

GEOS news

Information for customers, potential customers, partners and employees of SDS Software Daten Service Ges.m.b.H.



SDS emerges from a busy 2004 and launches itself into 2005.

Our biggest Austrian customer, Bank Austria Creditanstalt, went into operation with

GEOS on 22nd March 2004, two months ahead of schedule.

GEOS successfully survived its first baptism of fire when the share capital of HVB was increased on its second day of productive operation. Quarterly closing at the end of March was also concluded successfully. Wolfgang Haller, head of Bank Austria Creditanstalt, made us especially proud in a recent press release when he said that "GEOS has significant growth potential, which will enable it to meet future securities processing needs".

Several projects have also been successfully concluded in Switzerland. The AGI partner banks (the group of eight cantonal banks) began a four-stage operation to switch their securities processing activities to GEOS in November 2003. The migration of all eight cantonal banks had been completed by May 2004. We regard the successful localisation of GEOS for the Swiss banking market as a solid basis for the further expansion of GEOS in Switzerland.

At the end of June, Anglo Irish Bank Plc implemented an unprecedented cross-border GEOS platform by integrating its GEOS installation in Dublin with the central back office in Vienna. Implementation has now also begun in London, with Geneva to follow.

The change in ownership from RZB to T-Systems International in July marked

another milestone in the history of SDS. T-Systems' position as a major European player will bolster SDS; not only is its business model being expanded, but SDS' European business will also benefit significantly from T-Systems' sales channels.

The first step towards expanding the business model has already been taken; HSBC Trinkaus & Burkhardt and T-Systems have already signalled their intention to establish a joint GEOS-based transaction banking factory for securities processing.

T-Systems' European sales network will enable both this GEOS-based business model as well as traditional GEOS product selling to be strengthened significantly. Initial talks in various countries last year proved highly promising.

All in all, 2005 promises to be another eventful year.

We are planning to keep you up-to-date with developments on an even more regular basis. You will therefore be receiving this newsletter three times a year. However, this is only one of several initiatives geared towards improved and more regular communication. More on this in the next newsletter.

We look forward to working with you in 2005.

Bernd Johnen, CEO

EDITORIAL

Review of 2004 & a look forward to 2005

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- A bank can use one, several or all of the services of one or more providers or perform all securities processing functions itself.

The GEOS approach to the insourcing of securities processing services supports the flexible formation of partnerships, as shown by the various GEOS insourcing business models actually in use.

Redefining the value-added chain with GEOS

GEOS is a securities processing platform capable of supporting the full range of in-house processes as well as numerous different in- and outsourcing strategies, affording banks significant flexibility to define the value-added chain. From pure IT outsourcing to implementation within a transaction bank, GEOS can be deployed in numerous scenarios in which there is ample flexibility to define the functional scope between the bank and sourcing partner.

The way in which tasks are actually shared will depend on the demands of the customer banks in terms of affiliation with a banking sector, maintenance of independence and protection of customer data, which could necessitate an organisational separation of the settlement bank function from that of the other services.

Distributing securities-related services to specialists helps to reduce costs while maintaining independence and the freedom to make decisions.

The division of labour has long played a part in securities trading. However, new types of specialisation are being necessitated by the ever increasing pressure on costs caused by labour-intensive back-office processing. Streamlined business processes, considerable flexibility and a lightning response are crucial.

Financial services providers are rising to these challenges by implementing different business models for transaction processing. The services on offer or in demand range from order management, settlement and custody through to securities management and corporate actions.

GEOS boasts a number of options for distributing securities processing services to several service providers.

The design of GEOS allows for both historical as well as new forms of task sharing. This includes the requirements of a banking group, a multi-tier sector or a transaction bank as well as those of

a cross-border back office or the separation into technical and banking-related tasks.

The following services can be outsourced or offered:

- Customer bank
 - Settlement bank
 - Financial data provider (GEOS FI operator)
 - Service client institution (back-office service provider)
 - Model client institution for parameterization
 - IT service provider
- A GEOS service provider (insourcer) can offer one, several or all of the above services.



Customer bank

A bank specialising in the development and sale of

- financial products and services
- different sales channels
- customer relations

has the following options for partial or full outsourcing at its disposal:

- procurement of financial data in the required quality



- procurement of services of an IT centre, including an integrated software portfolio
- brokerage & custody, order routing and/or settlement & clearing through a settlement bank
- back-office and event processing through a service client institution
- parameterization through a model client institution.

Settlement bank

GEOS supports bank-to-bank communication and thus a separation of the securities trading and settlement process between customer banks and a settlement bank, including in cross-border scenarios.

- The settlement bank offers banks the STP infrastructure for their exchange, broker and custodian network.
- The settlement bank performs the delivery of the customer bank's transactions and manages its holdings.

These are tried and tested specialist functions of large exchanges and clearing houses. GEOS-to-GEOS communication allows business processes to be implemented across several banks in STP mode, thus ensuring the optimum flow of orders and a high level of automation.

The customers of the customer bank as well as the activities at other settlement banks are not transparent to the insourcer. This prevents any conflict of interests with the insourcer's own customer business from occurring.

The insourcer profits from a decline in costs through increased transaction volumes at brokers, exchanges and custodians and is able to pass on these economies of scale both to its own customers as well as the customer banks.

What's more, the outsourcer is not hit by considerable fixed and ongoing exchange/clearing member fees, the freezing of liquid funds as collateral, IT integration costs etc.

Service client institution

The service client institution represents a pool of employees that operate a central back office for several banks. This functionality can be divided into two groups of services, whereby data redundancy is ruled out (thus eliminating problems such



as batch windows, uploading the data of the real client institution to the service client institution, download, redundancy management):

- Preparation and control of corporate actions

Based on scheduled processing steps, the service client institution assumes responsibility for ensuring the quality of the data to be processed and controls and monitors the handling of his customer banks' corporate actions.

- Client institution switch and multi-client mode

Furthermore, the service client institution is able to select other client institutions and to act on their behalf. Only an employee of the service client institution may access the data of his securities account servicing client institution. Each client institution switch is logged.

The user of the service client institution can also be authorised to use all of the functions of the securities account servicing client institution. In practice, these are predominantly back-office functions, for example:

- central input
- exception handling
- monitoring functions
- system parameterization.

Model client institution

Model client institution logic in GEOS is used to simplify and standardise system control, allowing the same parameters to be defined for several client institutions.

The model client institution manages the control data on behalf of the client institutions assigned to it, thus simplifying and standardising system control in particular for banking groups with several similar members, e.g. the cooperative sector.

Master data processing

High-quality FI master data is the cornerstone of Straight Through Processing. At the same time, FI master data maintenance is, within the framework of traditional securities processing, a major cost factor for all banks. Costs can be significantly reduced for all service requesters by centralising this function, as has happened in Austria at ÖWS, which centrally handles the master data for its customers.

The management of cross-client master data in the GEOS FI subsystem enables several banks and IT centres to be supplied with high-quality and up-to-date public financial master data, exchange data and event data. A powerful system with interfaces to a range of data feeds is used to maintain and process the data.



The data is automatically distributed to individual service requesters via data propagation.

Implementations are distinguished as follows:

■ **Single-tier implementation**

A bank maintains and uses the FI master data itself.

■ **Multi-client implementation**

One or more banks can be authorised to maintain the data. In this case, a separate GEOS FI client institution is not necessary. One, several or all real client institutions maintain the data for all client institutions (two-tier implementation).

■ **Alternatively, the FI master data can also be maintained by a separate body defined in GEOS as a client institution and which is solely responsible for this service (genuine two-tier implementation with clearly defined assignment of authorisation and responsibility for data content).**

■ **Service provider**

The highest degree of specialisation is an enterprise responsible for providing several banks or international groups with master data. The processed master data is distributed to the GEOS installations of customers via a data propagation tool. The recipient can then further propagate the data. This solution has been realised in Austria through ÖWS.

IT service provider

The range of services of an IT service provider encompasses direct IT centre services as well as the provision of a modern application infrastructure. This includes ongoing system evaluation, system integration and release upgrades, as well as the development of a competence centre, user training and user support.

GEOS' genuine multi-client capabilities make it an ideal and cost-effective solution for service IT centres, as shown by the ARZ (Allgemeines Rechenzentrum) data processing service centre in Austria, which serves a heterogeneous banking group comprising credit unions, private and mortgage banks, or the Swiss AGI association of cantonal banks.

Summary

Taking into account market and cost factors, financial services providers have to deploy different securities processing business models. The GEOS securities processing platform can be flexibly configured and adapted to suit several different in- or outsourcing models.

The flexible configuration of roles supports the various divisions of business processes without the business cut-off point subsequently becoming a weak link in the overall STP chain.

GEOS allows back office competence to be bundled and offered both within a group of

companies, a banking group or a sector or to external institutions, particularly on a cross-border basis.

Bundling allows transaction volumes to be aggregated and production costs to be significantly reduced by combining economies of scale with a high degree of automation.

Read about further examples of the innovative restructuring of securities processing value-added chains in the next issue.



Product News

Breaking new ground at the front end: customer support with GEOS MFL

Many banks use proprietary branch applications to support their customer sales force, allowing users to perform tasks within a single, standardised and neutral user interface without having to use the dialogs of the desktop processing system.

A new product from SDS that allows GEOS to be embedded into applications such as these is ideal for precisely this scenario. GEOS Multi Front Link (MFL) makes integration with this type of sales system much easier.

GEOS MFL allows for the standardised and redundancy-free embedding of GEOS into sales systems. The typical pitfalls of conventional solutions, such as the redundancy of data/financial instruments master data or downtime for uploading and replication, can thus be avoided.

One GEOS user has already become a pilot customer and has integrated securities processing into its standardised branch application based on MFL.

GEOS MFL has also met with a highly positive response from vendors of front-office applications. Several projects are now underway to render the software products of these software companies MFL-compatible. ■



GEOS Nostro goes parallel Parallel accounting in accordance with national standards and IFRS guidelines

In January 2005 GEOS Nostro user banks for the first time prepared their balance sheets according to national accounting provisions and IFRS in parallel. The required software was developed by SDS jointly with customer experts in several countries.

The IFRS (International Financial Reporting Standard) was derived from the International Accounting Standards (IAS), recommended by the International Organization of Securities Commissions (IOSCO) and passed as a guideline by the European Union. However, the IFRS will not only become the predominant accounting standard within the EU but also in all the other leading industrialised nations.

The IFRS makes it easier to compare the balance sheets of international groups and thus makes a company's value more transparent. This enhanced transparency enables groups to identify and establish their position in the international capital markets, which is why there is correspondingly high interest in accounting according to the IFRS.

GEOS Nostro has supported the IFRS for quite some time and in 2003 a Swiss bank used it to draw up its audited accounts. In contrast to Switzerland, however, German and Austrian

banks are not allowed to draw up their balance sheets exclusively according to IFRS.

Therefore, SDS has implemented the option of parallel accounting according to IFRS in addition to the national accounting regulations. This way, SDS is in a position to offer its customers an exhaustive and state-of-the-art product for automatically balancing the banks' own securities holdings.

The project was initiated in March 2004 at an international meeting of more than 30 financial experts from renowned banks in Germany, Austria, Switzerland as well as a representative of KPMG in Vienna who discussed and finalised the technical specifications for further internationalising GEOS Nostro. Immediately after this meeting the implementation phase at SDS

began. The new release was delivered to its customers in September 2004 in order to give the individual banks sufficient time for migration and implementation.

That these projects were success stories becomes clear from the fact that the first GEOS Nostro banks were able to draw up their annual accounts according to two accounting types in parallel in mid-January.

The close cooperation between SDS and the technical experts from the banks enabled the optimisation of a standard software product for the highly sophisticated field of Nostro, with all the individual users benefiting from each other's requirements.

However, the development of GEOS Nostro in the field of IFRS does not come to a standstill: for this year SDS plans to

develop features such as primary accounting according to IFRS or extending reports and front-end displays. ■



Can sophisticated standard software be implemented and operated cost-effectively? Yes, of course, and it's quite Straight Forward.

The software industry has been through a difficult few years; strained financial resources among potential customers have been prohibitive to investment and have prolonged the lifecycles of software systems. And there are no signs of any gold rush in the foreseeable future. Software vendors are therefore being forced to adapt to tough market conditions. New models and argumentation as to benefits will have to be formulated.



GEOS as an example

SDS, developer of the GEOS software solution, has encountered this problem in one form or another during the course of several projects. The GEOS securities processing solution is complex and is designed to handle complex banking processes. Designed as a standard software solution, GEOS has to be extremely flexible. It has to be suitable for both small and large banks, to inspire confidence in retail and private banks, to be able to cope with different legislative territories and support processes across several time zones.

GEOS places particular emphasis on Straight Through Processing (STP). The majority of processes are handled without user intervention, which impacts on data quality, parameterization and flexibility. The potential danger is that the software will be deployed incorrectly, since there

is a tendency to implement a far greater complexity than is frequently necessary.

Another aspect of the STP approach is that a GEOS implementation cannot be regarded simply as an IT project. The impact on processes is so far-reaching that the costs of GEOS have to be offset against the overall savings made by streamlining processes. An unmistakable warning sign for the incorrect implementation of GEOS is if no provisions are made for savings when redefining and streamlining these processes.

GEOS Straight Forward

SDS was acquired by T-Systems International in 2004.

Having acquired SDS, the first milestone in T-Systems' strategy was the announcement of a joint venture with

HSBC Trinkaus & Burkhardt to establish a transaction bank for securities processing based on the GEOS platform. T-Systems is planning to extend this model to other European countries. It is a model suited to any customer that wants to outsource its entire securities processing operations and simply take advantage of value-for-money services.

The new GEOS Straight Forward solution from SDS and T-Systems is a new approach aimed at customers looking for cost-effective IT support for their securities processing business. GEOS Straight Forward is not a separate software solution, since it is based on exactly the same code as GEOS Classic. The emphasis is much more on standardising/simplifying the use of GEOS by moderating flexibility and delivering project results capable of boosting efficiency.

GEOS Straight Forward is the simple solution to introducing and operating a new platform.

Systematically managing cost drivers

The price structure has been systematically developed. The classic licensing model has also been made more attractive to smaller banks by systematically reducing license start-up costs. The most basic version of GEOS is thus available for 300,000 euro. Customers can also opt for a rental model, where no license costs are incurred but where a rental fee is paid when the software goes into operation. The advantage here is that no up-front investment or license activation are necessary.

During the implementation of GEOS Straight Forward, emphasis is placed on GEOS standard processes as the blueprint. These processes are the sum of a number of implementation projects with banks in four countries, ranging from large banks, private banks and central banks to service banks and international banks. This approach allows costs to be cut by 40%. Furthermore, processes are redefined and customers are able to benefit from the STP potential of the software.

T-Systems has developed a solution for integration and migration that is aligned with GEOS Straight Forward. It has been





developed during projects to migrate customers to new securities processing systems and includes procedural and management tools as well as finished software solutions for migration. Here, too, costs can be realistically reduced by 40%.

Furthermore, standard parameterization based on default values is used for accounting calculation and can be efficiently adapted to the customer during project implementation. Savings of up to 80% can be achieved by using commercially available standard documents. The use and minor adaptation of predefined standard batches can also impact positively on efficiency.

One-stop shop for significant cost benefits

Because T-Systems is both a system integration partner and a potential operator, it is able to offer customers, as a full-service

provider, a cost-effective, all-encompassing package without charging the usual general contractor premium. As experienced partners, T-Systems and SDS are well-placed to assess and manage the risks involved.

LINUX – the way forward

LINUX is the ideal platform for both in-house operations and outsourcing. One customer is already using LINUX to run GEOS successfully. SDS is also planning to use LINUX exclusively as the development and testing environment. Given the right expertise in running LINUX, the software can be operated at 20% of the traditional mainframe versions. Performance tests already carried out by SDS on HP/Intel computers have confirmed the efficiency of GEOS in this environment.

The same platform can also be used for several independent customers. Although

customers are technically on the same platform, they are functionally completely separate. This leads to greater efficiency both during operation and when upgrading, for example.

Summary

The traditional challenges of introducing and operating a software solution, which have hitherto led to significant costs, can be successfully met. Thus a whole range of new options for customers who have major reservations about this type of project becomes available. However, processes must be driven by the standard and not the other way around.

Even customers who are not contemplating outsourcing their securities processing now have another weapon in their armoury for the long-term optimisation of securities processing. ■

SWIFT READY GOLD for GEOS

Communication via SWIFT has become absolutely critical to handling today's interbanking transactions. It plays a vital role in achieving the three major objectives of securities processing: to shorten transaction cycles, to reduce costs and to prevent errors.



As a product designed to meet the highest STP demands, comprehensive SWIFT-based messaging forms an integral part of GEOS.

This applies both to past and future developments of GEOS; SDS continually strives to offer customers the latest SWIFT message types.

SWIFT READY GOLD Certification for Securities Custody and Settlement awarded to just 3 vendors worldwide

The Society for Worldwide Interbank Financial Telecommunication SWIFT, based in La Hulpe, Belgium, has awarded the SWIFT READY Label to SDS every year since 1999. In 2004, SDS received the SWIFT READY GOLD Certificate for Securities Custody and Settlement.

As a SWIFT key partner, SDS is particularly proud of this award, given that only two other software companies worldwide were able to meet the stringent criteria for a GOLD award in 2004.

The criteria

The SWIFT Ready Label is awarded annually, which means that a software

company like SDS has to requalify each year, fulfilling a whole catalogue of stringent criteria in order to reach the required level for SWIFT certification.

The emphasis is on the further enhancement of STP functionality and increased consistency of the software while observing the relevant SWIFT standards. Connection and access via SWIFT Alliance as well as the integration of the BIC directory and BIC+ database, plus implementation for MQ Series, were the requirements that GEOS most recently had to meet.

GEOS takes in its stride support of the latest SWIFT releases and updates as well as adherence to current SWIFT Securities Market Practices for message generation in line with country-specific requirements, within the framework of both order management and settlement and clearing.

Focusing on Collateral Management

In addition to the above criteria, support of SWIFT message types for derivatives in the Collateral Management arena was also critical to achieving SWIFT READY GOLD certification in 2003. In line with current market requirements, the market

practices of the funds industry have also been taken into account. The new XML-based solution is currently being developed.

SWIFT message types supported

It is important for our customers to know precisely which message types are supported by GEOS. The solution supports messages for order and funds industry management, including status messages and trade executions, clearing & settlement, automatic custodian reconciliation and reporting messages. For a year, considerable emphasis has been placed on the extension of corporate action message types in terms of Straight Through Processing.

A list of SWIFT message types currently supported by GEOS can be found on the next page. Further information, as well as the continually updated list of available SWIFT message types in PDF format, can also be found at www.geos.biz. ■

Who to contact at SDS

Should you have any further questions or require more information about any issues concerning SWIFT, please contact Sabine Vana or Josef Schiessbühl at swift@geos.biz.



SWIFT Message Types currently supported by GEOS:

GEOS S.W.I.F.T. Messages Trade Initiation Confirmation ,Execution,Status,Statement		
502	Order to Buy or Sell as well as for: SUBS/REDM & /SWIF/SWIT	In
502	Order to Buy or Sell as well as for: SUBS/REDM & /SWIF/SWIT	Out
509	Trade Status Message as well as for: SUBS/REDM & /SWIF/SWIT	In
509	Trade Status Message as well as for: SUBS/REDM & /SWIF/SWIT	Out
513	Client Advice of Execution as well as for: SUBS/REDM & /SWIF/SWIT	In
513	Client Advice of Execution as well as for: SUBS/REDM & /SWIF/SWIT	Out
515	Confirmation of Purchase or Sale as well as for: SUBS/REDM & /SWIF/SWIT	In
515	Confirmation of Purchase or Sale as well as for: SUBS/REDM & /SWIF/SWIT	Out
202	General Financial Institution Transfer for Settlement Standing Instruction: Free Payment	Out
576	Statement of Open Orders	In
576	Statement of Open Orders	Out

GEOS S.W.I.F.T. Messages Settlement & SMPs		
540	Receive Free	In
540	Receive Free	Out
541	Receive Against Payment	In
541	Receive Against Payment	Out
542	Deliver Free	In
542	Deliver Free	Out
543	Deliver Against Payment	In
543	Deliver Against Payment	Out
54x	540,541,542,543-Out: Subfunction COPY -	Out
544	Receive Free Confirmation	In
544	Receive Free Confirmation	Out
545	Receive Against Payment Confirmation	In
545	Receive Against Payment Confirmation	Out
546	Deliver Free Confirmation	In
546	Deliver Free Confirmation	Out
547	Deliver Against Payment Confirmation	In
547	Deliver Against Payment Confirmation	Out
548	Settlement Status and Processing Advice	In
548	Settlement Status and Processing Advice	Out

GEOS S.W.I.F.T. Messages Statements & Request		
549	Request for Statements	In
535	Statement of Holdings	Out
536	Statement of Transaction	Out
537	Statement of Pending Transactions	Out

GEOS S.W.I.F.T. Messages Reconciliation		
535	Statement of Holdings	In
549	Request for Statement	Out

GEOS S.W.I.F.T. Messages Registration & Confirmation		
500	Instruction to Register	Out
501	Confirmation of Registration	In
510	Registration Status and Processing Advice	In

GEOS S.W.I.F.T. Messages Corporate Actions		
564	Corporate Action Notification	Out
565	Corporate Action Instruction	In
565	Corporate Action Instruction	Out
566	Corporate Action Confirmation	In
566	Corporate Action Confirmation	Out
567	Corporate Action Status/ Processing Advice	In
567	Corporate Action Status/ Processing Advice	Out

GEOS S.W.I.F.T. Messages Collateral Messages for Derivatives		
503	Collateral Claim	In
503	Collateral Claim	Out
504	Collateral Proposal	In
504	Collateral Proposal	Out
505	Collateral Substitution	In
505	Collateral Substitution	Out
506	Collateral and Exposure Statement	In
506	Collateral and Exposure Statement	Out
507	Collateral Status and Processing Advice	In
507	Collateral Status and Processing Advice	Out

Functional enhancements in GEOS

Two new releases of GEOS were delivered in 2004, both focusing on different functionalities.



Version 2.1.20, released in spring, includes a whole range of functional enhancements which, because the versions for Germany, Austria and Switzerland have been consolidated on a single code base, are now available in equal measure to all of SDS' customers.

Version 3.1.2, released in autumn, is entirely focused on process optimisation, automation (STP) and connectivity.

Last year witnessed the implementation of several hundred internal and customer change requests (CRs), making securities processing much easier, more transparent and more cost-effective. Here are just a few highlights:

Exception handling

GEOS now boasts an integrated exception handling tool for the central monitoring and handling of exceptions.

Bulk orders

GEOS is now capable of accepting, routing, handling and processing bulk orders (representatives of customer orders from asset management systems).

Supply chain

The first phase in the development of the supply chain for the Straight Through Processing of delivery orders in several stages of the custody chain focuses on the increased demand for automation during delivery transactions.

New custody logic for collective custody

New custody logic – “collective custody” – allows the custodian and custody location to be automatically determined for customer positions held in collective custody.

Automatic registration of registered shares

The vast majority of Austrian banks uses GEOS for the fully automated registration of registered shares.

For registration in electronic share registers, GEOS allows the general power of attorney to perform registration in cases where registered shares are acquired to be documented for securities accounts. In such a scenario, registration is fully automatic, i.e. no manual intervention is required. If there is no power of attorney, a call for registration is automatically sent following the conclusion of a transaction. This is monitored automatically and, if necessary, a reminder is created.

Derivatives

In addition to the new GEOS Collateral Management functionality, automated processing during the exercise and assignment of capital-adjusted derivatives as well as provisional posting for initial margins should also be highlighted.

Furthermore, derivative functionality is now fully comprehensive thanks to implementation of the EUREX interface, which means that any shortfall against dedicated derivatives systems has now been overcome.

Own holdings and balancing

As in every release, product enhancements have been driven by new market practices and changing legislation.

Last year, emphasis was placed on own holdings management: GEOS NOSTRO now boasts functionality for parallel ac-

counting in accordance with statutory accounting requirements and IFRS guidelines (IAS 39), once again proving itself as a future-proof package for balancing own holdings.

Besides this major enhancement, GEOS Nostro has also been continually developed in other areas, for example through support for the “premium/discount” balance-sheet method for positions on the assets side and the automatic distribution of difference amounts based on the time to maturity, automation of the Nostro liabilities side and extension of the controlling interface for simplifying the creation and monitoring of reports.

GEOS Multi Front Link

GEOS Multi Front Link allows GEOS to be seamlessly integrated with sales systems and Internet applications. The first development phase was delivered to our Austrian pilot customer with release 3.1.2.

Special securities

GEOS allows instruments such as sureties, mortgage rights, insurance policies or works of art that cannot be traded and for which there is rarely any public master data to be managed as special commodity types.

Telekurs data feed

The Telekurs VDF interface is now available outside of Switzerland. Telekurs can be used as a further provider of financial instruments master data, either alternatively or exclusively. ■



Localisation of GEOS for the Swiss market

Extended functionality for Switzerland

Medium-term notes

Functionality for position keeping for medium-term notes was added to GEOS within the framework of its adaptation to meet the specific securities processing requirements of the Swiss market.

This extended functionality concerns the identification of securities issued for each transaction and securities data management. A special accounting function within GEOS manages the customer's holdings. Alternatively, a different medium-term notes system can be fed with the relevant data.

When a bank's own medium-term notes are delivered, GEOS provides the necessary net data, enabling the bank to print the medium-term notes via an appropriate system.

The interest payments or the capital repayments are made on the defined dates based on the transaction data. GEOS Nostro automatically creates interest expense and redemption postings on these dates and credits the bank's General Ledger accounts. Before a medium-term note is repaid, a conversion offer can be made to the securities account customer should he want to reinvest under new conditions.

Furthermore, GEOS delivers the information required to comply with reporting requirements and the duty to disclose information.

Registered shares

Existing functionality for processing registered shares is being extended specifically for the Swiss market:

- monitoring the status of registration statements
- one-time admittances
- reminders,

whereby GEOS supports all settlement means commonly used for registration in Switzerland.

Investment funds

In order to meet the demands of the Swiss market for trading in fund shares, order processing functionality for funds has been extended by integrating the checks that are required during order placement.

Taxes

The tax legislation requirements met by GEOS have been extended to incorporate the Swiss legislative territory:

- Value-added Tax (VAT)
- Withholding Tax (WHT), incl. double taxation agreement
- Swiss Withholding Tax
- Stamp taxes
- Stamp duty and
- Stamp duty on newly issued securities.

Furthermore, GEOS creates a tax statement listing the securities transactions concluded that fully complies with the regulations in Switzerland.

Reporting

The securities journal is used for daily reporting to the Swiss Securities and Exchange Commission.



GEOS provides the relevant data so that the GEOS operator is able to create the actual reports independently.

The stamp duty or stamp duty on newly issued securities is determined within the framework of the stamp journal function. GEOS logs any transaction in the stamp journal for which either stamp duty or stamp duty on newly issued securities has accrued.

Compliance

In the context of the localisation of GEOS for the Swiss market, compliance refers on the one hand to reporting to the Swiss National Bank and, on the other hand, to the treatment of restrictions. Reporting relates both to the own holdings of a bank as well as to reports concerning customer securities accounts, positions and transactions.

Extended multilingual functionality

French and Italian as well as Swiss banking terminology have been added to GEOS in addition to the existing German and English languages. ■



GEOS for the AGI Partner Banks: stock exchange orders immediately posted to securities account

The AGI partner banks (the group of eight cantonal banks) decided to replace their outdated securities processing solution and, after some considerable spadework, they opted for GEOS. The securities processing software from Austrian company Software Daten Service was aligned with the legal requirements and market practices of Switzerland. Swisscom IT Services was responsible for technical planning and implementation. The major advantage is that a traded stock exchange order can be posted to the securities account straight away thanks to full integration and real-time processing.

The previous solution had been in operation for almost 25 years and had stood the test of time. "But it had been obvious for some time that the system would have to be replaced," explains Hans-Rudolf Matter, overall project manager responsible for integrating GEOS. "For example, the solution's proprietary nature made customisation or functional enhancements difficult. What's more, only very few people were really familiar with the technicalities of the old system."

Why GEOS?

The aim of the project was to achieve integration on three levels. The software would therefore have to fulfil the following three requirements:

- Organizational integration: group-wide implementation of consistent, standardised processes
- Technical integration: uniform, standardised hardware and basic systems in order to be able to guarantee the highest possible level of system availability
- Application-related integration: implementation of a standardised interface architecture in order to be able to maintain flexibility and replace systems applications smoothly.

The new system

had to be multi-client institution-capable to allow securities processing to be controlled centrally and the individual cantonal banks to be networked.

"This limited the number of potential applications to just a few," reflects Hans-Rudolf Matter. "This came in the wake of an aborted attempt to launch a transaction bank because the large bank involved had pulled out.

Because of the costs involved, we immediately decided against programming a proprietary solution." GEOS was chosen in spring 2001, allowing the project to finally begin.

The project

220 specialists with a common goal

The project was ambitious: all eight AGI partner banks had to agree on a single solution before technical implementation could begin.

Hans-Rudolf Matter: "We had up to 220 people working on the project. We owe its ultimate success to their close collaboration, a great working environment and the clear division of labour."

Representatives of the banks contributed the necessary banking expertise, Swisscom IT Services the technical know-how and SDS, the manufacturer of GEOS, its application-related competence.

Appenzell cantonal bank was the first to go live on 17th November 2003,

followed by St. Gallen cantonal bank on 8th March 2004. GEOS has worked perfectly since day one. In the meantime, all eight cantonal banks have been successfully migrated to GEOS.

Country-specific customisation – a tough nut to crack

GEOS had to be aligned with the peculiarities of the Swiss tax system and the relevant legislation.

The Swiss version of GEOS now meets all of the necessary requirements. It is able to handle exchange and issue journals, and the interface to Telekurs works seamlessly. Functionality for managing medium-term notes has been completely reprogrammed.

Users quickly up to speed

Securities processing represents one of the most complex areas of banking.

The bank employees were nevertheless able to get to grips with GEOS very quickly, even though the system boasts considerably greater functionality than its predecessor. Its comparative ease-of-use is due to the neat design of the software coupled with a user-friendly GUI.

The AGI partner banks have also developed a comprehensive training concept designed to fully familiarise the 2,700 future users of GEOS with the system. Lecture-based training is complemented by a Web-based training system.



A common goal achieved with GEOS: Marcel Zoller, Member of the executive board of St. Gallen CB, Hans-Rudolf Matter, Overall Project Manager, and Alfred Langegger, Member of the executive board of Appenzell CB





AGI partner bank platform

GEOS has been fully integrated into the AGI platform.

The special interface adaptor is responsible for functions such as bank assignment, data transformation and processing control.

processing solution. Information can now be shared much more quickly thanks to real-time processing. Because many of the workflows have been automated, consultants are able to focus much more on the customer.

Hans-Rudolf Matter: "The interface architecture we have chosen will enable

other banks to use this attractive securities processing solution and to integrate it directly into their platform.

Banks would also be able to integrate GEOS into their IT environment, for example. In both cases, the experience gained by our specialists is invaluable, helping to simplify and shorten implementation projects significantly." ■

Future-proof

GEOS offers the AGI partner banks all the advantages of a modern securities



GEOS at UBS: Position keeping as a stable posting system

The Strategic Solution Program (SSP) was initiated in order to merge two old UBS system environments. The project is scheduled to run over a ten-year period and kicked off in 1998. The underlying philosophy is to create a platform comprising as many independent modules as possible, enabling UBS to achieve a certain level of independence compared with software vendors.

Our position keeping system (securities posting system) is a major component of this architecture and has been a cornerstone since the very beginning. It's no surprise, then, that the position keeping system was one of the very first modules to be implemented. Subsequent implementation will be carried out step by step.

The position keeping system was implemented in two stages. The old system was run in parallel for a year, with the position keeping module stepping up to become the lead posting system from September 2003. The posting volume also deserves a mention at this point: an average 150,000 postings are generated every day, peaking at just over 200,000.

The posting system has become invaluable, functions seamlessly and is without doubt a benchmark in the Swiss banking sector. What's more, the position keeping system also bears testimony to the fact that modularisation can be successfully addressed and implemented in GEOS. ■

DAB Bank and Fimatex by boursorama place securities processing in hands of HSBC Trinkaus & Burkhardt and thus GEOS

Mid-2004 saw DAB Bank AG outsource its securities processing to HSBC Trinkaus & Burkhardt. Given the successful handling of securities processing for S-Broker since spring 2003, the move represents a further step in HSBC Trinkaus & Burkhardt's strategy towards managing the securities processing needs of client institutions with large transaction volumes.



It also represents a milestone for T-Systems and SDS, proving once again that GEOS is the leading securities processing system.

HSBC Trinkaus & Burkhardt will handle over 3.34 million transactions via 435,000 securities accounts (2002 figures) for DAB Bank in addition to the impressive volumes already handled by the Dusseldorf-based private bank on behalf of S-Broker.

“Cutting-edge technology and the expertise of HSBC Trinkaus & Burkhardt's employees on the fiercely contested outsourcing market” (quote: Paul Hagen, personally liable partner of HSBC Trinkaus & Burkhardt, press release) have enabled HSBC Trinkaus & Burkhardt to process such huge volumes while maintaining its high quality standards.

Following the switch in securities processing service provider to HSBC Trinkaus & Burkhardt and GEOS, DAB Bank's customers saw significant benefits within just a few weeks. Transaction costs were reduced by up to 40%. Customers have ben-

efited directly from the system's outstanding price-performance ratio, particularly when handling orders of up to EUR 1,500. Objectives for the end of 2004 were the acquisition of a further 10,000 customers and an increase in the number of transactions of 2%.

Further success was marked in the second half of 2004 by the conclusion of an outsourcing agreement between the German arm of France's Groupe Boursorama, online broker fimatex by boursorama, and the Dusseldorf-based private bank.

The securities processing of fimatex by boursorama, now the 4th client institution, will be migrated to the GEOS installation of the Dusseldorf-based private bank during the course of 2005. The number of or-

ders executed in 2003 exceeded 800,000 transactions, according to the company's figures.

In terms of transaction volume, GEOS is thus one of the leading multi-client institution-capable securities processing systems currently used on the fiercely competitive German outsourcing market.

GEOS went live at HSBC Trinkaus & Burkhardt in November 2002. The outsourcing of the securities processing of S-Broker, DAB-Bank and, in 2005, online broker Fimatex, represents a major step towards achieving a strategic objective, which is best expressed by Paul Hagen in an HSBC Trinkaus & Burkhardt press release: “As a specialist in securities trading,

securities processing is one of our core competencies, both for us and for other banks. [...] We will strive to ensure that our investment in GEOS, a multi-client institution-capable securities processing system, pays significant dividends. We are highly service-driven and are able to offer competitive prices.” ■





Integration of GEOS with Accenture's "Alnova" solution



Following the successful two-stage introduction of the GEOS securities processing system within the entire BAWAG/PSK Group in Austria at the beginning of 2003, the next large-scale project focusing on the implementation of Accenture's Allegro core banking system in collaboration with Accenture is already underway. GEOS integration was jointly realised by SDS and Accenture for this purpose. Within just three months, the customers and cash interfaces had been integrated as fully as possible. Allegro, including GEOS integration, went live with Allegro Release II in September. SDS was responsible for interface design and quality assurance for subsequent system testing. The quick and successful completion of the project was down to the close and highly constructive collaboration between BAWAG/PSK, Accenture and SDS. ■

One GEOS, several countries, fadhb ar bith *)

The bank

Dublin-based ANGLO IRISH BANK Corporation plc is one of Ireland's biggest and most successful banks, with subsidiaries in Great Britain, the USA, the Isle of Man, Austria and Switzerland. ANGLO provides business banking, treasury, wealth management and private banking services.

The requirements

Past international bank acquisitions had led to an extremely heterogeneous system environment within the ANGLO Group, with several workflows characterised by manual steps. This was mainly apparent in the Asset Management and Private Banking divisions and it was this that gave the relevant management team the impetus it needed to look for suitable software for ANGLO.

John O'Connell, project sponsor for ASPEN, put together a team whose job it was to find a state-of-the-art banking solution capable of meeting the needs of the ANGLO Group and which could be used to respond quickly and effectively to new and future developments.

The features

ANGLO is the first bank on the Anglo-Saxon market to use GEOS. Multi-client and multilingual capabilities are not and never have been anything out of the ordinary for GEOS and SDS; they are functions that are taken for granted. One interesting aspect of this project, however, was that GEOS had to run on Linux for the first time. Another first was the demand for international "task sharing", in this case between the trading desk in Dublin and the back office in Vienna and, what's more, across different time zones. And this is precisely where the GEOS development philosophy of platform-independence comes into its own.



The solution: Project ASPEN

Great projects call for great names: ASPEN.

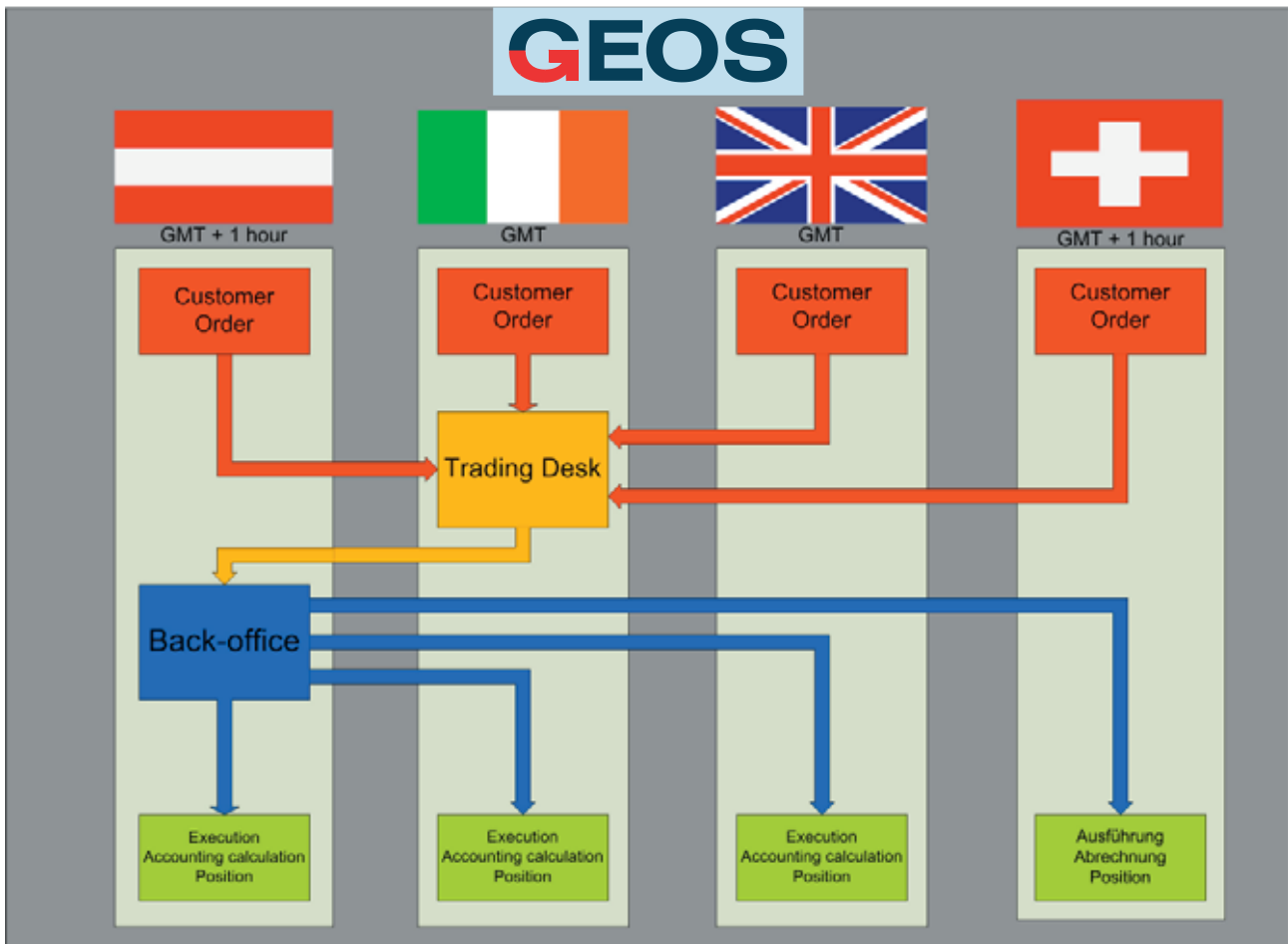
The name ASPEN managed to set the rumour mill in full flow, with employees scrambling to find out what it actually stands for. The answer is somewhat unspectacular: the project manager found out by telephone whilst in Aspen, Colorado, that he would be responsible for introducing three new systems. And that, simply, is how the name ASPEN came into being.

The components that would make up the project were identified in 2002.

■ AIBA

In-house core banking system used by the ANGLO Group, proprietary tool of ANGLO

**) Irish: no problem*





■ **GEOS**

Securities processing system from Software Daten Service (SDS)

■ **TRIPLE-A**

Portfolio management application from Odyssey

Strategic decisions also had to be made with regard to task sharing. The ANGLO banking group's securities trading operations are handled in Dublin, while the back office is centrally managed from Vienna. GEOS would enable the respective core competences to be focused in each

location, allowing securities processing to be handled quickly, efficiently and cost-effectively.

The GEOS implementation project in Vienna kicked off in 2002, with GEOS and Anglo Irish Bank Austria (AIBA) going live as early as July 2003. The first tests for Ireland started shortly afterwards. Project ASPEN went into production in Dublin on July 5th 2004.

Roll-out to the ANGLO offices in London and subsequently Geneva is also on the cards.

The project team

Also deserving of a mention is the project team, without whose determination and enthusiasm it would not have been possible to achieve such levels of success in both Ireland and Austria. The project team also received support from the various departments.

It goes without saying that the successful completion of the Dublin project was celebrated in the only appropriate way, down the pub with a pint of Guinness... Slánte! **) ■

***) Irish: cheers!*

FOUR QUESTIONS TO...

Gary Browne – Senior Manager Wealth Management, Anglo Irish Bank:

1. Why did you choose GEOS?

The reason we initiated project Aspen was to provide a common IT platform across all our wealth management locations in Europe, facilitating STP and operations centralisation. After an exhaustive selection process, we decided that a combination of AAA (reporting and portfolio modelling), GEOS (securities processing and

'system engine') and AIBA (inhouse developed banking system) provided the best solution for our requirements.

2. What are your benefits now that Vienna and Dublin are live with ASPEN (GEOS)?

The main benefit is that we have a similar IT solution in both centres and the Dublin operations are now centralised in Vienna.

3. Next steps?

Enhance GEOS to enable electronic trade confirmation matching and additional order management capabilities moving us closer to STP.

We will then 'roll out' the Aspen solution to London and Geneva.

4. What was special about ASPEN?

Aspen is a very complex project as we are trying to achieve what few, if any, other banks have done in the past. The tremendous progress we have made is largely down to the huge efforts made by professionals at Anglo, SDS and Odyssey. We have always had and I'm sure will continue to enjoy an excellent working relationship with all at SDS. ■

Linux as a high-performance platform for GEOS



Linux: more than just hype?

In the course of the past few years, the Linux open-source operating system has attracted enormous attention within the IT user world and is currently supported by all reputed IT providers in the field of hardware and software. Moreover, the attention Linux is getting in the media and the political arena make it a topic of fierce discussion in the IT industry. The broad range of corporate applications operated, as well as its high level of flexibility, scalability and profitability clearly indicate that:

Linux is more than just hype - Linux is ready for enterprise.

(Ted Schadler, "Linux is more than ready for the Enterprise," Forrester Research Inc., June 24, 2003.)



Linux's significance for GEOS

Linux meets all requirements as a GEOS production platform.

Given that GEOS on a Linux platform has been in production stably and successfully at Anglo Irish Bank for quite some time, SDS has embarked on the next phase of positioning the Linux platform. In collaboration with the hardware manu-

facturer HP, SDS has raised GEOS to new levels of performance in the framework of a load test.

Proof of GEOS' capacity on Linux

Apart from GEOS' merely functional completeness, which has stood the test in production at Anglo Irish Bank, the capacity of GEOS on this platform was to be verified. To this aim, in Q4 of the past year

a comprehensive load and performance test was designed. However, for carrying out such a test, a number of requirements have to be met.

1. Hardware

We were able to win over HP for our project, who made the appropriate high-performance hardware available to us in its test centre at Grenoble.

2. Software

On the basis of the above-mentioned hardware, proof of GEOS' capacity on this platform was furnished under the following software conditions:

Application software: GEOS release 3.1 service pack 6

System software: Red Hat Linux 3.2.3-42 32 and 64 bit; IBM DB2 UDB 8.1 fixpack level 7a

3. Load performance test

In order to simulate performance as close to real conditions as possible with regard to the load simulation, the test environment was set up on a copy of the 1 TB production database. For the ONLINE simulation, 15 typical transactions were used. The transaction throughput required for proof of the performance on the basis of various transaction patterns was generated by an appropriate load generating software. The entire test cycle was carried out within three weeks at the HP test centre at Grenoble with partial involvement of a GEOS operator.

GEOS on Linux – a new dimension of performance

On the basis of the configuration described above, GEOS was raised to a new level of performance. The following figures give clear evidence of this fact, both



from a technological and an economic point of view.

Performance

- The transaction throughput on the Linux platform amounted to approximately 45 orders, which means that within four hours the daily order volume created at all German stock exchanges together (average working day in December 2004) was processed.
- As regards query transactions, a mixed throughput of 470 transactions a second was processed.
- The running time of batches on

the Linux platform could be reduced by 25 % compared to the z/OS/mainframe architecture.

Costs

- The investment in hardware amounts to some 10 % of a mainframe platform yielding equivalent performance.
- The investment in system software of the Linux platform amounts to some 15 % of a mainframe platform with equivalent performance. ■



Positioning and options

The GEOS Linux platform is ideal for small and medium-sized banks for whom outsourcing is out of the question for organisational reasons and who, therefore, want to operate GEOS themselves.

But also for large banks, big bank groups and financial services providers with high transaction volumes, who operate their core bank application on the OS/390 platform, the Linux platform is a cost-saving option, e.g. for

- the integration of foreign subsidiaries into the head office in the framework of the GEOS - GEOS network

or

- the off-hosting of dedicated GEOS service functions such as GEOS Financial Instruments, the financial instruments master data system including data feeds.

“Recent benchmarking tests against the GEOS Financial Instruments and WM interfaces yielded excellent performance results and confirmed our decision to consequently go ahead with Linux as an alternative production platform,” says Dietmar Auer, chief IT architect at SDS. ■

LAST BUT NOT LEAST...

From specification to delivery – SDS employees publish software A to Z

The development of a powerful and sophisticated system such as GEOS calls for advanced methods and tools. The implications of each change request have to be analysed to allow them to be implemented to the entire satisfaction of the customer and to ensure that they are fully compatible with existing functionality. A thorough impact analysis also allows for precision planning and ensures that GEOS releases are delivered on time.

SDS has had specialists in this area in its employment for over ten years, continually striving to improve development processes and tools. Two such employees, Martin Hasitschka and Maria-Therese Teichmann, have collaborated with US software engineering guru Harry Sneed on a book which pools their expertise in this area: *Software-Produktmanagement* (Software Product Management) (Dpunkt-Verlag, Heidelberg, 2005).

The authors have put a new slant on software maintenance, which tends to meet with a less than

enthusiastic response within the industry, claiming that “the tasks involved in maintaining and developing a software product represent fascinating challenges which should be tackled by highly-qualified people” – a principle that SDS has religiously adhered to for many years.

■ Using numerous case studies, the authors describe the structures and workflows that are ideal for any enterprise focused on developing application systems. However, the strategies presented are just as applicable to IT departments responsible for maintaining applications for specialist departments within the same company. Given that the tools deployed are critical to successful software product management, the book also focuses on detailed requirements in this area. This enables companies to identify the right proprietary tools or standard products.

■ Many product managers dream of being able to sit in front of an instrument panel that reliably displays the current status of the product, just like the instrumentation in the cockpit of a plane, for example. This necessitates an infrastructure comprising clearly-defined processes, reliable measuring equipment and logical parameterization, however. Based on successes at SDS and on the latest results from R&D, this

book represents a detailed guide as to how this objective can be achieved.

■ The book also provides an insight into the economic aspects of maintenance and development, strategies for delivery and change, problem and configuration management. Quality issues are addressed in the chapters on testing and quality assurance. Regression testing, where old and stable functions are retested after a program has been modified, is an essential part of software product management and should be automated as much as possible. Valuable information gathered from the tens of thousands of automated regression tests carried out at SDS is also included in the book.

The book is not targeted exclusively at product managers, however. Reader response shows that users are also very interested in what the authors have to say; the book offers an insight from a different perspective. An overview, over 200 illustrations and a detailed glossary also make it a highly accessible book for anyone whose bedtime reading wouldn't normally include a software engineering manual. ■



Harry M. Sneed / Martin Hasitschka / Maria-Therese Teichmann

Software-Produktmanagement.

Wartung und Weiterentwicklung bestehender Anwendungssysteme.

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