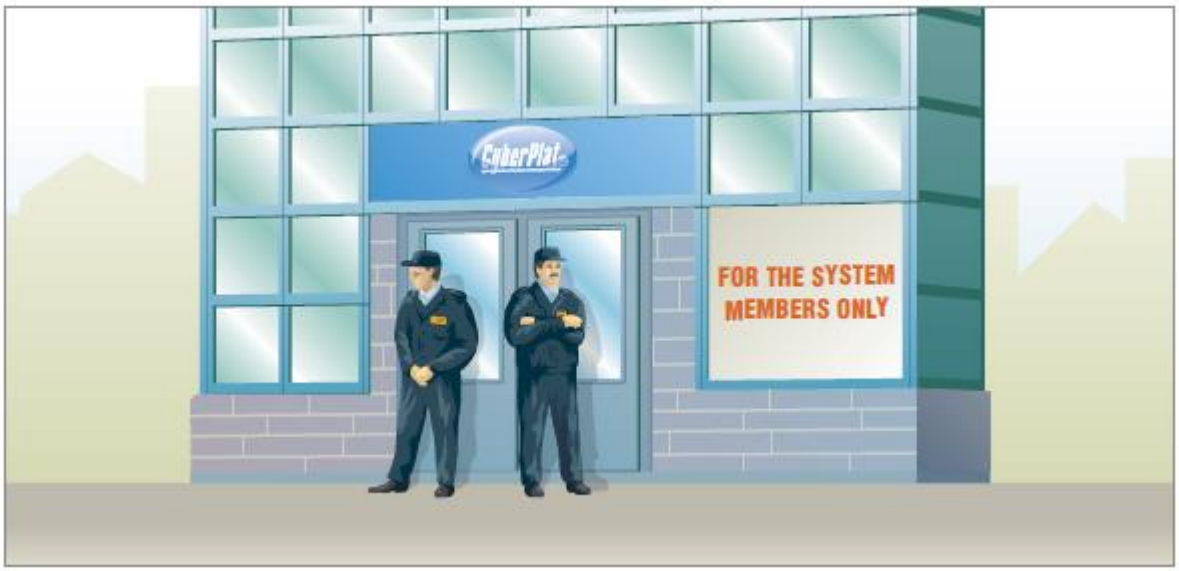
Use of the electronic digital signature (EDS) with a 1024/2048 bit key eliminates risk of fraud and ensures incontestability of top up transaction of personal account in the operator's billing system.

Certification

Software of CyberPlat® payment system is certified by relevant governmental agencies. KPMG Ltd. certifies CyberPlat® processes.

No competition with own partners (dealers)

As a processing company, CyberPlat® payment system, unlike other payment systems, has never had and does not have its own payment acceptance outlets neither in form of terminal networks nor in form of retail payment networks. An exception is the network consisting of 30 payment acceptance terminals designed for checking and testing the software, as well as new payment services and products. Thus, any competition with its own dealers, typical of other payment systems, is eliminated. Therefore, dealers working through CyberPlat® payment system do not experience the following:



- leakage of information related to the network and retail outlet turnovers that can be used for competition strategies;
- attempts of hostile takeover with the use of obtained information and unethical competition methods (administrative resource, raiding captures, corruption schemes);
- attempts of displacement from the most profitable outlets including the use of such unethical competition methods as dumping.

For this reason, many payment terminal networks operating through other payment systems have migrated to CyberPlat® system.

No practice of corporate brand promotion at the expense of partner brands

CyberPlat® payment system provides services primarily as a processing company and does not have any own payment acceptance outlets. Therefore, unlike other payment systems, CyberPlat® operates in B2B segment and does not promote its own brand among the end-users (payers). In most cases, competitors of CyberPlat® payment system are independent players of the retail payment market and, therefore, are highly interested in promoting their own brands amongst customers, as well as in weakening and displacement of other brands from the market. This results in direct conflict of interests of such processing companies with their dealers.

Often, one of the main requirements at connection of a smaller partner is its unconditional transition to operation under the unique system brand. Eventually, it can result in a hostile takeover of the entire business of the partner-company.

In case of cooperation with CyberPlat® payment system, such problems do not emerge.

No practice of promotion and solicitation of unnecessary or unprofitable products or services to partners

CyberPlat® payment system is especially interested in development of its partners' business as it does not have own payment acceptance outlets. Amount of revenues generated through payment system directly depends on partners' turnovers. Therefore, unlike other competing payment systems, CyberPlat® does not promote or solicit using such products and services that might be profitable for the payment system, but unprofitable for partners. For instance, there is a well-known market situation when partners are forced to maintain at their own terminals personal services developed by payment system solely for its own benefit.

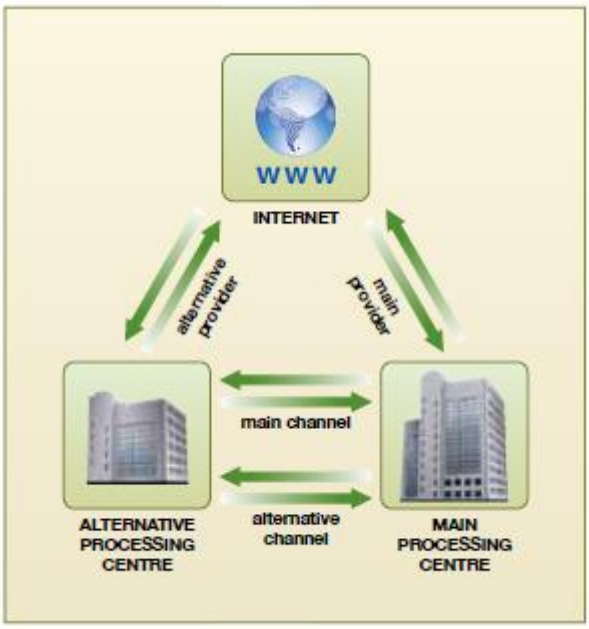
Such services in partners' terminal networks not only reduce partner's revenues but also reduce turnovers from principal operations. Partnership with CyberPlat® payment system eliminates such a practice.

Material responsibility of IT personnel

One of the key factors ensuring high operational reliability of the payment system is the existing system of material incentives for IT-personnel, where the amount of monthly bonuses depends on fault tolerance index and online processing performance index.

If the number of off-line transactions exceeds 0.1%, IT employees are 100% deprived of their bonuses. If this figure is less than 0.01%, then the bonus is paid in full. If fault tolerance and online performance index fall within a range of 0.01–0.1%, applies a linear bonus scale.

Stability and scalability of technical platform



The high performance indicators of the system are based on the following factors. The CyberPlat® system is premised on two duplicating processing centers located in Russia. The primary processing center is located in Moscow. Communication between the centers and channels over the Internet are duplicated through the networks of independent communication providers. Such a redundancy system combined with the state of the art cluster architecture ensures high fault tolerance of CyberPlat® and its independence from most force majeure events.

CyberPlat® imposes the highest demands on software operation, which guarantees high quality and level of performance of each individual module and the entire system as a whole.

In addition, CyberPlat® has been successfully operating for more than 20 years, and the system has been debugged and optimized, while its most important modules have been refined and polished over this period of time.

CyberPlat® is Failure Free!

Reliability of CyberPlat® system is unrivaled in the market of Russia and CIS countries. Thus, as a result of complex monitoring of largest partners by payment acceptance processes, the leading mobile network operator MTS recognized CyberPlat® as the most reliable processing system in Russia and CIS countries. Upon MTS request, independent specialists regularly perform such observations using effective and proven methods.

CyberPlat® has the highest index of faultless operation, reliability and speed among all existing payment systems. Even today, the capability of CyberPlat® surpasses the most stringent requirements of payment acceptance market in all material aspects; fault tolerance index of the system is over 5 times higher than similar index of the nearest peer.

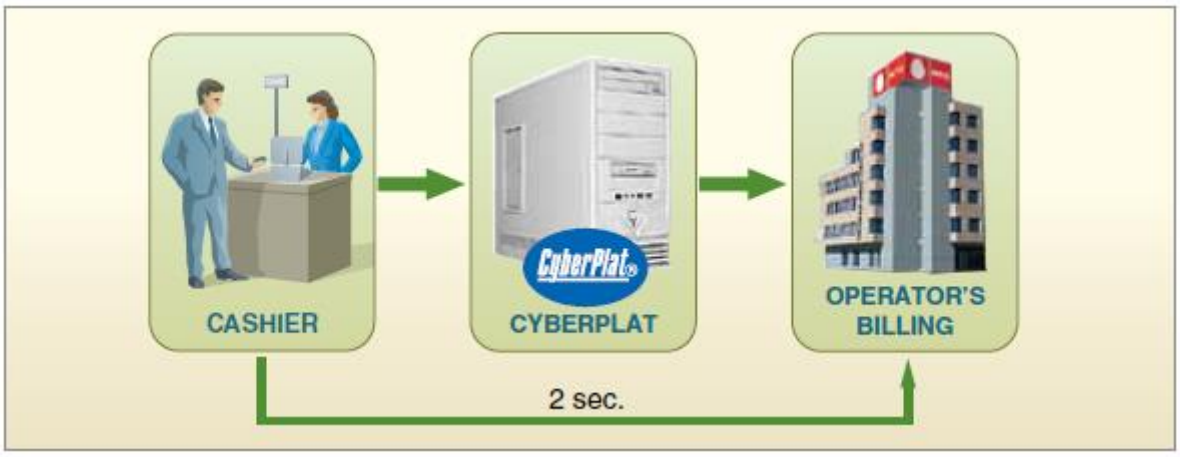
FAULT TOLERANCE OF CYBERPLAT® IS UNRIVALED!

Recipient Verification

One of the advantages of CyberPlat® payment technology is effecting payments in two stages. Mandatory payment authorization is performed at the first stage, i.e. an inquiry on existence of the relevant subscriber's number is forwarded in the real-time mode to the operator's billing system. Refill of the subscriber's personal account can be performed correctly only in case of positive response. Not all similar payment systems use a two-stage scheme in their operations, and thus, it leads to numerous mistakes and claims on the part of payers.

Online (2 seconds)

All financial transactions performed through CyberPlat® system are effected online. In case of a deadlock, (temporary failure of the Operator's billing system) customers can use such option as payment accumulation until the Operator billing system resumes operation.

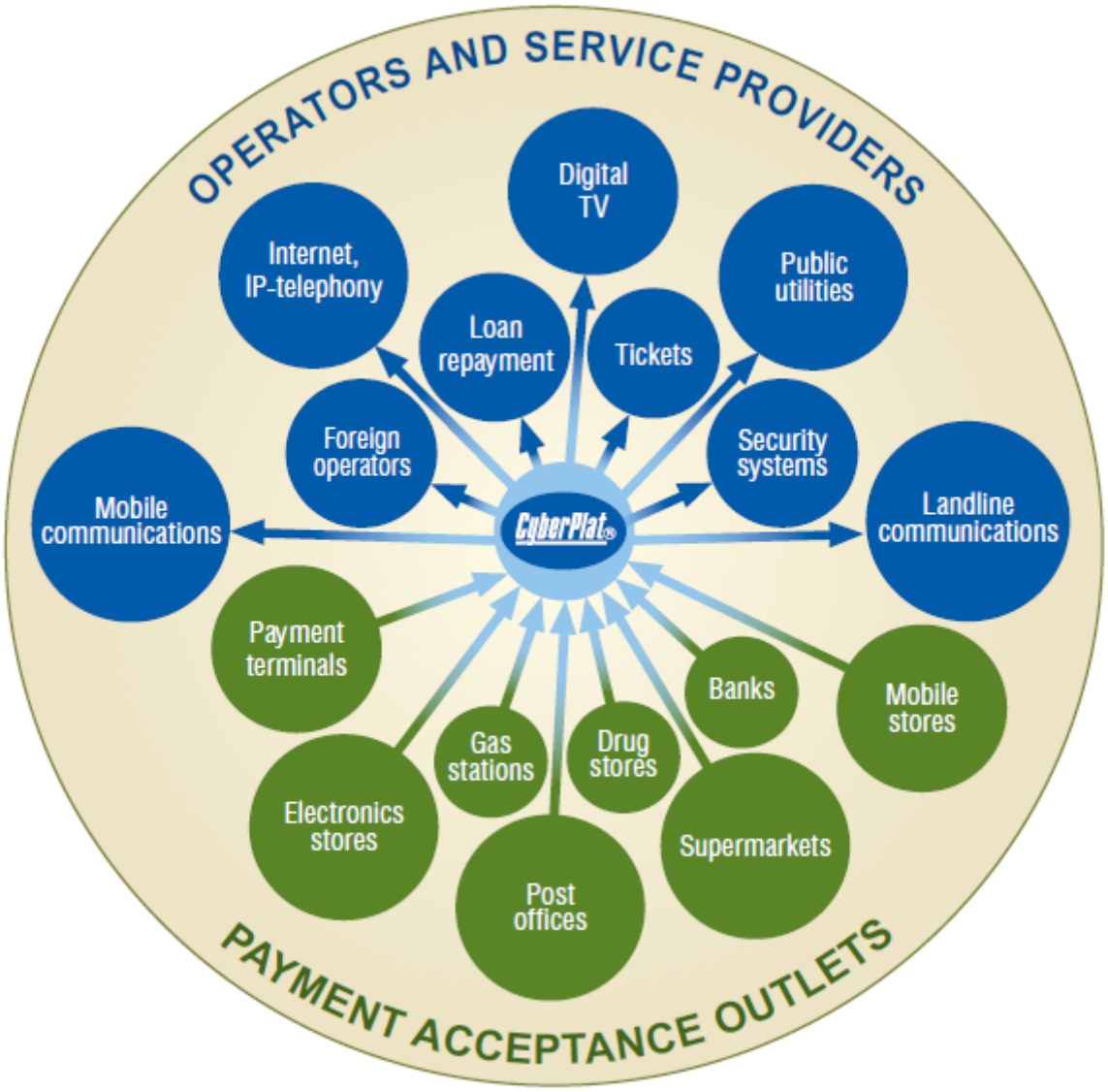


CyberPlat products and solutions

Arranging payment Acceptance (domestic top-up)

The basis of the business model of the CyberPlat® electronic payment system is the system for arranging payments from individuals through a partner network (the "lower segment" of the business chart) towards a wider range of different providers of services and goods (the "upper segment" of the business chart), as developed and implemented on a global scale. The "lower segment", the payment acceptance network, is comprised of retail outlets, bank offices and ATM networks, and self-service terminal networks.

At the end of 2018, the number of payment acceptance outlets in the "lower segment" was almost 1.5 million. In addition, there is a fairly large number of users of the Internet-Bank-Client systems which are owned by partner banks of the CyberPlat® electronic payment system and integrate functionalities facilitating payments to service providers. Such users are also part of the "lower segment" of the CyberPlat® payment acceptance system.



Payment Acceptance Procedure in Retail Stores

Benefits

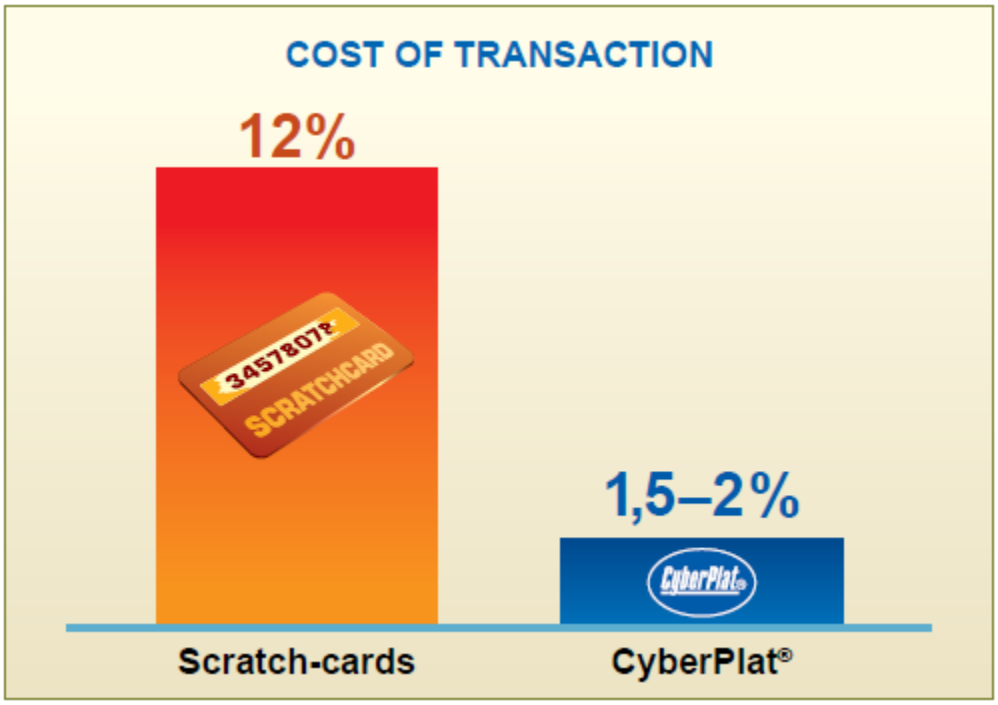
Low cost of transaction

When using the funcionalities of the CyberPlat® system, the actual cost of revenue collection is significantly reduced, which is extremely important for operators. The cost of revenue collection through use of scratch cards is 12% of the rate. This is the full prime cost paid by the operator for collecting revenue using scratch cards.

It includes a discount for retailers (usually 5-6%), the cost of card issuance (2-3%), logistics, protection against fraud and a number of other costs arising from the issuance and distribution of scratch cards.

When collecting payments through CyberPlat®, the average cost of collecting revenue in retail for mobile communications is reduced to 1.5-2%. This is a huge savings for service providers.

Saving 10% of the income of such a mobile operator as, for example, Beeline, the revenues of which amounted to $ 4.2 billion in 2018, leads to an additional profit of $ 400 million per year. This amount is tremendous..



Growth of customer flow and proceeds

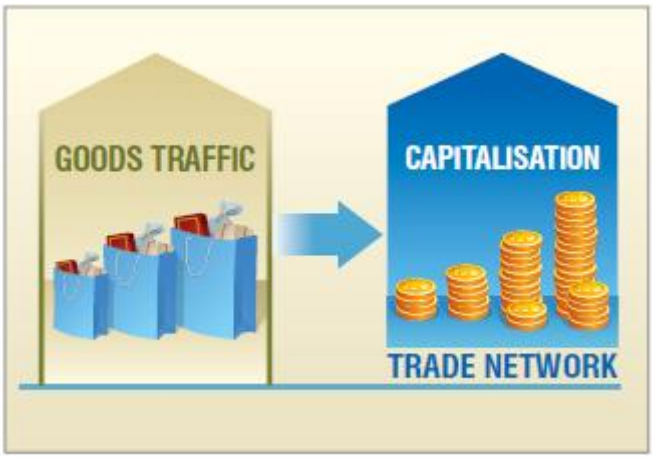
Long-term experience of CyberPlat® payment system shows that customer traffic doubles when service or sales outlets start accepting payments though CyberPlat® system. At the same time, proceeds from main activity of the company increase by 10–40%, depending on quality of advertisement and on the type of goods. For example, if the retail outlet sells laundry powder, then volume of laundry powder sold will grow by nearly 10%. If the outlet sells mobile phones, then this increase will comprise up to 40%.

RETAIL ONLY

RETAIL + PAYMENT ACCEPTANCE

How to arrange payment acceptance in retail stores

Recommendations from CyberPlat® payment system



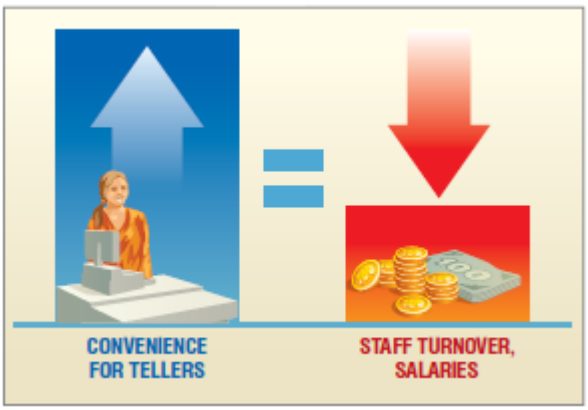
Store turnover mainly depends on daily customer flow. Arrangement of payment acceptance facility at cash register in retail store in favor of various service providers makes the store more attractive and appealing for a customer and increases his/her loyalty. Eventually, it increases proceeds and brings more profit for the retail store. A customer who visits a store to pay for the mobile phone, Internet access, commercial TV or any other services, often buys something from the store too, thereby increasing the turnover of the retail outlet.

Our long-term experience shows that when retail companies use CyberPlat® payment system to accept payments, the introduction of this service increases store turnover by 10 to 40% depending on the store type, quality of advertising of the "payment acceptance" service, and personnel expertise. Besides, the shop receives commission fee from CyberPlat®, which can be quite ample if the service has been launched correctly.

Barcode technology can be used to save time of servicing and cashier's efforts, as well as to make the process more convenient. The subscriber's telephone number is translated into a barcode which is shown on the handset's screen or printed on a special plastic or paper card, or any other appropriate facility. To effect a payment, the cashier will only need to pass the barcode through the same barcode scanner used at cash register for scanning of goods.

Respective software is included into the package and supplied to retail outlets by CyberPlat® free of charge.

CyberPlat® recommends retailers issuing such cards for loyalty winning programs, advertising, bonus programs, etc.



At arrangement of payment acceptance process through cashiers at retail outlets, it is necessary to account for all features of such procedure.

Payment is made at cash register and takes some cashier's work time, albeit not very much. If a large number of customers usually visit the store, it may result in long queues during the rush hour.

For the rush hour, CyberPlat® recommends accepting only 500+ ruble payments (making exclusions for those customers who also buy something from the store).

Smaller amounts are also acceptable if they are meant for security services or commercial TV: such customers are usually well-to-do people who become loyal to additional services.

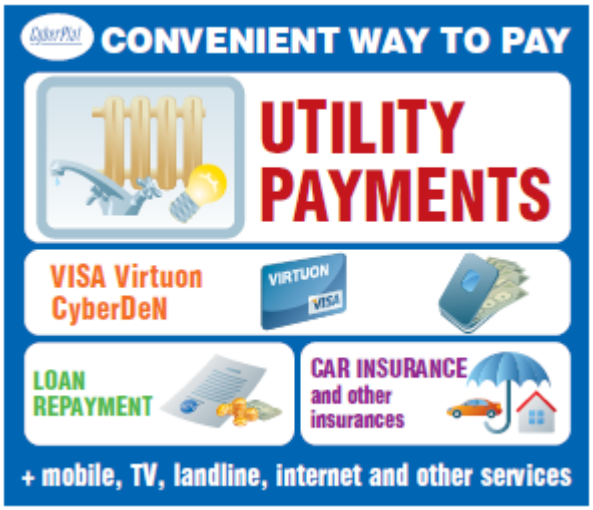
In other cases, when there are no queues, all payments should be accepted making the merchandising more effective. At a large store, where queues are normal and cashiers are always busy, it will be practical to set up a special cashier's desk for payments.

In order to increase proceeds from payments, customers should be informed about the possibility of paying for communications and other services, as well as about the procedure for accepting payments.

Payment acceptance services must be advertised, and the more scalable this process the greater is the economic benefit. External (outdoor) advertising will initially work to inform the customers of a new high-tech service available at the salesroom cash desks. Later on, when the customers get used to this service, the external advertising can be skipped.

It is recommended to place stickers and posters of the largest mobile and fixed phone lines companies, as well as other providers at the cashiers. Radio advertising encouraging customers to pay for services at the cashier's place works well for supermarkets.

This will encourage current and further spontaneous decisions of customers to top-up their mobile accounts or, for example, to pay for services of commercial TV, Internet or utility companies, and, as a result, to visit the store even if they didn't intend to do so. With noticeable and efficient advertising, the customer flow may double after the store starts accepting payments.



In order to arrange payment acceptance facility in store, you have to sign a contract with CyberPlat® payment system. This procedure is extremely simple and does not take a lot of time. You may also register online. To do this, you need to follow this link: http://www.cyberplat.com/join/dealer/ and register, afterwards you need to send necessary documents by post. After signing the documents, the connection procedure takes place, which is also described on the company's website in detail. Actually, upon these procedures, you may start transacting payments on the same day you registered.

CyberPlat® offers retail companies a wide range of services including acceptance of payments for mobile and fixed-line telephony, Internet access, IP-telephony and commercial television, public utility services, satellite and cable television, airline tickets booking and purchase, security systems services etc. At present, the largest share of payments is payments for mobile communications, but other services are in customer demand too (and are beneficial for the storeowner), that is why they should be offered to the customers. CyberPlat® technology allows using a wide range of terminal equipment at the owner's option.

In order to process payments the cashier's may use:
- a common PC connected to the Internet;
- widely used typical cash registers;
- programmable POS-terminals at the cashier's work place for bank card payments;
- a mobile phone or a smart-phone with Java, Android and iOS application support.

“Change to the phone” service

CyberPlat® payment system has implemented a new product which is unique for the Russian market of electronic payments, i.e. deposit of change to mobile accounts with the use of barcode.

While paying for purchases at a cash desk of a retail chain, the customer gives to the cashier a mobile phone with a bar-code image displayed on the phone screen or (which is preferable) a card or a mark with encoded phone number and asks to transfer change to the personal account opened in the billing system of a mobile network operator. In order to obtain a barcode, it is recommended to install the above-mentioned special print-terminals at the sales areas. Having printed a barcode on a sticker, the customer keeps it by placing the sticker either on a card or on the handset, and then uses it for future purchases.

The payer can obtain the barcode entering the operator’s website or receive it with a mobile phone having sent an SMS request to the short number 7117 (presently works only for the MTS subscribers; the service will soon be available for the other telecommunications providers).

The cashier scans the barcode, per-forms online payment, and gives the customer the receipt. For im-plementation of this project, CyberPlat® payment system has developed a special processing solution, which can be integrated into the software for cash registers in retail chains.

The use of barcode technology signifi-cantly facilitates and accelerates per-formance of payment transactions. This technology reduces the customer servicing time, which is quite crucial for the retail chains with great customer flow. This considerably saves time and makes service appealing for both customers and retail chains.

The “change to the phone” project brings numerous benefits to all parties of settlement procedure:

1. The customers no longer need to “tip” the cashiers and overload their wallets and purses with a large number of coins. In this case, the main benefit for the customers is their timesaving. The process of payment for mobile phone services with the use of barcode technology becomes fast, convenient, and comfortable for payers.

2. The trading enterprise starts earning additional revenues from “change” process in form of a commission fee for payment acceptance procedure and cuts costs thus skipping procedure of ordering and receiving coins from the bank. Besides, it is also expected that this project will possibly lead to reduction of small value banknotes flow such as 10 and 50 rubles.

3. The cashiers get rid of their “headache” caused by having to deal with coins and small denominations. The very process of “giving change” becomes faster which leads to the increase of the number of customers serviced by a single cash desk.

We invite retail chains to accept payments and make money together with CyberPlat® payment system!

Payment acceptance procedure with the use of barcode technology

Strategic priority for CyberPlat® payment system is development of infrastructure for online payments with the use of barcode technology. Possibility of making payments in retail enterprises with the use of barcode technology not only for traditional products, but also for such services as mobile and fixed-line telephony, cable television, Internet, public utilities, including electricity bills, security system services, and other services, creates an entirely new segment at online payments market. Introduction of online payment technologies, on the one hand, provides additional convenience for customers, and on the other hand, significantly increases income of trading enterprises.

Potential from the use of barcodes has increased significantly due to the implementation of new technological solutions. CyberPlat® jointly with IT SERVICE Retail & Banking has developed and performed pilot testing of software and hardware that allows customers to print their own barcodes to pay for a wide range of services: from mobile telephony to loan repayment services. Installation of wall-mount printing terminals (for printing out barcodes) at sales areas will greatly accelerate acceptance of payments at cash desks and will lead to a significant increase of payments for various services in the retail networks.

Significant benefits will be received primarily by those retail businesses, which will be pioneers in organization of payment acceptance processes with the use of barcode technology at their enterprises and sales premises.

CyberPlat® payment system offers multiple payments acceptation methods. Payments may be collected directly at cash desks after printing out barcodes with the use of wall-mount printing terminals located on the same trading floor. Another option is to organize separate payment acceptance outlets, which will also be equipped with printing terminals. Additionally, these specialized cash desks can be used to organize acceptance of bank payments (loan repayment, refilling of deposit and card accounts – with any bank), payments to insurance companies, and money transfers.

Such payment acceptance outlets can significantly increase profitability of trading enterprises, as well as flow of customers and will ensure proceeds from basic goods due to accompanying purchases. CyberPlat® payment system continued active promotion of online payment technologies in retail networks. For example, the new service “Change to the phone” was initiated in the retail network of MTS (a Russian mobile telephone company) consisting of 3,200 mobile shops. This service allows using the barcode to credit the change from purchases to subscribers’ personal accounts, which considerably accelerates the payment procedure at cash desks and yields extra revenue for outlets due to additional commissions.

Software solution Payment Module for Personal Computers

The Payment Acceptance Module software for retail outlets is installed on the computers running under Windows OS.

During operation, the program interacts with CyberPlat® Internet-services, thus ensuring pay-ment acceptance procedure, as well as sale of PIN-codes through CyberPlat® service.

Payment Module (PM) allows printing receipts directly during the program operation; it sup-ports all popular types of cash registers.

Program logs accepted payments and offers a great variety of additional features facilitating acceptance and further processing operations.

Detailed description of the Payment Module soft-ware is available on CyberPlat® system's website at: http://www.cyberplat.com/tech/online/.

Solution for connecting cash registers of retail outlets to the payment acceptance system

CyberPlat® system provides payment authorization server (PS) for connection to one or several cash registers or self-service terminals to the payment system's central server for accepting payments at the outlets of retail companies. The payment authorization server is developed for the platforms Windows and Linux. It is installed in the dealer's server and ensures online payment processing. Interaction with the central server of CyberPlat® payment system is performed though common Internet channels.

Information security is ensured by means of data encryption and the use of electronic digital signature. Interaction between the payment authorization server and cash registers is carried out by file interchange.

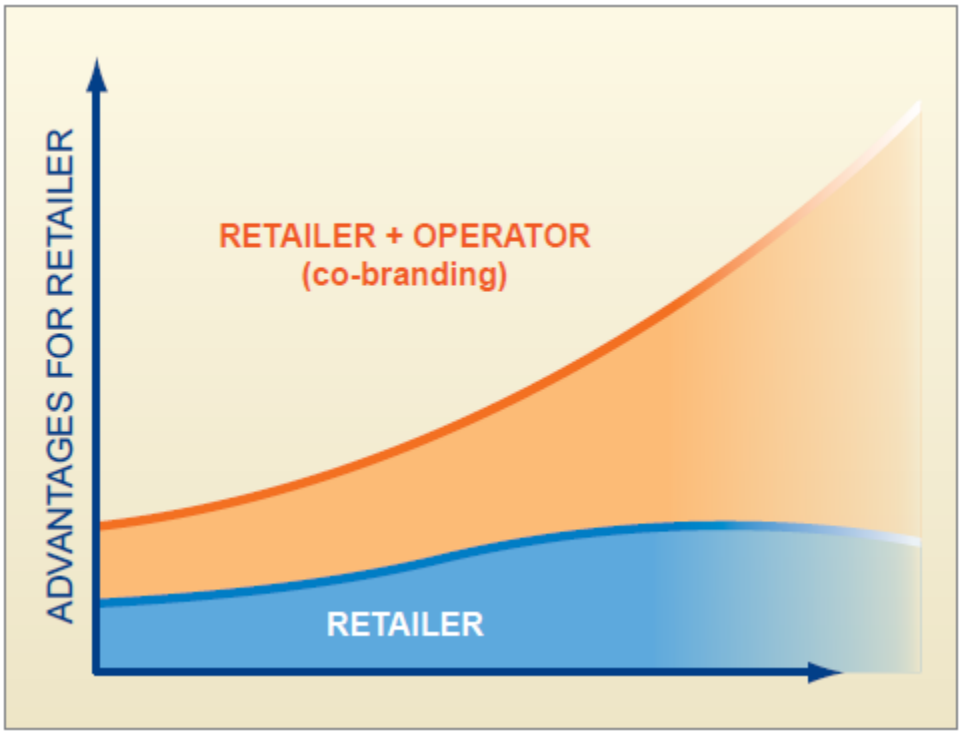
This software is available at the website of CyberPlat® payment system at:

http://www.cyberplat.com/tech/cashdesk/.

Earning profits from Co-Branding

If we compare the CyberPlat® technology with the use of prepaid cards (scratch cards), the CyberPlat® technology reduces sales costs and provides the retailer with the possibility of co-branding with those operators who have been chosen as the payment collectors (and these are often global brands).

The chains that start accepting payments can get free advertising from the operator. For example, if a well-known Russian retailer starts accepting payments for mobile communications in its stores, the largest Russian mobile operator advertises this retail network free of charge. It is clear that joint advertising is always beneficial for the retailer, as the brand awareness of the mobile operator involved is always higher, and therefore it acts as a locomotive for promoting the retailer's brand.

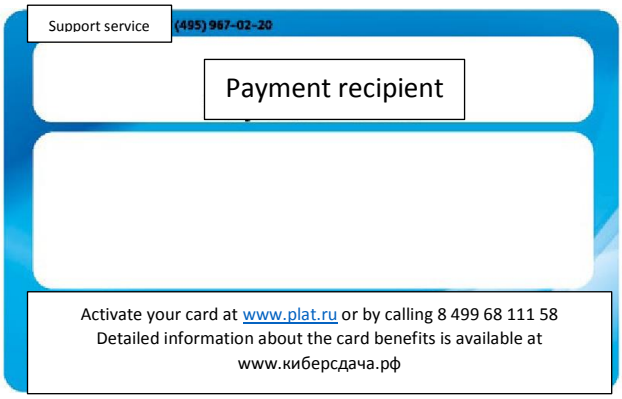


Cyberchange — a unique financial service

“CyberChange” is a state of the art financial technology associated with the use of change left after payment for goods and services in retail chains, shops and small outlets (www.киберсдача.рф).

The amount of change can be transferred in real time to almost any service provider with no cashier’s time wasted by using a special CyberChange card.

The CyberChange plastic card is of the same size as standard bank cards. It bears a 19-digit card number and a barcode.



The consumer can transfer the amount of change remaining after payment for goods or services to:

- A mobile phone account;
- A bank card;
- The current bank account linked to the Internet-Bank-Client (for example, to “PLAT.RU Payment Book”).

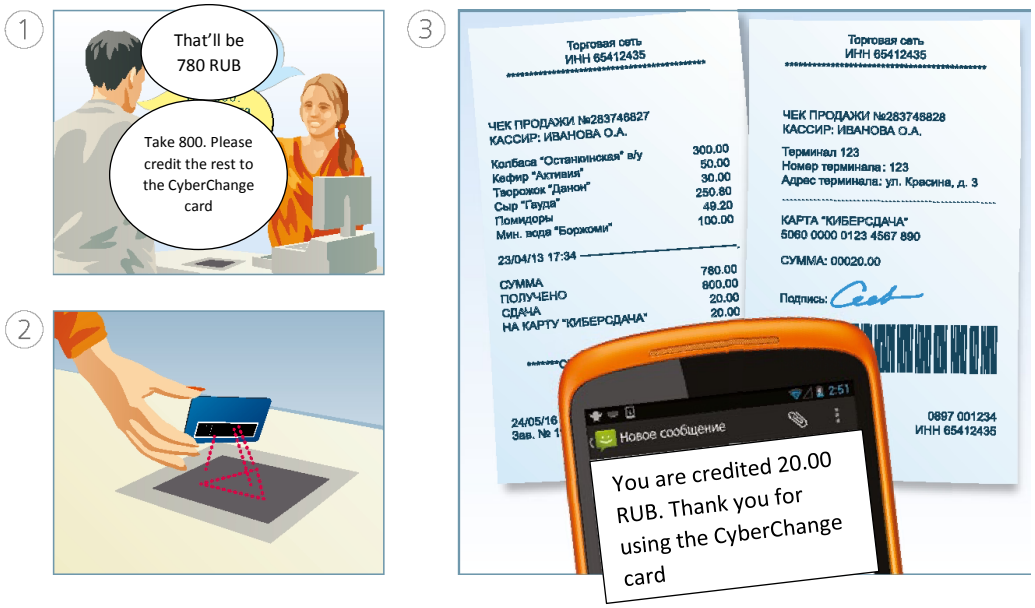
Any person can become a user of the service. In order to credit change or carry out a targeted transfer of funds to a bank or personal account with a service provider, you must first activate the CyberChange card. In the process of activation, the card number will be assigned a template containing payment details, for example, a service provider code and a mobile phone number, or a bank code with the bank or personal account number and a mobile phone number. The set of data is transferred to the CyberPlat® system and further serves as an electronic template for making transfers automatically, without entering any details.

To carry out transactions below the minimum payment threshold, a “Payment Book” (www.plat.ru) is automatically created by the provider for the client, and the change amount is credited there.

General plan of chance crediting

Let us consider a common situation: at the most unexpected moment, your mobile phone is blocked because you have run out of money. You immediately take off looking for the nearest payment acceptance outlet in order to replenish your account in a quick and convenient manner.

You walk into the nearest store of a well-known retail chain and ask the checkout clerk to replenish the account. In response, the checkout clerk offers to make a purchase, and transfer the amount of change to your mobile operator's account. You agree, because you understand that it is “killing two birds with one stone” at the same time: you replenish your account, “revitalizing” your phone, and purchase the desired product as well. As a result, store turnover increases and customer loyalty to the retail network grows.



Increased turnover of high margin goods

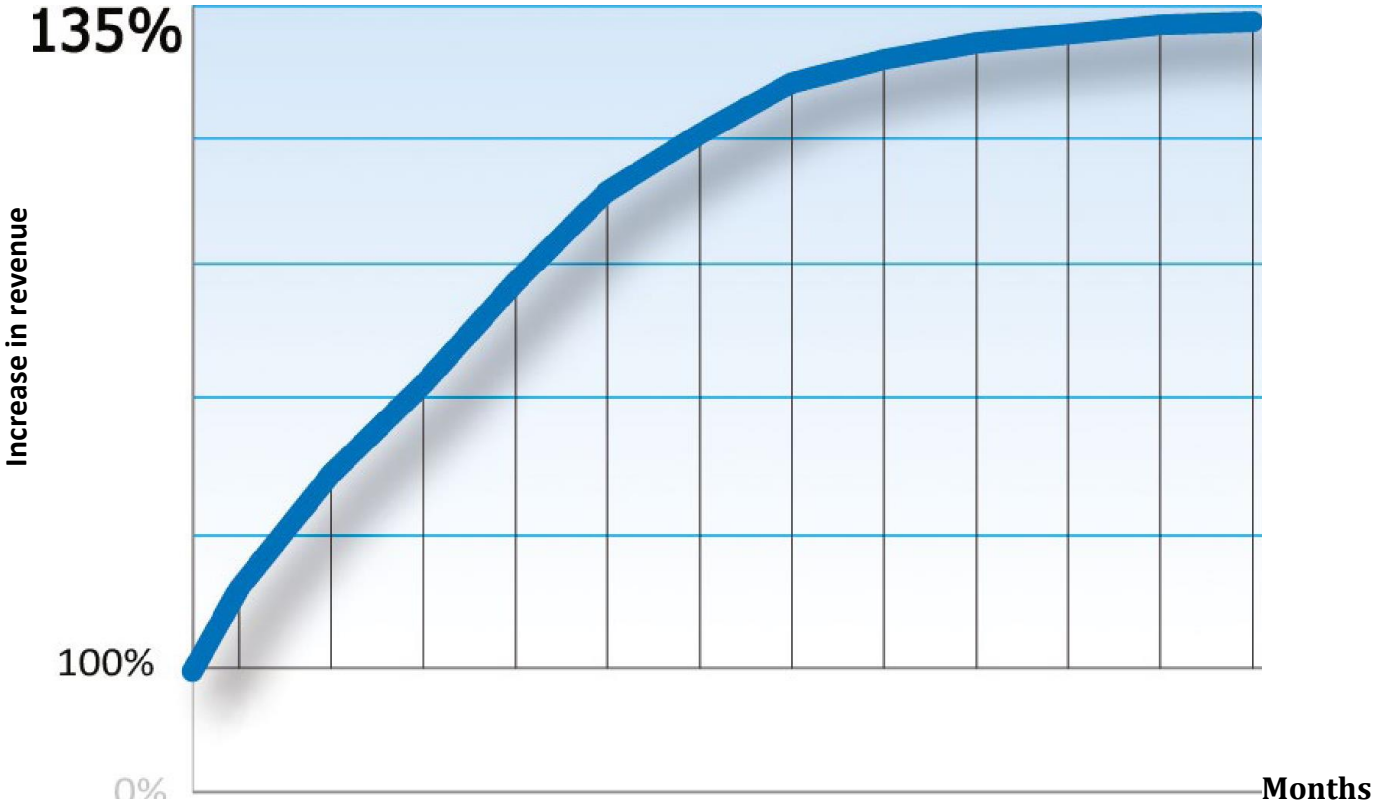
With the growth of foot traffic moving higher as a result of implementation of the CyberChange project, the turnover of high-margin goods in the retail outlet increases. The client comes to pay for services using their CyberChange card and makes purchases of impulsegoods with higher profitability located in checkout areas.

E-retail experiences an increase in sales of accessories: covers for mobile phones, key fobs, memory cards, batteries, etc.

Sales of beer, cigarettes, alcohol, mineral water, chocolate, confectionery products and chewing gum are growing in grocery retail, along with sales of non-food high-margin products.

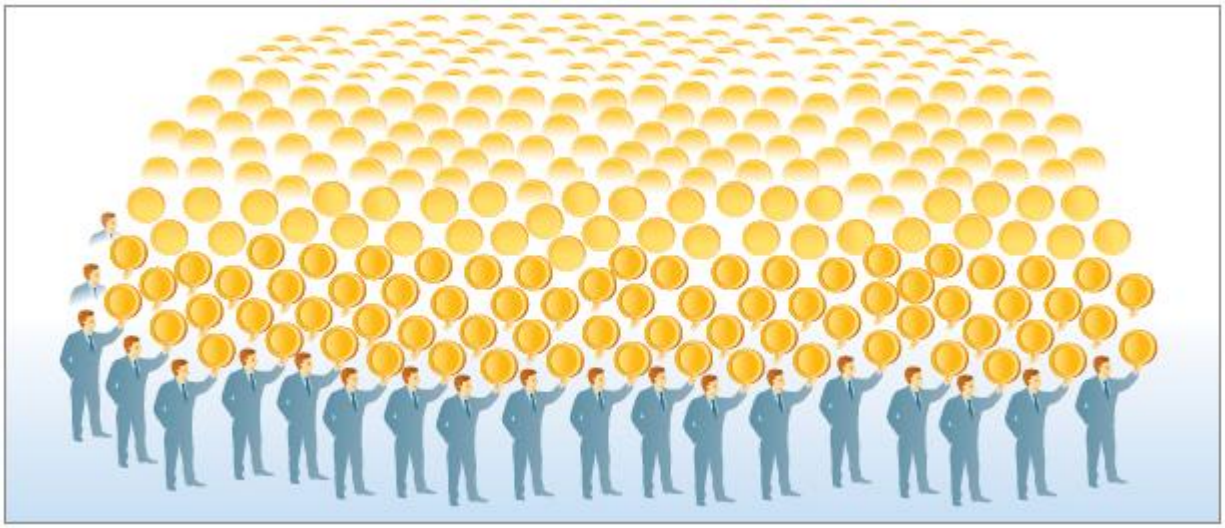
The CyberChange technology is similar to the Japanese Change to Card service. In Japan, the Felica system is operating successfully, where the change from retail purchases is credited to a noncontact card. Then this card can be used to pay, for example, transport services.

The turnover of this system in Japan reaches tens of billions of dollars — showing that the widespread introduction of Change to Phone can significantly increase operators' income. It will not reach millions or dozens of millions, but rather hundreds of millions of dollars.



“Change to the phone” technology is similar to the Japanese “change to the card” technology

In Japan, there is a system called Felica that credits change funds to a proximity card. This card can be later used at payment for e.g. transportation services. In Japan, turnover from the use of such system comprises tens of billions of dollars, which indicates that broad implementation of “Change to the phone” can significantly increase the income of operators. It is not about millions and tens of millions of dollars, but rather hundreds of millions of dollars.



Reduced cash flow circulation

The service for transferring change to mobile phone accounts is very beneficial in terms of retail sales. The costs of receiving coins from banks are eliminated, which is of critical importance, since delivery of small change and its issuance to checkout clerks always poses a massive issue for any retailer.

CyberPlat® Solution for Banks

CyberPlat® offers Russian banks a high-tech service package enabling to enhance significantly banking capabilities in attracting new customers, optimizing costs, and receiving higher revenues.

CyberPlat® provides new customers for Banks

Cooperation with CyberPlat® payment system enables Banks to access new types of customers, legal entities that are CyberPlat® customers, and to offer them the following banking products:

- **Collection for retail and terminal networks.** CyberPlat® payment system provides services to many retail outlets and terminal networks. Therefore, CyberPlat® customers require services for collection and estimation of funds for payments accepted within these outlets. If customers are interested, they can contact the Bank-Partner.
- **Short-term lending against the collected revenue.** Many businesses and terminal networks' owners need short-term loans for transacting their payments through CyberPlat® in order to cover their cash shortages. Such loans given as an overdraft account are advantageous for the Bank and quiet secure since they are covered by cash collected by the Bank on a regular basis.
- **Crediting of terminal networks against equipment leasing (financial leasing).** CyberPlat® customers need loans to buy cash-in and POS terminals. If customers are interested, they can contact the Bank-Partner.

Connection to CyberPlat® system means new earnings and new customers for your Bank!

Integration of card acquiring and cash payment acceptance processes

The bank payment cards of international payment systems such as Mir, VISA, MasterCard, as well as Russian payment systems, with the use of CyberPlat® system can offer its customers (trade and service companies) new opportunities. Special CyberPlat® product integrates cash payments for various services and sending of acquiring bank messages associated with acceptance of payments through banking cards.

Due to such CyberPlat® development, it is possible to integrate cash collection and acquiring processes in one device. Herewith, transaction security is guaranteed through the unified Internet channel and unified EDS.

Using the same POS-terminal both for payment by cards and for cash payment acceptance allows elimination of extra costs for equipment. In such a case, the bank provides to the seller unique device for settlement with customers. Such solution optimizes the cashier's work and increases speed of service, whereas the customers are provided with additional convenient service.

To implement the unique solution for both cash and card processing transactions you may use common POS-terminal or a PC with a card reader device.

Main advantages for trade and service companies:

- Lower equipment costs — one device for both cash and card payment processing.
- Flexibility — you can choose any Bank or any processing centre for acquiring. Using the terminal, you may switch from CyberPlat® host to the Bank host.
- Additional earnings — cards acquiring and cash payments.
- Versatility — you may use both special POS-terminals and common PC-based cashier equipment.

There are several ways to unify cash payment acceptance and card acquiring transactions at cash registers:

1. If trade and service company accepts cash payments for telecom and other services through POS-terminal, it will be enough to sign an acquiring contract with a Bank. There will be no need to buy any new equipment at a price of $400 or $500.

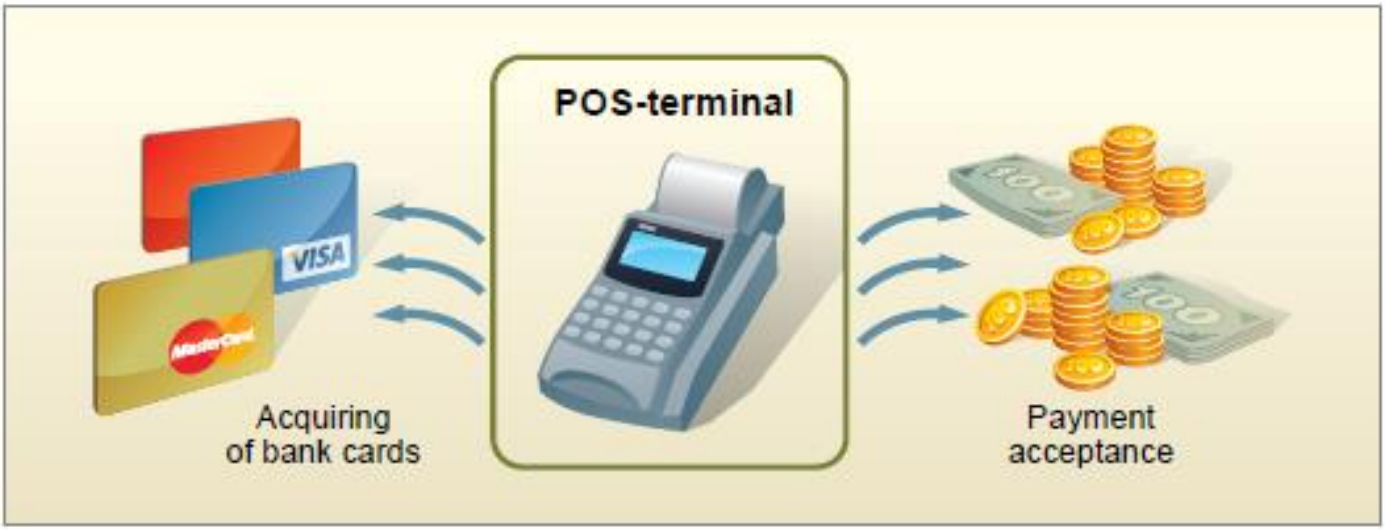
2. If two individual POS-terminals are used for cash payment acceptance and cards acquiring transactions, then one of them can be reequipped for acceptance of both types of transactions. Thus, you are saving $400 or $500 (the cost of another POS-terminal) and may optimize your cashier's work.

3. If you use PC for cash payments, then, in order to accept cash payments, it will be enough to sign a non-cash payment acceptance contract with an acquirer bank and buy a card reader device (about $90).

4. If you use PC for cash payments and a POS-terminal for cards acquiring, and you have signed an acquiring contract with a bank, then it will be enough to change the POS-terminal for a card-reader. In such a case, you save about $300 or $400, and the cashier using one device instead of two will reduce the number of errors and will need less training.

Due to such new product, POS-terminals can be used for a wide range of payments available in CyberPlat® electronic system. Therefore, the operating efficiency of the bank network may be increased due to higher yields, as revenues from the cash payment acceptance transaction in favor of more than 8,000 providers of various services are added to revenues from regular acquiring transactions.

Offering this solution to service and trade companies, the Bank will attract new acquiring customers and increase the existing client turnovers.



Payment Acceptance Procedure

Having connected to CyberPlat® payment system, the Bank may arrange for its customers (individuals) facility of payment for more than 8,000 various services including services of leading mobile and fixed-line communications operators, commercial television and Internet providers, housing and utility services, airlines, security alarm systems and many others.

To effect payments, customers may use different options, available at an individual Bank including:

- **ATMs**

Payment acceptance facility in favor of various service providers increases ATM profitability by 25% while the cost of transaction decreases (no additional costs related to the use of cash dispenser and necessity in reloading of banknotes for such transactions).

ATMs and cash-in terminals of leading banks enjoy CyberPlat® capabilities

Nowadays, there is a distinct tendency for transition of standard operations, inclusive of payments, to ATM-networks and cash-in payment terminals belonging to banks. This allows banks to discharge their operational facilities and reduce operating costs. Practically, the banks may expand their retail networks at minimum costs, and the service becomes closer to the customer both in space and time aspects: ATMs and cash-in self-service terminals operate 24/7.

The largest national banks enjoy the possibility of accepting payments offered by CyberPlat®. These are ATMs of such credit institutions as VTB, Alfa Bank, Russian Agricultural Bank (Rosselkhozbank), Unicredit, AB Russia and many others. These are terminal networks of Russian Standard Bank, Binbank, Credit Bank of Moscow, and many others.

• POS-terminals

In order to accept payments through POS-terminals (manufactured by Verifon, PAX, SAGEM, and Shtrikh-M), the CyberPlat® payment system provides software expanding the functionality of terminals. Software developed by CyberPlat® enables cashiers at sales and service outlets to effect payments in a convenient and easy way, by accepting cash or cards.

• Bank-Client

Acceptance of payments through the Bank-Client system available at a Bank can be performed both via Internet and with the use of mobile phone (mobile Bank-Client).

Payment acceptance through Internet-Bank-Client

• For the Banks using the Internet-Bank-Client systems manufactured by BSS or Inist, CyberPlat® offers technological solution, which is integrated with the CyberPlat® payment system.
• For the Banks using other Internet-Bank-Client systems, special gateways can be developed for their integration with the CyberPlat® payment system.

Mobile Bank-Client

For effecting payments through mobile phone, CyberPlat® payment system provides the Banks with a software solution for mobile phones supporting the corresponding Java-application.

Auto payments – a turnkey solution for banks

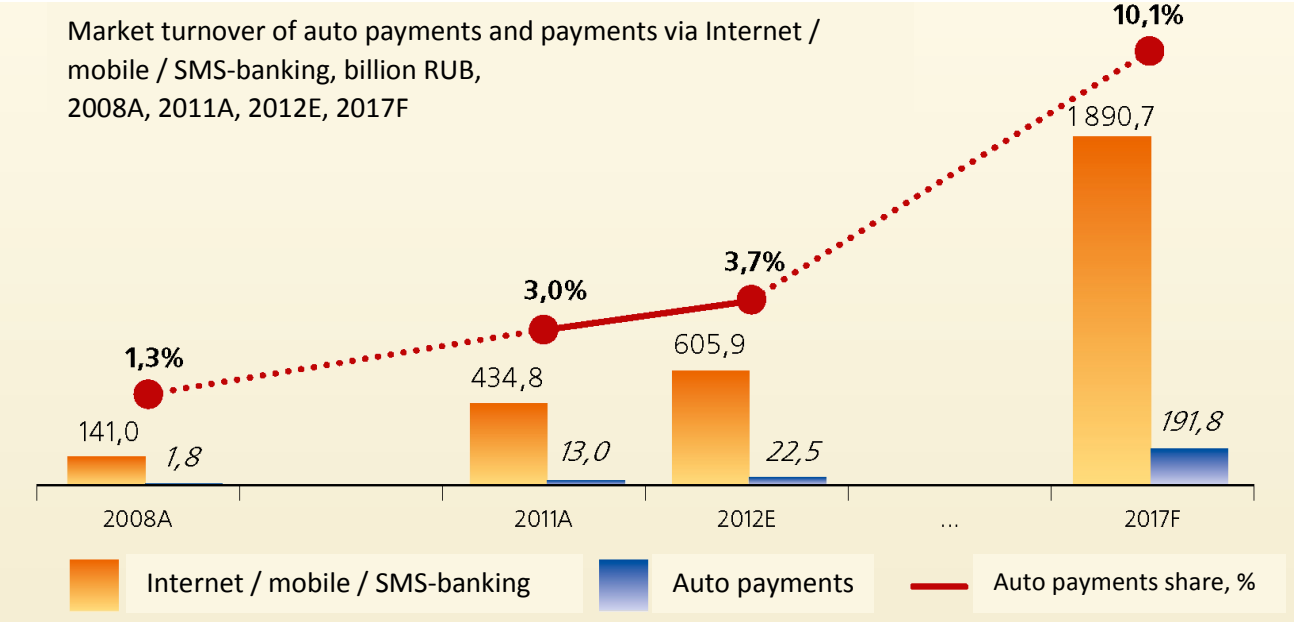
Auto payment is a service for automatic replenishment of mobile phone accounts or automatic payment for housing and utilities and for services of energy sales companies, as well as of traffic fines using a client's bank account.

Payment for mobile communication is carried out if the account balance drops to the minimum amount set by the subscriber, and other payments are made in accordance with the dates and amounts of payments set by the client themselves.

CyberPlat® provides a service as part of a package of remote financial services, including:

- Internet banking;
- Mobile banking;
- SMS banking.

According to the research company J'son & Partners Consulting estimates, auto payments in Russia make up about 10% of payment turnovers of all remote financial services.



HOW THE SERVICE WORKS

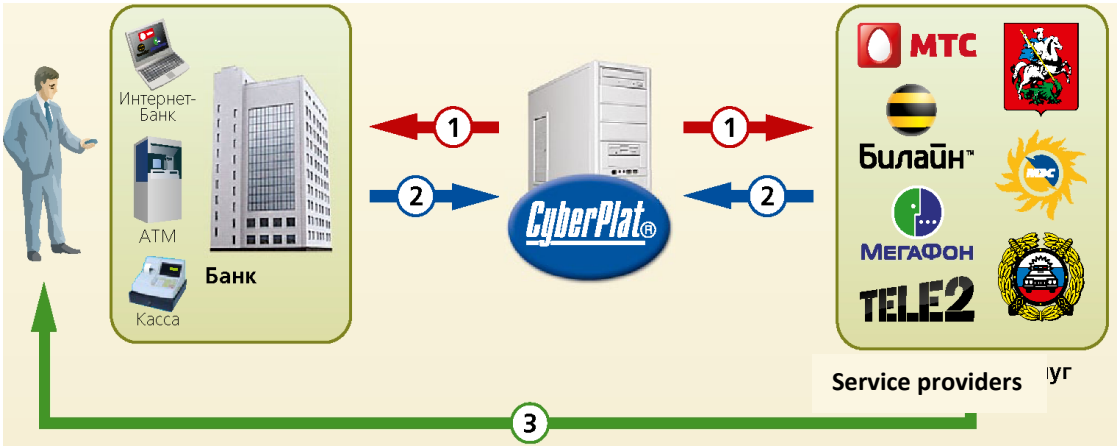
I. Registration

1. The Client sends an application for the activation of "Auto payment" to the Bank in order to pay for the services of the required provider. The Bank sends the application to the Provider through CyberPlat®. The Client can connect to the service through the Internet-Bank-Client system, at the Bank's office directly, as well as in the network of ATMs and bank terminals.

2. The Provider confirms the acceptance of the application through CyberPlat®.

3. The Provider sends the Subscriber an SMS with information on the service connection.

Further settings of auto payment characteristics — account balance, top-up amount, phone number, payment date — can be adjusted at any time at the bank's office, at ATMs or bank terminals, via the Internet-Bank-Client, as well as using the Plat.ru online service — CyberPlat® Payment Book hosted on the website www.plat.ru.

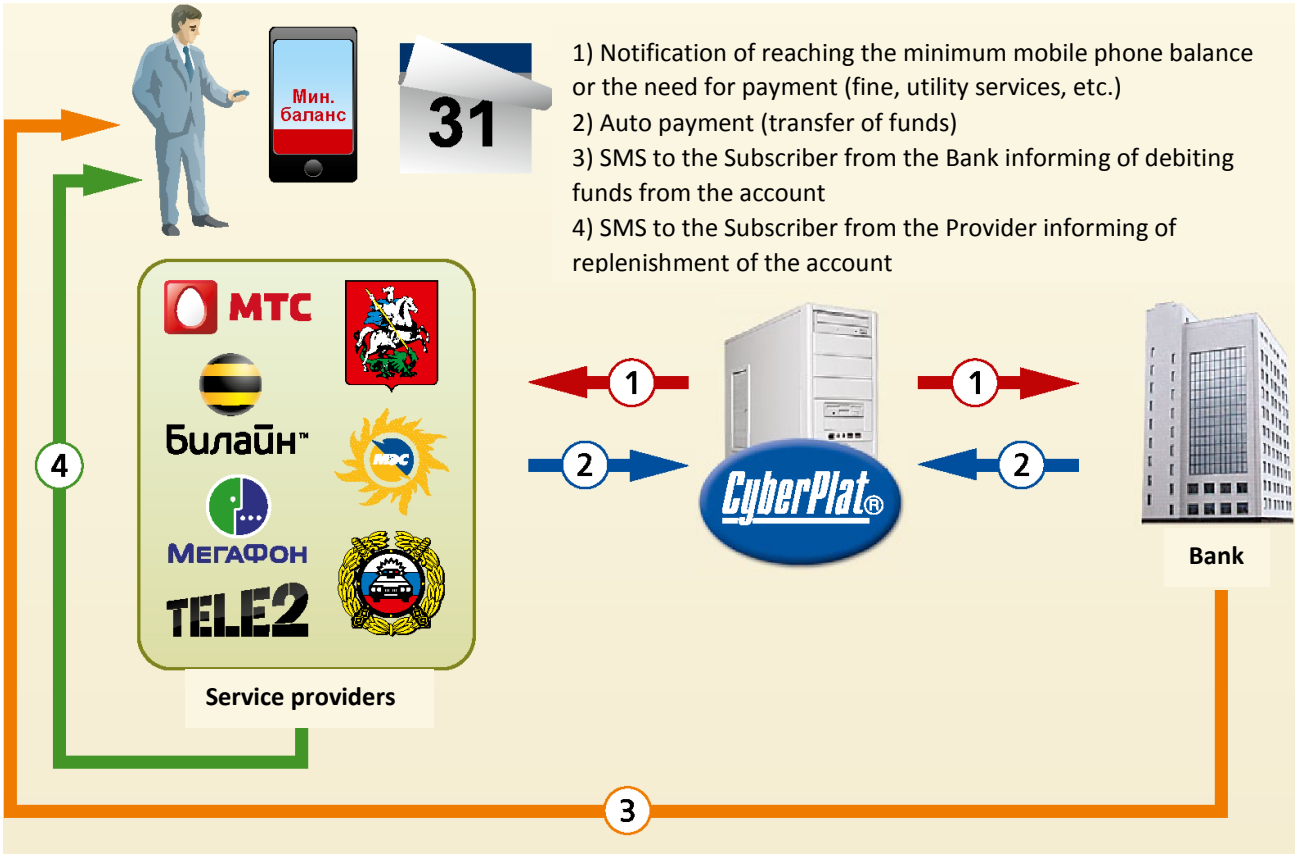


II. Auto payment

As soon as a need to make a payment arises, the Bank receives a request from the Service Provider to process the payment through the CyberPlat® system.

Funds are debited from the Client's bank card account automatically in the amount of the payment sum specified and are credited to the account of the beneficiary of payment.

The Bank's Client receives an SMS confirmation of the payment made.



ADVANTAGES FOR BANKS

- Increased commission rate.
- Service advertising support from MTS, Beeline, MegaFon, Tele2.
- Increased efficiency of using accounts due to the growing volume of customer payments in “own” bank.
- Customer loyalty is growing as the interest in maintaining a larger balance to top up the balance increases.
- Reduced volume of cash withdrawals for payments outside the bank.
- New clients are attracted through the provision of additional services.
- No development costs: CyberPlat® provides a ready-made innovative solution.

ADVANTAGES FOR CLIENTS

- No need to waste time replenishing your account.
- Payments are credited in real time.
- Ability to pay for several numbers from one account.
- Ability to carry out auto payments while abroad.
- Ability to control payments made at any time using card statements.
- Each crediting of funds is confirmed by an SMS notification.
- Ability to change the service parameters: the account balance, the top-up amount, the addition of new phone numbers.
- Variability of settings. For example, auto payment schedule: every day, every week, etc. or setting a monthly payment limit.
- Bonus programs from the bank.

Payment acceptance procedure in terminal networks

Benefits for terminal networks

Payment terminals currently represent a significant segment of payment acceptance market in Russia and CIS countries. As a rule, such networks, as they develop and enlarge, prefer to operate with the payment system, which does not have a terminal network on its own and hence cannot be a competitor to their business a priori.

For this particular reason, many payment terminal networks prefer to work with CyberPlat® payment system.

The clients that use CyberPlat® software have an opportunity to choose service providers in whose favor they can accept payments.

In this case, CyberPlat® payment system, unlike its competitors, does not solicit any unnecessary services, which customers do not need.

One of the key advantages of Cyberplat® software for terminals, which the company had updated and improved in 2018, is its versatility and simplicity of installation and running. Open code technology allows, if necessary, adjustment of used applications to particular requirements of large networks, as well as adjustment of CyberPlat® applications for their integration with billing systems, business management systems, and accounting systems of customers. This makes CyberPlat® solutions more flexible and allows complete integration with business processes of the partners.

Terminal Client 3.0.x.x” software complex

The software package developed and offered for use by the partners of the electronic payment system consists of two main components:

- terminal part of the software — TerminalClient 3.x.x;
- “Terminal Monitoring” technical service.
- TerminalClient 3.x.x is installed directly on the payment terminal.

Technical monitoring can be installed at the client's office or at CyberPlat®.

Advantages of software:

• • High reliability, fault tolerance, protection against cyber threats.

- Versatility of the solution, allowing acceptance of payments through the majority of payment terminals on the market.
- A large and constantly expanding list of supported hardware.
- Support for fiscal registrars officially approved for use in terminals.
- Flexible software settings.
- Remote monitoring of terminals,

• • Ability to monitor the status of terminals remotely.

- Several GUI design options.
- Ability for users to change the design of the graphic interface independently.
- Ability to switch modes online and offline.
- Acceptance of payments to operators not represented in the CyberPlat® system.
- Support for several types of watchdog timers.
- Open source software.

An exclusive feature of the software is the ability to accept payments to service providers that are not CyberPlat® system operators, for example, local utilities companies, Internet providers, etc.

Open Source codes and Open Source technology

A distinctive feature of the CyberPlat® software, which attracts large customers, is availability of open codes of the programs developed.

After 2009, the open-source software development project for CyberPlat® payment terminals has switched to the classic Open Source technology. This software development mode is in line with the software development technology in projects such as Linux, MySQL and other global software products.

Shifting away from the concept of software development within the framework of the company that has created the product and moving to the classic open source code mode are dictated by the growing popularity and the extent of use of software for terminals developed by CyberPlat® specialists. An important advantage of the product offered is its rapid development, as compared with closed projects, due to the constant collaboration of different development groups between themselves and the community of users of Open Source products.

While previously only the specialists of the CyberPlat® electronic payment system made all the necessary changes to the terminal software package by themselves, then nowadays, within the framework of the new concept, CyberPlat® provides an opportunity for all market participants and independent developers to participate in software development. At the same time, CyberPlat® acts as a moderator and integrator of the efforts of all developers, as well as the owner of the website where discussion and exchange of the results of their activities take place.

From the technological point of view, the project has the following features:

- The source code of the version is made for Windows;
- certain components of the program are presented as binary libraries;
- the code is provided to the participants in the “read-only” mode, and if a project participant wishes to make their code available, the code is sent to the moderators for control and publication.

The use of the Open Source technology by the CyberPlat® electronic payment system in the development of terminal software ensures easy scalability of the project without increasing its operating costs.

In order to participate in the project, anyone can register in the system at https://help.cyberplat.com/, download the project, get access to recording changes and record changes in the process of development.

Terminal Monitoring Technical Service

Terminal Monitoring is a software complex developed by CyberPlat® experts that enables to receive information concerning current state of terminals and remote equipment, effected payments, errors, and collection processes in real-time mode through web-interface. Besides, Terminals Monitoring also allows generation of statistical data concerning the above-mentioned parameters.

The use of such system allows increasing the number of accepted payments and improving the quality of customer service as follows:

- saving of time for identification and processing of problem payments;
- timely informing of the dealer about technical faults in terminals;
- analysis of the network operation statistics.

Terminal Monitoring service provides the following opportunities:

- online monitoring of the technical state of terminal network through generation of information on each terminal, including the information on SIM-card balance, printer and bill-acceptor operability, availability of a GSM-signal from the terminal, etc.;
- monitoring of payment amounts, number of inserted bills, as well as number of payments and successful transactions;
- reprocessing or cancelation of problem payments, and monitoring of their history;
- remote and simultaneous sending of reset commands and commands to receive logs to several terminals;
- sending of software updates.

Technological solution “Advertisements on Terminals”

CyberPlat® experts have developed a software product enabling to demonstrate advertising materials on principal and secondary screens of terminals. It can be fixed or dynamic flash demos promoting both services and capabilities of terminal networks, as well as products and services of third parties.

Solution “Advertisements on Terminals” allows owners of terminal networks to increase the efficiency of their business through the following:

• attraction of additional customers;
• promotion of new services (for example, acceptance of utility payments or payments in favor of popular local providers);
• generation of additional income from placement of third party advertising on the screens of terminals;
• strengthening of partnership relations with owners of sales areas where the terminals are located due to promotion of their services and products.

Solutions for microfinance organizations

Receiving payments for loan repayment

CyberPlat® technologing paymentscal solutions have been successfully used by the participants of the microcredit market over the course of several years. Within the framework of Federal Law No. 151 “On Microfinance Activities and Microfinance Organizations”, effective from 2010, the Company has developed a package of electronic financial services specifically for microfinance organizations (MFOs).

Partners

CyberPlat® works with many MFOs included in the state register of microfinance organizations, some of which are listed below.

Innovative CyberPlat® technologies made it possible for the microfinance organizations to actively develop regional activities without attracting investments to expand the payment infrastructure.

Scheme for accepting payments to microfinance organizations

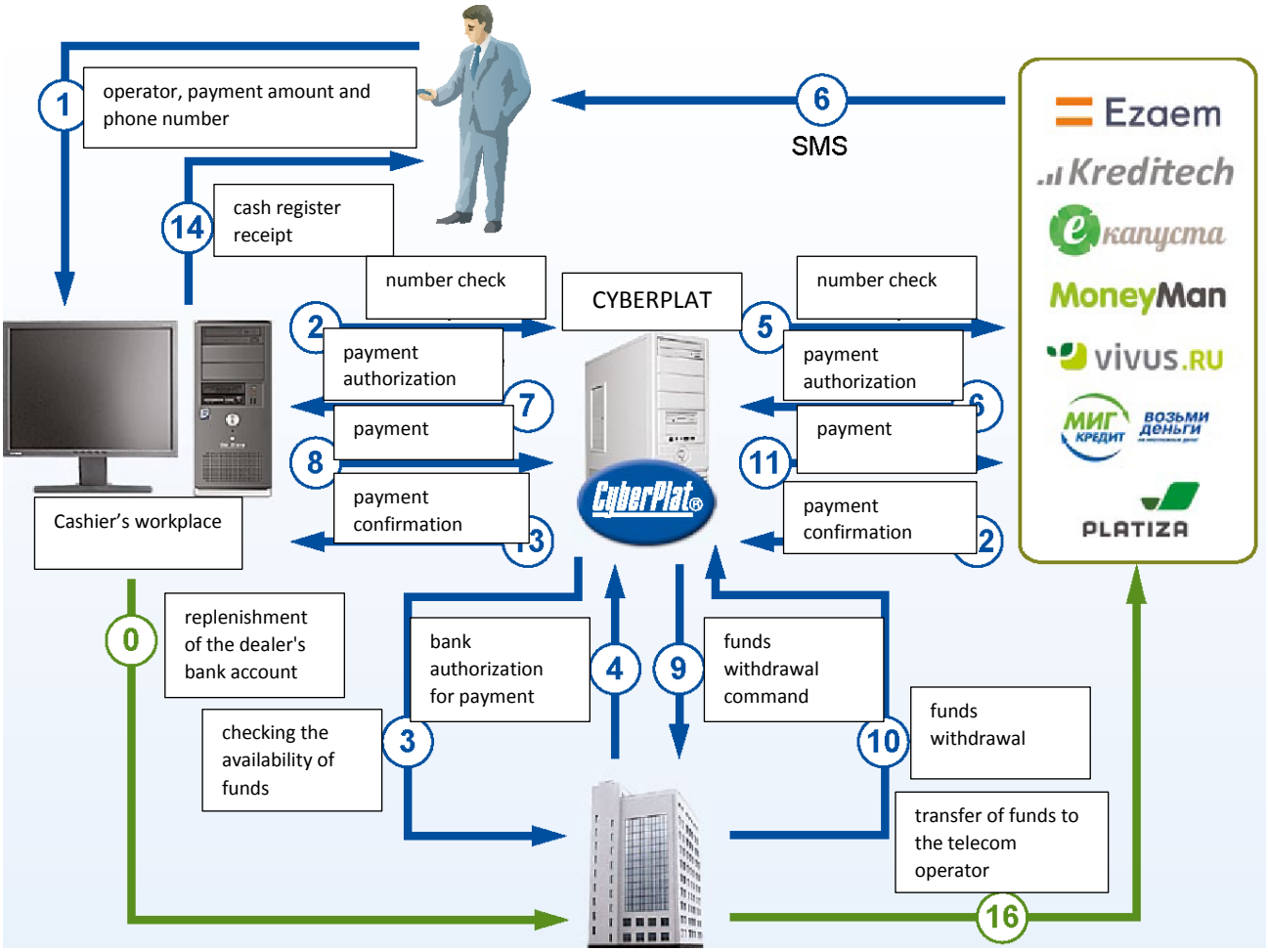
Transaction security

CyberPlat® is a closed-end system in which all settlement participants are strictly defined and cannot withdraw funds from the system at will of the operator of a microfinance organization.

Each operation in the system is certified with a digital signature, which eliminates the risk of fraud and guarantees the security of each payment. The CyberCheck technology uses an asymmetric 2048-bit key encryption algorithm and monitors every step of the online payment process.

Receiving payments for loan repayment

CyberPlat® owns a large-scale payment infrastructure throughout Russia. If a creditor organization does not have its own office and agent network in the area where the borrowers are located, the MFO can use the extensive network of CyberPlat® partners on attractive terms.



Issuing loans to bank cards

CyberPlat® was among the first companies on the market to offer its own high-tech solution for issuing loans to cards of international payment systems such as Visa and MasterCard, as well as payment system MIR. A convenient and safe service is available for cardholders of any issuing bank in Russia.

Service benefits:

- Free connection.
- Minimum time and organizational costs.
- Lowest commission on the market.
- Partner support 24x7, minimum time for solving problems.

Service for simplified identification individuals

CyberPlat® was among the first companies in Russia to provide microfinance organizations with the service for simplified identification of individuals using documents issued by government agencies.

Identification of a client in the electronic payment system requires 2 documents:

1. Passport of the citizen of the Russian Federation;

2. TIN or personal insurance policy number of the individual.

An MFO is able to obtain complete information about a potential borrower in just 2 steps, which will require a minimum of time and organizational effort. To do this, the microcredit organization has to:

1. Conclude a contract of instruction on simplified identification with LLC CB PLATINA.

2. Connect to the CyberPlat® system.

Rating information service

The rating information service (a component of scoring) is designed to present the data* stored in the CyberPlat® electronic payment system and to analyze the borrower's creditworthiness at the time of issuing a microcredit. The system database contains over 12 billion records.

CyberPlat® provides statistical information on payment transactions with identification by phone numbers, as well as financial information on loan repayment and bank account replenishment. The information contains nine characteristics that objectively identify the status of a potential borrower.

* The information is not of a personal nature in relation to a specific individual.Information by phone number		
Phone number		926-***-*ф-84
Operator		Megafon Stolitsa
Report type		external (summary)
Analysis period		full history
Dominant region		Moscow
Criterion	Scoring	Description
Number existence	1	0 - does not exist in the CyberPlat database and in the Operator's billing 1 - exists in the CyberPlat database 2 - does not exist in the CyberPlat database, but exists in the Operator's billing
Date of the latest top up	5	0 – was not topped up within a long time (more than a year) 1 - was not topped up more than 6 months 2 - was not topped up more than 3 months 3 - paid in the last 3 months 4 - paid in the last month 5 - paid in the last 2 weeks
Number lifetime	4	0 - less than a month 1 - more than 3 months 2 - more than a year 3 - over 3 years 4 - more than 5 years
Total topped up amount	6	1 – low <500 RUB 2 – modest 500-1,000 RUB 3 - normal 1,000-5,000 RUB 4 – fair 5,000-20,000 RUB 5 – large 20,000-50,000 RUB 6 – tremendous > 50,000 RUB

Service benefits:

- Instant processing of large amounts of data.
- Answering to requests online.
- Ready API protocol.
- Free connection.

Upon a partner's request, CyberPlat® provides a two-month data volume free of charge for testing the service.

Acquiring — repayment of loans on the MFO WEB resources

The high-tech CyberPlat® solution allows repayment of loans online using cards of international payment systems, such as Visa, MasterCard and NSPK Mir, issued by any bank in Russia.
Service benefits:

- Free connection.
- The lowest commission on the market and an impeccable quality of service.
-

Partner support 24x7, priority in resolving all issues as soon as possible.

Universal Gateways

Changes in legislation enhanced the capabilities of CyberPlat®

Changes in the legislation that came into force on January 1, 2010, considerably enhanced the capabilities of payment systems making accessible operations, which previously could be performed only by banks. Before changes in the legislation, payments could only be accepted under the agency scheme in favor of providers, which had executed relevant contracts and arranged information and technological interaction between the accounting systems (developed gateways).

With the adoption of the Federal Law №121-FZ the situation has changed:

Credit institution is authorized to engage legal entities, not being credit institutions, and sole entrepreneurs (hereinafter referred to as the "banking payment agent") for acceptance of individual payments performed: in favor of state authorities, local authorities and budgetary institutions operating under their jurisdiction fulfilling functions stipulated by the legislation of the Russian Federation, for execution of individual financial obligations, as payments for goods (work, services), or for crediting of a bank account (hereinafter — the acceptance of individual payments), for performance operations with the use of banking cards.

In addition, in case of card transactions, for provision to credit institutions of individual payment orders and applications for documents certifying relevant transactions, not related with entrepreneurship and private practice of individuals.

Therefore, changes in the legislation has provided the following opportunities:

- payment acceptance under the agency scheme in favor of providers, which have established gateways to their accounting systems;
- payment acceptance using a "template" (banking provider);
- payment acceptance:
  - for goods,
  - for services,
  - tax charges,
  - for replenishment of retail bank accounts.

Due to changes in the legislation, experts of CyberPlat® payment system have developed a number of products and services allowing maximum realization of the new capabilities.

Payments under Free Details

Cash desks of business enterprises and terminals connected to CyberPlat® payment system allow making payments for goods, works, services, taxes and fees, as well as for replenishment of banking accounts, if the payer knows banking details of the beneficiary.

Vast majority of the largest service providers in Russia and CIS countries are already partners of CyberPlat® system. These operators are registered in the payment system, and CyberPlat® has gateways to their accounting systems, which allows making payments under a simplified procedure, with minimum data to be entered on the screen of payment terminal or reported to the cashier in the sales area. In most cases these payments are performed on-line.

However, there are thousands of companies that are not connected to CyberPlat® system, such as housing and public utility companies, power supply companies, local Internet and cable TV providers, security companies and parking services, child daycare centers, and private clinics. However, millions of Russian citizens regularly use their services.

For payments in favor of the above-mentioned companies, CyberPlat® has developed special technology of “payments under free banking details”.

In order to make “payment under free details”, you will only need to know banking details of the provider or institution, i.e. the beneficiary. This service is very easy; you should select type of payment, fill in beneficiary’s details, and confirm the operation.

Payments “under free details” are available not only within CyberPlat® payment acceptance network, but also for users of CyberPlat Payment Book. CyberPlat Payment Book service allows saving details of such payments and simplification of further operations, resulting in adjustment of amount, if required.

Payments under free details in CyberPlat® payment acceptance network is the excellent alternative to payments at bank branches. Citizens get rid of the necessity to stand in queues in the banks and can now enjoy an opportunity of prompt payment for any legally permitted services through the retail businesses connected to CyberPlat® system.

Banking Provider

As agents of Commercial Bank PLATINA (the settlement bank of CyberPlat® system), partners of the payment system have an opportunity to arrange payment acceptance procedure in favor of regional and local providers of housing and utility services, power supply, cable TV, Internet access, as well as payments for replenishment of bank accounts. All dealers of CyberPlat® payment system have an open gateway “Banking Providers” which can be used to make such payments in favor of providers, details of which are registered in CyberPlat® system. Additionally, dealers can also add to the system new providers from among the most popular and demanded providers in the given city or region in order to increase turnover of payment acceptance outlets and to increase profitability of their business.

All new providers registered in the system become concurrently available to all dealers of CyberPlat®. Every dealer can choose those providers, which are of most customer demand.

Replenishment of Bank Account

“Multibanking Credit Gateway” available to all dealers provides vast opportunities for growth of turnover, through which payment acceptance procedure shall be arranged in favor of any bank operating at the territory of the Russian Federation for replenishment of deposit and card accounts, including those made for repayment of loans.

These opportunities have been implemented in “Payment modules”, customer software of CyberPlat® for cash registers, personal computers and for self-service terminals software. Special interaction protocols on such gateways as “Banking Providers” and “Multibanking Credit Gateway” are available for the partners using their own software.

CyberPlat® Industry Products

“Insurance” (a solution for the insurance market)

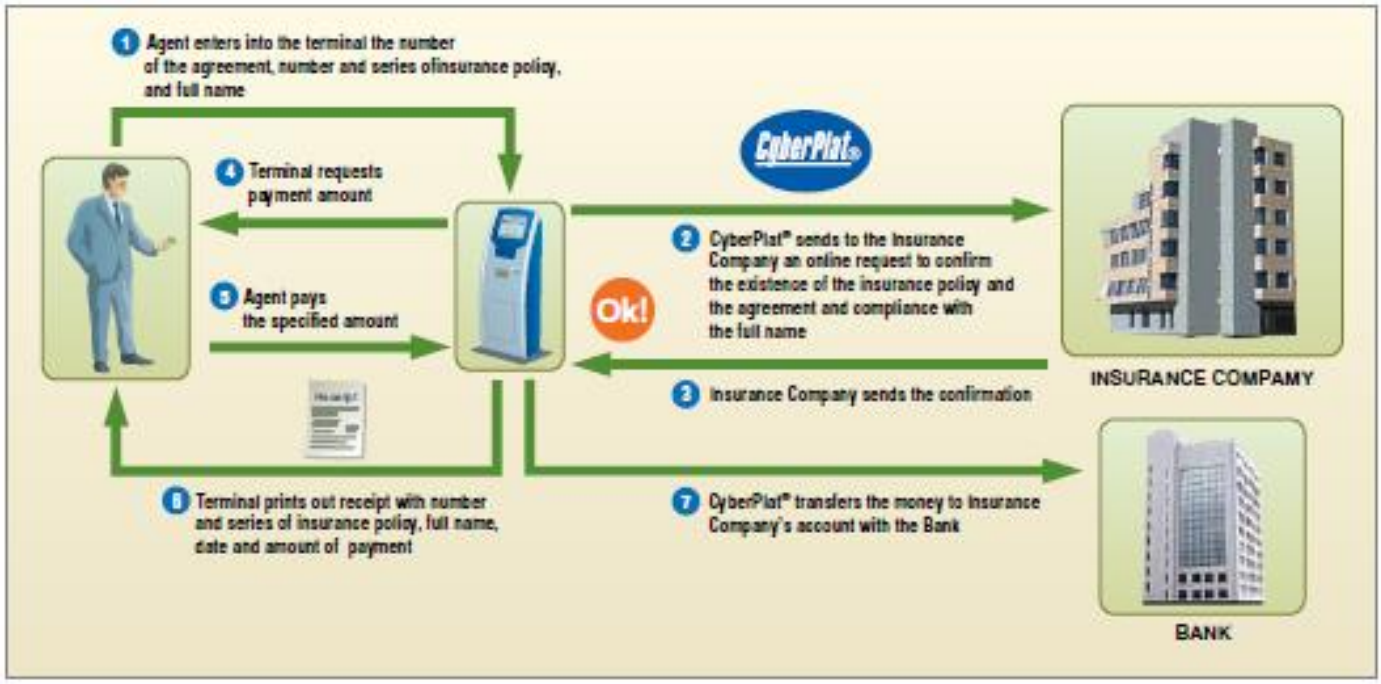
Payment acceptance and increase of operational efficiency

At present, insurance companies shall maintain cash unit network in sales offices, which challenges selection of premises and results in additional costs for collection, security services, and extra personnel.

Organization of cash collection from counterparties, primarily from insurance agents, is associated with considerable delays in receiving funds (up to 20 business days), with the risks of cash delivery by agents, and is characterized by the same costs, as in the case of cash servicing at sales offices.

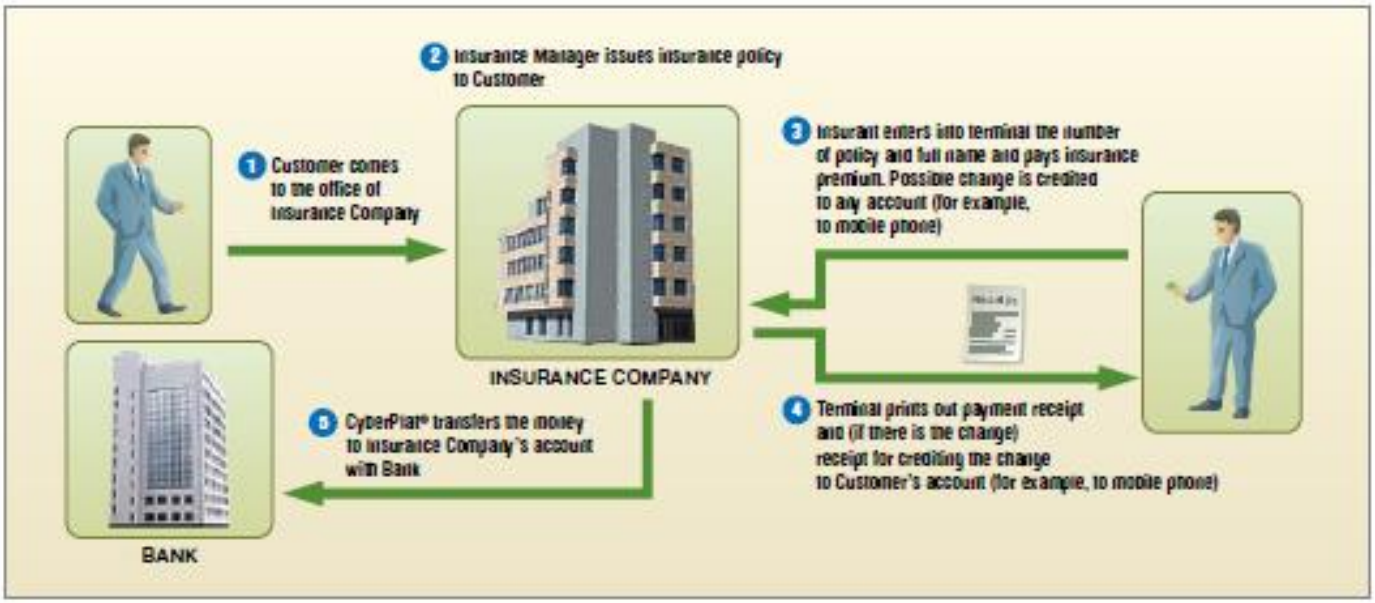
The use of CyberPlat® products and technologies for collection of cash funds allows insurance companies to stop using cash desks at sales offices and accelerate receipt of cash from counterparties.

Scheme for acceptance of funds from counterparties



At the same time, the requirements to premises for insurance companies' sales offices are reduced.

Scheme for acceptance of funds from insurants



CyberPlat® software and hardware solutions allow paying the amount of an insurance premium and credit the change to the mobile phone account of the insured person.

As of now, this project has been executed in the insurance company Russian State Insurance (Rosgosstrakh, Ingosstrakh, Home Credit insurance).

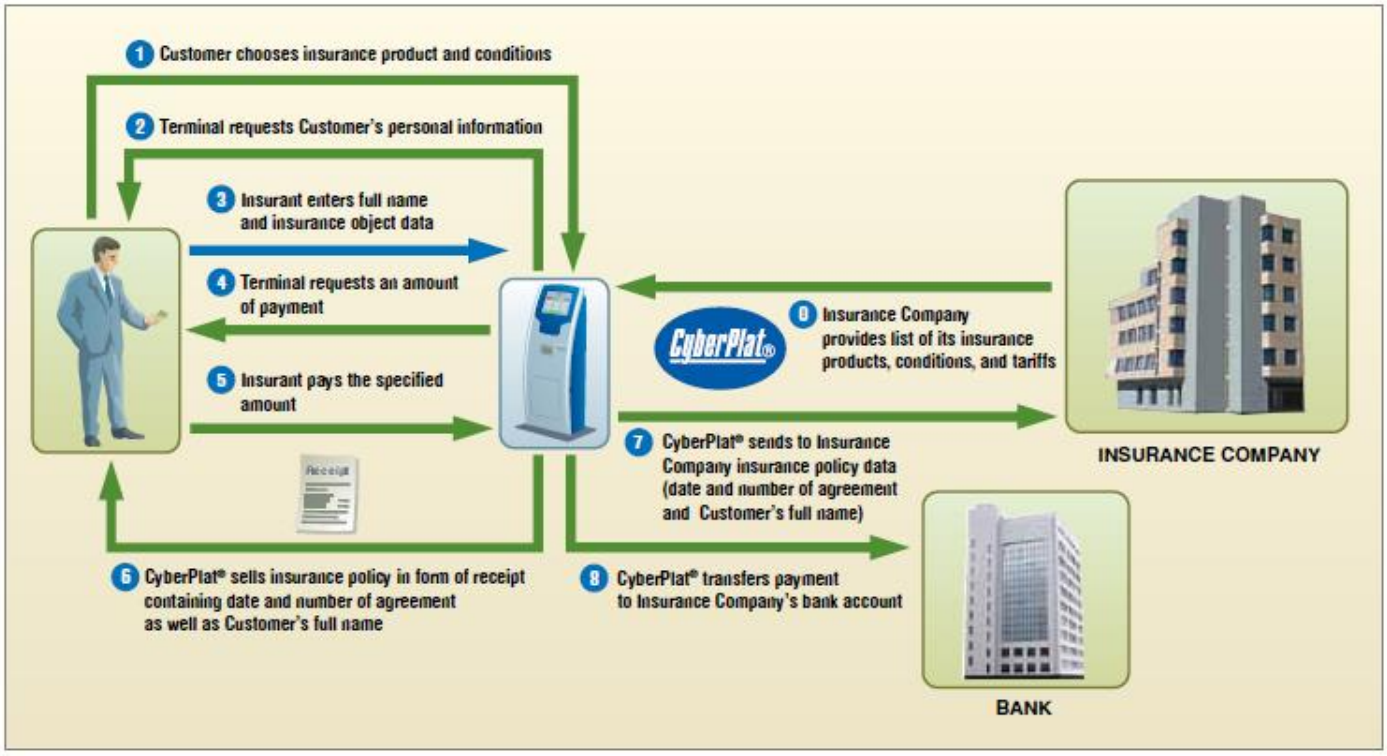
“Policy in the form of receipt” — Increase of payments for highly profitable types of insurance

CyberPlat® payment system offers sales of non-survey insurance products at its payment acceptance outlets. First, we are talking about the “full packaged” products: individual property insurance, insurance for those who travel abroad, and insurance against accidents. Such sales can be organized based on an agency agreement executed between CyberPlat® and an insurance company. CyberPlat® sells this “full packaged”, non-survey insurance product in form of receipt issued by payment acceptance outlets.

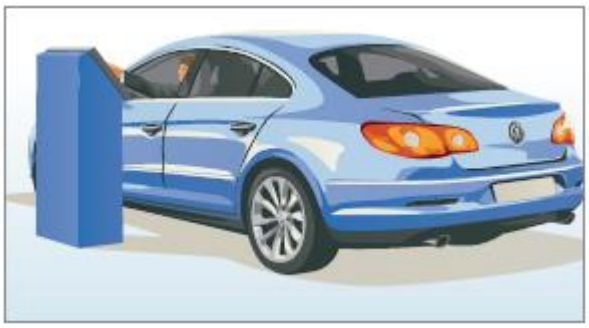
When implementing the project, the payment system’s experts provide necessary methodological support in the process of development and modification of the package of insurance document forms necessary for launching the project “Policy in the form of receipt”.

As part of the project “Policy in the form of receipt”, CyberPlat® makes agency payments for insurance products to the insurance companies deducting the commission fee in accordance with the agency agreement. This ensures the transfer of insurance contract registries that contain unique identification numbers of paid insurance policies, including all necessary personal information (full name, address, phone number).

Policy in the form of receipt



Parking (solution for automation of parking services)



Many large cities of Russia, primarily Moscow, face serious issues concerning optimization of the traffic system, where modern infrastructure of car parking spaces has become an important component. The creation of such an infrastructure of paid parking spaces, first in the busiest central parts of the capital, and then an expansion of the service coverage to all areas of the city, demonstrated the effectiveness of this solution in the fight against traffic jams.

The CyberPlat® electronic payment system has developed a solution with the functionality to pay for parking from any store, restaurant or cafe connected to CyberPlat®, regardless of the location where the car is parked

CyberPlat® solution is to create a centralized point for accepting and processing parking payments and connecting a large number of agents to this system. In this case, the procedure for paying for parking is as follows:

1 A driver parks their car in a permitted space. Each space is assigned a unique number within the region (for example, the city). The number is six-digit (up to 999,999 parking spaces can be numbered).

2. The driver can pay for parking on the spot as per the traditional procedure, when occupying a parking space equipped with parking machines (parking meters).

3. However, for greater convenience, the car owner goes to the nearest payment acceptance outlet (it can be a cafe or a store), tells the cashier their phone number, full name and passport information, and lodges money. The cashier makes the payment and gives the client a check with payment details. It is worth noting that payment (or additional payment) can be made from any payment acceptance outlet. For example, a person has parked their car a few blocks from a meeting place or work. They go on their way and, if a need for an additional payment for parking arises, they make it at the nearest payment acceptance outlet, having no need to return to their car.

Benefits

Why it is advantageous

The proposed solution is very convenient for customers, and is also distinguished by reliability, maturity and low transaction costs. It is enough to compare alternative payment methods for parking.

1. The technology of payment through parking meters costs the city about 40% of the amount of payments: 20% — for the operation of the equipment, 20% — the cost of collection. It is also necessary to take into account the cost of equipping the parking spaces.

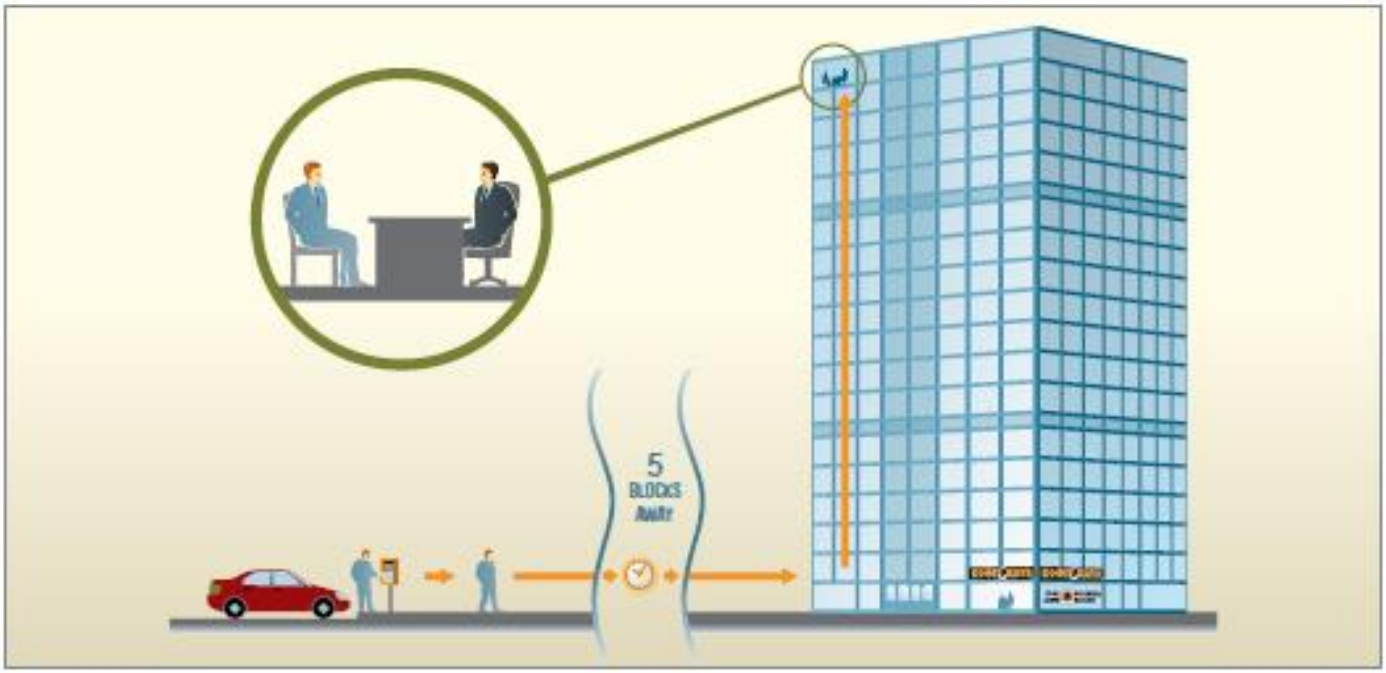
2. Payment via SMS costs 30-40% of the amount of payments — these are the tariffs of telecom operators.

3. Payment by cards (acquiring) for amounts of $2-3 costs 15%.

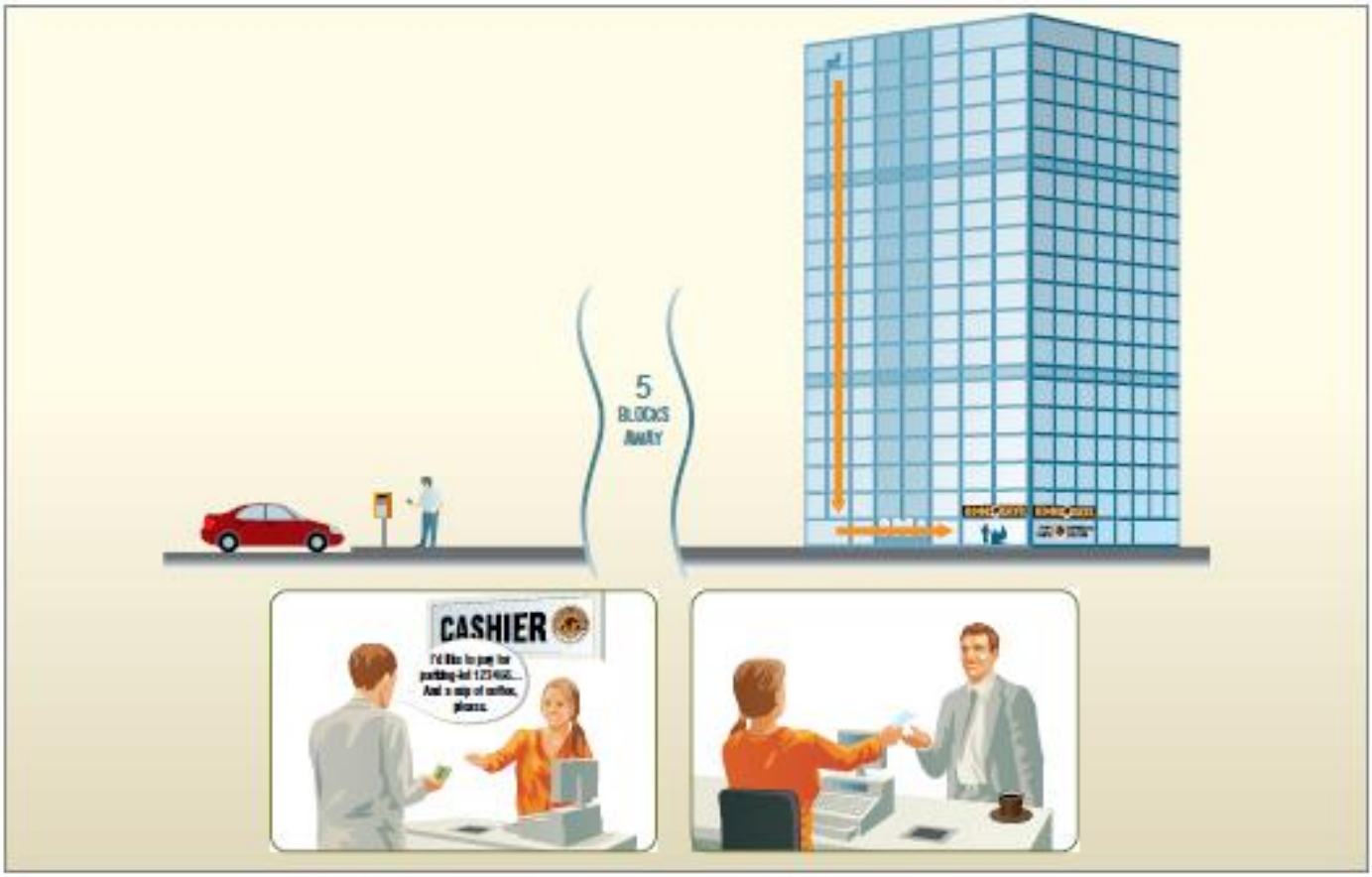
The cost of collecting money using the technology offered by CyberPlat® will initially amount to 10% with a subsequent decrease (approximately within two years) to 5%. The decrease in cost will be made possible due to the growing popularity of the service and, as a result, a decrease in the cost of a single transaction. Retail enterprises, cafes, restaurants, shops, that is, points within walking distance, will take a serious interest in this technology. The attractiveness of the service for them lies in the increase in the number of customers: a person comes in to pay for a parking space (the retailer receives a commission from the payment), and at the same time buys something or uses the relevant services.

How does it work?

A person has parked their car in a parking space. If the space is equipped with a parking meter, payment for parking can be done on the spot.

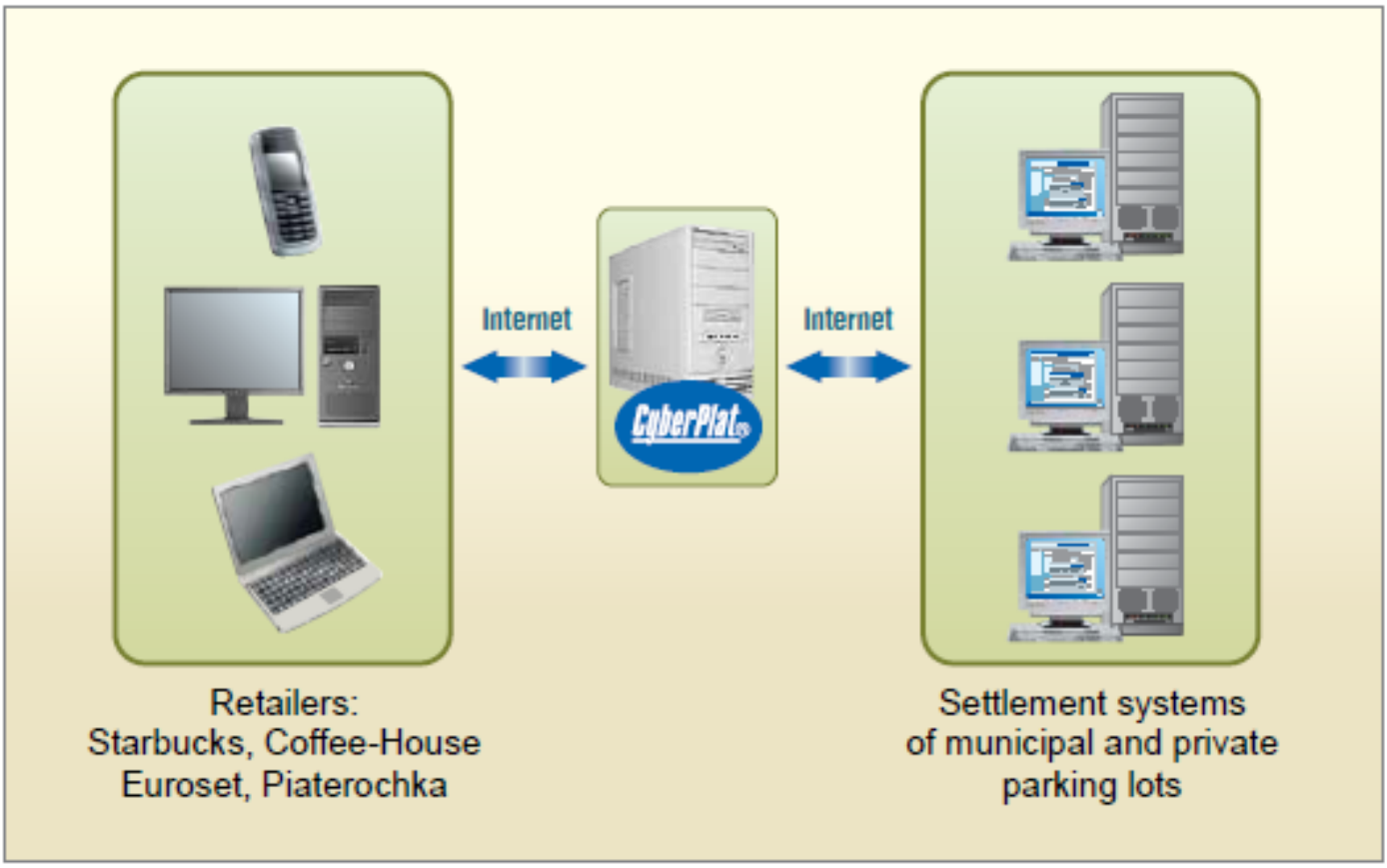


If necessary, parking time can be extended at the nearest commercial or service outlet connected to the CyberPlat® electronic payment system.



For example, you can do this at a nearby coffee shop. In order to do this, all it takes is informing the cashier about the parking space number and the parking time, as well as lodging the money.

General system architecture



Implementation technology

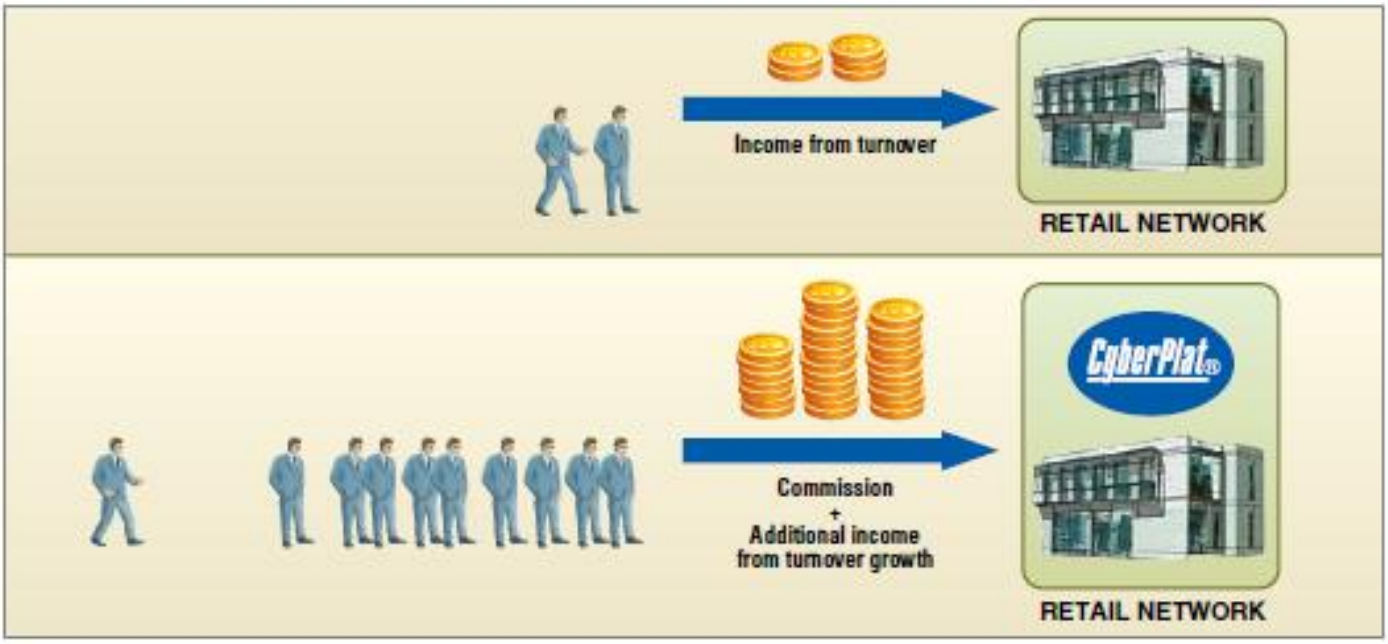
Implementing the solution for parking automation requires connection of the settlement systems of municipalities and large private parking spaces to the CyberPlat® processing center. At the same time, there is no need to modify the software and hardware of the municipalities. The infrastructure of the dealer network of the electronic payment system is quite sufficient for the immediate launch of the system — just pointing out that only Moscow and the Moscow region have 30 thousand payment points connected to CyberPlat® is quite telling.

“Dealer Networks” (solution for increase of footfall at retail outlets)

CyberPlat® experts have developed a solution aimed to stimulate the footfall at retail outlets based on the complex use of payment acceptance technology. The optimal combination of advanced e-payment technologies allows increasing the footfall at retail outlets and increasing outlet turnover by 10–40%, depending on activity profile.

Experience of CyberPlat® shows that organization of payment acceptance procedure through cashiers is one of the main factors that may increase the customer flow. List of payment recipients registered in CyberPlat® system as of the end of 2018 comprised over 8,000 providers. Customers perceive payment acceptance procedure as an additional service improving status and prestige of the retail company. Additionally, implementation of CyberPlat® payment technology within the scope of “Dealer Network” solution, for example, such technology as “Change to the phone” with the use of barcodes, accelerates customer service, reduces queues, and makes visits to these stores more comfortable and desirable for customers.

It should be noted that, for each partner from among the retail networks, CyberPlat® experts develop an individual offer within the scope of “Dealer Network” solution, taking into account the specifics of each company. For some networks, in order to achieve the results, i.e. predetermined indexes of footfall at retail chain, it is enough to introduce one or two CyberPlat® services, for another networks it is recommended to apply full complex of such solutions and services, whereas for any other networks it is recommended to perform additional marketing activities, for instance, realization of information campaigns or special loyalty programs for customers.

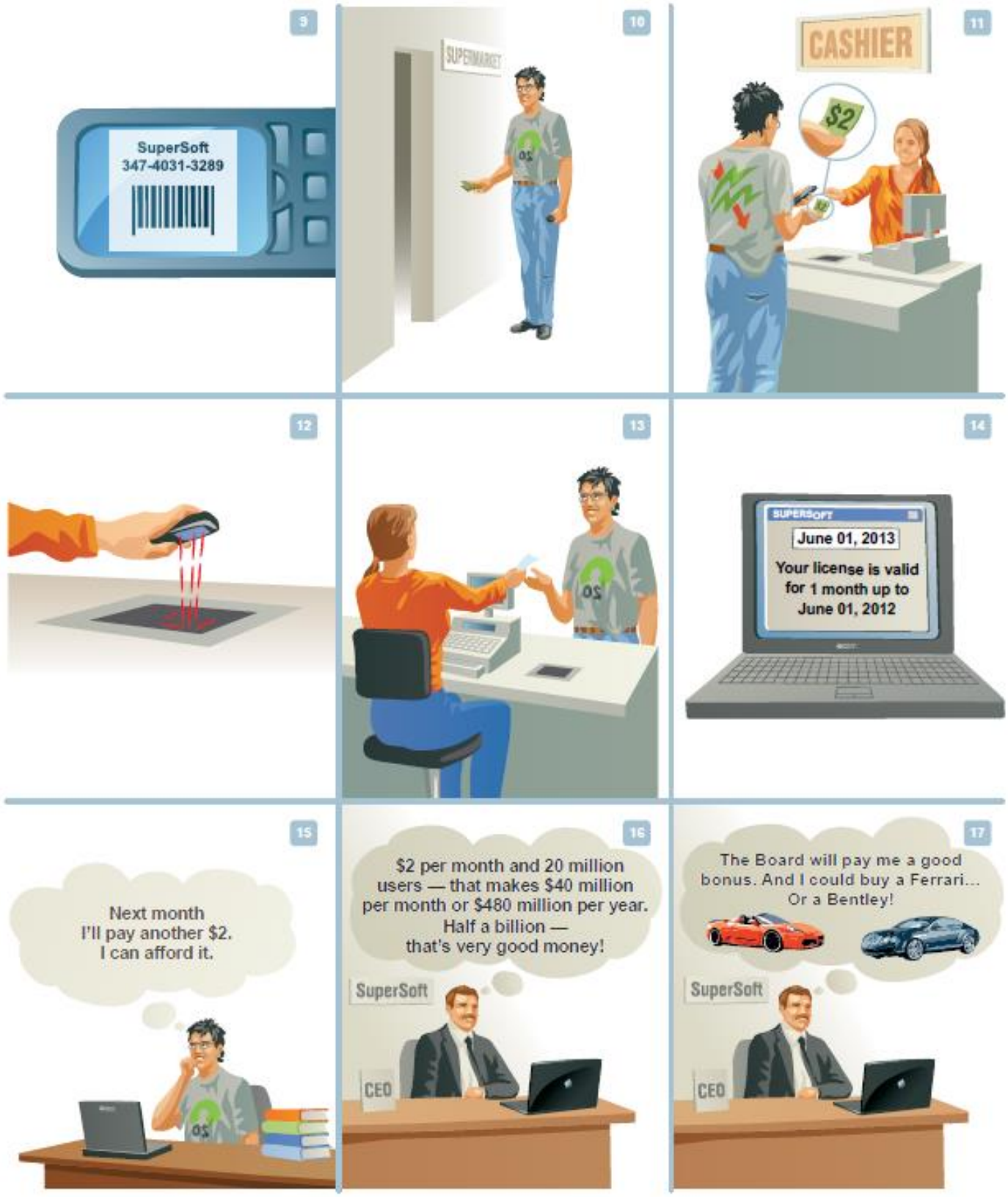


SaaS (payment for the period of using a software)

Experts of CyberPlat® payment system have developed a software sale system that supports both one-time payment for license and retail purchase of software products with an option of operating in SaaS (Software as a Service) mode. SaaS model implies payment for the use of software or a service only when it is necessary. Thus, SaaS product is practically a type of rent.

For instance, it may be a monthly license fee for use of office software package instead of paying for the perpetual license. Cost of such payment may significantly exceed the cost of monthly rent (for some products rent cost is only $1–2 per month). This solution enables software manufacturers and service providers to enhance their client range,

and enables the users to exploit the software in necessary volume and at minimum cost. Wide deployment of this service will allow reduction in the use of “grey” software on individual and corporate computers, as well as the scale of piracy and hacking, and will allow raising the demand for customized and expensive software among Russian users.



Money Transfer Systems Integrator (MTSI)

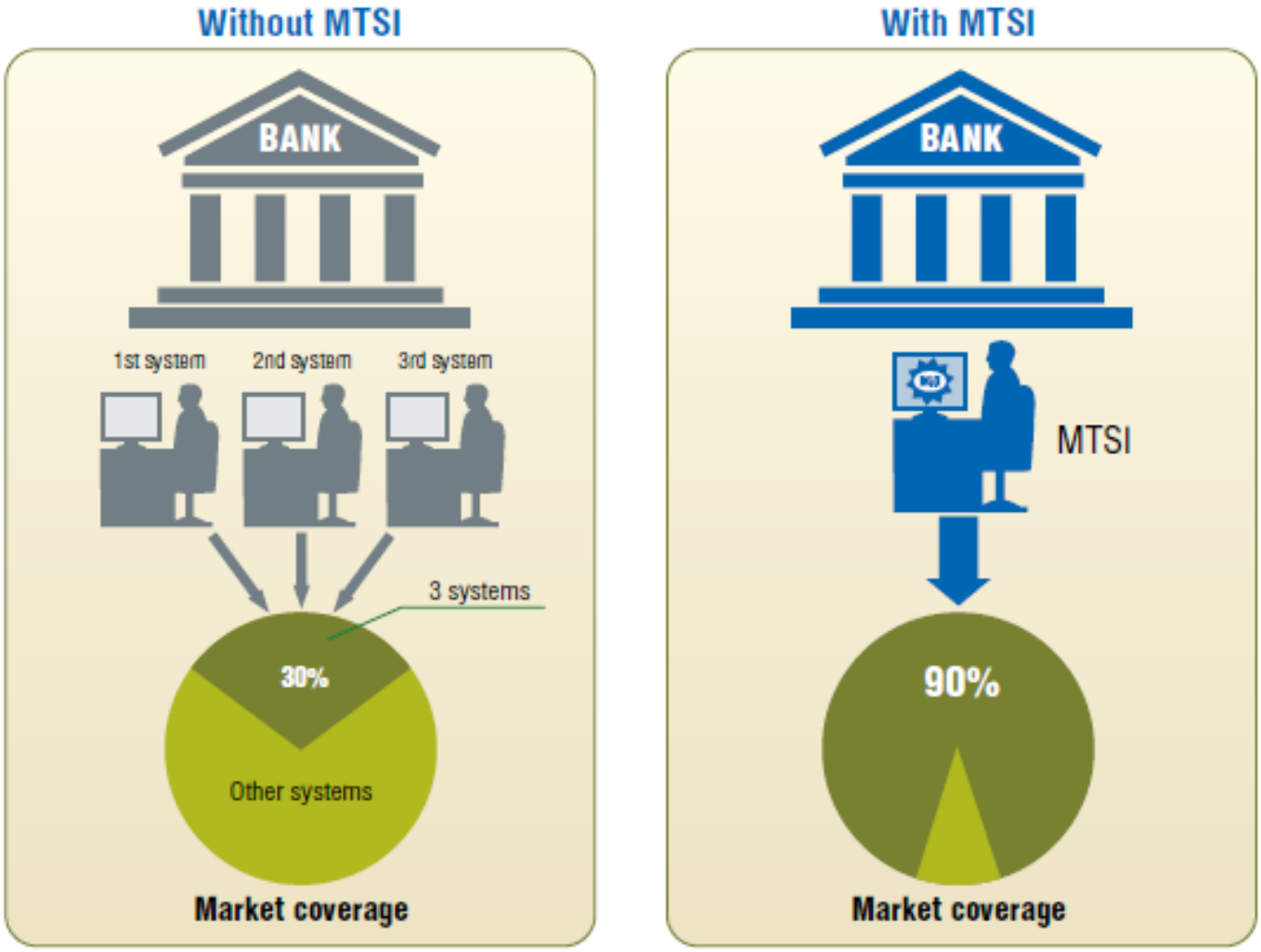
Money Transfer Systems Integrator (MTSI) of CyberPlat® payment system is a universal product allowing tenfold increase of banks' business performance in money transfer segment.

Money transfer market

Research of money transfer market in different countries shows that there is a growing demand among the widest range of consumers for a convenient, user-friendly and accessible service of money transfers with the maximum geographical coverage. Globalization of the world economy and liberalization of labor market contribute to further growth of international money transfer market. Any country has a considerable number of money transfer systems. In order to achieve maximum performance in highly profitable money transfer market, it is necessary to cover, where possible, all potential market players.

How to earn more

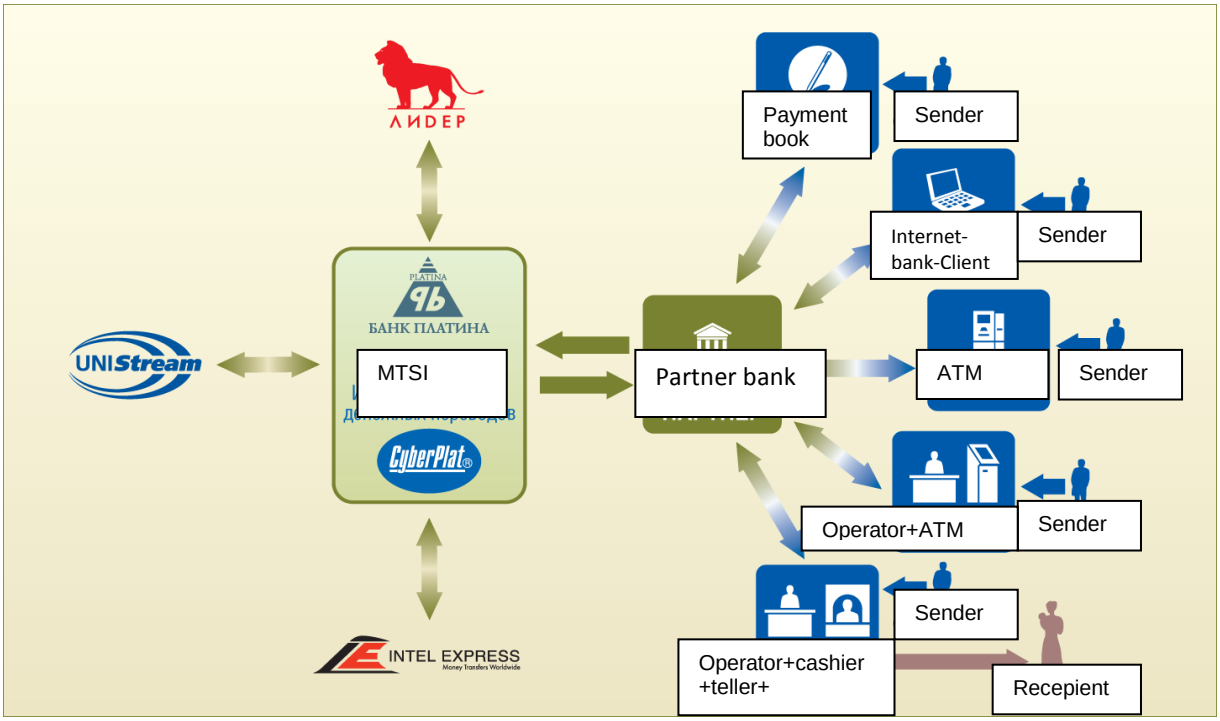
Money Transfer Systems Integrator (MTSI) is a universal instrument enabling operation of various money transfer systems with the use of single interface. MTSI can be installed at bank offices, as well as in automated devices, for example, in self-service payment terminals. MTSI enables to cover up to 90% of potential customers without any material costs.



MTSI has been successfully applied since April 2008. As of the end of 2018, 20 banks-partners of CyberPlat® payment system were already using MTSI to serve their money transfer customers. In 2015, a number of payment systems presented a service for making money transfers without the sender's identification and within the amount limits as provided for in the legislation.

How does it work?

CyberPlat® offers its partners a uniform platform integrating not only all major local systems of the Russian corridor, but also global money transfer systems.



The software solution of MTSI can be installed not only at bank teller's cash desks, but also in different devices, for instance, in cash-in terminals and ATMs allowing maximum automation of customer services.

Having passed the identification procedure according to the requirements of the national legislation, the customer gets an opportunity to make money transfers with the use of 24/7 payment terminals.

The first fully automated money transfer in Russia was made on August 08, 2008 through MTSI that was installed in payment terminal of PLATINA Bank (clearing bank of CyberPlat® payment system).

Customer identification

In accordance with the applicable legislation, customer that makes money transfers must be identified. Therefore, in order to make transfers through self-service terminals, the customer must previously pass registration procedure in Bank office.

For this purpose:

1. The customer shall submit his/her passport or other ID valid under the existing law and his/her bankcard issued by any bank. If the customer has no banking card, he/she can apply for it in the Bank.

2. The teller shall enter into CyberPlat® system customer's data, full names of recipients (up to 5 names), as well as the names of money transfer systems, and (if necessary) addresses of outlets where the customer plans to send transfers.

3. Following registration, the customer will be able to make money transfers through self-service terminals, using the assigned code (card number) and a system password (a special PIN that is not meant for cash withdrawal from ATMs).

Sequence of operations performed to send money transfers

Money transfers through cash-in terminals:

1. Select "Money transfers" option.
2. Enter card number and special PIN-code issued during registration for accessing the system through self-service terminals.
3. Select a money transfer recipient from the list (up to 5 recipients) generated during registration.
4. Insert the transfer amount into the cash-acceptor.
5. Confirm money transfer transaction.
6. Obtain and keep the receipt with transfer details.
7. Inform the recipient on transfer details.

Money transfers through Internet-Bank-Client:

1. Select "Money transfers" option.
2. Select the desired money transfer system.
3. Select the recipient from the list or enter details of a new recipient.
4. Enter the transfer amount.
5. Confirm money transfer transaction.
6. Inform the recipient on transfer details.

Money transfers through ATMs:

1. Insert the plastic card into the ATM; enter the PIN-code of this card.
2. Select "Money transfers" option.
3. Select a money transfer recipient from the list (up to 5 recipients) generated during registration.
4. Enter the transfer amount.
5. Confirm money transfer.
6. Obtain and keep the receipt with the transfer details.
7. Inform the recipient of the transfer details.

Optimization of bank teller's performance

Special feature of software complex offered by CyberPlat® system to its partner banks is a handy interface that enables tellers to service customers of various money transfer systems in a single window.

CyberPlat® Money Transfer Systems Integrator operates in the real time mode. Therefore, the teller will need only several minutes to process money transfer and afterwards the beneficiary may withdraw transferred funds in system selected by the sender.

Thanks to Money Transfer Systems Integrator, the Bank significantly reduces the time spent for HR training.

Instead of training tellers how to use interfaces of each money transfer system, it is enough to teach them how to operate the single interface, which is common for all systems. At the same time, the training costs decrease, along with workload of tellers and the number of errors during the transfer processing.

Economic benefits

The Bank additionally cuts costs on IT infrastructure: software (one Money Transfer Systems Integrator module instead of separate modules for each money transfer system), servers, and communication channels. The Bank may significantly cut costs due to reduced need in qualified personnel for its financial services, as at operation through Money Transfer Systems Integrator the Bank holds only one contract with the Commercial Bank PLATINA LLC and CyberPlat® LLC instead of several contracts with different money transfer systems.

Besides income from money transfer transactions through CyberPlat® Money Transfer Systems Integrator, the Bank can enjoy significant savings from using self-service terminals instead of cash desks at branches and offices. If cash payments are accepted through teller desks, it requires a special equipped cash room that costs about $20,000 plus additional expenses for the rent of premises, and cashier's salary.

When using self-service terminals instead of cash rooms and cashiers, cost of terminal and 1 sq.m. rent will comprise $3,000. If terminal is installed in the Bank's operating facilities, then there are no additional rental costs.

Comparison of direct costs of accepting transfers from citizens (Moscow prices)

Type of costs	Accepting a transfer in bank office	Accepting a transfer via self-service terminal*
Nonrecurring costs		
Installation of outlet	$30,000 (operating facilities and cash room)	$13,000 (operating facilities and terminal)
Monthly costs		
Rent of minimal space	$3,600 (20 sq.m for operating facilities and cash room with equipped workplaces for processing operator and teller)	$1,800 (10 sq.m for operating facilities with equipped workplace for processing operator. In that case additional 1 sq.m for terminal is not paid for)
Salary and social taxes	$3,500 (processing operator and teller)	$1,750 (processing operator)
Minimum security	$3,400 (one PSF employee)	No (terminal is remote controlled)
Electricity	$100	$50
Total, per month	**$10,600**	**$3,600**

* Aproximate costs if self-service terminal is used instead of cashier's desk in the bank office without a cash operating unit.

Transition of front offices from the Bank to retail chains

If the Bank starts to accept money transfers through self-service terminals, it gets an opportunity to extend its business from its operational facilities to retail chains. Due to that, operational facilities are freed from persons sending transfers (who sometimes create inconveniences for high-yielding customers of the Bank), tellers have more time for processing more profitable operations and for servicing more profitable clients, with reduction of operational costs per single money transfer. In fact, the Bank expands its network of retail outlets at minimum cost. In this case, servicing is made closer to customers both in space and time aspects, as self-service terminals operate 24 hours and 7 days a week.

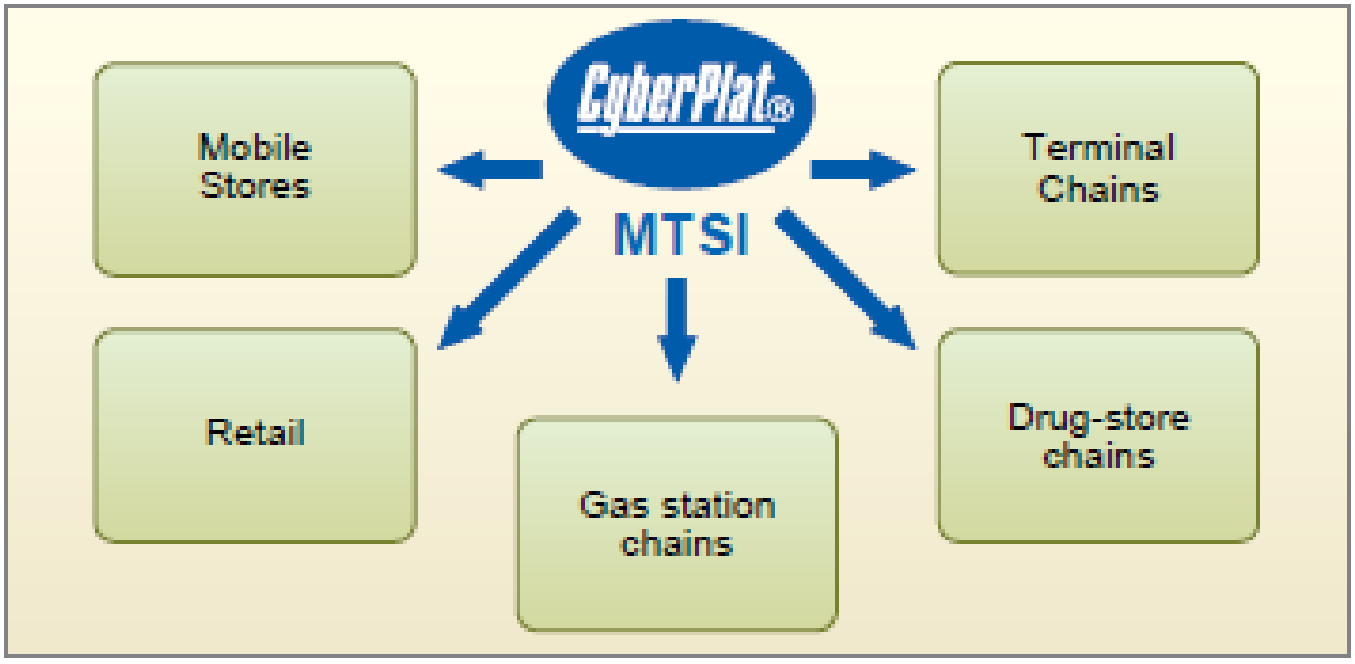
Use of CyberPlat® Money Transfer Systems Integrator enables each Bank to:

- introduce an advanced, technological, and inexpensive method of servicing customers with the use of self-service terminals;
- increase availability of the Bank's services through the use of self-service terminals located in convenient places and operating 24 hours and 7 days a week;
- increase the number of transfers and payments due to expanding the customer service time and drawing the service near the customers;
- reduce the workload of cashiers and tellers, as well as operational costs;
- expand retail business and the range of services provided to the Bank's customers;
- obtain additional income through transactions performed with the use of bankcards issued by the Bank at registration in the system.

MTSI in non-banking networks

The unique product of CyberPlat® that was previously enjoyed only by bank customers became available in non-bank networks, i.e. at retailers' cash desks, in mobile shops, drug-stores and gas stations, as well as through payment terminals connected to CyberPlat® payment system.

CyberPlat® system offers special versions of Money Transfer Systems Integrator (MTSI) for cash registers, personal computers and payment terminals in order to increase their turnovers and profitability indexes. No financial or significant organizational costs are required to start accepting money transfers; it is enough to remotely update the existing software, depending on the type of used equipment. Wide introduction of MTSI in partner networks of CyberPlat® payment system will make sending money transfers an easy and convenient operation, and will provide a new level of customer servicing at convenient locations.



RBC: Remote Banking Channel

RBC is an efficient format of mini-offices allowing deployment of large-scale banking infrastructure at low financial cost.

National banking system noticeably falls behind current market needs. Banking network consisting of 34 500 banking service locations throughout the Russian Federation is definitely insufficient, and, therefore the degree of covering the population with banking services is far behind the European model.

Current situation is due to the fact that establishing of single banking branch is quite an expensive undertaking. This includes purchase of premises, serious investments in security guards and systems, investments in equipment and skilled personnel.

Therefore, CyberPlat® payment system offers full-featured solution to banks and retailers enabling fast deployment of financial product sale and payment acceptance processes, i. e. RBC ("KUB"). Out-sourcing of banking operations is possible due to changes in the effective legislation and due to new regulations in the field of payment acceptance procedure enforced on January 1, 2010.

What was it like before?

Before changes in the legislation, it was possible to accept agent-based payments in favor of providers, which had executed relevant contracts and arranged information and technological interaction between accounting systems (developed gateways).

Changes in the legislation enabled to:

- Accept agent-based payments in favor of the providers with established gateways to their relevant billing systems;
- Accept payments by a template (banking provider);
- Accept any payments:
  – payments for goods,
  – payments for services,
  – tax payments,
  – payments to refill bank accounts of private individuals.

Other possibilities:

Execution of the contract as a banking payment agent on behalf of the principal with the right to sign contracts in the following fields:

- banking services (including account opening contract),
- insurance services (including insurance policy execution),
- communications services (including sale of contracts).

In this case, the teller acting as a banking agent identifies the customer and determines payment template, whereas banking transaction, for example, money transfer, is performed through the teller workstation.

Technical equipment of an RBC mini-office:

- wall-mount barcode generator;
- cash-in terminal;
- cashier's workplace:
- laptop with Internet access,
- receipt printing device (cash-register),
- scanner and printer supporting A4 format, barcode scanner,
- device for banknotes validation, cash vault.

Barcode generator is required for preliminary obtaining of relevant label with a barcode that is printed at input of mobile phone number, or personal account number, or the number of the contract with a service provider on the barcode generator's screen. Afterwards, the label is adhered to the card or the backside of the mobile phone.

The terminal is necessary for performance of banking operations (including money transfers), for collection of funds and for acceptance of standard payments. Customers using self-services terminals, without distracting the cashier from the sale of more complex products, including bankcards, insurance policies, tours, etc., may solely perform simple operations.

What kind of operations can be performed in RBC mini-office?

Financial product sales:

- Bank account opening
- Banking cards
- Deposits
- Credit financing
- Insurance
- Other

Payment acceptance:

- Housing and utility payments
- Payment of fines and dues
- Fixed and cellular communications
- Internet an commercial TV
- Other payments from individuals

Money transfers

Possible operation formats of RBC

Depending on quantity and quality of tellers, there are several options of working with clients:

	Fast	Service	Combined
Skills of tellers	Low	High	Medium
Number of tellers	2	1	1
Change	Only to phone or bank account	Optional	Optional
Services	Only housing and utilities, cellular communications, Internet	All kinds of payments with a focus on insurance, communications contracts, loans and deposits	All kinds
	It is possible to install the "double" RBC: one advanced teller explains everything while another, less-skilled accepts payments quickly		

Depending on RBC installation location, workload of teller and terminal can be different:

In the hall of a technical university — as we assume, the cashier/terminal ratio of payments will be 1/2, because the payers are young, technically literate students.

In the hall of a social security institution — we estimate that the cashier/terminal ratio of payments will be 7/1, because the payers are elderly women who do not trust the technology and are prone to making mistakes.

Utility payments — by our experience, customers also prefer to make them through a cashier.

Payments are mainly accepted “without change”. The change is simply used during payments for other services, generally, for mobile communications. Number of RBC customers is 3–4 times greater, and the average payment is 2–3 times higher if compared to terminal located in the same area.

Why RBC system is more effective and cheaper than bank branches?

- RBC does not belong to any bank and does not fall under the security level requirement of the Departmental Norms of Engineering (VNP-001-01).
- Regular collection (collection is recommended when cash register accumulates 30,000 rubles) of the cash-in terminal belonging to the bank allows reduction of cash risks and optimization of collection process in terms of time.
- Almost any banking operation can be executed by a part-time cashier; money is inserted into the bank's cash-in terminal.
- Data input by the barcode:
  – much faster,
  – no speech, hearing or data input errors.
- Change to the phone:
  – timesaving,
  – easier than giving change with coins,
  – more accurate (no risk of error when dealing with change),
  – brings income from the change amounts.

All of this is confirmed by a trial annual operation!

The cost of installing RBC mini-offices:

- full set of equipment — $8,000,
- moving to another location — $200,
- for full coverage of the retail market (e.g. in Moscow) it is necessary to engage 4,000–5,000 RBC format offices,
- this will require less than $40 million of investments.

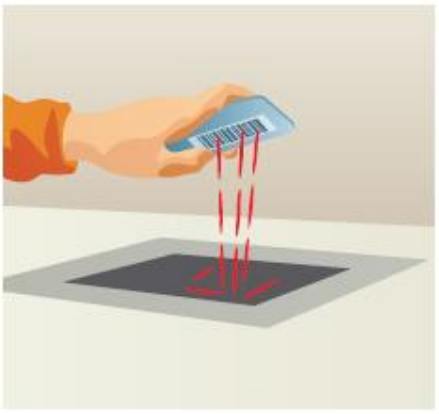
IMPORTANT! Mini-offices should be installed in high footfall locations!

RBC package:

- Guidance materials:
  – RBC cashier guide,
  – RBC manager guide.
- Software for payment acceptance through the Dealer's Office:
  – in favor of providers with established gateways to their accounting systems;
  – payments in favor of banking providers (including independent generation of accounts in the system);
  – payments by free details.
- MTSI — money transfers through 5 systems.
- Integrator for POS-credits.
- Integrator for the sale of banking card contracts.
- Integrator for the sale of communications contracts.
- Integrator for insurance contracts.

How does it work?

Having obtained a barcode label corresponding to a mobile phone number, a number of personal account or a contract with relevant provider, the customer can use it for regular payments through RBC mini-offices.



- The customer approaches the cashier, names desired service (top-up of account with a mobile network operator, utility payment, loan repayment, etc.).
- In case of a barcode label, the cashier scans it. The cashier fills in additional fields in the cashier's specialized software (e.g. payment amount) as reported by the customer.
- Having received the money, the cashier performs the following operations:
  – inputs additional information in the specialized software form,
  – sends a request to verify the account number with the provider,
  – receives a permission to perform the transaction,
  – sends a request to perform the transaction,
  – receives a response from CyberPlat® system on the successful completion of transaction,
  – prints out a receipt and gives it to the customer.

For simple services, such as top-up payment acceptance, the entire procedure takes no more than 15 seconds, including handing the receipt to the customer!

- In absence of the barcode label, the cashier recommends to obtain it by either printing it out for a small fee, or independently, using the specialized information kiosk — barcode printer. In absence of a queue, the cashier may assist in operating such a kiosk.
- In order to accelerate the process of service delivery, the customer does not receive change; instead, it is credited, for instance, to the subscriber account with a mobile network operator.

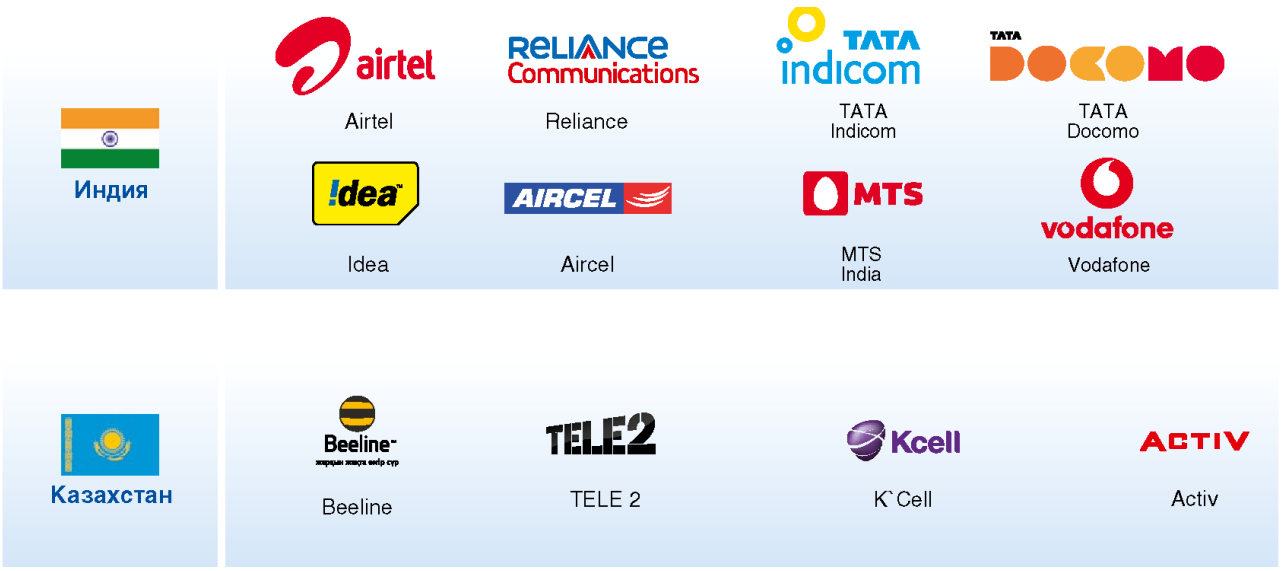
International top-up: international operators and cross-border payments

Subscribers of several foreign countries are able to pay for mobile communications with the use of international payment system CyberPlat®

Many countries have a developed network of payment acceptance outlets located within commercial and service companies and connected to CyberPlat® system. Part of these countries is unified in a single system of cross-border payments. Residents of India, Kazakhstan and Russia, that join the system of cross-border payments, can easily and quickly top-up their mobile communications accounts in the territory of each of the above-mentioned countries making payments in local currency.

The cross-border payment infrastructure developed by CyberPlat® creates comfortable conditions for citizens of different countries. This service will be in particular demand for subscribers of mobile communications operators living in the contiguous territories or travelling a lot. CyberPlat® continues to expand its geographical presence.

Foreign mobile operators connected to CyberPlat®



Solutions for mobile commerce

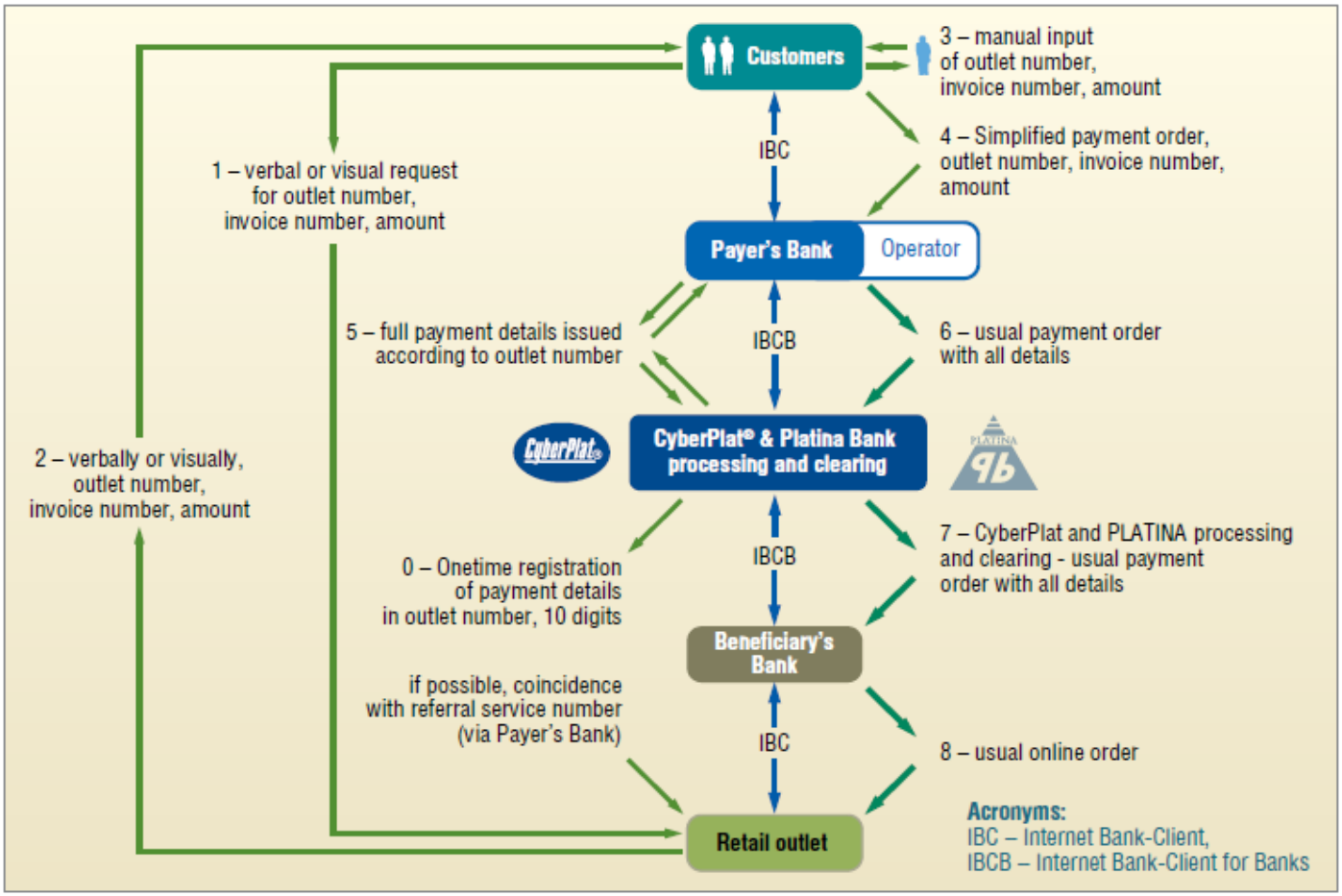
CyberPay

CyberPay is CyberPlat® solution allowing, with the use of iOS, Android and Java-application on the mobile phone, to effect payments for purchases in the retail outlets that have been registered with the payment system. Funds are debited from the settlement account with the payer's bank. This technology has been introduced and tested in a pilot project jointly with the network of Know-How mobile shops.

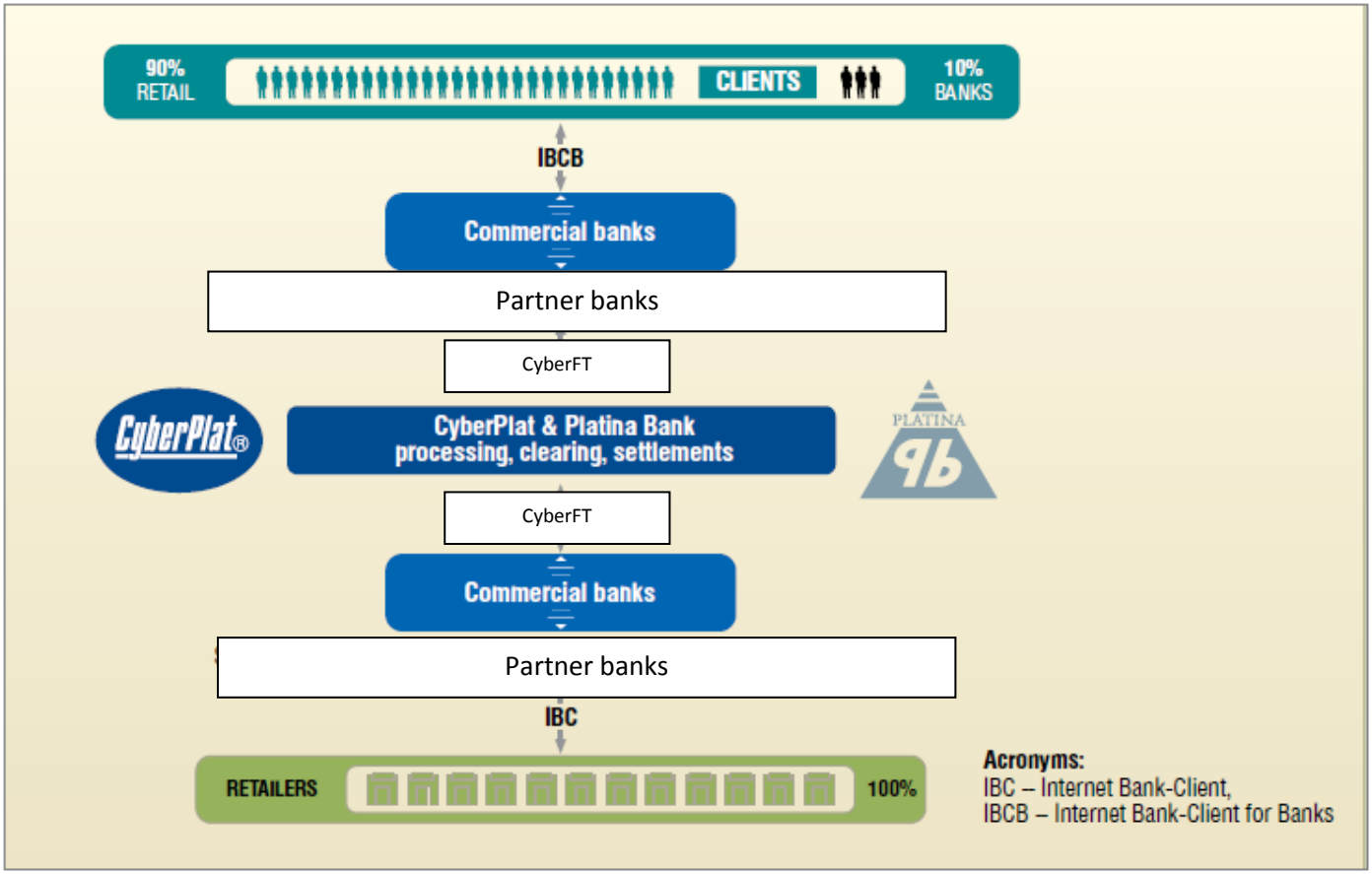
Features of CyberPay solution:

- It is based on the electronic document interchange of standard payment orders pursuant to the applicable legislation.
- It uses Internet Bank-Client for Banks (IBCB) for prompt exchange with payment orders.
- It provides high performance (1 second to transfer a payment order from the Payer's Bank to the Recipient's Bank).
- It ensures information securitzy at the level Payer's Bank – Recipient's Bank under the CyberPlat® technology, and at the level Payer – Payer's Bank and Recipient – Recipient's Bank in accordance with effective banking resolutions.
- Fully open formats, protocols, and gateways – along with CyberPlat® solution, an in-house solution of the partner-bank can be used as IBCB.

CyberPay Technology



CyberPay general principle



CyberPay technology is highly beneficial for retail companies for the following reasons:

- Reduction of the required amount of borrowed funds through acceleration of the turnover. When using CyberPay technology, the received payment is credited to the bank account instantaneously, as opposed to payment by banking cards (three days) or payment with cash (one day for collection and recalculation).
- Smaller commission fee if compared to plastic card acquiring fee.
- Attraction of new “high-tech” customers.
- Traditional advantages of non-cash payments compared to cash payments:
  – exemption from the change giving process and delivery of coins from a bank,
  – no collection costs,
  – reduced customer servicing time at the cash desk,
  – simplified cashier documentation,
  – growth of average receipt value due to impulse purchases.

CyberDeN technology – a unique mobile commerce instrument

CyberDeN is a new generation payment system surpassing VISA. The optimized technology of mobile payments was developed by a group of leading experts from CyberPlat®, MTS, Beeline, MegaFon, Sberbank of Russia, Russian Standard Bank.

Definition of Mobile Payments

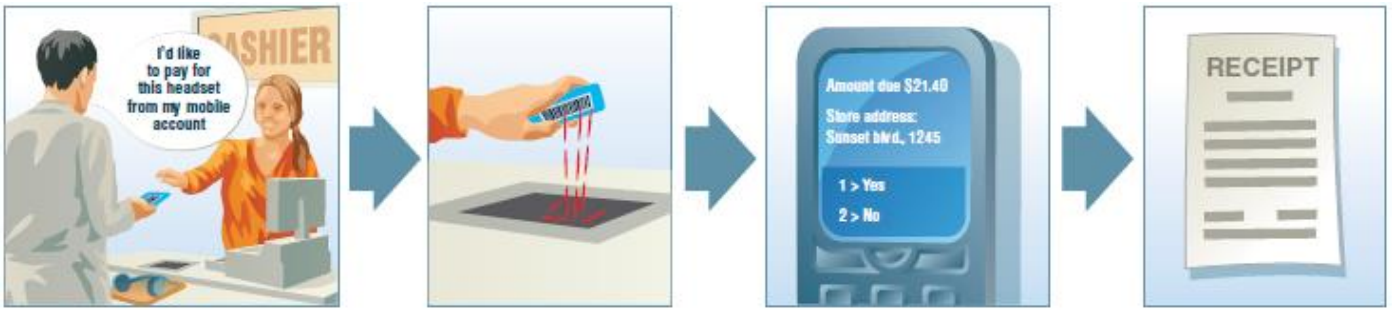
It is a new payment method at retail outlets enabling to withdraw money for a purchase from the personal account opened either with a mobile network operator, or from the payer's bank account. The identifier of the subscriber's personal account is a barcode, which is unique for each mobile phone number. Possibility of paying from the subscriber's personal account allows making purchases in the situation when you do not have any money or a banking card with you.

Benefits for mobile network operators and banks

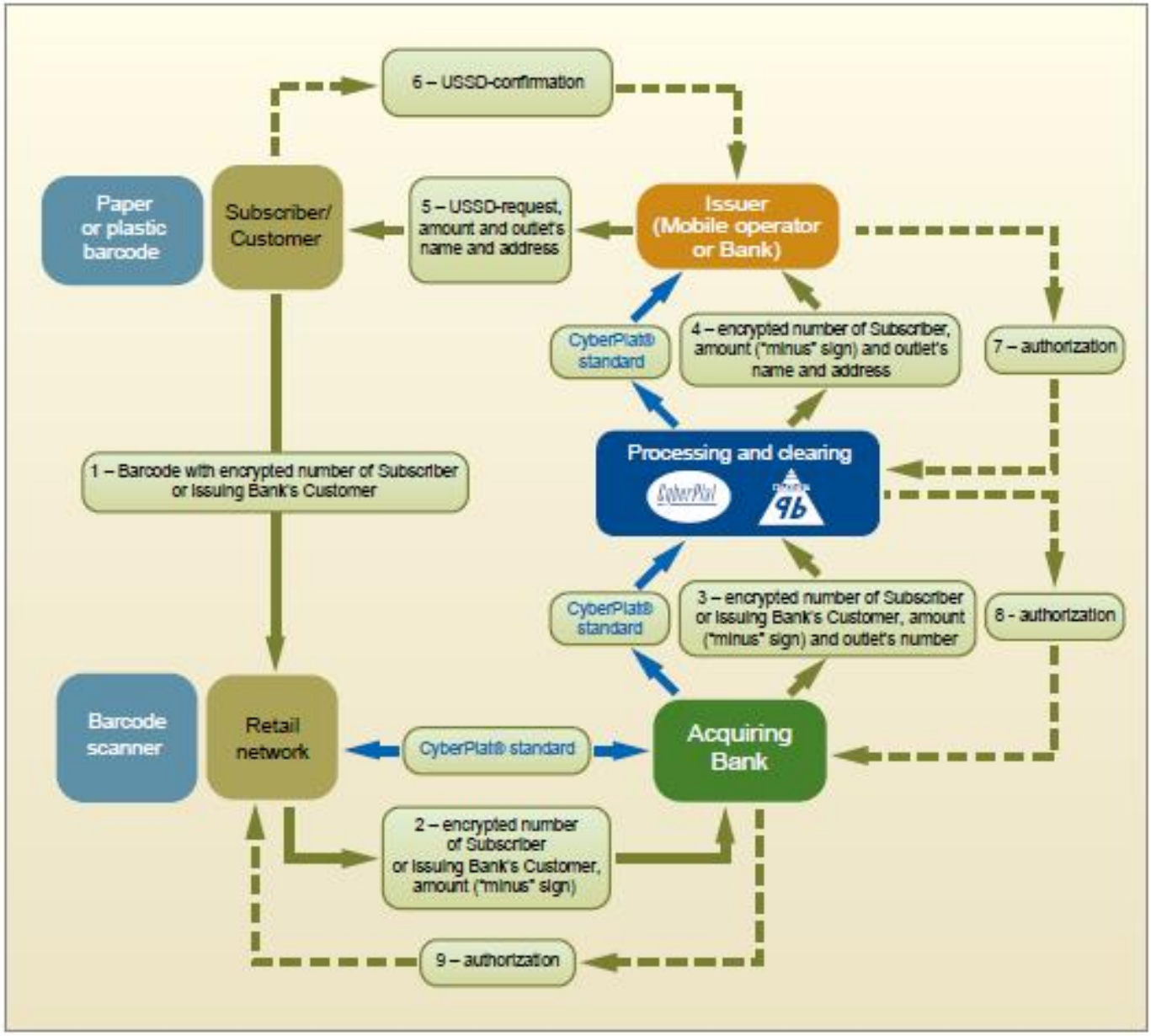
Participation in the project for implementation of the mobile commerce technology CyberDeN will enable cellular operators and banks to increase and fix balances on retail accounts intended for making purchases. Total amount of money in form of bank deposits comprised 25 trillion rubles (approximately $658 billion) at the end of 2017. Due to expected fast growth of mobile commerce segment, its participants will receive a share of 30% at the market of individual demand deposits, i.e. $219 billion. It is clear that this is quite appealing both for mobile network operators and for banks-participants of the project.

How does it looks from the customer side?

At the moment of payment, sales person scans the barcode adhered to the handset or a special card, and the customer's mobile phone receives a USSD-request to confirm the purchase, with indication of the amount and the address of the purchase location. The customer accepts payment, and sales person receives confirmation notice from payment system on the online funds transfer, prints out the receipt, and gives the goods to the customer.



How does it work?



1. At payment, sales person scans the barcode adhered to the subscriber's mobile phone or to a special card.

2. Software of the cash register forms and transmits to the Acquirer-Bank (using CyberPlat® technology) a request for confirmation of the payment. The request contains an encrypted number of the subscriber or the bank customer, the amount, and the number of outlet.

3. Acquirer-Bank uses CyberPlat® technology to transmit the request to CyberPlat® payment system.

4. CyberPlat® system defines the address of the outlet by its identity code.

5. CyberPlat® payment system forwards the request to the issuing Bank or to the Mobile Network Operator (the issuer of the barcode label). The request contains an encrypted number of the subscriber or the bank customer, the amount of payment, the address, and number of the sales outlet.

6. If there are enough funds on the subscriber's personal account, the Mobile Network Operator sends to the subscriber an encrypted or non-encrypted USSD-request containing the amount and the exact address of the sales outlet.

7. The subscriber accepts USSD-request, or refuses from the payment.

8. **The Mobile Network Operator (if it is the issuer of the barcode label)** transmits payment authorization slip to the CyberPlat® payment system

OR

1. **The issuing Bank (if it is the issuer of the barcode label)**:
   - with sufficient funds at Customer's settlement account, sends to CyberPlat® payment system preliminary acceptance note (confirms the principal possibility of payment), Customer's phone number, and code of relevant Mobile Network Operator;
   - CyberPlat®, through its own USSD-hub, sends to the Customer an encrypted or non-encrypted USSD-request containing the amount and the exact address of sales outlet;
   - The Subscriber accepts USSD-request or refuses from the payment;
   - CyberPlat® transmits the payment authorization slip to the issuing Bank;
   - The issuing Bank transmits the payment authorization slip to CyberPlat®.

2. CyberPlat® transmits payment authorization slip to the Acquirer-Bank.

3. The Acquirer-Bank transmits the payment authorization slip to the sales outlet.

4. The sales outlet receives payment authorization slip from the Acquirer-Bank, prints out a receipt and gives the goods to the Customer.

CyberPlat® technology involves interaction via Internet with transfer of files containing EDS encrypted with a 1024-bit key through SSL-protocol (Secure Sockets Layer Protocol).

(At the operator's or subscriber's request.) At application of encrypted USSD-message, the subscriber should have at the operator's part of the SIM-card an applet for encryption/decryption of USSD and/or generation /decryption of the operator's EDS.

Key advantage – the use of barcode technology

The barcode could be read and identified with the use of special label adhered to a card or to the backside of the mobile phone. The barcode can be printed out through the information kiosk – the barcode printer.

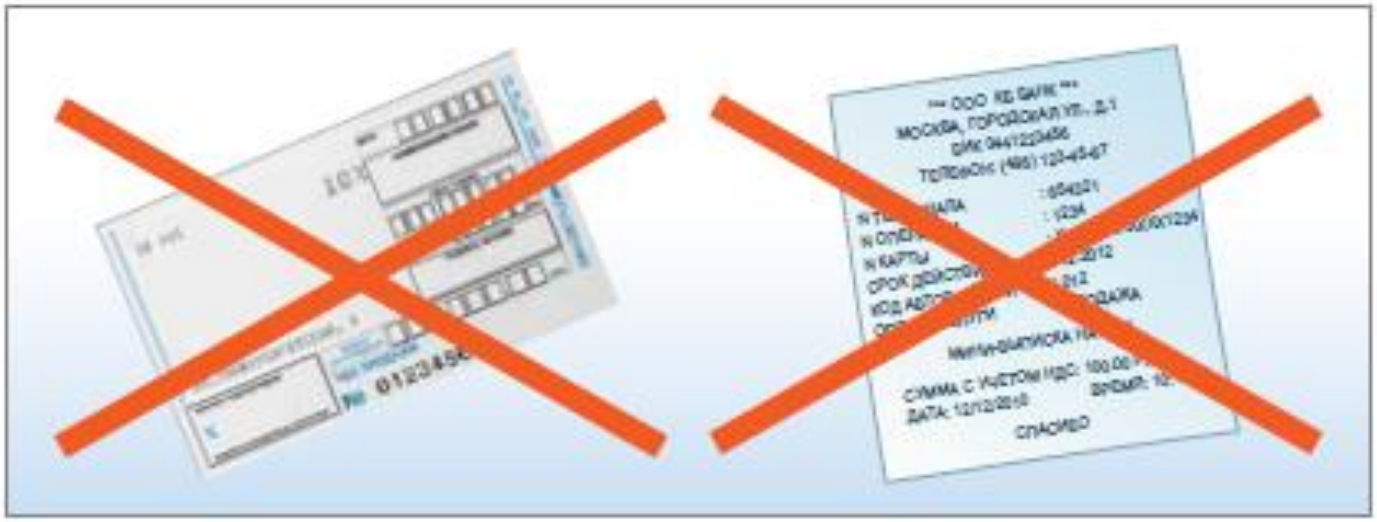
It takes only 3 seconds to send a request and only 3 seconds to receive a response!

Difference of CyberDeN technology from the classic VISA technology

1. No plastic cards, but a non-erasable barcode sticker containing number of customer's account and issuer details (a bank or a mobile network operator).

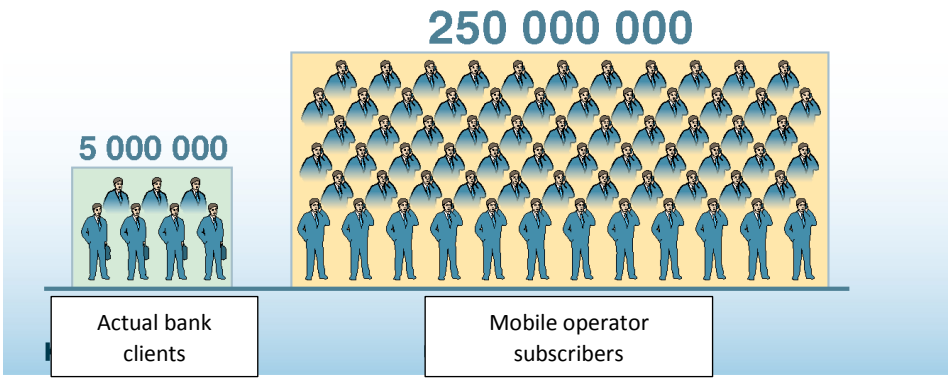
2. Unlike plastic card, one can have as many of such similar stickers as needed. For example, one sticker can be adhered to the handset, another to savings account passbook, the third one to wallet, etc.

3. No paper document workflow as instead of signing a slip, confirmation of USSD-request takes place. Conflict settlement procedure is dramatically simplified with cost cutting of claim settlement procedure.



4. Payment amounts are not large, major part of transactions are payments up to $30 (maximum $50). However, the entire retail business is covered (48% from the total turnover of households), which comprises approximately $344 billion a year.

5. Withdrawal of funds (cash-out transaction) is possible not only from bank accounts but also from subscriber personal accounts opened with mobile network operators (and, to a larger scale, from customer accounts of any company that has a power-of-attorney from the bank to collect payment orders from the customers in accordance with the Federal Law #121-FZ).



6. Funds withdrawal from the customer account/crediting of funds to the sales outlet's account is 2 times cheaper than through VISA or MasterCard, and is performed online.
   - Interchange fee for the participants of the payment system is fixed and makes 1 US cent.
   - Cost of withdrawal transaction in the operator's billing system is 2 cents against 10 cents in the bank's system "Same Day Transaction".

7. Both crediting of specified banking accounts (cash-in transactions) and top-up of subscriber personal accounts with mobile network operators is possible. First, this option is expected to be used for cash payments such as "change to the phone or to the bank account".

Benefits of Mobile Payments service

For customers:

- New advanced payment instrument.
- Higher level of trust to communications operators if compared to banks.
- In absence of cash funds, it is always possible to pay for goods and services directly from the personal account using a mobile phone.
- Payment process is faster if compared to payment by plastic card.
- Paperless document interchange.
- Security — funds are not debited from the personal account until the subscriber confirms the transaction.
- The network for the personal account refill is huge as opposed to plastic cards networking of a separate bank.

For retail companies:

- Low cost of payment acceptance procedure (from 0.7 to 1%).
- Instantaneous credit of funds to the bank account.
- No need to replace the equipment in use.

- Speed of transaction:
  - the entire transaction takes less than 6 seconds (3 seconds from the sales outlet to the customer and 3 seconds — back);
  - faster than payment with plastic cards, as cuts payment acceptance costs;
  - allows accepting payments in discounters and supermarkets.
- Increase of sales volume through the sale to persons who ran out of cash or “forgot their card at home” (growth of the number of customers’ payment instruments).
- Sales of mainly inexpensive and high-margin goods.
- Reduced number of conflict situations.
- Reduced risks of operating cash.

For mobile network operators

• Growth of balances on personal accounts of subscribers will significantly increase company liabilities, by estimate, by more than $1 billion (for companies of the “big three” level).

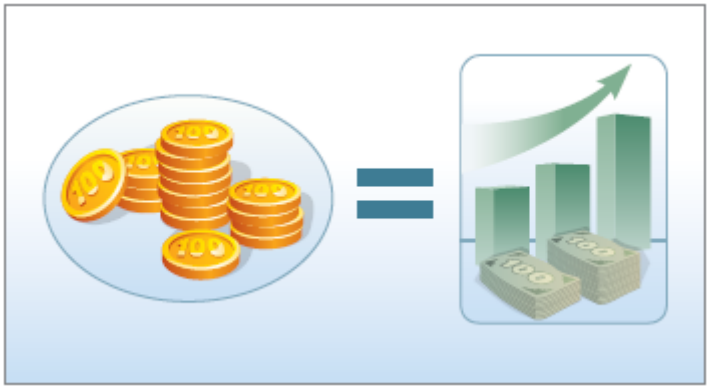
• No investments needed.

• Fast implementation.

• Outrunning competitors in introducing of the real “mobile commerce”.

• Creation of image of a super-high-tech company at minimal costs.
• Stimulation of retail outlets in acceptance of payments for cellular communications and implementation of the program “change to the phone or to the bank account”.

• When making transactions with a barcode:
  – errors are minimized and, as a result, the costs for cancellation and correction of payments are reduced;
  – the transaction time is shorter, which will enable retail chains to:
    ○ reduce payment acceptance costs;
    ○ reduce the time for accepting one payment;
    ○ start accepting payments in discounters and supermarkets.



For acquirer-banks

• Tighter “binding” of clients-retailers to the banks.

• Higher security for loans issued to retailers.

• Obtaining of additional acquiring income and competitive advantages.

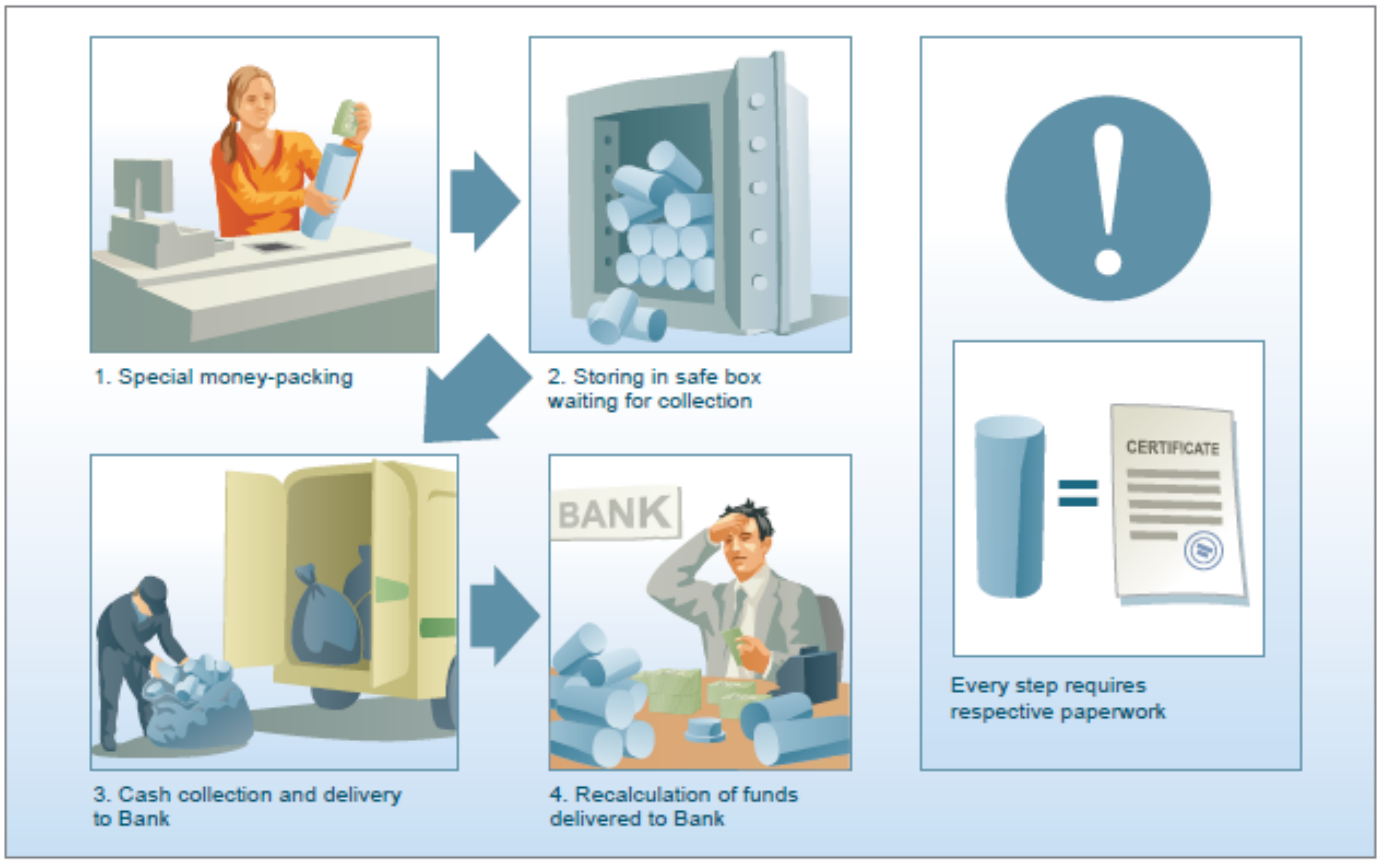
• Possibility to start working with trading enterprises that traditionally do not accept cards for payments due to high commission fees.

- Introduction to the market of a product that is able to compete with international payment systems.
- Stimulation of sales outlets to accept payments for cellular communications and implementation of program “change to the phone or to the bank account”.
- Outrunning of competitors in implementing the real “mobile commerce”.
- Creation of the image of a super-high-tech bank.

Online Collection

Current collection technology in large super- and hypermarkets is obsolete and is inadequately automated resulting in extra costs and risks of handing over change, transportation, recalculation, and crediting of collected funds.

At present, crediting of the settlement account of retailer following the collection of funds in retail store may take up to three days. Besides, the existing funds collection system is not protected from the risk of fraud at transmission and storing of cash assets, which results in additional security costs.



CyberPlat® experts have developed an online collection technology enabling to optimize the process and to reduce costs, risks, and terms significantly.

It is a technology of principally new “electronic cashiers”, i.e. special terminals able to accept and recalculate bundles of cash. Using CyberPlat® technology, funds inserted in such terminal by cashiers of retail chains will arrive to the retailer’s settlement account with the collecting bank in the real time mode.

How does it work?

Collection terminal located at retail outlet ensures automated accounting of collected banknotes, secure storage, authorization of the system's service users, and transaction data transfer to CyberPlat® processing centre.

Each retail outlet has a registration code with CyberPlat® system, and a non-recallable key to EDS (at least 2048 bit) is installed in each collection terminal.

Cash acceptor of collection terminal is equipped with a banknote number reader.

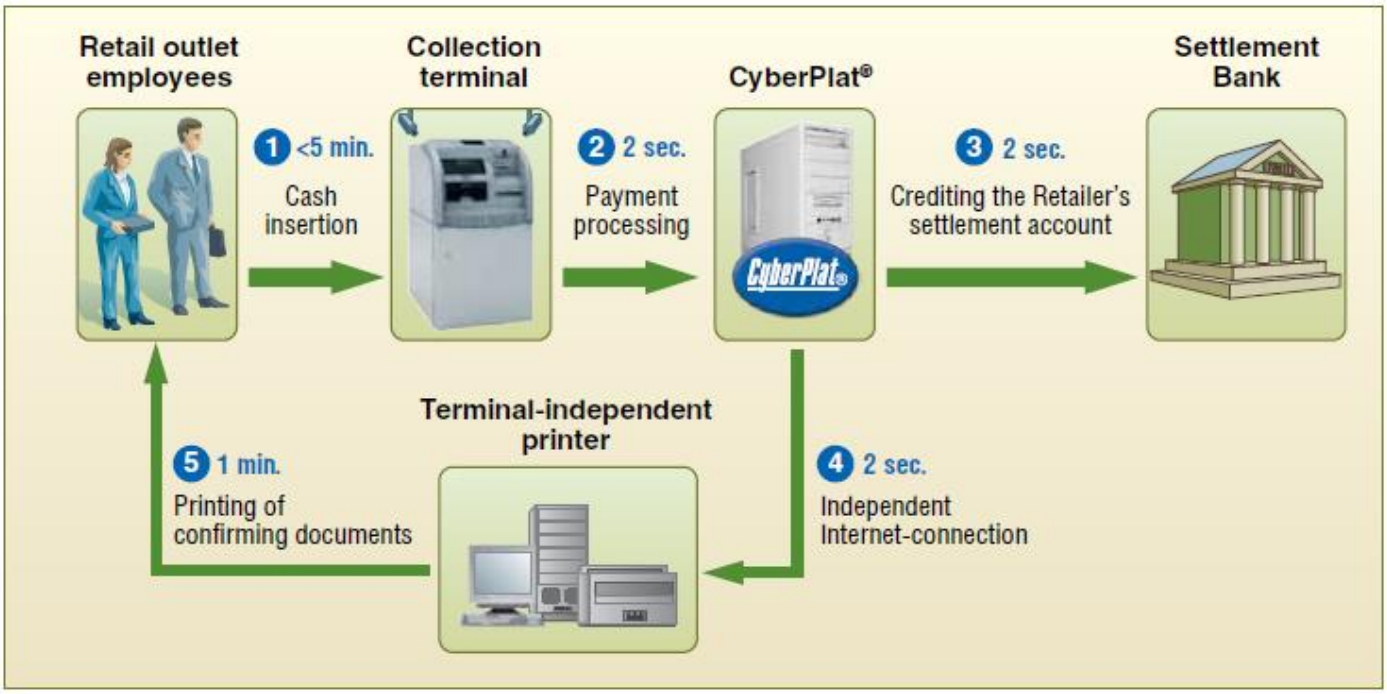
Collection terminal's functionality:

- identification of the personnel operating the device, provision of access;
- bundle/single note acceptance;
- defining of denomination and genuineness of banknotes (validation);
- calculation of the amount of deposited banknotes;
- storage of banknotes;
- processing, storage, and transfer of information to CyberPlat® and to the bank.

Important: during each transaction, prior to terminal operation procedures, the authorized persons (chief cashier, cashier or collector) shall log in the system and input the PIN-code.

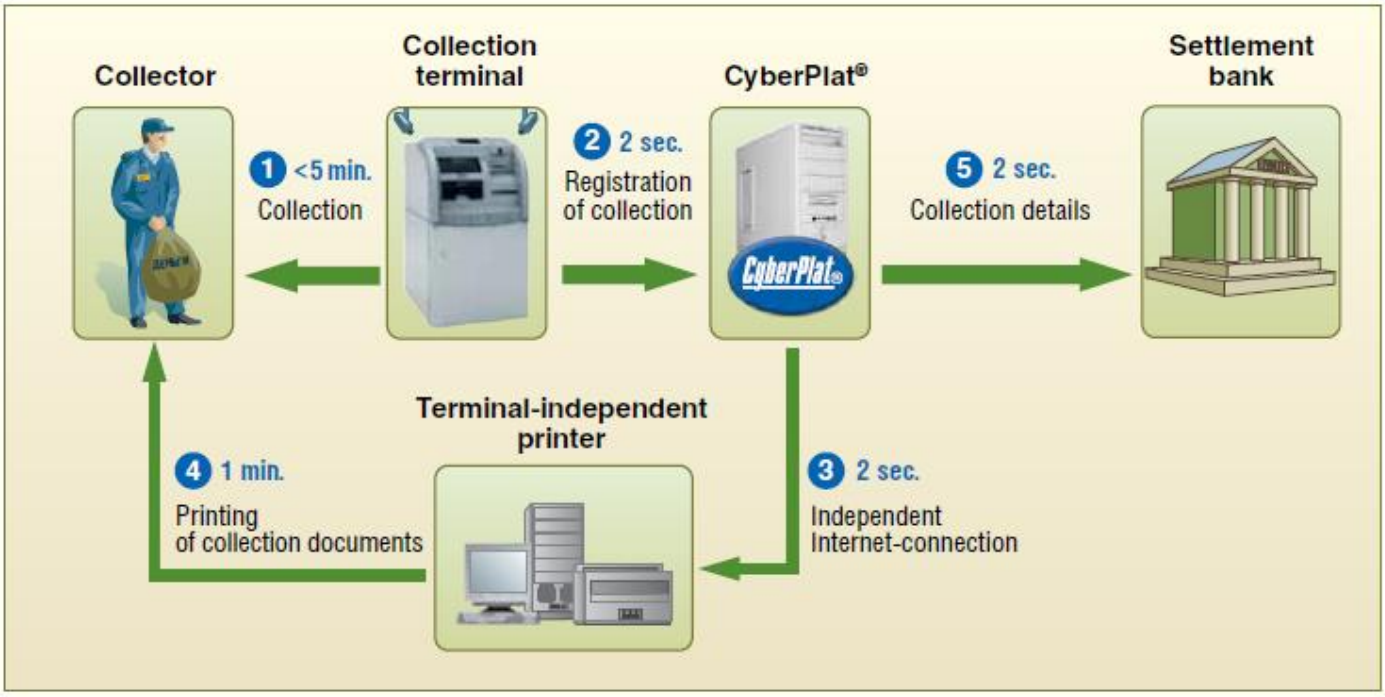
Additionally: when printing out receipts and certificates (statements), EDS shall be printed out as well.

General collection scheme at retail outlet with the use of collection terminal



1. Following the authorization, retail outlet employees shall insert money into the terminal (<5 min.; retail outlet employees; cash insertion).
2. The terminal makes automatic recalculation of funds and transfers information on the amount inserted to CyberPlat® processing center (collection terminal; 2 sec.; payment processing).
3. CyberPlat® processing center transmits the information to the settlement bank for crediting the retailer's settlement account (2 sec.; crediting the retailer's settlement account; settlement bank).
4. CyberPlat® processing center prints out set of documents containing the information about the deposited amount for the retailer (2 sec.; independent Internet-connection; Terminal-independent printer).
5. The retailer receives printed set of documents confirming the transaction (1 min.; printing of confirming documents).

General collection scheme at terminal



1. Following authorization, the collector gains the access to terminal, withdraws cassettes with cash from the terminal and installs a set of new cassettes for further operation of the terminal (collector; <5 min.; collection).

2. CyberPlat® processing centre registers collection transaction. Information about the total collected amount is also transferred to CyberPlat® processing centre (collection terminal; 2 sec., registration of collection).

3. CyberPlat® processing centre prints out set of documents, which contain the information about the total amount collected from the terminal (2 sec.; independent Internet-connection).

4. The collector receives printed set of documents, which contain the information about the total amount collected from the terminal and which at the same time act as accompanying documents during the transportation of cash cassettes to the bank (terminal-independent printer; 1 min., printing of collection documents).

5. CyberPlat® processing centre transmits the information about collection, including details of collected cash amount (2 sec., collection details, Settlement bank).

Collection procedure consists of two stages: insertion of cash into the collection terminal and collection. At the first stage, retail outlet employees insert cassette into the terminal. At the same time, information about the deposited amount (including the banknote numbers) is transmitted to CyberPlat®. Once the information is processed, CyberPlat® transmits information about funds deposited to the settlement bank of the retail outlet, and the bank credits the deposited amount to the retailer's settlement account.

All operations are performed online, which allows crediting the retailer's account within several seconds after the funds are deposited in terminal.

At the next stage, the collector and the settlement bank carry out terminal collection procedure. Upon recalculation, the settlement bank reports the collected amount to CyberPlat® for verification.

Advantages of the online-collection technology:

- It takes from 2 to 10 minutes for the cashier to deal with change and verify the proceeds.
- No need to recalculate banknotes in each tube or bundle.
- The risk of theft during recalculation is significantly reduced when each banknote number is read and stored.

Estimations show that implementation of such technology can cover up to 70% of collection market at super- and hypermarkets and up to 40% of market of smaller stores in shopping malls.

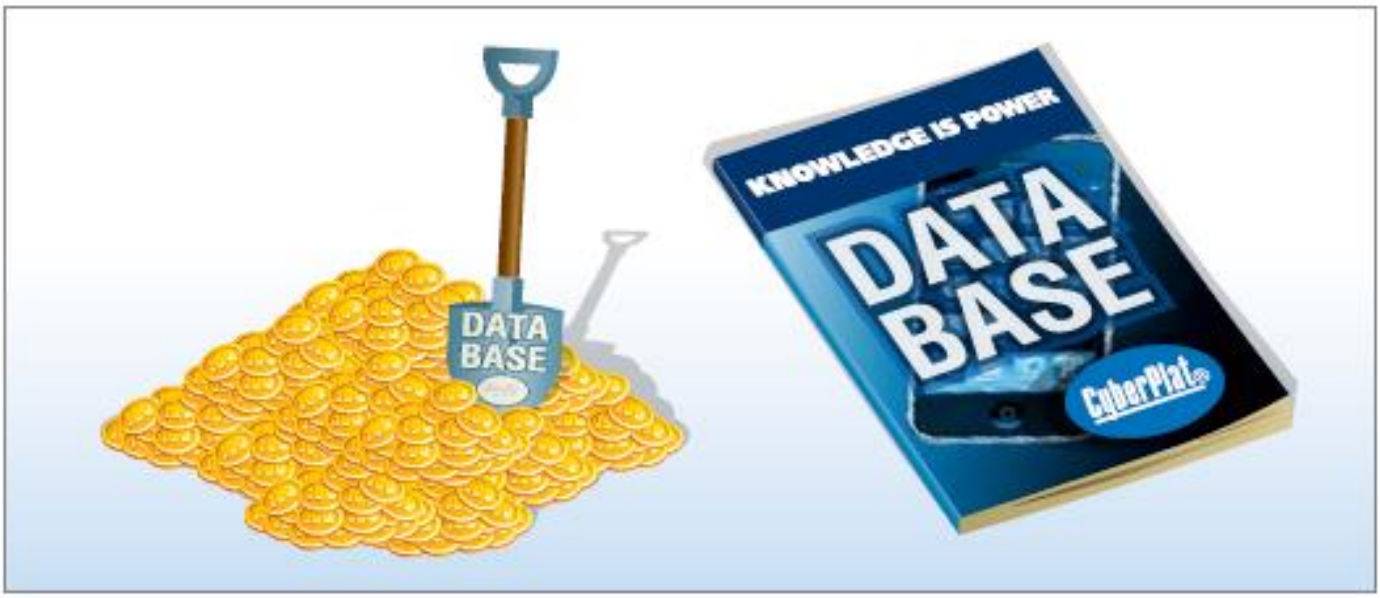
Additional Services for CyberPlat® Partners

Scoring by Phone Number

As of the end of 2018, client database of CyberPlat® payment system had more than 10 billion entries containing the information “date, time, phone number, amount, and place of payment”.

Analytical results of this client database can be of great interest for credit history bureaus and banks. Detailed analysis can be performed to verify customers’ paying capacity and to assess associated credit risks.

The use of scoring by phone number will allow a credit bureau or a bank increasing the accuracy and efficiency of provided or in-house credit scoring, as well as cutting costs and improving service quality.



Targeted SMS-informing *

Another possibility provided by CyberPlat® payment system to its partners is targeted informing of customers on new features, products, and services through SMS-messages.

With the help of this system, customers that pay through payment acceptance outlets belonging to particular dealers are constantly informed, for instance, on new methods of payment and new regional or local providers of housing and utility services, and on possibility to obtain virtual bankcards or to accept money transfers.

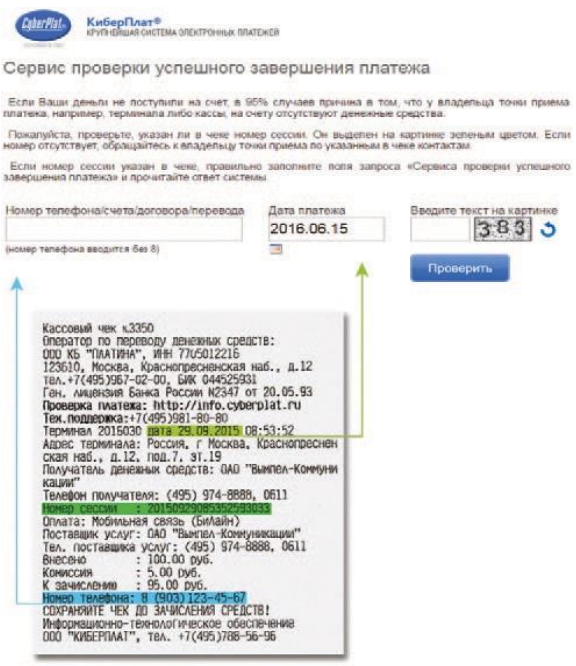
Targeted SMS-informing service can also be offered to partners of CyberPlat® dealers, for example, to retail companies or networks with payment terminals or payment acceptance outlets of system dealers. Thus, retailers can advertise their goods, services or marketing campaigns. It also helps the dealers to strengthen their relations with their business partners.

When designing a particular SMS-informing campaign, certain SMS-recipient selection criteria shall be established. For instance, SMS can be sent only to those who pay for utility services, only to those who paid more than 300 rubles, or only to mobile communications payers, etc.

This service is an effective marketing instrument and enables dealers to increase footfall at their payment acceptance outlets, increase turnover, and increase overall efficiency of business.

* SMS-informing service provided only with the consent of the consumer

Online Monitoring of Transactions

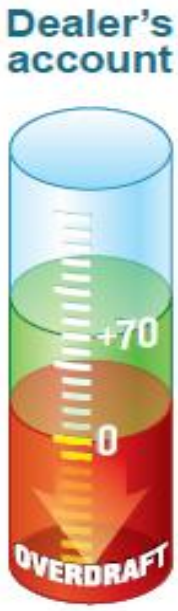


For the convenience of customers making payments through CyberPlat® payment system, as well as dealers, CyberPlat® has developed special web-service for verification of payment status (info.cyberplat.com).

The customer (or the dealer) inputs into the special fields the mobile phone number (or the contract number, personal account number in the case of payments not in favor of mobile network operator), date of payment and verification code (CAPTCHA) as protection means against web robots. Afterwards, the customer receives the following information on payment status: “successful”, “not found”, “sent to provider for processing”, and “cancelled in CyberPlat® system”.

Depending on payment status, the customer can perform certain actions. For instance, he may refer to provider or dealer through which the payment was accepted, or to CyberPlat® client support service. This service offers additional conveniences for customers and dealers and considerably facilitates processing of customer claims.

Online Financing



CyberPlat® experts have developed service for automated financing in PLATINA bank (payment system’s settlement bank) against the commission fee for accepted payments.

This service provides higher stability of payment acceptance systems of CyberPlat® partners during weekends and holidays as it reduces the necessity of urgent transfer of funds to PLATINA Bank to ensure settlements on accepted payments.

Online financing program provides an opportunity of automated financing in the overdraft mode against the amount of credited commission fees for already accepted payments. In order to participate in this program, the partner must have a settlement account with PLATINA Bank and must sign an overdraft agreement.

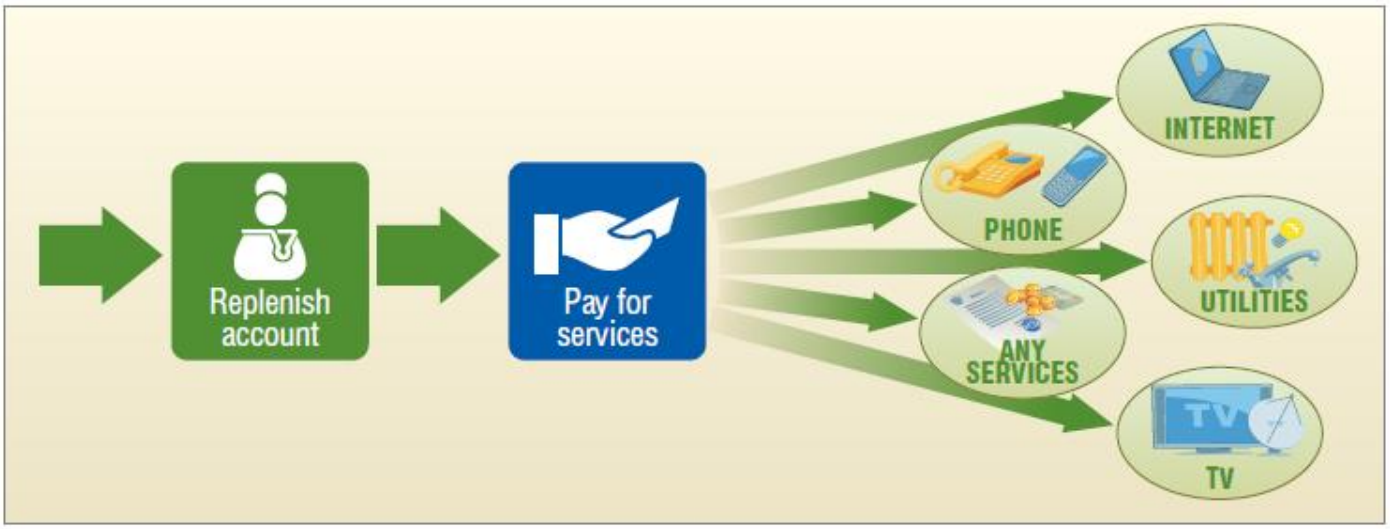
B2C Products

Plat.ru – CyberPlat® Payment Book

Internet-service "Plat.ru – CyberPlat® Payment Book" developed by experts of CyberPlat® and PLATINA Bank has been successfully launched for commercial operation.

Benefits for customers

Any person who has registered their personal "Payment Book" on the plat.ru website or through the terminals and cashiers of the CyberPlat® electronic payment system's partners can become a client of this convenient service. Having replenished the balance of their "Payment Book", the user is able to make payments to a wide range of service operators (more than 8 thousand) — mobile and wire communications, cable and satellite TV, Internet providers, utility providers, for government services, etc. using the web interface.



The balance of the "Payment Book" can be replenished through terminals and checkout counters of retail outlets of those CyberPlat® partners who are connected to the service. Replenishment of the "Payment Book" is subject to a commission paid by the client to the agent through whom the operation is carried out. Without additional commission, replenishment of the "Payment Book" balance can be carried out through terminals of the "Platina" Bank (their addresses are listed on the website www.platina.ru).

An important advantage of the new service is that new recipients of payments can be registered with the system, for example, local mobile operators, cable TV or housing and utility providers. Thus, the user of the "Payment Book" receives a unique "one contact" payment service at any time of the day, seven days a week, including in the event of an emergency need, for example, to top up the balance of their mobile phone.

Interface of Payment Book

Registration: only two fields

One of the important advantages of new service is possibility to register new payment recipients such as local cellular communication operators, cable television providers or housing and utility companies. Therefore, Payment Book user receives a unique “one contact” service for making payments at any time, including matters of urgency, e.g. topping up his/her mobile telephone account.

“Plat.ru – CyberPlat® Payment Book” allows to:

- make payments using to service providers the balance on the website ;
- save the details of regular payments;
- register new service providers to process payments;
- track payment history.

Benefits for partners

Business-scheme of the project presupposes distribution of commission fees of the service providers, to whom payments will be effected, between CyberPlat® and those dealers that have performed initial registration of users.

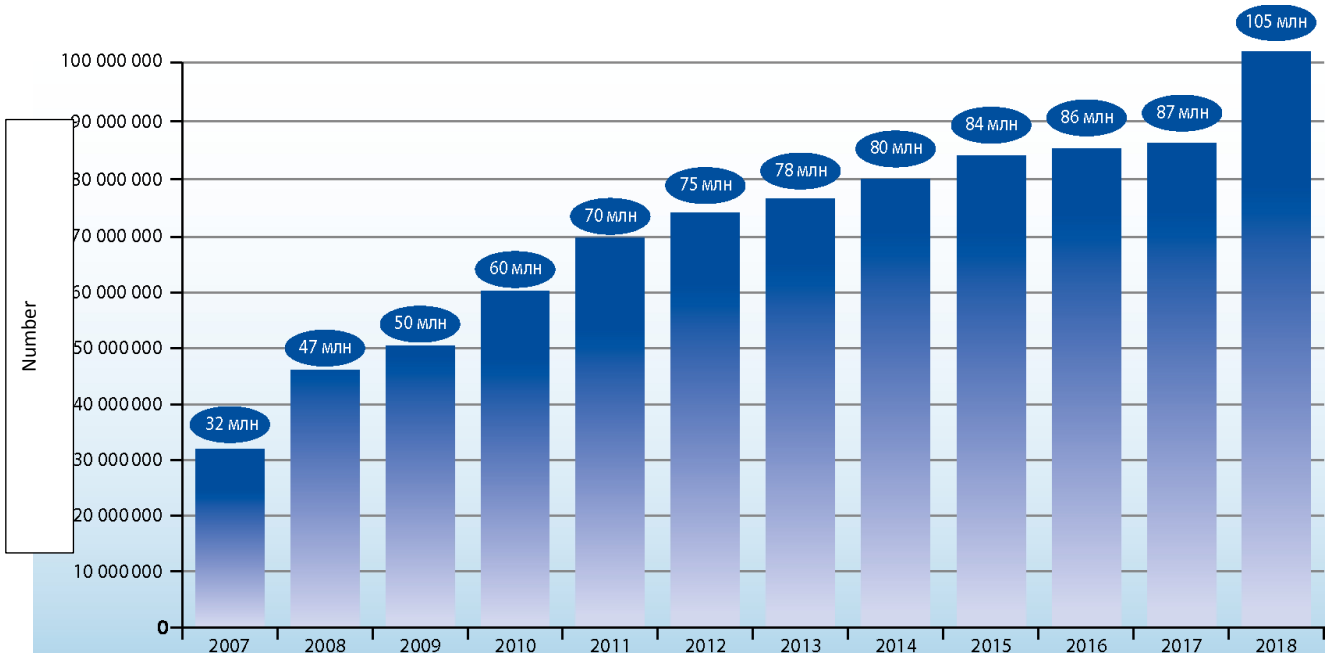
Thus, partners of CyberPlat® payment system may obtain additional income both through commission fees charged from customers as they refill their Payment Book accounts and through sharing commission fees of service providers from the new service balance of account.

Benefits for banks

Plat.ru - — CyberPlat® Payment Book can be used as an ultra-lightweight version of the Internet-Bank-Client. Why is this important and possibly extremely beneficial for banks?

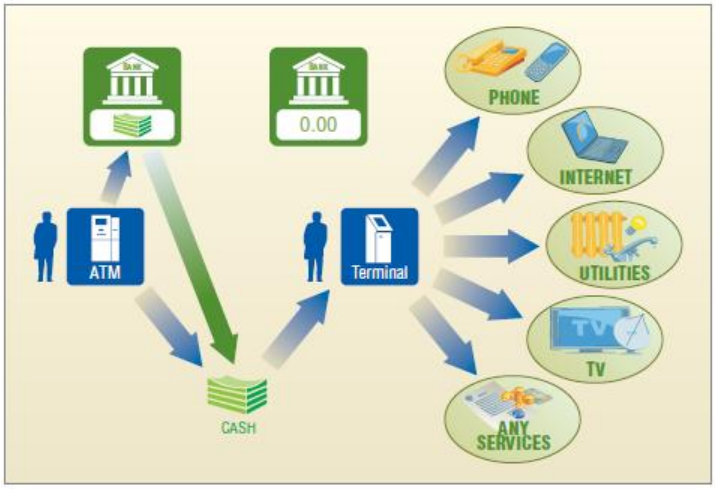
- The number of Internet users in Russia is 105 million and their number is growing.
- According to expert estimates, in 2018, the turnover of internet banking in Russia reached 2.4 trillion RUB.
- In 2018, the number of active users of Internet banking in the Russian Federation is estimated at 37 million people.

The Russian electronic sales market for 2018 is estimated at 1.66 trillion RUB.



Russian population practically does not use banking services. Funds from 70% of bankcards are fully withdrawn on the salary accrual day. As a result, banks do not receive additional income from payments and account balances.

Why does it happen? The reasons are as follows:



- Modern Internet-banking systems are difficult to use.
- They require advanced professional skills from users.
- Internet-banking systems are overloaded with excessive func-tionalities.
- Virtually no “one-button” solutions — any terminal is easier to use.

This is why CyberPlat® offers Payment Book solution, a con-venient, easy, and accessible inst-rument that does not require any special training from users to make payments.

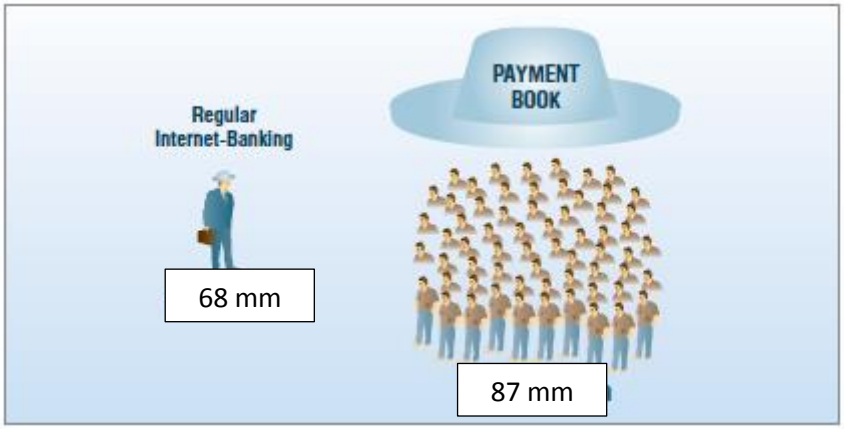
Key advantages of Payment Book:

- Very simple, intuitive interface.
- Used not only through the website but also through cash-in terminals.
- Easy and fast balance refill with cash money.
- No need for full identification when logging in the personal account, since payments are limited to the amount of 15,000 rubles and such payments comprise an overwhelming majority.
- The customer is afraid to keep the money on bank accounts and, therefore, inserts the money into the terminal. The cash funds are converted to refill the balance of the Payment Book, and the customer immediately pays using the previously created template.
- The balance left from odd payments does not vanish but is kept on the balance of the Payment Book.

Using the “Payment Book” as a lighter version of the Internet-Client-Bank system gives banks the opportunity to increase the number of their clients dramatically and reach a maximum of 87 million Internet users.

The absence of any significant costs for implementation of the “Payment Book” is a big advantage.

Unlike similar products and developments, “Payment Book” is distributed as per the White Label / API principle, and partner banks can use this flexible and easy-to-use product under their own brand.

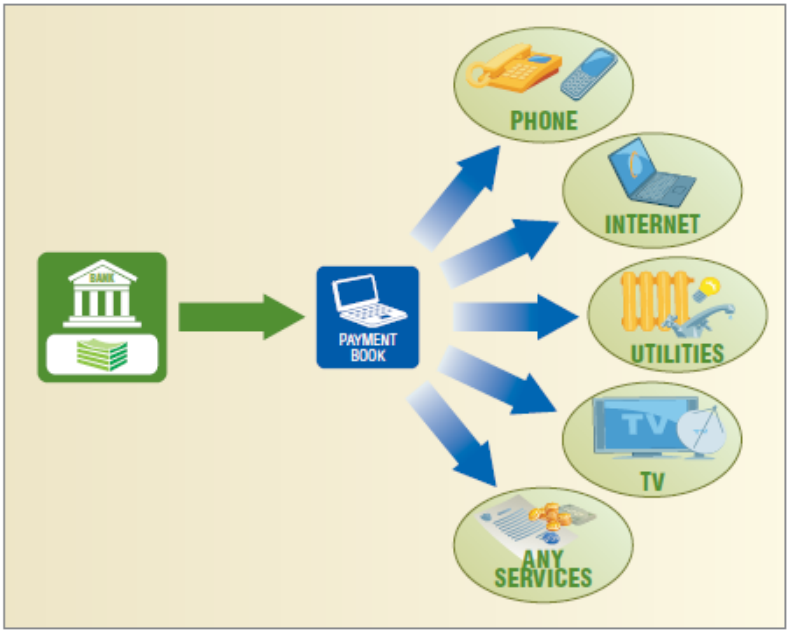


Low costs of implementation of Payment Book are also of a great advantage.

Unlike similar products and developments, Payment Book is distributed on the White Label/API principle; partner-banks can use this versatile and easy-to-use product under their own brand.

When using Payment Book as an own product, proceeds from payments are distributed between CyberPlat® and the partner-bank.

Thus, the Partner-Bank's benefits are:



- Sharp increase in the number of customers.
- Coverage of segment of the low-income customers.
- Increase of the commission income share within the income structure.
- Saving of funds through develop-ment and implementation of in-house Internet Bank-Client sys-tems.
- Increase of balances on accounts.
- Promotion of the Bank's brand as "socially useful".

Benefits for service providers

Based on Payment Book, a simple technological solution, it is possible to implement new profitable service “Payments from the personal account” for customers of mobile network operators, Internet Service and commercial TV providers, and other providers of mass services. The introduction of this service increases customer loyalty and has a positive effect on the growth of business capitalization.

Currently, there is a distinct trend in creation and development of such services by all leading mobile and fixed-line operators, Internet and commercial television providers. The benefits of the development of this service are obvious:

- First, customers are offered a convenient payment instrument, whereby:
  - the range of services is expanded;
  - the quality of servicing is improved.

- Second, companies receive more revenues through the commission income received from regular payments by customers from their personal accounts.

- Third, the balances on personal accounts of customers are increased and “fixed” while problems caused by recurrent debts and necessity to disconnect customers for the use of paid services are eliminated.

It has become customary that the refill of a service provider’s account (for example, a mobile network operator or an Internet service provider) is possible virtually through any retail outlet or payment terminal. However, with “Payments from the personal account” service the situation is reversed. With the use of personal account in billing system of the operators, customers will be able to pay for the same utility services, Internet access, replenish bank accounts, and send money transfers and much more. Implementation of this solution requires virtually no cost and any significant labor input. By experience, implementation of the proposed service is possible within two weeks.

At the same time, additional income will be generated immediately after the launch of the service into operation. The White Label partner program enables operators to run “Payments from the personal account” service under their own brand. This would require only changing the appearance of the screen interfaces in accordance with the operator’s corporate style.

TopUp.ru service

CyberPlat® experts have developed and brought into operation one more service designated for payments via Internet, i.e. TopUp.ru (www.topup.ru), which enables to effect payments with the use of bankcards in favor of a wide range of providers.

Payments can be made from card accounts with PLATINA Bank, whether it is a special non-personalized bankcard Visa Electron of PLATINA Bank designated for payments in favor of providers, or it is a personalized payment card of PLATINA Bank that is registered in the “Economy” project. Payments in the TopUp.ru service can also be performed from accounts of other Russian issuing banks.

The use of cards participating in the “Economy” project of PLATINA Bank allows saving on commission fees for card transactions and receiving a discount when paying for providers’ services. The cards are distributed in the offices of PLATINA Bank (www.platina.ru) where customers can both receive non-personalized “Economy” cards and register already existing PLATINA Bank cards in this project.

If customers already hold a payment card of PLATINA Bank, then they can register it in the “Economy” project. After registration, they can use the same package of services as holders of the “Economy” cards.

After registration, the customer has several payment options:
• through the mobile phone using the CyberplatMobile program;
• through the home computer using the service http://topup.ru

Immediately after filling out the questionnaire and following the receipt of “Economy” card, CyberPlat® experts will assist the customer in installing the CyberplatMobile Java-based application in their mobile phones, generating and registering EDS keys in the payment system and activating the service of effecting payments.

VISA Virtuon — virtual prepaid card

CyberPlat® payment system offers VISA virtual cards for making online payments

VISA virtual cards can be purchased at cash registers of retail outlets or through payment terminals connected to CyberPlat® system. For this purpose, the customer tells the cashier or inserts on terminal display his/her mobile phone number. CyberPlat® payment system checks such number in the accounting system of the telecommunications operator and confirms virtual card issuance transaction. Afterwards, the customer pays the amount (up to 15,000 rubles) which is the nominal value of the new card, with the use of which the customer can further make payments through the Internet. After that, an SMS message with the details of the VISA virtual card is sent to the mobile phone which number was specified by the client.

Balance not expended after the expiration of the card will automatically be transferred to the existing or specially opened customer account within the service CyberPlat® Payment Book that is available at www.cyberplat.com. These funds can be used for settlements with a wide range of service providers, including mobile network operators. The new product is of high interest to partners of CyberPlat® payment system, since popularity of virtual cards for online payments increases, along with expanding of the range of goods and services offered in the global network. PLATINA Bank's commission fee for issuing VISA virtual cards comprises 3.5% of its nominal value (not less than 25 rubles). This fee is shared by PLATINA Bank, CyberPlat® payment system, and the dealer who issued the card.

Virtual VISA cards will be extremely useful for the category of population that hold and actively use regular banking cards but quite reasonably consider that payments through the Internet are risky transactions . In addition, these cards will allow effecting payment transactions through the Internet to the users who are not holders of regular bankcards. Those citizens with no banking accounts and 16-year old teenagers are legally restricted to obtain regular credit cards. At the same time, young people constitute a significant part of the Internet users and need to make small but regular payments through the Internet.

Holders of VISA virtual cards can use them to pay for services of popular worldwide network services such as Skype, iTunes, and Google, to make purchases through such systems as eBay, PayPal, and in numerous online stores such as 'amazon.com', as well as to pay for computer games such as PlayStation, World of Warcraft, and other. With the use of VISA virtual card one can buy tickets through websites of air companies and travel agencies, as well as to purchase railway tickets through the website of Russian Railways ("RZD").

Replenishment of VISA, MASTERCARD and Mir cards in CyberPlat® payment acceptance network

With the participation of the international payment systems Visa, Mastercard and the Russian NSPK Mir, the CyberPlat® electronic payment system provides a service for replenishment of any cards issued in the Russian Federation.

In terms of technology, this process is carried out through special gateways, thus facilitating the transfer of data on the transactions of replenishing a specific card to the issuing bank almost in an instant. The duration of crediting funds directly to the card account depends on the bank which issued the card and can either be instantaneous, or take from two to four days.

Replenishment of cards can be done in the networks of payment terminals and ATMs operating through the CyberPlat® system, in which this service is available. In order to replenish a card, just enter the card number through the interface of the payment terminal or ATM and deposit the required amount of funds.

This service provided by CyberPlat® is in high demand for the purposes of regular payments on the loans received. Recipients of loans and holders of VISA, MasterCard and Mir cards are relieved of the necessity to visit bank branches, and they can replenish the card balance at CyberPlat® payment outlets located within walking distance — in shops, pharmacies, gas stations, etc.

The functionality of convenient card replenishment through the CyberPlat® payment acceptance network increases the attractiveness of plastic cards among the population and makes their use practical.

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How to Become a CyberPlat Partner

How to Become a Dealer of CyberPlat® payment system in 5 minutes. Automated registration of new dealers

The simplified procedure for ultra-fast automatic registration uses the facilities provided in Art. 428 of the Russian Civil Code, under which the agent joins the Agreement on Accepting Payments (the Accession Agreement, which can be found on the website http://www.cyberplat.ru/agent/dogovor.pdf), just by filing respective Application.

Due to unification of all necessary operations into the single Key Manager Software module, The procedure for generating digital signatures and working with the agent network has been significantly simplified by unifying all the necessary actions within the framework of a single software module “Key Manager”. Following registration, the user downloads this program and, observing instructions of the “wizard”, creates a set of keys and registers their public key in the system. The administrator can register a sales outlet or cashier in the Agent's Cabinet, receive key cards for them, generate a set of keys using the Key Manager and register public keys in the Agent's Cabinet independently. The simplified registration procedure in the CyberPlat® electronic payment system facilitates quick connection to the system without opening a current account and personal presence at the CyberPlat® office.

You must complete the following steps to carry out automatic registration.

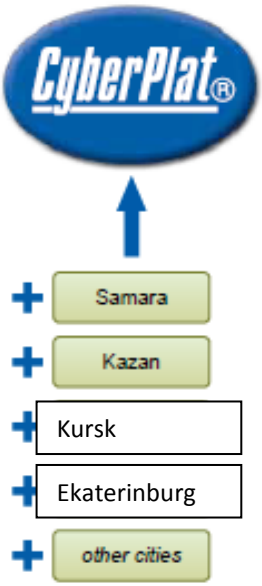
Automated registration process:

1. Visit the website https://customer.cyberplat.ru/dealer/register.html, fill in the registration form and register Login and Password.
2. Get access to the “Dealer’s Office” section. Using Login and Password, edit data of your company, register the administrator, generate a set of keys to the Electronic Digital Signature (EDS), and receive the package of all necessary documents (Application, and Delivery and Acceptance Certificate of electronic keys) in PDF format.
3. Having signed the Application and the Certificate, send them by registered post as part of the full document package to CyberPlat® office (you may use Russian Post, DHL, TNT, or GarantPost).
4. Corporate experts will verify the documents, activate the new dealer, and having signed the Application and the Certificate, will send a counterpart to the addressee.

5. The dealer can independently register in the system its payment acceptance outlets and cashiers through Dealer’s Office and start accepting payments either through the web interface or through Payment Acceptance software available at http://www.cyberplat.com (needs configuring after download).

All steps of the registration process are performed with the use of optimized ergonomic interface and take no more than 5 minutes. If you have any problems with your registration at any stage, do not hesitate and contact CyberPlat® support team: http://www.cyberplat.ru/join/dealer/about_reg/

How to become a Regional Representative of CyberPlat® payment system



Within the scope of the unique CyberPlat® Regional Representative Program, it is possible to become the system's partner even without setting up your own payment acceptance outlets. The purpose of this program is to give the most active business people of Russia an opportunity to raise their own revenues and provide them with a simplified instrument for attracting new commercial and service companies to CyberPlat® payment acceptance network.

It is not necessary to have any legal (contractual) obligations to the companies, which the Regional Representative involves in CyberPlat® payment system, and you do not have to be the system's dealer.

Regional Representative does not need to:

1. Execute a contract with the Dealer (whose sales and service outlets can accept payments).
2. Have a balance in CyberPlat® payment system sufficient for the Dealer's operation.
3. Organize its own payment acceptance outlets (no rent of premises, registration of cash registers, and hiring of personnel).
4. Organize a sub-dealer payment acceptance network (no contracts with third parties, collection or money transfers).
5. Be financially responsible to CyberPlat® payment system for other companies' transactions.
6. Transact payments from communications operators' or service providers' subscribers.

To start operations, Regional Representative needs to:

1. Acquire a legal entity or an individual entrepreneur status.
2. Conclude the Agency agreement with CyberPlat® payment system.

Regional Representative shall as follows:

1. Search sales or service outlets belonging to legal entities or individual entrepreneurs who are willing to organize payment acceptance. The Regional Representative solely develops a strategy for engaging new Dealers.
2. Explain to a potential Dealer all advantages of CyberPlat® payment system and conveniences of connection to the system via Internet.
3. Assist the Dealer in registration.
4. Offer consultations on optimizing of payment processing and on duly operation with CyberPlat® payment system.
5. Submit daily reports about new Dealers.
6. Sign monthly Works Acceptance Certificate (the list of Dealers connected during the reporting month).

The Regional Representative is authorized to perform the above-listed duties under the power-of-attorney issued by CyberPlat®.

Remuneration

The remuneration paid by CyberPlat® is based on contractual terms agreed with the Regional Representative. The amount of Regional Representative's remuneration comprises 0.1% of monthly amount of payments of each attracted Dealer. For instance, the Regional Representative contracted three (3) new Dealers during a month.

Dealer	Dealer Monthly Turnover (USD)	Remuneration (0.1%) per month (USD)
First	300,000	300
Second	1,000,000	1,000
Third	1,500,000	1,500
Total	2,800,000	2,800

No limits to earnings!

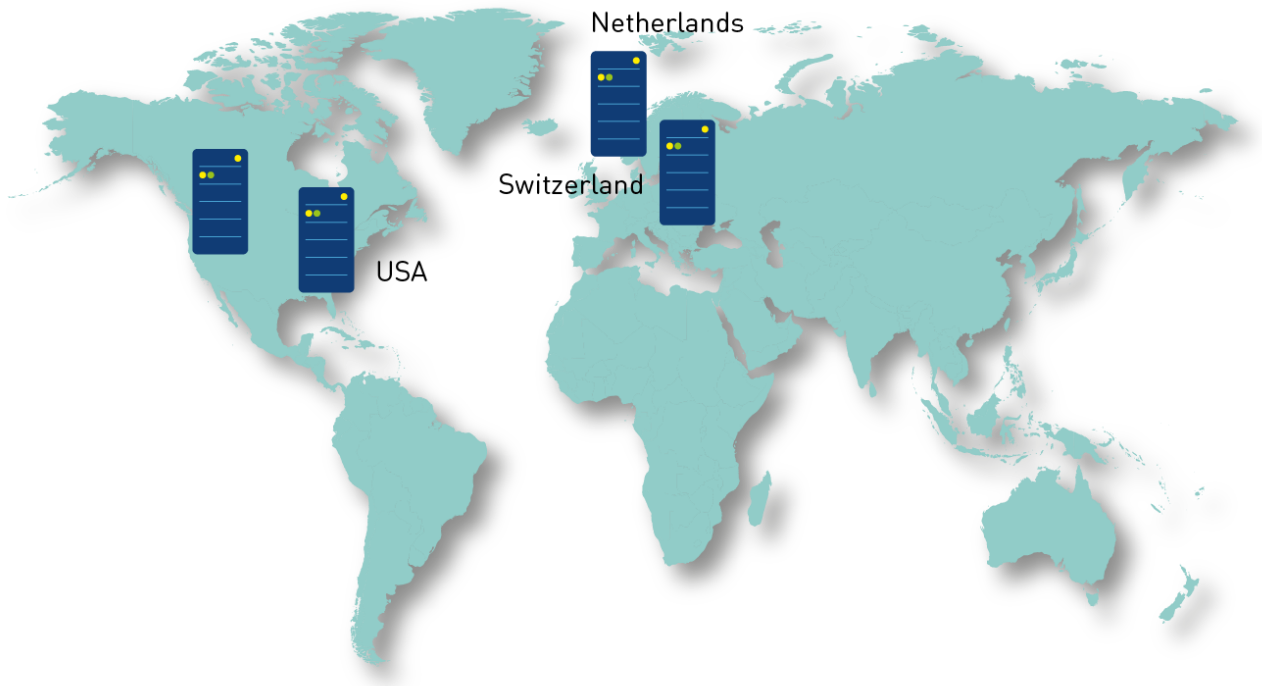
Everything depends on Regional Representative's successful operation and capabilities.

Regional Representatives Registration:
http://www.cyberplat.com/join/representative/
or by phone +7 (495) 967 02 20

CyberFT – a financial messaging system convenient and secure system

CyberFT platform

CyberFT platform is a high-tech Russian development, which is an IT platform supporting the latest data exchange formats, including SWIFT InterAct, SWIFT FileAct and SWIFT Fin (all documents of the MT category), as well as packages of documents in Bank of Russia formats required to provide remote banking services, with the ability to create new banking services.



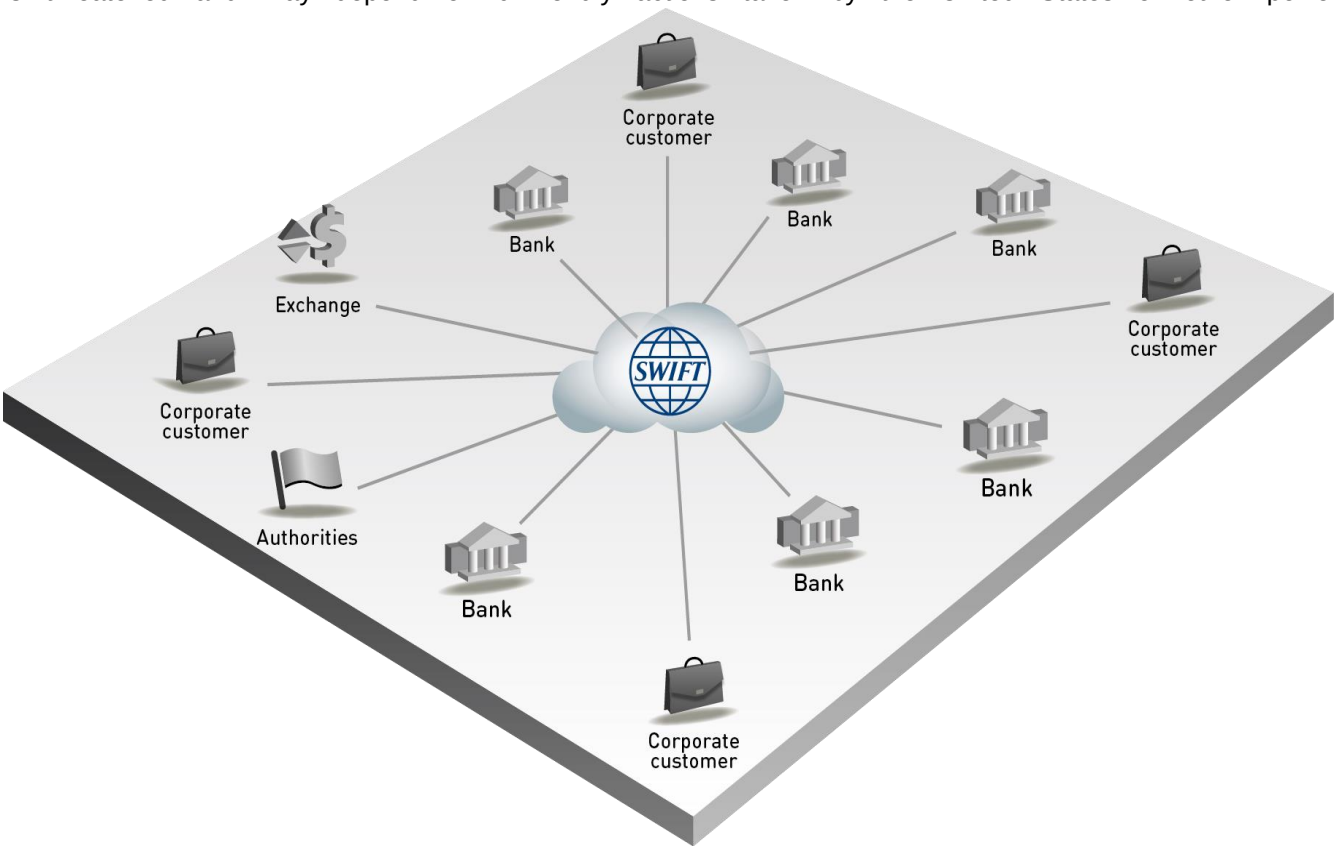
SWIFT: existing limitations

Prior to Edward Snowden's speech on mass surveillance, the banking community gave little thought to the risks and limiting factors existing in and related to using the SWIFT international banking messaging system.

- Monopoly of the SWIFT system which occupies about 90% of the market.
- High political dependence (examples: disconnection of Iran in 2012, regular threats against Russia, especially during the period of sanctions).
- An outdated SWIFT network topology, the so-called star, which reliability is threatened in the event of a targeted attack.
- Only 4 data centers located in three countries (USA, the Netherlands and Switzerland).
- Legislative restrictions: information on domestic payments must not leave the country in accordance with Federal Law of the Russian Federation 161-FZ “On the National Payment System”.
- Changing the encryption method at the choice of the system participant is impossible.
- Availability of the transmitted data to the network operator, which creates risks of large-scale leakage of commercial information.
- Difficulties in validating transmitted messages as legally valid.
- Limited period of up to 121 days for data storage on the SWIFT side before they are transferred to the archive.
- Non-flexible message formats and complicated adaptation to the specifics of formats of a particular country.
- High cost of connection and maintenance.

For many years, security specialists have drawn attention to the vulnerability of such an arrangement and the legal prohibition of local (in-country) banking information leaving the territory of their country in all developed countries of the world. For example, in the countries of the European Union, personal information (financial transactions often contain personal data) cannot be processed in a country located outside the European Union, if the latter does not provide an adequate level of personal data protection. In early 2011, the People's Bank of China (PBOC) issued a Notice to Banking Financial Institutions demanding the protection of financial information. The document, among other things, prohibits banks from storing, processing or analyzing outside the country any personal financial information that was collected in China.

Thus, domestic interbank communication networks must be independent; otherwise, the sovereignty of the country is threatened and may depend on unfriendly actions taken by the United States or other powers.

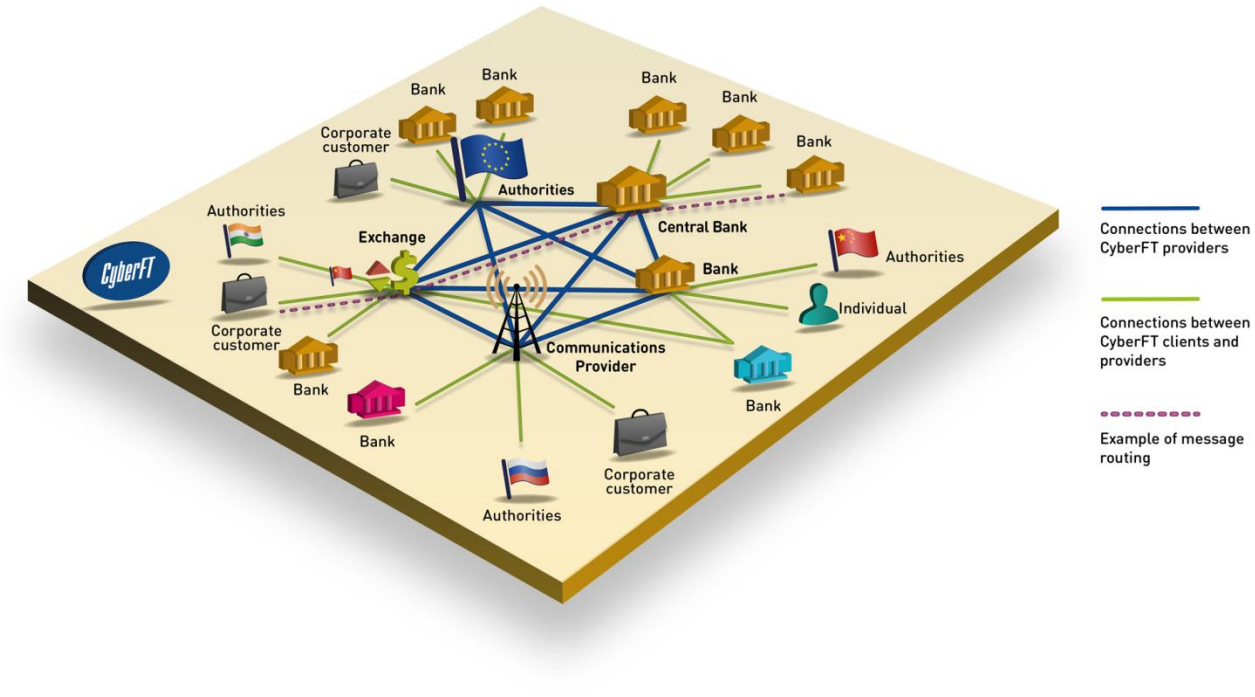


A new approach to financial messaging

CyberFT is a universal system for secure electronic exchange of financial data and legally valid documents between financial institutions, government authorities, legal entities and individuals (www.cyberft.ru).

Unlike many other systems operating on the world market, this software was developed by Russian specialists and has license and patent independence.

The terms of cooperation are premised on the fact that all servers of the CyberFT platform will be situated on the local territory of a country which buys the platform; therefore, the probability of leakage of commercially important data in electronic paperwork is reduced dramatically.



Key definitions

CyberFT Platform

- A hardware and software solution for organization of a secure information highway for interchange of any types of financial messages and electronic documents workflow.

CyberFT Provider

- A legal entity that has bought and has become an owner of CyberFT Platform and uses it for offering financial messaging services to its counterparties.

CyberFT Processing

- Hardware and software solution that implements legally valid electronic documents interchange at CyberFT Network.

CyberFT Participant

- A legal entity or individual using CyberFT for data exchange.

Customer Software

- A software installed at CyberFT Participant site aimed at interaction with CyberFT Network.

CyberFT Network

- A group of CyberFT Providers and Participants connected to these Providers.

CyberFT, SWIFT and SPFS

The first release of the CyberFT system was issued in 2014 and from the start combined the near-complete functionality of SWIFT Fin with a number of additional options developed using the state of the art technologies not available in SWIFT. Towards the end of 2014, the Bank of Russia, in response to the sanctions and threats to disconnect Russia from SWIFT coming from the West, developed SPFS, a service for transferring financial messages, presented to the banking community as a full-fledged replacement for SWIFT on the territory of the Russian Federation.

Thus, CyberFT competes with two systems at the same time. On the one hand, the platform successfully proves its advantages over a system with a long history and an extensive customer base, which is also extremely inflexible, outdated and complex in terms of applied technologies, as well as expensive and politically dependent. On the other hand, CyberFT competes with a young and under-functional system with strong administrative resources.

	SWIFT	SPFS	CyberFT
Clients	Around 10 thousand banks and a limited number of legal entities	Credit institutions and their branches — clients of the Bank of Russia (only those possessing SWIFT BIC)	Potential coverage of all banks and legal entities with no limitations
Geography of services	Worldwide	Russian Federation	Worldwide
Compliance with the legislation of the Russian Federation	Does not comply with Part 11 of Art. 16 of the Federal Law No. 112-FZ dated May 5, 2014 “On Amendments to the Federal Law “On the National Payment System”	Fully complies with all regulatory legal acts of the Russian Federation	Fully complies with the legislation of the Russian Federation
Working hours	24x7	Closed from 21:00 to 7:00 Moscow time, as well as on weekends and holidays	24x7
Encryption	CIPF encryption from SWIFT	CIPFs used in the transmission of electronic messages in the payment system of the Bank of Russia (SKAD “Signatura”)	Any interchangeable CIPFs, including CryptoPro, OpenSSL, Message-PRO, Agave, etc.
Message security	The transmitted data is available to the network operator	The transmitted data is available to the network operator	The transmitted data is not available to the network operator
Location of servers	USA, Switzerland and the Netherlands	Russian Federation	Russia, as well as additionally anywhere in the world at the discretion of the platform owner
Reliability	Special procedure for receiving and transmitting messages based on the hot-standby operation of each element of the network. Only 4 data centers	Transmission of messages through the Bank of Russia Message Processing Center (MPC) using the Bank of Russia Customer Interaction Environment (ICS). All information systems of the Bank of Russia have backups. However, given the fact that together with the ED503, a number of technical messages were developed to check the operation of the service , it can be concluded that the system’s	Effective modern software, hardware, and organizational and administrative measures to ensure the reliability of the system. The number of providers is not limited

		reliability is poor.	
Network topology	Star (there is a single center to which all participants are connected)	Star (there is a single center to which all participants are connected)	Fully connected (an infinite number of centers can exist in the system, to which various participants are connected, while the centers themselves are also interconnected)
Connection price	No less than $53 thousand, taking into account the obligatory cable installation from a specific communication service operator; up to $200 thousand for each new client	Free of charge	Free of charge
Transaction price	FIN service: local transaction of 0.02-0.05 Euros, international transaction of 0.03-0.18 Euros	Fee for transferring financial messages within the country in the SWIFT format is 1.50-2.50 RUB (0.026-0.043 Euros)	Not above 50% of the price of a similar SWIFT transaction
Service price	No less than 10 thousand Euros per year	Free of charge	Free of charge
Connection time	No less than 8 weeks with a collective connection. No less than 16 weeks with own connection	No less than 4-6 weeks, since a paid revision is required on the ABS side for enabling data transfer to the terminal	Connection to CyberFT processing takes from 1 to 3 weeks, including integration with ABS. When installing your own platform — no more than 2 weeks
Block rate	Several seconds	Several seconds	No more than 1.5 seconds
Supported formats	Envelope for messages in the SWIFT Fin format (MTXXX messages). At the same time, the correctness of the information entered is not checked as per the SWIFT rules, that is, in fact, any message can be placed in the envelope.	Envelope for messages in the SWIFT Fin format (at the same time, the correctness of the information entered is not checked as per the SWIFT rules, that is, in fact, any message can be placed in the envelop)	SWIFT Fin service (MTXXX messages), InterAct service (MX messages in ISO 20022 standard, as adapted for Russia), FileAct (unstructured messages with attachments), as well as EDF documents (certificates, invoices, contracts), acceptance of payments, and much more
Maximum size of a single message	No more than 10 MB	The default maximum size is 20KB. The maximum possible size for a separate authorization is 5 MB	The basic setting for the maximum size of a single message is 100 MB. If necessary, this limit can be increased to any size
Data storage	The period is not limited on the client's side, while the data are stored for 124 days on the SWIFT processing side, and then archived. Partial data can be obtained from the archive on a paid basis, but not in any case	Electronic messages are stored in the operational archive for 3 days, in the long-term archive — for 5 years	Perpetual storage of data on all stages of the transaction from the sender to the recipient
Interaction type	Processing only	Processing only	Processing and clearing
User interface	Several options for custom SWIFT Alliance applications for full	The mode of financial message transfer in SWIFT format through AWS KBR (KBR-S)	Convenient web interface for full-fledged work with the system

	functionality	using the file system directories or the UM MQ queue manager, messages are received in transport envelopes on the servers of the Bank of Russia ICS. For real commercial operation, the improvement of visual interfaces for the user and operator is required	
Additional services for legal entities	Preferential working conditions for corporate clients in comparison with banks, SWIFT Alliance Lite software, etc.	None	Preferential working conditions for corporate clients, specialized 1C module, service of electronic document management for legally valid documents
Development and revision speed	Very slow, custom modifications and integration modules are not offered	Mediocre, custom adjustments and integration modules are only offered to major members	Prompt, standard integration modules, individual modifications and integration solutions are provided. Individual developments are possible on a typical CyberFT platform

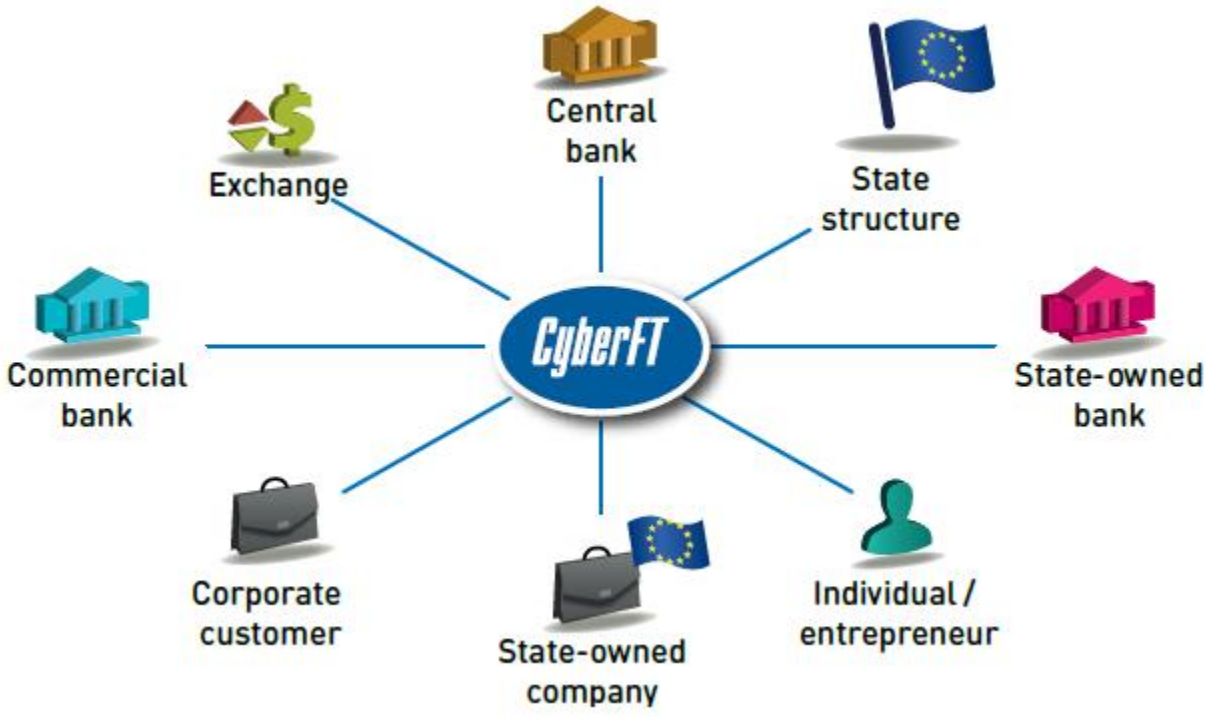
MULTIPLE PROVIDER SYSTEM

The CyberFT network consists of an unlimited number of clients (participants) using the CyberFT platform for electronic document flow management.

The CyberFT platform is deployed at the buyer's platform and is independent of CyberPlat®. The CyberFT provider can serve banks and legal entities anywhere in the world or work within a separately selected banking or corporate group.

Both banks and corporate clients, exchanges, brokers, state bodies and other organizations can act as CyberFT providers and participants. Each participant is assigned a unique identifier according to the SWIFT rules (if the participant is not registered in SWIFT), otherwise the existing identifier of this participant in the SWIFT network is used.

The directory of network participants is available to each participant and is updated automatically on a centralized basis. The identifier is unique not only within one provider, but throughout the whole CyberFT network.

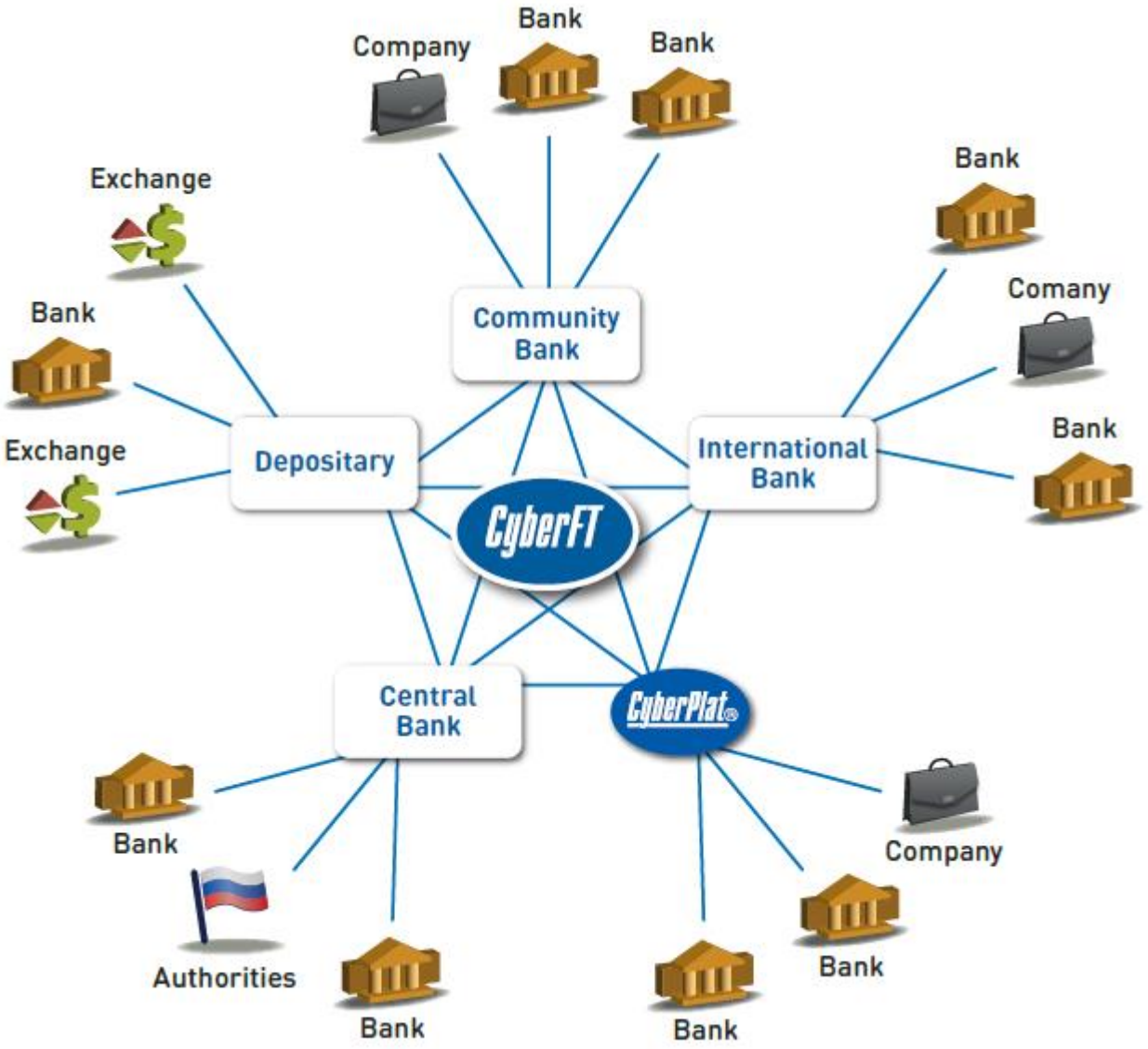


Thus, a participant with a specific identifier can only be connected to one provider, which ensures the integrity of the network.

CyberFT providers can connect to each other in various ways, some of which are presented below.

1. Everyone to everyone*

Information on the processing of each message is logged on the side of each provider participating in its transmission. In addition, the messages themselves are stored together with the sender's digital signatures on the side of the sender, recipient and provider for an unlimited period of time (on the provider's side, all messages are stored in an encrypted form, and their content is not available to the provider). Thus, each participant in the information exchange process has full-fledged legally valid electronic documents.

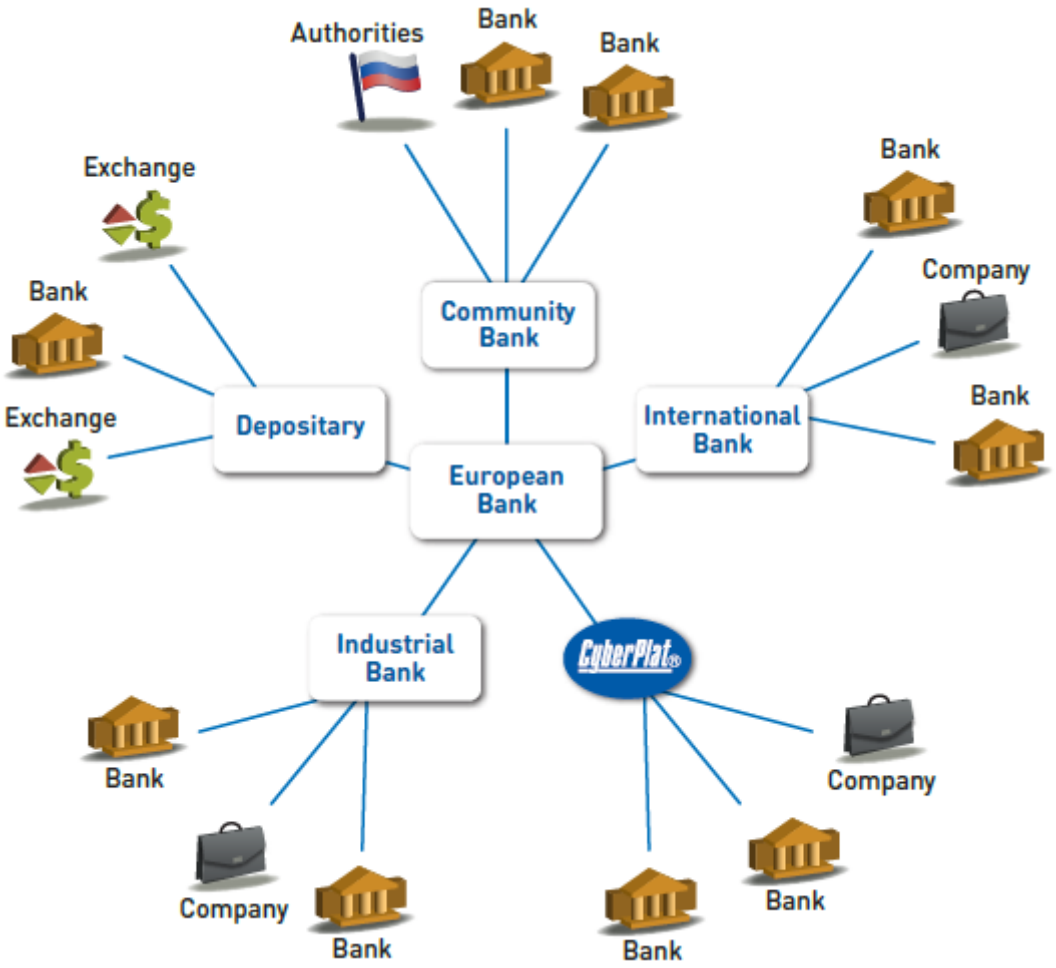


* Here and elsewhere: the names of organizations are given as an example

2. Through a centralized CyberFT provider selected jointly

For example, any large banking group or commercial organization can become a CyberFT provider and connect subsidiaries, correspondent banks and customers. At the same time, in order to exchange data between participants connected to different providers, these providers enter into an agreement with a single provider (for example, the Interstate Bank), which is responsible for routing messages between them.

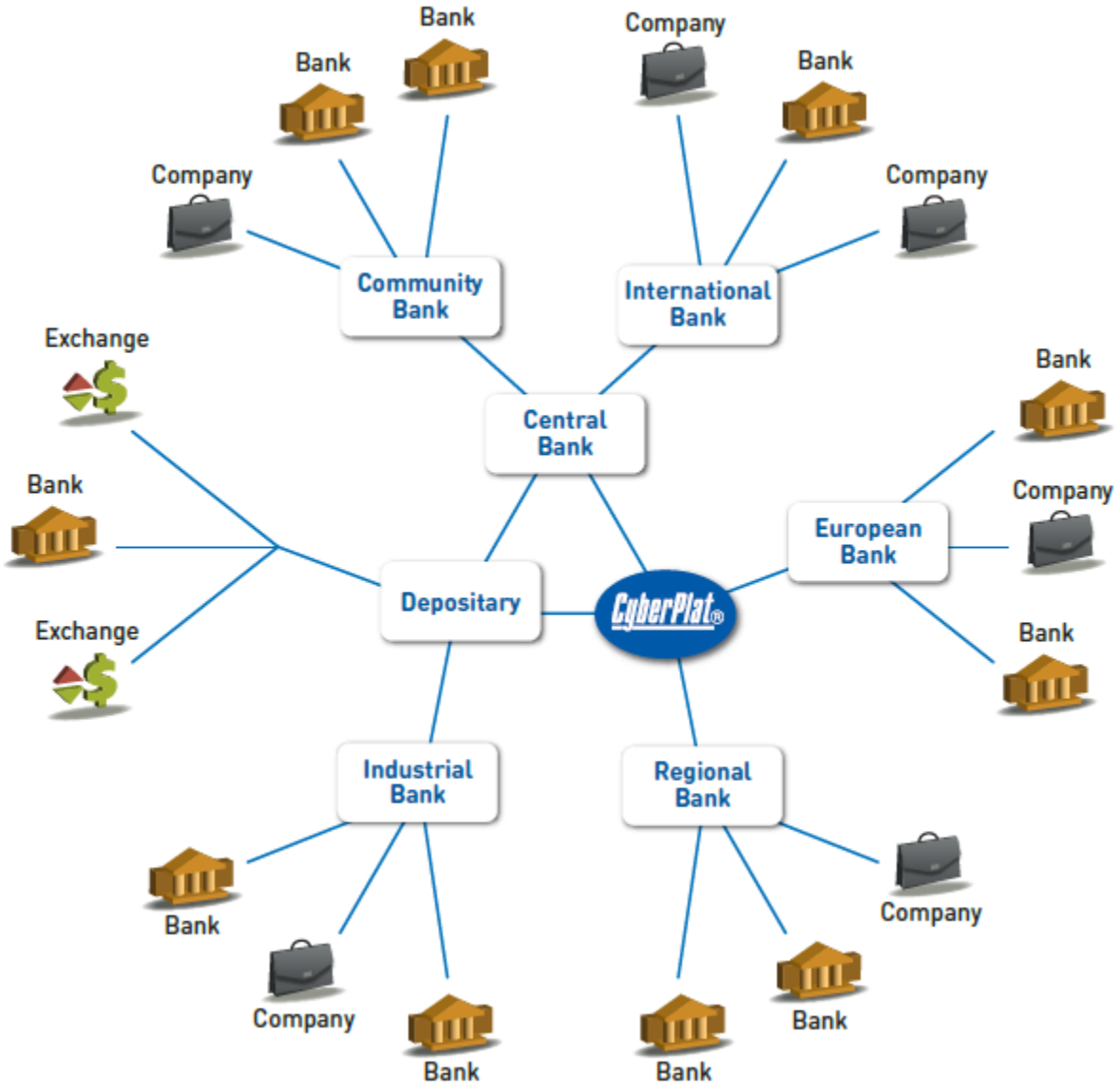
On the one hand, such a network topology greatly simplifies the organizational aspects associated with establishing relations between providers, and makes it possible to work through a single organization (central provider) trusted by all participants. On the other hand, in the event of a failure on the side of the central provider, communication between network participants becomes impossible.

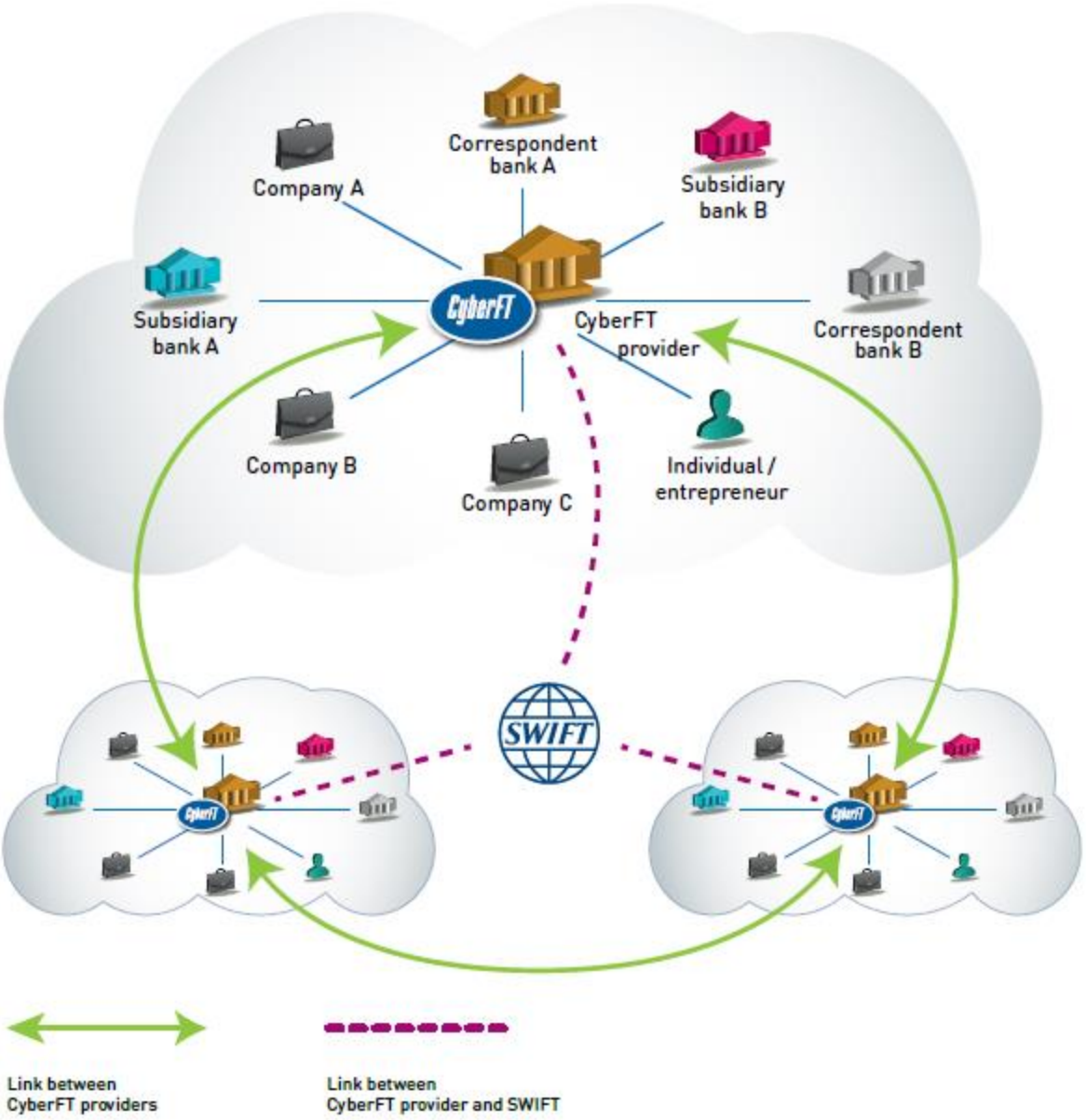


3. Through a group of interconnected CyberFT providers

This version of the network topology, despite the more complex organizational processes of establishing relations between providers, has increased fault tolerance. In case of technical issues arising on the side of one of the central providers, communication between all CyberFT network participants will not be disrupted.

CyberFT network participants can also interact with other counterparties connected to the SWIFT system. One of the examples of such interaction is shown in the figure.

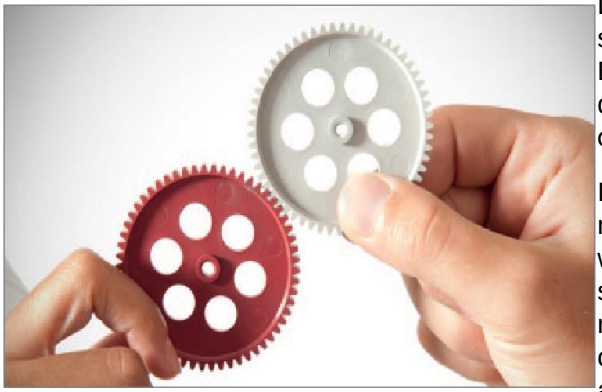




Thus, the CyberFT network allows its participants to interact also through the SWIFT system, when one of the parties is not yet connected to CyberFT (see the section on integration and interaction with SWIFT).

FLEXIBILITY

The CyberFT network is needed not only by the banks, which receive a safer, more reliable, functional, flexible and cost-effective solution, but also by the clients of financial institutions.



Large and medium-sized companies that work simultaneously with several banks are currently forced to support many different Client-Bank systems, as well as use various data exchange formats and data cryptographic protection facilities. CyberFT allows them to organize the “Universal Client-Bank” system for such companies.

In practice, it means that drawing up a financial document (or message) and selecting the required settlement bank, following which the document will be sent via a single channel to this bank, should be sufficient. Through the same channel, the client will receive centralized feedback from their settlement banks (statuses on the sent documents, statements, etc.). Thus, companies will be able to interact with banks directly through their accounting systems, as well as apply uniform technologies in the exchange of data.

CyberPlat® has also developed a payment module for the 1C system, which allows customers to manage accounts in their settlement banks remotely and directly from 1C. At the same time, the transfer of information between 1C and the bank is carried out through the CyberFT network.

Within the framework of a unified transport solution the CyberFT network offers a possibility of managing legally valid electronic document flow. CyberFT allows optimizing business processes which involve exchanging documents with government authorities: tax reporting, customs declarations, interaction with the IEIS state system, etc., as well as intercorporate communications, including the signing of contracts, provision of reporting documentation, filing exchange bids etc.

It is also possible to construct such CyberFT-based solutions required by corporate clients as interbank physical Cash Pooling.

SAFETY

CyberFT is the warrantor of the safety of important commercial information. One of the key tasks of the CyberFT network is to ensure the security of information containing banking and commercial secrets. According to the forecast of Zecurion, by the end of 2018, the total losses of companies and banks from leaks of confidential information may exceed $50 billion.

Important commercial information processed by payment systems and passing through communication channels is exposed to a number of threats.

1. Security threat to the interbank communications, since the vast majority of SWIFT transactions pass through servers located in the United States, the Netherlands and Switzerland.

Hosting servers in these countries puts SWIFT clients in other countries in an extremely vulnerable position, since the servers can be turned off at any time (for example, when the political situation changes), which will discontinue not only data exchange with foreign counterparty banks, but also internal exchange of financial information via SWIFT system cease.

2. Threat of theft directly from the system that processes and conducts payments.

Information can be either “taken” by requirement of special services of a foreign state, or intercepted by malevolent intruders or other attackers on any part of communication lines, the length of which can be up to 20 thousand kilometers. This information, usually related to the information covered by bank secrecy, can be used by both the thieves themselves and the persons who intercepted it from the thieves (which is the case in high-profile international scandals of recent times).

3. Threat of “leaking” the previously stolen information.

High-profile scandals of recent times (for example, the Snowden case or the emergence of WikiLeaks) demonstrate that commercial information available to special services often becomes publicly available.

4. Threat of information transfer to competitors.

An example of such a leak is the scandal that broke out in the 1990s in the United States, where Airbus lost a $6 billion contract with the national airline of Saudi Arabia as a result of negotiations being intercepted by the National Security Agency. The contract went to McDonnell Douglas, a division of Boeing, Airbus's main competitor.

5. Threat of selling the stolen information.

Information is a valuable commodity and the more value it has, the more it is worth. Therefore, information containing commercial and banking secrets is a “tasty morsel” for international cybercrime participants. Protection against these threats is regulated by the laws of a number of countries, prohibiting the transfer of local financial information to the territory of a foreign state or provision of access to it from the territory of a foreign state.

The use of the CyberFT platform significantly reduces all risks of theft, loss and sale of important information owned by banks and their clients. Since the hardware will be located in the computer center of the platform buyer, the threat of theft of commercial information from the servers of the communication center is significantly reduced, and since the communication channels become much shorter, the risk of theft of commercial information from communication lines is also significantly reduced.

The text of the message sent by the client through the CyberFT network and not addressed to the CyberFT provider is available only to the recipient of the message — another CyberFT client.

SUPPORTED FORMATS, FLEXIBILITY AND VARIABILITY OF DEVELOPMENT

At the moment, the CyberFT network has fully implemented the SWIFT Fin service, which includes the following message groups:

- 1st (customer payments and checks);
- 2nd (transfers of financial institutions);
- 3rd (financial resources markets — forex, money markets and derivatives);
- 4th (collection of payments and cash letters);
- 5th (security markets);
- 6th (transactions with precious metals and syndicated loans);
- 7th (commercial letters of credit and guarantees);
- 8th (traveler's checks);
- 9th (cash management and client status);
- acceptance of CyberPlat® payments.

The system supports the SWIFT InterAct service, that is, the exchange of messages in SWIFT MX formats (ISO 20022 standard), and the SWIFT FileAct service (the exchange of unstructured messages containing attachments with sizes of up to 100 MB).

The CyberFT system contains whatever is required to ensure the information interaction between payment agents and banks when receiving payments.

The system supports a package of documents required for the provision of remote banking services (RBS) in Bank of Russia formats.

Among the areas of development of the system, there is provision of secure complex information interaction in specialized areas of business. In CyberFT, you can exchange structured and unstructured contracts, certificates, invoices, and other types of documents. As a result of integration with internal automated workflow and records management systems, organizations can implement end-to-end electronic document flow management. The CyberFT system allows concluding and completing transactions in electronic format in accordance with the applicable law.

However, the CyberFT platform is not limited to SWIFT capabilities. Movement of interbank information can reserve as many “information bands” (categories of messages) as customers need, taking into account the specifics of their business. The ability to adapt to customer needs is the cornerstone of building any reliable and streamlined system such as CyberFT.

When requested by a customer, developers can implement the Direct Debit system available worldwide. Moreover, this system can be created either as a separate category, or as an addition to the SWIFT invoicing category, or in the format of the auto payment service.

When requested by holding companies, a solution within the CyberFT platform may be developed that facilitates optimization of the internal electronic document flow management, interbank Cash Pooling, and other solutions demanded by the market.

CyberPlat® is analyzing offers of market participants in online mode and develops the CyberFT functionality with taking into account the information received.

INTERACTION WITH SWIFT, EASY INTEGRATION FOR BANKS

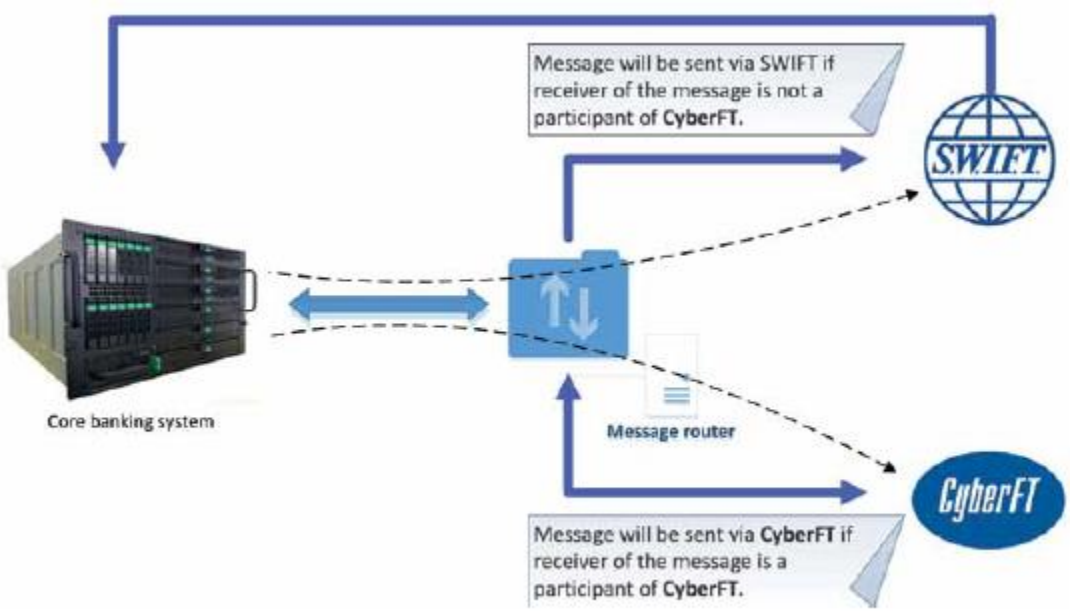
When clients are connected to CyberFT platform, CyberFT client software can operate in parallel with SWIFT. A diagram of interaction between CyberFT and SWIFT systems on the client side is given below.

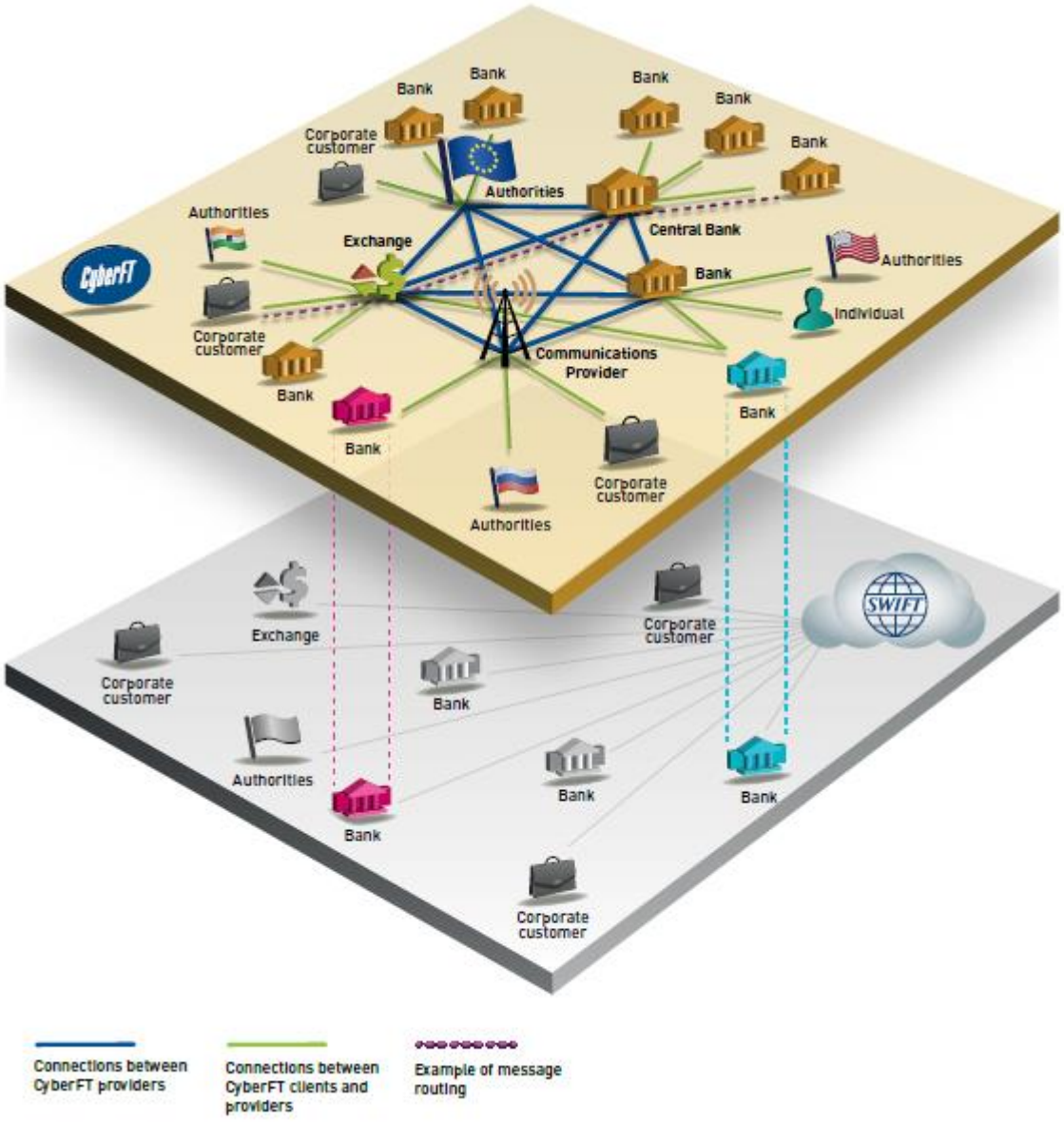
A special “Message Router” module within CyberFT software distributes outgoing messages between CyberFT and SWIFT automatically.

If the recipient of the message is not connected to the CyberFT network, the transaction is carried out through the SWIFT system.

Before using CyberFT

Using CyberFT





At the same time, the client can set flexible parameters that will allow sending outgoing messages strictly to SWIFT, even if the recipient of the message is a CyberFT participant: for example, to certain recipients, or of certain type or category, or above the threshold amount, etc.

When a new participant is connected to CyberFT, the centralized directory of participants will be updated remotely in automatic mode. CyberFT software is provided to customers free of charge.

CyberFT easily integrates with all types of client-side accounting systems and can work together with SWIFT.

ACCESSIBILITY

The fundamental difference between the CyberFT platform and SWIFT is the departure from hardware encryption and the use of software encryption methods only. Connection to the CyberFT network is carried out through a dedicated channel, VPN or public Internet connection, which allows the client to choose a network service provider freely and not be tied to a specific telecommunications operator. Thanks to the approaches taken, if the connection is lost, its restoration will occur through a new channel within one minute automatically.

Interaction occurs in a protected form only through open Internet channels using know-how in the field of processing financial messages. CyberPlat® uses HTTPS data transmission as the main network transport mechanism in its solutions. All transmitted messages are signed with digital signatures.

This mechanism provides CyberFT customers and providers with the ability to connect without performing complex actions associated with setting up network equipment. In particular, this connection method allows you to connect to the CyberFT network through any proxy server.

On the counterparty's side, no additional network devices or, in most cases, no changes to the network security policy are required. The absence of additional approvals and engineering works ensures a high connection speed and makes it available for everyone.

Over the course of 20 years of operation of the CyberPlat® system, more than 12 billion messages have been transmitted through open channels using software encryption methods without a single case of hacking; this is why the interaction between the client and the processing in CyberFT is carried out via any Internet channels without any special equipment. The use of software encryption only and of any communication channels reduce the cost of connection to the CyberFT network dramatically. CyberPlat Company, CyberFT's provider, does not charge a connection fee, and the software is provided free of charge as well.

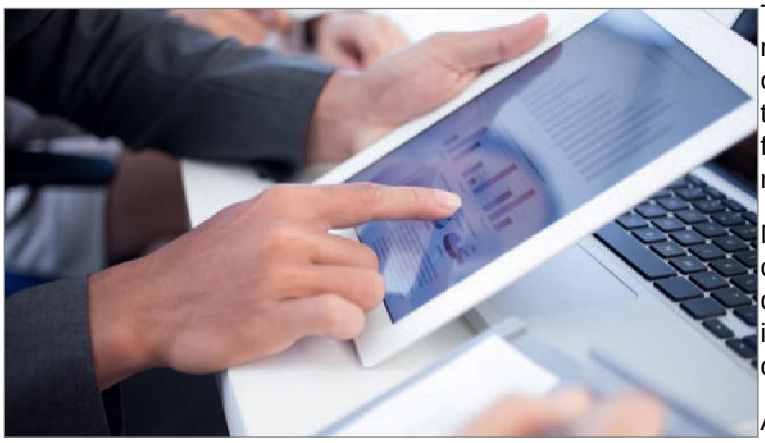
If necessary, dedicated communication channels can be used for making connection. For example, they can be used for payments of significant amounts between especially large customers. CyberFT platform developer recommends the following evaluation parameters.

- If the volume of payments is up to $1 million per day, there is no need for a dedicated channel.
- If the volume of payments ranges from $1 to $20 million per day, the need for a dedicated channel is determined at the discretion of the counterparty.
- If payments exceed $ 20 million per day or the transactions are time-critical (Forex, stock market transactions, etc.), a dedicated channel is recommended. In this case, the connection via the public Internet will be used as a backup communication channel.

The CyberFT system uses interchangeable (connectable) cryptographic information protection systems (CIPF), including OpenSSL and GOST algorithms (based on CryptoPro, Signal-COM, etc.). In addition, CyberPlat® is willing to connect any other means of crypto protection at clients' requests in the shortest possible time — within a few days.

COMPETITIVENESS

For the client, working in the CyberFT network is more efficient and cost-effective than using a foreign counterpart — the SWIFT system.



The transmission of messages in the CyberFT network with the CyberPlat® provider is two times cheaper than the transmission of such messages in the international SWIFT system. At the same time, no fees are charged for connecting to the CyberFT network or service.

Moreover, unlike SWIFT, CyberFT does not charge commissions for additional services such as providing data from the archive or, for example, assigning an identifier to a participant and including it in a centralized directory.

An unlimited number of users can work with the CyberFT client end, and there is no fee for connecting additional workstations. The module for integration with accounting banking systems is also supplied within the CyberFT client software free of charge.

The hardware requirements for working in CyberFT are significantly lower than those established by SWIFT; therefore, using the platform will reduce the cost of maintaining server and telecommunications equipment, as well as the cost of employing personnel servicing said equipment.

CURRENT SITUATION WITH SETTLEMENTS IN THE RUSSIAN FEDERATION

The settlement system currently existing in Russia does not fully meet the needs of the economy for timely payments. Comparing the existing parameters of payments passing through the Interregional Information Processing Center (IIPC) of the Bank of Russia with the experience of other countries in order to illustrate this statement is sufficient.

Market size (capacity)

According to unofficial information, the Bank of Russia processes 600 million payments from commercial banks for a total of 900 trillion RUB per year. Up to 80% of the total number of payments (400 million) are settlements for amounts not exceeding 100 thousand RUB. In total, these payments make up less than one percent of the total turnover (only 6 trillion RUB).

Cost of making payments in the Center for Interbank Settlements of the National Bank of the Republic of Kazakhstan, given in KZT and RUB

Payment processing time	Cost, KZT	Cost, RUB
from 4:00 pm to 9:00 am	9	2.8
from 9:00 am to 1:00 pm	11	3.4
from 1:00 pm to 4:00 pm	22	6.8

Cost of payments for banks

The minimum payment cost for banks is 7 RUB, and the average payment cost is 12 RUB. The total costs of banks for the services provided by the Bank of Russia IIPC for small payments amount to 4.8 billion RUB, and according to the lowest estimates — 2.8 billion RUB. A decrease in this figure will have a favorable effect on the structure of banks' expenses, i.e. increasing the stability of the banking system as a whole.

At the moment, the cost of payment through the Bank of Russia IIPC is:

- from 7 to 24 RUB for per-transaction processing, the duration of payment is from one to several hours;
- 25 or 30 RUB in case of online BESP (does not operate at night and on weekends).

Undoubtedly, the current tariffs are too high and can potentially be reduced by several times — as proved by the cost of similar services in neighboring countries.

Let us consider, for example, the tariff classification of similar services in the Center for Interbank Settlements of the National Bank of the Republic of Kazakhstan. At the same time, all settlements between banks in Kazakhstan are carried out in real time and take no more than a few minutes.

Thus, the cost of an urgent payment in Russia is 3.6 (!) times higher than the most expensive payment in Kazakhstan. Processing of all payments in the Center for Interbank Settlements takes a few minutes, and up to 9 hours in Russia.

This is obviously the case because Russia does not currently have a full-fledged system of online interbank settlements.

It should be noted that the creation of a continuously operating system for processing small non-cash payments has become not only necessary, but also practically feasible. The technological development leads to the fact that the cost of payment processing can be significantly reduced and brought to a level at which it will become available to each and every market participant with no exception (according to our calculations, no more than 1 RUB per payment).

Economy cut for banks will amount to an average of 4.4 billion RUB or at least 2.4 billion according to the most pessimistic forecasts. It should be borne in mind that processing relatively small payments entails much lower risks and, therefore, requires less effort in terms of organizing physical security and payment control. This circumstance makes it possible to isolate this type of settlements within the framework of a separate system, which should be reliable on the one hand, and cost-effective and economically profitable for the participants on the other.

SOFTWARE REQUIREMENTS

The CyberFT platform is designed for mass use by market participants; therefore, minimum system characteristics are required: a simple workstation and a web browser are sufficient for the system to be operated by users.

CyberFT terminal software requirements:

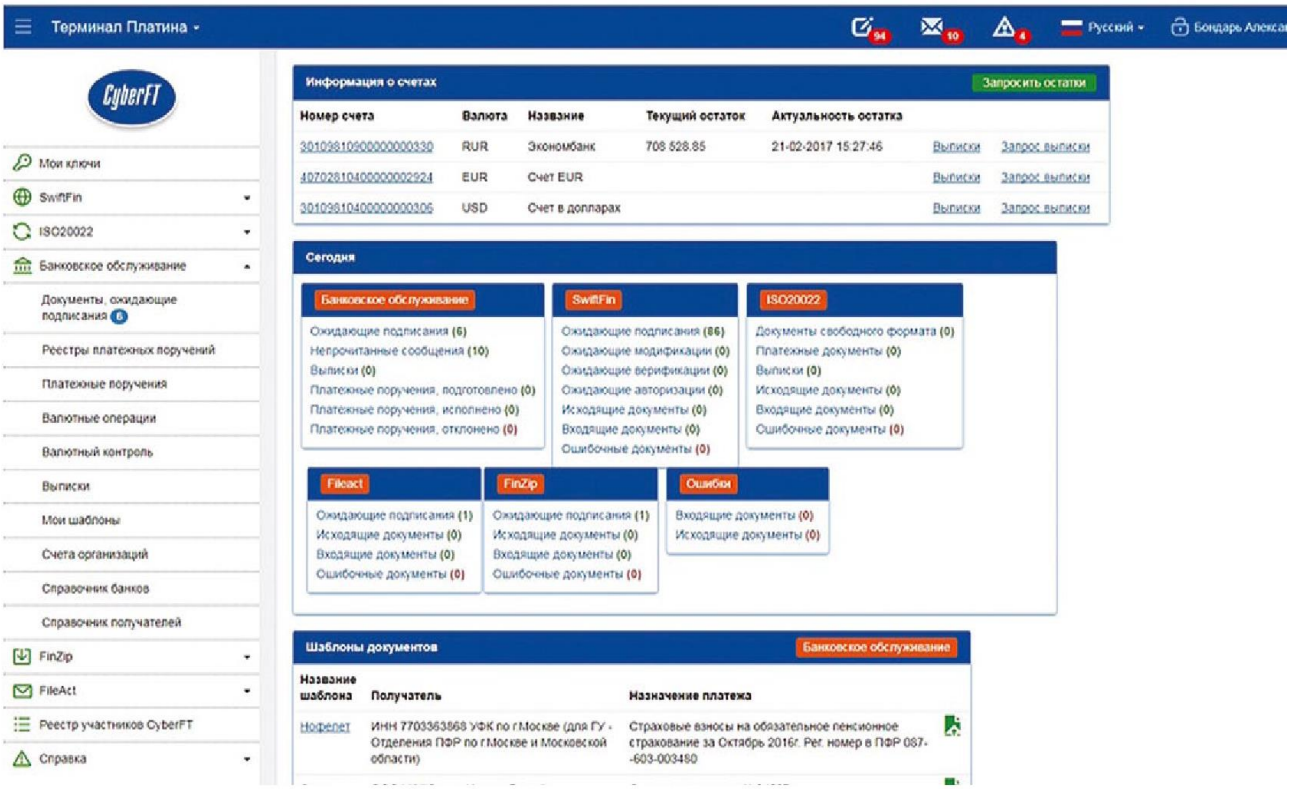
- Debian GNU / Linux 7.6 (wheezy) Release: 7.6;
- ext3 or ext4 file system;
- Installation of software on a virtual machine is possible!
-

CyberFT terminal hardware requirements:

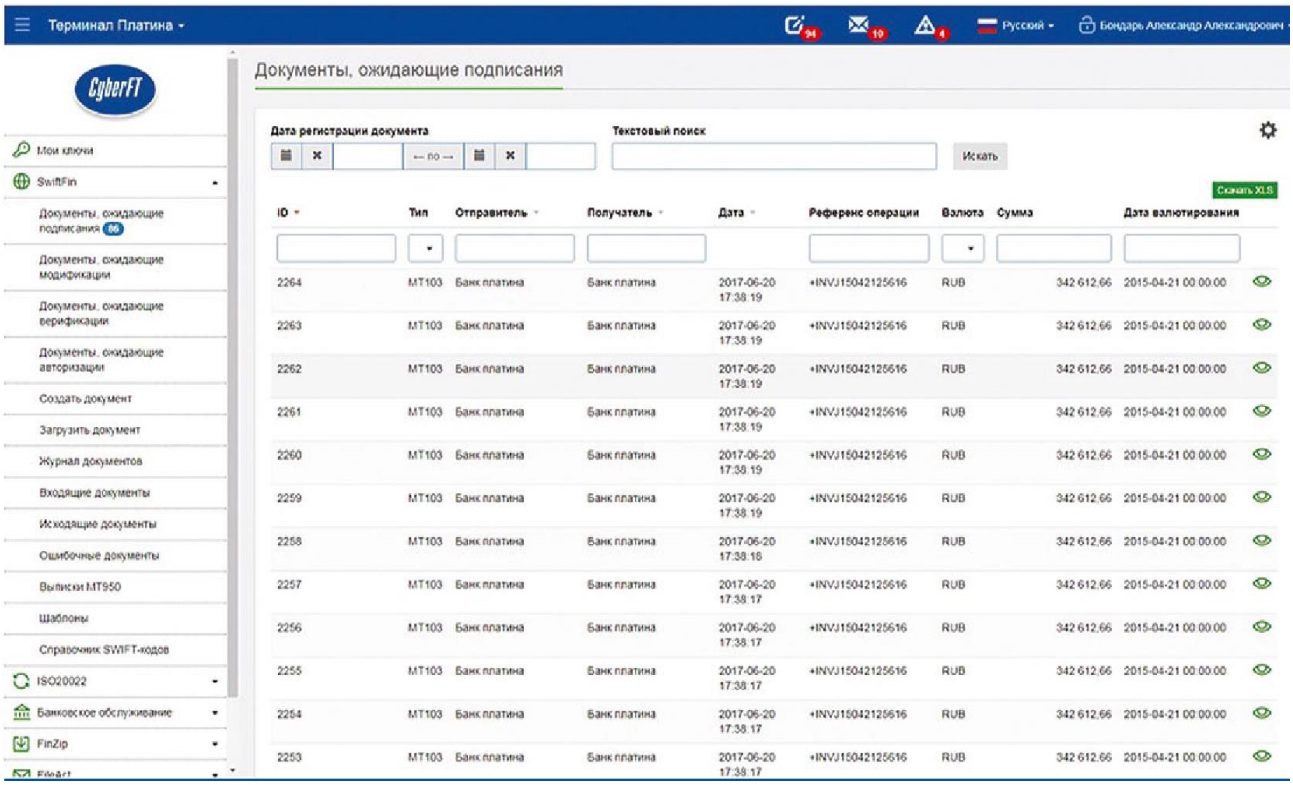
- x86-64 processor architecture;
- At least 4Gb of RAM;
- Multi-core CPU at the level of Intel Core 2 Duo 3.0 GHz or higher;
- Not less than 40Gb of hard disk capacity.

CyberFT terminal

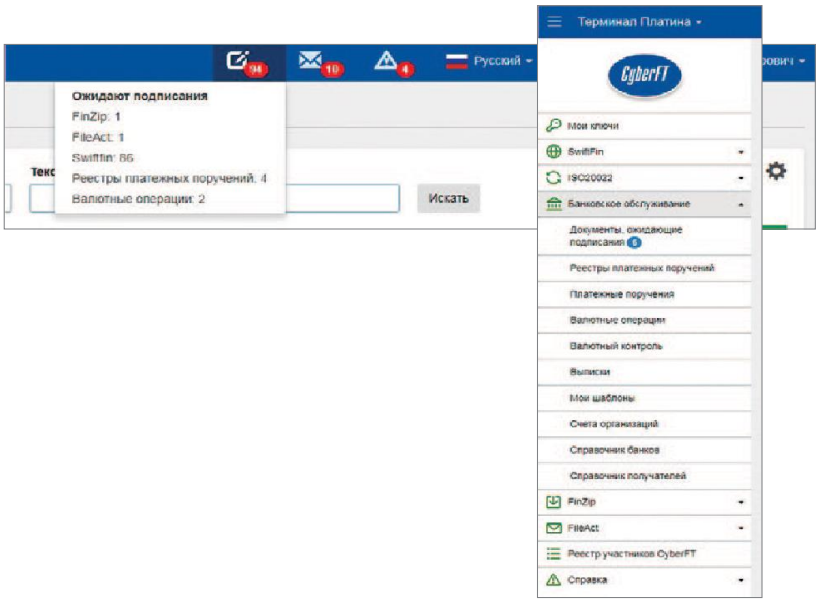
MAIN MENU



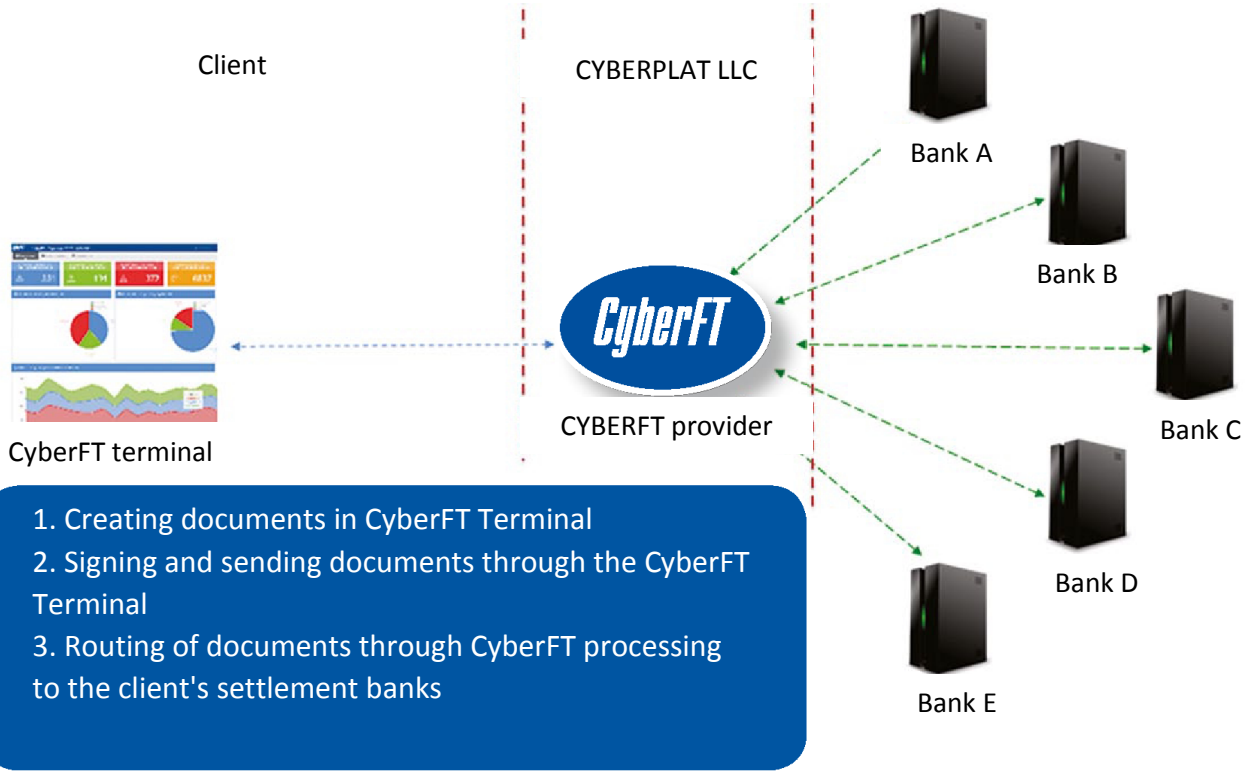
DOCUMENT LOG



WORKING WITH DOCUMENTS

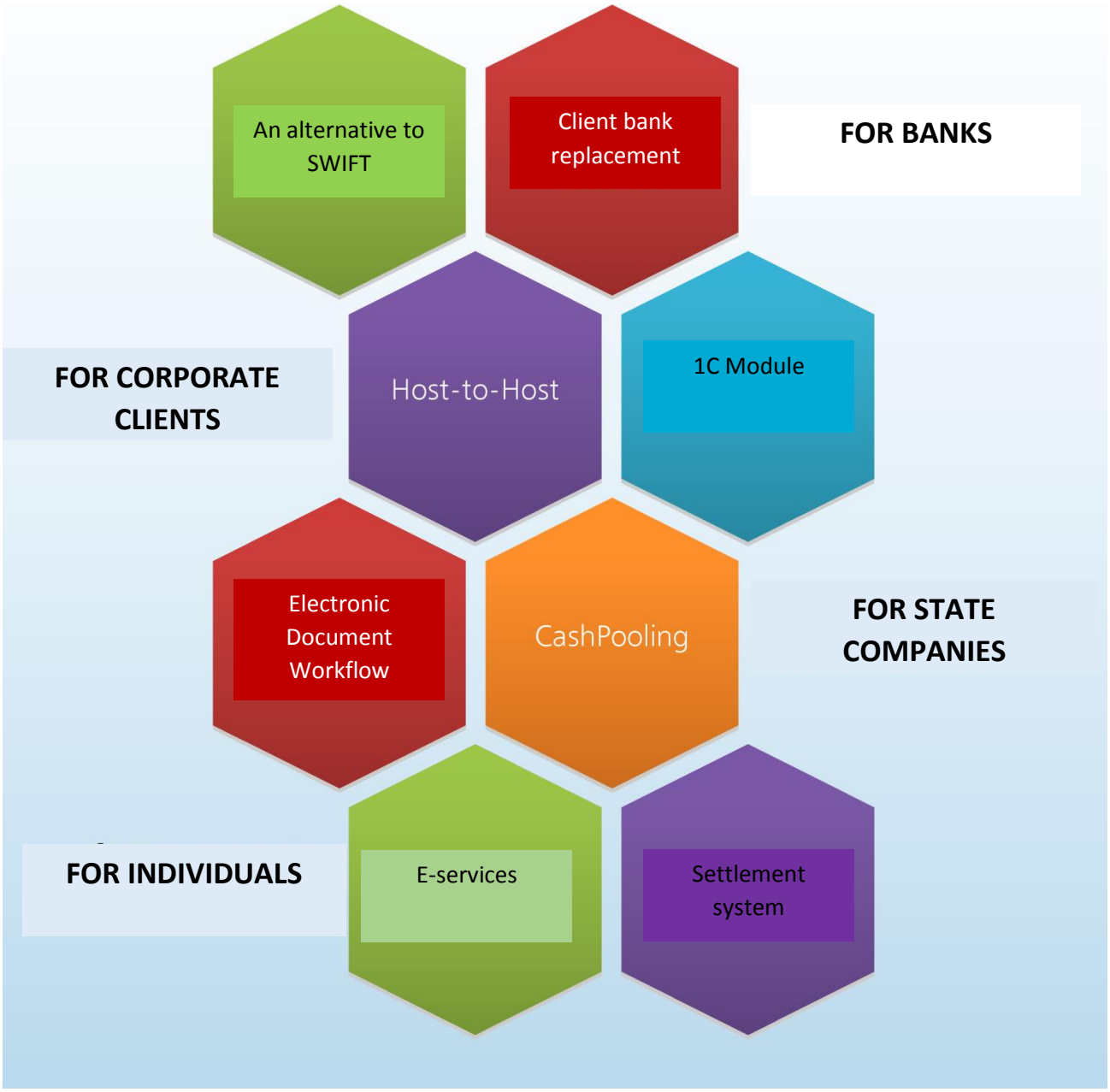


TERMINAL WORK DIAGRAM



* CyberFT terminal can be installed as an application on the client end, or available as a “lean” client

CYBERFT: ONE SYSTEM FOR SOLVING A HOST OF TASKS



A UNIVERSAL SOLUTION FOR INTERACTION OF CORPORATE CLIENTS WITH BANKS

Holding companies use classical remote service systems to manage their accounts in various banks, and large holdings' settlement banks can be counted in dozens. This leads to the result that a holding is forced to service many Client-Bank systems at the same time, which gives rise to a number of difficulties. Additional costs for personnel to manage and support the Client-Bank systems from different banks, as well as hardware and software, are required. Moreover, the functionality of many Client-Bank systems often does not allow organizing a full-fledged remote operation with the bank.

The use of systems of the "Corporation Settlement Center" or "Financial Control Center" level does not help much due to the lack of a universal mechanism for working with different banks.

Even direct integration of the client's accounting system with the bank (Host-to-Host) does not completely solve the problem, since each bank offers the client its own data exchange channel, specific formats and specific means of cryptographic information protection.

Limitations of the classic approach to remote account management

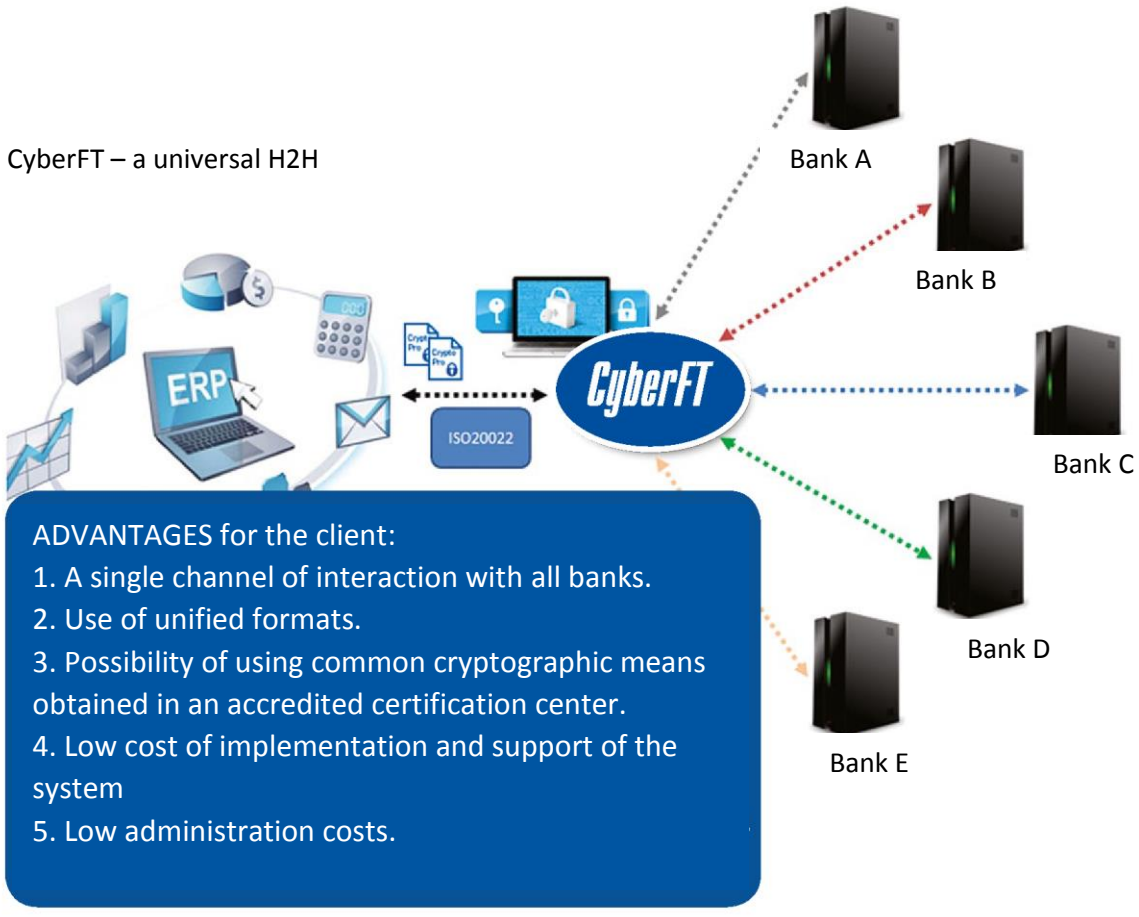
Payment processing time	RBS	CSC	Classic H2H
Number of RBS systems installations	High	Average	Not required
Complexity of administration	High	High	Average
Flexibility	Low	Low	Average
Security	Low	Low	Average
Variability of cryptography used	High	Average	Average
Variability of data exchange formats	High	Average	Average
Standardization	Low	Low	Average
Connection and maintenance fee	High	Very high	Average

UNIVERSAL HOST-TO - HOST

The CyberFT platform allows solving the problems listed above and reducing the financial and time costs for remote banking services by completely abandoning the Client-Bank systems and using a single CyberFT terminal, which provides the following opportunities of:

- organizing a single secure channel for interaction with all settlement banks;
- using common formats for data exchange with different banks;
- easy integrating with client-side accounting systems in various ways;
- using unified means of cryptographic information protection when working with various banks;
- using additional options for remote banking services that are not available when working through the standard Client-Bank systems;
- using the signature keys (enhanced qualified signature) obtained in an accredited certification center.

Currently, the service is widely used to interact with servicing banks by legal entities — bank clients, as well as companies that are part of one of the largest holdings — EVRAZ.

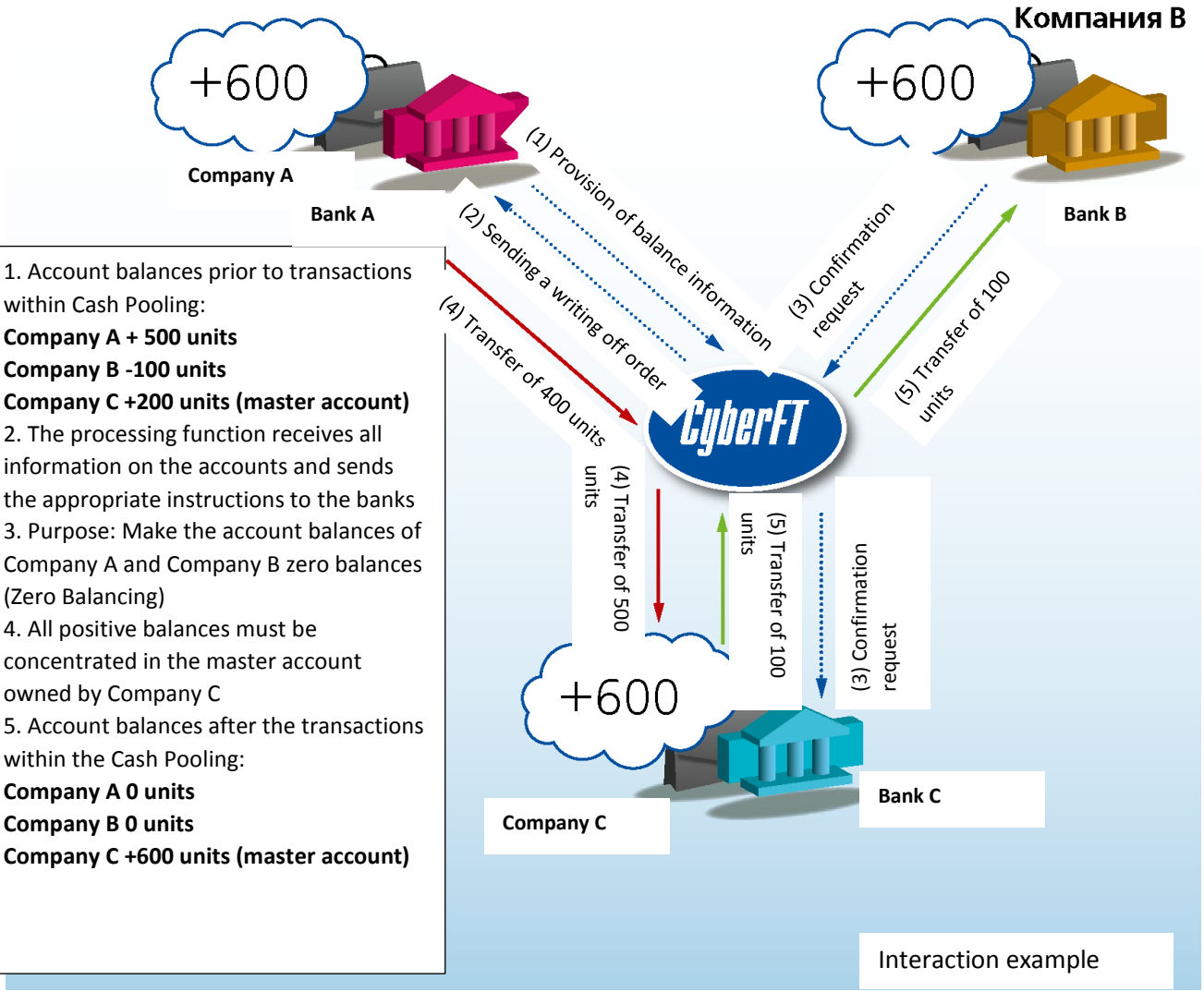


INTERBANK CASH POOLING

The CyberFT system allows organizing interbank Cash Pooling, free of the most important drawback — linking of accounts to a specific bank.

The role of the settlement center, which is usually played by an automated banking system within one bank, is performed by CyberFT processing. Thus, corporate clients receive great capabilities for organizing automatic interbank transfers within a holding or a group of companies.

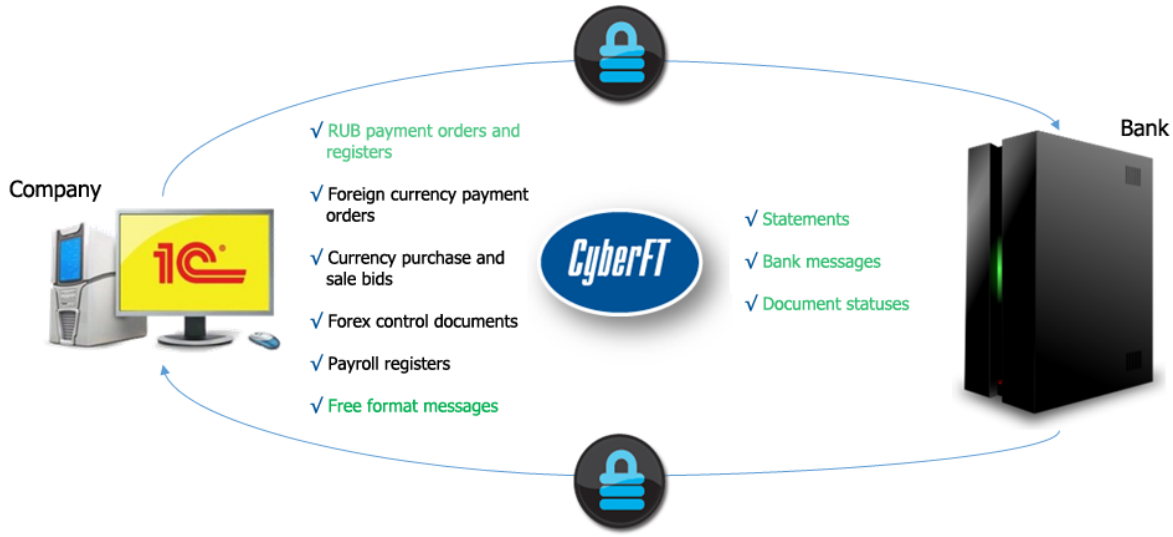
In turn, banks that currently do not provide Cash Pooling or wish to expand its functionality without making significant improvements will be able to use CyberFT capabilities for these purposes.



CYBERFT 1C PAYMENT MODULE

The CyberFT 1C payment module allows customers to create, sign and send to the bank various payment documents, including ruble and currency transfers, orders for the purchase and sale of currency, currency control documents, etc., as well as to receive statements from the banks, messages, other information on the status of the documents sent, all from the 1C system interface.

CyberFT 1C provides direct interaction with banks, without using such “intermediate links” as the “Client-Bank” system. This significantly reduces the time for preparing and sending documents to the banks, reduces transaction costs and risks associated with errors in the preparation and verification of outgoing documents.

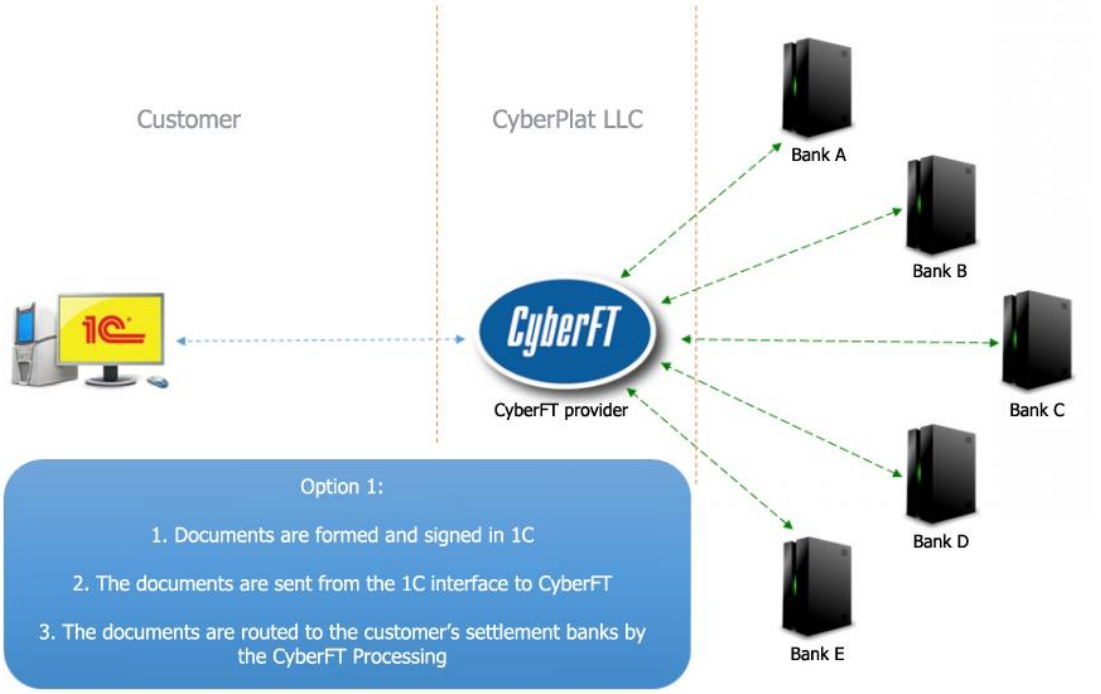


Key advantages of the CyberFT 1C payment module

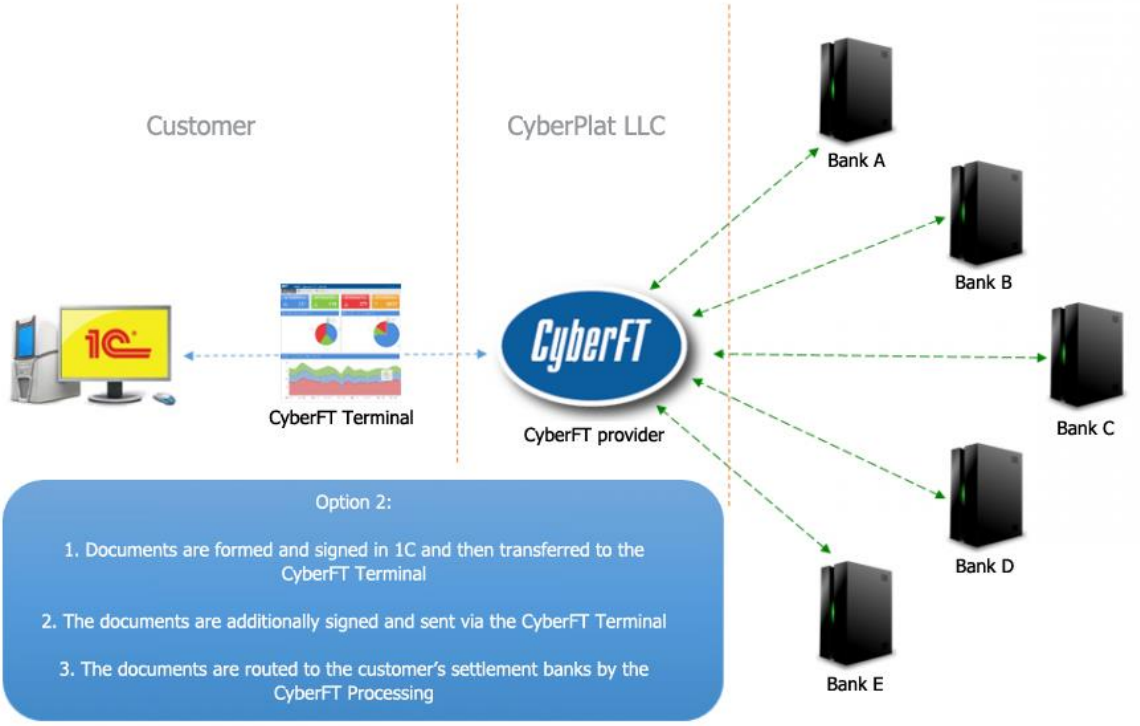
- Compatibility with 1C: Enterprise Accounting 3.0 and the 1C: Enterprise 8.3 platform.
- “Thick” and “lean” versions.
- Universal and full-fledged replacement of all Client-Bank systems.
- High level of security.
- Support for the basic types of documents required to work with banks.
- CryptoPro and e-Token support.
- The ability to work with different banks.
- Various options for integration with banks.
- Working with the list of trusted recipients.
- User rights management.
- Signing documents directly in 1C.

WORK DIAGRAM

Working directly via CyberFT 1C

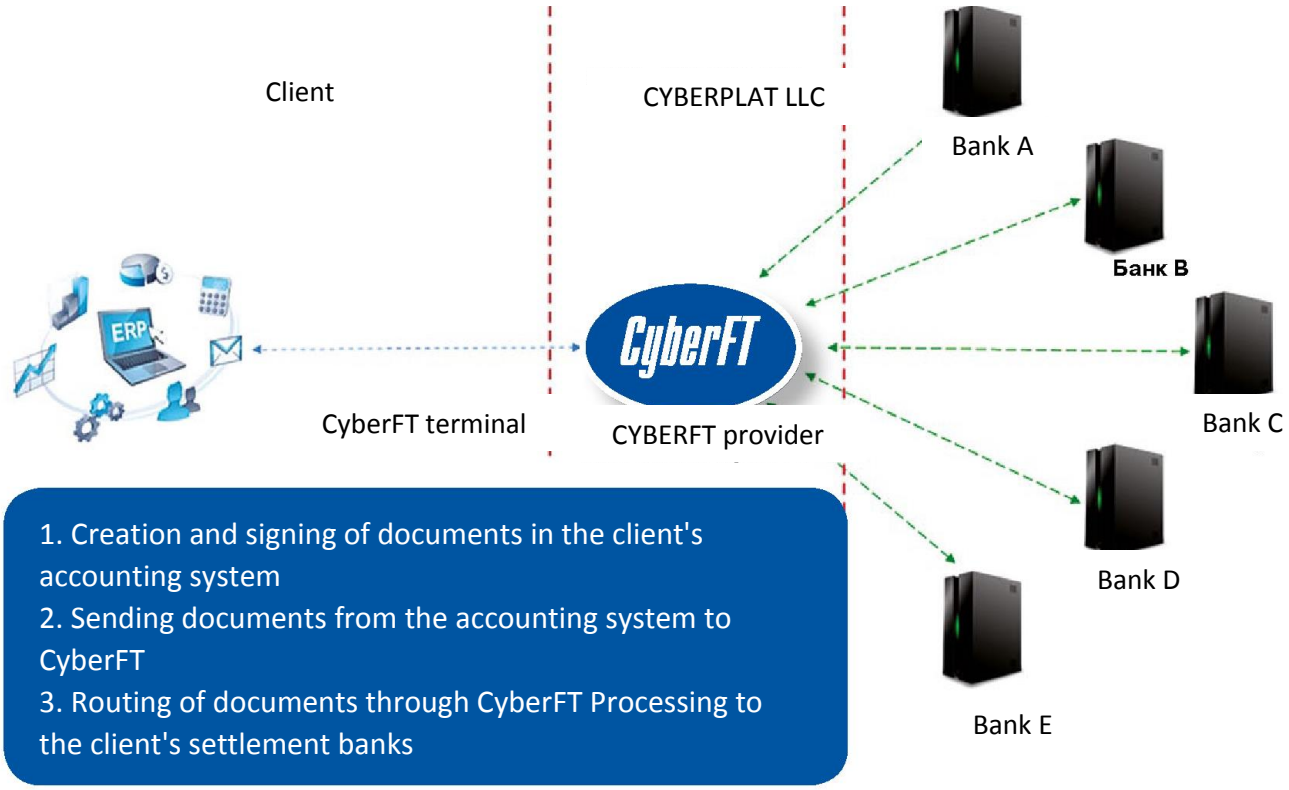


Working via CyberFT 1C + CyberFT Terminal

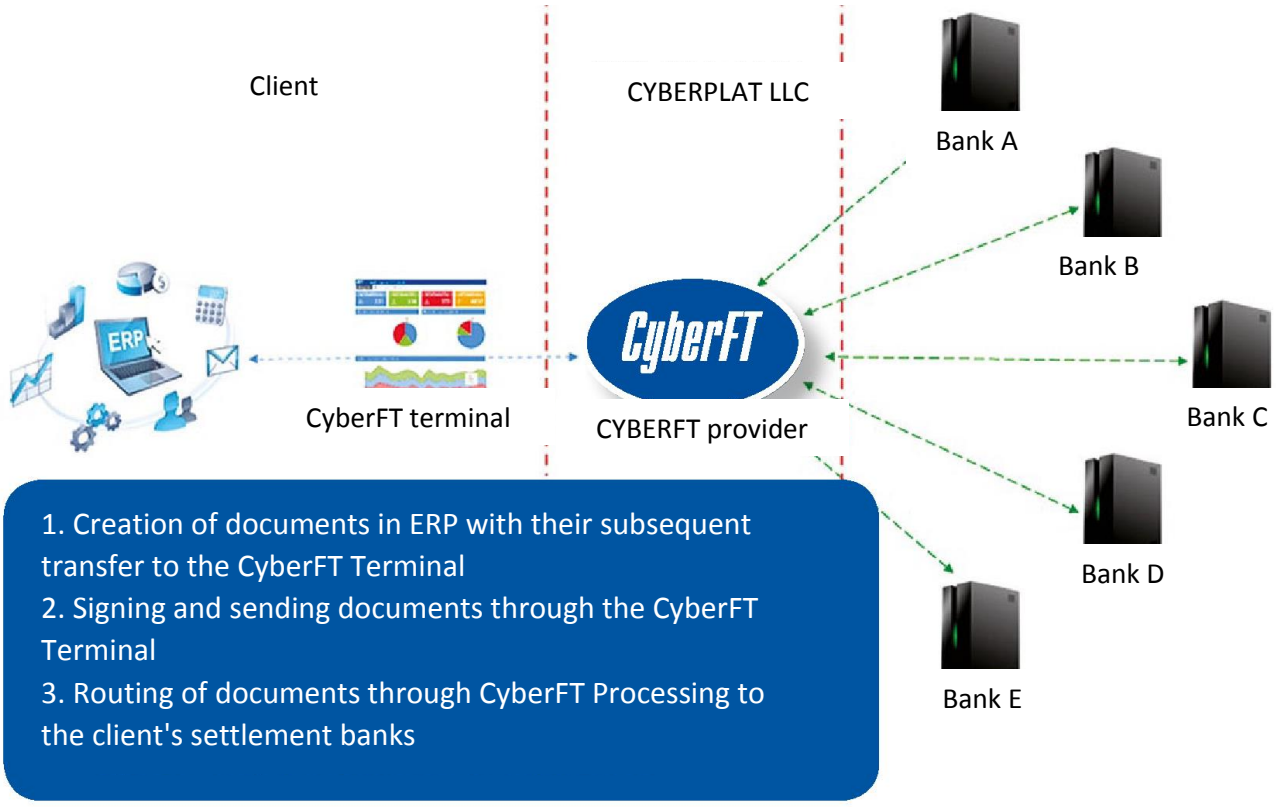


ERP WORKING DIAGRAM

Opinion 1



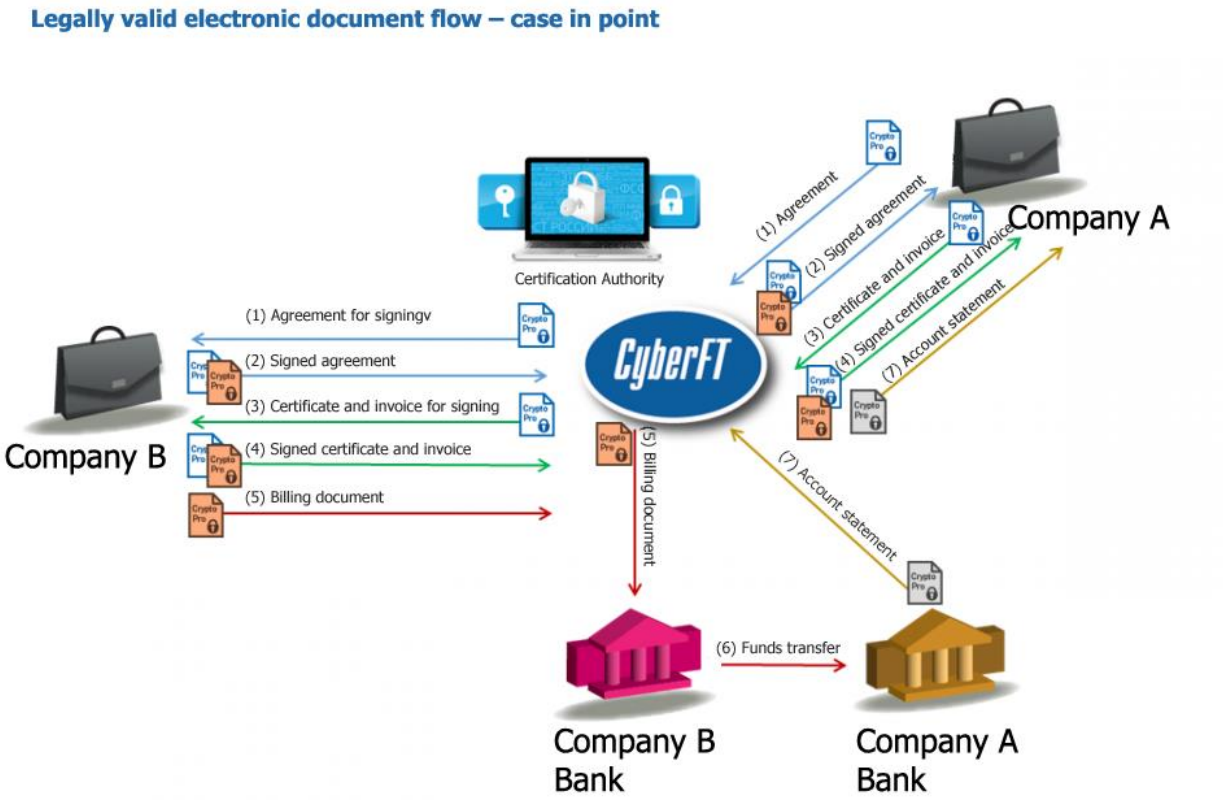
Opinion 2



LEGALLY VALID INTERCORPORATE ELECTRONIC DOCUMENT WORKFLOW

Companies can interact through CyberFT not only with banks, but also with each other by organizing an electronic workflow of legally valid documents. For example, two participants, having established a trusting relationship with each other, can exchange contracts, invoices and other information necessary for business operations in electronic form.

Also, with the participation of banks, it is possible to build a system of electronic invoicing and payment (e-Invoicing) and interbank direct debit (Direct Debit) on the basis of CyberFT, in which funds will be debited from service recipients to the service provider automatically based on an acceptance given previously.



Notwithstanding the variety of electronic document management systems existing on the market, CyberFT allows covering all corporate clients and all banks not only in Russia, but also abroad. At the same time, the CyberFT Terminal can be integrated with the local electronic document management system operating on the side of the company.

KEY CYBERFT BENEFITS

- Optimization of costs associated with financial transactions and the exchange of documents with counterparties.
- High security standards and guaranteed safety of transmitted information, including data containing commercial secrets.
- Full compliance with the law when conducting financial transactions.
- Fast and low-cost implementation and deployment.
- Various connection options, taking into account the features of the organization and the requirements for the level of security.
- Availability 24x7.
- Absolute independence from the foreign policy situation.
- High fault tolerance of the system.
- Online transactions.
- Support for modern data exchange formats, including SWIFT InterAct, SWIFT FileAct and SWIFT Fin (all documents of the MT category).
- Flexibility and scalability of the system both in the field of data exchange formats and integration with cryptographic libraries and support for data transmission channels.
- System use multivariance: from a closed group of banks to interaction at the international level.
- Ability to create a whole range of new services for bank customers.
- Instant financial transactions.
- Ability to conduct financial transactions outside the business day.
- Electronic document flow of legally valid documents for bank clients.
- Integration with ERP, accounting or book-keeping systems of the client and building a universal Host-to-Host solution.
- Opportunity to switch to a single channel for interaction with banks (Host-to-Host) and to abandon traditional Client-Bank systems for corporate clients.
- Possibility of organizing interbank physical Cash Pooling, and much more

EFFECT FROM CYBERFT IMPLEMENTATION

The expected effects from the system implementation will primarily be seen in the retail banking market and small and medium-sized business segment coverage. In addition, CyberFT allows creating a platform that will help increase the amount of payments and reach a fundamentally new level of settlements.

For the retail banking market

Development of the retail banking services market has reached a level where banks need to provide their clients with the services of the highest possible level in order to compete effectively. For example, loan holders expect that cash lodgements made in any way convenient for them will instantly remove their claims from the bank. Depositors prefer to work with banks in which the funds deposited appear in the account instantly.

Thus, a system meeting modern requirements for prompt money crediting with reasonable transaction costs will immediately become sought-after.

When the problem of issuing change to the end user in making payments between banks is solved, the Bank of Russia will support the development of this payment system segment.

For the small and medium business market

A key problem of small business development is the absence of any limits imposed on the counterparty. At the same time, the level of trust of counterparties to each other when buying and selling goods or consumer services is extremely low, especially outside Moscow and St. Petersburg. The risk of losing assets and profits for a small business is extremely high, because the unfair behavior from the counterparty can jeopardize the very existence of its business.

For example, a vehicle loaded with grain is waiting at the silo until the silo receives money for the shipped goods. And even if the payment is sent before the vehicle arrives, route processing can take several hours, which are several hours of the driver's work. Moreover, a delay in the delivery of grain, even within a few hours, can affect the operation of the entire flour mill or bakery.

Impossibility of making non-cash payments during all the working hours of outlets, that is, around the clock, seven days a week, is one of the problems of retail and small-scale wholesale businesses. Sales revenue that accumulates over the weekend cannot be used to pay for new small-scale wholesale supplies of goods necessary to maintain the product range.

In the absence of sufficient trust between wholesalers and retailers, the former expect payment prior to shipment, and the latter are often not willing to make advance payments of large amounts of money prior to delivery. This problem is especially exacerbated during holidays, when the trade turnover objectively grows, and the number of bank vacation days increases. To maintain their turnover, retail outlets are forced to apply for loans from banks in advance in order to build up their stocks. However, securing a loan is not always possible and is quite expensive, and the accumulation of stock balances is unacceptable when selling perishable products.

The problem of trust has long been resolved in the settlements of retail stores with individual customers. Payments are made in cash or by bank transfer using credit cards. In practice, settlements between retail outlets (especially small ones) and suppliers also have a tendency to gravitate towards cash. In this case, cash is entrusted to non-specialized persons (drivers, freight forwarders). This situation objectively hinders the development of cashless payments, giving rise to criminal risks and creating grounds for abuse of cash that is unaccounted for.

In addition to solving many other urgent tasks, CyberFT platform allows to solve the described problem of retail chains in a highly efficient manner, accelerate the turnover of funds and lead to an increase in retail turnover by 5-7%.

CyberFT platform for authorities departments, public and private company

CURRENT SITUATION WITH INTRA- AND INTERDEPARTMENTAL DOCUMENT FLOW IN RUSSIA

Currently, the issue of interdepartmental electronic interaction within the Russian Federation does not have a centralized solution, since IEDM (Interdepartmental Electronic Document Management (Resolution of the Government of the Russian Federation on the approval of the regulation on IEDM No. 754 dated 22.09.2009) to be operated by the FSO, is still at the stage of its creation (only the message standard — PDF/A has been agreed) — and a test operation with involvement of the Ministry of Industry and Trade, the Ministry of Economic Development and two or three other structures is underway. At the same time, IEDM is in fact only a secure interdepartmental e-mail service. The issue of integration with heterogeneous EDM systems used in various organizations (at least at the level of maintaining an agreed format) is still being discussed. In addition to difficulties of integration at the stage of test operation, significant technological limitations were identified, in particular, the impossibility of transferring large amounts of information in a single message (over 0.5MB).

The absence of an efficient IEDM does not allow departments and organizations ensuring the fulfillment of the requirements of said Resolution when organizing exchange of official information having high commercial value or security classification. Publicly available postal services, which are used in such cases, multiply the risks of losing official information and are prohibited from use by the competent authorities when transferring data containing state secrets.

Quite often, government bodies and other agencies are forced to resort to use the courier services for sending secret information. This method of transferring critically important data dramatically slows down the process of making responsible decisions, and also significantly increases the cost of such information exchange.

The current systems for the transmission of secret data permitted for use, first of all, are not sufficiently widespread, and secondly, do not allow the transmission of a large amount of information, for example, maps or telemetry. In addition, they are based on hardware data protection, which no longer meets the existing risks and carries significant threats of decryption of the intercepted messages by malevolent intruders.

Local solutions for interaction between government agencies are based on portal solutions and do not stand up to criticism from the viewpoint of the security level. Such portal solutions are quite often protected only by the user's password and, unfortunately, do not support digital signatures and, consequently, cannot serve for the exchange of legally valid documents. Moreover, the use of portal technologies does not allow the use of these solutions for automated interdepartmental interactions. With the current volume of interdepartmental communications, one can find it difficult to imagine that each message for communication between departments is entered in the portal web interface; therefore, the need for an integrated solution for the interaction of existing information systems of departments is obvious.

The unified Interdepartmental Electronic Interaction System (IEIS) has been operating since 2013, contains 83 regional nodes and the central hub, more than 600 participants, 7 data centers, operated by Rostelecom. IEIS (according to Federal Law of July 27, 2010 No. 210-FZ “Concerning the Organization of the Provision of State and Municipal Services”) is, in fact, a data bus to which the accounting systems and EDM systems of participants are connected. Due to the fact that the SOA architecture of the system is implemented based on 84 Oracle ESB buses, the security issue of this solution also raises serious concerns.

CYBERFT PLATFORM — AN ELEMENT OF NATIONAL SECURITY GUARANTEEING SAFETY OF IMPORTANT STATE INFORMATION

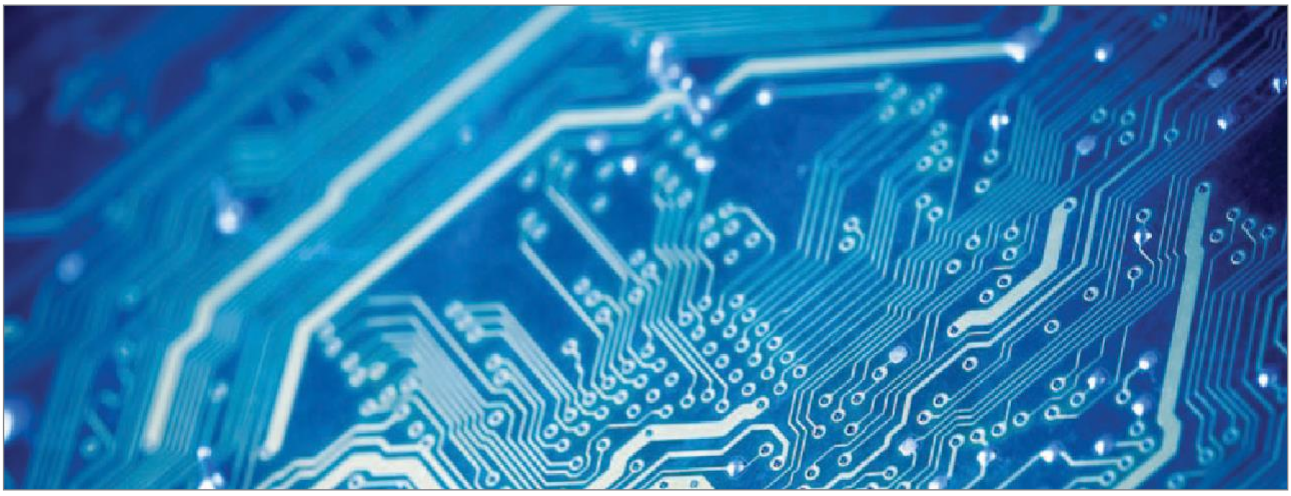
In this situation, the dire need of the state and commercial structures of the country in a modern online information exchange system that can become the basis for a secure document flow of any degree of secrecy is obvious.

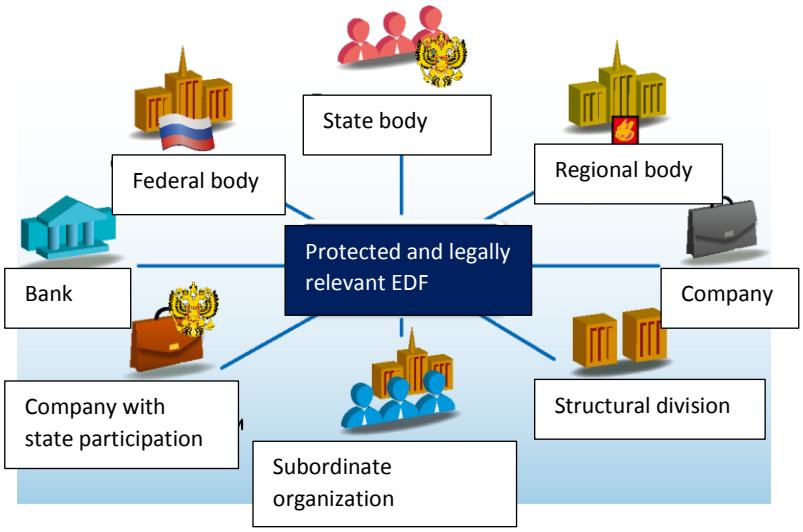
This system must be:

- relatively simple;
- inexpensive;
- performance-critical;
- easily scalable;
- with a high bandwidth;
- based not on hardware, but on software methods of data protection with the ability to quickly change crypto libraries.

CyberFT platform fully meets these criteria, allowing government agencies and other participants in the workflow:

- carrying out information exchange in full compliance with local legislation;
- fully protecting the information transmitted from foreign policy threats;
- guaranteeing the safety of information containing state and commercial secrets;
- organizing electronic document flow of legally valid documents between government bodies and other participants;
- optimizing costs and increasing the speed of information transfer.





In simple terms, the CyberFT platform can be seen as an alternative to the Internet. However, the fundamental differences between CyberFT and the World Wide Web are the guaranteed identification of participants and the exchange of structured information in an encrypted form.

Prior to the speeches of Edward Snowden and Julian Assange on mass surveillance and information leakage, not all government agencies were well aware of the level of electronic and computer intelligence of developed countries and private intelligence companies, and they did not contemplate enough the danger of hostile influence on the exchange of data containing confidential information.

The use of the CyberFT platform is an effective way to implement a protected and legally valid interaction between the authorities, ministries and departments of the country, both with each other and with commercial, public and other organizations.

CyberFT allows forming a network of an unlimited number of agencies which are organizers of information exchange (CyberFT providers). The CyberFT platform is deployed at the provider's site and is independent of its developer — CyberPlat®.

The CyberFT provider can serve all of its structures and their counterparties within its footprint in the regions, or work within separately selected organizations controlled by the department or their groups.

Departments can communicate with each other through a cross-platform communication service controlled by a responsible department official who gives users from one department the right to correspond with another department.

Unlike other systems operating on the world market, all software is developed by Russian specialists (has license and patent independence). All servers of the CyberFT platform will be located in the secured perimeter of the provider;, therefore, the probability of leakage of government and important commercial data in electronic document flow is sharply reduced.

LOCAL LAW ENFORCEMENT INSTRUMENT

For government agencies, CyberFT is a software platform implementing a secure data highway for the transmission of all generally accepted types of messages for intradepartmental, financial and commercial electronic document flow management that functions in accordance with the order of the Ministry of Telecom and Mass Communications and the Federal Security Service (FSO) dated September 22, 2015 “On Approval of Requirements to the Organizational and Technical Interaction between Government Agencies and Government Organizations through the Exchange of Documents in Electronic Form” and meeting a number of requirements:

- to the electronic document file formats, as well as electronic document image files that support the transfer of electronic documents in the form of files of any format, including the PDF/A-1 format defined by the international standard ISO 19005-1: 2005, as well as ISO 20015 and ISO 20022
- to the enhanced qualified digital signature using a specialized PKCS # 7 format;
- to the transport containers and the possibility of converting containers from one type of presentation to another in the process of creating, processing and storing documents.

SECURE INFORMATION EXCHANGE TOOL

The CyberFT solution assumes that both dedicated communication channels and open Internet channels can be used for documents of the “for internal use only” and “secret” level of sensitivity. At the same time, the technology ensures the creation of an encrypted channel between messaging points. These channels transmit encrypted messages signed with an digital signature.

The bulk of the transmitted information can pass through open Internet channels and/or dedicated channels of the department in a protected form by using the know-hows in the field of processing secure messages.

In its solutions, CyberPlat® uses a data transmission method as the main network transport mechanism, where all transmitted messages are signed with legally valid digital signatures and transmitted over the network in cryptocontainers with a key length of 2048 inside an SSL tunnel.

Recommendations on using the Internet, VPN and dedicated communication channels

	For internal use only	Secret
Internet	Yes	In case of an accident with a more secure type of connection and a strong need to urgently send a message
VPN	Possible, but not necessary	Yes
Dedicated channel or specially protected line	Possible, but not necessary	Possible, but not necessary

BASIC STRATEGIC PRINCIPLES AND CAPABILITIES OF THE CYBERFT NETWORK

CyberFT platform is a convenient and absolutely secure solution based on the following principles:

- self-reliance;
- continuity;
- security;
- identification of each user;
- structuredness of the transmitted data;
- compatibility;
- versatility;
- availability;
- extendability.

CyberFT platform provides:

1. Construction of a secure and reliable system of electronic interaction and workflow.

2. Online messaging — the equivalent of a closed legally valid e-mail service with confirmation of receipt.

3. Transfer of data in full compliance with federal, local and departmental regulations using certified cryptographic information protection tools:

- encryption of messages and signing with digital signatures (ESs);
- support for interchangeable CIPFs, certified by the appropriate government agencies, including OpenSSL, CiyptoPro, SignalCOM, Agava, etc., as well as support for enhanced qualified digital signatures in accordance with the requirements of Federal Law No. 63-FZ “On Digital signatures”;
- using HTTPS protocols (TLS tunnel) when transferring data;
- VPN and dedicated communication channels support;
- ability to transfer software-encrypted messages through open Internet channels using encrypted tunnels that do not allow decryption, in case of emergency unavailability of dedicated channels.

4. Use of modern standards, regulatory requirements and the ability to customize your own message formats, as well as the order of exchange and processing.

CYBERFT NETWORK’S DISTINCTIVE FEATURES

Multiple provider system

CyberFT platform for authorities, departments, public and private companies is deployed at the provider's site and is independent of CyberPlat®. CyberFT provider can serve or work within a separately selected state structure.

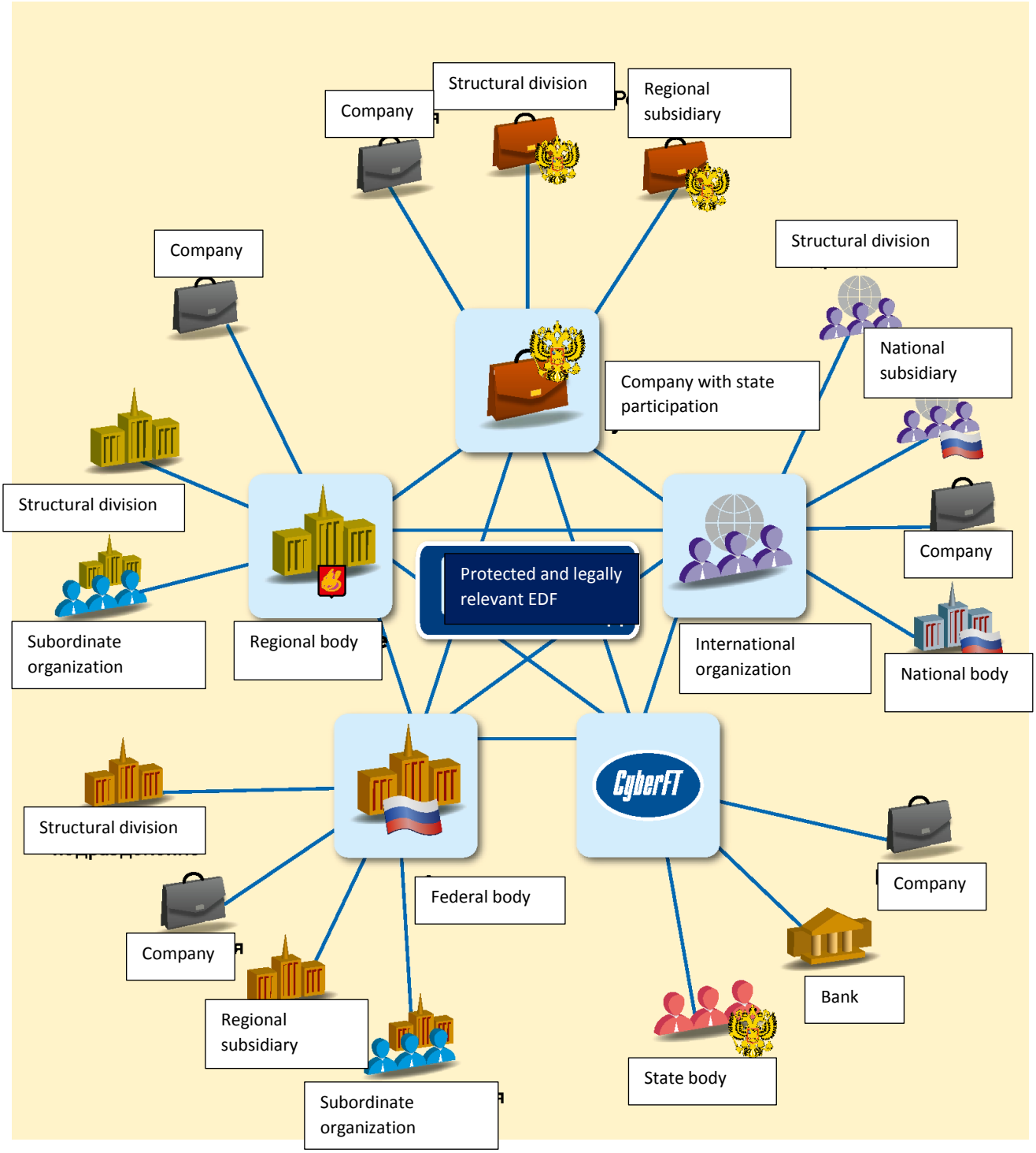
Both state bodies and other organizations can act as CyberFT providers and participants. Each participant is assigned a unique CyberFT network identifier.

The directory of network participants is available to each participant and is updated automatically on a centralized basis. The identifier is unique not only within one provider, but throughout the whole CyberFT network. Thus, a member with a specific identifier can only be connected to one provider, which ensures the integrity of the network.

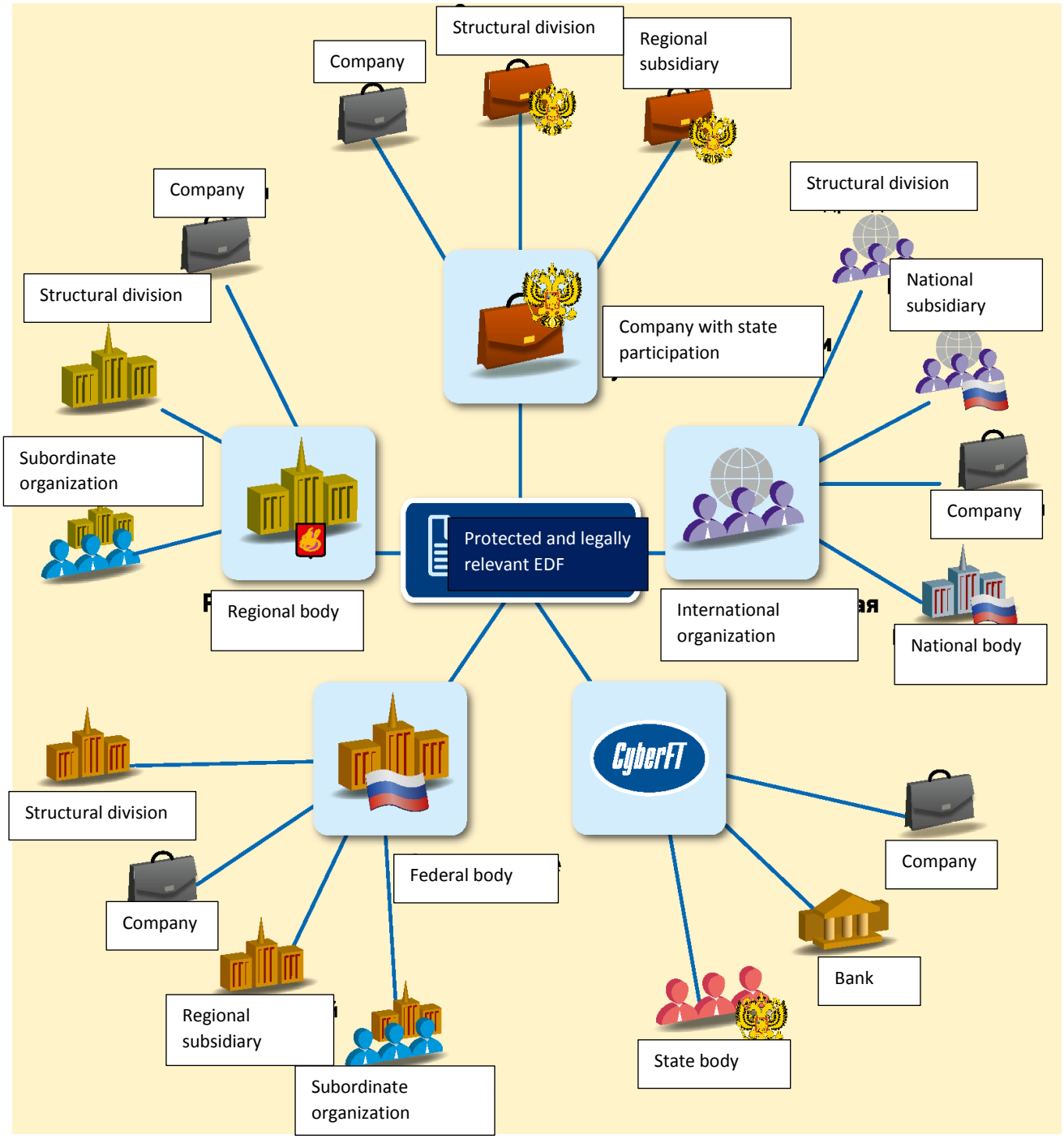
Information on the processing of each message is logged on the side of each provider participating in its transmission. Moreover, the messages themselves are stored together with the sender's digital signatures on the side of the sender, recipient and provider for an unlimited period of time (on the provider's side, all messages are stored in an encrypted form, and their content is not available to the provider). Thus, each participant in the information exchange process has full legally valid electronic documents.

CyberFT providers can connect with each other in various ways, based on the complexity of the organizational processes of establishing relationships between providers. Some diagrams are presented below.

1. Everyone to Everyone



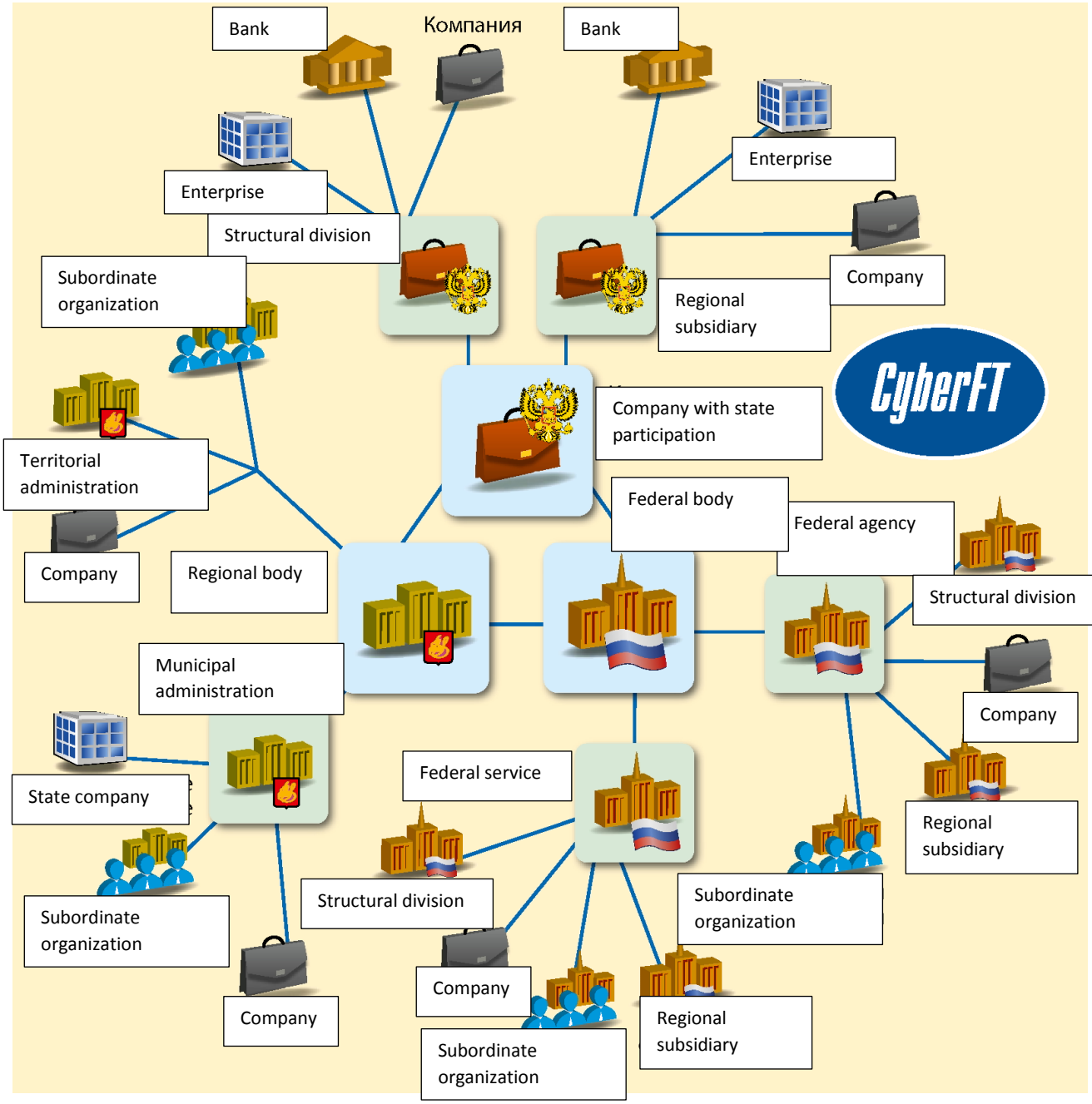
2. Through a centralized CyberFT provider selected jointly



For example, any large body or state organization can become a CyberFT provider and connect geographically remote subdivisions, subsidiaries and other participants in their workflow. To exchange data between participants connected to different providers, these providers enter into an agreement with a single provider (for example, a ministry), which is responsible for routing messages between them.

On the one hand, such a network topology greatly simplifies the organizational aspects associated with establishing relations between providers, and makes it possible to work through a single organization (central provider) trusted by all participants. On the other hand, in the event of a failure on the side of the central provider, communication between network participants becomes impossible.

3. Through a group of interconnected CyberFT providers



Despite the more complex organizational processes of establishing relations between providers, this version of the network topology has increased fault tolerance.

In case of technical issues arising on the side of one of the central providers, communication between all CyberFT network participants will not be disrupted.

Compatibility

CyberFT network members can also interact with other contractors connected to other IEDM networks. An example of such interaction is shown in the diagram below.

CyberFT software allows quick integration with most electronic document management systems used in various departments, supporting the main document formats, which simplifies the process of uploading and downloading documents onto/from the participants' internal information systems.

When a new participant connects to CyberFT, the centralized directory of participants will be updated remotely in automatic mode.

CyberFT software is provided to customers free of charge.

Accessibility

Connection to the CyberFT network is carried out through a dedicated channel, VPN or public Internet connection, which allows the client to choose a network service provider freely and not be tied to a specific telecommunications operator. Thanks to the approaches taken, if the connection is lost, its restoration will occur through a new channel within one minute automatically.

The whole interaction occurs in a protected form only through open Internet channels using know-how in the field of processing financial messages. CyberPlat® uses HTTPS data transmission (TLS-tunnel) as the main network transport mechanism in its solutions. All transmitted messages are signed with digital signatures. For example, messages of S level can pass through them.

The system uses interchangeable (connectable) cryptographic information protection systems (CIPF), including OpenSSL and GOST algorithms (based on CryptoPro, Signal-COM, etc.). In addition, CyberPlat at the requests of partners and clients is willing to connect any other means of crypto protection in the shortest possible time — within a few days.

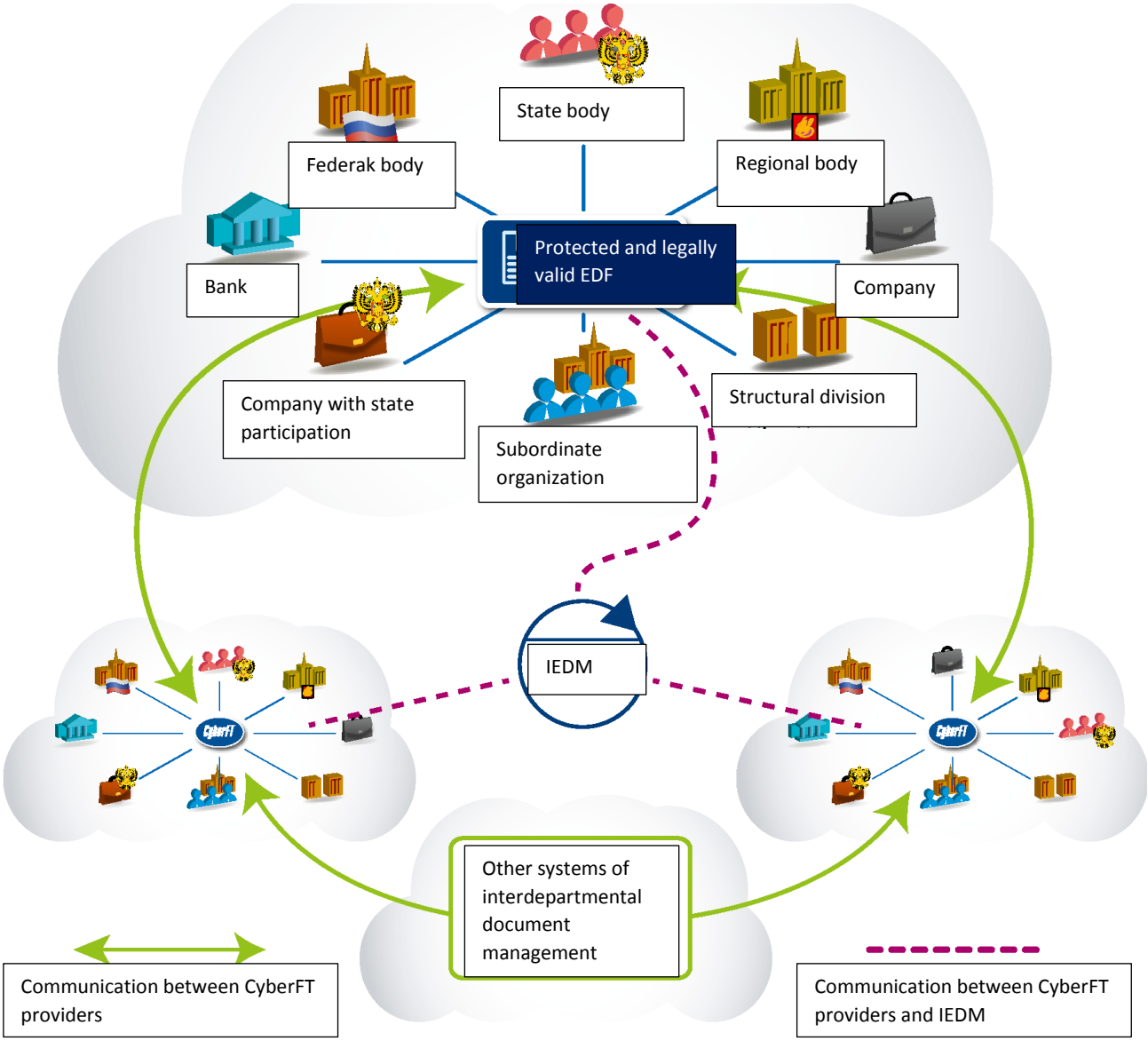
Competitiveness

The fundamental difference between the CyberFT network and other solutions that can be used as a medium for interdepartmental electronic document management is its operational readiness at the moment, low cost and efficiency of use, as well as the highest level of security and protection.

It should also be noted that the hardware requirements for working in CyberFT are significantly lower than those established by other IEDM developers; therefore, the operation of CyberFT allows reducing the costs of maintaining server and telecommunications equipment, as well as the cost of employing personnel servicing said equipment.

Flexibility

As part of a universal transport solution, the CyberFT network has the capability of integration with most electronic document management systems used in departments. The application of this approach allows optimization of business processes involving the exchange of documents with government authorities (including interaction with the state IEIS system), as well as interdepartmental communications.


State body
Federak body
Regional body
Bank
Protected and legally valid EDF
Company
Company with state participation
Subordinate organization
Structural division
IEDM
Other systems of interdepartmental document management
Communication between CyberFT providers
Communication between CyberFT providers and IEDM

Scalability

CyberFT has implemented a service that allows exchanging any structured and unstructured messages, as well as messages containing attachments. As part of the solution offered, it is possible to implement new formats in the CyberFT network within the existing types of electronic messages.

CyberFT platform can be quickly modified taking into account the needs of customers. In particular, it is possible to promptly create new types of electronic documents using the format designer, which makes the CyberFT platform much more flexible compared to its competitors.

EFFECT OF IMPLEMENTATION

- Efficient work in full compliance with the requirements of the legislation of the Russian Federation and accepted standards.
- Maximum operational reliability and security of the information transmitted.
- Coverage of a large number of participants in the interdepartmental document flow.
- Complete independence from the developer company.
- Sending and receiving encrypted messages online.
- Budget savings on infrastructure and network maintenance.

Cyberchange - a unique financial service for retail business banks and service providers

ESSENCE OF THE PRODUCT

“CyberChange” is a state of the art financial technology associated with the use of change left after payment for goods and services in retail chains, shops and small outlets (www.киберсдача.рф).

The amount of change can be transferred in real time to almost any service provider with no cashier’s time wasted using a special CyberChange card.

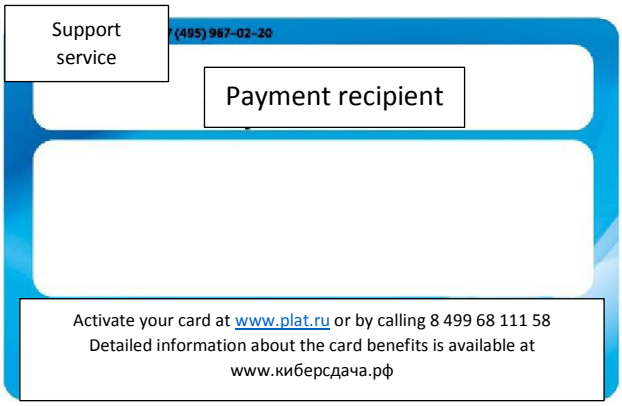
According to expert estimates, there is the most active demand for transferring the change amount to a mobile phone account, bank card, as well as a bank account linked to an Internet Bank-Client, such as Alfa Click, Bank in Pocket, Plat.ru — Payment Book CyberPlat®.

Any person can become a user of the service. In order to implement the service (crediting change or carrying out a targeted transfer of funds to a bank or personal account with a service provider), you must first obtain an inactive CyberChange card and activate it. In the process of activation, the card number will be assigned a template containing payment details, for example, a service provider code and a mobile phone number, or a bank code and a bank or personal account number and a mobile phone number. The set of data is transferred to the CyberPlat® system and further serves as an electronic template for making transfers automatically, without entering any details.

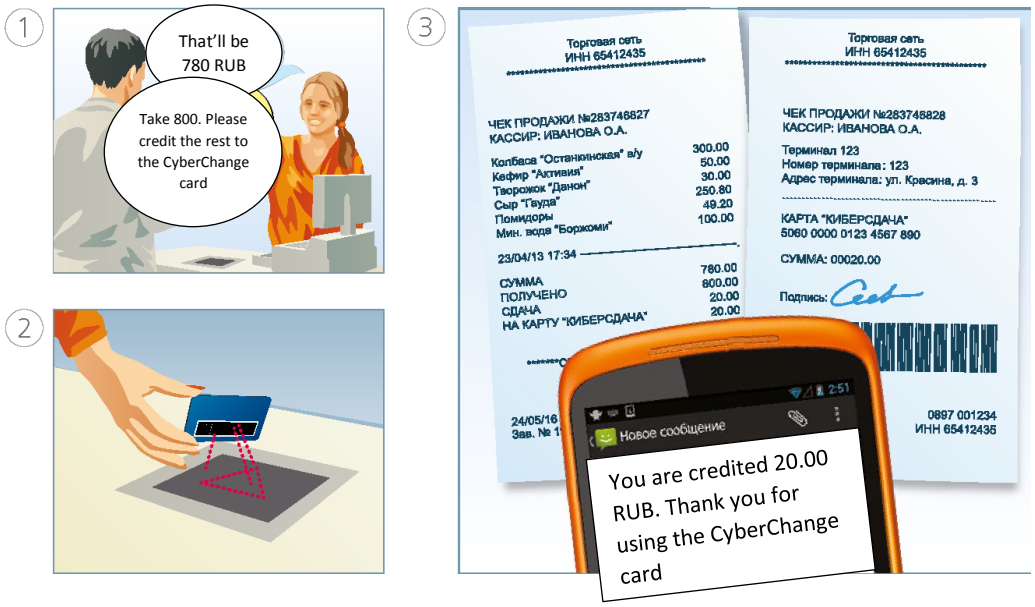
To carry out transactions below the minimum payment threshold, a “Payment Book” of Plat.ru is automatically created, and the change amount is credited there.

CYBERCHANGE CARD

The CyberChange plastic card is the same size as standard bank cards. It bears a 19-digit card number and a barcode.



GENERAL PLAN OF CHANGE CREDITING



Let us consider a common situation: at the most unexpected moment, your mobile phone is blocked because you have run out of money. You immediately take off looking for the nearest payment acceptance outlet in order to replenish your account in a quick and convenient manner.

You walk into the nearest store of a well-known retail chain and ask the checkout clerk to replenish the account. In response, the checkout clerk offers to make a purchase, and transfer the amount of change to your mobile operator's account. You agree, because you understand that it is “killing two birds with one stone” at the same time: you replenish your account, “revitalizing” your phone, and purchase the desired product as well. As a result, store turnover increases and customer loyalty to the retail network grows.

The amount of impulse demand goods in mini-market chains can account for up to 50% of turnover, and in super- and hypermarkets — for up to 20%.

BENEFIS OF ABANDONING PETTY CASH (COINS AND BANKNOTES) WHEN RECEIVING AND GIVING CHANGE

For payers

- Saving time in queues at the checkout.
- Saving time on replenishing personal accounts with providers of various services, as it is a related operation.
- Relief from the need to use coins which are inconvenient to store in large quantities in pockets or wallets.
- Allows spending money for oneself, and not turning it into “tips” to the checkout clerk, leaving them a small amount of change.
- Reduces the risks associated with the use of unhygienic metal and paper money.

For checkout clerks in retail chains

- Saving working time spent on cashing and calculating petty cash.
- No need to constantly monitor the availability of petty cash at the cash desk and involve a senior manager to change large bills.
- No need to ask buyers to prepare petty cash or pay for purchases in exact amounts without using change.
- Increase in efficiency and comfort of work, increase in the speed of customer service, decrease in queues at the checkout.

For retailer chains

- Increase in turnover of up to 35% within a year from the date of service implementation.
- Reduced number of errors associated with incorrect entry of payment details.
- Acceleration of customer service at the checkout ("CyberChange — high speed of payment” video at: https://www.youtube.com/watch?v=8PXcbqL5Zt0).
- No need to order coins and small bills.
- Reduced delays in the exchange of cash, including for other checkout clerks.
- Fewer refusal to buy due to lack of change and less negative sentiment in queues
- Increase in revenue and savings on checkout clerk wages.
- Creating psychological comfort in the work of checkout clerks and increasing their efficiency.
- Attracting impulse shoppers to the shopping space.
- Organizing marketing campaigns in the form of bonuses on CyberChange cards at the end of the year (quarter) in order to motivate customers and increase their loyalty.

Advantages of the unique «Cyberchange» financial service

For payers

- Fast money crediting.
- Elimination of errors in manual entry of phone numbers and other payment identifiers.
- Preserving the privacy of personal data, since there is no need to tell your phone number for all to hear.
- There is no need to give your bank card to the wrong hands. On the contrary, you can give out a card tied to your number to everyone: “let them put their change on my account”.
- The ability to deposit not only change, but also large amounts (up to 15 thousand RUB) into the account.
- SMS confirmation of the change amount credited.
- The ability to credit the change amount to a bank card, even multiple times, and then withdraw funds from an ATM.

For retail chains

- Elimination of errors in manual entry of phone numbers and other payment identifiers.
- Acceleration of customer service at the checkout (checkout clerks do not waste time issuing change).
- There is no need to order coins and small bills from the bank.
- Savings in collection costs, since collection of coins and small bills is charged at a higher rate by the banks.
- Simple connection: only one CyberChange gateway instead of a group of gateways (Visa Money Transfer, MasterCard Money Send, bank gateways, provider gateways).
- Using information on the buyer (number of the CyberChange card) received during payment for advertising and marketing purposes: drawing up a “portrait” of the buyer, direct SMS mailing via CyberPlat® informing about discounts, expansion of the product range, and much more.
- Expanding the capabilities of own loyalty programs by accruing bonuses and holding motivating promotions.
- Growth in sales of impulsive goods due to the convenience of paying for mobile communications at the checkout.
- Convenient and quick acceptance of “heavy” payments (payment of traffic fines, replenishment of cards and bank accounts, repayment of loans, payment for utilities, etc.) using the CyberChange card attracts to retail chains additional clientele with medium and high purchasing power.

PERFORMANCE ASSESSMENT

Comparative analysis of grocery retail for small and medium-sized stores showed the following statistics

	Medium store	Small shop
Commercial area, sq. m	Up to 1,500	Up to 200
Average number of checkout counters	4	2
Average number of checks per day at the checkout counter, pcs.	460	460
Increase in supermarket traffic from the implementation of the CyberChange project,%	20	30
Average check amount, RUB	359	233
Average change amount, RUB	270	263

Operating efficiency indicators *

	Direct costs (prime cost of goods),%	Indirect costs (staff salaries, rent, etc.),%
Group X5	74	21
Group MAGNIT	71	21
Group DIXY	66	25

* http://www.dixygroup.ru/~/media/Files/D/Dixy/financial-results/archive2014/RUS/FY2014RUS.pdf

http://www.x5.ru/ru/investors/financial_reports

http://ir.magnit.com/flnancial-reports-rus

Example of a small food retail shop *

	Assessment prior to CyberChange implementation	Assessment following CyberChange implementation
Average number of checkout counters	2	3
Average number of checks per month for a store with 2 checkout counters	27,600	37,260
Average check amount, RUB	233	233
Shop turnover per year, MM RUB	77.2	104.2
Average direct costs (cost of goods),% of revenue	74	74
Average direct costs (cost of goods), MM RUB	57.1	77.1
Average indirect costs (salaries, rent, etc.),% of revenue	17	13
Average indirect costs (salaries, rent, etc.), MM RUB	13.1	13.8
Average profitability, MM RUB	6.9	13.3
Average profitability, %	9	13

* The data is assessed according to the financial statements of DIXY, Magnit, X5.

The increase in profitability is 6.4 million RUB per store per year.

- Revenue is increased by 35%.
- Wages rise by 5%, while rent payments remain on the same level. This increase in profitability can be achieved in 1-2 months after saturation of the base of regular customers with CyberChange cards.

Example of a medium-sized supermarket *

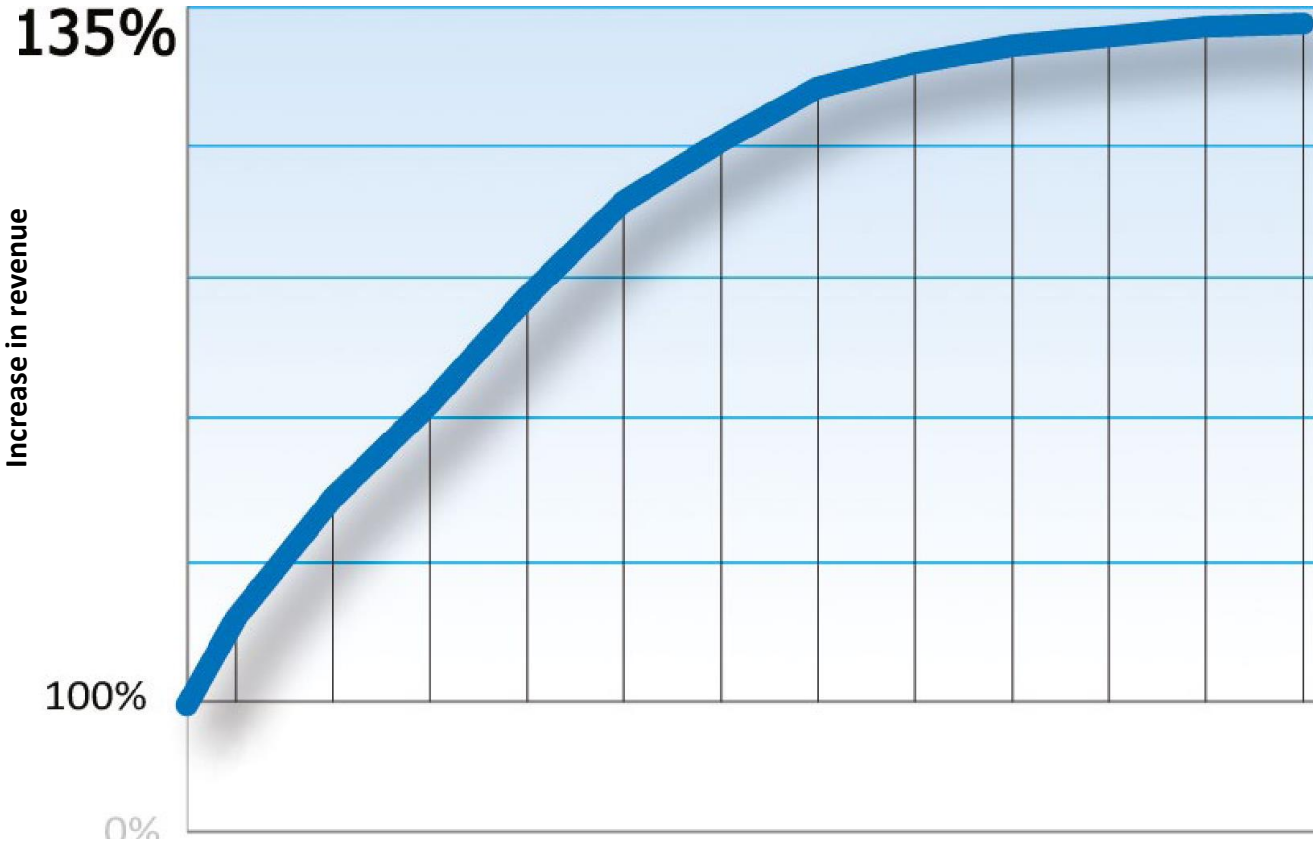
	Assessment prior to CyberChange implementation	Assessment following CyberChange implementation
Average number of checkout counters	4	3
Average number of checks per month for a store with 2 checkout counters	55,200	37,260
Average check amount, RUB	359	233
Store turnover per year, MM RUB	237.8	104.2
Average direct costs (cost of goods),% of revenue	74	74
Average direct costs (cost of goods), MM RUB	176,0	77,1
Average indirect costs (salaries, rent, etc.),% of revenue	19	13
Average indirect costs (salaries, rent, etc.), MM RUB	45.2	13.8
Average profitability, MM RUB	16.6	13.3
Average profitability, %	7	13

* The data is assessed according to the financial statements of DIXY, Magnit, X5.

The increase in profitability is 13.2 million RUB per store per year.

- Revenue is increased by 35%.
- Wages rise by 5%, while rent payments remain on the same level. This increase in profitability can be achieved in 2-3 months after saturation of the base of regular customers with CyberChange cards.

Comparison of the effectiveness of implementation of the CyberChange project in small and medium retail businesses



The CyberChange project has a beneficial effect on increasing the turnover of a commercial outlet in small and medium retail stores connected to the service. An increase in profitability can be achieved within 3-6 months.

Thus, the introduction of CyberChange is more attractive for small shops than for larger stores.

	Indicators of a small grocery network after the implementation of CyberChange	Indicators of a medium format supermarket after the introduction of CyberChange
How much the average profitability increases,%	4	3
How much revenue per square meter increases,%	26	20

INCREASED TURNOVER OF HIGH-MARGIN GOODS

With the growth of foot traffic moving higher as a result of the implementation of the CyberChange project, the turnover of high-margin goods in the outlet increases. The client comes to pay for services using their CyberChange card and makes purchases of impulse goods with higher profitability which are located in checkout areas.

E-retail experiences an increase in sales of accessories: covers for mobile phones, key fobs, memory cards, batteries, etc.

Sales of beer, cigarettes, alcohol, mineral water, chocolate, confectionery products and chewing gum are growing in grocery retail, as well as sales of non-food high-margin products.

HOW THE SERVICE IMPACTS TERMINALS INSTALLED IN RETAIL CHAINS

As a rule, retail chains have payment terminals already installed, which bring them additional income in the form of rent payments. The launch of the CyberChange project will have a positive impact on the profitability of the installed terminals for a number of reasons.

1. Most small payments in the amount of 10 to 100 RUB will be accepted at the checkout counters, not through the terminal. As a result:

- the load on the terminals will significantly decrease, since small payments account for up to 70% of transactions, but only 5% of the total amount;
- the number of customer claims will sharply decrease, since 90% of issues are related to small payments crediting. This will reduce the load on the terminal network customer support;
- the costs of collecting small bills from the terminals will decrease, since almost all of them will be accepted at the checkout counters.

2. Terminals are rarely equipped with a barcode scanner, thus, accepting payments to the traffic police, utility service providers and tax authorities at the checkout will only increase the number of retail customers. Consequently, the client flow of large payments through terminals will increase. Even if the terminal is equipped with a barcode scanner, these gateways for terminal owners are usually an additional service, and not a primary source of income.

3. The primary income of the terminal business — repayment of loans in the amount of 2,000 to 5,000 RUB — will remain, because:

- it is very difficult to imagine a person at the checkout counter making a small purchase (for example, beer or chips) and paying for it with a five thousand ruble bill;
- in almost all cases, these payments are made with an external additional commission from the payer;
- charging a commission for payments of change at the checkout will cause negative feedback from buyers; therefore, retail chains probably will not implement loan repayment at the checkout.

4. Terminals with a barcode scanner provide an opportunity to activate CyberChange cards, which will bring a stable good income to the terminal owner. The amount of commissions for activation is determined by the retailer.

5. Experience shows that the CyberChange card has proven to be a very convenient tool when paying at terminals. Customers who activated the card at the checkout began to use terminals much more often.

CHANGE CREDITING

Crediting at smart checkout counters

- The checkout clerk scans the card with a permanently installed or hand-held scanner or enters the card number on the keyboard.
- When using a smart cash register with a barcode reader, the barcode is scanned from the CyberChange card.

At that, the change amount is already stored in the memory of the cash register in both cases.

Crediting in small outlets

An inexpensive Android smartphone can be used in the absence of a cash register with a wide range of functions at the outlet.

The Cyberplat Mobile application installed on the smartphone allows reading the barcode from the CyberChange card. In this case, the amount of change is entered by the seller manually or transmitted from a connected computer with the installed software “Dealer's Cabinet”.

Payment in self-service terminals

- If a barcode reader is installed in the terminal, the barcode is scanned from the CyberChange card.
- Software of the payment terminal immediately displays “CyberChange” and the card (template) number on the provider's screen.

The amount of payment is shown after the client deposits money into the bill acceptor and clicks the "Next" button.

ACTIVATING THE CARD

Activation at www.киберсдача.рф and www.plat.ru

1. The client goes to the card activation page at www.киберсдача.рф or www.plat.ru, enters the number of the existing card, selects the payee, specifies the phone number and enters the displayed CAPTCHA code aimed at protection against fraud.

2. The website service accesses the CyberPlat® database and checks if the card is activated. If the card has not yet been activated, the client is advised to select a provider and enter the required data: provider's personal account number, mobile phone number and other information.

3. The client enters the requested data.

Data entry examples:

MTS, 985-222-33-22;

VISA, 1234 5678 9012 3456;

Replenishment of accounts in Alfa-Bank, settlement account 40817810123456789012, 985-111-22-33.

4. Having received the data, the CyberPlat® system assigns the entered template to this card number and sends the client an SMS confirmation of card activation.

Activation with pre-recorded voice messages (IVR)

1. The client makes a call to the multichannel number + 7 (499) 68-111-58.

2. A pleasant voice says: “Hello, you have called the CyberChange card activation service. Please enter your card number”

3. The client enters the 19-digit number of their existing card.

4. The service checks if the card is activated. If the card has already been activated, it receives a refusal from the CyberPlat® DB.

5. The client hears: “Unfortunately, this card has already been activated. Enter the number of another card”, then goes to step 3.

6. If the card has not yet been activated, the system determines the phone number from which the call is made, and the client hears: “Your phone number is NNN NNN NN NN. Press “*” to link this number to the CyberChange card. If you need to link another mobile number, enter the required 10-digit phone number, including the prefix, and confirm the correctness by pressing “*”.

7. The client enters the desired phone number, for example, “985 123 45 67”.

8. The client hears: “Operation has been completed successfully. The phone number 985 123 45 67 is linked to your card number 000 0000 0000 0000 1234. I repeat, the operation has been completed successfully. The phone number 985 123 45 67 is linked to your card number 000 0000 0000 0000 1234” (repeated 3 times).

9. In an error is made when entering the phone number, the client hears: “Attention: error! The specified phone number is incorrect. Please enter the correct 10-digit phone number and press “*”.

Activation in self-service payment terminals

The client can activate their card in terminals equipped with a barcode scanner only.

1. After performing the usual operation of accepting payment, the client selects the function “Assign the “CyberChange” card number to the payment template” in the terminal software.

2. The client scans the non-activated card number in the barcode scanner.

3. The terminal software accesses the CyberPlat® DB via the “CyberChange — Issue (template entry)” gateway and checks if the card has been activated. If the card has not yet been activated, it transmits the provider's code, the provider's personal account number, mobile phone number and other information.

4. CyberPlat® assigns the entered template to the given card number and confirms that in the terminal software.

The storage of personal data — the name of the provider, the personal account number with the provider, the mobile phone number and their connection to the template number — is prohibited by the rules of the CyberChange payment service.

Activation at cash registers

1. After performing the usual operation of accepting payment, the cashier selects the function “Assign the “CyberChange” card number to the template” in the cash register software (or in the “Dealer's Cabinet” software).

2. The client scans the number of the non-activated card with a permanently installed or hand-held scanner or enters the card number on the keyboard.

3. The cash register software accesses the CyberPlat® DB and, if the card has not yet been activated, transmits the provider's code, provider's personal account number, mobile phone number and other information.

4. CyberPlat® assigns the entered template to this card number and confirms the operation in the cash register software or the “Dealer's Cabinet” software.

5. The cashier gives the card back to the client saying: “Next time come with this card, it will be faster. Take a couple of non-activated cards with you for your family members, and activate them at home at websites www.киберсдача.рф and www.plat.ru.

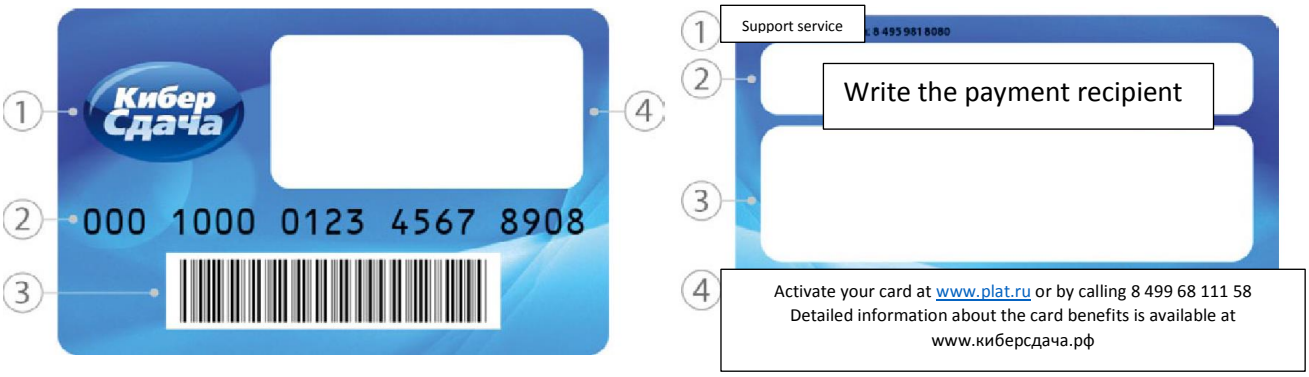
The storage of personal data - the name of the provider, the personal account number with the provider, the mobile phone number and their connection to the template number - is prohibited by the rules of the CyberChange payment service.

Advantages for "activators" of cards at checkout counters and terminals

Compared to other market participants, retail chains and terminal owners who use this modern service receive serious competitive advantages, which include:

- accelerated transactions for receiving payments;
- increased customer loyalty through the introduction of a new convenient service;
- additional income from the emission of activated cards with advertiser's advertising;
- income from commissions for payment at any other point. In the first year, it is a fixed amount, which is determined depending on the turnover on the activated card.

APPEARANCE OF THE CYBERCHANGE CARD



Exterior styling and design

CyberChange card has the size of a standard bank card. The front side of the card has the following distinctive features:

1. CyberChange logo.

2. Card number: 19 digits, the first three of which are always zero.

3. Barcode.

4. The field for advertising the issuer.

The reverse side of the card has the following distinctive features:

1. Phones of the issuer's support service.

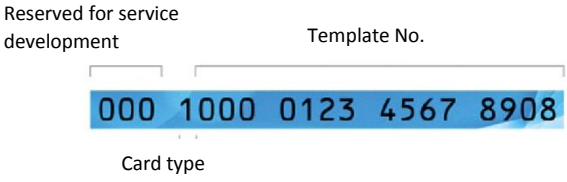
2. Paper strip for manual writing in of the payee.

3. Place for advertising.

4. Detailed instructions for activation.

Also, a sticker with a barcode can be attached to the back of the card, which, if necessary, can be re-attached to the back of the mobile phone.

Number format and template number



The first three digits in the card number are always 0. This feature of card numbering is set to reserve the base of card numbers for the development of the service.

Card type

1 - CyberChange

2 - CyberChange Heavy

3 - CyberPayment

The template number assigned in the CyberPlat® system for this card contains 16 digits which reflect the card type and template corresponding to the data set in the CyberPlat® database:

1. Service provider. For example, MTS.

2. Personal (or bank account) in the provider's accounting system. For example, 79851112233.

3. Other information.

In the type of card, number 1 means that this is a CyberChange card, number 2 means a CyberChange heavy card, and number 3 means a CyberPayment card.

VIRTUAL CYBERCHANGE CARD

The CyberChange card can be issued in electronic, virtual form on the Internet, saved as a file and used when reading from the phone screen.

- The client goes to the website www.plat.ru and indicates the details of the service provider, the mobile phone number, and enters the displayed CAPTCHA code aimed at protection against fraud in the section “Activate the CyberChange card”.

- The system generates a new card number, displays a barcode on the screen and sends an SMS to the specified mobile phone number with a link to download this code.

CYBERCHANGE CARD ISSUE

Mass issue of non-activated cards

Cards are printed in bulk by an issuer that has concluded an agreement on the implementation of the CyberChange service within the batch of card numbers allocated by the CyberPlat® system.

To maximize coverage of the target audience, the following technologies are used in the distribution of cards, including:

- mass mailing;
- distribution at hyper- and supermarkets, shopping and entertainment centers, and other places with high customer traffic at the checkout;
- placement in checkout areas, as well as close to payment terminals.

Mass issue of pre-activated cards by the issuing provider

The greatest interest in the mass issue of cards is shown by mobile operators, banks, especially by those with a developed retail network, as well as by providers whose services are used by almost every resident of the country, for example, energy sales companies.

1. The issuing provider sends an application to CyberPlat® and transmits a range of phone numbers or personal accounts.
2. CyberPlat® assigns card numbers that are not yet taken to the received numbers and communicates them to the issuer.
3. The issuing provider prints cards in the printing house on their own in accordance with the data received from CyberPlat®.
4. The issuing provider distributes cards by mass mailing to the addresses of its subscribers, and also distributes them in its own and partner service offices.

CYBERCHANGE CARD PRE-ACTIVATED BY THE ISSUING PROVIDER

Front side of the card:

1. "CyberChange" logo.

2. Card number.

3. Name of the card (present only on pre-activated cards).

4. Barcode.

5. Field for the issuer’s advertising.

Reverse side of the card:

1. Phones of the issuer's support service.

2. Place for advertising.

3. Contact information of the issuer.

Example of a CyberPlat issuer

Support service	Contact Information
	Details on the advantages of the card are available at www.киберсдача.рф
Support service: +7 (495) 981-80-80	The card is the property of CYBERPLAT LLC.
	123610, Moscow, Krasnopresnenskaya emb., 12, entrance 7, 12th floor.

LINKING THE “CYBERCHANGE” CARD TO THE RETAIL CHAIN LOYALTY PROGRAM

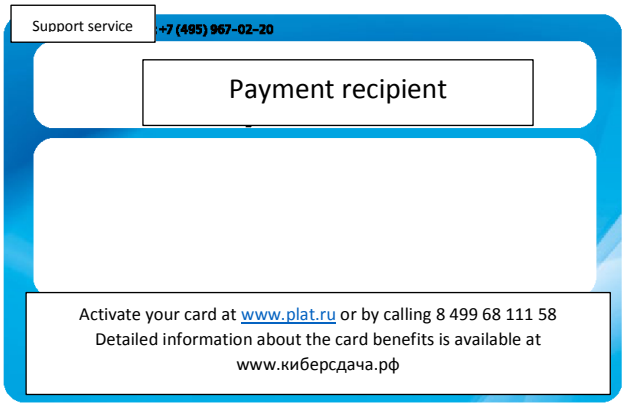
The CyberChange card can be combined with a retail chain loyalty card or linked to it. At the same time, the retail chain itself determines the correspondence of the numbers of the CyberChange cards to the numbers of their loyalty cards and independently performs the actions to accrue points and issue trade bonuses.

Project interaction can take place as per the following scenarios.

1. CyberPlat® provides the retail chain with a range of card numbers (barcodes). The retail chain issues half-activated “CyberChange” cards with its own logo, with a loyalty card already linked, but the payment details are not yet available. The retail chain distributes cards to customers, and customers independently bind their cards to the payment details required in each specific case: for example, a mobile phone number or a personal account in the management company serving their apartment.

2. The retail chain can link the already existing “CyberChange” card to the new retailer's loyalty card. In this case, the client no longer needs to carry a retail chain loyalty card with them, since they will use the “CyberChange” card as an identifier when receiving bonuses from the chain.

“CYBERCHANGE HEAVY” CARD



Features of the "CyberChange Heavy" card

Transfer of the change amount to the CyberChange card, starting from one kopeck and above, is guaranteed. This is very convenient when a small change remains after paying for the purchase, for example 1 RUB 20 kopecks, which can be transferred to a mobile phone account.

At the same time, not every client wishes to transfer a substantial amount of change to a mobile phone, for example, 800 RUB. If you need to repay a loan or replenish a bank card, the client will appreciate the opportunity to transfer a large amount of change there, but in some cases banks (and some providers) charge a commission for crediting money to the account.

To distinguish between the cards, which amounts can be credited without a commission, and the cards, which always take a commission, a special “CyberChange heavy” card is introduced.

With the help of the “CyberChange heavy” card, you can transfer funds to service providers, payments to which are accepted with an additional fee.

It is recommended to use the CyberChange Heavy Card for replenishing Mir, Visa, MasterCard cards, depositing funds to bank accounts, as well as for making other regular payments.

Exterior styling and design

The “CyberChange heavy” card is visually distinguished only by the “heavy” sign in the name.

From a functional point of view, this means that payments from it are accepted with the obligatory collection of an additional commission from the payer.

Front side of the card:

1. “CyberChange Heavy” logo.

2. Card number of 19 digits, first four digits: 000 2.

3. Barcode.

4. Field for the issuer’s advertising

The reverse side looks the same as that of a regular CyberChange card.

OFFERS FOR ADVERTISERS

An example of a fast promotion of a retail chain accepting CyberChange cards for payments to a mobile operator

The partnership between a retail chain and a mobile operator in the implementation of the CyberChange service is mutually beneficial. A retailer who accepts CyberChange cards for payments to a mobile operator receives significant benefits for the dynamic growth of customer traffic and, consequently, an increase in the turnover of its retail outlets. The mobile operator obtains the ability to target the audience for the development of the subscriber base with maximum accuracy without special costs: for example, choosing a specific settlement or even its specific district — in addition to the stable growth in the volume of payments.

The interaction algorithm is as follows.

1. A preliminary agreement is concluded between a retail chain (super- or hypermarket) and a mobile operator.

2. A fairly large retail outlet is connected to the acceptance of CyberChange cards.

3. The mobile operator sends a message with an approximate content: “Dear customer! Now the supermarket located at the address (the address is indicated) offers an opportunity to replenish your phone account very quickly by showing the barcode of the CyberChange virtual card on your phone screen. To get a barcode, follow the link” to its customers living within the radius of only one cell.

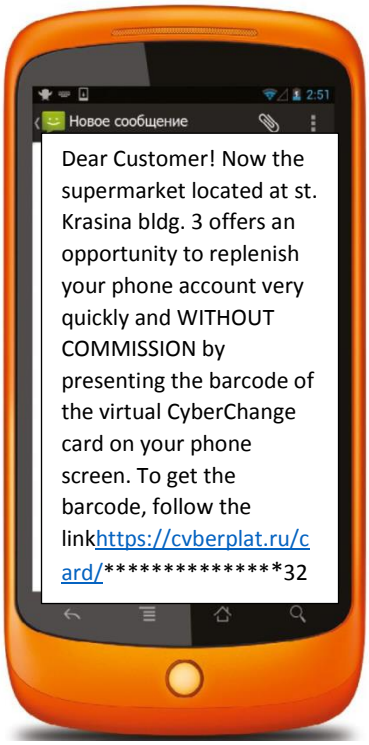
4. An interested customer comes to the supermarket and checks out the service.

5. The checkout clerk, who has previously completed the training, gives the buyer an unactivated card with an advertisement of the retail chain printed on it saying: “It doesn’t always read well from phone. Please activate your plastic card”. Immediately after this, they offer the payer to take several more non-activated cards for themselves or their relatives and friends, as well as a flyer with a detailed description of the benefits of the service.

An example of a fast promotion of a payment acceptance network accepting CyberChange cards

The network of payment acceptance outlets has great potential for profitability growth from the viewpoint of implementing the CyberChange service at checkout counters. For fast and effective promotion, one need to use the existing client base for targeted SMS-mailing * with an invitation to use a new state of the art and convenient service.

The client receives a message with a link to the virtual CyberChange card already linked to their mobile phone number, downloads the barcode from the message and uses the phone screen when making the next payment at the checkout counter.



ADVANTAGES FOR ISSUING PROVIDERS* WHO ISSUE CYBERCHANGE CARDS WITH THEIR OWN LOGO

1. According to expert estimates, the growth potential of the amount of funds received to the personal accounts of subscribers as change is $72.5 billion throughout the country. It consists of $60 billion in food retail and $ 2.5 billion in non-food retail. This value is significantly higher than the entire revenue of mobile communications businesses in Russia.

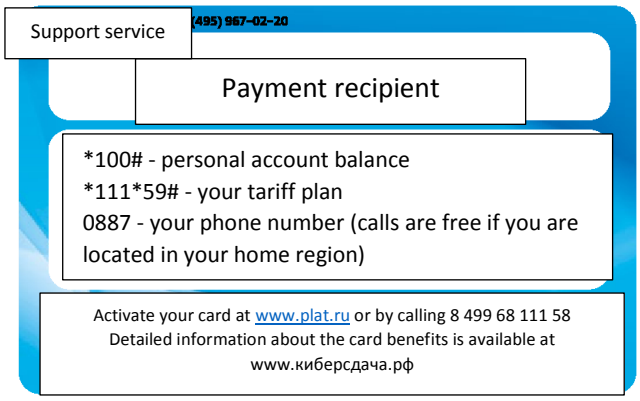
2. Significant facilitation of the competitive fighting for customers at a minimum cost, since CyberPlat® presents the payment infrastructure and acts as a catalyst for the process.

3. Increased subscriber loyalty through a new stet of the art and convenient service.

4. Increase in ARPU — a key indicator of business performance.

5. Reduced period of subscriber silence due to number blocking caused by insufficient funds on the account, as well as a significant decrease in the probability of such situation occurrence.

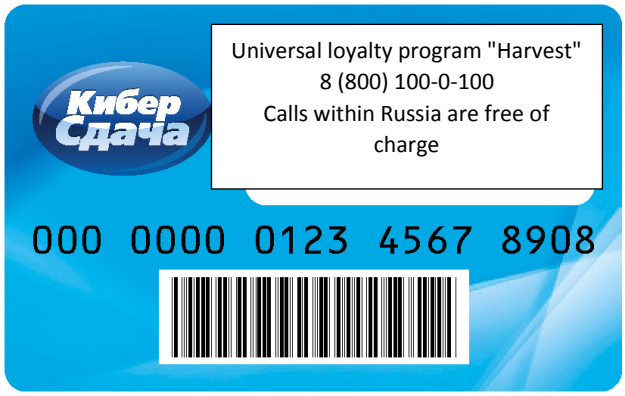
6. Increase in the volume of customer information for more accurate marketing activities.

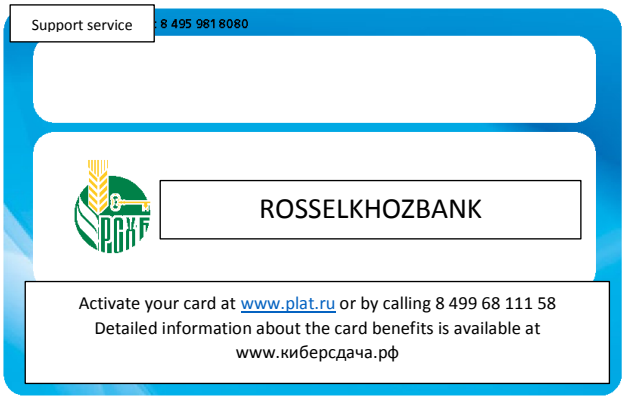


* The names of the organizations are given as examples.

ADVANTAGES FOR ISSUING BANKS* WHO ISSUE CYBERCHANGE CARDS WITH THEIR OWN LOGO

1. Increased receipts to settlement accounts of individuals who are bank customers by the amount of change.
2. Improved repayment of loans and increased payment discipline of clients in general.
3. Tracking the dynamics of changes in customer loyalty to loan repayment.
4. Increased volume of customer information for providing more accurate marketing activities.
5. No competition fighting for the clients from the service developer's side. On the contrary, CyberPlat® provides banks with a payment infrastructure and is a catalyst of the process. Increased loyalty of the bank customers thanks to a new state of the art and convenient service.
6. Elimination of the risk of skimming, since there is no need to use bank cards.
7. A very simple startup: the change amount is credited to bank accounts through the NSPK Mir payment gateways, Visa Money Transfer and MasterCard Money Send, which are already available in the CyberPlat® system. In the future, if necessary, you can develop a direct gateway between the issuing bank and CyberPlat® in order to further reduce the cost of replenishing bank accounts.





* The names of the organizations are given as examples.

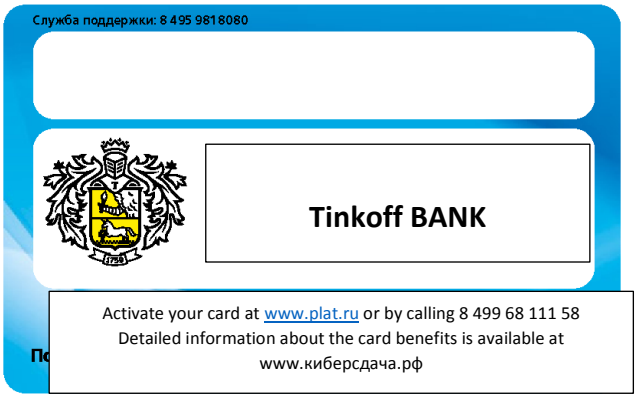
ADVANTAGES FOR ISSUING ADVERTISERS* WHO ISSUE CYBERCHANGE CARDS WITH THEIR OWN LOGO

By issuing CyberChange-Tinkoff branded cards, Tinkoff Bank will be able to cover the entire population of Moscow having spent not more than $10 million. At the same time, the number of card uses by one consumer will be from 10 to 40 times per month.

For the distribution of cards, Tinkoff Bank uses technologies to maximize coverage of the target audience:

- distribution of cards to checkout clerks in supermarkets, placement of cards in checkout areas, as well as in places of payments (communication stores, utilities payment acceptance outlets, etc.);
- direct online and offline mailing.

We estimate that marketing costs should be about $1 per potential cardholder, while plastic production costs should not exceed $0.01 per card.



* The names of the organizations are given as examples.

MASS CARD ISSUE*

MASS ISSUE BY BANKS

An aggressive bank, such as Tinkoff Bank, issues cards with its logo and financial services advertisements in bulk and distributes them to customers for free.

The economic efficiency of the CyberChange-Tinkoff card service is determined by the loyalty of its potential clients. On average, cardholders use them from 10 to 40 times per month and keep them “at hand” in their wallets because they are in high demand. When making payments, the client usually informs others, many of whom see the card for the first time, about its capabilities, convenience and functionality.

POSSIBLE PROTECTION OF COMPETITORS

A competitor bank offering a standard package of financial services, which does not include the CyberChange card, has to use the “mirroring” technology to ensure the fastest possible response in conditions of severe time pressure.

The Bank promptly issues cards and carries out mass mailing of pre-activated CyberChange cards with its logo and advertising services.

To reduce costs, the bank is forced to focus on controlled retail. For example, Alfa-Bank will first of all carry out mass distribution of non-activated cards in X5 Retail Group retail chains.

MASS ISSUE BY COMMUNICATION PROVIDERS

An aggressive communication provider, such as MTS, distributes cards with their logo and advertising of MTS services to customers in their showrooms for free.

The economic efficiency of the CyberChange-MTS card service is determined by the loyalty of its potential clients. Cardholders use them up to 40 times per month and keep them “at hand” in their wallets because they are in high demand. When making payments, the client usually informs others, many of whom see the card for the first time, about its capabilities, convenience and functionality.

Actions of competitors, for example, Beeline

Protection: mass mailing of pre-activated "CyberChange-Beeline" cards with the Beeline logo to their customers.

Attack: mass distribution of non-activated cards in a friendly retail chain, for example, in the “Sedmoy Kontinent” chain of stores.

MASS ISSUE OF NON-ACTIVATED CARDS BY ADVERTISERS

An aggressive advertiser, such as Coca-Cola, is distributing cards free of charge with a logo and drink advertisements.

The economic efficiency of the CyberChange-Coca-Cola card is determined by the loyalty of potential owners, which is characterized by the above parameters. Despite the wide popularity of the Coca-Cola brand, the unusual advertising medium attracts the attention of others, many of whom have never seen such a card before.

Protection of competitors such as Pepsi-Cola

To form an effective response, the traditional competitor of Coca-Cola is also forced to issue a card with its logo and massively distribute non-activated cards in friendly retail chains, for example, in the McDonald's fast food chain, in order to save time and resources.

* The names of the organizations are given as examples.

ADDITIONAL OPPORTUNITIES FOR BUSINESS DEVELOPMENT

Barcode payments

Versatility of the CyberChange solution allows the implementation of additional client services based on the tasks facing companies.

If a retailer is interested in an influx of customers with an average and high degree of purchasing power (“rich” buyers), a quick and convenient payment of traffic fines can be organized at the checkout counters of the retail network using the barcode located on the notification.

If a retail chain is interested in increasing the traffic of customers with different purchasing powers, payment for utility bills and taxes can be arranged at the checkout counters.

Payment for goods/services from mobile phones

Demand for mobile commerce as one of the most affordable payment methods is growing every year. The CyberChange card allows paying for purchases in stores not only in cash or with a bank card, but also from your mobile phone account.

1. The buyer asks the cashier to pay for the goods/services from the CyberChange card linked to their mobile phone number.

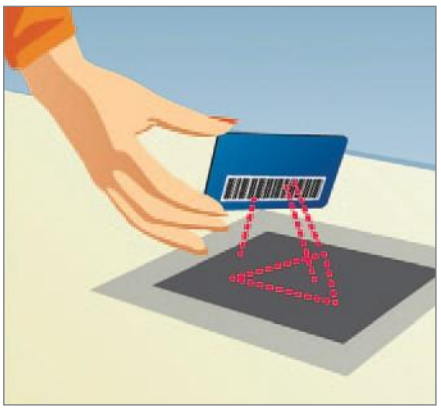
2. The checkout clerk reads the information from the card barcode with a scanner and enters the type of payment and amount. This information, as well as the address and number of the outlet, are encrypted through the CyberPlat® system and are sent to the mobile operator.

3. If the funds on the subscriber's account are sufficient and the payment amount is less than 1,000 RUB, the mobile operator sends a USSD request to confirm the withdrawal of funds. In response, the subscriber sends “1” (agree) or “0” (disagree) from their mobile phone.

4. For payment amounts over 1,000 RUB, a PIN is required by the USSD request.

5. If the subscriber agrees, funds in the specified payment amount are debited from the account in real time.

6. Information on this is transferred to the outlet, and the checkout clerk, having received confirmation, transfers the goods to the buyer or makes a payment for the service and issues a receipt.



COMMISSION POLICY

For a dynamic mass service introduction, CyberPlat® uses a flexible commission policy and does not establish a single standard tariff plan for all of its partners.

The developer does not limit the amount of the external commission either: its value is set according to the agreement concluded between the card acquirer and the retail chain.

The commission of “activators” of “CyberChange” cards is fixed at 0.25% (including VAT) of the entire turnover of activated cards at outlets not owned by the “activator”, in the first year of service launch.

In the future, the commission amount can be reduced. The issuer's income from advertising at the initial stage of implementation will not be taken into account in the commission policy.

The SMS-message confirming the payment fact indicates the amount credited to the service provider.

BENEFITS FOR THE PROJECT PARTICIPANTS

Benefits for retail chains

- Increased sales due to buyers who have run out of cash and had no bank cards. Thus, "CyberChange" expands the list of payment instruments for the buyer.
- Growth in sales, primarily of low-cost and high-margin goods, which are usually located in the checkout area.
- No additional costs due to the use of a ready-made high-tech solution.
- The fastest payment speed, surpassing the payment time when using a bank card: the whole transaction takes no more than 6 seconds.
- The use of a barcode practically eliminates the possibility of entering erroneous data and, as a result, eliminates the cost of processing erroneous payments.
- Reduced risks of working with cash.

Benefits for mobile operators

- No investments.
- Staying ahead of the competition in implementing real mobile commerce.
- Creation of the image of a super-tech company.
- Minimizing errors and reducing the cost of canceling and adjusting payments as a result.
- Reducing the transaction time, which will allow to:
    - reduce the cost of accepting payments,
    - speed up the time of accepting one payment.
- Growth of balances on subscribers' accounts, which leads to a significant increase in the company's liabilities.
- Increase in revenue, increase in popularity, and, consequently, capitalization of the company.

Benefits of participation for clients

- The buyer receives a new convenient state of the art payment strument.
- Additional psychological comfort when paying, since the trust in telecom operators in our country is higher than in banks.
- Maximum security: no need to tell the phone number for all to hear, the withdrawal of funds is confirmed by the subscriber.
- The broadest possibilities for replenishing a personal account: the retail chain is significantly larger than the infrastructure for accepting cards of a particular bank.
- The payment speed is faster than with a bank card.

Globale-business technologies. International Cyberplat® projects

CYBERPLAT INDIA — A LEADER OF THE NATIONAL FINTECH MARKET

GENERAL INFORMATION

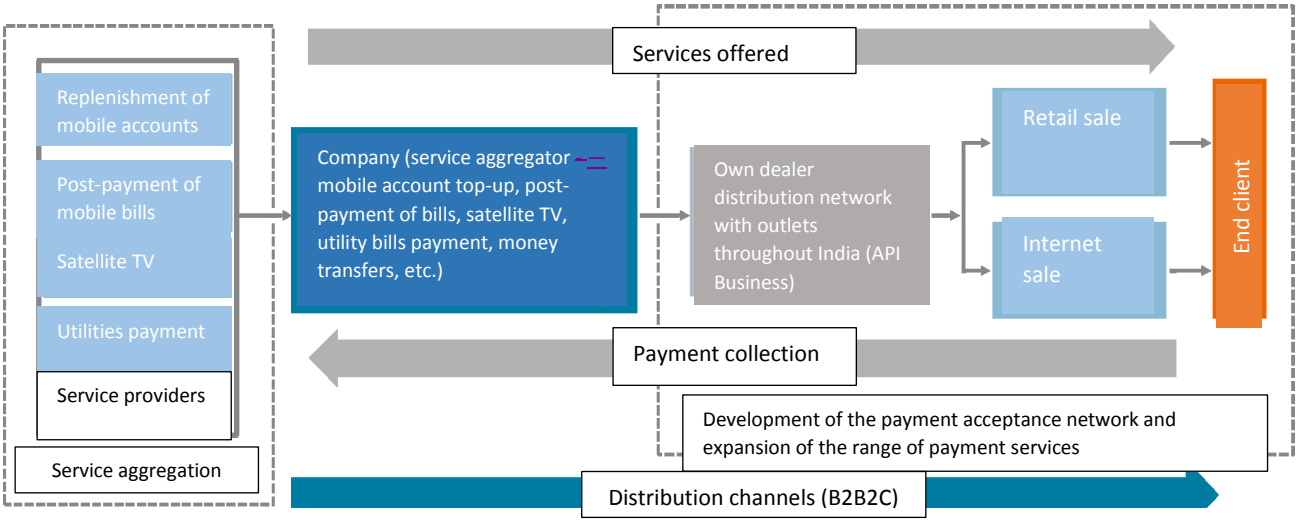
One of the largest international projects, CyberPlat®, was launched in India more than 10 years ago: CyberPlat India was founded in Mumbai in 2009 (www.cyberplat.in).

The company was developing at a rapid pace and demonstrated an annual 100% growth for several years in a row, steadily outranking its competitors.

CyberPlat India is currently among the leaders in the national financial technology industry. The company is included in the TOP-5 payment systems operating in one of the largest Asian markets, and ranks 1st in the number of payment outlets in the country: as of January 1, 2019, their number exceeded 760 thousand. More than 240 million transactions to more than 350 service providers in India and abroad, available in 600 partner networks, are performed each year in the system.

CyberPlat India is one of the few payment aggregators in India that cooperates directly with more than two dozen largest providers rendering services in the field of telecommunications, satellite TV and housing and utility services.

Business model



PRODUCTS AND SOLUTIONS

CyberPlat India offers its partners a wide range of state of the art financial services that are in demand among the country's residents.

Replenishment of mobile phone accounts

CyberPlat India is one of the few payment integrators in the country that has direct gateways with all telecom operators and offers a unique multifunctional service for replenishing personal accounts of mobile operators using various devices.

Cross-platform hardware allows choosing a payment method and making payments using a computer connected to the Internet, a web application, an Android phone, an ATM or a self-service payment terminal.

Payment for satellite TV services

CyberPlat owns the most extensive infrastructure for collecting payments for services of all commercial television (DTH) providers operating in the country. The unique CyberPlat® API and web platforms allow the provider to choose the most efficient and marginal option from the view point of its business.

Post-payment for mobile and fixed line communication services

CyberPlat arranges collection of payments to all mobile and fixed-line operators providing services both in the country and abroad. CyberPlat partners gain an important competitive advantage by offering the whole range of the most popular telecommunication providers at a single payment acceptance outlet.

Payment to Internet service providers

Internet users, the number of which exceeds 283 million in the country, can pay for the services of Internet providers with maximum convenience by choosing an appropriate payment method: online or offline. For example, they can make a payment on the CyberPlat partners' website or in a nearby retail store, and the money will be instantly credited to their account.

Payment for insurance services

Payment of insurance premiums must be made within strictly defined terms, and CyberPlat has to offer a ready-made effective solution allowing arrangement for collection of insurance premiums from different companies according to the one contact principle.

Money transfers

Money transfer service is one of the most demanded services in India. However, large segments of the population living in rural and semi-urban areas still lack access to basic banking services due to an extremely low density of banking coverage of these conglomerates.

CyberPlat technologies make it possible to solve this problem: they combine banking services and e-wallets on a unified API platform and provide an opportunity to make money transfers in partner retail chains.

Payment for gift cards

CyberPlat offers the widest range of products from the Top Indian 50 brands, brought together on a single IT platform, giving users the opportunity to choose whatever they really need as a gift.

Payment for utility services

Timely payment for utilities — electricity and gas — is extremely important for the residents of the country. CyberPlat provides an opportunity for convenient and quick payment for the services of more than 25 suppliers of these energy resources at payment outlets located close to the consumers.

Business to Business

CyberPlat offers its B2B partners various distribution models and methods of online and offline integration, which are primarily addressed to:

- distribution companies;
- e-commerce companies;
- startups;
- retail businesses;
- banks;
- public service centers;
- support services.

DISTRIBUTION MODELS AND METHODS OF INTEGRATION

- Retail distribution — access to more than 500 thousand payment outlets of CyberPlat partners.
- Distribution in rural areas — access to the “last mile” through the CyberPlat payment infrastructure with a high degree of availability in rural areas.
- Modern retail business — implementation of payment services in the largest modern retail chains operating in the country.
- Banking infrastructure — access to ATM networks, banking web portals and mobile applications.
- E-commerce — cooperation with leading players in the e-commerce market.
- Mobile commerce — partnership with the leaders of mobile commerce: all key players of the national market are available in the CyberPlat system.
- Terminal networks — integration of services into India's largest self-service payment terminal network.
- Loyalty programs — wide level of choice, ease of integration, flexibility of customization, efficiency.

BENEFITS FOR CLIENTS AND PARTNERS

- Innovative payment solutions used in many countries around the world, including Russia, Germany, and Austria.
- Ability to make payments using various devices: computers connected to the Internet, web applications, smartphones based on Android OS, ATMs or payment terminals.
- Complete security of payment transactions: within the entire period of system's operation there was not a single hack of the system or an illegal transaction.
- Acceptance of payments to cross-border service providers.
- Increased volumes of high-margin transactions.
- Priority development of the services most demanded by the population.
- Expansion of the payment infrastructure by several times in the shortest possible time and with minimal costs.
- Steady and stable growth of a quality customer base.
- Strengthening loyalty of existing customers.

CYBERPLAT KAZAKHSTAN — THE FOUNDER OF THE ELECTRONIC PAYMENTS MARKET IN THE REPUBLIC OF KAZAKHSTAN

GENERAL INFORMATION

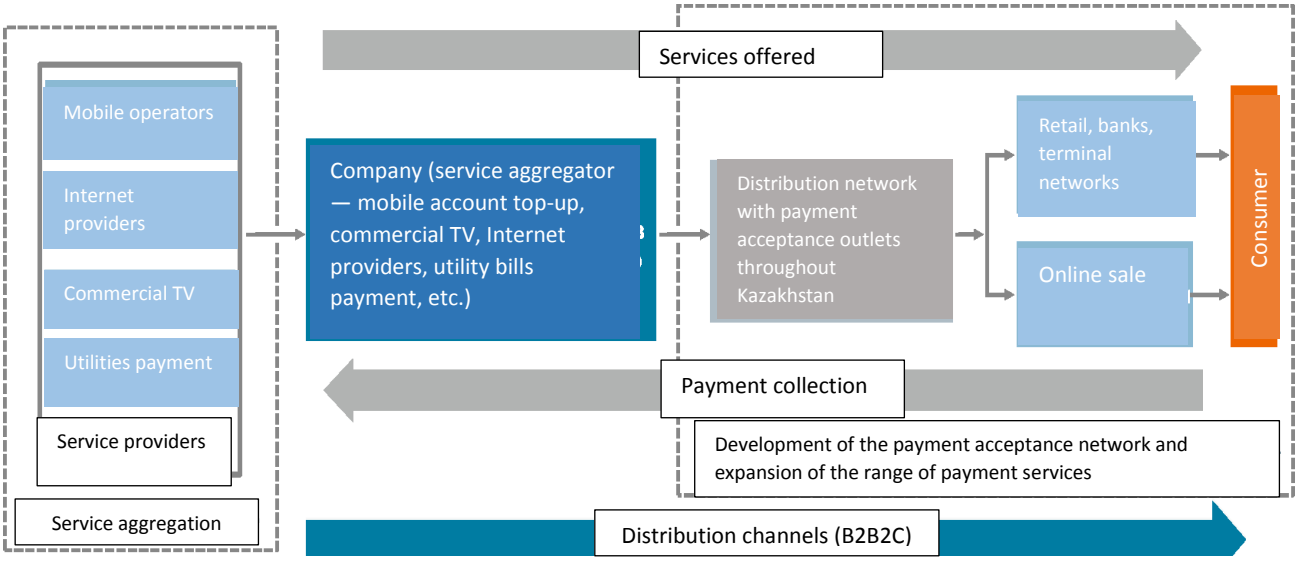
The Republic of Kazakhstan became the first foreign state within the framework of the CyberPlat® global e-business strategy, in which the company successfully implemented a project to create a large-scale payment infrastructure. CyberPlat Kazakhstan was founded on September 15, 2005, and the first electronic payment through the CyberPlat® system in this country was made in April 2006.

The development of the company took place at a rapid pace. In a short time, an extensive infrastructure for receiving retail payments was created in the country, allowing the population to pay for the most popular services in a quick and convenient way. At present, the CyberPlat® payment network in Kazakhstan has over 20 thousand outlets.

CyberPlat Kazakhstan offers its partners the opportunity to replenish accounts using various devices: computers connected to the Internet, web applications, smartphones based on Android OS, ATMs, and self-service payment terminals.

The system operation is characterized by the highest reliability and fault tolerance. The system is based on two processing centers in the territory of Kazakhstan, the connection between which is duplicated through the networks of independent providers.

General business model



This redundancy arrangement in combination with the state of the art cluster architecture provides high fault tolerance and independence from force majeure circumstances.

Complete security of payment transactions is guaranteed: over the entire period of operation in the country there was not a single transaction hack.

The high quality of CyberPlat® service and its undeniable technological advantages contribute to the further intensive development of the electronic payments market in Kazakhstan.

CLIENT BASE

Service providers

Successful development of high-tech business segment in Kazakhstan immediately attracted the attention of the leading players of the national market, who shortly appreciated the effectiveness of cooperation with the electronic finance market leader.

CyberPlat Kazakhstan has payment gateways to all leading mobile operators, Internet providers, utility providers, energy sales companies, banks, microfinance organizations, MLM operators, bookmakers and other service providers.

The company also accepts payments to cross-border providers. The total number of providers exceeds 300 companies and organizations.

The partners of the electronic payment system are the companies with large-scale coverage: networks of mobile phone outlets, electronics and household appliances stores, the largest terminal networks, and other representatives of various business sectors of the Republic of Kazakhstan.

The joint project "CyberPlat Kazakhstan" implemented together with JSC "Kazpost" — the national postal operator with an extensive network of 3200 branches — was a key milestone in the development of the country's payment infrastructure.

Partner banks

Influential federal and industrial banks operating throughout Kazakhstan are among the company's partners. CyberPlat® is consistently developing cooperation, offering modern financial services for replenishing bank accounts, repaying consumer loans, replenishing cards of international payment systems, and a large-scale republican payment network for making payment for various services by bank clients.

BENEFITS FOR CLIENTS AND PARTNERS

Partners of CyberPlat Kazakhstan hold the possibilities of cooperation with the leader of the country's payment industry in high regard, identifying the following positive factors in organizing a business as significant:

- innovative payment solutions used in different countries of the world;
- steady and stable growth of a high-quality customer base;
- strengthening the loyalty of existing customers;
- expansion of the payment infrastructure in the shortest possible time and with minimal costs;
- increase in the volume of high-margin transactions;
- wide and continuously updated list of services;
- priority development of payment services most demanded by the population;
- cross-platform payment solutions: the ability to make payments using various devices;
- highest fault tolerance and independence from force majeure events via a modern reliable IT architecture with a multiple safety margin of resources;
- complete security of payment transactions: within the entire period of system's operation there was not a single hack of the system or an illegal transaction.

INNOVATIVE CYBERPLAT® SERVICES FOR FOREIGN TELECOM OPERATORS

OFFERS FOR FOREIGN TELECOM OPERATORS

As part of the global expansion to the world market of electronic financial services, a priority area of CyberPlat® is cooperation with the largest players in the telecommunication services segment.

CyberPlat® offers the following benefits to the foreign communication providers:

- 20 years of successful experience in efficient organization of payment acceptance;
- efficient transaction processing technology, exceeding similar products of competitors in performance by 10 times;
- proactive strategy of intensive development;
- availability of services in many countries;
- 4-fold reserve of processing technological capabilities;
- highly qualified team of IT developers and financial experts.

CROSS-PLATFORM HARDWARE

A key competitive advantage offered by the CyberPlat® system to foreign partners is the freedom to choose the convenient payment method and use various devices for making payments, depending on the partners' requirements.

Payment can be made using:

- computers or smartphones;
- cash registers;
- POS terminals;
- self-service payment terminals;
- ATMs;
- Internet Bank-Client;
- mobile display units.

SECURITY OF PAYMENTS

CyberPlat® technology ensures absolute security of financial transactions and minimizes the number of payments made in error.

Up to 16 operations are performed in the system, certified by an digital signature, within the framework of a single transaction. Secured methods of data transmission via the Internet, including checking the availability of phone numbers or personal accounts of customers in the billing systems of service providers, identification and authorization of payment acceptance outlets and other operations, are used.

There has not been a single case of information system hacking or illegal transaction occurred in the CyberPlat® system over the entire period of its operation.

ADVANTAGES OF CYBERPLAT® OVER OTHER PAYMENT TECHNOLOGIES

Historically, the main competitor of CyberPlat® payment technologies in many countries is express payment cards, or scratch cards. This financial product is the equivalent of funds used to top up the personal accounts of mobile

subscribers. Scratch cards are most in demand in the payment segment of $5 to $25, which turn out to be unprofitable when paying for communication services in the banking infrastructure.

Despite the certain demand for scratch cards, they have a number of obvious disadvantages:

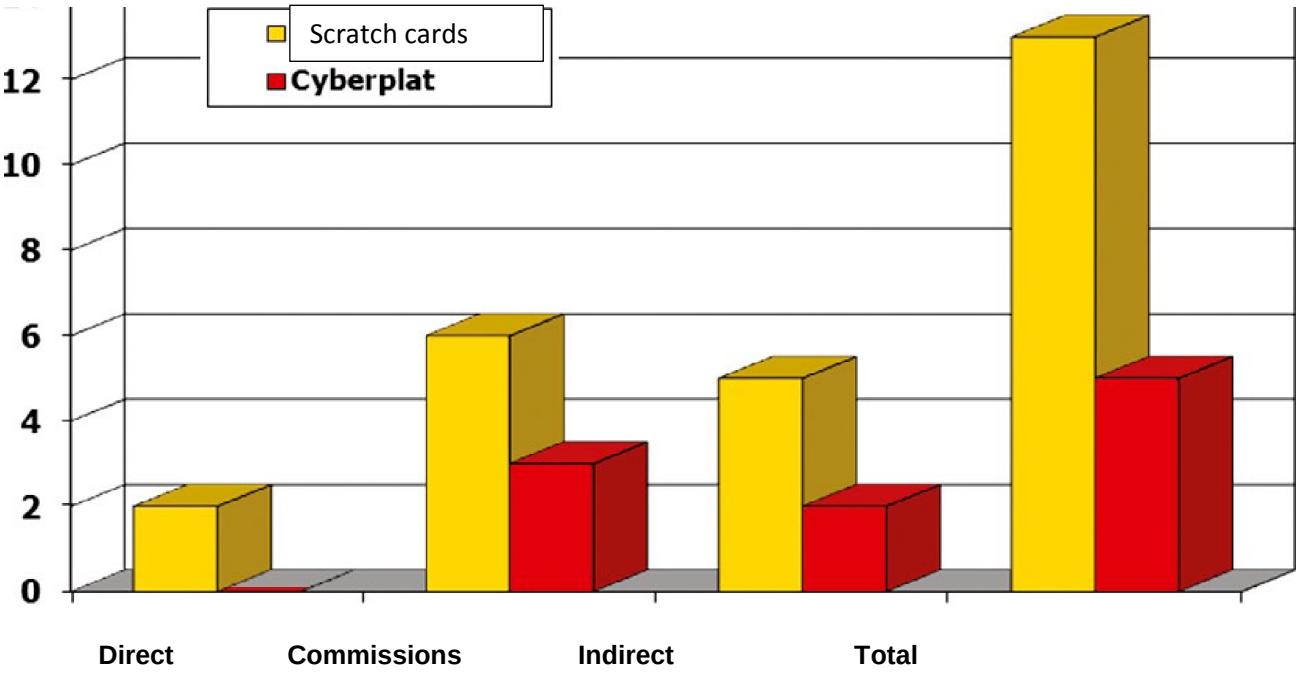
- high production cost;
- preset card denomination;
- a lengthy time interval between the production order and card activation;
- excess of registration access codes (closed and open, barcodes);
- short card “lifetime” for the user — in 99% of cases, it is 5-10 minutes;
- impossibility of activating the scratch card to another phone number.

Operator costs

Direct costs of mobile operators using scratch cards are quite high and reach 12%.

They consist of the following types of expenses:

- external costs (about 2%);
- card production — about $0.2 per card;
- costs of maintaining personnel of production and commercial units;
- costs of financial departments personnel;



Comparison of costs: CyberPlat® vs. scratch cards

- costs for safekeeping of cards;
- costs of monitoring the work of staff at the outlet (staff’s fraud);
- anti-counterfeiting costs;

- collection costs;
- dealer commission (about 6%).

The operator's indirect costs depend on the trade margin of the retail chain selling the scratch cards, and usually amount to approximately 5%. In other words, in 95% of retail, a $10 card should be sold for $10.5, and, thus, a subscriber has to pay a 5% commission for receiving mobile services.

It is obvious that the subscriber anticipates the amount of money they are willing to pay and tries to avoid additional costs. That is why they will prefer to pay exactly the required amount through the CyberPlat® system instead of buying $10 with a $10.5 scratch card. The provider, in turn, will be able to receive the entire amount paid by the subscriber.

When paying in the CyberPlat® system, direct costs are made up of the provider's external costs for the personnel who has developed the payment gateway (usually 5-7 persons in the IT department) and is engaged in its technical support. The total amount of costs does not exceed 0.01% of the turnover and can always be made even closer to zero.

Another expense item is the commission paid to the CyberPlat® system. In the first year of operation, the commission is 3%, and decreases to 2% in subsequent years.

When using the CyberPlat® electronic payment system, mobile operators can reduce direct and indirect costs by an average of 5-13%.

	Scratch cards (prepaid service only)	CyberPlat® (any tariff plan)
Step 1	Find an outlet selling cards of the required value	Find a CyberPlat® payment acceptance outlet
Step 2	Buy a card of the required denomination	Top up your account with any amount to any phone number
Step 3	Call the card activation system	No
Step 4	Enter PIN-code (12-16 digits) from the phone keypad	No
Step 5	Make sure that your phone balance is topped up	Make sure that your phone balance is topped up
Risks	Purchase of a counterfeit, expired card or its loss	No

Use of CyberPlat® technologies helps to improve the quality of the operator's subscriber base and strengthen the loyalty of service users, reduces the probability of customer outflow, and also reduces the cost of attracting new subscribers.

According to experts, these advantages of CyberPlat® alone cause the growth of the subscriber base of foreign telecom operators by 8-10%, and in the case of complex integration, it can reach 20%.

BENEFITS FROM IMPLEMENTING CYBERPLAT® PAYMENT SOLUTIONS

- Complete elimination of costs associated with the production and maintenance of scratch card technologies (cost savings — more than 10%).
- Reduced total cost of business support.
- An increase in the number of small payments ($5 or less), which make up the majority of payments, contributing to an increase in the company's turnover up to 10%.
- Customer base growth (up to 20%).

- Reduced duration of the "silence period" of subscribers.
- Increased sales volumes (up to 20%) due to an increase in the traffic of payers attracted by the convenience of payments in retail outlets with the CyberPlat® service.
- Additional income due to the crediting of change from purchases to the mobile phone account at the checkout counters of retail outlets.
- Profit growth and increase in the market value of the company.

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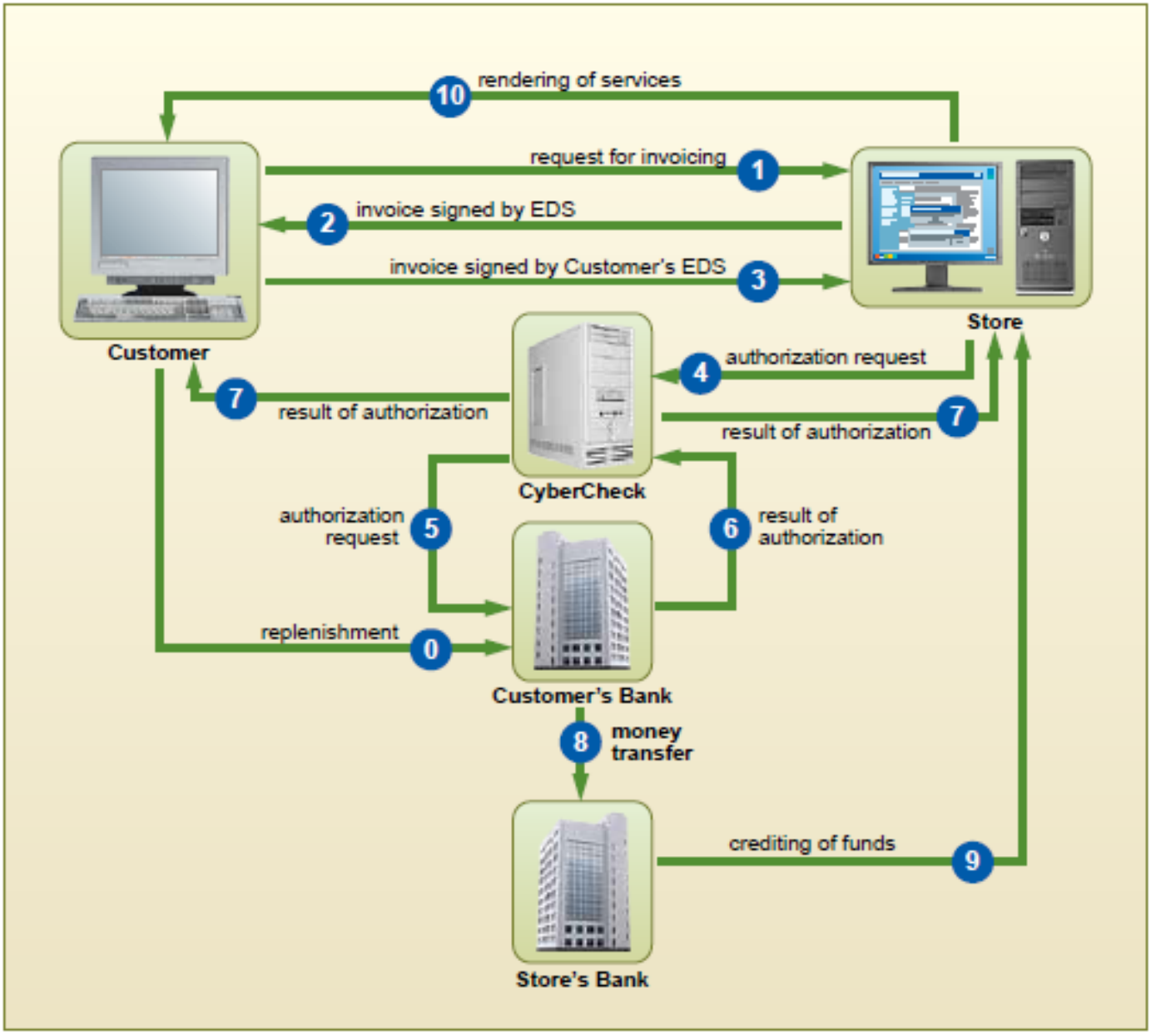
http://www.cyberplat.in

Appendix.

Payment Technology

CyberCheck



1. The Customer is connected through Internet to a Web-server of the Store, forms a basket of goods and sends to the Store a request for invoicing.

2. As response to the Customer's request, the Store sends him/her an invoice certified by the Store's EDS. The invoice contains the following data:

- description of goods (services),
- cost of goods (services),
- sort code of the store,
- time and date of transaction.

In terms of Civil Law, this invoice is a proposal to conclude a contract (offer).

3. The Customer, in his/her turn, signs the invoice with his/her own EDS and sends it to the Store, thereby accepting the offer (contract). The contract is deemed to be executed if the Customer executed the invoice. Upon execution, the invoice becomes a receipt.

4. Receipt containing two EDS (EDS of the Store and of the Customer) is sent to the CyberCheck authorization server.

5. CyberCheck verifies the signed receipt:

- checks the existence of the Store and the Customer in the System,
- checks EDS of the Store and the Customer,
- saves a copy of the receipt in the CyberCheck database.

In case of validation, the receipt is sent for payment processing to the Customer's Bank (Bank-Participant of the system where the Customer's account is operated in CyberPlat® system). Customer's Bank checks the balance and the limits of Customer's account. Afterwards, the Bank permits or prohibits payment. Customer's Bank sends the result of CyberCheck authorization system.

6. If the payment is permitted:

- CyberCheck sends to the Store a permit for rendering services (sale of goods),
- The Customer's Bank transfers funds from the Customer's account to the Bank of the Store (Bank-Participant of the system where accounts of Customers of the Stores are operated in CyberPlat® system),
- The Bank of the Store credits the funds to the Store's account,
- The Store renders the service (sells the goods).

7. If the payment is prohibited:

- CyberCheck sends to the Store a denial for payment processing,
- The Customer receives the denial with indication of reasons.

The Customer has full control over the purchase process. Each party holds a receipt with EDS as a documentary and lawful proof of the transaction.

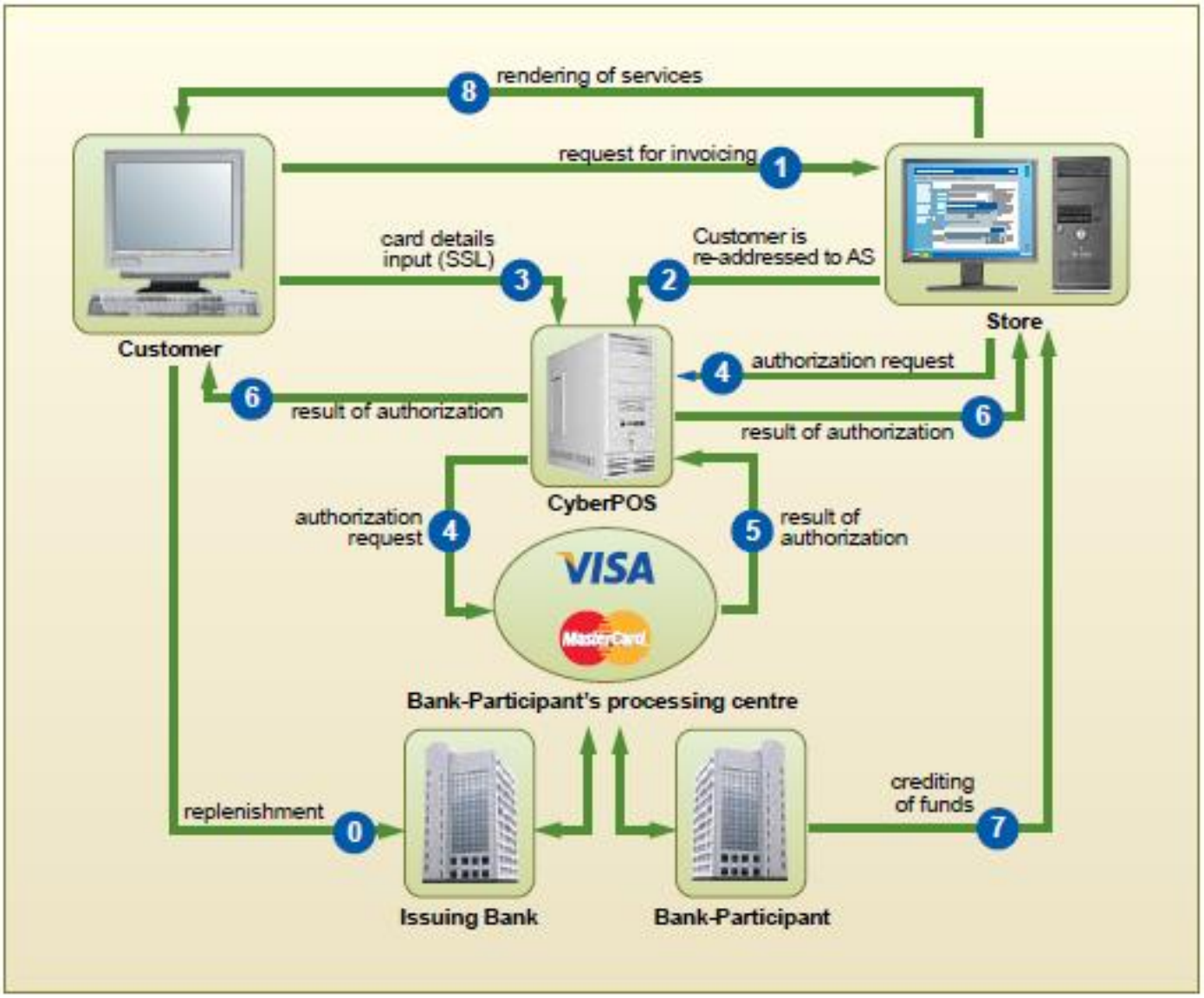
Account Statement

1. The Customer requests statement of his/her account by signing a request with his/her EDS.
2. CyberCheck verifies the Customer's code and EDS.
3. If the results of verification are positive, CyberCheck sends to the Bank a request for account statement, receives statement, and forwards it to the Customer in the form of a cryptographically converted text with EDS of CyberCheck.
4. The Customer receives the message, verifies signature of CyberCheck and performs reverse cryptographic conversion of the statement.
5. The Customer saves statement in his/her computer.

Request for payments made by the Customer at the Store

1. The Customer requests information on payments made at the Store indicating his/her code in CyberPlat® system.
2. Based on the received code, the Store provides information about the Customer's payments.

CyberPOS



Holder of a plastic card: NSPK Mir, Visa, MasterCard, (hereinafter – the Customer) can pay for purchases at Internet-stores, registered at the authorization server.

1. The Customer is connected via Internet to a Web-server of the Store, forms a cart of goods and selects payment by credit card from the methods of payment.

2. The Store generates an order and re-addresses the Customer to the CyberPOS authorization server.

   All communication between the Store and CyberPOS is carried out over a secure SSL protocol and is certified with EDS of the parties.

3. CyberPOS establishes with the Customer a connection over a secure SSL protocol and receives from the Customer the details of his/her credit card. The card details are transmitted in a secure form only to CyberPOS and are not provided to the Store during the Customer's transactions. CyberPOS checks the existence of the Store in the System, verifies compliance of the transaction with the established system limitations. After verification, prohibition or permission of card transaction authorization is formed.

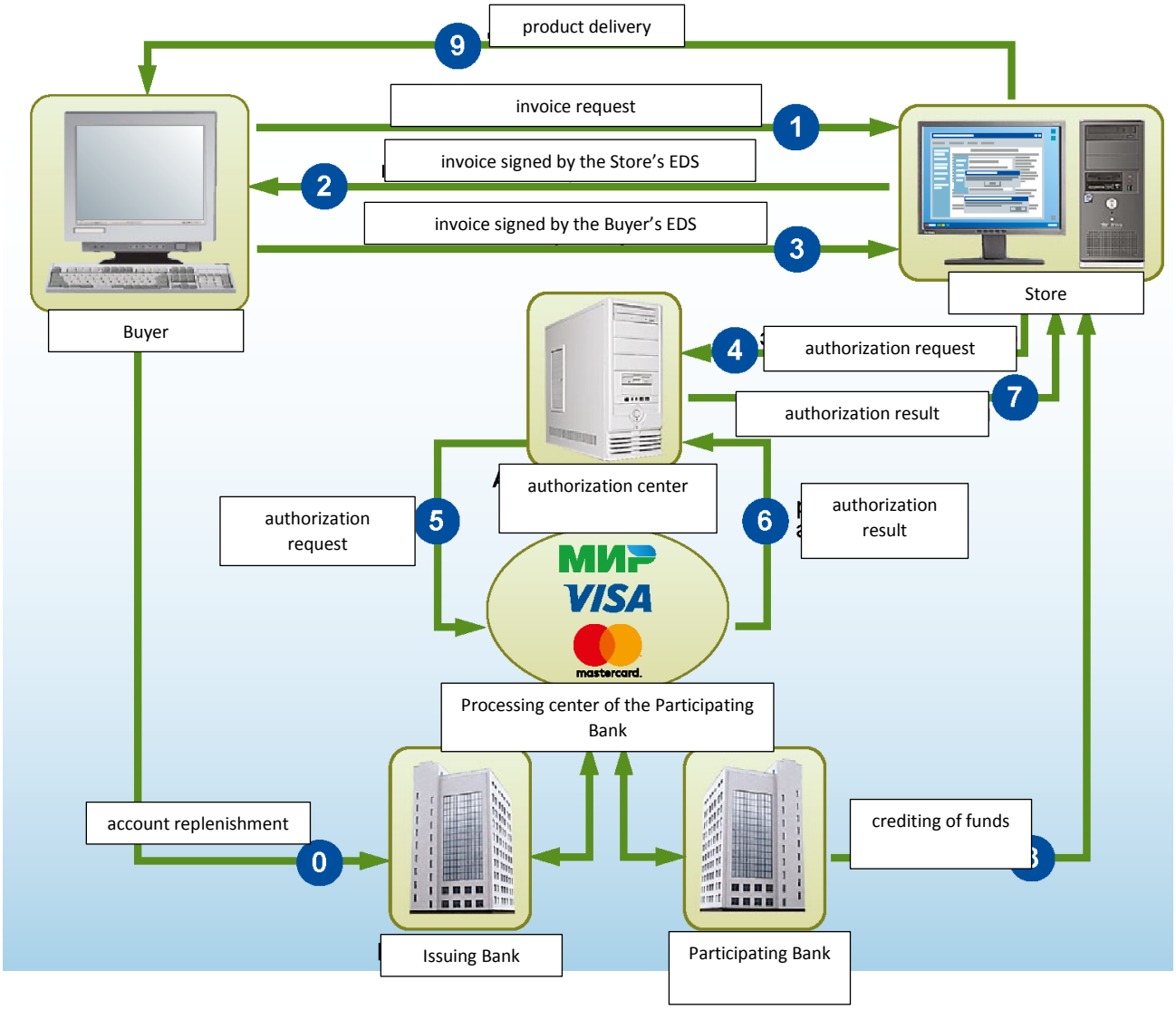
   If the authorization is prohibited:
   - CyberPOS relays to the Customer a denial with indication of reasons,
   - CyberPOS relays to the Store a denial with order number.

4. If the authorization is permitted:
   - CyberPOS relays it to the Bank-Participant's processing centre,
   - The authorization request is transmitted through closed banking networks to the issuing bank of the Customer's card or to the card payment system's processing centre authorized by the issuing bank.

5. If the result of authorization, as received from the card payment system, is positive:
   - The Bank-Participant's processing centre relays to CyberPOS the positive result of authorization,
   - CyberPOS relays to the Customer the positive result of authorization,
   - CyberPOS relays to the Store the positive result of authorization with the order number,
   - The Store renders the service (sells the goods),
   - The Bank-Participant credits the funds to the Store's account in accordance with the contractual relations between the Bank-Participant and the Store.

6. If the authorization is denied:
   - The processing centre relays to the authorization server a denial to effect the payment,
   - CyberPOS relays to the Customer the denial with a description of the reason,
   - CyberPOS relays to the Store the denial with the order number.

CyberCheck with the use of banking cards



Registration of plastic card holder:

1. The holder of the MIR, VISA, MasterCard plastic card (hereinafter referred to as the Buyer) is registered in the CyberPlat® electronic payment system.

2. When registering, the Buyer indicates:

- their personal data (surname, first name, patronymic, passport data, e-mail address, postal address, telephone);
- parameters of their card (name of the payment system in which the card is registered; card number; expiration date; name of the cardholder in the transcription used on the card).

Information on the card is transmitted in a secure form only to the CyberCheck server of the CyberPlat® electronic payment system during the Buyer's registration and is not provided to the Store when the Buyer's transactions are carried out.

Online purchase and payment processing

The procedure for purchasing goods in Stores is carried out using the CyberPlat® technology.

1. The Buyer connects to the Store's web server via the Internet, forms a basket of goods and sends a request to the Store to issue an invoice.
2. In response to the Buyer's request, Store sends them an invoice signed by its digital signature, in which it indicates:

- name of the product (service);
- price of goods (services);
- store code;
- time and date of the transaction.

From the civil law point of view, this invoice is an offer to conclude an agreement (formal offer).

3. The Buyer signs the invoice presented with their digital signature and sends it back to the Store, thereby accepting the offer (agreement). The agreement is deemed concluded from the moment the Buyer signs the invoice issued. In the system, the invoice signed by the Buyer becomes the receipt.
4. The receipt signed by two ESs (of the Store and the Buyer) is sent by the Store to CyberCheck for authorization.
5. CyberCheck verifies the signed receipt:

- checks the Store and the Buyer in the system;
- checks the digital signatures of the Buyer and the Store;
- saves a copy of the receipt in the CyberCheck database.

6. If the check result is negative:
- CyberCheck sends the refusal to process the payment to the Store;
- The Buyer receives the refusal with a description of the reason.

7. If the check result is positive:
- the receipt is forwarded to the CyberPOS server to generate an authorization request;
- CyberPOS transfers it to the processing center of the Participating Bank;
- the authorization request is transmitted through closed banking networks to the Bank — the Issuer of the Buyer's card or the processing center of the card payment system authorized by the Issuing Issuer.

8. With a positive result of authorization received from the card payment system:
- The processing center of the Participating Bank sends the positive authorization result to CyberPOS;
- CyberPOS sends the positive authorization result to CyberCheck;
- CyberCheck sends the positive authorization result to the Buyer;
- CyberCheck gives the Store permission to provide the service (release the goods);
- The Store provides the service (releases the goods);
- The Participating Bank credits funds to the Store’s account in accordance with the existing contractual relationship between the Participating Bank and the Store.

9. If authorization is refused:
- The processing center sends the refusal to process the payment to CyberPOS;
- CyberPOS sends the refusal with a description of the reason to CyberCheck;
- CyberCheck sends the refusal with a description of the reason to the Buyer;
- CyberCheck sends the refusal to process the payment to the Store.

The Buyer has complete control over the purchase process. As a documentary confirmation of the transaction, each party retains a signed digital signature receipt, confirming the fact of the transaction and having legal force.

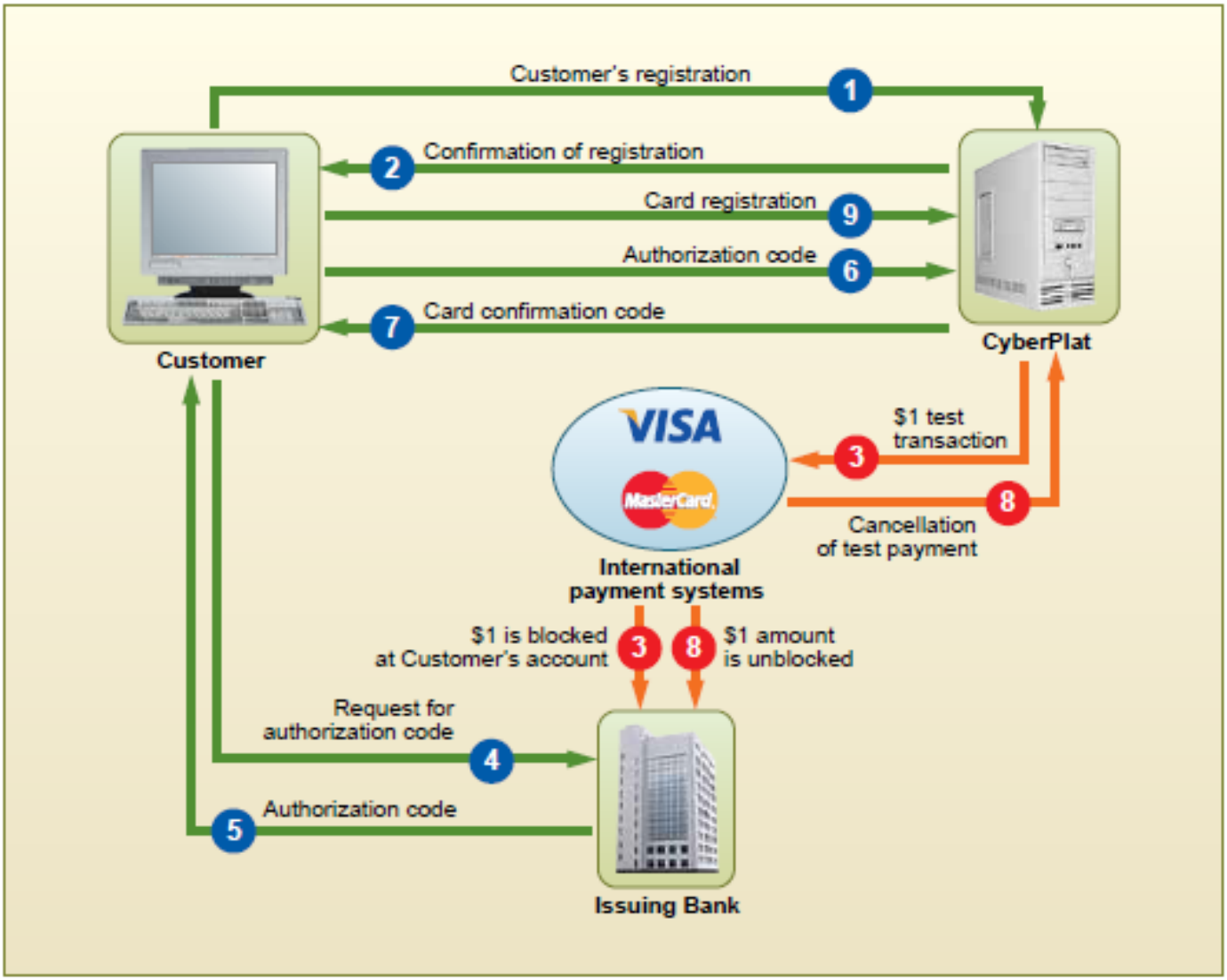
Statement of account

1. The Buyer requests a statement of their account by signing the request with their ES.
2. CyberCheck verifies the Buyer's code and the digital signature.
3. If the verification results are positive, CyberCheck sends the Bank a request for the statement, receives the statement and forwards it to the Buyer in the form of a cryptographically converted text with CyberCheck's digital signature.
4. The Buyer receives the message, verifies the CyberCheck signature and performs the reverse cryptographic transformation of the statement.
5. The Buyer saves the statement on their computer.

Request for processing Buyer's payments in the Store

1. The Buyer requests information on the payments made in the given Store, indicating their code in the CyberPlat® system.
2. Based on the received code, the Store provides information on the payments of this Buyer.

CyberPlatPay



In order to increase the security level of Internet payments, CyberPlat® system offers to stores and customers new CyberPlatPay technology. New CyberPlatPay technology provides opportunity to confirm customer rights to use plastic card when making Internet-payments. On the one hand, it increases the confidence of the Store in Customer's payments through credit cards and, on the other hand, it guarantees additional reliability to the Customer at making purchases.

In order to confirm his/her authority as of the legitimate cardholder, the Customer must complete the registration steps in CyberPlatPay in the following way:

1. The Customer, holder of plastic card, is registered in CyberPlatPay by inputting his/her personal information.

2. The System generates a personalized section of the Subscriber and issues registration confirmation.

3. The Customer proceeds to registration of his/her plastic card (personalized section – card registration). For this purpose, he/she enters his/her personalized section and inputs the card details into the system. The system forms a test transaction (test payment) to the amount of $1 (this amount will be returned to the Customer upon registration regardless of the registration results).

4. The transaction is transferred to the corresponding payment system and $1 is blocked (withheld) from the Customer's account opened with the issuing bank.

5. The Customer contacts his/her servicing issuing bank and requests the authorization code to test payment.

6. Having identified the Customer, the Bank transfers the authorization code to the Customer.

7. The Customer relays the received authorization code to CyberPlatPay (personalized section – card details).

8. CyberPlatPay checks the validity of the transferred code and, thereby, the legitimacy of the use of the plastic card. The CyberPlatPay System generates a card confirmation code (password) to use the plastic card and relays it to the Customer.

9. CyberPlat® system generates an order to cancel test payment and sends it to the payment system. The amount of $1 that was previously blocked at Customer's account is now unblocked.

Card confirmation code that is received by the Customer is used for actual payments; it is sent along with other card details and verified by CyberPlatPay system. For this purpose, the Customer needs to indicate that he/she pays using a registered card and shall specify the confirmation code.
The use of registered plastic cards allows establishing a higher level of trust between the Customer, online-stores, and CyberPlat® payment system.

Cryptocurrency risk management

Cryptocurrency risk management

The question of blockchain arose before me for the first time after the address of German Oskarovich Gref at the Davos Forum in 2014. I was asked then what Bitcoin was, and I had never dealt with it, and I had nothing to say. I even felt disappointed: how comes that German Oskarovich Gref knows about it, but I don't? Especially that he and I talked for a long time about technologies (he wanted to buy Cyberplat, but we did not agree on the terms) in 2010-2011, and I have a very good idea of the amount of his knowledge in digital technologies.

I have been dealing with computers since 1983 straight and I am deeply submerged into this topic. And he is basically a humanities-minded person, and his view of IT can hardly be deeper than mine. What use has the idea of teaching Sberbank employees a mathematical tool of artificial intelligence at your university, for example?! I engaged in artificial intelligence technology in 1988-1989 a little and I know very well that you must first study mathematical analysis, linear algebra, probability theory, mathematical statistics, modeling methods, algorithmic methods... and then you can come near the basics of artificial intelligence! Not every excellent student with a strong technical education can comprehend such a topic, and even more so a soft scientist: it's like teaching a sailor of the Revolution times the differences in the painting technique of the Impressionists.

Nevertheless, I began to acquaint myself with what bitcoin is, and came to a sad conclusion. Why was it sad? The majority happily tells us: “Everyone goes there, everyone earns money there!"” But unlike most, I know,

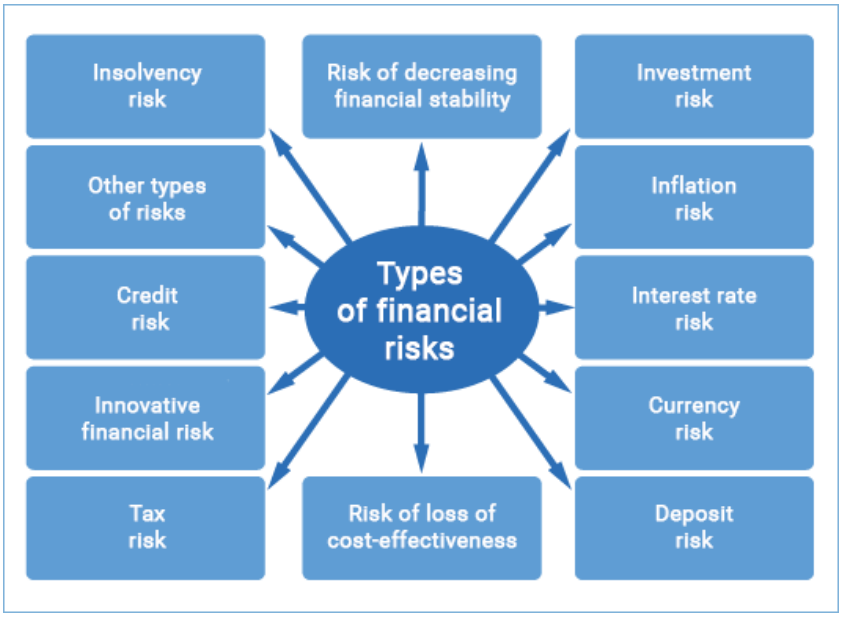
WHAT RISK MANAGEMENT IS

I will try to explain this concept to you in the most popular way, not going deep into the profile subtleties. Take the insurance business, for example. How are car theft insurance premiums formed? Insurers look at the statistics of the theft of a particular car brand over the past year. Let's say 3% of cars were stolen... They offer a 4% rate and know that if they insure 100 cars, three cars will be stolen, and they will withhold the premium on the fourth one, and they will still earn enough to buy a car. This is the essence of risk assessment -— knowing the amount of risk as accurately as possible. And if, after receiving nice bonuses, you also try to “persuade” the car thieves not to engage in thievery, this is already the risk management.

In the banking business, risk assessment is usually presented in the form of interest rates. When a potential borrower comes to a bank, bankers calculate their risks: the country risk costs this much, the legal framework risk costs this much, the economic sector risk, the risk to the owner, the risk to the development of technologies ... All these risks add up to form the final loan rate — for example, 12.5% per annum. And the client is shown why exactly it costs this much, and not, for example, 10% and not 15%.

Risks in new technologies should also be considered like this. When financial experts and/or IT specialists “enter” a new area in a professional sense, they surely create the new area risk management: somewhat a hypothetical book, where the table of contents is a list of risks, and each chapter is a description of the risk as such, its boundary values and methods for its mitigation.

Let's see how similar situations have been handled before. For example, to manage credit risks, bankers hired lawyers, developed long loan agreements, and then realized that they needed to have a security covering these credit risks.... Lending in its current form did not appear all at once! Banks are only 400-500 years old as institutions, and such instruments as legal support of loan agreements, collateral options, guarantees, sureties, pledges, etc. have been invented in these 500 years.



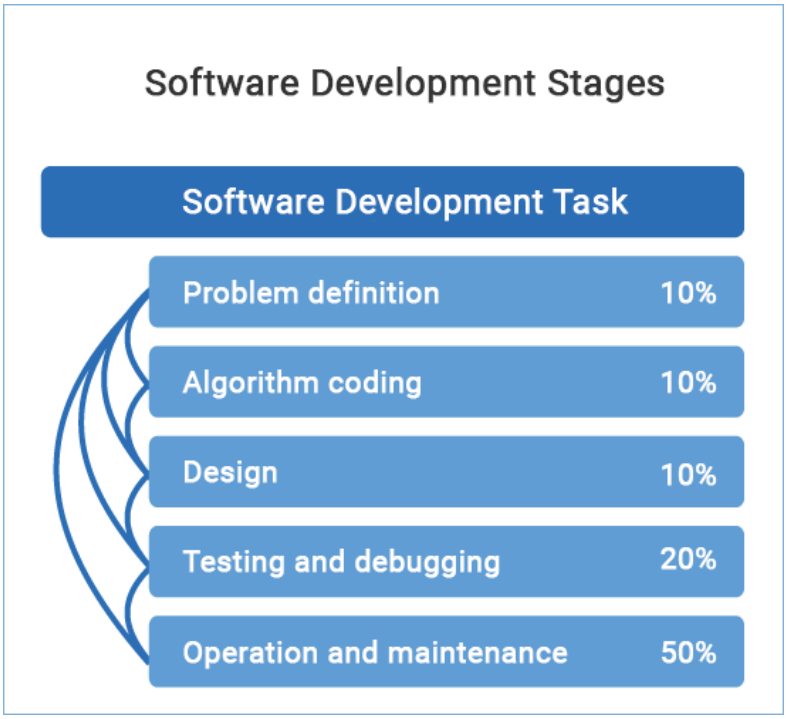
There are estimated risks. To overcome them, the companies involved in making settlements are licensed. Not everyone is engaged in settlements en masse, but only those whom the Central Bank is regularly keeping an eye. When they came up with checks, they made a whole legislation around them. As they did for letters of credit and escrow accounts.

The history of the credit and settlement risks management creation shows that it is quite possible to solve the issues of blockchain, bitcoin and other cryptocurrency risk management. And the solution is three-stage as ever: listing of risks, description of risks (threat model), and the work on finding methods to mitigate them.

Where we are in cryptocurrency risk management now

First of all, in Russia and worldwide, there is *little understanding of the origin of this technology and the goals pursued by its creators*. Natalya Kasperskaya told a little about the American origin of bitcoin, but most people, in principle, do not understand who created it and for what reason. What was the technical task for its development, if this was the result obtained? Why did the creators choose these technological principles from the huge variety of options at their disposal?

The issue of an ignorant assessment of the impact of technology on life often lies in maximalistic assumptions stemming from the fact that such an ignorant assessor does not even have the slightest idea of what he is talking about. There is one assessment: our whole life is going to change globally, because blockchain has emerged. And there is another: you shouldn't meddle with it, because cryptocurrencies are an organized fraud. Can you imagine the gap? It's not even a situation where you walk into a dark room and don't know if there is an elephant or a cat. This is a situation where you are not sure if you are in the room at all.



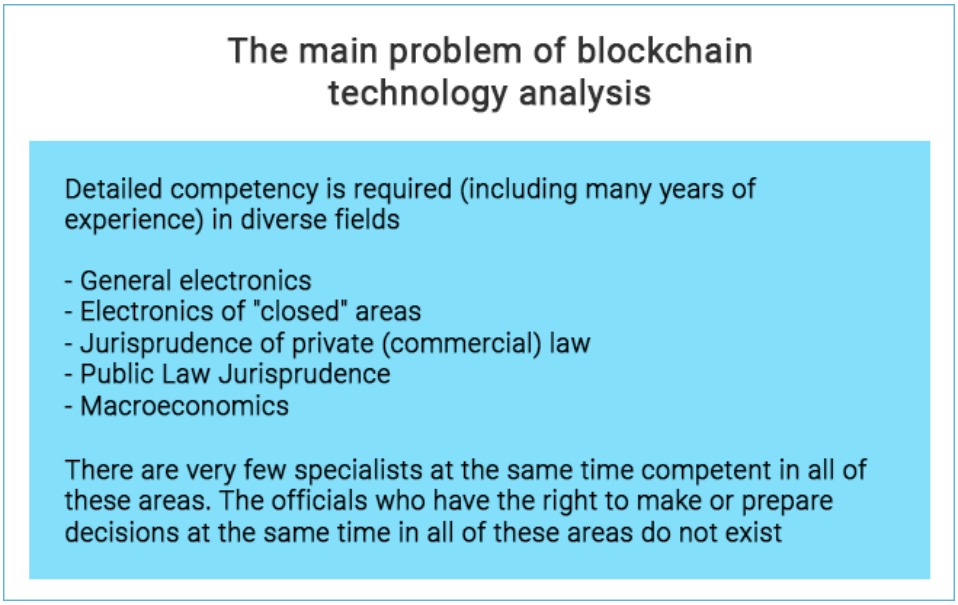
WHAT PLANE DO THE RISKS OF CRYPTOCURRENCY LIE IN?

This is why, when I began to study cryptocurrencies, I looked exactly at the list of risks... And I discovered that not just that there are many, but that they also lie across three large different planes: IT risks, economic risks, legal risks. And it is almost impossible to find one universal specialist who would understand all these areas at once. There are not more than a dozen of such people in the country, and it is unlikely that they work as public servants.

Thus, in the scheme of things, before dealing with cryptocurrencies, you need to make a list of all the possible risks, and divide them into professionally oriented risk groups, where each of them will be analyzed by an appropriate specialist. The legal risk group is for a lawyer, the economic risk group is for an economist, and so on. Because when an economist starts talking about IT risks, nothing good comes of it. This is the main problem of all digital currencies: everyone talks about their own, and it never occurrs to anyone that everyone who wants to engage in this needs to gather together, create a society consisting of profile departments, which would attribute each risk to the competence of the relevant department.

The first conclusion is that the main problem of analyzing blockchain technologies, or better described as distributed ledger technologies, requires an extensive competence in different areas.

What areas?



First, it is *basic electronics*, or understanding how computers work in general. You need to understand why it is based on the binary number system (exactly on ones and zeros), and not, relatively speaking, on twos or threes.

Then the most state-of-the *art electronics is very important, the so-called electronics of "closed" areas,* first of all — military electronics, in which special algorithms are used. After all, there are no purely peaceful technologies. If a person invents something, this invention is first used to kill all rivals.

When humanity managed to split the atomic nucleus, 300 thousand people were killed in Hiroshima and Nagasaki, to begin with. I think that the ape took the stick for the first time not to knock the fruit off a tree, but to knock on the head of another ape.

The same is true for electronics — be assured, everything that we see in the peaceful area was used in the military first. For example, mobile communications are a field communication grid developed in the mid-20th century for military use. Some of this technology was declassified and it became available to ordinary subscribers. The Internet was originally called ARPANET and connected several hundred military institutions and businesses in the United States. It was declassified, transferred to the public domain — now we send each other emails, watch news and visit other sites.

So, in order to analyze the blockchain technologies, you need at least basic knowledge of two fields of electronics.

Then comes the jurisprudence. It is necessary to know both from the perspective of public law: how cryptocurrencies, money, settlements are regulated by the state, and private (commercial) law, that is, how two equal persons (legal or physical) can exchange them.

And, of course, *macroeconomics* should be known.

Try imagining how many people are knowledgeable in all these industries well enough? Personally I was lucky, I have these three educations: electronic (Moscow Institute of Electronic Engineering), financial (Financial Academy[1]) and legal (law department of Moscow State University).

And the top-level problem is not even finding multidisciplinary universal specialists. The problem is to find such universal public servants, because they are the ones who must regulate processes at the state level, in the field of public law, but in macroeconomic interests, and relying on knowledge in the field of electronics.

LET'S CONSIDER THE MACROECONOMIC RISKS FIRST

Macroeconomic risks

Risks	Case	Study
Risk of inadequate literacy by top managers. A simultaneous detailed knowledge of IT, legal affairs and finance is required.	A major speaker declared Bitcoin and blockchain different technologies and different entities, a major banker determined the existence of the opportunity to train humanities in the apparatus of Artificial Intelligence	
Underestimation of future damage arising from the emergence of new threats in connection with the development of technologies used for criminal purposes.	Online banking, bio-identification	No one estimates how much the threat of hacking financial networks has grown after the implementation of an operation to steal cyber weapons from an isolated CIA network. Perhaps the existence of a technology for hacking a fundamentally new class, unknown to society. With Thermen-eagle broke only after 10 years.
The choice of an authoritative but inappropriate solution.	SET 1995	You can invest in something that will work poorly
Equity	Blockchain	Lack of economic support
Recognition of technology licensed or prohibited for use and storage, as was already the case with drugs, weapons, alcohol during Prohibition	Bitcoin, other payment methods by anonymous beneficiary	Wanna Cry that inflicts damage to the health and life of real people through British hospitals exists only because Bitcoin and other anonymous payment technologies are not prohibited
State-controlled alternative money circulation	Any cryptocurrencies	
Uncertainty of taxation of circulation and capital gains		

The first risk is the risk *of insufficient literacy of top managers*. An example. a speaker holding a very responsible position spoke at one a specialized conference, who said that blockchain and bitcoin are completely different things that need to be approached in different ways. The thing is, Bitcoin was created based on blockchain technology. And what is interesting, no one objected, rebelled, no one shushed him...

Another risk is the *underestimation of future damage arising from the emergence of new threats due to the development of technologies used for criminal purposes.* The extent to which we do not understand future risks can be illustrated by this example. About five years ago, everyone clamored: "The bank-client system will change our lives, people will send payments to the bank using their mobile phones from home, and everything will be fine". And no one warned that at the same time there would be hackers who would hack accounts, go there instead of the client, and make money transfers somewhere else. This is described by Nassim Nicholas Taleb in his book "Antifragile": "people always talk about the height of the mountains, based on the knowledge of the tallest mountain they saw. But that doesn't mean they won't find a mountain even taller". No one assesses the probability of the risk that these cryptocurrencies, God forbid, will be stolen, in a correct and professional manner. Recently, I came

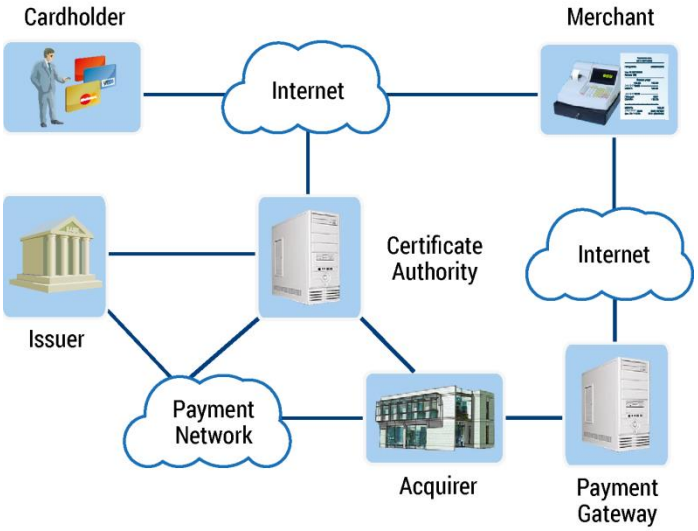
across information that 10% of the money collected at the ICO was stolen by hackers. And this is just the beginning. The percentage of funds stolen will rise because hackers are improving rapidly.

Another example. The United States is a highly developed country that creates cyber weapons to protect its interests. And to develop these weapons, the CIA has developed a separate top-secret network that is not physically connected to the rest of the Internet. And these weapons were stolen from this network! A reasonable question arises: if hackers were able to hack into an isolated top-secret CIA network in the high-tech US, how can they really fail to hack the Central Bank? And cryptocurrencies do not even have a unified registrar!

There is a very telling story of the consequences of underestimating the risks of technologies no one knows about yet. A Russian inventor, Lev Termen, invented the "Zlatoust" eavesdropping system, which worked for Russia against the Americans[2] for 10 years.

Once an American ambassador went to Artek to look at the pioneers, and they gave him a gift - an eagle carved from wood. A beautiful eagle, thought the ambassador. I'll hang it in my office, it's a symbol of America. And it's absolutely made of wood, there are no wires sticking out of it, the power supply is nowhere to be seen — there can be no eavesdropping devices there! So the eagle hung in his office for 10 years. And when they already knew for sure that there was an eavesdropping device somewhere in his office, and dismantled everything, they decided to look at this eagle as well. They took it apart and found some little wires. And it turned out that if this eagle is targetedly flooded with a certain radio frequency, then the wires act as a voice modulator, which overlay the sounds on this frequency. And this modulated frequency is taken from the air in another place and what is said in the office can be heard.

This technology was not known to anyone for the first ten years of its existence and use. Can you imagine how many technologies exist now that we do not know about, but they do exist, and they work! It would be good if they were ever open and we were allowed to use them. For example, you think you bought a mobile phone and it's yours. And Natalya Kasperskaya speaks quite frankly[3]: "Your smartphone is no longer your device. They give it to you so you can play with it yourself. But in fact, this is a device belonging to completely different people, whom we warmly greet". By extension, we do not understand the risks of new secret technologies, precisely because they are secret, but we are told — take it and use it all you want. And 10 years have not yet passed, almost no time at all.



SET components and Participants

Another macroeconomic risk is *the risk of choosing an authoritative but inappropriate decision*.

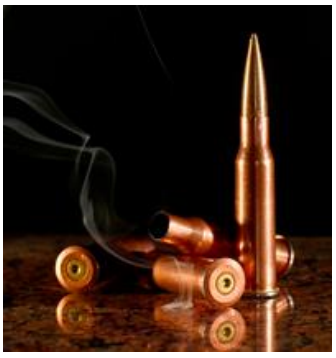
In 1996, the behemoths of the economy — Microsoft, IBM, Visa, Mastercard — gathered and decided to develop a single solution for electronic payments. When developed, it was named SET (Secure Electronic Transaction). Visa said: great, we will live with this solution. And the competent people who knew about IT immediately realized that it was very cumbersome, inconvenient, and no one, relatively speaking, would go to a bakery in a truck. And those who did not understand IT (and at that moment it was Alfa-Bank), took and bought the SET solution for about a million dollars[4] But a year later, they realized that a truck was a really inconvenient car to go to a bakery, and Visa suddenly left this association, and IBM said — sorry, we made a mistake...

This was a situation where everyone decided on the solution, one of them invested in it, and then the others unanimously said — oh, it won't do. Alfa-Bank had a long fight with Visa. It all ended with them accepted to some kind of a supervisory board as a consolation.

What's important in this story is that even the most experienced people can make wrong decision. And who provided us with evidence that Bitcoin is the right decision if there are already several thousand cryptocurrencies on the market? And Bitcoin no longer even holds a controlling stake among them!

All these are macroeconomic risks, which should be assessed, but by who? By Central Bank, Ministry of Economic Development, Ministry of Industry and Trade and other state bodies.

Another macroeconomic risk is the recognition of a technology as licensed or prohibited for use and storage, as was the case with drugs, weapons, alcohol during Prohibition. At one time, I wondered which currency was the best. I typed “the best currency” in Yandex... and you know what it produced? The first link? “The best currency is cartridges. One cartridge — one life”.



In a number of places which are at war, it is so. And our special forces, who fought in Chechnya, understand this as well. Where there is no law, weapons are the best currency. But as soon as the law is established, the free circulation of weapons is prohibited. There is a list of items which free circulation is limited in the civilized world: drugs, weapons, missiles, certain chemicals... It also happens that something that was legal for a long time suddenly becomes illegal. Suffice it to recall the history of Bayer Company: it began with the legal production and sale of cocaine. There were even cocaine nasal drops — People's Commissar of Health Nikolai Semashko prescribed them to members of the Council of People's Commissars. Bayer flourished, and then cocaine was banned from legal sale. Then they started producing heroin[5] until it was also banned.

In such area as the circulation of money, which is very carefully monitored by the state, a situation where something legal can become illegal is extremely likely. It is obvious that cryptocurrency will be recognized as legal in some countries, but won’t in others. In some countries, it has already been banned. And even if we may still have a whole Telegram channel dedicated to advertisements for the sale of apartments, cars and even titanium deposits for bitcoins and other cryptocurrencies, the question of the legal registration of such transactions remains open. How can the transaction be recognized as occurred, that the money were transferred from the buyer to the seller? And purely legal risks arise — recognition of the transaction as unlawful, illegal, failed, or even worse — as fraudalent.

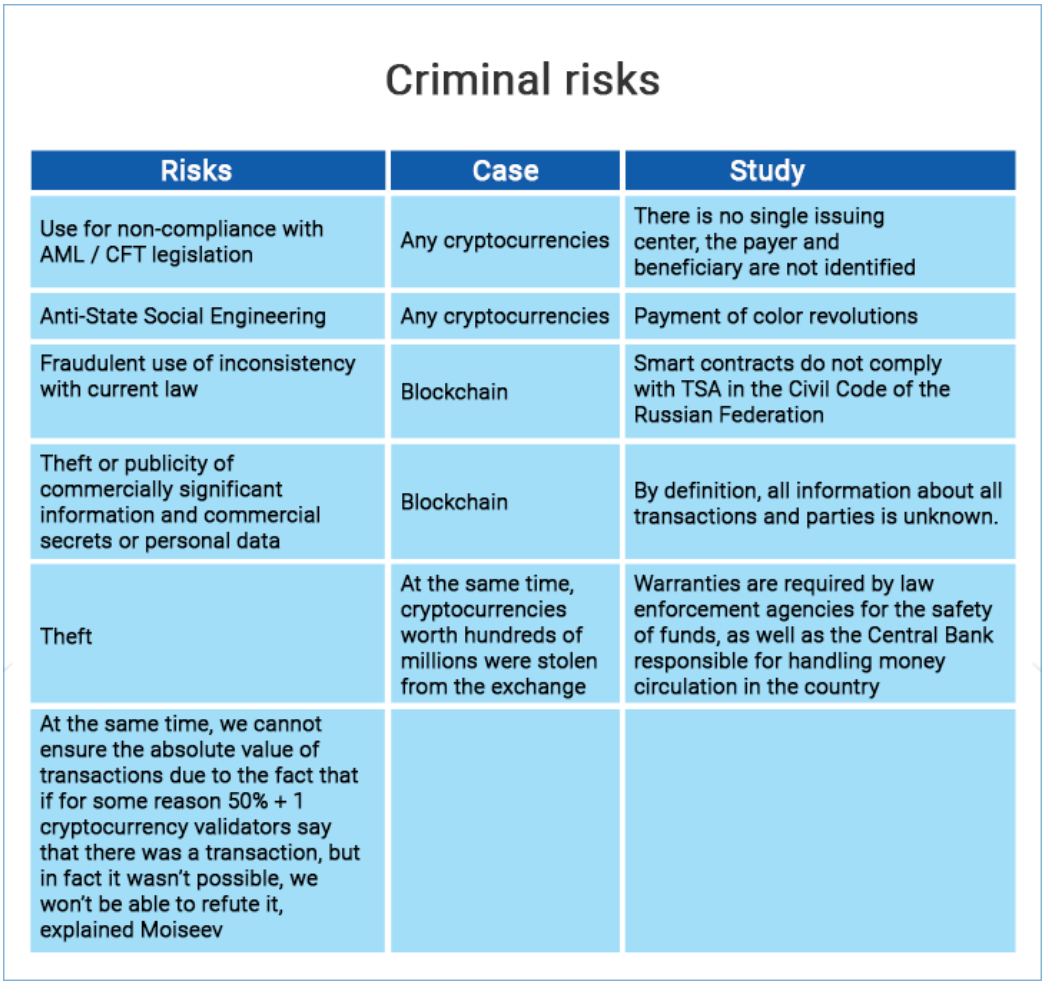
Not so long ago, the WannaCry encryption virus swept the world, causing real human casualties, because it also encrypted the computers responsible for maintaining life support of people in British clinics. Where did it come from? The first decoders worked based on canceling this cipher, subject to payment via SMS. And when this payment channel to the ransomware was closed, hackers stopped sending these viruses, stopped using this tool. We can say that WannaCry is based on the existence of anonymous cryptocurrencies: if there were no Bitcoin, there would be no economic sense to launch an encryption virus. Thus, if humanity wants to protect itself from encryption viruses, anonymous cryptocurrencies will have to be abolished. After all, there are so many devices you can infect with these decoding viruses, from smartphones to ventilation systems! And if, God forbid, someone tries to intimidate the whole world with such viruses, the issue of banning cryptocurrencies will arise in an instant. And these decisions are made by people who benefit from making politically beneficial populist decisions.

Another macroeconomic risk is *alternative money circulation, not controlled by the state*. The Chairman of the Central Bank of the Russian Federation Elvira Nabiullina and the Deputy Minister of Finance Aleksei Moiseev have

already mentioned this: no normal state will allow currency circulation on its territory, if it is not controlled by it. To some extent, no one pays attention, but as soon as circulation volumes increase, the situation changes.

Uncertainty in the taxation of cryptocurrency circulation and capital gains. Even tomorrow, the state can introduce any taxes on cryptocurrency, and such a risk must also be foreseen.

CRIMINAL RISKS



Criminal risks

Risks	Case	Study
Use for non-compliance with AML / CFT legislation	Any cryptocurrencies	There is no single issuing center, the payer and beneficiary are not identified
Anti-State Social Engineering	Any cryptocurrencies	Payment of color revolutions
Fraudulent use of inconsistency with current law	Blockchain	Smart contracts do not comply with TSA in the Civil Code of the Russian Federation
Theft or publicity of commercially significant information and commercial secrets or personal data	Blockchain	By definition, all information about all transactions and parties is unknown.
Theft	At the same time, cryptocurrencies worth hundreds of millions were stolen from the exchange	Warranties are required by law enforcement agencies for the safety of funds, as well as the Central Bank responsible for handling money circulation in the country
At the same time, we cannot ensure the absolute value of transactions due to the fact that if for some reason 50% + 1 cryptocurrency validators say that there was a transaction, but in fact it wasn't possible, we won't be able to refute it, explained Moiseev		

There are many.

Any cryptocurrency is at *risk of being used for non-compliance with legislation on combating legalization (laundering) of proceeds from crime and financing of terrorism (AML/CFT).*

Another risk is *anti-state social engineering*. What is it? Let's say people receive an anonymous email with a call: “Come to Bolotnaya Square at the said time, you will receive 1/10 bitcoin”. How many people will come? A very large crowd may be gathered. Let's imagine — these people came and then received a new message: “Now cross the bridge and reach the Red Square”. Or go to Manezhnaya. Anyone with this technology in their hands can remotely manipulate a crowd of greedy and stupid people.

The third *risk is the use of inconsistencies with current legislation for fraudulent purposes*. For example, smart contracts that form the base for the transactions, are not described in the Civil Code at all. The electronic digital signature is described, it is called equivalent handwritten signature. And from a legal point of view, no one knows what smart contracts are, and if you come to court with this, the court has no legal basis, or even more no precedents to base the court decision on. You have exchanged cryptocurrencies, yes, but by definition there is no judicial support of this decision. What is this risk equal to? We must evaluate, weigh it. Because such rules of the game can be invented that your investment in cryptocurrency will be depreciated instantly.

Another risk: theft or publicity of commercially significant information and trade secrets or personal data. This is where the issue with all blockchain technology lies. Everyone knows about all transactions at once. You know everyone's personal data. This directly contradicts the law “On personal data”.

We discussed the *risk of theft above* — it’s the same 10%. Yet. As Mr. Moiseev said: “We will not be able to ensure the absolute reliability of transactions due to the fact that if, for some reason, the 50% +1 cryptocurrency validators say that the transaction has taken place, but in fact it did not exist, we will not have any opportunity to refute this”. And if these validators are also anonymous, then the risk increases significantly.

The risk of finding prohibited information in the cryptocurrency network. Any cryptocurrency validator is the keeper of the entire data archive at once. Since the overwhelming majority of validators are not professionals in the field of creating and controlling cryptographic software, they cannot even understand that the archive may contain something alien. At the same time, researchers from the Universities of Aachen and Frankfurt found that in addition to financial information, about 1,600 other files are stored on the bitcoin network. Among the detected files, seven violate copyright: they contain excerpts from various whitepapers, an RSA private key, secret software key and key for cracking DVD copy protection. Also, the Bitcoin blockchain stores wedding photos and snapshots of people with their online aliases indicated. Among the files, there were copies of US diplomatic cables, leaked through WikiLeaks in 2010, the news of a demonstration in Hong Kong in 2014, some files on the bitcoin blockchain contain illegal information and 274 links to similar resources, 142 of which lead to services located in Dark Web.[6]

Risk of containerized cryptocurrency. Any crypto-coin (token) is a crypto-container. Having received it, the user can only know the information written on the "container wall", its name and denomination. The user cannot know what is stored inside the cryptocurrency cryptocontainer precisely because of the encryption. And anything can be stored inside: instructions on terrorism or top secret information. Or malicious code.

For example, an unlimited number of people can write to a public blockchain, there is no access control, and there is absolutely no chance that any prohibited information or virus will not be sent there. And there are no certified or even trusted means to check what is inside the cryptocontainer. In addition, many cryptocurrencies provide an open API for developers to develop their tokens based on the “base currency”. Developers have every opportunity to add illegal content to the cryptocontainer, and it is unlikely that anyone controls the process in addition to the developers themselves.

Has there ever been a historical precedent of risks being realized in an “untested container”? Yes, it has. In the 13th century Khan Kublai launched relatively “high-speed” caravans along the Silk Road. Was there anyone who objected to this new and clearly revolutionary technology for the delivery of goods? Everyone was in favor of it and very happy. No one then understood that the plague virus, naturally occurring in Mongolia, did not have the time to kill caravans in the Gobi Desert, and these caravans, due to their increased speed, became carriers of the plague bringing it to Europe and China. The cost of risk realization was the death of half of the population of Europe and two-thirds of the population of China.

We do not know what kind of "infection" may be stored in these cryptocurrency cryptocontainers. It is very easy to put malware in them, stealing information or infecting critical information infrastructure. Do we understand the magnitude of critical infrastructure shutting down?

TECHNOLOGICAL RISKS

Technological risks

Analysts - the largest existing integrators with extensive experience in implementation, manufacturers of banking software, the Ministry of Communications

Risks	Case	Study
Inappropriate for this use	Blockchain	The technology of distributed registries is necessary for automated control systems by
Inconsistencies with the set conditions (excessive publicity, low speed)	Blockchain	Everyone sees all transactions. Transaction speed 3 (maximum 5) per second cannot be significantly increased.
Opaque creation	Bitcoin	No one has ever seen the author, the source of financing of $ 20 million is unclear
First use of technology	Bitcoin	Born inside Thor, closely associated with the FBI ... in the store Silk road, called Amazon Ii Ebay for illegal goods

Where did blockchain technology come from? Nobody talks about it. But the blockchain technology is known not for the last five years that everyone talks about it, but for 35-40 years. And it was usually used for automated command and control systems, primarily for tactical information exchange. Imagine that you have 50 combat units engaged in combat operations. And there is a unit — for example, a helicopter, which took off, saw something important, received some information. This information must be passed on to all units of the subdivision and command, so that each of them has a complete picture of the battle. Either directly or in a chain. A transaction is considered completed only when this information has reached each authorized subscriber. Not when everyone knew about it, but precisely when they confirm the receipt. If you have 50 subscribers, the data transfer is fast enough. But as soon as their number reach thousand, problems begin... couldn't get through to one, the connection to the other was lost ... And the blockchain was originally designed for many thousands of validation nodes. The speed of this technology is 7 transactions per second maximum. What does this mean in comparison with other systems? At Cyberplat we have a nominal "firing rate" of 100 transactions per second, the peak speed is 500. In Sberbank, I suppose, the nominal speed is about 400, and the peak speed is 1500 transactions per second. How many blockchains does one need? When German Gref talks about the benefits of blockchain, I immediately start thinking — how many will he need?

The risk of inconsistency with the tasks. What are 7 transactions per second? That's about 220 million transactions per year. And we have a population of 140 million! This means that each of us can make less than TWO transactions per year! And if you need three, you have to wait another year to carry out the third one. If you need, for example, 300 transactions, I'm very sorry, but you won't live to see them completed. This is why introducing such technology in large communities is basically impossible. And large communities are served exactly by the bankers, they are interested in this. When IBM assembled the first serial hundred computers, one was bought by the Pentagon, one — by meteorologists, and the other 98 — by banks.

Photo: Hacker.ru

There was one case, where a group of developers, hearing that the speed of 7 transactions per second is not serious, assembled a thousand computers in one room, connected them with an optics cable and achieved 200-300 transactions per second. But, if this entire registry is located in one room, registry distribution becomes meaningless. Because if you want to distribute this registry across the globe, you need to use the communication system in its entirety: copper, air, etc. And a distributed, an actually distributed network, can not have such performance. Military can work with 7

transactions per second. And for bankers such speed will not be satisfactory. This technology was not originally made for this and does not fit the current form of the financial market.

We are slowly approaching the main thing. *Risk of non-transparent creation.* Who wrote the technical task for the creation of this software? Who accepted it for work? Who wrote the structured algorithm? Who commissioned the code? Who debugged it?

Natalya Kasperskaya was the first to publicly declare this that there was no Satoshi Nakamoto, and a group of American cryptologists is behind the blockchain creation. We already know that distributed registry technology was originally used in the automated command and control system by the military for quite a long time, and that is why there was nothing written about it in scientific and popular science journals. And now we find out that someone is already using this technology somewhere. And obviously he knew the ins and outs of it before. And what place has the people who understand these things? This, obviously, is the Pentagon.

Now let's remind ourselves where bitcoin was first used? There is an anonymous network called Tor, and it had an online store called the Silk Road that sold drugs. The Tor network is funded by anonymous donations, but strange as it is, the main donor is known: it's the US Federal Bureau of Investigation. And it goes without saying that this network cannot be hacked, because you need to hack five servers in a row ... If, of course, all these five servers are not yours to own. And if they are, all five of them, you read all this correspondence and make decisions: we lock these people for the statistics, we don't lock these people, but we look at who will swallow the bait, we don't lock these because they are paying us. Bad mouths say that this is how the Tor network was created — by certain people for certain people.

And the same bad mouths say about the Silk Road online store that when the FBI catches someone with drugs, it hands some things over to the state, and the rest, which was confiscated, sells on the side, but where is the most convenient store selling the confiscated goods located? An Internet store created by certain people for certain people is very convenient tool for this. If you also know that in the United States all FBI employees are officially released from responsibility for drug operations under the pretext that "they have to do this in order to infiltrate organized criminal groups," the picture becomes complete. It immediately becomes clear who and how controls the market. But, having made several cycles of "drugs/weapons — bitcoin", these people began dumping the cryptocurrency or exchanging it for apartments, cars, titanium deposits, etc. And since these people have many journalists in their arsenal, overblowing the story around all this did not require any effort.

Summing the things up. Before joining anything, let's think — how can we leave it? And if it turns out that it was laundering on an especially large scale, you are an accomplice in laundering operations involving drugs and weapons.

WHAT TO DO

You have to do risk management. The risk is described, its maximum magnitude is described, the so-called threat strategy is formed, the magnitude of this threat and the way it must be countered are described.

As you know, the most effective fighters against terrorists are the terrorists themselves — those who are counter-terrorists. They know how to carry out a terrorist attack, and can easily figure out how they can be neutralized. Any good armor maker knows perfectly well how a projectile works, otherwise he can't make armor. Why do thugs, when pushing their protection racket, call it insurance? Because it's all the same thing.

Not so long ago, a theory of the state as an institutional thug emerged, which was apparently awarded the Nobel Prize. To formulate the whole theory in just one phrase — "whoever has the biggest club is the chief of this territory". The same is true with cryptocurrencies. To deal with macroeconomics, you need to go to the biggest crooks in macroeconomics — the Central Bank, the Government. To engage in crime, you have to go ... it's clear where to. Only when it becomes profitable and interesting for them will they begin to manage this process.

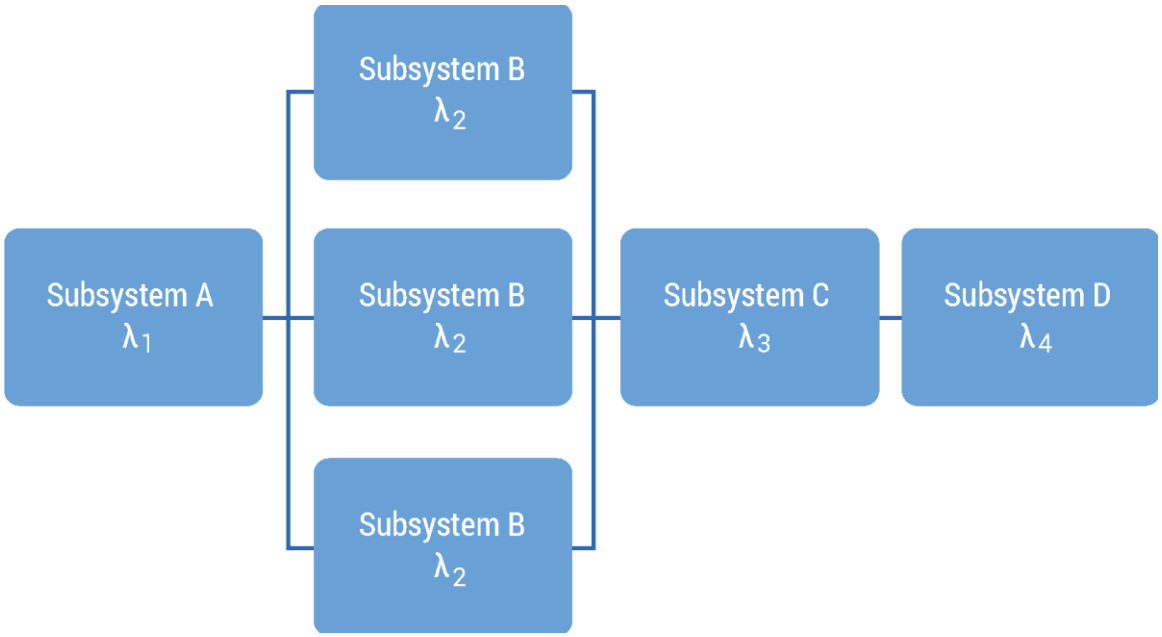
I y deeply believe that the real America — as we know it — began with the creation of Murder Incorporated in the 1920s. When the largest mafia clans gathered and decided that it was only possible to murder a person with the unanimous permission of the leaders of all mafia clans. Then the chaos ended, and by their internal court they sentenced who must be murdered and who must not be. From that moment, the country became civilized. Before that, cowboys shot at sheriffs, and sheriffs at cowboys, and the only difference between them was the badge. But from the moment the legal proceedings appeared in illegal space, from that moment civilization in the United States began. Any risk should be considered by professional risk managers. But who these managers are... We won't write it in the open, but we understand.

Therefore, in order to determine the risks of cryptocurrencies and create cryptocurrencies risk management, all risks must be divided into groups, and each group of risks must be studied by those who understand it.

- For example, IT risks should be entrusted to the Ministry of Communications and the Academy of Sciences.
- Economic risks — to the Central Bank, the Ministry of Economic Development, the Ministry of Finance.
- Criminal risks — to the Ministry of Justice, the Ministry of Internal Affairs, the Prosecutor's Office, the security services.

And only by hearing out all the professional opinions of all groups together, you can make a joint fundamental decision.

DISASTER TOLERANCE AND SURVIVABILITY



Probability theory teaches us that two-fold failure redundancy of information infrastructure in times of peace, for example, in civil aircraft or in processing systems, is quite sufficient, and three-fold redundancy is already somewhat redundant. This parameter is called disaster tolerance. But in combat aircraft and military C4I systems, for example, critical information infrastructure failure redundancy should be 4-7-fold. For the simple reason that this device when used for combat purposes, is targeted by the enemy in order to destroy it. Therefore, in case of

deliberate destruction of 2-3-4 levels of the combat information infrastructure, an aircraft or a control system must still perform their combat tasks. Therefore, the level of failure redundancy is four-sevenfold. And this is called survivability. This term is used in the design and testing of weapons. You can hear the phrases “ship survivability”, “tank survivability”, “aircraft survivability”. But there is no such phrase for peaceful systems. Because this level of survivability is not needed in times of peace. A sevenfold level of redundancy of onboard electronics is not needed for a peaceful passenger aircraft. And a sevenfold level of redundancy is also not needed for a peaceful processing system. Unless, of course, you set yourself the task of financing terrorism, intelligence networks behind enemy lines, or the implementation of deliberately illegal acts such as selling drugs.

In blockchain technology, each “game getter” — a “miner” — duplicates almost the entire network. This is some kind of super-mega-survivability. Even if 99% of the reservation is destroyed, the blockchain does not stop functioning. But is it possible to lose 99% of the backup infrastructure in peacetime? Of course not. Then why paying for such a clearly redundant resource?

Mega-survivability of cryptocurrencies requires sacrificing additional operation of the processors of all participants, and most importantly — the transaction time. **Clearly, redundant mega-survivability is the very reason for such low performance and high cost of using cryptocurrencies.**

A former PayPal CEO, William H. Harris writes “It takes about an hour for a bitcoin transaction to be confirmed, and the bitcoin system is limited to five transactions per second. MasterCard can process 38,000 per second. Transferring $100 from one person to another costs about $6 using a cryptocurrency exchange, and well less than $1 using an electronic check... It takes as much electricity to create a single bitcoin — a process called “mining” — as it does to power an average American household for two years. If bitcoin were used for a large portion of the world’s commerce (which won’t happen), it would consume a very large portion of the world’s electricity, diverting scarce power from useful purposes”.[7]

In order to use the blockchain technology for peaceful purposes, it is sufficient to reduce the number of verification nodes to 10, or 20 maximum. And if you transfer these verification functions to the players responsible for the risk management of this cryptocurrency, everything falls into place. We get a super-reliable payment infrastructure in terms of disaster tolerance (and even survivability), where ministries and departments authorized by the state serve as verifiers. The risks of using such a cryptocurrency will be minimal.

Thus, the most rational development of the distributed registry technology for the creation of cryptocurrencies is the creation of a cryptocurrency with a very limited number of verifying registrars, the number, composition and responsibilities of which (primarily aimed at reducing the risks of use) will be determined by the Government. These will necessarily include the Ministry of Communications, the Academy of Sciences, the Central Bank, the Ministry of Economic Development and Trade, the Ministry of Finance, the Ministry of Justice, the Ministry of Internal Affairs, the Prosecutor's Office, and security services.

All other users will use this registry and will not keep “archives” of other people's transactions.

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P. S.

As a result of reflection and discussion of distributed ledger systems for system of troop command and control we managed to understand that they have a very limited number of not only redundant nodes, but even subscribers. Firstly, the unit, roughly speaking, fighting in the Murmansk region does not need tactical data for the Caucasus. Secondly, when a single combat unit is captured, the enemy must not gain access to a large amount of secret data. What is most interesting, special forces have the same picture. When a single special forces operative is captured, local counterintelligence should not receive much information about the sabotage network. Thus, the number of redundant nodes even in the most risky zones does not exceed 10.

That is, empirical data gives us the opportunity to conclude that more than 10-fold redundance is not necessary anywhere and for anyone in any circumstances. For no user in the world. Closed interval from 1 to 10. There is no such risk in the world requiring more than 10-fold backup.

Then who needs crypto currencies with a multi-thousand-fold redundancy of the entire ledger?

After longtime thinking we were able to identify only one type of organizations that need to know everything about everyone. No, of course, there are also journalists, but high-level cryptography with elements of the technologies of automatic systems of troop command and control is "not their style". It is clear that for secret services, if they are the organizers of the implementation of crypto currency, such a tool is convenient. Everyone gives himself the whole amount of private data, believing that the system is anonymous, and does not want to think that any cryptosoft created by secret services just should have the "backdoor" [8].

This is common work of the secret service, they are paid for it. But why do users need it? Even if they have such a great love for the secret service of their country, they can probably find a less expensive and complex method of transferring information to them. If we are talking about the secret service of another country, one can get into a very delicate situation, simply described by the Criminal Code. As the poet wrote “It’s where they eat you without salt, They seal you in an envelope, Address at random, send you where the sun don’t shine” (Vladimir Vysotsky ‘Dorozhnaya Istoriya’, translation by Alex Tolkachev). And if a housewife can prove her solid ignorance of the foundations of the theory of reliability, as part of the theory of probability, then any IT guy who must have attended the lectures on the theory of probability, and even passed the exams, of which there is a documented evidence, it will not be easy to get out. The reason that "everyone does it" may not work, because epistemology - the science of knowledge, which is part of philosophy, directly tells us that "the majority opinion is not a criterion of truth"

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