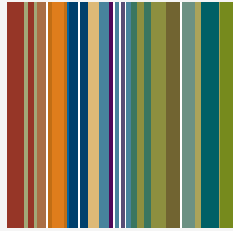


SUNGARD®

AVANTGARD

Managed bank connectivity and SWIFT messaging



ECHOS: A SINGLE BANK CONNECTIVITY PLATFORM

The corporate commercial ecosystem has often been described as one of the most inefficient markets in the world, with issues often attributed to lack of automation, the inability to aggregate data, and poor connectivity.

One area often highlighted is corporate to bank communications. Inflexible and proprietary connections between corporations and their banks can force corporations to pay higher connectivity development and maintenance costs, create an inability to easily switch or add banks, and make it difficult for them to benefit from additional services.

Treasury and payments solutions require secure and reliable connections to banking partners. Historically, these connections were made via proprietary one-off links to each individual bank.

SunGard offers easier, more efficient, and less costly bank connectivity. Corporations can benefit from a single connection that sends and receives all confirmations, trades, payment instructions, account statements and more from worldwide treasury operations. SunGard provides this connectivity via a single platform that manages all integration with your treasury, payments, and ERP systems, along with data transformations and bank messaging. This platform is called the AvantGard EcoSystem Communication Hub (Echos).

MANAGED BANK CONNECTIVITY AND SWIFT MESSAGING



Corporations can benefit from a single connection that sends and receives communications across worldwide treasury operations.

SunGard offers managed bank connectivity and communications as an integrated service. The solution mitigates challenges related to connectivity by offering three layers:

- 1 Integration provides interfaces with all ERP, treasury, and payments systems
- 2 Data Normalization transforms data into standard formats
- 3 Financial Messaging connects corporations to banks directly via SWIFT (with embedded SWIFT Service Bureau access) or through other exchanges

Bank communication services

By connecting to SunGard's Echos platform, corporations can leverage valuable bank and communication services without the need to install additional software. Services available from SunGard and various banks include eBAM (electronic bank account management), bank statement aggregation, and bank fee analysis, along with SWIFT and bank specific services.

KEY CHALLENGES:

Many inefficient connections between corporations and their bank and trading partners

High cost of creating and maintaining proprietary connections

Inability to add or change banks due to the high costs of creating and maintaining connections

Management of a SWIFT connection is costly and time-consuming

Unsecure data communications with trading partners introduces risk

Inability to standardize message formats increases errors and effort

Bank fees due to lack of format standardization

Poor visibility and audit control of financial messages

BENEFITS:

Single connection to the Echos platform eliminates need for many proprietary connections

Embedded and direct access to:

- › Banks over SWIFT
- › Banks using EBICS
- › Trading Partners
- › Other Exchanges

Lowered Total Cost of Ownership (TCO) with managed services model

Embedded workflow and data normalization helps eliminate work effort

Simplified ability to connect to new banks and trading partners

Lowered cost to connect with new banks and trading partners

Easy to leverage additional bank services

SWIFT Connectivity via multiple SSB locations in France, Switzerland, and the United States

MANAGED BANK CONNECTIVITY SERVICES

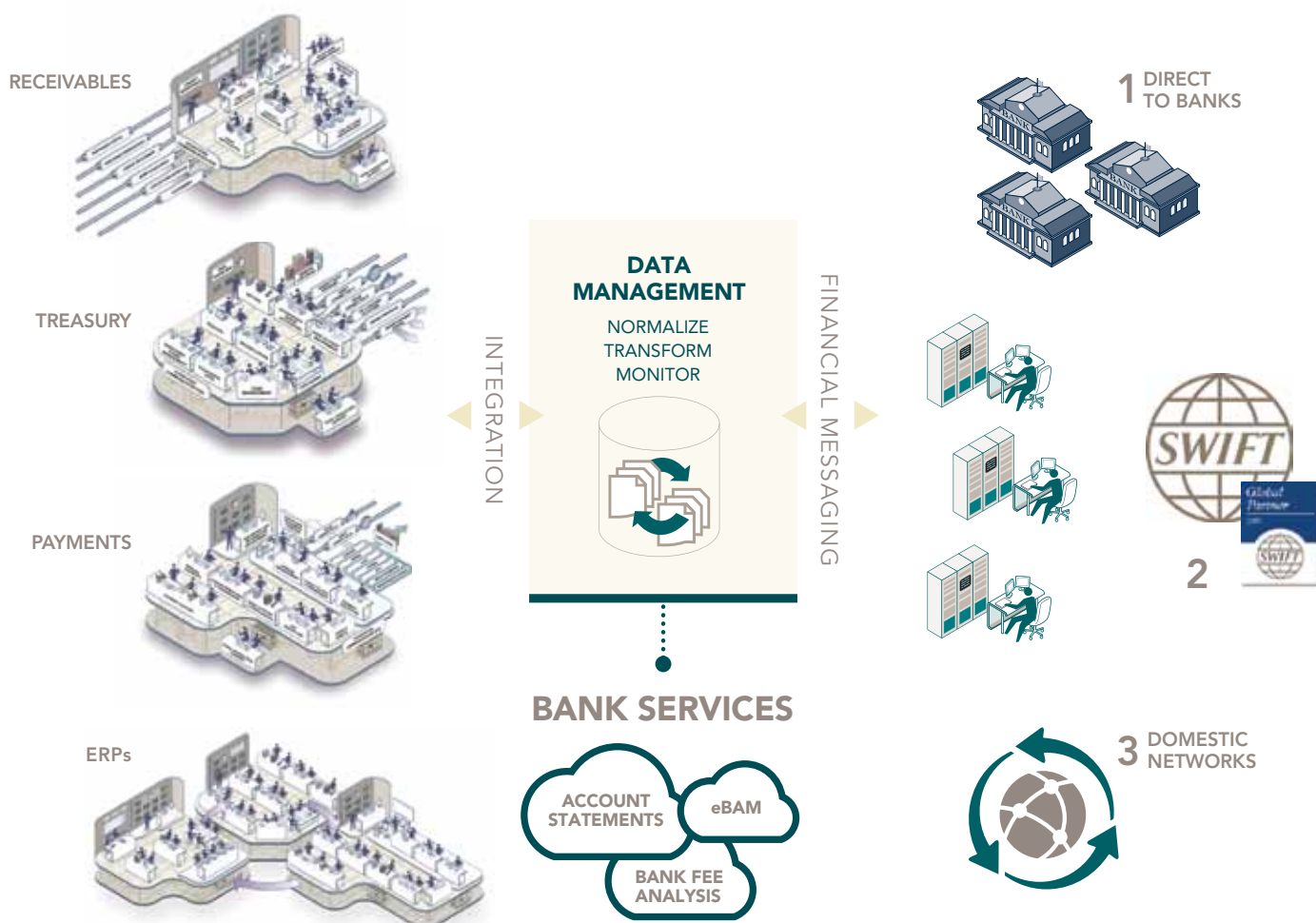
Improve bank reach and access services faster

By establishing a hub and spoke model for bank communications, corporations can eliminate costly proprietary connections.

With a single link to the Echos hub, each corporation can easily connect to a broad network of banking partners. With improved connectivity, corporations can then access their banks' services more quickly and cost-effectively.

Enhance service with bank portability

Corporations that leverage Echos benefit from improved communications across the corporate commercial ecosystem and gain the ability to interface with new entities faster. For example, adding a new bank or corporation to the platform is simplified via a centralized library of formats and a bank on-boarding portal. Many corporations favor Echos due to its ability to support bank portability.



Reduce total cost of ownership with a managed service model

Echos is a centralized communication hub entirely managed by SunGard in a secure data facility with full redundancy, backup, and real-time data replication between production and backup systems. The communication hub is managed 24/7 by teams that provide application support and first-line customer support. The solution includes full administration services for bank on-boarding, as well as traffic reports, billing reports, alerts, dashboards, status summaries, client-level reports, control, and monitoring.

Reduce overhead with embedded SWIFT access

SunGard offers an embedded SWIFT Service Bureau (SSB) with locations in France, Switzerland, and the United States. Echos can connect directly to the SSB and, as a member concentrator, SunGard provides a full service approach to administration services. All administrative tasks and on-boarding requirements will be managed directly by SunGard. As a preferred SWIFT Global Partner, SunGard operates in close coordination with SWIFT to help customers experience the benefits of a unified single solution approach.

To simplify communication formats across the corporate commercial ecosystem, Echos leverages XML messaging along with SWIFT standards including ISO20022, the Common Global Implementation (CGI), and 3SKey Security.

Examples of messaging services:

- › Receiving end of day bank account statements
 - › Receiving intra-day bank account statements
 - › Sending wire transfer and treasury payments
 - › Wire transfer and treasury payment confirmations
 - › Sending ACH payments
 - › Sending SEPA payments
 - › Sending check payments
 - › Bulk payments confirmations
 - › Deal confirmation (send /receive the MT3xx)
 - › Accord matching (InterAct service)
 - › Generic SWIFT - FIN (STP)
 - › Generic SWIFT - FileAct (STP)
 - › Generic file service
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MANAGING YOUR SWIFT RELATIONSHIP— SWIFTREADY SERVICES

SunGard offers customers the ability to connect to SWIFT via an embedded SWIFT Service Bureau (SSB). The advantage of this approach is that integration with back-office systems is already accomplished by connecting to the Echos platform and, once connected, messages can be sent to banks directly or via an exchange such as SWIFT.

For many organizations, managing a SWIFTNet connection is not a core competency. For this reason, corporations turn to a SWIFT Service Bureau to provide infrastructure and connectivity while also managing the day-to-day operation of their SWIFT connection.

Benefits of a service bureau

Domain expertise is one of the most compelling reasons to consider using SunGard's SWIFT Service Bureau over direct connectivity. Corporate treasury and finance departments continue to be under siege due to an outpouring of new regulatory requirements and standards. This often puts companies in situations where they are chasing change and are rarely ready when it happens. By leveraging Echos and the SunGard SSB, bank connectivity and communications is simplified and supported as a managed service.

Reduced administrative costs

By connecting to SWIFT via a Service Bureau, the connectivity and administrative requirements are managed by SunGard as a service.

Benefits may include a lower Total Cost of Ownership as well as lower operational costs compared with an in-house solution. With locations in France, Switzerland and the United States, a SunGard SWIFT Service Bureau is more flexible and a less expensive, faster, and easier alternative to direct connections, and also allows for a full range of SWIFT messages, including securities, treasury, derivatives, payments and corporate actions.



The SWIFTReady label helps customers in their selection of a supplier and provides the assurance that the product or service meets the highest levels of quality.

Syntesys SWIFTReady Services

Many corporations opt to use a Member Concentrator model, which combines the Service Bureau offered by a SWIFT member with additional services to assist in the administration and maintenance of SWIFT connectivity.

Through the Syntesys SWIFT team, SunGard can provide a full range of SWIFTReady consulting services to help your company implement and maintain your connection to SWIFT.

With these Syntesys SWIFTReady services, SunGard now offers all the benefits of a SWIFT Service Bureau while also providing end-to-end services to corporations, such as:

- › Building a business case for SWIFT migrations
- › Architecture design and validation
- › Assistance with the SWIFT application process
- › Ordering SWIFT products and services
- › Help with service requests
- › SWIFT Certified assistance with the full range of Alliance and SWIFTNet products
- › On-Site and Remote Managed System Care

With SunGard's Syntesys SWIFTReady services, customers no longer need to maintain expensive service contracts in addition to those of the Service Bureau.

The good news is that this connectivity model does not diminish the ability of the participant to retain its own market presence and identity (by using its eight character bank identifier code). This provides cost-efficient connectivity and eliminates process replication and message duplication along with the resulting costly errors. The use of SunGard SWIFTReady services is especially enticing for corporations, as it allows them to focus on their core business instead of building costly connectivity and relying on dedicated technical and domain expert resource in one small area of operations.

Choosing a service bureau

When selecting a Service Bureau, interoperability, accuracy, flexibility, location, extra services, and increased performance are all important evaluation criteria. With respect to interoperability, organizations often look for solutions that offer interfaces to existing ERP and treasury workstations. The solution needs to scale in terms of both volume and scope while maintaining the capability to easily interface with new systems brought into the environment via internal technology changes or corporate acquisitions.

With many different choices, corporations are in a strong position to find a proven connectivity model that best suits their needs. As a preferred SWIFT Global Partner, SunGard offers corporations a reliable, quick, and easy connectivity solution for all their bank messaging needs.



ECHOS: INTEGRATION WITH BACK-OFFICE SOLUTIONS AND DATA MANAGEMENT

To offer corporations the most comprehensive approach to bank communications, it is essential that the financial messaging solution and associated network connectivity is truly integrated with back-office systems.

Financial messaging consists of both outbound and inbound communications between applications and banking partners. To facilitate this connectivity, an appropriate integration layer must exist. AvantGard Echos interfaces with multiple business applications for processing and delivery of messages and files in multiple formats via multiple communication protocols. This includes integration with all back office systems including legacy, ERP, treasury, receivables, and payments systems. The solution leverages MQ, Web Services, EBICS, RAHA and FTP as required for each application.

Echos offers several connectivity modes with other back office applications. The five main considerations when connecting a back office application to Echos are:

- 1 The Connectivity Channel (MQ, Web Services, SCP, eTX bridge ...)
- 2 The Security Mode (SSL, Secure Web Service ...)
- 3 The Network Service (FIN, FileAct, InterAct, EBICS ...)
- 4 The Format of Input Files (FIN, XML, ACH ...)
- 5 The Business Logic

KEY FEATURES:

Core connectivity platform in the SunGard Treasury, Payments, and Receivables solutions

Integrates with any back-office solution (Treasury, ERP...)

Provides embedded access to SWIFT Service Bureaus in the United States and Europe + Member Concentrator

Delivers direct connectivity to banks as a 24/7 managed service

Performs normalization / transformation / enrichment of messages

Offers data and bank readiness as a managed service

KEY BENEFITS:

Lower Total Cost of Ownership (TCO)

Enables you to focus on your business while SunGard manages bank and SWIFT relationships

Simplifies connections with new banks (Portability)

Makes it easy to receive more services from SunGard and your bank

Reduces the burden on your IT team

Provides SWIFT Service Bureau connectivity via France, Switzerland, and the United States

Normalization / transformation / enrichment

The core Echos platform sits between back-office systems and banking partners. The solution provides a centralized library that acts as a director to ensure that messages coming to and going from the corporation do so in a standardized format acceptable to both parties.

In performing these actions, AvantGard Echos offers multi-protocol, multi-format bank connectivity by leveraging standard bank interfaces and embedded connectivity to SWIFT, EBICS, (ETEBAC to EBICS conversion), ISABEL, ANSER, and other exchanges. SunGard maintains the interfaces, standard formats, and transformation requirements for the communication, allowing corporations to simply connect once to AvantGard Echos to then reach the broader banking community.

Examples of transformations:

- › BAI to MT940 transformations and vice versa
 - › BAI to MT942 transformations and vice versa
 - › Transformations of pain001 to MT101
 - › Transformations from FIN ack/nack to pain002
 - › Transformation of MT199 to pain002
 - › Transformation of MT900 to pain002
 - › Bulking and debulking
 - › Defining the minimal required data needed from the back-office application in order to create FileAct header
 - › Mapping the data received from the back-office application into a valid header information for FileAct
-

Security and standards

AvantGard Echos includes two new industry SWIFT Connectivity standards: Personal Digital Identity (PDI), branded by SWIFT as 3SKey, and Common Global Implementation (CGI), which aims to streamline the use of the ISO 20022 standards for payments and cash management. These two initiatives foster improvements in the standardization of corporate transaction banking processes and financial messaging.

In spite of the advanced technical interfaces that are now available for bank connectivity, corporations continue to face challenges related to implementing standardized solutions across their many banking partners. However, according to SWIFT, adopting 3SKey and CGI can help improve security and standardize messaging between corporations and their banks. Many banking institutions have implemented different digital signature mechanisms and, by deploying SWIFT's 3SKey, corporations can standardize on a single personal identity scheme for all of their banks.

The CGI defines implementation guidelines for various payment types using ISO 20022 XML payment initiation messages. CGI will help multinational corporations that initiate multiple payment instruments simplify and reduce time spent on implementing payment instructions for their various cash management banks.

Leveraging value-added services

SunGard's AvantGard offers additional value added services for corporations to manage electronic bank account management (eBAM), bank account statement aggregation and bank fee analysis. Without the need for installation additional software, these services leverage Echos for financial messaging with other applications and with the banks.



Echos is the core connectivity platform in the SunGard Treasury, Payments, and Receivables solutions

ABOUT AVANTGARD

SunGard's AvantGard is a leading liquidity and risk management solution for corporations, insurance companies and the public sector. The AvantGard solution suite includes credit risk modeling, collections management, treasury risk analysis, cash management, payments system integration, and payments execution delivered directly to corporations or via banking partners. AvantGard solutions help consolidate data from multiple in-house systems, drive workflow and provide connectivity to a broad range of trading partners including banks, SWIFT, credit data providers, FX platforms, money markets, and market data. The technology is supported by a full range of services delivered by domain experts including managed cloud services, treasury operations management, SWIFT administration, managed bank connectivity, bank onboarding, and vendor enrollment. For more information, visit www.sungard.com/avantgard.

ABOUT SUNGARD

SunGard is one of the world's leading software and technology services companies. SunGard has more than 17,000 employees and serves approximately 25,000 customers in more than 70 countries. SunGard provides software and processing solutions for financial services, education and the public sector. SunGard also provides disaster recovery services, managed IT services, information availability consulting services and business continuity management software. With annual revenue of about \$4.5 billion, SunGard is the largest privately held software and services company and was ranked 434 on the Fortune 500 in 2011. Look for us wherever the mission is critical. For more information, please visit www.sungard.com.



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