



Solution Overview

Misys ST-Pymnts
CHIPS and FEDERAL Reserve Clearing Solution Modules

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Executive Summary

Misys ST-Pymnts v 5.3 is an integrated clearing and settlement system designed to process and control all wire transfers and messages associated with funds settlement. Through integration with back office systems, ST-Pymnts delivers real-time funds control at both the account and bank level.

ST-Pymnts consists of several integrated component modules which can be selected individually or as a group to meet a bank's specific requirements.

Summary of Key Modules

ST-Pymnts CORE, the processing engine, features a balance control function enabling banks to set individual overdraft and credit limits, including central account clearing. CORE has the ability to decide how and where a bank manages its funds on an intraday basis. CORE also provides an interface to a bank's host system for transaction processing and balance control through various types of interfaces

The **ST-Pymnts FEDLINE Direct** module is a fully certified interface to the FED Funds System which processes payments transmitted to and from the Federal Reserve System via its IP based FEDLINE Direct Interface. There is also a subset of this module that supports FEDLINE Advantage and ACH IN/OUT.

The **ST-Pymnts CHIPS IP** module processes and controls the clearing of payments to and from the New York Clearing House Interbank Payment System (CHIPS IP). It has been designed to maximise Straight Through Processing (STP) rates for incoming payments messages from SWIFT.

The **ST-Pymnts SWIFT** module provides on-line connectivity through MQSA or AFT to SWIFTNet services, SWIFT Alliance (entry and access) with MT conversion to USD FED, CHIPS IP or Book payments including MT 202COV. Outbound SWIFT messages are automatically created when conditions warrant for both FED and CHIPS receives. Connectivity with other SWIFT CBT's is supported as well.

The **ST-Pymnts Investigations** module includes unlimited historical data which also meets the current Bank Secrecy Act requirement for maintenance of historical payment transaction data for up to 5 years. This module also provides the data used for the various audit and analysis data generated by the system.

The **ST-Pymnts TradeWatch**(OFAC) module provides integrated real-time searching to meet the requirements of the various regulatory agencies in the US and other governments. This Java based solution includes support for various databases that include numerous listings from regulators both in and out of the US.

CORG is a browser based Java J5EE front-end module of ST-Pymnts that supports origination of payments as well as status tracking and payments confirmation directly to the user via browser connection.

The **ST-Pymnts FinCEN** module provides the bank with the ability to support current anti-money laundering policies including external TEXT file searching.

The **ST-Pymnts Audit & Control** module supports reporting capabilities by providing payments data for account activity and profitability analysis along with detailed audit review capability for every activity in the system.

Key Modules

CORE

Core contains the CIF database as well as the software to connect and route data between the other modules. It also includes the base system parameters that allow for a large degree of functionality customization when the solution is installed. CORE is dependant on the use and installation of other ST-Pymnts solution modules to function. These modules are incorporated into the system as services that are activated independently.

Core also offers the ability to modify intraday funds control at the enterprise level as well as various MIS information and statistics including cumulative and graphical presentations for such indicators as transaction volumes and sources as well as key indicators such as STP rates based on data sources. In addition, based on SQL Data Base support, Crystal Reports is used for report generation and is available for clients looking to develop and support their own reports.

The screenshot displays the 'ST-Pymnts Workstation - Production Database' interface. On the left, there is a 'To Do List' with various action items such as 'OFAC Failures', 'Credits to Fix', 'Payments to Fix (Today Only)', etc. The main area shows a table of payment transactions with columns for Status, Type, Key, Debit Party, Credit Party, Amount, IOP, VOP, EAM, and ABA. Below the table, there are buttons for 'Refresh' and 'Open'. At the bottom, there is a navigation pane with buttons for 'Input Payment', 'Look Up Payment', 'Payment Template', 'Help', 'Funds Information', 'Log Out', and 'Exit'.

Status	Type	Key	Debit Party	Credit Party	Amount	IOP	VOP	EAM	ABA
DL	FD	072106 6268	1234576098	SCBLM YK-X	\$675.00	...	...	973173	0123
DL	FD	072106 6261	1234576098	/ABA NO.12	\$900.00	...	...	973160	0123
DL	FD	072106 6255	1234576098	UBSWCHZH80	\$1,732.50	...	...	973153	0123
DL	FD	072106 6265	1234576098	/BANK ROUT	\$3,000.00	...	...	973165	0123
DL	FD	072106 6297	1234576098	/ABA 111 9	\$3,000.00	...	...	973258	0123
DL	FD	072106 6276	1234576098	/PNBPUS33	\$4,925.75	...	...	973182	0123
DL	FD	072106 6262	1234576098	/BANK ROUT	\$32,400.00	...	...	973161	0123

ST-Pymnts Status Utility - Production Database

Day: TODAY Feb 11, 2009 [Print] [Refresh] [Help] [Close]

Position | Input | Released | Pending Funds | Status | FED Status | CHIPS Status

Input CHIPS Payments					
Inputted	9	\$408,974.63	Released	0	\$0.00
To Be Verified	2	\$4,052.00	Debited	1	\$31,422.71
To Be Released	3	\$93,182.92	Pending Funds	0	\$0.00
To Be Fixed	2	\$278,967.00	Debit Cap	0	\$0.00
Deleted	3	\$280,317.00	On Hold	0	\$0.00
Stored At Clearing House/Not Rel's'd	0	\$0.00	System Cancelled	0	\$0.00
			Deleted At Clearing House	0	\$0.00

Received CHIPS Credits					
Highest RSN	0		To Fix	0	
Total	0	\$0.00	To Verify	0	

FEDLINE Advantage

FEDLINE Advantage delivers batch connectivity to the FED's IP based FEDLINE Advantage solution. It provides much of the same functionality for daily payments processing as the FEDLINE Direct solution but in a batch mode. It is designed for supporting banks with lower daily payments volumes. In addition, ACH IN and ACH OUT is supported with this module.

CHIPS IP Connect

This fully certified CHIPS module processes and controls the transfer of payments to and from the New York Clearing House Interbank Payment System (CHIPS) through the standard CHIPS IP connection. A CHIPS connection via SWIFTNet Gateway is also available. In addition to meeting all Clearing House standards and requirements, the module provides fully automated processing including the complete UID database on-line, automated interface to NATS, real-time financial position maintenance and numerous other features which provide the highest level of efficiency, flexibility and quality for a bank's daily payments process.

SWIFT INTERFACE

SWIFT INTERFACE enables banks to interface with the SWIFT Alliance family via either the SWIFT Standard MQSA Interface or AFT depending on the specific requirements of the customer. It also provides the various conversion programs to go from SWIFT to CHIPS/FED/BOOK and from CHIPS/FED/BOOK to SWIFT. Message types include MT 103s, 202 and 202COV payments, 900s and 910s as well as others.

In addition, MT 950 and 940 transactions that occur on ST-Pymnts may have additional references added if passed from the bank's back office solution to ST- Pymnts prior to being sent to SWIFT. This module also provides the automatic generation of MT 103s, 200s, or 910s from incoming CHIPS or FED Receives based on the transaction content. A complete SWIFT BIC data base is also supported in the system to enhance straight-thru-processing.

BACK OFFICE INTERFACE

The precise specification of the back-office interface module will differ from bank to bank since each bank will have its own unique requirements.

Lower volume operations may use our standard AFT interface that sends and receives transaction updates at specifically designated intervals such a Start of Day and End of Day as well as intraday memos for balance changes in batches. Funds control for Payments is closely monitored and controlled through locally maintained balances with in the ST-Pymnts Solution.

Others have real time IBM MQ Series or Web Services based interfaces that utilize Misys' own finance industry specific middleware, Meridian, supporting robust, real time interfaces between ST-Pymnts and their respective back offices. In most cases, Start of Day balances will be downloaded each morning with intra day postings and memos sent from the core system to insure accurate Funds Control in the event of loss of the back office interface. For the real time interface, Funds availability will be checked on the CORE system prior to release by ST-Pymnts for posting.

If for some reason with either type of interface an item is then pended for lack of funds, it will automatically be released from the Pending Funds Queue when sufficient funds are posted to the account. New account and account status changes are included as part of the SOD process.

Funds Information	
DEMO BANK	Account Number 1234567908
ACCOUNT IS ACTIVE (CASH MANAGEMENT)	
Float 0	\$0.00
Opening Balance	\$366,874.16
Relsd CHIPS deb	\$0.00
Relsd Book deb	\$2,525.30
Relsd Memo deb	\$0.00
Relsd Fed deb	\$0.00
Relsd Check deb	\$0.00
Nonrl CHIPS deb	\$31,422.71
Nonrl Book deb	\$0.00
Nonrl Memo deb	\$0.00
Nonrl Fed deb	\$0.00
Nonrl Check deb	\$0.00
Float	\$0.00
Available bal	\$364,328.86
Overdraft Limit	\$0.00
Recd CHIPS crd	\$0.00
Relsd Book crd	\$0.00
Relsd Memo crd	\$0.00
Relsd Fed crd	\$0.00
Relsd Check crd	\$0.00
Nonrl Book crd	\$0.00
Nonrl Memo crd	\$0.00
Nonrl Check crd	\$0.00
Net Balance	\$364,328.86
Credit Needed	\$0.00

LOCAL BALANCE Help Refresh Close

TradeWatch

This Java based module provides online checking of all USD payments processed on ST-Pymnts in real-time for matches against entities contained on the U.S. Treasury Departments list of Blocked Accounts. Updates to this database are available through a file download from the Treasury Department's OFAC bulletin board, either directly or via an Internet connection. Commercial databases, such as Accuity, can also be used as well as support for other non-OFAC specific databases. In addition, the system supports interfaces from other applications than payments such as trade finance or FX. TradeWatch itself utilizes an SQL data base with IBM MQ Series and XML format to support for interfaces.

It is also possible to add locations, persons, etc. that a particular institution may want to stop for review other than an actual OFAC violation. The software filters every word contained in the item and compares it against entries in the database. The degree of match can be varied as per individual customer requirements. In addition, a "good guys" capability exists for by-passing recurring false hit entries as well as standard "noise" files. All of these are designed to maximize the ability to stop valid entity hits and minimize the number of false hits during the bank's daily payments processing. For existing OFAC sites, the most effective level has been found to be an 80% match rate.

Reporting is available to support various actions taken during the watch list process including tracking with time and date stamps of all activities including updates to various data base updates used in the watch list process. When used in conjunction with the Investigations module, reports can be readily generated that have traditionally been requested during various audit and regulatory reviews.

ST-Pymnts W/S - Lookup - Production Database - 09/11/2009

Type: **FD FED DEBIT** BAN: **973189** Amount: **\$761.32**

ARA: **/EBILAEAD** /EBILAEAD ADV: **/EBILAEAD**

Debit Party / Originator's Bank DEMOINBB

DDA: 1234576098
 U/S/F: 000030 / DEMOINBB
 Name: DEMO BANK
 Addr: MUMBAI, INDIA

Originator

DDA:
 U/S/F:
 Name: PRIYADARSHINI SPINNING MILLS LTD.,
 Addr: 208 AND 408, NILGIRI,
 AMBERPET, HYDERABAD, AP

Credit Party / Beneficiary 0022461480100

DDA: 0022461480100
 U/S/F:
 Name: ALI AKBAR BABAEBI
 Addr: DUBAI
 UAE

DDI

DDI: /EBI/
 DD1: ALL CHARGES TO THE ACCOUNT OF
 DD1: THE BENEFICIARY.

Swift 20: 0910306TS001238
 Swift 21:

FEDWIRE

Send Ref #: 9731890721066280
 Payment #: 000000
 Receive #:
 Type: 1000 PAYMENT
 Function: CTR
 INNO:
 OHNO:
 Prinad:
 Error:
 BNFPHDU:
 Pay Limit:
 Ac. time:
 DDNI:
 Reference:

OB1

AGENCY COMMISSION

TCN: 6280
 Value Date: TODAY

Time Stamps

Input: 112605
 Store:
 Verify:
 Authorize:

Initials

Input: ...
 Verify:
 Release:

Message

Type: SWT
 Source: APT

Lookup Payments | Verify Payments | Release Payments | Update and Delete | OFAC | Receive Utility | Retrievals | Error Handling | Verify Country

10480	AHMADIAN, ALI AKBAR	Credit Party Name	ALI	ALI
10480	AHMADIAN, ALI AKBAR	Beneficiary Name	ALI	
10480	AHMADIAN, ALI AKBAR	Credit Party Name	AKBAR	
10480	AHMADIAN, ALI AKBAR	Beneficiary Name	AKBAR	

AHMADIAN, ALI AKBAR (AHMADIYAN, ALI AKBAR)
 (INDIVIDUAL) (NFRMD) NATIONALITY: CITIZENSHIP: DOB: CIRCA
 1961 POB: KERMAN, IRAN

Next Cancel Approve Delete

ENHANCED INVESTIGATIONS

Enhanced Investigations enables the storage of daily transaction history for investigation and reporting purposes. If an item originated from an incoming SWIFT Message or a FED Receive, the original source is maintained and included with the overall transaction history. The Enhanced Investigations module is designed to be archived monthly and as many months can be stored online as there is file server disk available. In addition, the system can be set to automatically purge data after a designated period of time such as sixty months. System data can be readily transferred to an institutions enterprise level data repositories as well.

Payment information can be stored and retrieved by name as well as other categories for up to a five year period. Ranges of dates and amounts can be selected as variable elements in the search criteria. This module is compliant with the FEDERAL Regulations for the Bank Secrecy Act requiring financial institutions to maintain up to five years of payment transaction data on any individual. The license includes up to three (3) concurrent users for those manual look-ups and historical transaction research.

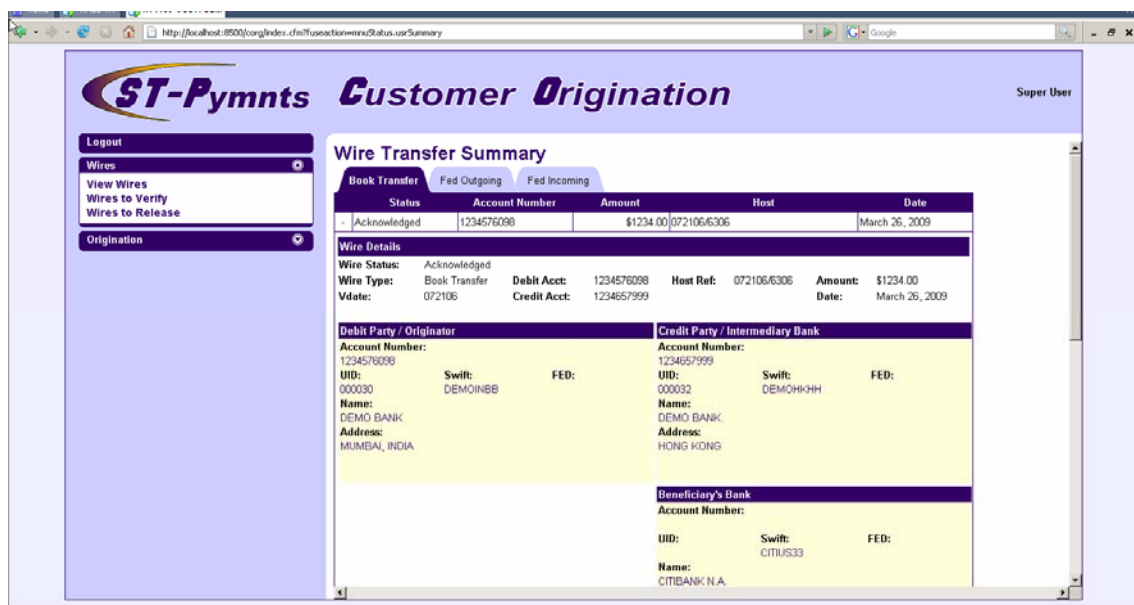
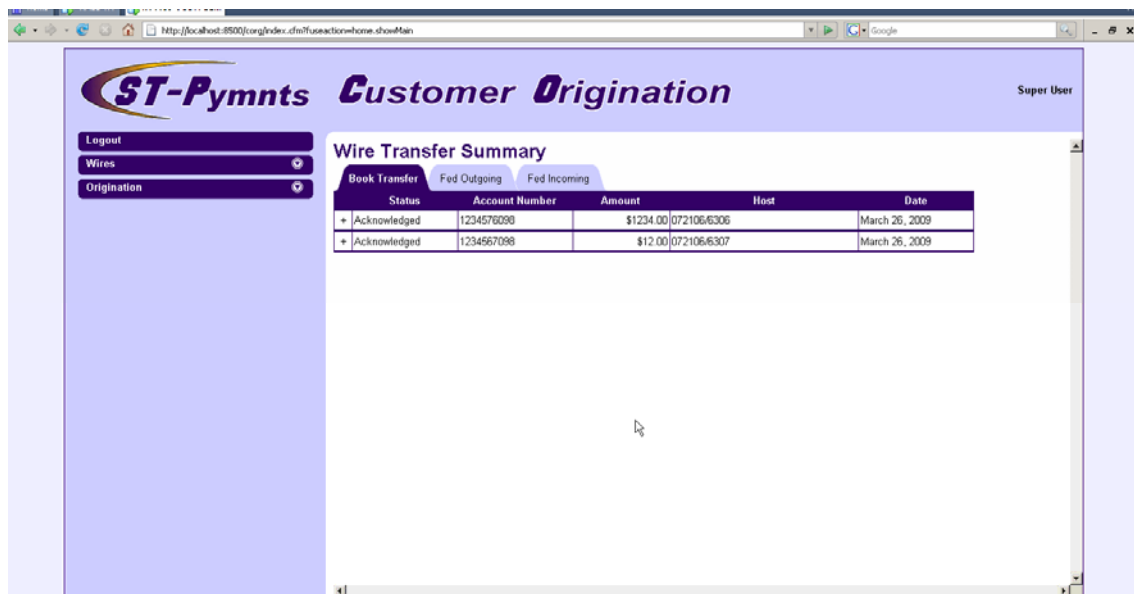
FEES

The Fees module provides the bank with the ability to establish multiple fee options at the account level that work with a set of established rules and policy options that can be individually selected by the bank. This module supports fee splitting and allows for the sharing of designated fees at the transaction level with Head Office if required. A standard default set is delivered with the solution and Misys will provide the training required to allow bank staff to maintain and change selections going forward.

Optional Modules

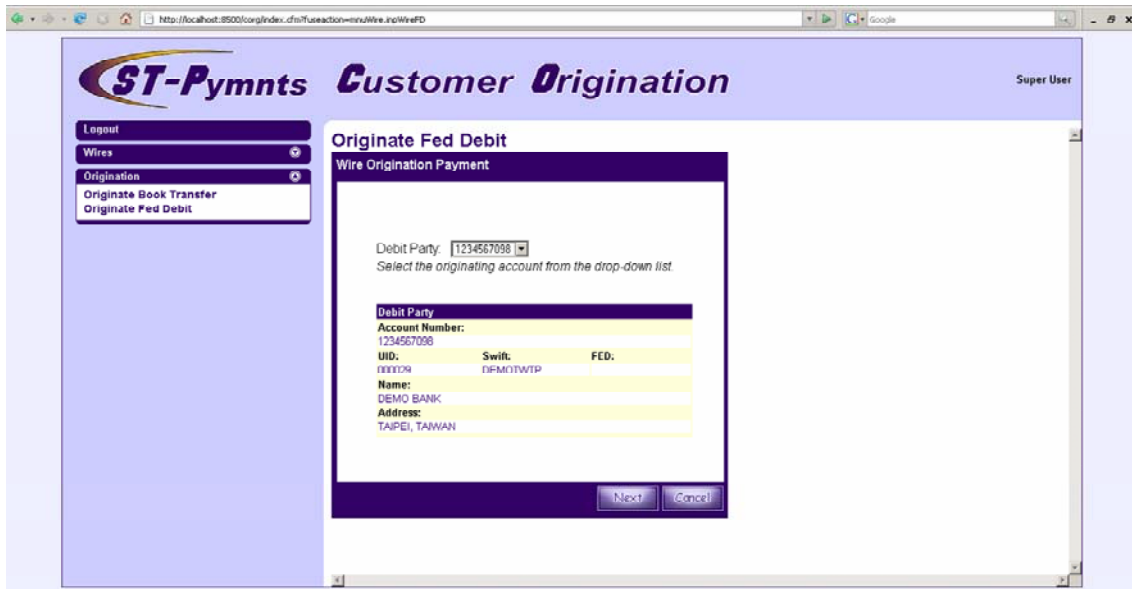
BROWSER Customer Origination

BROWSER Customer Origination is a sophisticated browser front end that will support customer based origination for payment orders as well as provide account status information on an intraday basis. The solution is designed to complement existing bank firewalls to insure payments system security and customer confidentiality.



To facilitate creation of payment order requests as well as improve STP rates, the origination screens support look ups for FED, CHIPS, SWIFT, etc accounts when

creating the request. There are nightly updates passed between ST-Pymnts and CORG that provide updates for this data.



FinCEN Module

Banks are periodically required to search their archival data, upon request, by the Financial Crimes Enforcement Network (FinCEN). The search requests consist of lists of names that are to be investigated. The FinCEN application provides the functionality to perform a “fuzzy” search against the ST-Pymnts Investigation database, SA-OFAC Investigation database and text files. The user provides a list of names (electronically from FinCEN) to search for and selects the indexed data sources to be searched. The results are displayed as a list of potential matches to the provided names, which the user may open and inspect to access their validity.

ACCOUNT ANALYSIS

The Account Analysis module provides the generation of account analysis statements/reports by account. Fees can be assigned by transaction type for designated periods to analyze the profitability of the payments relationship at the account level. The periods can extend for the time covered in the database.

Country Code ID

Country Code ID is an addition to the standard system and provides for the automatic identification of the country code (SWIFT based) for each party represented in a payment. This could be the Beneficiary, BBK, IBK, Org, ORG BK, etc. The system can be installed where the identification is fully automated and country code identified

where possible. Part of this solution is to build a table over time that would improve the number of identified country codes based on experience.

The screenshot shows a payment transaction interface. At the top, it displays 'Type: BK BOOK TRANSFER', 'BAH: 973201', 'Charge: \$20.00', 'Debit', and 'Amount: \$2,525.30'. Below this, there are sections for 'Debit Party / Originator's Bank DEMOSG' and 'Credit Party / Beneficiary's Bank DEMODEFF'. The originator information includes DDA: 1234567908, U/S/F: 000028, Name: DEMO BANK, and Address: SINGAPORE. The beneficiary information includes DDA: 9429351242, U/S/F: DEMODEFF, Name: M/S AEROFLEX /WEINSCHL, INC., and Address: 5305 SPECTRUM DRIVE, FRANKFURT. There are also fields for 'Bank/Non-bank: Non-Bank' and 'Swift 20: 0505106080010192'. A table at the bottom lists country codes: BNF (marked with a red X), CRD (BBK) DE Germany, DEB (OGB) SG Singapore, and ORG SG Singapore. A 'COUNTRY CODES NOT VERIFIED' warning is present, along with 'Save & Verify' and 'Refresh' buttons.

An alternative process is to attempt to automatically identify country code when an item is delivered to ST-Pymnts and then have the country code review included as part of the normal payments process.

This solution is designed to generate nightly extracts that would be posted to the bank's AML solution in use.

STP Audit Event Viewer Overview

The STP Audit Event Viewer displays an extensive set of audit logs for ST-Pymnts with its various modules as well as SA-OFAC installs. These logs track the activities performed on either system and store them on the server in the security database (*sec_db*) audit log. Each event that is logged is given a unique identification number (*audit_log_id*) so that each individual event can be looked at, as well as the information that is stored regarding the event.

The STP Audit Event Viewer has been designed to be used both as a record of activities, for external auditors, and by support staff when diagnosing potential problems with the system based on a record of all activities at the transaction level.

This information enables support staff to help identify what actions or conditions may have existed at the time a problem occurred.

ACH IN/OUT

This newly developed module supports both incoming and outgoing ACH payments with corresponding returns and account validations through FEDLINE Advantage. It is designed to support electronically presented low-value payments to and from the Federal Reserve Bank. Items can be manually entered into ST-Pymnts as well as through importing electronic files of ACH items. (Connectivity through FEDLINE Direct is scheduled for General release as part of ST-Pymnts v.6)

Solution Support

The Misys ST-Pymnts support team recognizes that in addition to functionality, one of the main differentiators in Clearing and Settlement solutions is the solution support. We recognize that of all the processes at a bank, one of the most critical and potentially with one of the highest financial risk is the bank's payments operation. In order to provide the level of support and service required by our users to meet the needs and demands of the market we have established the following:

1. Misys is committed to provide mandatory changes required by the FED or CHIPS, such as the move to IP based communications, for the ST-Pymnts solution.
2. There is an ST-Pymnts WEB based support site that provides user access to documentation, reasons for release, a Knowledge Base as well as the ability to generate and report problems via generation of incident tickets. Updates are automatically provided to the customer who opened the ticket via e-mail.
3. Remote support to the client's test/back-up systems through VPN or WEBEX for day to day production support is recommended. Under certain circumstances, where authorized, these remote access connections might be to the production environment, during an emergency for instance.
4. Misys "help desk" support is available via standard help desk phone numbers. We are committed to timely responses to address issues with staff who have both a functional and technical understanding of the ST-Pymnts application.
5. Optional extended hours support agreements are available for any customer whose operations may require support beyond the standard payments business.
6. On-site support is available from Misys' ST-Pymnts consulting staff for support of a customer's staff during upgrades of ST-Pymnts or other times when the customer may think it appropriate, such as DR testing.
7. There is a Misys ST-Pymnts sub-user group where existing ST-Pymnts users have an opportunity to review their individual needs and develop a consensus and set of priorities that can be submitted to the ST-Pymnts team for consideration and inclusion in future development road-maps.