

SEQUOIA MOSAIC 3000: PAYMENTS

Functional description

User's manual

Version 1.0

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Chapter 1. About the document

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1.1. Purpose of the document

This document describes the functionality of the SM 3000 PAYMENTS system, providing our customers the credit, bill payments, MO/TO, digital signature, bonus and membership products, including CashBack, presenting the Customer profile to manage it card through the Internet. This document was prepared for users of the SM 3000 PAYMENTS.

1.2. How to use this manual

The manual is designed to show the main functions of the Platform and to give a short description of the SM3000 PAYMENTS for users.

The terms, abbreviations and useful references to other documents about the SM 3000 system are provided at the final part of the document.

Terms and Abbreviations - a glossary of terms commonly used in the card processing and electronic funds transfer industry.



To know how to use the ALFEBA documentation, to find information about the register structure and graphic tags, used in the documentation, see the Manual 200100 «Documents register».

1.3. Classification

This document has been classified as External.

1.4. Document sheet

500001

1.5. Document contacts

In the case of questions or proposals about information presented in this document, you can contact Alfeba's Documentation Division by email doc@alfeba.com, by phone +598 2 208 31 42 or by mail, using the address: Av. Agraciada 2770, Montevideo, 11823, Uruguay.

1.6. Document history

Version	Date	Modification	Notes	Authors
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2.0.	13.03.2020	s/w version released	Version released	Natalia Bogorodskaya

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Chapter 2. About SM3000 PAYMENTS

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2.1. General information

In this chapter we provide the principal information about SM3000 PAYMENTS of the Sequoia Mosaic 3000.

2.2. About SM3000 PAYMENTS

SM 3000 PAYMENTS is a stand alone system built on a modular principle, which allows you to choose all the necessary functionality and at the same time optimize the cost of its acquisition.

It was developed using the SQL DB functionality and .NET development environment.

SM 3000 PAYMENTS is the industrial solution among the financial institutions, processing companies and companies and from other fields of economy, leading in terms of fault tolerance, scalability and openness. From the point of view of fault tolerance, the system was designed and implemented with an emphasis on the highest possible requirements, after initial installation, it practically does not require maintenance. The scalability of the system is, without exaggeration, a record. In a laboratory environment, the rate of 500 transactions per second is reached, so your investment in SM 3000 will never be lost, as it will satisfy your processing needs, no matter how they grow. From the point of view of openness, the system comes with complete documentation and source codes for everything except the communication core. ALFEBA policy does not prohibit making modifications and improvements, either on its own or by third parties that are present in sufficient quantities on the market. According to our information, this offer is unique for our market.

SM 3000 payments supports all modern protocols for working with international payment systems, provides unique flexibility in setting up the inter-post exchange interface based on the ISO8583 standard and, due to its prevalence, has the widest range of supported card service devices.

2.3. SM3000 PAYMENTS functionality

- Credit management and installments,
- MO/ TO operations and call-center based sales,
- · Bonus and Cash-Back products,
- Membership programs,
- Bills payments,
- · Cards and Payments back-office functions,
- Electronic (digital) signature using one time password,
- Customer profile via Internet and mobile phone,
- cards issuance and data preparation.

2.4. Modern cards industry requirements cover

The SM3000 PAYMENTS is developed to cover the needs of:

- A. Third party processors/ Member service providers of Visa, MasterCard and other international and national payment systems;
- B. Banks members of MasterCard, VISA and other international and national payment systems;
- C. Payment operators and facilitators;
- D. Agents of payment operators and facilitators (independent sales organizations [ISO])
- E. Internet merchants and their subsidiaries;
- F. Cardholders and bills payers;
- G. The companies from the telecommunication, insurance, hotel and other industries.

2.5. SM3000 PAYMENTS structural parts

The SM3000 PAYMENTS has three main internal structural parts:

- 1. Forms and application server;
- 2. Database server;
- 3. APIs and H-T-H interfaces.



To learn more about parts see sec. 3.3. The platform architecture.

2.6. SM3000 PAYMENTS integrations

Developed from the national processing center solution SM3000 PAYMENTS has traditionally a wide possibilities of the integration both with internal and external applications:

Internal ones:

- SM3000 IAP,
- SM3000 PAYMENTS,
- SM3000 PERSONALIZATION,
- SM3000 CRYPTO,
- SM3000 RISK.

External ones:

• Personalization platforms.

2.7. The place of SM3000 PAYMENTS in the SM3000 processing solutions

SM3000 PAYMENTS is a module based system, which provides the possibility to create and manage the different products for the payment and card industry, interacting with other ALFEBA's solutions.

The place of the SM3000 payments you can find in the Picture 2.7.0.0.



Picture 2.7.0.0. SM3000 processing solutions structure

- SM3000 EPS is a on-line authorization processing core, developed for the Third party processors, national processing centers and banks members of payment systems MasterCard, VISA and others. The Core processes cards issuing and acquiring banking programs, ATMs and POSs networks, has direct gateways to VISA, MasterCard and other processing systems. The full functional description of the SM3000 EPS see in the Manual SM3000 EPS. Functional description. The Core has integrations with core banking systems, TEMENOS, BANKXXI, DIASOFT and others banking accounting solutions.
- SM3000 PERSO is a personalization platform for the DataCard and NBS personalization stations. It supports NFC-based, contact chip and magstripe products personalization jobs. The full functional description of the SM3000 PERSO see in the Manual SM3000 EPS. Functional description.

SM3000 RISK - is a core based fraud prevention platform for the issuing and acquiring cards programs, based both on

- host parameters filters and
- on-line decisions making based on transactions history.

The full functional description of the SM3000 RISK see in the Manual SM3000 RISK. Functional description.

- **SM3000 PAYMENTS** is a platform for consumer credits, on-line payments for credit, MO/TO transactions by credit, membership programs, bonus and discounts management for cardholders and merchants.
- SM3000 IAP is a e-commerce solution that enables you to manage the payment transactions of your business. The platform supports multiple payment methods and integration methods.
- SM3000 CRYPTO is a full platform for the crypto currencies issuing and acquiring, including Merchant profile and mobile applications for users, crypto change offices and crypto stock exchange software, on the government and private level of the implementation. The full functional description of the SM3000 CRYPTO see in the Manual SM3000 CRYPTO. Functional description.

Between the mentioned platforms of the SM3000 processing solutions are local products, like a software for POS terminals (NEW POS and others), self-service terminals etc. Functional description of these products can be provided on demand.

Chapter 3. Platform architecture

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3.1. General information

In this chapter we describe a structure of the Sequoia Mosaic 3000 PAYMENTS.

3.2. The platform architecture

The core of the SM 3000 PAYMENTS is a FORMS AND APPLICATIONS server, which provides the communication layer, delivers messages, and also serves as the basis for the operation of other products and interfaces.

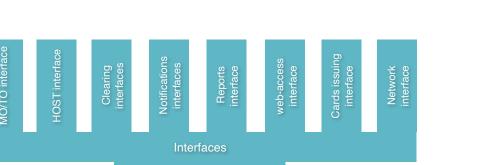
Among the key properties of the server, we note the following:

- Messages sending and delivery;
- Communication protocols support;
- Massages routing;
- Complete information on event management and statistics;
- · Architecture that supports linear extensibility;
- Open platform for future applications for transferring transactions, files and messages;
- Fault tolerance, which makes it optional to add resiliency software to the code of applications and other products.

The server provides complete data protection and ensures that transactions are never lost and data integrity is not compromised, even during peak periods and during system failures.

In addition to communication layer capabilities, server also provides a platform for a wide range of tasks. The server interfaces with many other electronic applications, including MO/TO terminals, teller terminals, postal services, telephone banking and clearing. SM3000 PAYMENTS supports also Credit management and other banking applications.

The general scheme of the SM3000 PAYMENTS is presented in the Picture 3.2.0.0.



MS SQL DB/ UNIX OS

Picture 3.2.0.1. SM3000 PAYMENTS scheme



With the system the special event-based and time schedule based tasks are implemented also: for example, for the on-time password processing they use event-based standard scheme, and for the report receive and send jobs the separate applications are running, managing the receiving the reports from the partner, its processing and change the database data values, and arming the report in the necessary structure, using the database data values and sending it to the partner, using programed schedule. The same scheme is used to process the Incoming and Outgoing files of the MasterCard and VISA payment systems, or to support data interchange in off-line mode with a banking or other applications.

3.3. Encryption standards

ALFEBA uses the encryption standards for the SM3000 PAYMENTS, presented in the Table 3.3.0.0.

Purpose	Encryption algorithm
User browser interaction	TLS 1.2 or above
Data encryption	AES with 256 bits key size

Table 3.3.0.0. The SM3000 PAYMENTS encryption standards

Chapter 4. SM 3000 PAYMENTS overview

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4.1. General information

In this chapter we describe the main functions of the SM3000 PAYMENTS.

The SM3000 PAYMENTS system is divided into modules that perform the following functions:

- Customer (Cardholder) web based interface setup and configuration;
- Operator web based interface setup and configuration;
- Administrator web based interface setup and configuration;
- Credit management and installments;
- MO/TO and call-center based remote phone sales operations;
- Bonus and Cash-back programs;
- · Clearing interface;
- Digital (electronic) signature interface;
- Host interface;
- Issuing data preparing interface;
- · Product and fees interface;
- Reports.

SM3000 PAYMENTS is a multifunctional modular product. For ease of understanding, the functions of each module are described below and how they interact to meet the requirements of a typical system.

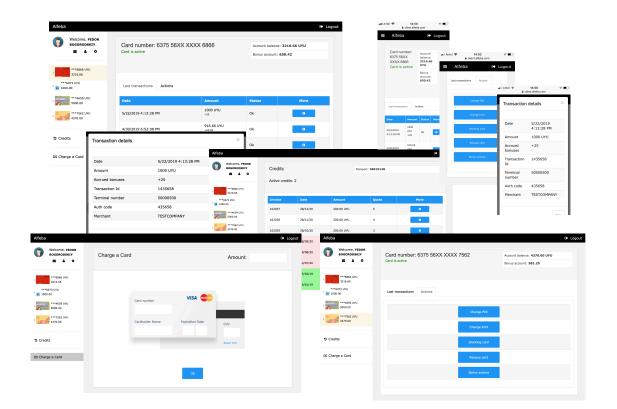
4.2. Customer web-based interfaces

The system has it own interfaces for the end customers or cardholders (Cardholder profiles), that can be customized for the customer's needs or used to develop the mobile phone applications.

Among the functions there are:

- transactions history check based on the card or banking account,
- balance check,
- purchase in credits and payments (installments),
- bonus points balance,
- bonus points history,
- · card block,
- PIN change,
- card renewal solicitation,
- new credit limit solicitation,
- bonus Program management (to accumulate or to pay with bonus points),
- card charge with other external card (c2c) or with the banking account (direct debit),
- other functions.

The customer profile supports several cards management and multi currency and multi language approaches.



4.3. Administration interfaces

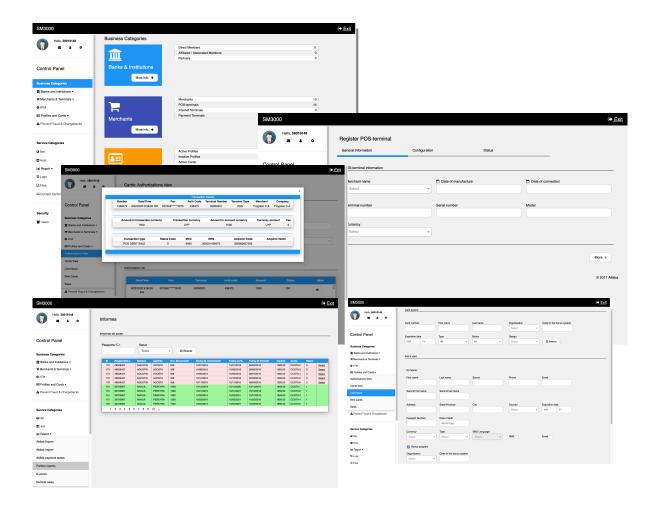
SM 3000 PAYMENTS has a number of utilities and tools designed to simplify the operational aspects of the system and provide the required level of security, using special Interface server. SM 3000 PAYMENTS webbased product screens are user friendly, technically inexperienced users can effectively use the system with minimal training. The interfaces access supports double authentication entrance approach, including onetime password sending by SMS possibility.

A comprehensive password-based input system is provided. Using internationally recognized cryptographic standards for passwords, passwords are changed and an exit time is automatically set. With an AMAZON cloud implementation we offer the AWS additional internal tools to use.

All files contained in the SM 3000 PAYMENTS system are fully accessible. Users can access files that control authorization, routing, and object definition within the system. Individual file and screen access can be user-defined using Read, Update, Add and Delete access, based on roles and routes.

Further access to the system of each user can be controlled by institution, time, device, function, and screen within the function, thus allowing access privileges to be set in order to effectively manage and control the user's access to system functions. This ensures that an individual institution only has access to those functions that belong to it and belong to it.

The administration interfaces are divided into two main parts: for the operator needs and for the administrator needs.



Administration interfaces allows to operate with the next functions:

- create users, roles and accesses;
- generate the reports on the users operations.

Operator interface allows to operate with the next functions:

- create new products, their fees and tariffs;
- create and manage the new financial institutions with its details, new IIN and ICA codes;
- create and manage the merchants, POS, internet POS and ATMs;
- create and manage the cardholder data;
- import and export the cardholder data for the production;
- look through the authorizations of cards and payments;
- make clearing and process the clearing reports;
- Upload and download data for reports;
- sell goods and services using MO/TO and call-center interfaces;
- identify the customer using digital (electronic) signature;
- manage cards and its accounts on the HOST and international level (blocking, unblocking, limits etc.);
- chargebacks preparation and routing;
- transactions refunds, holds and limits jobs management;
- setup parameters for the fraud prevention module (SM3000 RISK);
- other functions.

4.4. Credit management and installments

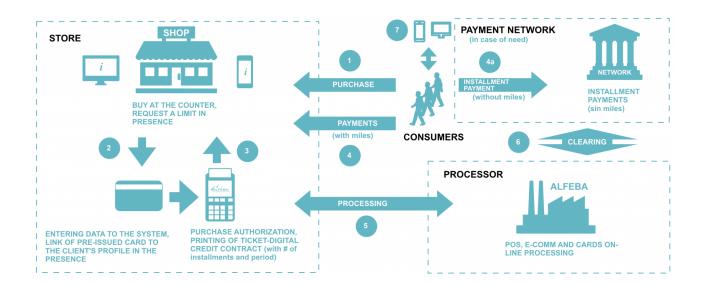
The SM3000 PAYMENTS provides the possibility to offer your customers to pay in credit with monthly payments through POS, MO/TO o e-commerce, you should register your product schema with the SM 3000 PAYMENTS, including terms of the credit sale, number of monthly payments, necessary of the cardholder ID usage and other parameters, which cardholder must enter during the sale operation. After the credit operation your customer can make the credit payments with any cashier, ATM or POS networks, connected directly to SM3000 PAYMENTS or through through the integrations, based on Host-To-Host on-line or reports mode choose.

The business model of the product for a store or self-employed person can be not competitive with the bank. On the contrary, owning modern and globally proven automated technology for direct sale of goods in installments, each bank servicing the store gains its advantage over its competitors by focusing on corporate services and moving away from the routine of retail banking business, which is undoubtedly associated with risks.

In this case, the bank provides its client – a shop or a private entrepreneur – with proven and modern technology, stable settlement and cash services and, if necessary, lending against working capital.

So that we developed the payment scheme for this product independently from the bank participation.

The credit algorithm is presented on the Picture 4.4.0.0.



Picture 4.4.0.0. The credit scheme algorithm

In accordance with the Picture 5.4.0.0. the next steps are described:

- 1. The buyer purchases a product or service in a store and asks the seller to complete his purchase in installments in his presence.
- 2. The seller behind the counter takes a previously issued loyalty number card from him, finds it in the SM 3000 PAYMENTS system through the web-access interface, enters data about a new customer, forming his profile, and sets a limit according to the purchase amount or in accordance with the store's policy. In case of checking a client in Equifax or another system, he performs the necessary actions based on the client's passport number. Depends on the store preferences, checking the client in the database of credit histories can be automated and carried out without the participation of the seller in real time mode at the time of the purchase request (card authorization) through the POS terminal, through the seller's interface or e-commerce.
- 3. The seller accepts the previously issued card for payment to the buyer, and reads it in the POS-terminal installed on the counter and connected to the SM 3000 system (in the case of use of e-commerce mode all of the steps are automatized). On the check of the POS-terminal, a loan agreement is printed, which is signed by the client. At the time of payment with the card issued to the buyer, the seller enters a) the purchase amount, b) the client's passport number, c) the number of installment payments and d) the store's invoice number. At the time of purchase, the buyer receives bonuses in the amount and according to the loyalty scheme/ algorithm previously established by the store.
- 4. The buyer pays the installment payments according to the schedule approved by the store and viewed in the client's personal account, in the store itself through the installed POS terminal (or at the store's webpage) with the accumulation of bonuses, or in the payment acceptance network.
- 5. Processing authorizes the request for the card and the POS terminal (e-commerce internet-store).
- 6. Processing clear with payment acceptance networks.
- 7. The buyer views the history of purchases and upcoming loan payments via the Internet on his mobile phone or on a computer via the web interface, manages the accumulation of bonuses or the payment for an upcoming purchase, requests an increase in the credit limit or card expiration, and also blocks his card in the case of loss or stolen.

At the same time the Credit management of the SM3000 PAYMENTS can be used to create new credit products, to add different fees and tariffs plans, to make integrations with the third vendors like EQUIFAX and credit bureaus, to cover the needs of the international payment products ov VISA, MasterCard or Union Pay.

Picture 4.5.0.0. The remote sales algorithm

4.5. MO/TO and call-center based products

Many stores are looking to optimize their costs by implementing telephone sales. Such a sales function is transferred to a call center, in-house or by contract.

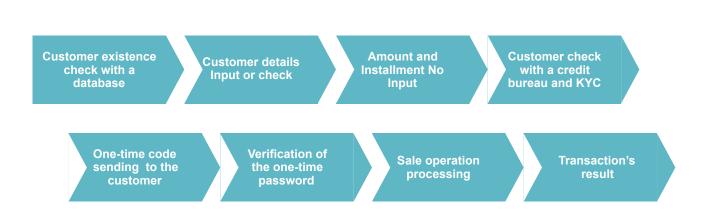
With a SM3000 PAYMENTS system we have developed the special product for remote sales in the international MO / TO format with a special interface for operators.

The telephone sale process minimizes the operator's actions and eliminates the work with cards, concentrating on establishing a new customer and registering a sale with automatic binding of a pre-issued active card number, on the basis of which a customer profile is created, which can be issued in physical form later, already with a first and last name. and transferred to the buyer.

The remote sale process is accompanied by the authentication of the sale by the method of simplified customer identification, carried out by sending a one-time code in an SMS message to the buyer's mobile phone, which he notifies to the call center operator, for further entering into the system and confirming the sale. In the same message, the Buyer is sent his loyal customer card number and a link to enter his personal account.

During the conversation between the operator and the customer, the operator is presented with tips in the form of the text of the installment agreement, which is read out by the operator and signed by the client in the form of a one-time code communicated by him to the operator, received in an SMS message, and service messages read by the operator to the client.

The described transaction process in SM3000 PAYMENTS can perform the functions, mentioned on the Picture 4.5.0.0.



4.6. Loyalty products: Bonuses and Cash-backs

4.6.1. About loyalty

Loyalty programs, bonus and discount cards are the best loyalty products for your customers, that can be given directly in your store or e-commerce by the physical or virtual card or an additional loyalty product to your existent payment or membership cards.

Bonus product has an easily customizable algorithm, that can be setup by the store or by other participant quickly.

It can be as additional product to your payment or gift card as well as an independent one.

The bonus algorithm has multilevel setup menu and could be tuned by:

- Merchant Category Code;
- Issuer BIN/ IIN (first 6 digits on the card);
- Sub-Issuer BIN/ IIN range (first 8 digits or more on the card);
- Region.

For each Bonus program we assign a separate code or prefix. It means, that several participants can be stayed inside of the program: both as issuers, which issue the bonus card and acquirers, which accept it.

If you'd like to provide a bonus programs crossing – that's not a problem. Our solution allows you to setup cross payment (exchange) rates and fees between the different loyalty programs of the same issuer or different issuers.

Each issuer can have one or more own or third party stores to accept the card. For each store the fees can be setup individually.

4.6.2. Loyalty fees and rates algorithm

The loyalty program has two algorithms: to accumulate points and to spent them during the payment.

Each loyalty program can be based on the next fees accumulation algorithms:

- % rate from the sale amount, accumulated with a card account by CashBack or Points;
- Fixed rate from the sale amount, accumulated with a card account by CashBack or Points.

Each payment algorithm can be based on:

- mixed payment by money and points, for example 10% by points and 90% by cash or
- debiting points firstly and when they'll finish the cash from the account;
- payment by points only (100%).

The 2 first options are used when the loyalty program is an additional one to the payment or gift card.

The last one is used always if the loyalty card is not connected with a payment instrument.

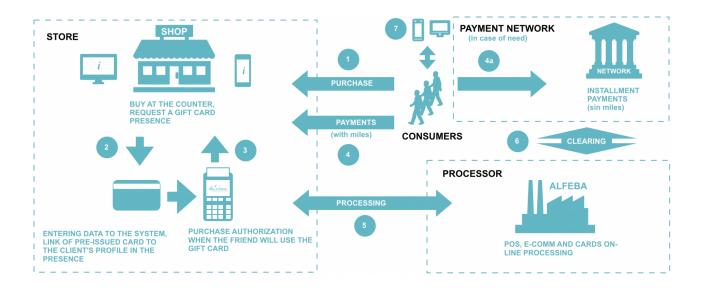
4.6.3. Buying, selling and transferring point

The point can be transferred from one card to the other one as well as be sold or purchased. The last one happens when the card user'd like to buy a thing using accumulated points and he doesn't have the needed quantity.

The transference can be done inside of the same loyalty program as well as between the different loyalty programs with an exchange rate.

4.6.4. Issuing and acquiring scheme

The loyalty card can be present at the store at the moment of the purchase, that is shown on the scheme below.

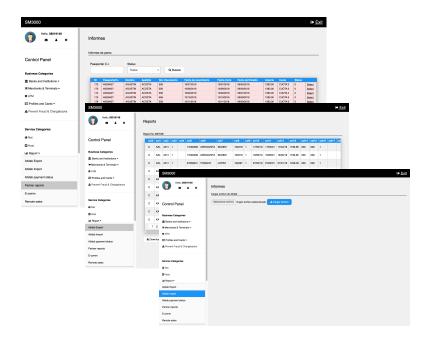


- 1. The buyer gets a loyalty card in a store.
- 2. The seller behind the counter takes a previously issued card, finds it in the SM 3000 PAYMENTS system through the web-access interface, enters data about a new customer, forming his profile, and sets a limit according to the amount of the gift.
- 3. When the customer presents the loyalty card to pay, the seller accepts the previously issued card for payment to the buyer, and reads it using the POS-terminal installed on the counter and connected to the SM 3000 system (in the case of use of e-commerce mode all of the steps are automatized).
- 4. Processing authorizes the request for the card and the POS terminal (e-commerce internet-store).
- 5. Processing clear with payment acceptance networks if the card in a co-branded one.
- 6. The buyer views the history of purchases via the Internet on his mobile phone or on a computer via the web interface, manages the accumulation of bonuses and also blocks his card in the case of loss or stolen.

4.7. Clearing interface

Clearing functionality of the SM3000 PAYMENTS includes data preparation for the outgoing reports and data processing in the case of in-comings.

The data clearing can be executed both on the internal and external levels, depending on the payment/ card products. For the international products and payment system the clearing function can be used for the incoming and outgoing files processing.

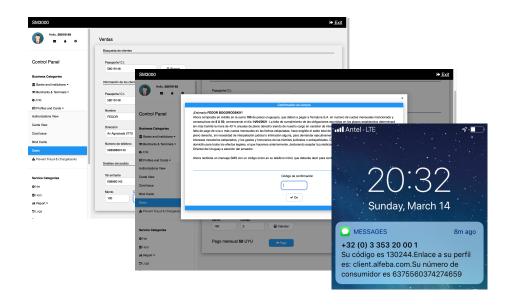


On the internal level the credit and debit products clearing can be supported by the System. In the case of the integration with a Clearing house, like EQUIFAX, of any credit bureau, the system provides matching of the transactions done and to be paid.

SM3000 PAYMENTS provides the clearing and matching of the transaction with the third party POS, branchbased and ATMs payment networks for the credit payment capture.

4.8. Digital (electronic) signature interface

The system has its own digital signature product, based on the one-time password, mailing by SMS to the customer. This product can be used for the additional authentication, e-document signing, remote sales and other banking products.



The product interface can be used for the double authentication during the users and customers entrance or the payments approval also.

4.9. Host interface

SM3000 PAYMENTS can be integrated using both the narrative SM3000 family products interface and customized one, implemented with the customer's requirements.

The HOST interface has on-line mode, which can be realized on the ISO8583 formats or using other standards.



The HOST interface API can be provided after the NDA signed only. Please, ask for the lates copy from our Customer support desk at <u>www.alfeba.com</u>

4.10. Issuing data preparing interface

The SM3000 PAYMENTS has the issuance data preparation and personalization equipment management block. This product can be additional one to the SM3000 PERSO and SM 3000 EPS systems.

The main functions, which are provided by the system are:

- customer profile preparation,
- · accounts and cards details generation,
- cards details charge into the authorization HOST of the SM3000EPS,
- · fees management,
- · customer profile, cards and accounts management (block, unblock, other functions),
- loyalty products management accounting (based on the loyalty product number, the card number) or ID number;
- · remote and virtual cards issuing management;
- · data upload to the external equipment and personalization platforms.

Profiles and cards													
Card search													
Card number	First name	Last name	Organization	Code in t	he bonus system								
			Select	•									
Expiration date	Туре	Status	Design										
MM YY	Al	All +	Select	- Q Se	arch								
Add a card													
No Name													
First name	Last name	Secret	Phone	Email									
Second first name	Second last name												
			Profiles and	cards									
Address	State/Province	City	Card binding										
			ourobinoing										
Passport Number	Date of birth		Card number										
	dd/mm/yyyy				Q Search								
Currency	Туре	SMS Language	Card num			First name	Last n			ion date			
Select +	Select -	Select v				First name	Last n			ion date			
			637556023	3303285					12/20		Select		
onus program			637556050	3271188					12/22		Select		
Organization	Code in the bonus system		637556026						12/21		Select		
Select -			637556506		6375565088634817					1	2/21		Select
Date of entry			637556581	2201	1234	5 6 7 8 9 10							
14/03/2021				-									
Design	Number of cards		637556508										
Select -			1 2	3 Data	update								
					Selected card:								
+ Add					637556023330328	15							
					First name	Last name		Secret		Phone	Email		
					Address	State/Province		City		Country	SMS Language	e	
										Select v	Select	*	
					Passport	Organization		Code in the bonus sys	stem				
						Select	•						
					SMS Email								
					✔ Ok								

The SM3000 supports a one moment card issuing at the moment of the customer's presence at the local desk. In this case the systems provides a number-based card profiles generation and storage with the subsequent entry of the customer's data with a card/ application printing/ record on the card, NFC device or stored with a virtual view for the external application.

The mentions above task executes by three easy steps:

- card profile generation, based on card numbers, for N number of cards (entries),
- prefabricated card entry search by the operator o by the system and filling in the customer profile details,
- data export for the card printing, recording or the storage with the SM3000 EPS or any external system.

The cards production preparation process includes two main steps with the SM3000 PAYMENTS:

Data storage with the authorization HOST and

Data export to the personalization platform or for the third party personalization vendor.

Profiles and cards								
Card search								
Card number	First name	Last name	Organization	Code in the bonus system				
			Select -					
Expiration date	Туре	Status	Design					
MM	All v	All	Select •	Q Search				
Add a card		All	Profiles and cards	3				
-		Ready for download	Card search					
No Name		Issued						
First name	Last name	Not processed Secret	Card number	First name	Last name	Organization KALICRED -	Code in the bonus system	
			Expiration date	Туре	Status	Design		
			MM	All	Ready for download v	REPUBLICARD	Q Search	
			UID N	lumber Name	Expiration date	Type State	us Design	All 🗖
							Publish marked	Lownload file

All of the steps can be preselected automatically, based on the scenario, presented by the financial institution.

4.11. Product and fees interface

SM3000 PAYMENTS allows to create and manage products. The was developed on the base of the business categories, covering the needs of the banks and financial institutions, merchants network, based on POS, mPOS or Internet-acquiring terminals, ATM and SST networks, payment branch networks.

SM3000		Direct Memoers		€ <u>Exit</u>
Hello, 58019148		Affiliated / Associated Members	0	
	Ξ	Partners	0	
•	Banks & Institutions			
Control Panel Business Categories				
■ Banks and Institutions ▼		Merchants	13	
		POS-terminals Internet Terminals	16	
`₩ Merchants & Terminals ▼	••	Payment Terminals	0	
¢ ATM	Merchants			
E Profiles and Cards -	More info >			
A Prevent Fraud & Chargebacks				
		Active Profiles	0	
Service Categories		Inactive Profiles	0	
@ Net		Active Cards	1501	
C Host	Profiles & Cards	Inactive Cards	101	
lal Report ▼	More info 🔺			
D Logs				
🖻 Files				
O Contact Center	\$	On-line Offline	0	
Security	ATM			
쓸 Users	More info >			

Each category has its internal number of fees details and parameters, which can be tuned in accordance to the customer requirements both for the cards issuing and acquiring programs or payments programs and money orders products.

For example, the cards issuing is created using the customer profile record, which can contain any number of banking accounts in any currency. The same time, every card can include a number of banking accounts, masked by IBAN of other format, in different currencies and different types, for example:

- USD savings account,
- EUR savings account,
- USD current account,
- EUR current account,
- USD credit account,
- USD check account.

The same structure can be displayed to the customer using its own POS, SST or ATMs, connected directly to SM3000 EPS or through the external platforms, or through the Customer profile web-based interface.

The SM3000 PAYMENTS allows to make transfers between both the accounts and cards, for example, paying the credit from the savings account, or charging the prepaid card from the current account. All of the logic is tuned during the project implementation phase.

As to the merchant profile, it can combine the POSs and Internet-acquiring entries, using one account, which can be managed though the banking account or by the debit card, issued to the merchant representative.

The merchant accounts can be registered in any currency and can be of the different types, similar to the cards accounts, up to the credit products.

The financial institution profile includes 3 levels of the entity participation with the payment system: principal member, affiliated/ associated member and a partner, based on the Co-Brand product or using the ISO (independent sales organization) status both for the issuing and acquiring programs.

The SM3000 PAYMENTS was designed in accordance with the requirements of American market, which has its own specific on the POS, Internet-acquiring and ATM networks business organization. It means, that the third ATM or POS network can be registered and managed directly with a SM3000 PAYMENTS system, using the licenses of several principal members or payment systems directly: POS concentrator networks, independent ATM networks and Internet-acquiring integrators (service operators and service providers). Each program can have its own fees and clearing formats.

4.12. Reports

SM3000 PAYMENTS has a reports block, which can be integrated with a third application, using SQL queries and reports generation possibilities. Based on the customer requirements ALFEBA can provide the tables descriptions to use them as a source for the SQL queries and reports generation.

4.13. System design principles

Using new R&Ds in the cards industry we are working to improve the SM 3000 PAYMENTS architecture, based on the modern approach. So that, implemented with AMAZON AWS once, we've aggregated a number of the modern instruments of our applications processes, DBs and PCI DSS infrastructure support, that simplifies the data processing jobs for our customers.

Chapter 5. Attachments

This chapter contains the next sections:

Section	Description	Page
5.1.	Terms and abbreviations	39
5.2.	External documents references	41

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5.1. Terms and abbreviations

3 3D-Secure Is an XML-based protocol designed to be an additional security layer for online credit and debit card transactions. ΑΡΙ Application programming interface Authorization Is an approval from a card issuer, usually through a credit card processor, that the customer has sufficient funds to cover the cost of the transaction. Β во Back-office, of the SM3000 PAYMENTS, where the Operator's employers work to maintain the Platform jobs, as cards, Merchants, Transactions, Agents, Reports, file exchange with a main Processing system etc. Cardholder A person who owns a card, such as a cardholder of a credit card or debit card ChargeBack Is a return of money to a payer. Most commonly the payer is a consumer. The chargeback reverses a money transfer from the consumer's credit card. The chargeback is ordered by the bank that issued the consumer's payment card. F FE Front-end, of the SM3000 EPS, where the cards authorizations are processed in on-line mode IAP Internet acquiring platform. The Platform created as a separate application for the Payment operators and Payment facilitators. ID Identification number (f.e. transaction ID or Merchant ID) Incoming-File The data file, that Platform receives from the Bank's processor Light API The interface to connect the Merchant's own platform to the SM3000 IAP



	MasterCard	MasterCard International payment system
	Merchant	A legal entity carrying out trading activities on the Internet using the
	Merchant	software provided by the system
	MPI	Merchant Plug-in
0		
	Operator	Payment operator or Payment facilitator, that uses SM3000 PAYMENTS
	Outgoing-File	The data file, that the Platform sends to the Bank's processor
Р		
	PAN	Primary account number, or simply a card number, is the card identifier found on payment cards, such as credit cards and debit cards, as well as stored-value cards, gift cards and other similar cards.
	Payment Gateway	A hardware-software complex developed and supported by a payment system that automates the acceptance of payments on the Internet.
	Payment System	Payment system between users, financial organizations and business organizations. Allows you to pay, bills and purchases, transfer money.
R		
	Refund	A process in which a customer returns a product to the original retailer in exchange for money previously paid
	Reversal	The operation of crediting funds to the payer's account as compensation for the cancellation of the provision of the service or the poorly rendered service.
S		
	Service	Merchant's service entry, registered for each MCC. It has its own parameters, fees etc.
	SM3000	Sequoia Mosaic 3000. The processing platform of the cards issuing and acquiring processing, ATMs, POSs, e-commerce and m-commerce processing
	System	A payment system that allows you to transfer money, accept payment for goods and services through various payment gateways.
Т		
	Transaction	Within the framework of this service, a completely completed data exchange operation with a payment system, including debiting / crediting funds to an end user account.
V		
	VISA	VISA International payment system

Functional description

5.2. External documents references

The manual uses the links to the other documentation of the SM3000 PAYMENTS, listed below:

Document code	Document name	Document Purpose	Document category
200101	SM3000: IAP. Functional description	Describes main functions of the SM 3000 IAP	User's manual
100101	SM3000: EPS. Functional description	Describes main functions of the SM 3000 EPS	User's manual
300101	SM3000: PERSO. Functional description	Describes main functions of the SM 3000 PERSO	User's manual
400101	SM3000: RISK. Functional description	Describes main functions of the SM 3000 RISK	User's manual
600101	SM3000: CRYPTO. Functional description	Describes main functions of the SM 3000 CRYPTO	User's manual

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