Ordering information
The following ordering numbers apply to the different MERVA and related products:

- 5655-039 IBM MERVA ESA for MVS/CIS
- 5655-040 IBM MERVA ESA for MVS/IMS
- 5686-063 IBM MERVA ESA for VSE/CICS
- 5686-080 IBM MERVA ESA Extended Connectivity for VSE
- 5655-110 IBM MERVA ESA Extended Connectivity for MVS*
- 5776-DDB IBM Headoffice Telex
- 5776-DDA TelexPlus/2
- 5776-DCZ FaxPlus/2

The following are priced features of MERVA ESA:

- MERVA Client for OS/2*
- MERVA Client for MS Windows NT**
- MERVA ESA Traffic Reconciliation Feature.

Further information
For further information about MERVA, IBM's Financial Messaging System, please contact your local IBM representative.

Or visit us at:
www.europe.ibm.com/finance/merva

Or send an e-mail to:
merva@de.ibm.com

For further information on any aspect of IBM's Payments Solutions and Services, please contact either your local IBM Representative, or
Karen Griffiths, 2NE at
IBM United Kingdom Limited
Banking Finance & Securities EMEA
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South Bank
London SE1 9PZ
United Kingdom

Fax: +44-(0)171-202 3762
kgriffit@uk.ibm.com
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Accessing financial networks with MERVA ESA

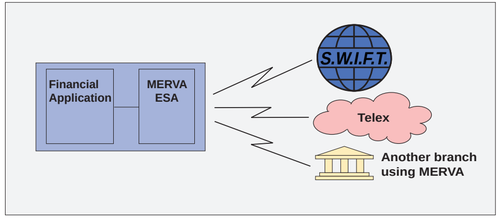
Highlights

In today's financial world, organizations access financial networks (such as S.W.I.F.T., Telex, and their own intrabank network) to do business globally. MERVA ESA* is IBM's high performance network gateway to access these networks. As part of the MERVA* product family, MERVA ESA interacts with all other MERVA products and guarantees extended message transmission capabilities with high security and guaranteed delivery. Beyond network access, MERVA ESA is a financial messaging system to build an organisation's future payments highway.

Access to financial networks from a single location
Large financial institutions may need to have high throughput gateways to financial networks for locations where large numbers of financial messages, such as payments, are exchanged with the external world. MERVA ESA enables the transmission of financial messages generated automatically through applications or manually through data entry to the S.W.I.F.T. and Telex networks reaching very high transmission volumes per hour.

Access to financial networks from regional centres
Global financial institutions may need their regional centres to bundle together a complete financial message flow before connecting to the S.W.I.F.T. or Telex networks. MERVA ESA enables regional centres to serve as a hub for the intra-bank MERVA-based network, building a central gateway to external financial networks for all branches of the institution operating in a certain region.

A MERVA ESA running at a regional centre can connect to any other MERVA server using the MERVA Link protocol. Large organisations can build internal financial networks to save external



Individual network gateway

network costs and a better control the payment activity of their branches. Extending this concept, using the Financial Message Transfer (FMT) function of MERVA ESA, it is possible to emulate a subset of the S.W.I.F.T. network in which the individual MERVA servers react as if they were entries or exits of the S.W.I.F.T. network. This is achieved by assigning values to fields such as Input Sequence Numbers (ISN) and Output Sequence Numbers (OSN) to the exchanged messages. A S.W.I.F.T. input header is automatically turned into a S.W.I.F.T. output header at the receiving side plus ACKs and delivery notifications are created as in the S.W.I.F.T. network.

Access to financial networks for several institutions

Cost savings can be achieved by small financial institutions if they can share one service centre that provides a centralised access to the S.W.I.F.T. and Telex networks. MERVA ESA provides network access to several organisations strictly separating the data and the way the data is processed. Several financial institutions can share one computing centre as well as one specialised team of experts to run the network gateways very effectively.

Fulfilling special customer needs

All the sensitive environments described above require high levels of security, confidentiality, availability and reliability.

As part of an entire IBM host environment, MERVA ESA integrates with a security manager, which allows the definition of an enterprise's security architecture. In addition, MERVA ESA has continuously implemented all S.W.I.F.T. security mechanisms as they have become available. Hundreds of very large institutions around the world use the internal MERVA ESA security mechanisms for data access, functional access, message transmission, and operation and MERVA ESA has a reputation as a highly secure financial messaging system.

Confidentiality is achieved by protecting the stored data as well as the transmitted data from being accessed by unauthorized personnel. The customisation procedures allow protection against access to sensitive data stored in the data bases. The encryption routines for all external links protect the same data from being read and/or modified by externals. The product's customisation facilities allow the distribution of the message processing rights to individuals according to the internal procedures of the organisation.

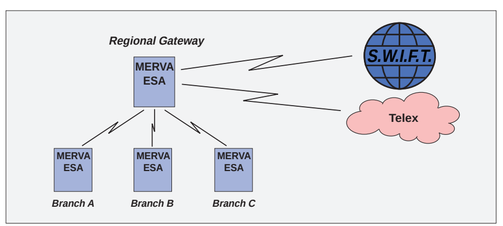
High availability is an important characteristic of MERVA ESA, which is able to run 24 hours per day and 7 days per week with a scheduled down-time of a few minutes, after many days of continuous operation, to unload and clear the log file.

MERVA ESA products benefit from the robust components and the well established IBM host platforms and the worldwide around-the-clock defect-support service offered to quickly react to any problems that may occur.

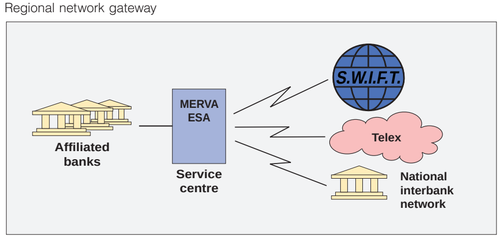
Going beyond network access

MERVA is more than just a S.W.I.F.T. interface. It is a true financial messaging system, based on the following key components:

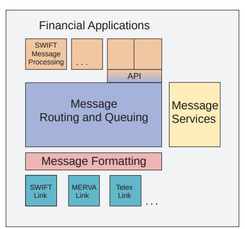
- Network gateways such as the standard S.W.I.F.T. Link and the MERVA-to-MERVA Connection plus those special network gateways that have been created to access national financial networks which are only available on request.
- A message formatter which decomposes all incoming messages into their atomic elements and therefore allows them to be reformatted as required either by the application programmes interacting with MERVA ESA or the networks to which MERVA ESA is sending the messages.
- A context-based message router and queuer which enables an analysis of the content of each individual message while going through MERVA ESA and the processing of this message according to the rules engine built into the product. Within MERVA ESA, messages are stored in queues and moved internally or externally to applications or networks, according to the individual customisation of the system.
- Message related services which allow messages to be archived, logged, printed, created, edited, displayed and monitored.
- Application Programm Interface (API) to allow a full real-time integration of the institution's financial applications with MERVA ESA.
- User exits which increase the flexibility to adapt MERVA ESA's processing logic to the specific specific needs of the user.



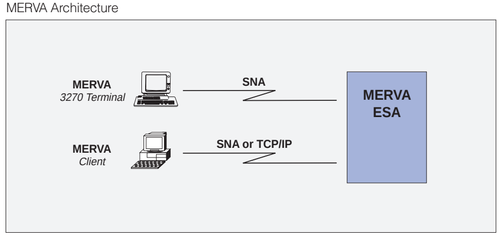
Regional network gateway



Service centre



MERVA Architecture



Message processing options

MQ Series* interface which increases MERVA's connectivity enabling communication with local or distant applications on IBM and non-IBM computers.

Interactive message processing

There is a need for interactive message processing on a daily basis in areas where manual intervention is required for message entry or message repair. MERVA ESA offers two different approaches to this requirement:

- The native message processing interface is available through 3270 terminals for those situations where high volume manual entry of financial messages is required. This allows the processing not only of S.W.I.F.T. messages but any kind of message that has been defined during the customisation phase.
- The MERVA Client message processing feature is available for those situations where a smooth S.W.I.F.T. message processing capability is needed. It is used to create, verify, authorize, display, print, and search financial messages (S.W.I.F.T. or Telex) offering a state-of-the-art graphical user interface which includes cut-and-paste, drag-and-drop and other similar utilities. MERVA Client is the standard interactive message processing feature and is available for all MERVA servers independent of platform.

Automation through integration

Automation is seen as one of the key drivers for straight-through-processing (STP) and the related cost reductions that can be acheived. MERVA ESA provides a synchronous, real-time application program interface (API) to help integrate the institution's financial application to MERVA ESA.

Application programs that interface to MERVA ESA are able to:

- Read and write messages to/from internal queues
- Route messages from one queue to another
- Reformat messages
- Check the syntax of S.W.I.F.T. messages
- Execute operator commands
- Trigger events to manage messages in queues.

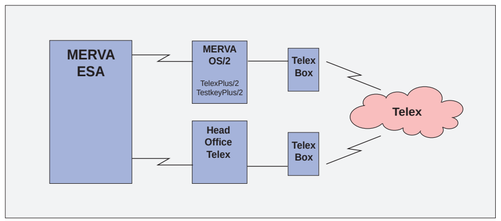
These strong integration capabilities allow institutions to write programs which interact very closely with MERVA ESA and therefore achieve higher levels of STP.

Openess through connectivity

MERVA ESA is used by organisations around the world as a financial messaging system to access:

- The S.W.I.F.T. network
- The Telex network
- The intra-bank network based on MERVA-to-MERVA server connections
- Any remote application that has an MQSeries interface.

Low volume connection to the Telex network is made via an interface to the IBM TelexPlus/2 and IBM TestkeyPlus/2 applications running on a remote PC. High volume connection to the Telex network can be achieved via an interface to the IBM Headoffice Telex product which runs on a separate Stratus computer.

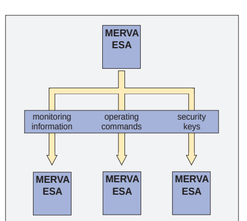


Telex access

Connection to applications running on non-IBM computers is established using the MQSeries interface which provides an asynchronous message transport mechanism through which any external application can exchange any kind of messages with MERVA ESA

Global operations for global institutions

Cost savings can be achieved by centralising the messaging operations on a global or regional basis (e.g. Europe, North America, Asia). MERVA ESA enables the centralisation of the management and distribution of S.W.I.F.T. security keys, the monitoring and controlling of remote MERVA ESA installations, and allows a choice of location in which S.W.I.F.T. and Telex messages are introduced to the individual networks. For S.W.I.F.T., all internal financial messages are routed through the intra-bank MERVA-based nework. For Telex messages, global institutions can route them internally first and then enter the telex network in the target country. This helps organisations to be more effective when managing their IT infrastructure for payments.



Global operations

Close cooperation with S.W.I.F.T.

MERVA ESA and all the MERVA products have been fully S.W.I.F.T. compatible for more than twenty years including some of the value added services provided by the S.W.I.F.T. network. In the case of SSI/FX, it allows to access the standing settlement instructions at host level to permit application programs to use this data and achieve higher levels of STP.

One partner for the complete solution

To create a global S.W.I.F.T. solution or even an enterprise financial messaging system using products from several vendors can create difficluties especially if the solution elements do not fit together smoothly since there is then more than one company to deal with.

IBM MERVA customers can avoid these problems since the total financial messaging system is based on IBM products and there is only one solution provider. This applies not only to the hardware and software but also to all the services.

Also, IBM is able to provide support on a global basis with the same level of quality. Being a global company, IBM is the perfect partner to provide solutions on a worldwide basis providing installation, maintenance, and education support wherever and whenever the need arises.

MERVA ESA Version 3.3 is also Year 2000 compliant.