Automated Management for SAA and SAG

Automated Error Correction and Monitoring for SWIFT's SAA and SAG applications

PayCommerceAutoErrorCorrect is a set of programs developed by PayCommerce that has the capability to automatically detect and correct errors in SWIFT's SAA and SAG applications.

With release 7.0, SWIFT released several new command line tools that introduced new capabilities to not just detect but also automatically correct many errors in SWIFT's SAA and SAG application. This is a huge step forward in improving resilience as a number of errors can now be corrected automatically without requiring manual intervention.

PayCommerce has utilized these command lines to develop a set of programs that deliver and enhance the capability in these command line options to provide best of class error detection and error correction for SWIFT's SAA and SAG applications.

The command line tools used are saa_monitor (which detects SAA errors), saa_manage (which corrects SAA errors), saa_query (which is used to detect events in the Event Journal), and sag_system (which is used to monitor and restart the SAG application and also report on selected SAG, SNL and HSM events).

All command line tools are run from within Java programs that allow email alerts and notifications both when errors are corrected and when the programs encounter errors that they are not designed to correct or when an attempted automatic error correction fails.

Excel files provide a configuration facility that allows you to customize the programs to suit your environment.

SWIFT ADW information in the configuration file disables the programs during the ADW thus ensuring that no false alerts are generated during this period.

Other configuration options for SAA include:

- Logical Terminals (LTs) to be monitored including times / days of the week during which the LTs are scheduled to be logged in. The program will check the LT during the time it is supposed to be logged in and automatically perform a log in and select operation if it finds the LT logged out.
- Message Partners: The program will check the listed message partners and will enable any message partners that it finds disabled.
- Emission and Reception Profiles with times / days of the week that the profiles are to be active: The program will activate any inactive profiles and if any profiles are found to be disabled, it will enable and then activate the program.
- Queue Depth: Queues (such as _SI_to_SWIFT) are listed and each queue has a configurable number which is the allowed queue depth. If the number of messages in the queue exceeds the queue depth, the program generates an email alert.
- Each of the items above can be configured in all / inclusive / exclusive mode. E.g. you can specify checking for all message partners; for the list of specified message partners or all message partners excluding the ones listed.
• Alerts when files in directories are not picked up in the specified amount of time. This would indicate a failure in the back office application to pick up files that are coming in from SWIFT and thus provides a capability to alert even when the error occurs outside the SWIFT infrastructure. This alert also has the facility to send targeted emails; e.g. an email to the back office application support group when the back office application is failing to pick up files.

As can be seen, this is a very powerful facility with a broad capability to monitor many aspects of SAA functionality.

Further, the control is very fine tuned and can be used to correct specific SAA components without disrupting the rest of the program. For example, in certain situations, a restart of the MXS component alone (without restarting SAA) is sufficient to correct the error and this action can be taken automatically under the specified conditions if the configuration file is set up for it to do so.

A configuration screen allows you to enter other options such as:

• Type of access (SAA Operator, SAA Application or Windows Owner) with user-id and password for SAA Operator or Application Access.
• Email ids to which email alerts are to be sent.

The saa_query command line is used to generate an email alert for selected events. You can select the events based on both the severity level (FATAL, SEVERE, WARNING and INFORMATION) and also whether or not an alarm is set for the specific event within the SAA. For example, you could configure the program to generate emails for all FATAL events but only those SEVERE, WARNING and INFORMATION events for which an alarm has been set in the SAA. By the proper configuration, this command line can be used to monitor such items as:

• Disk space: monitored separately for Messages, Event Journal and Database Recovery. The percentage of free disk space below which an alert email is generated can be configured.
• Backup can be monitored and emails can be sent on success or failure or both.
• Archiving can be monitored and emails can be sent on success or failure or both.

The sag_system command lines are use to check the status of the SAG application and database and restart the application if required. The sag_system can also be used to generate emails for selected SAG events with the selection being based on any combination of severity levels (FATAL, SEVERE, WARNING and INFORMATION). For example, you could select to report only FATAL events or both FATAL and SEVERE events. This is a very powerful feature as, with 7.0, SWIFT promoted many SNL and HSM related events into the SAG Event Journal. Thus the single sag_system command allows both automated recovery from failure as well as a very sophisticated alerting facility for SAG, SNL and HSM events.

The sag_system command also has the capability to automatically restart a failed SAG and also, to stop and then restart a SAG in partial state.

All programs are scheduled to run at pre-determined frequencies.
PayCommerce will provide assistance in installing the programs, configuring them to suit the customer's specific environment, training (to enable customers to modify configurations on their own) and on-going support.

**Software Distribution**

PayCommerceAutoErrorCorrect is distributed as a packaged Java Jar file along with other configuration files.

It requires a CPU with a processor speed of 1,000 MHz or higher and RAM of 512 MB or higher.

It also requires the Java runtime environment (JRE 1.6 or higher).

It is currently available on all SWIFT supported operating system platforms.

For more information contact:
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**About SWIFT**

SWIFT is the Society for Worldwide Interbank Financial Telecommunication, a member-owned cooperative. Every day over 10,000 banking organisations, securities institutions and corporate customers in more than 200 countries trust SWIFT to exchange millions of standardised financial messages. SWIFT provides the proprietary communications platform, products and services that enable the SWIFT user community to exchange standardized financial messages securely and reliably, and ensuring its confidentiality and integrity, thereby lowering costs, reducing operational risk, and eliminating inefficiencies. Participating in the SWIFT user community can also create new business opportunities and revenue streams.

SWIFT has its headquarters in Belgium and offices in the world's major financial centers.

**About PayCommerce**

PayCommerce is a global payments network which connects over 80 correspondent banks in 72 countries and enables transparent payments and acceptance. We are the fastest-growing network of global correspondent banks and acquiring institutions.

PayCommerce is the only managed, open cross-border payments network that enables both payments disbursements and acceptance for a consortium of members through a single source of connectivity. Our network members include: banks, financial institutions, global corporates and alternate channel providers.

PayCommerce has designed an innovative global bank-to-bank transaction model for the electronic payments industry; by eliminating intermediaries and creating a trusted, SWIFT- alternative network for low-value, bulk transactions.

Our powerful network of banking members and payment capabilities allow us to deliver competitive advantages to our members including; reduced costs, increased transparency, faster payments, speed to market and a single platform to manage the 360- global transaction process.

Recognized as an innovator in the global electronic payments industry, PayCommerce has received many awards, including: a Global Top 100 Cloud Company by OnDemand 100; the Most Innovative Company Award from the New Jersey Technology Council and a Future 50 Company by Smart CEO Magazine.

Founded in 2006, PayCommerce is headquartered in Edison, NJ, with employees located strategically around the globe to support our customers.