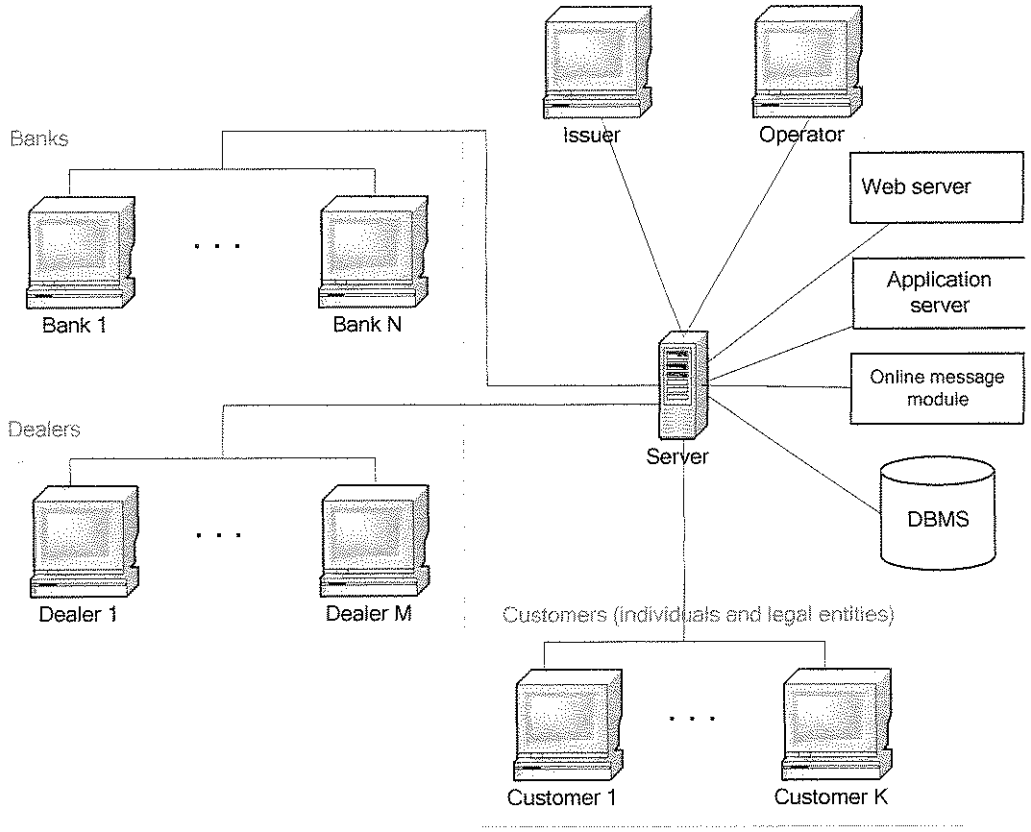

Banks
Bank 1
Bank N
Issuer
Operator
Web server
Application server
Online message module
Server
DBMS
Dealers
Dealer 1
Dealer M
Customers (individuals and legal entities)
Customer 1
Customer K

Fig. 1

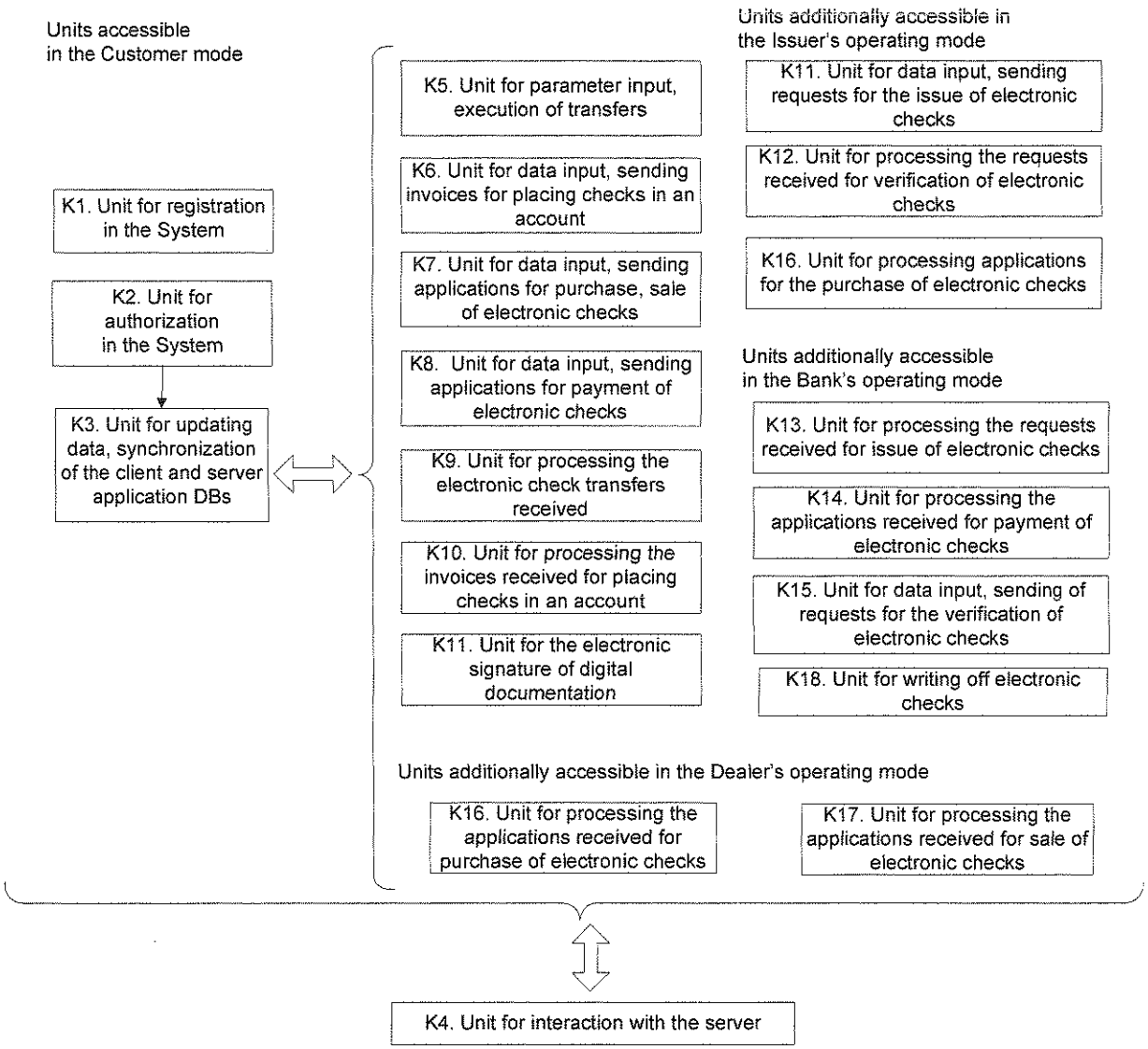

Units accessible in the Customer mode
K1. Unit for registration in the System
K2. Unit for authorization in the System
K3. Unit for updating data, synchronization of the client and server application DBs
K5. Unit for parameter input, execution of transfers
K6. Unit for data input, sending invoices for placing checks in an account
K7. Unit for data input, sending applications for purchase, sale of electronic checks
K8. Unit for data input, sending applications for payment of electronic checks
K9. Unit for processing the electronic check transfers received
K10. Unit for processing the invoices received for placing checks in an account
K11. Unit for the electronic signature of digital documentation
Units additionally accessible in the Issuer's operating mode
K11. Unit for data input, sending requests for the issue of electronic checks
K12. Unit for processing the requests received for verification of electronic checks
K16. Unit for processing applications for the purchase of electronic checks
Units additionally accessible in the Bank's operating mode
K13. Unit for processing the requests received for issue of electronic checks
K14. Unit for processing the applications received for payment of electronic checks
K15. Unit for data input, sending of requests for the verification of electronic checks
K18. Unit for writing off electronic checks
Units additionally accessible in the Dealer's operating mode
K16. Unit for processing the applications received for purchase of electronic checks
K17. Unit for processing the applications received for sale of electronic checks
K4. Unit for interaction with the server

Fig. 2

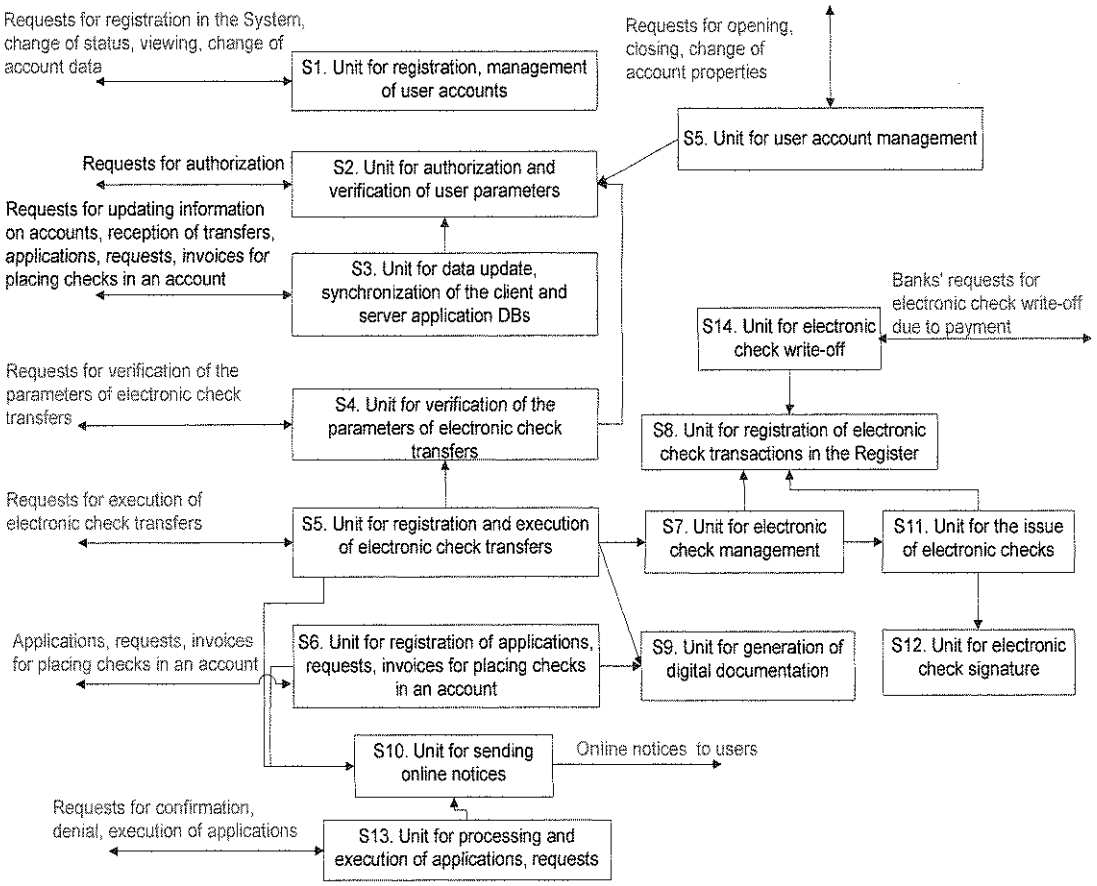

Requests for registration in the System, change of status, viewing, change of account data
S1. Unit for registration, management of user accounts
Requests for opening, closing, change of account properties
S5. Unit for user account management
Requests for authorization
S2. Unit for authorization and verification of user parameters
Requests for updating information on accounts, reception of transfers, applications, requests, invoices for placing checks in an account
S3. Unit for data update, synchronization of the client and server application DBs
Banks' requests for electronic check write-off due to payment
S14. Unit for electronic check write-off
Requests for verification of the parameters of electronic check transfers
S4. Unit for verification of the parameters of electronic check transfers
S8. Unit for registration of electronic check transactions in the Register
Requests for execution of electronic check transfers
S5. Unit for registration and execution of electronic check transfers
S7. Unit for electronic check management
S11. Unit for the issue of electronic checks
Applications, requests, invoices for placing checks in an account
S6. Unit for registration of applications, requests, invoices for placing checks in an account
S9. Unit for generation of digital documentation
S12. Unit for electronic check signature
S10. Unit for sending online notices
Online notices to users
Requests for confirmation, denial, execution of applications
S13. Unit for processing and execution of applications, requests

Fig. 3

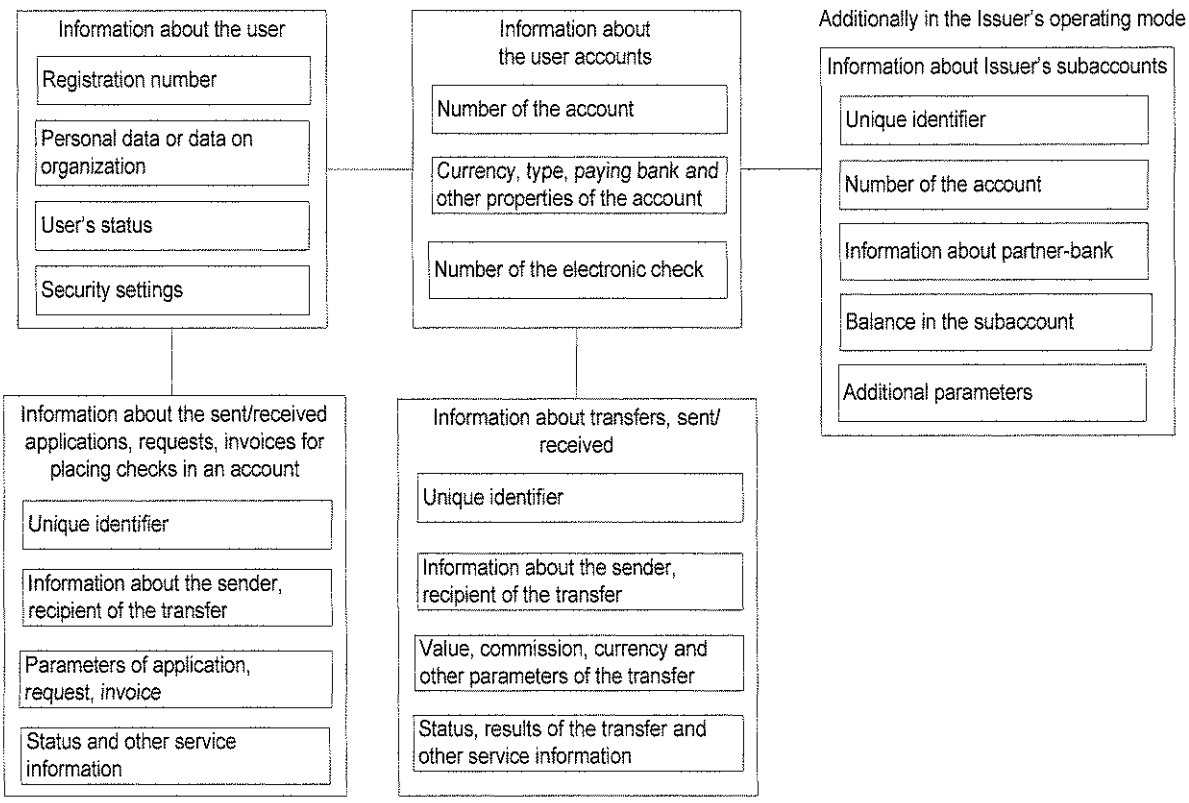

Information about the user
Registration number
Personal data or data on organization
User's status
Security settings
Information about the user accounts
Number of the account
Currency, type, paying bank and other properties of the account
Number of the electronic check
Additionally in the Issuer's operating mode
Information about Issuer's subaccounts
Unique identifier
Number of the account
Information about partner-bank
Balance in the subaccount
Additional parameters
Information about the sent/received applications, requests, invoices for placing checks in an account
Unique identifier
Information about the sender, recipient of the transfer
Parameters of application, request, invoice
Status and other service information
Information about transfers, sent/ received
Unique identifier
Information about the sender, recipient of the transfer
Value, commission, currency and other parameters of the transfer
Status, results of the transfer and other service information

Fig. 4

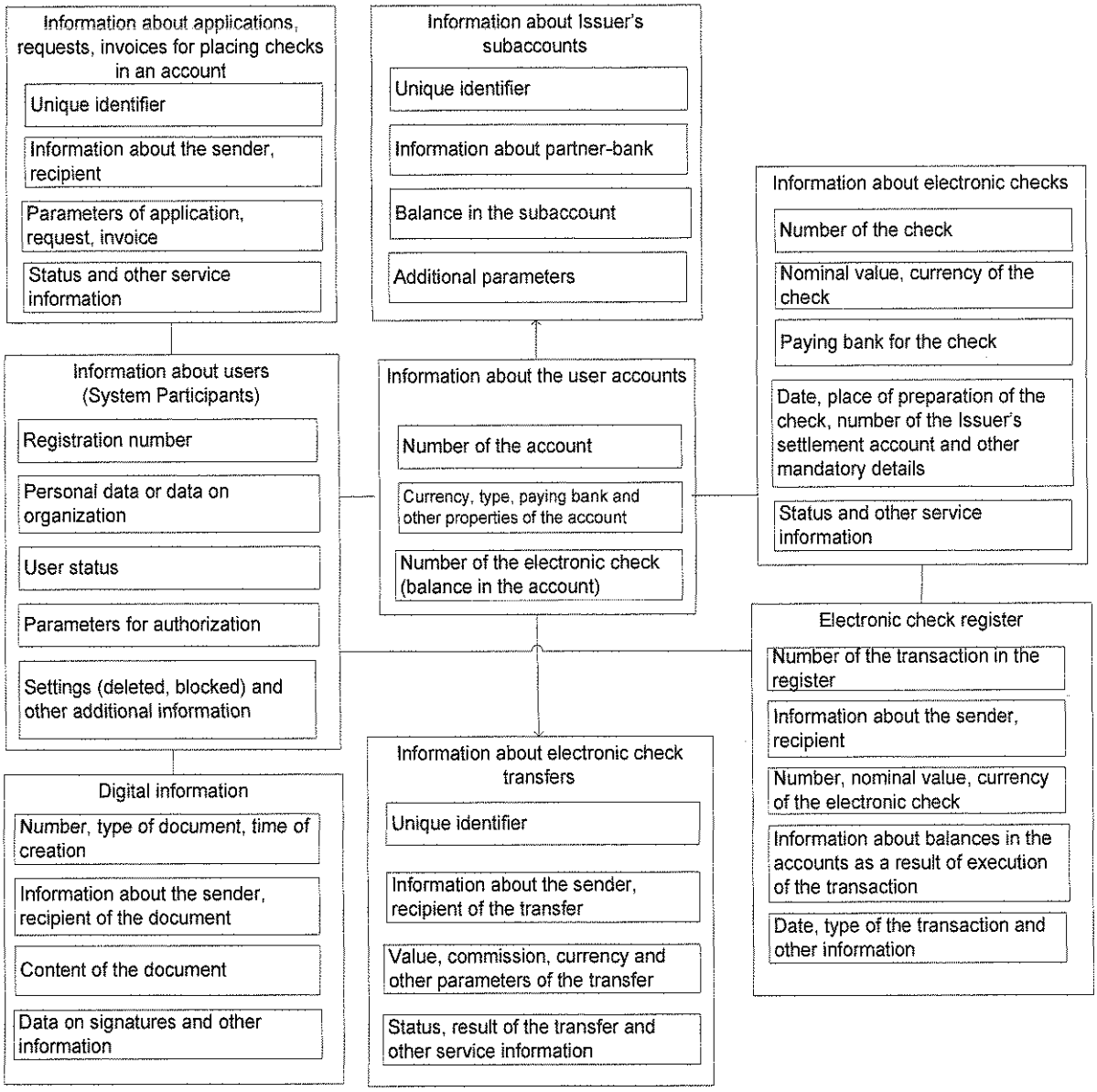

Information about applications, requests, invoices for placing checks in an account
Unique identifier
Information about the sender, recipient
Parameters of application, request, invoice
Status and other service information
Information about Issuer's subaccounts
Unique identifier
Information about partner-bank
Balance in the subaccount
Additional parameters
Information about electronic checks
Number of the check
Nominal value, currency of the check
Paying bank for the check
Date, place of preparation of the check, number of the Issuer's settlement account and other mandatory details
Status and other service information
Information about users (System Participants)
Registration number
Personal data or data on organization
User status
Parameters for authorization
Settings (deleted, blocked) and other additional information
Information about the user accounts
Number of the account
Currency, type, paying bank and other properties of the account
Number of the electronic check (balance in the account)
Electronic check register
Number of the transaction in the register
Information about the sender, recipient
Number, nominal value, currency of the electronic check
Information about balances in the accounts as a result of execution of the transaction
Date, type of the transaction and other information
Digital information
Number, type of document, time of creation
Information about the sender, recipient of the document
Content of the document
Data on signatures and other information
Information about electronic check transfers
Unique identifier
Information about the sender, recipient of the transfer
Value, commission, currency and other parameters of the transfer
Status, result of the transfer and other service information

Fig. 5

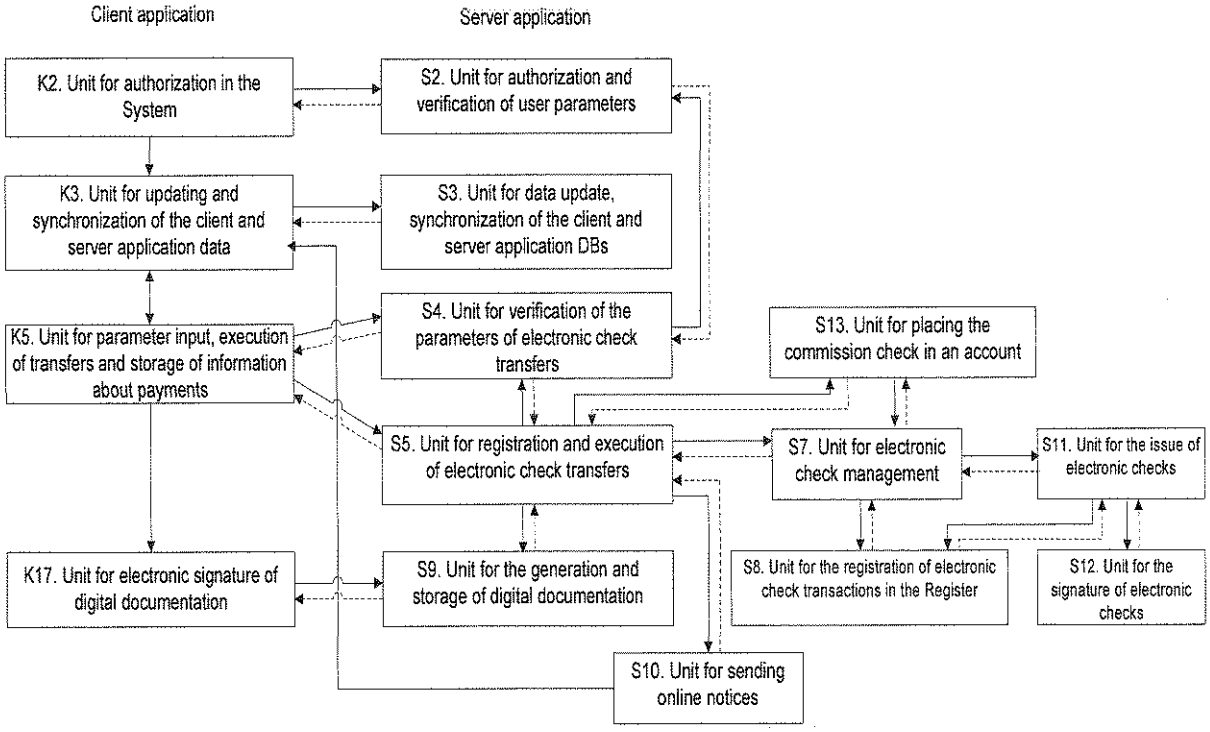

Client application
Server application
K2. Unit for authorization in the System
S2. Unit for authorization and verification of user parameters
K3. Unit for updating and synchronization of the client and server application data
S3. Unit for data update, synchronization of the client and server application DBs
S4. Unit for verification of the parameters of electronic check transfers
S13. Unit for placing the commission check in an account
K5. Unit for parameter input, execution of transfers and storage of information about payments
S5. Unit for registration and execution of electronic check transfers
S7. Unit for electronic check management
S11. Unit for the issue of electronic checks
K17. Unit for electronic signature of digital documentation
S9. Unit for the generation and storage of digital documentation
S8. Unit for the registration of electronic check transactions in the Register
S12. Unit for the signature of electronic checks
S10. Unit for sending online notices

Fig. 6

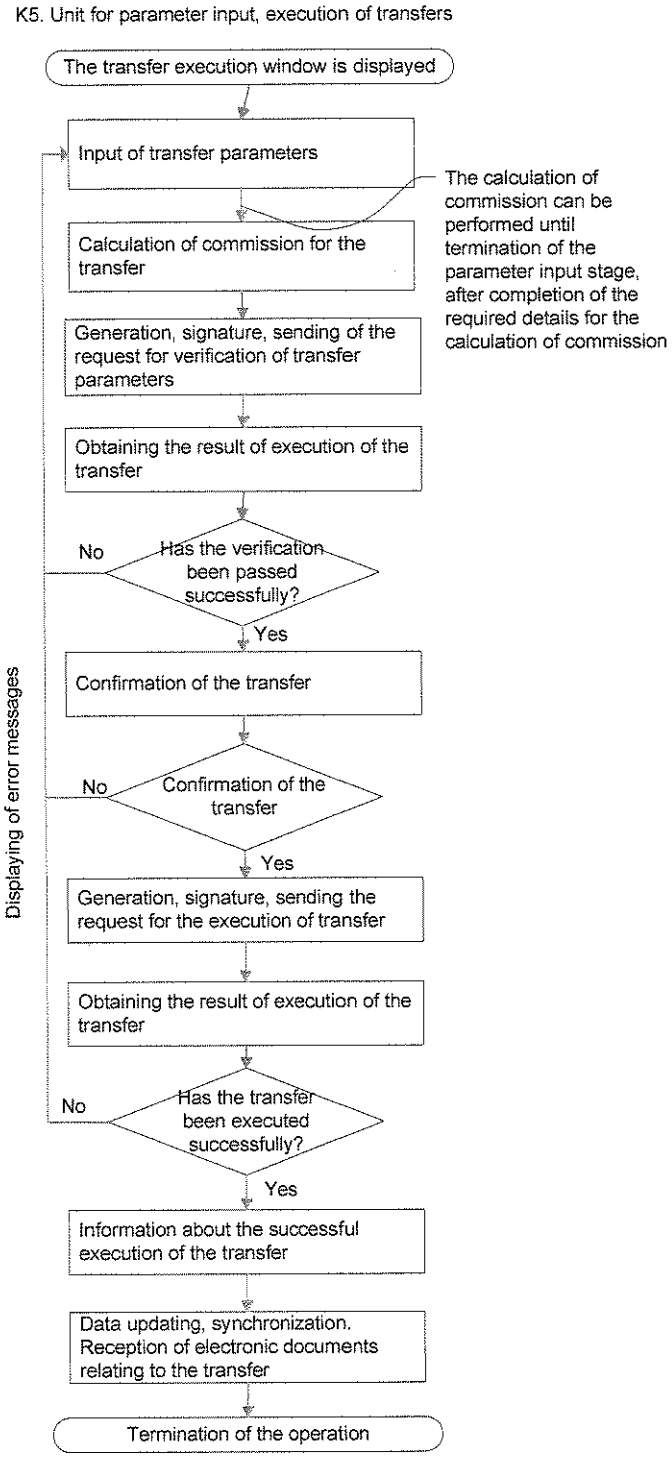

K5. Unit for parameter input, execution of transfers
The transfer execution window is displayed
Input of transfer parameters
The calculation of commission can be performed until termination of the parameter input stage, after completion of the required details for the calculation of commission
Calculation of commission for the transfer
Generation, signature, sending of the request for verification of transfer parameters
Obtaining the result of execution of the transfer
No
Has the verification been passed successfully?
Yes
Confirmation of the transfer
No
Confirmation of the transfer
Yes
Generation, signature, sending the request for the execution of transfer
Obtaining the result of execution of the transfer
No
Has the transfer been executed successfully?
Yes
Information about the successful execution of the transfer
Data updating, synchronization. Reception of electronic documents relating to the transfer
Termination of the operation
Displaying of error messages

Fig. 7

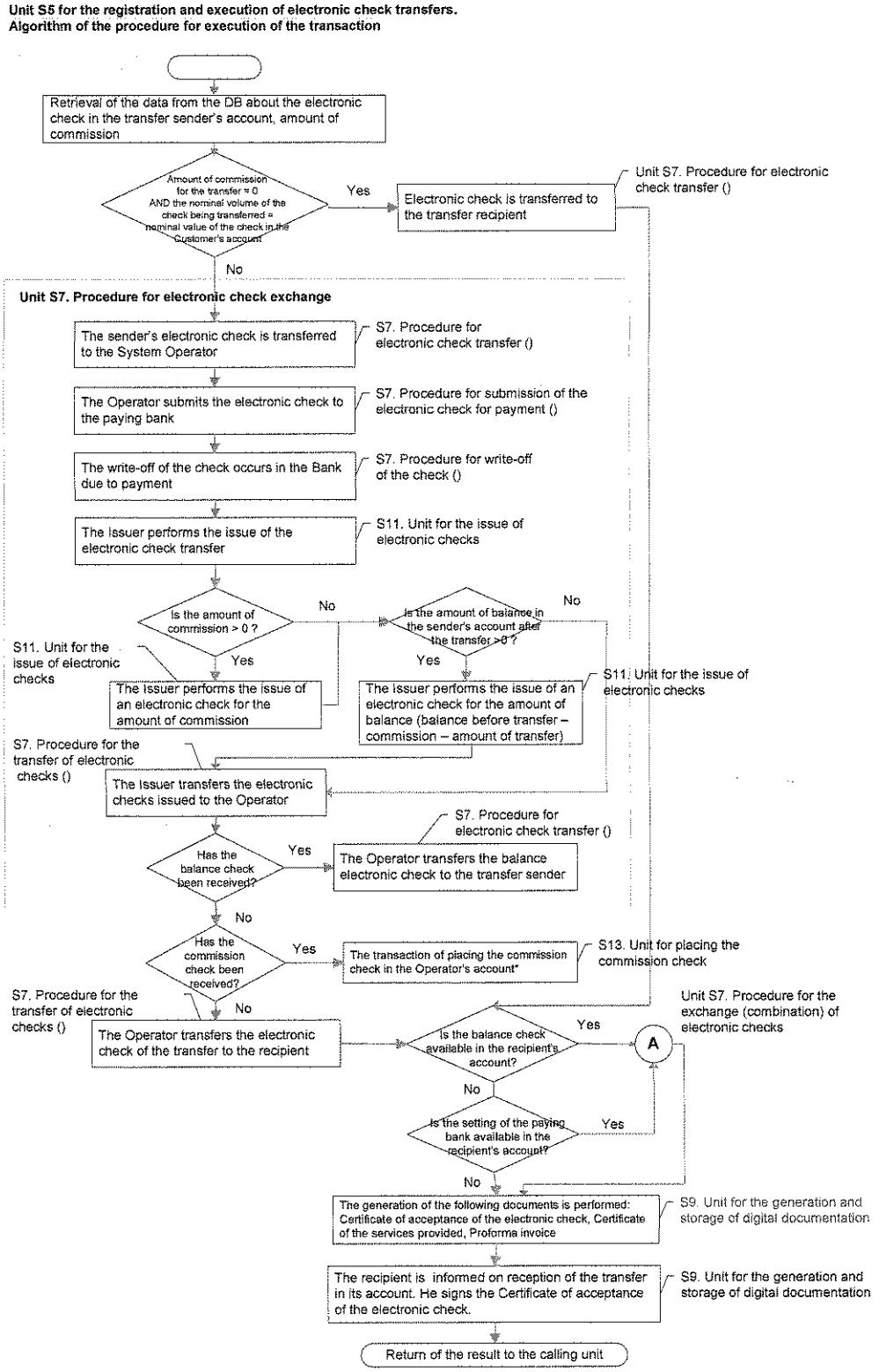

Unit S5 for the registration and execution of electronic check transfers.
Algorithm of the procedure for execution of the transaction
Retrieval of the data from the DB about the electronic check in the transfer sender's account, amount of commission
Amount of commission for the transfer = 0 AND the nominal volume of the check being transferred = nominal value of the check in the Customer's account
Yes
Electronic check is transferred to the transfer recipient
Unit S7. Procedure for electronic check transfer ()
No
Unit S7. Procedure for electronic check exchange
The sender's electronic check is transferred to the System Operator
S7. Procedure for electronic check transfer ()
The Operator submits the electronic check to the paying bank
S7. Procedure for submission of the electronic check for payment ()
The write-off of the check occurs in the Bank due to payment
S7. Procedure for write-off of the check ()
The issuer performs the issue of the electronic check transfer
S11. Unit for the issue of electronic checks
Is the amount of commission > 0 ?
No
Is the amount of balance in the sender's account after the transfer >0 ?
No
S11. Unit for the issue of electronic checks
Yes
Yes
The issuer performs the issue of an electronic check for the amount of commission
The issuer performs the issue of an electronic check for the amount of balance (balance before transfer – commission – amount of transfer)
S11. Unit for the issue of electronic checks
S7. Procedure for the transfer of electronic checks ()
The issuer transfers the electronic checks issued to the Operator
S7. Procedure for electronic check transfer ()
Has the balance check been received?
Yes
The Operator transfers the balance electronic check to the transfer sender
No
Has the commission check been received?
Yes
The transaction of placing the commission check in the Operator's account"
S13. Unit for placing the commission check
S7. Procedure for the transfer of electronic checks ()
No
The Operator transfers the electronic check of the transfer to the recipient
Is the balance check available in the recipient's account?
Yes
A
Unit S7. Procedure for the exchange (combination) of electronic checks
No
Is the setting of the paying bank available in the recipient's account?
Yes
No
The generation of the following documents is performed: Certificate of acceptance of the electronic check, Certificate of the services provided, Proforma invoice
S9. Unit for the generation and storage of digital documentation
The recipient is informed on reception of the transfer in its account. He signs the Certificate of acceptance of the electronic check.
S9. Unit for the generation and storage of digital documentation
Return of the result to the calling unit

Fig. 8

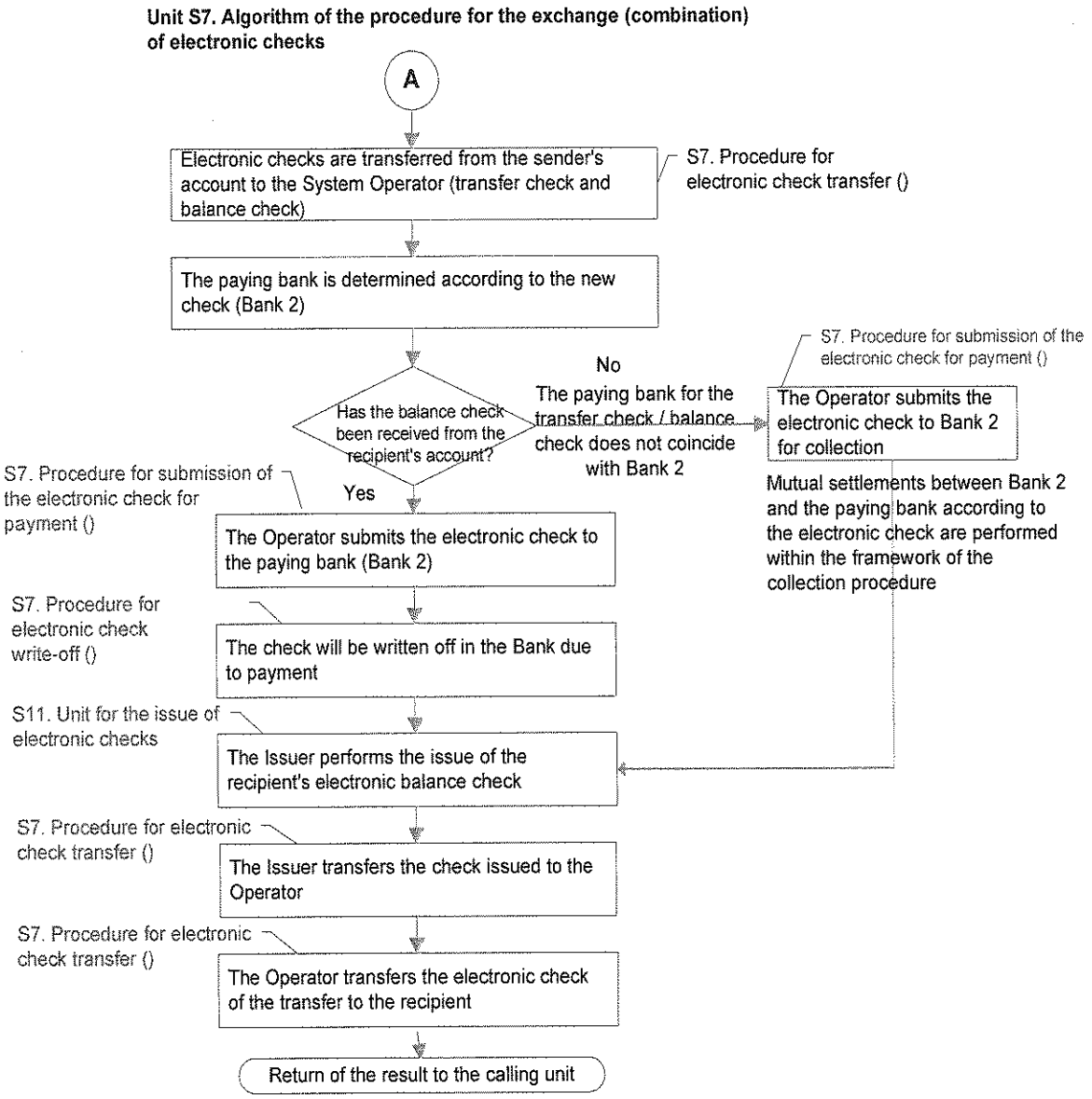

Unit S7. Algorithm of the procedure for the exchange (combination) of electronic checks
A
Electronic checks are transferred from the sender's account to the System Operator (transfer check and balance check)
S7. Procedure for electronic check transfer ()
The paying bank is determined according to the new check (Bank 2)
Has the balance check been received from the recipient's account?
No
The paying bank for the transfer check / balance check does not coincide with Bank 2
S7. Procedure for submission of the electronic check for payment ()
The Operator submits the electronic check to Bank 2 for collection
Mutual settlements between Bank 2 and the paying bank according to the electronic check are performed within the framework of the collection procedure
S7. Procedure for submission of the electronic check for payment ()
Yes
The Operator submits the electronic check to the paying bank (Bank 2)
S7. Procedure for electronic check write-off ()
The check will be written off in the Bank due to payment
S11. Unit for the issue of electronic checks
The Issuer performs the issue of the recipient's electronic balance check
S7. Procedure for electronic check transfer ()
The Issuer transfers the check issued to the Operator
S7. Procedure for electronic check transfer ()
The Operator transfers the electronic check of the transfer to the recipient
Return of the result to the calling unit

Fig. 9

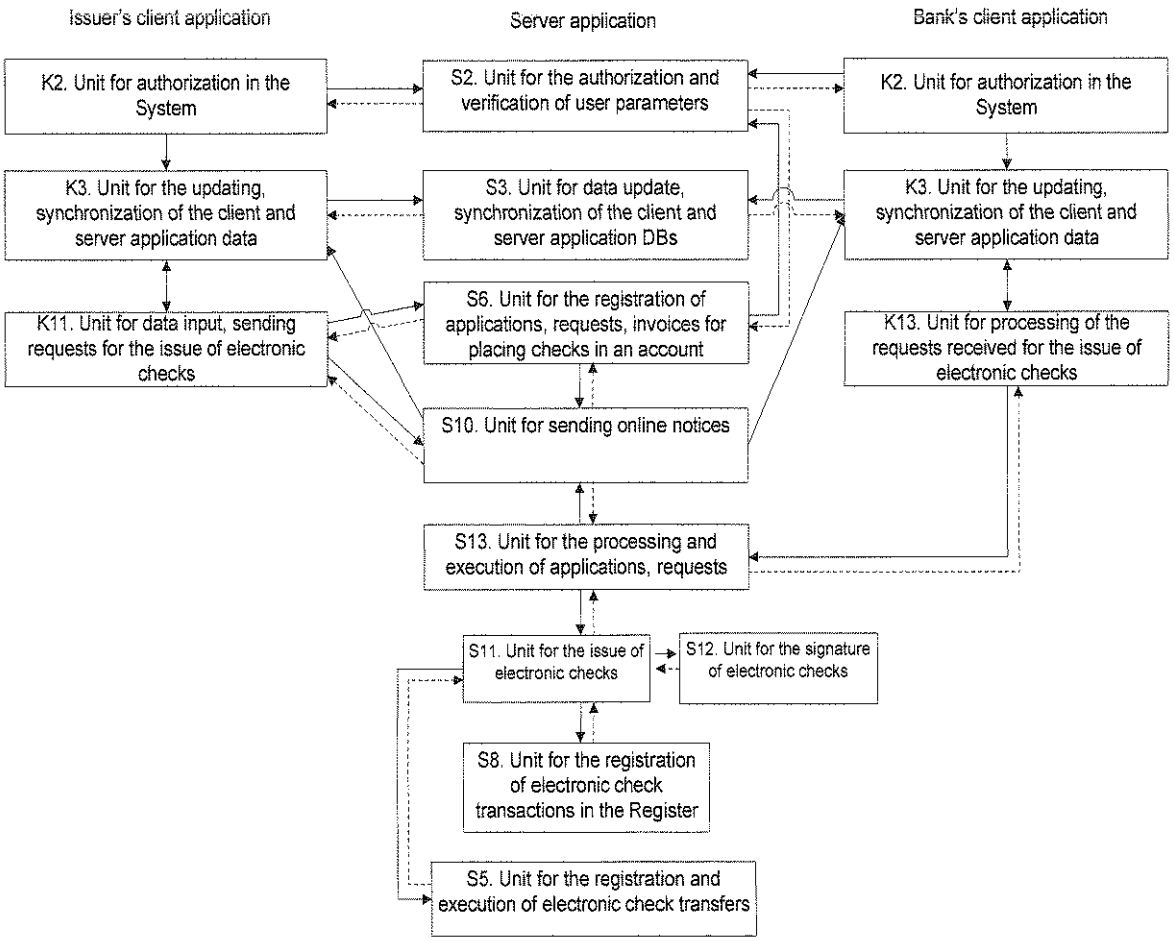

Issuer's client application
Server application
Bank's client application
K2. Unit for authorization in the System
S2. Unit for the authorization and verification of user parameters
K2. Unit for authorization in the System
K3. Unit for the updating, synchronization of the client and server application data
S3. Unit for data update, synchronization of the client and server application DBs
K3. Unit for the updating, synchronization of the client and server application data
K11. Unit for data input, sending requests for the issue of electronic checks
S6. Unit for the registration of applications, requests, invoices for placing checks in an account
K13. Unit for processing of the requests received for the issue of electronic checks
S10. Unit for sending online notices
S13. Unit for the processing and execution of applications, requests
S11. Unit for the issue of electronic checks
S12. Unit for the signature of electronic checks
S8. Unit for the registration of electronic check transactions in the Register
S5. Unit for the registration and execution of electronic check transfers

Fig. 10

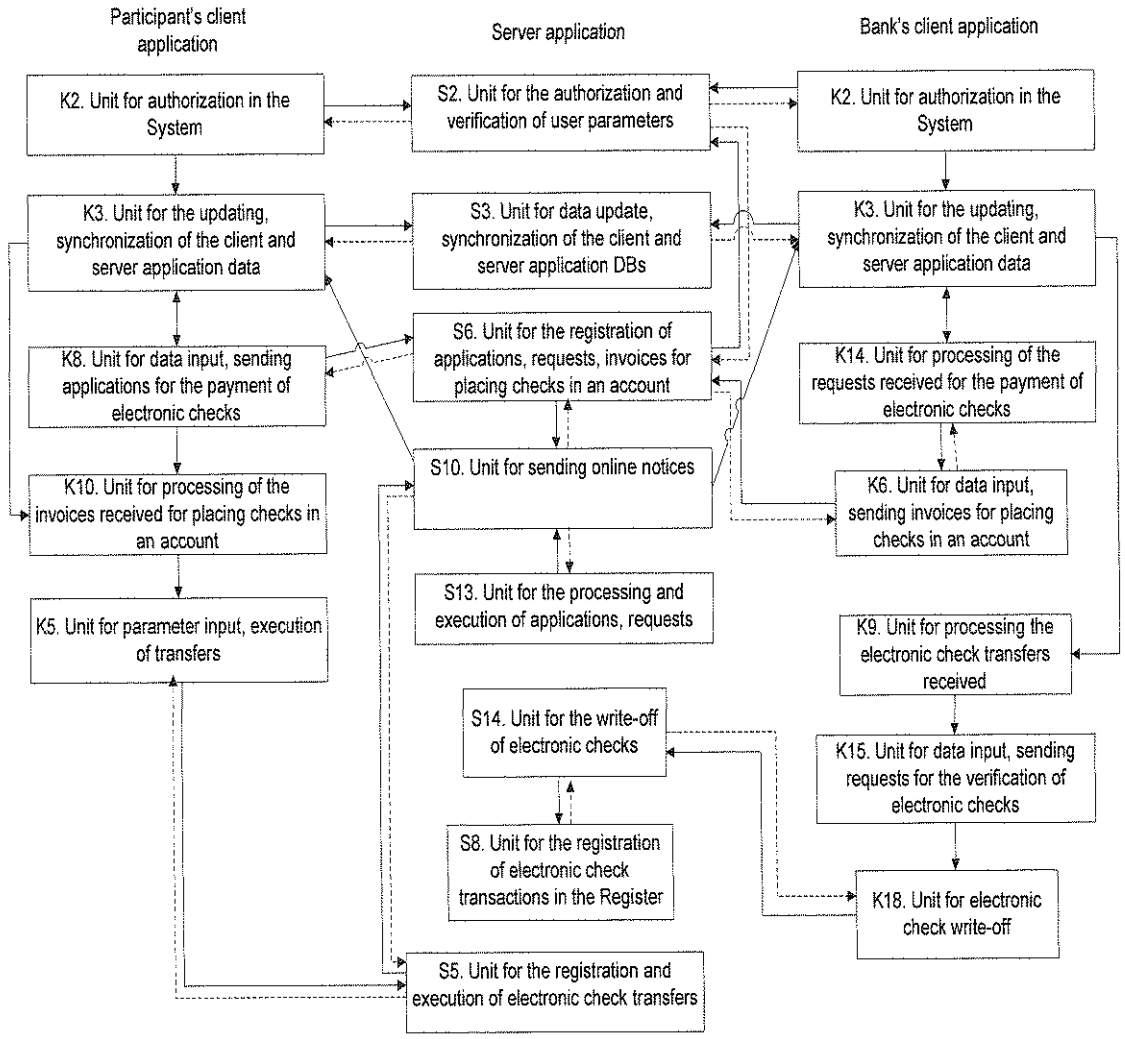

Participant's client application
Server application
Bank's client application
K2. Unit for authorization in the System
S2. Unit for the authorization and verification of user parameters
K2. Unit for authorization in the System
K3. Unit for the updating, synchronization of the client and server application data
S3. Unit for data update, synchronization of the client and server application DBs
K3. Unit for the updating, synchronization of the client and server application data
K8. Unit for data input, sending applications for the payment of electronic checks
S6. Unit for the registration of applications, requests, invoices for placing checks in an account
K14. Unit for processing of the requests received for the payment of electronic checks
K10. Unit for processing of the invoices received for placing checks in an account
S10. Unit for sending online notices
K6. Unit for data input, sending invoices for placing checks in an account
S13. Unit for the processing and execution of applications, requests
K5. Unit for parameter input, execution of transfers
K9. Unit for processing the electronic check transfers received
S14. Unit for the write-off of electronic checks
K15. Unit for data input, sending requests for the verification of electronic checks
S8. Unit for the registration of electronic check transactions in the Register
K18. Unit for electronic check write-off
S5. Unit for the registration and execution of electronic check transfers

Fig. 11.

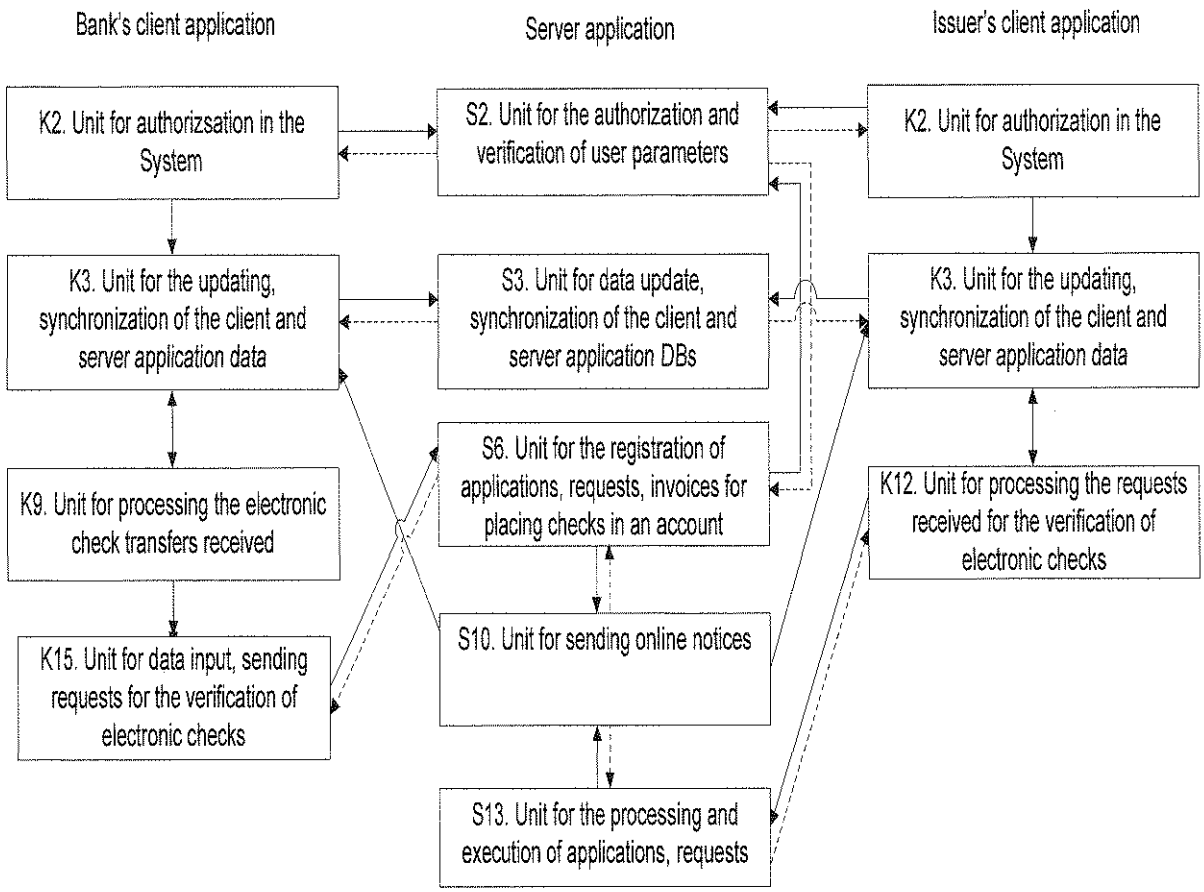

Bank's client application
Server application
Issuer's client application
K2. Unit for authorizsation in the System
S2. Unit for the authorization and verification of user parameters
K2. Unit for authorization in the System
K3. Unit for the updating, synchronization of the client and server application data
S3. Unit for data update, synchronization of the client and server application DBs
K3. Unit for the updating, synchronization of the client and server application data
S6. Unit for the registration of applications, requests, invoices for placing checks in an account
K9. Unit for processing the electronic check transfers received
K12. Unit for processing the requests received for the verification of electronic checks
S10. Unit for sending online notices
K15. Unit for data input, sending requests for the verification of electronic checks
S13. Unit for the processing and execution of applications, requests

Fig. 12