Interactive Financial Exchange

Version 1.4.0

Business Message Specification Change Summary
March 11, 2003

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Purpose

Summarizes changes made to the IFX Business Message Specification for version 1.4.

Change Summary

Element Change Summary

- Modified <ForExRateInq> to support foreign exchange deals.Modified <PmtInfo> and <XferInfo> to support the foreign exchange deal payments.

- Modified <CustId> to support card driven transactions from ATM and POS devices.

- Added <MsgRqHdr> and <MsgRsHdr> to messages to support EMV & Terminal information from ATM & POS devices.

Security Messages

A Security object and associated messages (SecObj) were introduced to allow for the distribution and synchronization of encryption keys to be handled "in-band". Prior IFX versions relied upon encryption keys to be distributed using an "out-of-band" process. The new Security object and message allow for the following capabilities:

- DES and TDEA (3DES) key and encryption support.

- AES key and encryption support.

- Support for the transmission of digital signatures, certificates, and public/private key pairs.

- Support for existing ATM security infrastructure processes (i.e. manual loading of master keys).

- Support for remote key loading.

- Capability for encryption keys to be restored if lost or corrupted.

The Security object and messages are in the Base Service.

Device Management Messages

A Device object and two messages were introduced to allow an IFX client (e.g. ATM) to provide information about its devices and the status of those devices. The Device Advise (DevAdvise) message allows an ATM to send unsolicited state-of-health messages to a Host. The Device Inquiry (DevInq) message allows a Host to retrieve device information from an ATM. The device information used in these messages is modeled similar to XFS, a financial peripheral interface standard. The Device object and messages are in the new Root Service.

Terminal Management Messages

A Terminal object and associated messages (TerminalObj) were introduced to store Reg E and other information about an IFX client (e.g. ATM). The type of information that can be maintained for each ATM is the postal address of the terminal, the location name, the

owner name, and the time zone where the terminal is located. In addition, the Terminal object indicates whether the ATM is available for normal operations. The Terminal object and messages are in the new Root Service.

A Terminal Service Provider object and associated messages (TerminalSPObj) are used to store the terminal identifier used in an IFX client (e.g. ATM) to Service Provider relationship. In addition, a Service Provider can use the Terminal Service Provider message to proactively inform an ATM that service is available/unavailable. The Terminal Service Provider object and messages are in the new Root Service.

Message Request/Response Header

In order to easily add new information to all IFX messages two new aggregates were introduced. The Message Request Header (MsgRqHdr) is an optional aggregate available in every IFX request message. In this release it is used by an IFX client for providing EMV request data, MAC data, and Reg E information. The Message Response Header (MsgRsHdr) is an optional aggregate available in every IFX response message. In this release it is used by an IFX server for providing EMV response data, MAC data, and the Terminal Sequence Number (ServerTerminalSeqId). The Message Request/Response Header (MsgRqHdr/MsgRsHdr) aggregates are included in every message in every IFX Service.

EMV Support

New aggregates were added to IFX to provide support for EMV when a smart card is used in a transaction. EMV is an initiative by Europay, MasterCard, and Visa (EMV) that have developed and published specifications on how smart cards can be used to reduce fraud for transactions that service providers choose to be more secure. The EMV specifications define a set of requirements that ensure interoperability for credit and debit payment applications between smart cards and terminals on a global basis, regardless of where the card is used. The EMV aggregates are included in the new Message Request/Response Header (MsgRqHdr/MsgRsHdr) aggregates that are included in every message in every IFX Service.

MAC Support

New aggregates were added to IFX to provide support for application-level security using the MAC (Message Authentication Code) algorithm. The MAC algorithm is frequently used as an application-level message authentication technique to assure the authenticity of any message in terms of both the true identity of the sender and the authenticity of the message contents. The MAC aggregates are included in the Message Request/Response Header (MsgRqHdr/MsgRsHdr) aggregates that are included in every IFX message in every IFX Service.

Cash Recycling Support

To support the cash recycling capabilities at an ATM three enhancements were made to IFX. Improvements were made to both the Credit (Credit) message and Balance Inquiry (BalInq) message in the Banking Service and new aggregates were added to the Media Service. The additions to the Credit message and Media Service are to allow information

about suspect or counterfeit deposited bank notes to be stored and reported. The addition to the Balance Inquiry message provides the capability of an application to determine the amount of cash the customer is permitted to deposit.

Payment Enclosed Message

To allow a customer to make a payment towards a bill or loan at an ATM a Payment Enclosed (PayEncl) message was added. This message supports a payment made where the customer uses a deposit envelope to include both the payment instrument (e.g. cash, check, or money order) and payment remittance coupon. When used at more advanced terminal devices the message also supports both the payment instrument and payment remittance coupon being scanned and verified by the device. The new Payment Enclosed message is in the Banking Service.

Debit and Credit Enhancements

To better support both ATM and POS environments, improvements to the Debit Authorization (DebitAuth), Debit (Debit), Credit Authorization (CreditAuth), and Credit messages were made. Enhancements were also made to the Credit messages to support check deposit automation by storing information read from checks being deposited. The Debit Authorization, Debit, Credit Authorization, and Credit messages are in the Banking Service.

Statement Print Enhancements

To better support statement printing a new Bank Account Statement Image Inquiry (BankAcctStmtImgInq) message was introduced to allow an ATM to retrieve pre-rendered mini statements and legal statements to present to customers. In addition, improvements were made to both the Deposit Account Statement Inquiry (DepAcctStmtInq) and Credit Card Account Statement Inquiry (CCAcctStmtInq) messages to provide for mini statements, legal statements, and for more marketing information to be included. All three of these messages are in the Banking Service.

Valuable Media Balancing Support

An aggregate (MediaAcctAdjInfo) in the Media Service was enhanced to allow the capability to inform an IFX server that a media balancing procedure is being performed at the ATM. This allows upstream hosts/service providers to note the event and perform internal functions such as a business day cut-over or the logging of discrete media levels at the time of the balance operation. The typical use of this feature is at an ATM located in a branch and the service personnel counts the media physically at the ATM (without removal) and confirms what is physically present.

Reversal Messages

A new verb (Rev) was added to IFX to allow an IFX client to request that a prior request message be reversed. The effect of a reversal request is to "undo" the prior message. The Reversal messages are useful in situations when an IFX client has initiated a request and is not aware of back-end processes or possible fees at the IFX server that are incurred from that request. Unlike the use of a Delete or Cancel message, if the IFX client uses a

Reversal message the prior request would be reversed and any implications related to back-end processes or fees would also be reversed. New Reversal messages were added to most IFX objects so these changes apply across all IFX Services.

HexBin Data Type

A new IFX data type, HexBin, was defined to represent internal binary data in a simple, human-readable, and printable character form as hexadecimal characters. Because HexBin is a common data type it is available across all IFX Services.

CustId Aggregate Enhancement

To better identify a customer when a card is used for authentication the Card Magnetic Stripe Data (CardMagData) aggregate was added to the Customer Identifier (CustId) aggregate. Since the Customer Identifier is a common aggregate the changes made to it are applicable across all IFX Services.

Check Issue Messages

The ChkIssue messages are provided as part of an overall workflow to satisfy positive payment activities. The ChkIssue messages provide information generated by the issuer of checks to the FI which will then facilitate the reporting of discrepancies in checks received by the FI that have different information than that disclosed by the issuer of the check.

Foreign Exchange Deal Messages

The ForExDeal messages are provided to enable the ability to purchase and manage the purchases of foreign exchange currency. The ForExRateInq, XferAdd, and PmtAdd messages were also updated to support the overall workflow of foreign exchange currency purchases and transaction management.

Advise Verb

The Advise verb is used for Advise Messages (xxxAdviseRq/xxxAdviseRs) in order to allow one entity to advise another of some pertinent data. The expected usage of this is for the sending device to "advise" or push information to a recipient without the recipient responding with anything except a status or receipt. Example uses of this are to inform a secondary system of the status of an object (such as a payment) or to push marketing information to a client device for the user to review. Messages added include <DepAcctStmtAdvise>, <ForExDealAdvise>, <PmtStatusAdvise>, <PmtAckAdvise>, <ChksumAdvise>, <TerminalObjAdvise>, <TerminalSPObjAdvise>, and <DevAdvise>.

Party to Account Relationship Messages

The PartyAcctRel messages are provided to manage the association between involved parties and accounts at an institution. Involved parties include owners on accounts, as well as other individuals or organizations associated to the account, such as those with Power of Attorney or Administrator.

DepAcctStmtAdvise

DepAcctStmtAdvise messages were added to facilitate the ability for a FI to advise customer systems of a deposit account statement for a specific time period.

PmtStatusAdvise

PmtStatusAdvise messages allows a FI to advise client systems of a change in the status of a payment previously issued by the client in <PmtAddRq>. Multiple advises may be sent as the transaction flows through the various systems within the FI.

PmtAckAdvise

PmtAckAdvise messages have been added to facilitate a FI advising a client on the acknowledgement of payments issued by the client in <PmtAddRq>.

ChecksumAdvise

ChksumAdvise message is used to advise an entity of the processing status of a batch of transactions. This message would subsequently be sent in response to the ChksumAdd message set.