X-pand into the Future

e u r e x *circular 027/00*

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Eurex Release 4.0 Introduction – Further Information

Related Eurex Circulars: 103/99, 123/99, 020/00, 026/00

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Content may be most important for:	**Attachments:**
➲ **Front Office / Trading** ➲ **Middle + Back Office** ➲ **IT / System Administration** ➲ **Auditing / Security Administration**	1. Release 4.0 Technical Release Notes 2. Release 4.0 Functional Release Notes 3. MISS/ Workstation Sizing Guidelines 4. Release 4.0 Member Simulation Guide

As outlined in the Information Calendar published with Eurex Circular 123/99 we are providing you with further information relating to the introduction of Eurex Release 4.0.

The information is published either as attachments to this circular, or on the Eurex web-site “www.eurexchange.com”.

The attachments are listed above, and the other publications can be found in the following locations:

The **Release 4.0 Member Manuals** are now available in their ‘Simulation’ version on the web-site at ‘Info for Members /Manuals’. New ‘Bullets’ have been added as follows:

- Simulation Manuals - Release 4.0 MISS – Functional and Technical
- Simulation Manuals - Release 4 UD – Functional and Technical

The document ‘Release 4.0 Functional Overview’ can be found on the unrestricted section of the web-site at ‘Access to Eurex / Overview’. The Release 4.0 Technical Overview and Detailed Member Network Set-up documents are expected to be published at the same location at the end of this week.

The functional Release 4.0 MISS manual ‘Clearing System User Guide’, which describes the new Clearing GUI, is also expected to be published at the end of this week.

If you have any questions, please contact the Eurex Member Readiness Team on +49 (0)69 2101-1700.

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1 General Information

The focus areas of Eurex Release 4.0 are

- performance enhancements to the futures matcher
- performance enhancements to the overall system
- new access to the Eurex Clearing Functionality via the VALUES API
- enhanced Clearing Functionality
- new Java-based Clearing GUI

Chapter 3 – 'User Device Front End' covers information concerning Back Office and File Interfaces already released in the Eurex Preliminary Release Notes. Changes to the information stated in this document are marked accordingly.

New and updated technical documentation is listed in Appendix A and will be available in April 2000. The final versions will be distributed in June 2000. Appendix B provides a comparison between the main terms of the current UD architecture and the new MISS architecture.

1.1 Operating Systems

The Eurex Front End is provided on a variety of platforms:

- Compaq AXP / OpenVMS (UD only)
- IBM RS/6000 / AIX
- Intel PC / WindowsNT
- Sun / Solaris

For details on the supported operating system versions and hardware requirements for MISSes and WSes, please refer to the Deutsche Börse Front End Sizing Guidelines (XC006100) and Appendix C.

User Device / Satellite technology continues to be supported with Eurex Release 4.0. Details on software and hardware requirements are provided by the User Device / Satellite Technical Overview (Document X0005200) and by the User Device / Satellite Operation and Administration User Guide (Document X0005300) for UDs / Satellites.

1.2 Backward Compatibility for VALUES Interface

The following is a short description of the compatibility layer which allows running applications based on Relase 3.0 VALUES API functtionallity after introduction of Release 4.0:

1. New fields of inquiry responses/broadcasts are suppressed.
2. New broadcast stream types are suppressed.
3. New valid values for an existing field are not suppressed.
4. New combinations of VALUES fields are not suppressed.

Examples:

1. New field ordExeQty will be suppressed in the ‘Trade Confirmation’ broadcast stream type.
2. Broadcast stream type ‘Give-up/Take-up’ is not available for Release 3 applications.
3. A response to a “Position Detail Inquiry “ with the new position transaction type '043' - ‘OTC Block GU Send' will not be suppressed and is available for Release 3 applications.
4. Separation of a Block Trade is sent via the ‘Trade Confirmation’ broadcast to a Release 3 application. (A Trade Separation on a Block Trade is a new feature in Release 4)

2 Release Installation Notes

2.1 User Device Front End

Release Installation Notes for simulation and production will be distributed 2 days before distribution of the installation kits via Eurex-MAIL (simulation and production).

Note: It is necessary that the "Eurex-MAIL" job on the Production User Device is started to receive the “Release Installation Notes“.

2.2 MISS-based Front End

Release Installation Notes for simulation and production together with the Eurex Software Kit will be distributed 2 days before installation and connection test via FTP.

Further information on the installation of the new Front End can be found in the Eurex Front End Installation Guide (X0005700).

3 User Device Front End

In the following chapter changes to the User Device Front End are described.

3.1 BackOffice Interface (BOF)

The BackOffice Interface is provided on designated Eurex User Devices to enable member applications to update their BackOffice accounting systems. Information resulting from trading and position maintenance is sent by BOF messages to the member BackOffice systems. The transferred data can be divided into member-specific data (mainly position transactions) and broadcast information (capital adjustment, contract changes, settlement prices, status messages and margining parameters). The transferred data is then processed by member-specific BackOffice applications. The BackOffice Interface provides information to members using different transaction record layouts.

3.1.1 Position Transaction

Information resulting from trading and position maintenance is sent by BOF messages to the member BackOffice systems. Position movements result from trading, position maintenance, and batch processing activities.

There will be no change to the Position Transaction layout. However, processing will change and new subtypes will be introduced as explained below.

3.1.1.1 Pre-Batch Assignment

No Changes to Preliminary Release Notes

Currently, the assignments of exercised options are triggered and processed during Eurex batch processing. As a result, members receive assignment-related information (via BOF / VALUES API) during this period.

With Eurex Release 4.0, members will be able to receive assignment information before the start of batch. The Pre-Batch Assignment Process is initiated individually for each Eurex Product by the transition to the Product State ‘Post Trading Restricted’. During the Product State ‘Post Trading Restricted’ the access to trade and position management is limited. All related automatic exercises and partial position transfers are processed before the actual assignment is done.

The end of each product-specific assignment process will be indicated by a new product-specific BackOffice (BO) Message. To guarantee the compatibility of the BOF messages to Eurex Release 3.0, the existing End-of-Assignment message will still be sent after the successful transmission of all product-specific End-of-Assignment messages.

3.1.1.2 Trade Adjustments and Give-Ups for OTC Block Trades

No Changes to Preliminary Release Notes

The following six new subtypes of Position Transactions will be introduced for OTC Block Trades for the Give-up/Take-up process. This allows the distinction between On-Exchange trade and OTC Block trade Give-up / Take-up:

- Outgoing Current Give-up OTC Block Trade (Transaction Type “043”)
- Outgoing Historical Give-up OTC Block Trade (Transaction Type “044”)
- Incoming Current Take-up OTC Block Trade (Transaction Type “045”)
- Incoming Historical Take-up OTC Block Trade (Transaction Type “046”)
- Incoming Current Take-up OTC Block Trade with Closing Error (Transaction Type “047”)
- Incoming Historical Take-up OTC Block Trade with Closing Error (Transaction Type “048”)

The record layout remains the same as for regular Give-ups/Take-ups.

3.1.2 Status Message Transaction

Changes to Preliminary Release Notes

These transactions are sent to all members’ BackOffice systems to inform them about the status of the Eurex system.

No changes will be made to Status Message Transaction record layout, but the following message changes (for corresponding changes on the MISS Front End please see chapter 4):

End-of-Assignment Message

Currently, assignments are processed during batch. A product-independent End-of-Assignment message is sent after the assignment process has been completed for all products and all assignment-related BackOffice messages have been sent.

With Eurex Release 4.0, Members will receive assignment information before the batch starts. The Pre-Batch Assignment Process is initiated individually for each Eurex options product when the processing state of a product is set from 'Post Trading Full' to 'Post Trading Restricted’. The assignment process will be performed online. After the end of each product-specific assignment process, a product-related End-of-Assignment Message will be sent. After all product-specific End-of-Assignment messages and other related BackOffice messages have been sent, the already existing product-independent End-of-Assignment message, indicating the end of the assignment process for all products, will be sent.

For European Style Options, the product-specific End-of-Assignment messages will be sent only on the expiration day. For American Style Options, this message will be sent every business day, even if no exercise / assignment takes place.

The same transaction type will be used. However, the value of the Security ID field STATUS_SECU_ID will be different:

- Currently, it contains only the non-product specific value "$SYS" for the product-independent 'End of Assignment' message that is sent after successful completion of the batch.
- With Eurex Release 4.0, the STATUS_SECU_ID will either contain the Product ID for product-specific End-of-Assignment messages or the value "$SYS" to indicate the product-independent End-of-Assignment message.

3.2 Raw Data Interface

No Changes to Preliminary Release Notes

The RAW DATA INTERFACE provides a specified set of reports in a structure processable by in-house applications.

Raw data will be provided for the following reports:

Report No.	Report Name
CB010	Position Detail
CB102	Cash Settled Contracts
CC010	Premium Margin
CC020	Futures Spread Margin
CC040	Liquidating Values
CE070	Exercise and Assignment Summary
CE071	Options on Futures Exer/Assign Summary
CE075	Notification/Allocation Summary
TC550	Open Order Detail
TD930	Daily Trade Statistic

3.2.1 Raw Data File RAWCB010

The field name ORDR-CMB-COD-RWCB010 will be changed to ORDR-CMB-TRD-TYP-COD-RWCB010 as the field now also contains information about the trade type for single leg orders.

FIELD	DESCRIPTION
ORDR-CMB-TRD-TYP-COD-RWCB010	This field contains the combination order type / trade type. Field values include: For Single Leg Order: <space> - On-Exchange Trade O - OTC Block Trade B - OTC Basis Trade For Double Leg Order: 1 – Bull 2 – Bear 3 - Bull Time 4 - Bear Time 5 - Straddle 6 – Strangle 7 – Conversion 8 - Time Spread 9 - Inter Product Spread

3.2.2 Raw Data File RAWCC040

Two new fields named COMP-SHT-RWCC040 and USED-FOR-COMP-RWCC040 will be added.

FIELD	DESCRIPTION
COMP-SHT-RWCC040	This field states the Short Option Compensation Potential for each expiry.
USED-FOR-COMP-RWCC040	This field describes the out-of-the-money short positions covered by existing long positions with the same or longer time to expiration and corresponding strike values.

```
01  RWCC040-WS-REC.
        05  RAW-KEY-GRP-RWCC040.
            10  RAW-ID-COD-RWCC040              PIC X(8).
            10  RAW-DAT-GRP-RWCC040.
               15  RAW-EFF-DAT-RWCC040          PIC 9(8).
               15  RAW-CRT-PROC-DAT-RWCC040     PIC 9(8).
            10  ENV-NO-TXT-RWCC040.
               15  ENV-NO-TXT-1-RWCC040         PIC X(1).
               15  ENV-NO-TXT-2-RWCC040         PIC X(1).
            10  MBR-CLG-ID-COD-RWCC040          PIC X(5).
            10  MBR-EXC-ID-COD-RWCC040.
               15  MBR-IST-ID-COD-RWCC040       PIC X(3).
               15  MBR-BRN-ID-COD-RWCC040       PIC X(2).
            10  ACCT-TYP-COD-GRP-RWCC040.
               15  ACCT-TYP-COD-RWCC040         PIC X(1).
               15  ACCT-TYP-NO-RWCC040          PIC X(1).
            10  MGN-GRP-COD-RWCC040             PIC X(5).
            10  MGN-CLS-COD-RWCC040             PIC X(5).
            10  CURR-TYP-COD-RWCC040            PIC X(3).
            10  UD-IND-RWCC040                  PIC X(1).
            10  SERI-GRP-ID-COD-RWCC040.
               15  SECU-ID-COD-RWCC040          PIC X(4).
               15  SERI-CLAS-COD-RWCC040        PIC X(1).
               15  SERI-EXP-DAT-RWCC040.
                   20  EXPI-YR-DAT-RWCC040      PIC 9(2).
                   20  EXPI-MTH-DAT-RWCC040     PIC 9(2).
               15  EXER-PRC-RWCC040             PIC 9(5).
               15  SERI-VERS-NO-RWCC040         PIC 9(1).
        05  REPT-DATA-GRP-RWCC040.
            10  REPT-REC-1-GRP-RWCC040.
               15  SECU-LST-CLS-PRC-RWCC040     PIC X(11).
               15  MAX-MIN-UNDER-VAL-RWCC040    PIC X(11).
            10  REPT-REC-2-GRP-RWCC040.
               15  NET-LNG-SHT-POS-RWCC040      PIC -----9.
               15  LNG-SHT-IND-RWCC040          PIC X(1).
               15  TRD-UNT-VAL-RWCC040          PIC 9(9).9(4).
               15  SERI-CURR-VALUE-RWCC040      PIC ---------------9.9(2).
               15  MAX-MIN-SERI-VAL-RWCC040     PIC ---------------9.9(2).
            10  REPT-REC-1-VALUE-RWCC040.
               15  RISK-VALUE-RWCC040           PIC X(11).
            10  REPT-REC-2-VALUE-RWCC040.
               15  THEO-VALUE-RWCC040           PIC ---------------9.9(2).
               15  COMP-SHT-RWCC040             PIC -----9.
               15  USED-FOR-COMP-RWCC040        PIC -----9.
```

3.3 Eurex External Interface (EI)

No Changes to Preliminary Release Notes

3.3.1 Financial Data Disseminator (FDD)

With the introduction of Eurex Release 4.0 the following new message types will be provided through FDD. These will give FDD customers access to market data within and from the Pre Trading and Pre Opening phases of the daily Trading Schedule.

State Transition Messages:

Message	Definition	hex-Code
Pre Trading	DIS_PRETR_COD	57h
Pre Opening	DIS_PREOP_COD	58h

Price Information:

Message	Definition	hex-Code
Historical Trade Price (last trade price of the previous business day)	DIS_HIST_TRD_PRC_EI_COD	25h
Potential Opening Price	DIS_POT_OPEN_PRC_EI_COD	1Dh

4 MISS-based Front End

In the following the changes to the MISS-based Front End on the platforms Solaris, IBM RS/6000 / AIX and Intel PC / Windows NT are described.

The Eurex Front End uses the open standardized interface VALUES API. Based on this interface, Eurex provides two modern graphical user interfaces (GUI). The first GUI has already been introduced with Eurex Release 3.0 and supports trading functionality (X-ceed). The new GUI (a Java-based GUI), to be introduced in this release, supports clearing functions.
To use the VALUES API interface, a new Front End architecture has been introduced with Eurex Release 3.0. This architecture consists of one or more MISSes (Member Integration System Server) and several Workstations (WS). The MISS is used to establish the connection to the Eurex Back End and to provide interface specific services. The WS is used to start and for working with the Graphical User Interface.

A VALUES API description is available on the Eurex homepage (www.eurexchange.com) in “Access to Eurex - Technical Infrastructure”. The MISS Raw Data files have the same layout as for the UD. For a description of changes to the Raw Data file, please refer to the Eurex Preliminary Technical Release Notes.

For changes to GATE (Generic Access to Exchanges), please refer to the GATE Technical Release Notes.

End-of-Assignment Message

Additionally to the changes on the User Device Front End concerning the End-of-Assignment message the following is to be considered on the MISS-based Front End:

The End-of-Assignment messages will be sent via a public broadcast stream and it is therefore possible that the product-specific End-of-Assignment message reaches the Member earlier than the assignment-related messages of the subtype ‘Position Transaction’ via the private recoverable broadcast stream.

To provide the Members with a possibility to check the completeness of the assignment-related messages received, a new VALUES API inquiry is implemented. The Members are then able to inquire the total number of assignments that have been sent to them, General Clearing Members will also receive the number of assignments of their Non-Clearing Members.

Change of Raw Data reports layout on the MISS

Changes to Preliminary Release Notes

The decompression method for Raw Data reports on the MISS will be changed with Eurex Release 4.0. To streamline the Raw Data reports on the MISS with the UD, each record of the Raw Data report on the MISS will start in a new line. Technically this means that on IBM AIX and Sun Solaris each record is extended by a Linefeed ("\n" = Hex 0A) and on Windows NT each record is extended by a Carriage Return/Linefeed ("\r\n" = Hex 0D,Hex=0A).

5 Software Introduction in Production

The software introduction is described in the following section. Times correspond to the Central European Time (CET).

5.1 Tuesday, June 20th, 2000

Eurex will send the software to the members. The software will be send to each UD and MISS. For MISSes, members will receive the Windows NT version of the software in addition to the platform-specific software.

Please check the file transfer for completeness.

Disk Space Requirements - The following table shows the necessary disk space for the installation kits:

Platform	Disk Space Required
Sun Solaris (MISS)	120 MB
IBM AIX (MISS)	120 MB
Intel Windows NT (MISS)	50 MB
IBM AIX (UD)	70 MB
Compaq/DEC OpenVMS (UD)	110 MB

5.2 Friday, June 23rd, 2000

Batch Processing

The Eurex batch will be executed with Software Release Eurex 3.0. Therefore, no specific actions need to be taken by the Eurex member. BOF messages, PTCs and reports are sent out as usual. Eurex will delete all outstanding BOF messages and PTCs after this batch run at approximately 11.00 p.m.

If the BOF messages and PTCs are required, qualified personnel should be available to be able to receive them. BOF messages and PTCs not received cannot be resent at a later time.

Historical report availability

After Eurex has introduced software version Eurex 4.0, no historical reports prior to the business day Friday, June 23rd, 2000 can be retrieved via screen J010 and selected historical reports might be empty. It should be checked whether the selected reports have been received before Friday, June 23rd, 2000. After batch processing on Friday, June 23rd, 2000, it will not be possible to recreate historical reports created by software version Eurex 3.0.

Through installation of Eurex Release 4.0 software on the UD/SAT all BOF and PMI data will be deleted, in particular the files FPBOFINT and FPPMIINT will be deleted.

Installation

After receiving all BOF messages, PTCs and reports the installation of Eurex 4.0 can be started at any time.

5.3 Saturday, June 24th, 2000

Connection Test

The connection test applies to all members.

The Eurex architecture will be available from 9.00 a.m. to 1.00 p.m. It is necessary to verify that all systems are upgraded. The upgrade is mandatory in order to be able to trade at Eurex on Monday, June 26th, 2000 after introduction of Eurex 4.0 software.

To verify the set-up, it is recommended that all systems (including back-up devices) are connected to the Eurex architecture and a logon with an arbitrary trader account is recommended. To check the setups of broadcast subscriptions the exchange will send public broadcasts via the newsboard.

5.4 Monday, June 26th, 2000

Eurex Rel. 4.0 first trading day

Starting this day access to Eurex is only possible with the new Release 4.0 software.

6 Appendix A – Eurex Technical Documentation

The new and updated technical documentation will be available in April 2000. The final versions will be distributed in June 2000.

Updated Technical Eurex Documentation	
Document ID	**Name of the Document**
X0001200	Eurex Financial Data Disseminator Real Time Datafeed Interface Specification
X0003400	Member Interface Specification File Interface
X0003600	MEMPI Programmable Interfaces Pricing Model Input, Backoffice and Trading Programmer's Guide and Reference
X000430a	Eurex Financial Data Disseminator File Service Interface Specification
X000430b	Eurex Financial Data Disseminator Infoboard Service Interface Specification
X0005300	Eurex User Device / Satellite Operation and Administration
X0005700	Eurex Front End Installation Guide
X0005900	Eurex Front End Operations Guide
X0006600	Eurex Technical Overview
X0006700	Eurex Detailed Member Network Set-up
XC006100	Deutsche Börse Front End Sizing Guidelines

The following technical documents can be found on “www.eurexchange.com” under “Access to Eurex / Technical Infrastructure / VALUES API”.

VALUES API developer’s documentation (MISS)
Member Front End Development Guide - Overview
Member Front End Development Guide - Volume 1 - Call Interface
Member Front End Development Guide - Volume 2 - Eurex Application Requests, Responses and Subscriptions

7 Appendix B – Front End System Glossary

UD Architecture	MISS Architecture
UD (**U**ser **D**evice)	MISS (**M**ember **I**ntegration **S**ystem **S**erver)
Satellite	Workstation
Terminal	Workstation
MEMPI (BOF/PMI/TRAD) + ORPI	VALUES API (**V**irtual **A**ccess **L**ink **U**sing **E**xchange **S**ervices - **A**pplication **P**rogramming **I**nterface)
CUI (**C**haracter based **U**ser **I**nterface)	GUI (**G**raphical **U**ser **I**nterface)

8 Appendix C – Operating System Versions

Platform	Product Name	Target Versions
Sun	Solaris Microfocus COBOL	2.6 13.14
IBM	AIX UD and MISS Microfocus COBOL	4.3.2 13.10
Intel	Windows NT Microfocus COBOL	4.0 SP5 3.0
Compaq/DEC	OpenVMS UD FMS Runtime	7.1-2 2.4

For further information please refer to the Deutsche Börse Front End Sizing Guidelines (XC006100).

Eurex	Eurex 4.0
	Version 01
Functional Release Notes	
	As of: 06/26/2000

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Changes against Preliminary Functional Release Notes (as of 12/16/1999):

Chapter	Description of Change
2.1, 2.9.2	Tickerboard will be enabled with future release.
2.2.2., Appendix A	Automatic Acceptance is set as default. For manual acceptance the flag needs to be set on screen K040 - Member Relationships.

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1 General Information

The focus of Eurex Release 4.0 is

- the performance enhancement of the futures matcher to provide short response time also in peak situations (no change to user interface related functionality),
- various performance enhancements related to overall system performance (no change to user interface related functionality),
- the introduction of the new Clearing API (VALUES) and Clearing GUI,
- the functionality of Pro Rata matching is extended to allow trading of time spreads (combination contracts),
- introduction of correspondent bank limits,
- changes in Give-Up / Take-Up processing and communication, and
- introduction of Pre-Batch Assignment.

Eurex is providing a modern graphical user interface (GUI) for Clearing, which will support the main clearing functions with this Release. The complete Clearing API and Clearing GUI is planned for a later Release. A list of new and updated documentation is attached in Appendix B. It will be provided in April 2000. Final versions will be distributed in June 2000.

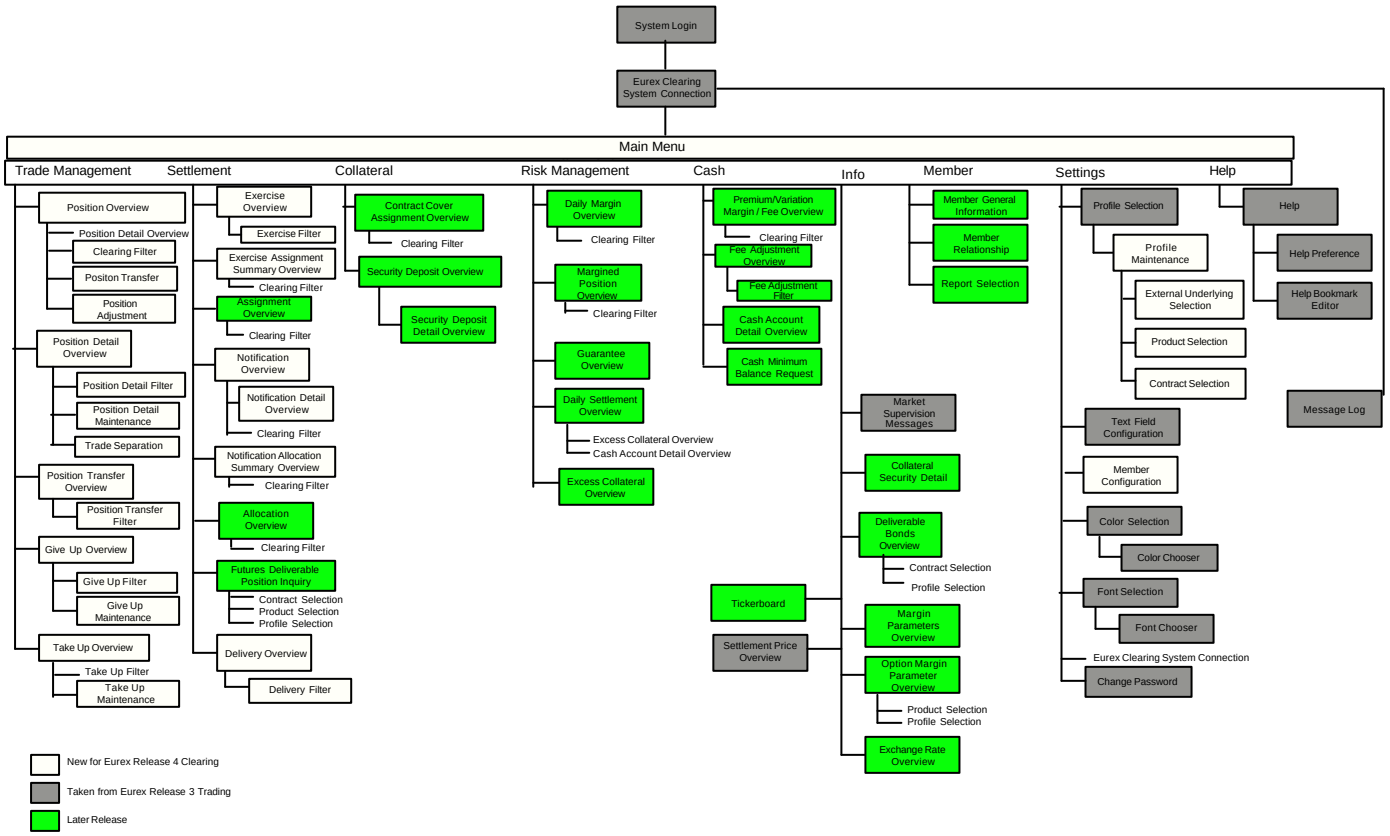
2 Functional Changes for Eurex Release 4.0

2.1 Clearing API/GUI Functionality

Eurex currently provides clearing functionality via character-based screens. In order to provide the Members with a state-of-the-art graphical user interface (GUI) with additional features (like simultaneous multiple updates) a new Clearing GUI application (JAVA based) will be developed. The current VALUES API will be enhanced to support this functionality.

The GUI application will use the same underlying Front End architecture and concepts implemented with the Eurex Release 3.0 Front End and VALUES API.

The Window flow below lists the Clearing GUI windows. The checkered windows refer to the same functionality as for the Trading System (X-ceed). The white windows are delivered with Eurex Release 4.0. The light shaded windows are scheduled for a later Release.



For detailed information about the Clearing GUI functionality please refer to the to Eurex Clearing System User Guide (Document X0006100) (to be published).

2.2 Give-Up / Take-Up functionality

2.2.1 Trade Adjustments and Give-Ups for OTC Block Trades

Currently no Trade Management functions are allowed for OTC Block trades. For example Give-Ups and Take-Ups and trade adjustments (i.e. trade separation, historical trade transfer, trade account transfer and open / close adjustment) are disabled for OTC Block trades.

With Eurex Release 4.0 Give-Ups and Take-Ups as well as trade adjustment will be allowed for OTC Block trades. On the OTC Block Trade Entry window it will be possible to select the G1 or G2 account.

On screens and windows that display trading related information a new trade type field will be included in order to restrict inquiries to only one trade type, i.e. either on-exchange trades (" " - blank), OTC Block trades ("O") or OTC Basis trades ("B").

2.2.2 GCM Acceptance of Give-up / Take-up

The current processing of Give-Up transactions bears risks for Clearing Members because their Non-Clearing Members may very quickly build up large positions by accepting Give-Up transactions until the end of the post trading period. This has even become more important with the introduction of historical Give-Ups and HITTs (Historical Trade Transfers).

With Eurex Release 4.0 all Give-Up and Take-Up transactions require the acceptance of the respective Clearing Member to better control this risk. Also broadcasts are sent to the involved parties to inform them about status changes of a Give-Up trade.

The transfer is successful if the Clearing Member of the Give-Up Exchange Member, the Take-Up Exchange Member and the Clearing Member of the Take-Up Member accept the transaction. These steps can only be performed serially and not in parallel.

Performing current and historical Give-Ups will also be possible via the *Give-Up Overview* window and the *Take-Up Overview* window.

Both Give-Up and Take-Up Clearing Members have the possibility to define if they want to accept the Give-Up or Take-Up automatically. By default the new flags are set to "Y", i.e. the acceptance will be done automatically. The flags have to be set to "N" if every Give-Up / Take-Up is to be processed manually. The Clearing Members can define this for each of their Non-Clearing Members on Screen K040 – Member Relationships.

In addition, the Give-Up and Take-Up Clearing Members will be able to inquire all pending Give-Up trades of their NCMs.

2.3 Position Transfers

Currently position transfers between Members are only possible within the A1-account. An increasing number of Non-Clearing Members do not have A1-accounts. With Eurex Release 4.0, Members will have the possibility to transfer clients' positions (from A1-accounts) into another Members P1/P2 account and vice versa. Member position transfers will be possible using any combination of P1/P2 and A1 for the source and destination accounts.

The screen K060 - Transfer Member Positions and the Position Transfer window will be enhanced to allow position transfers within A1, P1 and P2 accounts.

2.4 Trade Adjustment

2.4.1 Trade Adjustment for Multiple Trades

Trade Adjustments can currently only be made for a single transaction at a time. The transaction can be selected on screen F050 – Clearing Instructions Selection by entering a transaction type (002 – Trade Open/Close Adjustment, 003 – Historical Trade Transfer, 004 – Trade Account Transfer, 006 – Trade Separation). After a transaction is selected, the application opens the FMS screen that corresponds to the specified transaction type (Trade Separation – F060, Open/Close Adjustment – F070, Account Transfer – F080, Historical Trade Transfer – F100) and displays the transaction information.

With the Clearing GUI introduced with Eurex Release 4.0, the possibility to perform multiple trade adjustments with one user action will be available. It will be possible to select one or more trades in the *Position Detail Overview* window for multiple trade adjustment (of the same adjustment type). The selected trades are filled into the *Position Detail Maintenance* window when the latter is opened. If another user already changed a trade before the adjustment request is submitted, the request will not be processed on the Host and an error message will appear. The described functionality is not provided on the character-based / User Device Front End.

Multiple trade separations will not be possible.

2.4.2 Trade Adjustment on the P Account

Currently Members can perform four different types of trade adjustment, namely historical trade transfer (HITT), trade separation, open/close adjustment and trade account transfer. Trade separations are currently only allowed for the A1 account.

Trade separation divides one transaction into a maximum of six smaller transactions. The user can enter a trade separation via the screen F060 -Trade Separation, which is opened from screen F050 -Clearing Instruction Selection.

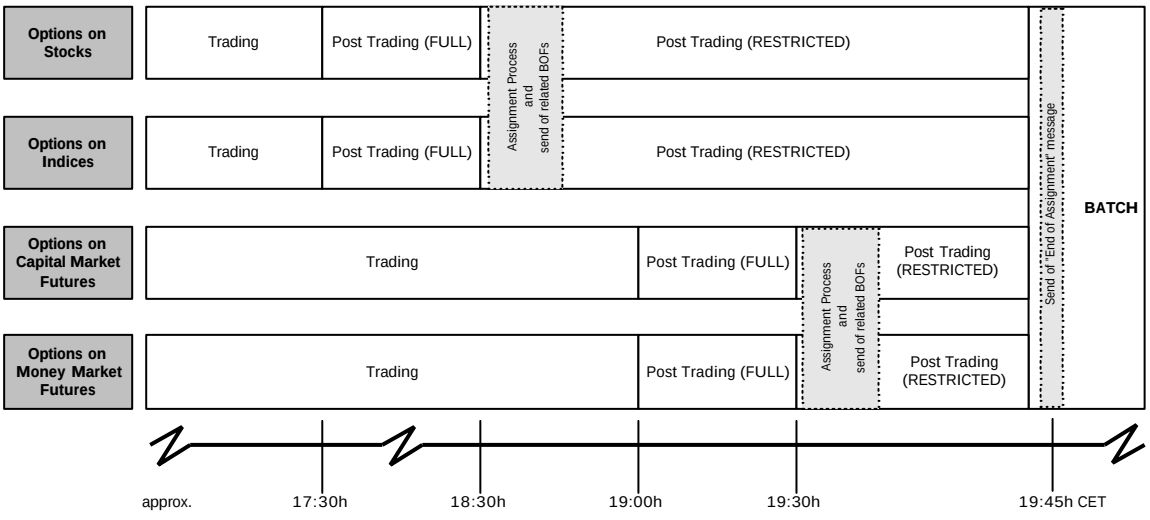
With Eurex Release 4.0, it will also be possible to perform trade separation for the P accounts.

2.5 Pre-Batch Assignment

Currently the assignments of exercised options are triggered and processed automatically during Eurex batch processing. As a result, Members receive assignment-related information (via BOF / broadcast) during this period.

With Eurex Release 4.0, Members will be able to receive assignment information before the start of the batch. The Pre-Batch Assignment process is initiated individually for each Eurex Product by the transition to the Product State ‘Post Trading Restricted’. During the Product State ‘Post Trading Restricted’ the access to trade and position management is limited. Necessary automatic exercises and partial position transfers are processed before the actual assignment is done.

The figure below shows the concept of the new timetable for the Pre-Batch Assignment Process.



2.6 Display In-the-Money Series

Currently in-the-money series are inquired using screen H010 (In-the-Money Exercise/Inquiry). Members have to specify the account and the starting contract. The inquiry response will contain the in-the-money series that are equal and/or higher than the specified starting contract.

With Eurex Release 4.0, Members can exercise their in-the-money positions more easily since it will be possible to inquire all in-the-money series for several products. Members do not need to know which series are in-the-money and which are not, only in-the-money series will be displayed. This enhanced functionality will be made available only in the new Clearing GUI. The existing screen H010 will not be changed.

2.7 Pro Rata Matcher

Pro Rata matching was introduced in Eurex Release 3.0. When matching against an incoming order, the Pro Rata allocation algorithm takes into account each order in the order book at the inside market price according to its relative percentage and regardless of its time stamp. The Pro Rata principle avoids an imbalance between orders with small and large quantities. Therefore, Pro Rata matching is regarded as the most appropriate matching method for STIR (Short-Term Interest Rate) products.

With Eurex Release 4.0 the Pro Rata Matcher functionality is now extended to spread trading. The allowed combination orders are exclusively limited to contract pairs with consecutive expiration months.

For detailed information about the Pro Rata Matcher please refer to the to be published Eurex Trading System User Guide (Document X0003800) or the Eurex Member Manual Trading (Document X0003900).

2.8 Option Combination Cross Request

Market participants can use the Cross Request function to indicate their intention to carry out a cross or pre-arranged trade. A cross trade is normally referred to as a trade in which orders/quotes of a individual Member are consciously executed against each other. As for pre-arranged trades, orders/quotes from at least two Members are consciously executed against each other.

Cross requests are possible for both options and futures contracts. With Eurex Release 4.0, it will be possible to enter combination cross requests not only for futures but also for options contracts. This feature will only be supported with the Eurex Trading System X-ceed and VALUES API. There will be no change for the character-based / User Device Front End.

2.9 User Setup

2.9.1 Screen A020 Trader Product Assignment

The assignment of Eurex products and maximum order sizes of a specific product to an individual trader ID is currently performed product by product. With Eurex Release 4.0, two new methods are introduced to facilitate easier product assignment for Members:

- the user can enter a "source – trader ID" in a "copy from" field in order to copy all product assignments of a trader
- the user can enter part of the User ID (subgroup only) and the product assignments will be performed for all user IDs which meet the given criteria.

On screen A020 – Trader Product Assignment it will be possible to enter a participant ID of a trader from which the product assignments will be copied to the destination participant. Also it will be possible to enter a wildcard for the destination participant number to copy the product assignments to all participants of the subgroup.

2.9.2 NEW Screen A048 User Setup Clearing API

With the introduction of the Clearing API a new screen will be introduced. Screen A048 is used to set up resource access levels for users of the Clearing GUI / Clearing API. Each Member has to assign rights to his users. The access rights covered on screen A048 refer to inquiries only.

Some access rights required for the Clearing GUI/API have to be set on screen A047. These rights are:

- Market Supervision Info
- Ticker*
- Login
- Change Password
- Reset Password

* To be used in future release.

```
EUREX                     USER SETUP  -  CLEARING API          18-11-99  10:42
A048                                                          USER ID: EXCSPV

MEMBER ID CODE        : BHWMU                   ACTION CODE : I
PARTICIPANT SUB GROUP : TRD                     COPY FROM   :
PARTICIPANT NUMBER    : 001

                  RESOURCE ACCESS LEVELS: CLEARING INTERFACE

GIVE UP:                  1  MEMBER LIST:              1  DELIVERY:              1
TAKE UP:                  1  NON CLEARING MBR LIST:    1  POSITION TRANSFER:     1
NOTIFICATION ALLOC:       1  EXERCISE ASSIGNMENT:      1  POSITION:              1
NOTIFICATION:             1  EXERCISE:                 1  POSITION CLOSE ADJ:    1
```

Note: "1" = inquiry allowed to user, "0" = inquiry not allowed to user

2.10 Margin Requirements

The calculation of additional margin requirements in option products for each option series assumes a ‘worst case’ market move. Since this process does not consider the increase in implied volatility – which is an important factor for theoretical price calculation in a worst case scenario –an adjustment is made to all short option positions where the worst case liquidating value is lower than a defined minimum amount. These adjustments are taken into consideration if the entire position of the respective series bears its maximum closeout risk at either end of the margin interval. If the maximum closeout risk is related to any option strike price in between the downside and upside boundaries of the margin interval, the short option adjustment is not applied.

Eurex Release 4.0 will introduce a compensation model. When short option positions are embedded in complex portfolios, a major part of their risk may be compensated either by long option positions or by corresponding future positions.

In detail, any short call position’s risk is limited by long call positions with the same or longer time to expiry and lower or equal strike or by any long future position. Any short put position’s risk is limited by long put positions with the same or longer time to expiry and higher or equal strike or by any short future position.

This cross margining will only be provided within a margin class.

Further information will be published in the Eurex Member Manual Clearing (X0004000), Eurex Clearing System User Guide (X0006100) and the Eurex Member User Information Manual (X0004100).

2.11 Limit Delivery Instructions for Stocks

A new mechanism will be introduced to limit the risk of delivery failures resulting from large stock delivery instructions. The risk exposure for the Eurex Clearing Members will be reduced to a limited level by splitting up large delivery instructions for stocks into several smaller ones since it is more likely that one single large delivery instruction cannot be served than several small delivery instructions. Apart from that, the business impact of a failure of a small delivery instruction is less significant compared to a delivery failure of a large delivery instruction.

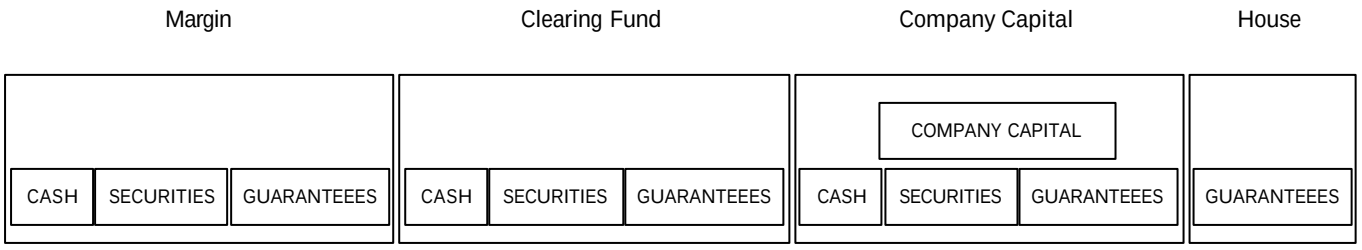
2.12 Clearing Guarantees

With Eurex Release 4.0, two changes are made to the Clearing Fund concept:

1. Presently Direct Clearing Members (DCMs) and General Clearing Members (GCMs) need to present a minimum amount of guarantees. With Eurex Release 4.0, for these Members the Clearing Fund will be introduced with contributions in guarantees, securities and cash. The contribution of assets to the Clearing Fund can be made in all currencies set up in the Eurex system. In the future it will be possible for the Clearinghouse to request house guarantees.
2. Currently house guarantees are fixed amounts for DCMs and GCMs (minimum guarantees). In the future, the Clearing Fund requirement will be calculated daily depending on the Clearing Member's risk. As a scale for risk, the Clearing Member's margin requirement is used.

Two changes are made to the Company Capital:

1. In addition to the Company Capital company capital assets are counted to determine the total Company Capital amount of a Member. These assets are securities, guarantees and cash.
2. As for the Clearing Fund, for Company Capital a requirement will be calculated daily depending on the Clearing Member's risk to replace the current fixed Company Capital requirement. As a scale for the risk the Clearing Member's average margin requirement is used.



To differentiate between the usage of cash, securities and guarantees expressions like margin securities, (clearing) fund cash, capital securities or house guarantees are used and referenced with M: Margin, F: Clearing Fund, H: House Guarantee, and C: Company Capital on screens and reports.

Calculation of Requirement for Clearing Fund and Company Capital

Currently no Clearing Fund and Company Capital requirements are calculated since the requirements are a fixed guarantee amount for the Clearing Fund and a fixed Company Capital amount. In the future, the total margin requirement of a Member for the current business day and two average amounts (for two different periods of business days) are evaluated with the Clearing Fund margin factor or Company Capital margin factor. The calculation results respectively in three evaluated margin amounts. The highest number of either of the evaluated margin amounts or the respective minimum amount defines the Clearing Fund or Company Capital requirement and is compared with the Member's current Clearing Fund or Company Capital contribution.

Eurex determines the following parameters for the calculation:

- number of business days n and m (not to be greater than one year),
- Clearing Fund margin factor,
- Company Capital margin factor,
- minimum amounts for Clearing Fund contribution (DCM/GCM), and
- minimum amounts for Company Capital contribution (DCM/GCM).

2.13 Correspondent Bank Limits

Currently a Eurex Clearing Member (CM) can use a correspondent bank for the settlement of cash transactions instead of using their own account at a foreign central bank. However, for legal reasons it is still mandatory for each Clearing Member to have an account at his home central bank (home account) as well as at the foreign central bank (own account). As currently the correspondent bank takes over the responsibility to cover requirements without limitation, the correspondent bank accepts a potentially high risk. With the introduction of Correspondent Bank Limits the correspondent banks will have the possibility to limit their risk per Eurex Clearing Member account to a maximum daily amount. It will also be possible to specify an effective period for which the limit applies.

For each cash transaction per Clearing Member and currency it will be validated whether an active limited correspondent bank account exists. If this is the case and the amount of the debit cash transaction exceeds the limit amount, the transaction is split into two transactions, one for the correspondent bank and one for the Clearing Member's account at the central bank (for the amount exceeding the limit). For credit cash transactions, the full amount is credited to the correspondent bank account at all times. The limit amount does not apply to credit bookings.

3 Modified Screens/Windows and Reports

A list of all modified and added screens and reports including a brief description of the changes can be found in the Appendix. The list also includes changes made to the Eurex Trading System (X-ceed).

Detailed descriptions will be published in Eurex Member Manual Clearing (X0004000), Eurex Member Manual Trading (X0003900), Eurex Trading System User Guide (X0003800) or Eurex Clearing System User Guide (X0006100).

4 Appendix A – List of Modifications

4.1 Screens (Character-based / User Device Front End) / Windows (GUI Front End)

ID	Screen long name	Short description of change
FUTS	FUTURES SUMMARY / SPREAD SUMMARY	Spreads for Pro Rata products are now available. Up to 19 different spreads - consecutive months.
FTSQ	FUTURES SUMMARY / SPREAD SUMMARY / OWN QUOTES / OWN COMB. QUOTES	Spreads for Pro Rata products are now available. Up to 19 different spreads - consecutive months.
FOE	FAST ORDER ENTRY WINDOW	Spreads for Pro Rata products are now available. Up to 19 different spreads - consecutive months.
OE	ORDER ENTRY WINDOW	Spreads for Pro Rata products are now available. Up to 19 different spreads - consecutive months.
ROE	RAPID ORDER ENTRY	Spreads for Pro Rata products are now available. Up to 19 different spreads - consecutive months.
SPO	SETTLEMENT PRICE OVERVIEW	Added functionality to inquire settlement prices of the series for one specific product.
QO	OWN QUOTE OVERVIEW	Second leg will be displayed even if only the first leg is selected for inquiry.
CRO	CROSS REQUEST ENTRY	Combination Cross Requests for Options are now allowed as well.
BkTE	OTC BLOCK TRADE ENTRY	G1 and G2 are now valid accounts. If the G2 is selected, the new field GvUpMbr is mandatory.
A048 **NEW**	USER SETUP – CLEARING API	New screen for Clearing API Inquiry Security Setup (see Eurex Member Manual - System Security "X0004100").
A020	TRADER PRODUCT ASSIGNMENT	In the "add" and "change" mode the participant ID (PARTICIPANT ID) of a trader from which the product assignments will be copied (COPY FROM) to the destination participant (MEMBER ID) can be added. A wildcard can be used for the destination participant number to copy the product assignments to all participants of a subgroup.

ID	Screen long name	Short description of change
F020	POSITION DETAIL INQUIRY	A new column TT (Trade Type) is added to differentiate between normal trades and OTC trades (" " = for regular trades; "O" = OTC Block trades; "B" = OTC Basis trades).
F050	CLEARING INSTRUCTION SELECTION	A new column TT (Trade Type) is added to differentiate between normal trades and OTC trades (" " = for regular trades; "O" = OTC Block trades; "B" = OTC Basis trades).
N010	GIVE-UP REVIEW	It will be possible to inquire the new status values "M" and "N" by putting them in the STATUS field of the prompt form. The state of the transactions is displayed in column ST. The new state values "M" and "N" will be displayed for transactions accepted by the Give-Up Clearing Member or the Take-Up Exchange Member ("M" = Accepted by Give-Up Clearing Member; "N" = Accepted by Take-Up Exchange Member; "T" = Accepted by Take-Up Clearing Member).
N020	GIVE-UP DESIGNATED BY ORDER	The Give-Up Clearing Member can accept the Give-Up transaction by putting the new action code value "A" in the field ACTION CODE of the prompt. For the acceptance the behavior of the screen will be the same as for undesignation. The Clearing Member first inquires on the screen using the action code "I" (Inquiry) and then he can accept or undesignate all listed transactions entering the action code "A" or "U" (Accept Give-Up, Undesignate). When inquiring on the screen, in addition to the existing transaction status, the column ST will display the values "M" and "N" for the transactions accepted by the Give-Up Clearing Member or the Take-Up Exchange Member (see description N010; "T" = Accepted by Take-Up Clearing Member).

ID	Screen long name	Short description of change
N030	GIVE-UP DESIGNATION BY TRANSACTION	To inquire the new transaction states for accepted transactions, it will be possible to put the values "M" and "N" into the STATUS CODE field of the screen prompt. A new ACTION CODE value "A" for the acceptance of the Give-Up Clearing Member will be introduced. The column ST will display the new values "M" and "N" for transactions accepted by the Give-Up Clearing Member or by the Take-Up Exchange Member ("T" = Accepted by Take-Up Clearing Member). For the acceptance, the behavior of the screen is the same as for e.g. undesignate. The Clearing Member first inquires on the screen using the action code "I" and then he can accept or undesignate selected transactions entering the action code "A" or "U". The maintenance data line will not occur A new field for TRADE TYPE will be added. Valid values are " " for On-exchange Trade (default), "O" for OTC Block Trade and "B" – OTC Basis Trade.
N040	TAKE-UP INQUIRY	To inquire for the new transaction states, the values "M" and "N" can be entered into the field STATUS of the prompt. The new states "M" and "N" for accepted Give-Ups of the Give-Up Clearing Member or the Take-Up Exchange Member will be displayed in the column ST. The value "G" is excluded from the field STATUS, and the values " " and "G" are excluded from the column ST. Possible values for STATUS are: " " = All, "R" = Rejected, "N" = Designated for Take-Up, "M" = Accepted by Give-Up Clearing Member, "T" = Accepted by Take-Up Clearing Member.
N050	TAKE-UP ACCEPTANCE BY ORDER	For the acceptance of a Take-Up by the Take-Up Clearing Member can use the action code "A". The new states "M" and "N" for transactions accepted by the Give-Up Clearing Member or the Take-Up Exchange Member will be displayed in the column ST. Only transactions with the following states will be displayed: "M", "N", "T" and "R". For the field description of the column ST refer to previous section above where screen N040 is described. For the acceptance case the processing on the screen is the same as for the reject case. The Clearing Member first inquires on the screen using the action code "I" and then he can accept or reject all listed transactions entering the action code "A" or "R" (Accept or Reject).

ID	Screen long name	Short description of change
N060	TAKE-UP ACCEPTANCE BY TRANSACTION	For the acceptance of a Take-Up by the Take-Up Clearing Member it will be possible to put the action code "A" into the field ACTION CODE of the screen prompt. The new states "M" and "N" for transactions accepted by the Give-Up Clearing Member or the Take-Up Exchange Member will be displayed in the column ST. Only transactions with the following states will be displayed: "M", "N", "T" and "R". For the descriptions of the column ST refer to the section above where screen N040 is described. For the acceptance, the processing on the screen is the same as for reject. The Clearing Member first inquires on the screen using the action code "I" and then he can accept or reject all selected transactions entering the action code "A" or "R". The maintenance data line will not occur. A new field for TRADE TYPE will be added. Valid values are " " for On-exchange Trade (default), "O" for OTC Block Trade and "B" – OTC Basis Trade.
K030	MEMBER CLEARING GENERAL INFORMATION	Two new clearing fund pledge account numbers at the home CSD are added to the “Member Clearing General Information” screen (K030) that is required for deposit and withdrawal of Clearing Fund and Company Capital securities. A field for the Clearing Fund and the Company Capital pledge account number at the home CSD is added. Also three fields for the Company Capital amount are added: “CURRENCY”, “AMOUNT” and “DATE ENTERED”.

ID	Screen long name	Short description of change
K040	MEMBER RELATIONSHIP	The Member Relationship screen K040 will be enhanced with four new columns: "Current Automatic Confirm Give-Up" and "Current Automatic Confirm Take-Up" to reflect the current Give-Up / Take-Up confirmation flags. "Next Day Automatic Confirm Give-Up" and "Next Day Automatic Confirm Take-Up" to reflect the Give-Up / Take-Up confirmation flags as they will be valid on the next business day. The next day flags are only filled if they will be different on the next business day. The four flags will also be available on the entry line when adding or changing a relationship but only the next day confirmation flags can be changed. The confirmation flags allow the Clearing Member to define for each active relationship to a Non-Clearing Member how the acceptance of Give-Ups and Take-Ups will be handled. Possible entries are "Y" for automatic and "N" for manual acceptance. The flags will be set to “Y” by default. Changes in the confirmation flags of the Member relationships will be effective at the next trading day. At the start of the next day, columns "Next Day Automatic Confirm Give-Up" and "Next Day Automatic Confirm Take-Up" are set to blank, and the values that were there the previous day are now displayed in columns "Current Automatic Confirm Give-Up" and "Current Automatic Confirm Take-Up". The initial values valid for the first trading day of Eurex Release 4.0 are set to "Y". This results in the same processing logic as in Eurex Release 3.0. The Clearing Members are then able to change the processing logic for the next business day.
K060	TRANSFER MEMBER POSITIONS	Entry fields for SOURCE ACCOUNT and DEST ACCOUNT (Destination) are created. Valid values are A1, P1, P2
I020	CASH ACCOUNT DETAIL INQUIRY	New lines are added to display the individual cash transactions on the Margin cash account, the Clearing Fund and the Company Capital account.
I050	GUARANTEE INQUIRY	New values for the Guarantee Type are added: “M” = Margin, “F” = Clearing Fund, “C” = Company Capital as well as a new line for the total.

ID	Screen long name	Short description of change
I060	SECURITY SUMMARY POSITION INQUIRY	A mandatory usage field is added to distinguish between the margin account (“M” = Margin), the Company Capital account (“C”= Company Capital) and the clearing fund account (“F” = Clearing Fund).
I070	SECURITY MOVEMENT AND COVERAGE	A mandatory usage field is added to distinguish between the margin account (“M” = margin), the Company Capital account (“C” = Company Capital) and the Clearing Fund account (“F” = Clearing Fund).
I080	MONTHLY SECURITY MOVEMENT	A mandatory usage field is added to distinguish between the margin account (“M” = Margin), the Company Capital account (“C” =Company Capital) and the Clearing Fund account (“F” = Clearing Fund).

4.2 Reports

Report ID	Report Short Name	Short Description of Change
RPTCB010	POSITION DETAIL	The CMB column (which is currently used to display combination types) is renamed to T/C for Trade / Combination type. This column will display the trade type for OTC trades and combination type for regular trades (" " = for regular trades; "O" = OTC Block trades; "B" = OTC Basis trades).
RPTCB110	ACCOUNT TRANSFER EXCEPTION	A new column for the trade type (TRD TYP) is added. For the trade type the following values are possible: <blank> for on-exchange trades, "O" for OTC Block Trades and "B" for OTC Basis Trade.
RPTCB120	MEMBER EXCEPTION POSITIONS	In the ACCT column the source and destination accounts are displayed (A1, P1, P2).
RPTCB130	GIVE-UP TRADE HISTORY	New STATUS values "GU-ACCEPTED" and "TU-ACCEPTED" for transactions accepted by the Give-Up Clearing Member and the Take-Up Clearing Member are displayed in the STATUS column. The pending values include all transactions except those with the status "Take-Up Accepted" and "Deleted". In the totals section the accumulated quantities of all Take-Up accepted trades (status "T") are displayed. Also a new column for the trade type (TRAD TYP) is added.

Report ID	Report Short Name	Short Description of Change
RPTCB140	ACCEPTED GIVE UP	A column for the trade type (TRD TYP) is added. In the Totals section, the accumulated quantity of all Take-Up accepted trades (status "T") is displayed.
RPTCB150	TAKE-UP TRADE HISTORY	New STATUS values "GU-ACCEPTED" and "TU-ACCEPTED" for acceptance of the Give-Up Clearing Member and the Take-Up Clearing Member are displayed in column STATUS. The STATUS values "PREDESIGNATED", "GIVEN-Up" and "DELETED" are no longer displayed. "UNDESIGNATED" trades are displayed if they have been in the status "GU-ACCEPTED" before, so that the Take-Up side be informed that the trade could have been taken up by the Take-Up Exchange Member. The pending values include all transactions except those with the status "TU-ACCEPTED". In the totals section, the accumulated quantities of all Take-Up accepted trades (status "N") is displayed. Also a new column for the trade type (TRAD TYPE) is added.
RPTCB160	ACCEPTED TAKE UP TRADES	Add a new column for the trade type (TRD TYP). In the Totals section, the accumulated quantities of all Take-Up accepted trades (status "T") are displayed.
RPTCC040	LIQUIDATIN G VALUES	A new column will be added to display the Short Option Compensation Potential for every expiry. The short positions covered by existing long positions with the same or longer time to expiration and corresponding strikes will be marked.
RPTCD020	SECURITY MOVEMENT AND COVERAGE	The usage is displayed in the header and the securities are sorted by usage, currency and ISIN.
RPTCD031	DAILY SECURITY VALIDATION	The usage is displayed in the header and the securities are sorted by usage, currency and ISIN.
RPTCD032	DAILY GUARANTEE	A total per Member in euro is added
RPTCD080	MONTHLY SECURITY MOVEMENT	Instead of the security type the usage is displayed in the header and the securities are sorted by usage, currency and ISIN.

Report ID	Report Short Name	Short Description of Change
RPTCD090 **NEW**	OVERALL ASSET SUMMARY	This Clearing Member only report displays the Clearing Fund and Company Capital requirements for each Member and their Clearing Fund and Company Capital assets (see Eurex Member Manual Clearing "X0004000").

5 Appendix B – Eurex Documentation

The new and updated documentation will be available in April 2000. Final versions will be distributed in June 2000.

New Eurex Documentation	
Document ID	**Name of the Document**
X0006100	Eurex Clearing System User Guide

Updated Eurex Documentation	
Document ID	**Name of the Document**
X0001100	BOF Xtract
X0001200	Eurex Financial Data Disseminator
X0003400	Eurex Member Interface Specification
X0003600	Eurex Programmable Interfaces Pricing Model Input and Backoffice Interfaces: Programmers Guide and Reference
X0003800	Eurex Trading System User Guide
X0003900	Eurex Member Manual Trading
X0004000	Eurex Member Manual Clearing
X0004100	Eurex Member User Information Manual/ System Overview/ System Security
X0004200	Member Manual Emergency Procedere
X0004300	FDD File Service
X0005300	Eurex User Device / Satellite Operation and Administration
X0005700	Eurex Front End Installation Guide
X0005900	Eurex Front End Operations Guide

Deutsche Börse



MISS / Workstation Sizing Guidelines

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1 INTRODUCTION

1.1 Purpose

This document explains the sizing guidelines for users of the MISS (Member Integration System Server) based front-end. These guidelines were developed based on test installations for the listed Applications. The document is based on Eurex Release 4.0, Xetra and Xetra Vienna Release 4.0.

The sizing guidelines are preliminary recommendations only for members. They are not binding.

The document is intended to support the network and system administrators of members in planning their network, hardware and software configuration.

1.2 Scope

These guidelines are focused on a single MISS group installation. A MISS group consists of one or two MISSes and optionally connected workstations. The guidelines do not cover Eurex UD-based front-ends.

Members are strongly urged to test their own configurations as differences in hardware, software and settings can have a material impact on the system's performance and capacity behavior.

This document is not intended to give information about the general technical concepts with GATE. GATE (Generic Access To Exchanges) is the name for the technical architecture and components of the MISS and workstation (see Figure 1). It also does not provide installation or operation procedures. Installation procedures are described in the documents “Front-End Installation Guide”. Operation procedures are described in “Front-End Operations Guide”.

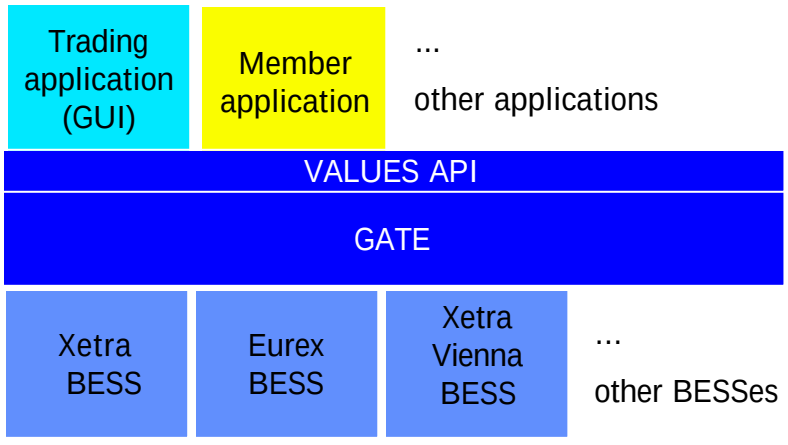


Figure 1 The GATE Layer

1.3 Contents

Section 2 TECHNICAL ENVIRONMENT contains short definitions of the hardware and software components used to build a front-end configuration. It describes the basic front-end configurations in relation to the member's requirements for availability and throughput. It is possible to set up other configurations using different components, but these other configurations have not been certified regarding their sizing and are not supported.

Section 3 SIZING GUIDELINES gives figures for sizing the supported front-end hardware components. The approach for determining the recommendations is focused on the number of processing requests and broadcasts. CPU, memory, disk and network recommendations are covered. The numbers given relate only to the systems having either Eurex, Xetra and Xetra Vienna software installed. Additional software installed on the front-end will affect sizing requirements and performance and is purely the members responsibility.

The GATE software continues to support the ability to run multiple environments (e.g. parallel execution of the software in a production and simulation environment). The sizing guidelines provide recommendations for only one environment.

Section 4 APPENDIX describes the required operating system software versions.

2 TECHNICAL ENVIRONMENT

2.1 Overview

This section describes the hardware, software and network configuration to be used to access the Eurex, Xetra and Xetra Vienna systems.

The front-end must be able to run the software components necessary to establish and maintain a connection with the back end applications. The configuration components of a front-end configuration are shown in Figure 2 and are defined in the following sections. Note that the configuration shown in Figure 2 is a high availability configuration provided through redundancy of MISSes, routers and WAN lines.

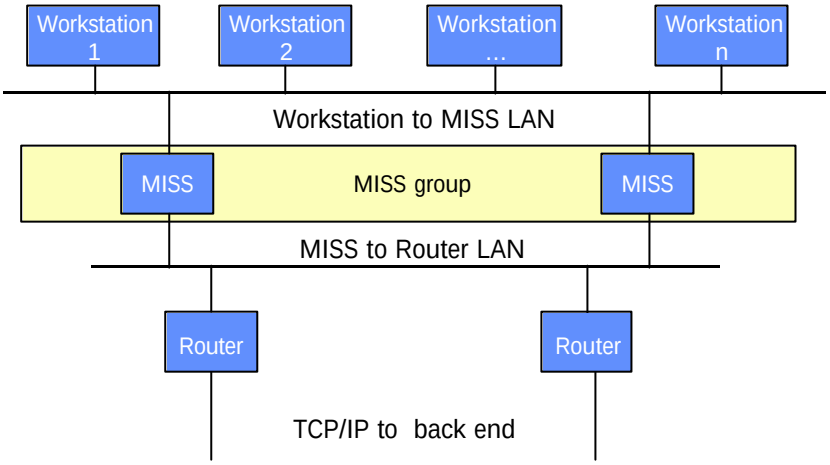


Figure 2 Front-end configuration

2.2 Workstation

A workstation is a computer system, which is connected to a MISS via a local area network (LAN). The workstation has the Eurex, Xetra and Xetra Vienna workstation software or a combination of these installed.

The workstation is responsible for the presentation of market information and handling of member requests for the back end applications. Eurex, Xetra and Xetra Vienna provide Trading Applications which run on the workstation use the VALUES API (Virtual Access Link Using Exchange Services Application Programming Interface) and the front-end architecture services (GATE) that support the applications.

Member as well as third-party developed applications may also run on the workstation in addition to or instead of the provided Trading Application. However, this document provides no information about sizing for these types of applications, as they are the responsibility of the end-user organizations.

2.2.1 Workstation Platforms

The Eurex, Xetra and Xetra Vienna Software supports the following workstation platforms:

- IBM AIX 4.3.2
- Microsoft Windows NT (Intel) Workstation 4.0 English Service Pack 5
- Sun Solaris 2.6

Detailed information about required patch levels is contained in section 4.1.1 Detailed Requirement Specification.

Note: Homogeneous front-end configurations (MISSes and workstations of the same platform) were tested as well as the combination of AIX or Solaris based MISSes with Windows NT (Intel) workstations.

Note: The number of computers accessing and using services of the Windows NT Workstation software is limited from a license perspective on the Microsoft Windows NT Workstation 4.0 platform. In case that a specific installation exceeds the license regulation, Microsoft Windows NT Server (Intel) 4.0 English Service Pack 5 must be installed instead.

2.2.2 Workstation Software

The software that the members will be expected to run on a workstation consists of:

GATE software

- Architecture services

One or more exchange specific software components

- Electronic Trading Applications

System software:

- Window manager corresponding to the operating system (Solaris and AIX: CDE, Windows NT (Intel): Win32)
- Communication software (TCP/IP, UDP/IP)
- Operating system software (IBM AIX, Sun Solaris or Windows NT (Intel))

2.2.3 Workstation to MISS LAN

Communication between the MISS and the workstation is done via a local area network (LAN). Communication protocols required within the communication architecture are TCP/IP and UDP/IP. The MISS and the workstations should be connected to the same LAN segment or to bridged LAN segments. Ethernet is the only LAN type, which has been tested.

2.2.4 Remote Workstations

The Remote Workstation Solution is an enhancement, that allows workstations to connect to a MISS (group) located in a different LAN segment from the workstations' segment where both segments are connected via low cost leased lines (e.g. 128 kbps).

With GATE 2.0 broadcasts can be distributed using IP multicasting. In such a configuration the Remote Workstation Solution is not required.

Sizing of remote workstation is not in the scope of this document.

2.3 MISS

A MISS is a computer system, which enables connection to the back end and has installed the MISS software.

The MISS can be used as a standalone machine running the front-end application for the presentation of market information and capture of the member requests for the back end applications. Additionally, it can serve connected workstations. In this case, the MISS coordinates workstation communications.

2.3.1 MISS Platforms

The following MISS platforms are supported:

- IBM AIX 4.3.2
- Microsoft Windows NT Server (Intel) 4.0 English Service Pack 5
- Sun Solaris 2.6

Detailed information about required patch levels is contained in section 4.1.1 Detailed Requirement Specification.

Note: Homogeneous front-end configurations (MISSes and workstations of the same platform) were tested as well as the combination of AIX or Solaris based MISSes with Windows NT (Intel) workstations.

2.3.2 MISS Software

The software that the members will be expected to run on a MISS consists of:

GATE software:

- Architecture services

One or more exchange specific software parts

- Technical back end connection (BESS[1])
- Electronic Trading Applications (optionally)

System software:

- Window manager corresponding to the operating system (Solaris and AIX: CDE, Windows NT (Intel): Win32)
- Communication software (TCP/IP, UDP/IP)
- Operating system software (IBM AIX, Sun Solaris or Windows NT (Intel))

2.3.3 MISS to Router LAN

Communication between the MISS and the router is done via a local area network (LAN). The communication protocol required for the MISS to the router is TCP/IP.

Ethernet is the only LAN type, which has been tested.

[1] BESS: Back End Specific Subsystem

2.4 Router

Routers maintain the TCP/IP connections from the MISS to the back ends. Fault tolerance is achieved by providing multiple routing paths to back end applications.

The router platform approved for the use with Eurex, Xetra and Xetra Vienna is from CISCO. Details about model series and operating software is contained in section 4.1.1 Detailed Requirement Specification.

2.5 Basic MISS-based Front-End Configuration

Using a MISS-based front-end, there are many possible configurations, ranging from a standalone MISS to large configurations with several MISSes and workstations arranged in logical MISS groups. In a MISS group, all MISSes must be on the same LAN segment. If the active MISS fails then automatic fail-over takes place.

More than one MISS per member is supported. Two MISSes in one MISS group support dynamic failure recovery between them. For disaster recovery, an additional MISS or MISS group may be established. However, fail-over to the disaster recovery site must be managed by the member. Splitting of MISSes of a MISS group across different physical locations has not been tested.

There are several possibilities for front-end setup configurations. The drivers for choosing one of the described configurations are:

- Number of end users entering requests to the back end applications.
- Member's availability requirement.

Figure 3 Availability-Size-Relation shows four configuration alternatives that are a function of the number of end users and availability requirement. Configurations for normal availability contain single points of failure. High availability configurations have no single points of failure or have stand-by equipment available for recovery purposes.

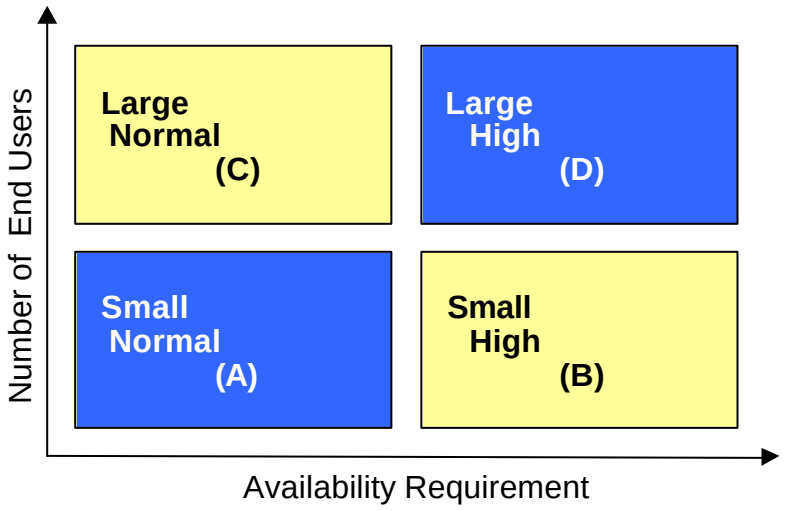


Figure 3 Availability-Size-Relation

Each of the next four sections depicts one of the proposed configurations.

2.5.1 Small Configuration, Normal Availability (A)

Figure 4 shows a front-end configuration that provides normal availability for one user. The user runs the Trading Application directly on the MISS.

Note that fail-over is not supported if any of the components fail.

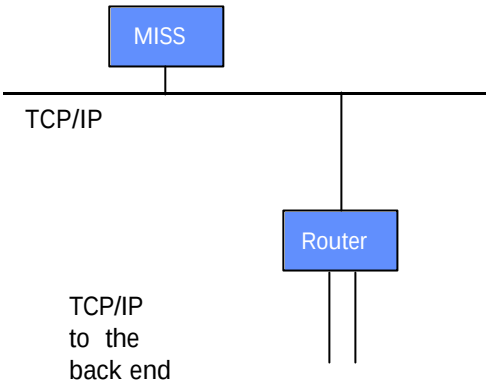


Figure 4 Small configuration for normal availability

2.5.2 Small Configuration, High Availability (B)

In Figure 5 a front-end configuration is shown that provides high availability (no single point of failure) for one or two users. The user runs the Trading Application directly on the MISS. If any individual component fails, the parallel component assumes control to support continuing operations.

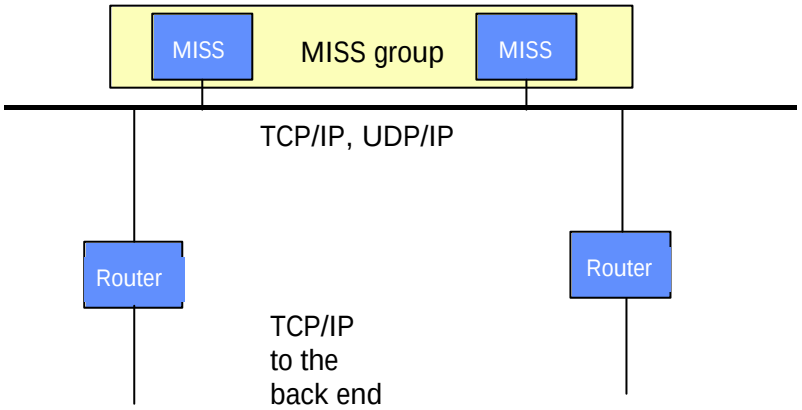


Figure 5 Small configuration for high availability

2.5.3 Large Configuration, Normal Availability (C)

Figure 6 shows a front-end configuration that provides normal availability for multiple users. Each user runs the Trading Application on his own workstation. Note that failure of any component other than a workstation will terminate all user access to the back end. Failure of any individual workstation will affect only the individual user of that workstation. The presented configuration supports a large number of workstations for multiple users. It is recommended to have the routers and MISSes in one separate LAN segment and the MISSes and workstations in another. In this type of front-end configuration, the workstation/MISS LAN network addressing can be unique.

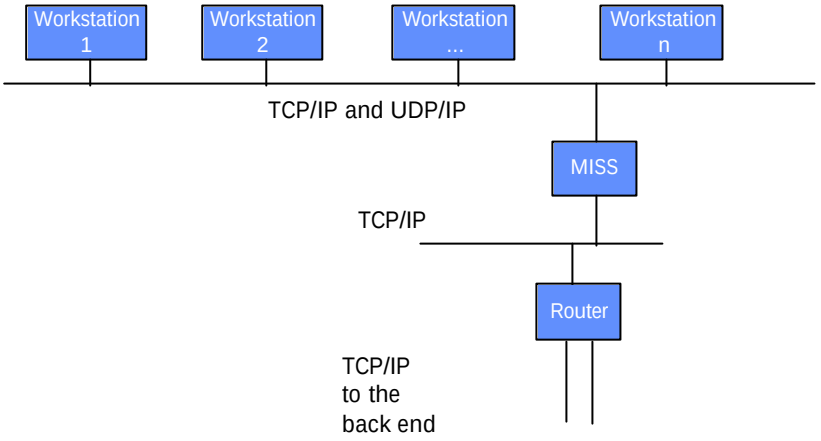


Figure 6 Large configuration for normal availability

2.5.4 Large Configuration, High Availability (D)

Figure 7 shows a front-end configuration that provides high availability for multiple users. Each user runs a Trading Application on its own workstation. Failure of any individual component other than a workstation is recovered via the remaining components. Failure of any individual workstation will affect only the individual user of that workstation.

If a MISS fails, requests from the workstations can be routed via the other MISS. Broadcasts and responses are sent from the other MISS to the workstations. If a router fails the request can be routed via the other router and the broadcasts and responses are sent from that router to the MISSes. Depending on the sizing of the configuration, operation following a failure may occur at degraded levels of performance.

It is recommended to have the routers and MISSes in one separate LAN segment and the MISSes and workstations in another. This type of front-end configuration allows to be independent from the network addressing in the workstation MISS LAN.

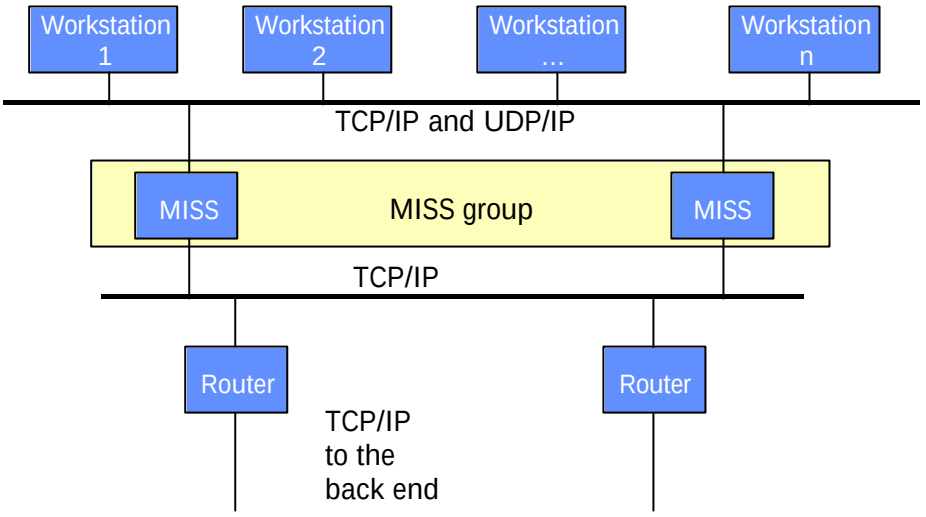


Figure 7 Large configuration for high availability

3 SIZING GUIDELINES

3.1 Introduction

This chapter provides guidelines to support members in sizing CPU, memory, disk and network resources of their MISS and workstation front-end installations.

MISS and workstation are designed to run several services (i.e. Eurex, Xetra and Xetra Vienna) in parallel. Nevertheless, installations running more than one service on a single system are currently classified only as possible configuration, but not as supported configuration. Furthermore, it should be considered, that in installations with only one MISS running several services, all services will be unavailable after the failure of the MISS.

The capability of a MISS or a workstation to run several services in parallel is also reflected in these sizing guidelines. Sizing figures for a MISS or workstation consists of a general part, which is required for all MISSes or workstations, independent of the installed services. For each service installed on the device, additional sizing requirements have to be added to the figures of the general part. For example, for a MISS running the Xetra and the Eurex software, the total sizing requirements have to be determined by adding the general sizing figures with the Xetra and the Eurex sizing requirements.

The sizing parameters of the service specific part are separated into base resource recommendations and incremental recommendations. The base resource recommendations are necessary to run the software without entering requests but processing the data generated by the general market activity (broadcasts). The incremental recommendations depend on the number of requests entered by the users of a MISS group.

The following sizing guidelines cover only the MISS and workstation software recommendations. They do not include requirements caused by the operating system, layered products (e.g. NFS or NIS) or other application software.

3.2 Assumptions

The guidelines are based on the following assumptions:

1. Each workstation will run only one instance of the Trading Application per service (using the VALUES API) and one instance of the architecture services.
2. On the MISS no instance of the Trading Application is running, if it is not stated explicitly (e.g. as in 3.5.3 MISS running the Eurex Trading Application) i.e. the sizing guidelines described in sections 3.5.1 or 3.6.1 workstation and 3.5.2 or 3.6.2 MISS relate only to large front-end configurations (see 2.5.3 Large Configuration, Normal Availability and 2.5.4 Large Configuration, High Availability).
3. There are no remote workstations connected to the LAN. No processes to support remote workstations (e.g. broadcast bridge forwarder) run on either the workstations or the MISSes.
4. No third party products using VALUES are running on either the workstations or the MISSes; e.g. quote machines etc.

3.3 Sizing Drivers

Front-end sizing recommendations are driven by the level of activity to be supported. The front-end key activities are the processing of requests and responses (order entry, inquiries, etc.), and the general level of activity in the market (broadcast data processed by the front-end).

The aggregated number of orders, inquiries, etc. entered by a user on the front-end determines the level of processing on a MISS that is directly under control of the member. Additional processing by a MISS is

driven by the total activity in the market as market activity generates broadcasts, which are delivered to front-ends.

The number of users drives the sizing of the front-end only in terms of the number of workstations required and the total number of orders that may be entered into the system.

One slow workstation or one slow MISS can slow down the performance of the whole front-end connected to a MISS group.

3.4 Sizing Information – General Load

Workstations and MISSes have to manage a “General Load” that is independent from the installed services. This “General Load” has to be considered only once for each MISS and workstation independant from the number or type of installed services. As there is no “General Load” for disk usage and LAN utilization, only the service specific values have to be added for these sizing parameters.

3.4.1 CPU

The specified SPECint95 values in the table below have to be added to the service specific values for the services installed:

IBM AIX [SPECint95]	Microsoft Windows NT (Intel) [SPECint95]	SUN Solaris [SPECint95]
2	3	2

3.4.2 Physical Memory

Like the General Load of the CPU, 32 Mbyte of physical memory have to be added to the service specific memory requirements for the services installed. This value is valid for all platforms.

3.5 Sizing Information – Eurex (Release 4.0)

3.5.1 Workstation

3.5.1.1 CPU – Workstation

The CPU load is caused by running the Eurex Trading Application and architecture services (GATE). The majority of the load on the workstations is generated by market activity (e.g. order market overview updates).

Statistical data gathered from current Eurex operations shows that at peak times there are approximately 100 to 150 broadcasts per second sent out to the front-ends by the Eurex back end. The duration of the peak can be more than one minute. This peak is assumed to be generated by market makers entering mass quote entries (e.g. via quote machines).

In addition to the public broadcasts, each workstation needs to handle the traffic generated by orders/quotes entered by the traders in the same group. One order/quote generates approximately 2.5 broadcasts on average. In the case of 10 orders/quotes per second this results in a total of 25 additional broadcasts per second.

The following table shows the CPU recommendations of the Eurex workstation software for each platform:

Visualized broadcasts per second to this machine (market activity)	**IBM AIX [SPECint95]**	**Microsoft Windows NT (Intel) [SPECint95]**	**SUN Solaris [SPECint95]**
50	7	8	7
75	8	11	8
100	9	13	9
150	12	18	12
200	15	23	15
250	18	26	18

If 30-50% of the market activity is visualized in the trading application, it is recommended to choose at least a CPU size in the light grey area. Eurex members should account for their private orders/quotes rates in addition.

Note: One slow workstation on a front-end can slow down the performance of the whole front-end connected to the same MISS group.

3.5.1.2 Physical Memory – Workstation

The main memory required for Eurex, which is provided in the next table, should be used as minimum recommendation. It is important that on workstations paging should be avoided as much as possible for maximum performance.

IBM AIX [MByte]	**Microsoft Windows NT (Intel) [MByte]**	**SUN Solaris [MByte]**
96	96	96

3.5.1.3 Disk Space – Workstation

Local disk space is required for each environment (production/simulation) of a workstation. The space must be provided on the disk where the corresponding workstation file tree is located. The following table shows the disk space recommendations for one environment (production or simulation) and includes the requirements for the JAVA runtime environment on Solaris and NT or JDK on AIX.

	IBM AIX [Mbyte]	**Microsoft Windows NT (Intel) [MByte]**	**SUN Solaris [Mbyte]**
Workstation software	300	300	300
Swap area	500	500	500
Internal data files [per day]	50	50	50

3.5.1.4 Workstation to MISS LAN

The following table shows the usage of the workstations to MISS LAN. The left column displays the maximum broadcast rate received by the workstations that are connected to a MISS group.

Broadcasts per second to this machine (market activity)	**Usage of 10 Mbps Ethernet [%]**
50	1.5
100	3.0
150	4.5
200	6.0
250	7.5

3.5.2 MISS

The recommendations for CPU, memory and network are dependent on the activity on the machine. No instance of the Eurex Trading Application is running on the MISS. The tables present the sizing recommendations for Eurex Release 4.

3.5.2.1 CPU – MISS

CPU load is caused by running the BESS processes and the architecture services (GATE). The majority of the load on the MISSes is generated by market activity (orders, quotes etc.).

Statistical data gathered from current Eurex operations shows that at peak times there is approximately 100 to 150 broadcasts per second sent out to the front-ends by the Eurex back end. The duration of the peak can be more than one minute. This peak is assumed to be generated by market makers entering mass quote entries (e.g. via quote machines). In addition to the public broadcasts, each MISS needs to handle the traffic generated by orders/quotes entered by the traders connected to it. One order/quote generates approximately 2.5 broadcasts on average. In the case of 10 orders/quotes per second this results in a total of 25 additional broadcasts per second.

The following table shows the CPU recommendations of the Eurex MISS software for each platform:

Broadcasts per second to this machine (market activity)	**IBM AIX [SPECint95]**	**Microsoft Windows NT (Intel) [SPECint95]**	**SUN Solaris [SPECint95]**
50	2	2	2
100	4	6	4
150	6	10	6
200	9	14	9
250	12	18	12

It is recommended to choose at least a CPU size in the light grey area. Eurex members should account for their private orders/quotes rates in addition.

Note: One slow MISS on a front-end can slow down the performance of the whole front-end connected to the same MISS group.

3.5.2.2 Physical Memory – MISS

The main memory required, which is provided in the next table, should be used as minimum recommendation. It is important that on MISSes paging should be avoided as much as possible for maximum performance.

IBM AIX [MByte]	Microsoft Windows NT (Intel) [MByte]	SUN Solaris [MByte]
96	96	96

3.5.2.3 Disk Space – MISS

Local disk space is required for each environment (production/simulation) of a MISS. The space must be provided on the disk where the corresponding MISS file tree is located. The following table shows the disk space recommendations for one environment (production or simulation). The Eurex member can select which reports he wants to be delivered via the network to the MISS, therefore the space requirements for the reports depend on the trading volume and the reports selected by the Eurex member. These are estimates for one trading day.

	IBM AIX [Mbyte]	Microsoft Windows NT (Intel) [MByte]	SUN Solaris [Mbyte]
MISS software	350	350	350
Swap area	500	500	500
Report files and internal files [per day]	200	200	200
Static data files	500	500	500

3.5.2.4 MISS to router LAN

The usage of a 10 Mbps Ethernet is recommended to connect the MISSes with their routers. Its load is less than the one on the workstation to MISS LAN as the traffic is less and compressed.

3.5.3 MISS running the Eurex Trading Application

The recommendations for CPU, memory and network are dependent on the activity on the machine. One instance of the Eurex Trading Application is running on the MISS. There are no workstations connected to the MISS. The configuration corresponds to the ones described in 2.5.1 Small Configuration, Normal Availability (A) and 2.5.2 Small Configuration, High Availability (B). The tables present the sizing recommendations for Eurex Release 4.

3.5.3.1 CPU

CPU load is caused by running the BESS processes, the Eurex Trading Application and the architecture services (GATE). The majority of the load on the MISS is generated by market activity (orders, quotes etc.).

The following table shows the CPU recommendations of the Eurex MISS software for each platform:

IBM AIX [SPECint95]	Microsoft Windows NT (Intel) [SPECint95]	SUN Solaris [SPECint95]
11	15	11

The table assumes that of the total market activity of 150 broadcasts per second the user visualizes only 30-50% in the trading application and enters no more than 3 orders/quotes per second.

3.5.3.2 Physical Memory

The main memory required, which is provided in the next table, should be used as minimum recommendation. It is important that excessive MISSes paging should be avoided in order to achieve maximum performance.

IBM AIX [MByte]	Microsoft Windows NT (Intel) [MByte]	SUN Solaris [MByte]
144	144	144

3.5.3.3 Disc Space

Local disk space is required for each MISS environment (production/simulation). The space must be provided on the disk where the corresponding MISS file tree is located. The following table shows the disk space recommendations for one environment (production or simulation). The Eurex member can select which reports he wants to be delivered via the network to the MISS, therefore the space requirements for the reports depend on the trading volume and the reports selected by the Eurex member. These estimates are for one trading day.

	IBM AIX [Mbyte]	Microsoft Windows NT (Intel) [MByte]	SUN Solaris [Mbyte]
MISS software	350	350	350
Swap area	750	750	750
Report files and internal files [per day]	200	200	200
Static data files	500	500	500
Internal data files [per day]	50	50	50

3.5.3.4 MISS to router LAN

See 3.5.2.4 MISS to router LAN.

3.5.4 MISS or Workstation running Clearing GUI (XTC)

A Workstation or MISS that is running the Eurex Clearing GUI (XTC) requires CPU and memory resources in addition to those resources listed in the other sections of chapter 3.5. XTC takes advantage of multiprocessor machines.

3.5.4.1 Physical Memory

Machines of Non Clearing Members (NCMs), Direct Clearing Members (DCMs) and General Clearing Members (GCMs) require **128 MBytes** of additional **physical memory** to run the Clearing GUI. This value is the same on MISS and Workstation. These are minimum requirements.

3.5.4.2 CPU Load

Running the Clearing GUI on MISS or Workstation requires **8 additional SPECint95** on machines of **DCMs and NCMs** and **12 additional SPECint95** on machines of **GCMs.** These are minimum requirements.

3.6 Sizing Information – Xetra

3.6.1 Workstation

3.6.1.1 CPU – Workstation

CPU load is caused by running the Xetra Trading Application and architecture services (GATE). The majority of the load on the workstations is generated by market activity (e.g. order market overview updates).

Statistical data gathered from current Xetra operations shows that at peak times there are approximately 10 to 15 broadcasts per second sent out to the front-ends by the Xetra back end. The duration of the peak can be more than one minute.

In addition to the public broadcasts, each workstation needs to handle the traffic generated by orders/quotes entered by the traders in the same group. One order/quote generates approximately 1.5 broadcasts on average. In the case of 5 orders/quotes per second this results in a total of 7.5 additional broadcasts per second.

The following table shows the CPU recommendations of the Xetra workstation software for each platform:

Visualized broadcasts per second to this machine (market activity)	**IBM AIX [SPECint95]**	**Microsoft Windows NT (Intel) [SPECint95]**	**SUN Solaris [SPECint95]**
5	0.9	1.1	0.9
7.5	1.0	1.4	1.0
10	1.1	1.6	1.1
15	1.4	2.1	1.4
20	1.9	2.6	1.9
25	2.5	2.9	2.5

If 30-50% of the market activity is visualized in the trading application, it is recommended to choose at least a CPU size in the light grey area. Xetra members should account for their private orders/quotes rates in addition.

Note: One slow workstation on a front-end can slow down the performance of the whole front-end connected to the same MISS group.

3.6.1.2 Physical Memory – Workstation

The main memory required for Xetra, which is provided in the next table, should be used as minimum recommendation. It is important that on workstations paging should be avoided as much as possible for maximum performance.

IBM AIX [MByte]	**Microsoft Windows NT (Intel) [MByte]**	**SUN Solaris [MByte]**
96	96	96

3.6.1.3 Disk Space – Workstation

Local disk space is required for each environment (production/simulation) of a workstation. The space must be provided on the disk where the corresponding workstation file tree is located. The following table shows the disk space recommendations for one environment (production or simulation).

	IBM AIX [Mbyte]	**Microsoft Windows NT (Intel) [MByte]**	**SUN Solaris [MByte]**
Workstation software	150	150	150
Swap area	500	500	500
Internal data files [per day]	50	50	50

3.6.1.4 Workstation to MISS LAN

The following table shows the usage of the workstations to MISS LAN. The left column displays the maximum broadcast rate received by the workstations that are connected to a MISS group.

Broadcasts per second to this machine (market activity)	**Usage of 10 Mbps Ethernet [%]**
5	0.6
10	1.2
15	1.8
20	2.4
25	3

3.6.2 MISS

The recommendations for CPU, memory and network are dependent on the activity on the machine. No instance of the Xetra Trading Application is running on the MISS. The tables present the sizing recommendations for Xetra Release 4.

3.6.2.1 CPU – MISS

CPU load is caused by running the BESS processes and the architecture services (GATE). The majority of the load on the MISSes is generated by market activity (orders, quotes etc.).

Statistical data gathered from current Xetra operations shows that at peak times there are approximately 10 to 15 broadcasts per second sent out to the front-ends by the Xetra back end. The duration of the peak can be more than one minute.). In addition to the public broadcasts, each MISS needs to handle the traffic generated by orders/quotes entered by the traders connected to it. One order/quote generates approximately 1.5 broadcasts on average. In the case of 5 orders/quotes per second this results in a total of 7.5 additional broadcasts per second.

The following table shows the CPU recommendations of the Xetra MISS software for each platform:

Broadcasts per second to this machine (market activity)	**IBM AIX [SPECint95]**	**Microsoft Windows NT (Intel) [SPECint95]**	**SUN Solaris [SPECint95]**
5	0.4	0.5	0.4
10	0.6	0.9	0.6
15	0.8	1.3	0.8
20	1.1	1.7	1.1
25	1.4	2.1	1.4

It is recommended to choose at least a CPU size in the light grey area. Xetra members should account for their private orders/quotes rates in addition.

Note: One slow MISS on a front-end can slow down the performance of the whole front-end connected to the same MISS group.

3.6.2.2 Physical Memory – MISS

The main memory required, which is provided in the next table, should be used as minimum recommendation. It is important that on excessive MISSes paging should be avoided in order to achieve maximum performance.

IBM AIX [MByte]	**Microsoft Windows NT (Intel) [MByte]**	**SUN Solaris [Mbyte]**
96	96	96

3.6.2.3 Disk Space – MISS

Local disk space is required for each environment (production/simulation) of a MISS. The space must be provided on the disk where the corresponding MISS file tree is located. The following table shows the disk space recommendations for one environment (production or simulation). The Xetra member can select which reports he wants to be delivered via the network to the MISS, therefore the space requirements for the reports depend on the trading volume and the reports selected by the Xetra member. These are estimates for one trading day.

	IBM AIX [Mbyte]	Microsoft Windows NT (Intel) [MByte]	SUN Solaris [Mbyte]
MISS software	350	350	350
Swap area	500	500	500
Report files and internal files [per day]	200	200	200
Static data files	500	500	500

3.6.2.4 MISS to router LAN

The usage of a 10 Mbps Ethernet is recommended to connect the MISSes with their routers. Its load is less than the one on the workstation to MISS LAN as the traffic is less and compressed.

3.6.3 MISS running the Xetra Trading Application

The recommendations for CPU, memory and network are dependent on the activity on the machine. One instance of the Xetra Trading Application is running on the MISS. There are no workstations connected to the MISS. The configuration corresponds to the ones described in 2.5.1 Small Configuration, Normal Availability (A) and 2.5.2 Small Configuration, High Availability (B). The tables present the sizing recommendations for Xetra Release 4.

3.6.3.1 CPU

CPU load is caused by running the BESS processes, the Xetra Trading Application and the architecture services (GATE). The majority of the load on the MISS is generated by market activity (orders, quotes etc.).

The following table shows the CPU recommendations of the Xetra MISS software for each platform:

IBM AIX [SPECint95]	Microsoft Windows NT (Intel) [SPECint95]	SUN Solaris [SPECint95]
1.2	1.6	1.2

The table assumes that of a total market activity of 15 broadcasts per second the user visualizes only 30-50% in the trading application and enters no more than 3 orders/quotes per second.

3.6.3.2 Physical Memory

The main memory required, which is provided in the next table, should be used as minimum recommendation. It is important that on MISSes paging should be avoided as much as possible for maximum performance.

IBM AIX [MByte]	Microsoft Windows NT (Intel) [MByte]	SUN Solaris [Mbyte]
144	144	144

3.6.3.3 Disc Space

Local disk space is required for each MISS environment (production/simulation). The space must be provided on the disk where the corresponding MISS file tree is located. The following table shows the disk space recommendations for one environment (production or simulation). The Xetra member can select which reports he wants to be delivered via the network to the MISS, therefore the space requirements for the reports depend on the trading volume and the reports selected by the Xetra member. These are estimates for one trading day.

	IBM AIX [Mbyte]	Microsoft Windows NT (Intel) [MByte]	SUN Solaris [Mbyte]
MISS software	350	350	350
Swap area	750	750	750
Report files and internal files [per day]	200	200	200
Static data files	500	500	500
Internal data files [per day]	50	50	50

3.6.3.4 MISS to router LAN

See 3.6.2.4 MISS to router LAN.

3.6.3.5 Warrant Trading (CAQ) – Sizing for Issuers MISS

With the introduction of Release 4.0, The continous auction trading model will be realized for eletronic warrant trading on Xetra. The functionality required for the limit surveillance is integrated in the Xetra MISS software. The limit surveillance functionality checks the public quotes and auction quotes entered by the issuers for potential executability through a query of the order book situation (cf. Market Model Warrants).

This chapter provides sizing recommendations on the basis of the Xetra Release 4.0 software version. We reserve the right to adjust these recommendations on the grounds of future test results. From these sizing guidelines, necessary technical capacities (SPECint95, memory, necessary hard disk space) of MISS computers are derived from a given information load (quotes per second).

The stated figures only apply for the issuers limit control requirements. For determination of the necessary hardware sizing the following factors which influence the utilization of the system have to be considered:

- Quoting rate on issuer´s MISS
- Other activities (e.g. order entries)
- Inhouse applications and/or third-party applications

The recommended figures need to be considered in conjunction with the figures of the general sizing guideline recommendations which can be evaluated using this document.

3.6.3.5.1 CPU requirements

Quotes per second	**IBM AIX [SPECint95]**	**Microsoft Windows NT (Intel) [SPECint95]**	**SUN Solaris [SPECint95]**
50	3.2	2.4	1.4
100	5.7	5.2	3.2
150	8.1	8.0	5.0
200	10.7	10.9	6.7

Please note that the hard disk subsystem used under the respective system and the network interface may influence the obtainable quoting rate.

3.6.3.5.2 Memory usage

Surveillance control on the issuers MISS requires approx. 60 byte memory per traded warrant.

Example: Active quoting for approx. 1000 warrant trades requires approx. 64 k memory.

3.6.3.5.3 Hard Disk Space

Each public quote, which is written in a file on the issuers MISS requires approx. 45 byte, each auction quote requires approx. 70 byte.

Example: the issuer quotes for the duration of 8 hours with a frequency of 50 quotes/second (public quotes), and each of these quotes is written in the file:

50 Quotes/sec * 45 bytes = 2250 bytes/sec = 8,1 MB/h = 64,8 MB/d,

i. e. a daily disk space of 70 MB should be available.

Additional space for auction quotes is required.

3.7 Sizing Information – Xetra Vienna

3.7.1 Workstation

3.7.1.1 CPU – Workstation

CPU load is caused by running the Xetra Vienna Trading Application and architecture services (GATE). The majority of the load on the workstations is generated by market activity (e.g. order market overview updates).

Statistical data gathered from current Xetra Vienna operations shows that at peak times there are approximately 10 to 15 broadcasts per second sent out to the front-ends by the Xetra Vienna back end. The duration of the peak can be more than one minute.

In addition to the public broadcasts, each workstation needs to handle the traffic generated by orders/quotes entered by the traders in the same group. One order/quote generates approximately 1.5 broadcasts on average. In the case of 5 orders/quotes per second this results in a total of 7.5 additional broadcasts per second.

The following table shows the CPU recommendations of the Xetra Vienna workstation software for each platform:

Visualized broadcasts per second to this machine (market activity)	**IBM AIX [SPECint95]**	**Microsoft Windows NT (Intel) [SPECint95]**	**SUN Solaris [SPECint95]**
5	0.9	1.1	0.9
7.5	1.0	1.4	1.0
10	1.1	1.6	1.1
15	1.4	2.1	1.4
20	1.9	2.6	1.9
25	2.5	2.9	2.5

If 30-50% of the market activity is visualized in the trading application, it is recommended to choose at least a CPU size in the light grey area. Xetra Vienna members should account for their private orders/quotes rates in addition.

Note: One slow workstation on a front-end can slow down the performance of the whole front-end connected to the same MISS group.

3.7.1.2 Physical Memory – Workstation

The main memory required for Xetra Vienna, which is provided in the next table, should be used as minimum recommendation. It is important that on workstations paging should be avoided as much as possible for maximum performance.

IBM AIX [MByte]	**Microsoft Windows NT (Intel) [MByte]**	**SUN Solaris [MByte]**
96	96	96

3.7.1.3 Disk Space – Workstation

Local disk space is required for each environment (production/simulation) of a workstation. The space must be provided on the disk where the corresponding workstation file tree is located. The following table shows the disk space recommendations for one environment (production or simulation).

	IBM AIX [Mbyte]	**Microsoft Windows NT (Intel) [MByte]**	**SUN Solaris [MByte]**
Workstation software	150	150	150
Swap area	500	500	500
Internal data files [per day]	50	50	50

3.7.1.4 Workstation to MISS LAN

The following table shows the usage of the workstations to MISS LAN. The left column displays the maximum broadcast rate received by the workstations that are connected to a MISS group.

Broadcasts per second to this machine (market activity)	**Usage of 10 Mbps Ethernet [%]**
5	0.6
10	1.2
15	1.8
20	2.4
25	3

3.7.2 MISS

The recommendations for CPU, memory and network are dependent on the activity on the machine. No instance of the Xetra Vienna Trading Application is running on the MISS. The tables present the sizing recommendations for Xetra Vienna Release 4.

3.7.2.1 CPU – MISS

CPU load is caused by running the BESS processes and the architecture services (GATE). The majority of the load on the MISSes is generated by market activity (orders, quotes etc.).

Statistical data gathered from current Xetra Vienna operations shows that at peak times there are approximately 10 to 15 broadcasts per second sent out to the front-ends by the Xetra Vienna back end. The duration of the peak can be more than one minute.). In addition to the public broadcasts, each MISS needs to handle the traffic generated by orders/quotes entered by the traders connected to it. One order/quote generates approximately 1.5 broadcasts on average. In the case of 5 orders/quotes per second this results in a total of 7.5 additional broadcasts per second.

The following table shows the CPU recommendations of the Xetra Vienna MISS software for each platform:

Broadcasts per second to this machine (market activity)	**IBM AIX [SPECint95]**	**Microsoft Windows NT (Intel) [SPECint95]**	**SUN Solaris [SPECint95]**
5	0.4	0.5	0.4
10	0.6	0.9	0.6
15	0.8	1.3	0.8
20	1.1	1.7	1.1
25	1.4	2.1	1.4

It is recommended to choose at least a CPU size in the light grey area. Xetra Vienna members should account for their private orders/quotes rates in addition.

Note: One slow MISS on a front-end can slow down the performance of the whole front-end connected to the same MISS group.

3.7.2.2 Physical Memory – MISS

The main memory required, which is provided in the next table, should be used as minimum recommendation. It is important that on MISSes paging should be avoided as much as possible for maximum performance.

IBM AIX [MByte]	**Microsoft Windows NT (Intel) [MByte]**	**SUN Solaris [Mbyte]**
96	96	96

3.7.2.3 Disk Space – MISS

Local disk space is required for each environment (production/simulation) of a MISS. The space must be provided on the disk where the corresponding MISS file tree is located. The following table shows the disk space recommendations for one environment (production or simulation). The Xetra Vienna member can select which reports he wants to be delivered via the network to the MISS, therefore the space requirements for the reports depend on the trading volume and the reports selected by the Xetra Vienna member. These are estimates for one trading day.

	IBM AIX [Mbyte]	Microsoft Windows NT (Intel) [MByte]	SUN Solaris [Mbyte]
MISS software	350	350	350
Swap area	500	500	500
Report files and internal files [per day]	200	200	200
Static data files	500	500	500

3.7.2.4 MISS to router LAN

The usage of a 10 Mbps Ethernet is recommended to connect the MISSes with their routers. Its load is less than the one on the workstation to MISS LAN as the traffic is less and compressed.

3.7.3 MISS running the Xetra Trading Application

The recommendations for CPU, memory and network are dependent on the activity on the machine. One instance of the Xetra Vienna Trading Application is running on the MISS. There are no workstations connected to the MISS. The configuration corresponds to the ones described in 2.5.1 Small Configuration, Normal Availability (A) and 2.5.2 Small Configuration, High Availability (B). The tables present the sizing recommendations for Xetra Vienna.

3.7.3.1 CPU

CPU load is caused by running the BESS processes, the Xetra Vienna Trading Application and the architecture services (GATE). The majority of the load on the MISS is generated by market activity (orders, quotes etc.).

The following table shows the CPU recommendations of the Xetra Vienna MISS software for each platform:

IBM AIX [SPECint95]	Microsoft Windows NT (Intel) [SPECint95]	SUN Solaris [SPECint95]
1.2	1.6	1.2

The table assumes that of a total market activity of 15 broadcast per second the user visualizes only 30-50% in the trading application and enters no more than 3 orders/quotes per second.

3.7.3.2 Physical Memory

The main memory required, which is provided in the next table, should be used as minimum recommendation. It is important that excessive MISSes paging should be avoided in order to achieve maximum performance.

IBM AIX [MByte]	Microsoft Windows NT (Intel) [MByte]	SUN Solaris [Mbyte]
144	144	144

3.7.3.3 Disc Space

Local disk space is required for each MISS environment (production/simulation). The space must be provided on the disk where the corresponding MISS file tree is located. The following table shows the disk space recommendations for one environment (production or simulation). The Xetra Vienna member can select which reports he wants to be delivered via the network to the MISS, therefore the space requirements for the reports depend on the trading volume and the reports selected by the Xetra Vienna member. These are estimates for one trading day.

	IBM AIX [Mbyte]	Microsoft Windows NT (Intel) [MByte]	SUN Solaris [Mbyte]
MISS software	350	350	350
Swap area	750	750	750
Report files and internal files [per day]	200	200	200
Static data files	500	500	500
Internal data files [per day]	50	50	50

3.7.3.4 MISS to router LAN

See 3.6.2.4 MISS to router LAN.

3.8 Sizing Examples

This section contains examples, how to size the platforms for various combination of trading software. Only a few of all possible combinations of services are listed.

3.8.1 Eurex only

Workstation running Eurex®- Market (Production) visualize 50% of a supposed total market activity of 150 broadcasts per second (= 75 broadcasts per second) + 10 orders per second from all workstations in the same group (= 25 broadcasts per second) = 100 broadcasts per second:

IBM AIX and Sun Solaris

CPU Load (SPECint95)		Physical Memory (Mbyte)		Disk Space (Mbyte)	
General Load	2	General Load	32	Eurex requirement	850
Market Activity + own orders	9	Eurex requirement	96		
total	11	total	128	total	850

Microsoft WindowsNT

CPU Load (SPECint95)		Physical Memory (Mbyte)		Disk Space (Mbyte)	
General Load	3	General Load	32	Eurex requirement	850
Market Activity + own orders	13	Eurex requirement	96		
total	16	total	128	total	850

Workstation running XTC (only NCM or DCM). The XTC software is included in the Eurex installation. Disk space requirement is therefor the same as for Eurex.

IBM AIX and Sun Solaris

CPU Load (SPECint95)		Physical Memory (Mbyte)		Disk Space (Mbyte)	
General Load	2	General Load	32	Eurex requirement	850
Market Activity + own orders	8	Eurex requirement	128		
total	10	total	160	total	850

Microsoft WindowsNT

CPU Load (SPECint95)		Physical Memory (Mbyte)		Disk Space (Mbyte)	
General Load	3	General Load	32	Eurex requirement	850
Market Activity + own orders	8	XTC requirement	128		
total	11	total	160	total	850

MISS running Eurex®- Market (Production) with 150 broadcasts per second (No instance of the Eurex® trading application is running). The Member generates of 10 own orders per second wich causes the MISS to transport aproximately 25 additional broadcasts per second. The value of 175 broadcasts per second is not contained in the table. We have to interpolate between 150 and 200 broadcasts per second.

IBM AIX and Sun Solaris

CPU Load (SPECint95)		Physical Memory (Mbyte)		Disk Space (Mbyte)	
General Load	2	General Load	32	Eurex requirement	1550
Market Activity + own orders	7.5	Eurex requirement	96		
total	9.5	total	128	total	1550

Microsoft WindowsNT

CPU Load (SPECint95)		Physical Memory (Mbyte)		Disk Space (Mbyte)	
General Load	3	General Load	32	Eurex requirement	1550
Market Activity + own orders	12	Eurex requirement	96		
total	15	total	128	total	1550

3.8.2 Xetra only

Workstation running Xetra®-Market (Production) visualize 50% of a supposed total market activity of 15 broadcasts per second (= 7.5 broadcasts per second) + 3 orders per second from all workstations in the same group (= 5 broadcasts per second) = 12.5 broadcasts per second. Since the value of 12.5 broadcasts per second is not contained in the table, we have to interpolate between 10 and 15 broadcasts per second.

IBM AIX and Sun Solaris

CPU Load (SPECint95)		Physical Memory (Mbyte)		Disk Space (Mbyte)	
General Load	2	General Load	32	Xetra requirement	700
Market Activity + own orders	1.25	Xetra requirement	96		
total	3.25	total	128	total	700

Microsoft WindowsNT

CPU Load (SPECint95)		Physical Memory (Mbyte)		Disk Space (Mbyte)	
General Load	3	General Load	32	Xetra requirement	700
Market Activity + own orders	1.85	Xetra requirement	96		
total	4.85	total	128	total	700

Workstation running Xetra®-Market (Production) visualize 100% of a supposed total market activity of 15 broadcasts per second + 3 orders per second from all workstations in the same group (= 5 broadcasts per second) = 20 broadcasts per second.

IBM AIX and Sun Solaris

CPU Load (SPECint95)		Physical Memory (Mbyte)		Disk Space (Mbyte)	
General Load	2	General Load	32	Xetra requirement	700
Market Activity + own orders	1.9	Xetra requirement	96		
total	3.9	total	128	total	700

Microsoft WindowsNT

CPU Load (SPECint95)		Physical Memory (Mbyte)		Disk Space (Mbyte)	
General Load	3	General Load	32	Xetra requirement	700
Market Activity + own orders	2.6	Xetra requirement	96		
total	5.6	total	128	total	700

MISS running Xetra®- Market (Production) with 15 broadcasts per second (No instance of the Xetra® trading application is running). The Member generates 3 own orders per second wich causes the MISS to transport aproximately 5 additional broadcasts per second. (total = 20 broadcasts per second)

IBM AIX and Sun Solaris

CPU Load (SPECint95)		Physical Memory (Mbyte)		Disk Space (Mbyte)	
General Load	2	General Load	32	Xetra requirement	1550
Market Activity + own orders	1.1	Xetra requirement	96		
total	3.1	total	128	total	1550

Microsoft WindowsNT

CPU Load (SPECint95)		Physical Memory (Mbyte)		Disk Space (Mbyte)	
General Load	3	General Load	32	Xetra requirement	1550
Market Activity + own orders	1.7	Xetra requirement	96		
total	4.7	total	128	total	1550

3.8.3 Xetra and Xetra Vienna

Workstation running Xetra®-Market (Production) visualize 50% of a supposed total market activity of 15 broadcasts per second (= 7.5 broadcasts per second) + 3 orders per second from all workstations in the same group (= 5 broadcasts per second) = 12.5 broadcasts per second. Since the value of 12.5 broadcasts per second is not contained in the table, we have to interpolate between 10 and 15 broadcasts per second.

Workstation running also Xetra Vienna®-Market (Production) visualize 50% of a supposed total market activity of 15 broadcasts per second (= 7.5 broadcasts per second) + 3 orders per second from all workstations in the same group (= 5 broadcasts per second) = 12.5 broadcasts per second. Since the value of 12.5 broadcasts per second is not contained in the table, we have to interpolate between 10 and 15 broadcasts per second.

IBM AIX and Sun Solaris

CPU Load (SPECint95)		Physical Memory (Mbyte)		Disk Space (Mbyte)	
General Load	2	General Load	32	Xetra requirement	700
Market Activity + own orders Xetra	1.25	Xetra requirement	96	Xetra Vienna requirement	700
Market Activity + own orders Xetra	1.25	Xetra Vienna requirement	96		
total	4.5	total	224	total	1400

Microsoft WindowsNT

CPU Load (SPECint95)		Physical Memory (Mbyte)		Disk Space (Mbyte)	
General Load	3	General Load	32	Xetra requirement	700
Market Activity + own orders Xetra	1.85	Xetra requirement	96	Xetra Vienna requirement	700
Market Activity + own orders Xetra	1.85	Xetra Vienna requirement	96		
total	6.7	total	224	total	1400

MISS running Xetra®-Market (Production) with 15 broadcasts per second (No instance of the Xetra® trading application is running). The Member generates 3 own orders per second wich causes the MISS to transport aproximately 5 additional broadcasts per second. (total = 20 Broadcasts per second)

MISS running also Xetra Vienna®-Market (Production) with 15 broadcasts per second (No instance of the Xetra® trading application is running). The Member generates 3 own orders per second wich causes the MISS to transport aproximately 5 additional broadcasts per second. (total = 20 Broadcasts per second)

IBM AIX and Sun Solaris

CPU Load (SPECint95)		Physical Memory (Mbyte)		Disk Space (Mbyte)	
General Load	2	General Load	32	Xetra requirement	1550
Market Activity + own orders Xetra	1.1	Xetra requirement	96	Xetra Vienna requirement	1550
Market Activity + own orders Xetra Vienna	1.1	Xetra Vienna requirement	96		
total	4.2	total	224	total	3100

Microsoft WindowsNT

CPU Load (SPECint95)		Physical Memory (Mbyte)		Disk Space (Mbyte)	
General Load	3	General Load	32	Xetra requirement	1550
Market Activity + own orders Xetra	1.7	Xetra requirement	96	Xetra Vienna requirement	1550
Market Activity + own orders Xetra Vienna	1.7	Xetra Vienna requirement	96		
total	6.4	total	224	total	3100

4 APPENDIX

4.1 Supported Software Configurations

4.1.1 Detailed Requirement Specification

4.1.1.1 Operating System

The next tables show the software versions and patches supported for the front-end configuration. The PAL (Portable Abstraction Layer) run time library required by the front-end architecture or GUI as well as a Perl interpreter required for the operations procedures are contained in the installation kits for the MISS and workstation software.

Workstation and MISS Software	IBM AIX	Microsoft Windows NT (Intel)	SUN Solaris
Operating System	AIX 4.3.2 (English version)	MS Windows NT (Intel) Workstation 4.0 (English version)	Solaris 2.6 (English version)

4.1.1.2 Patch levels for IBM AIX

Based on the IBM AIX Release 4.3.2 no additional patches are required.

4.1.1.3 Patch levels for SUN Solaris

The supported version of the Sun Solaris operating system is version 2.6 HW5/98 with the following patches (or higher versions) installed additionally:

Package	Patch ID#
SunOS 5.6: kernel update patch	105181-17
SunOS 5.6: libc & watchmalloc patch	105210-25
SunOS 5.6: /usr/sbin/rpcbind patch	105216-03
SunOS 5.6: sbus driver patch	105222-03
SunOS 5.6: pln/soc drivers & ssafirmware patch	105223-05
Motif 1.2.7: Runtime library patch	105284-31
SunOS 5.6: /kernel/drv/ssd patch	105356-07
SunOS 5.6: /kernel/drv/ses patch	105357-02
SunOS 5.6: BCP patch	105377-03
SunOS 5.6: /kernel/misc/nfssrv patch	105379-05
SunOS 5.6: SGML Manual Pages Patch	105390-02
SunOS 5.6: at & cron utility patch	105393-07
SunOS 5.6: /usr/lib/sendmail patch	105395-03
SunOS 5.6: /usr/sbin/passmgmt patch	105397-02

SunOS 5.6: Greek keyboard layout incorrect on Sparc	105400-02
SunOS 5.6: libnsl and NIS+ commands patch	105401-16
SunOS 5.6: ypbind/ypserv patch	105403-02
SunOS 5.6: libcurses.a & libcurses.so.1 patch	105405-02
SunOS 5.6: /usr/bin/volrmmount patch	105407-01
SunOS 5.6: /usr/lib/acct/acctdisk patch	105416-01
SunOS 5.6: /etc/init.d/asppp patch	105421-01
SunOS 5.6: /usr/lib/libtnfprobe.so.1 patch	105426-01
SunOS 5.6: /usr/lib/autofs/automountd patch	105472-06
SunOS 5.6: /kernel/fs/hsfs patch	105486-04
SunOS 5.6: linker patch	105490-07
SunOS 5.6: cgsix driver patch	105492-02
SunOS 5.6: /usr/lib/fs/ufs/fsck patch	105516-01
SunOS 5.6: /kernel/drv/be patch	105528-01
SunOS 5.6: /kernel/drv/tcp patch	105529-05
SunOS 5.6: /usr/sbin/rpc.nisd_resolv patch	105552-02
SunOS 5.6: chkey and keylogin patch	105562-03
SunOS 5.6: /kernel/misc/rpcsec patch	105564-03
SunOS 5.6: /usr/lib/libthread.so.1 patch	105568-14
SunOS 5.6: /kernel/fs/ufs patch	105572-07
SunOS 5.6: /kernel/drv/glm patch	105580-08
SunOS 5.6: Shared library patch for C++	105591-02
SunOS 5.6: /kernel/drv/isp patch	105600-07
SunOS 5.6: ebus/pci/rootnex driver patch	105604-05
SunOS 5.6: /usr/lib/nfs/mountd patch	105615-04
SunOS 5.6: libbsm patch	105621-09
SunOS 5.6: /usr/bin/fncreate_printer patch	105623-01
SunOS 5.6: OpenWindows 3.6:Xsun patch	105633-30
SunOS 5.6: /usr/lib/power/powerd patch	105637-01
SunOS 5.6: prtdiag patch	105642-05
SunOS 5.6: ac/environ/fhc/sysctrl driver patch	105651-08
SunOS 5.6: driver_aliases/driver_classes/name_to_major patch	105654-03
SunOS 5.6: /usr/bin/login patch	105665-03
SunOS 5.6: /usr/bin/rdist patch	105667-02
CDE 1.2: libDtSvc Patch	105669-09

SunOS 5.6: Cachefs patch	105693-05
SunOS 5.6: /usr/kernel/drv/audiocs patch	105705-02
SunOS 5.6: /usr/bin/su patch	105718-02
SunOS 5.6: /kernel/fs/nfs patch	105720-06
SunOS 5.6: /usr/lib/fs/ufs/ufsdump patch	105722-01
SunOS 5.6: /usr/lib/fs/ufs/ufsrestore patch	105724-01
SunOS 5.6: /kernel/drv/ecpp patch	105741-05
SunOS 5.6: /kernel/drv/le patch	105742-03
SunOS 5.6: /usr/lib/libxfn.so.2 patch	105743-01
SunOS 5.6: /usr/bin/cpio patch	105746-01
SunOS 5.6: libresolv, in.named, named-xfer, nslookup, nstest patch	105755-07
SunOS 5.6: /usr/bin/echo patch	105757-01
SunOS 5.6: /kernel/fs/specfs patch	105778-01
SunOS 5.6: /kernel/fs/fifofs patch	105780-01
SunOS 5.6: /kernel/drv/ip patch	105786-07
SunOS 5.6: /usr/sbin/tar patch	105792-03
SunOS 5.6: /kernel/drv/hme patch	105795-05
SunOS 5.6: /kernel/drv/sd patch	105797-05
SunOS 5.6: sun4m, sun4u & sun4u1 cprboot patch	105798-03
SunOS 5.6: /usr/bin/admintool, y2000 patch	105800-05
SunOS 5.6: /kernel/drv/qe patch	105836-03
SunOS 5.6: /kernel/drv/st.conf patch	105847-01
SunOS 5.6: /usr/sbin/tapes patch	105867-01
SunOS 5.6: libspmisoft.so.1 patch for upgrade	105874-01
SunOS 5.6: devlink.tab/iu.ap/minor_perm & se driver patch	105924-05
SunOS 5.6: /usr/sbin/static/tar patch	105926-01
SunOS 5.6: /usr/bin/xargs patch	105953-01
SunOS 5.6: /usr/kernel/strmod/ppp patch	105959-01
SunOS 5.6: /usr/sbin/rwall patch	105988-01
SunOS 5.6: vi/ex/edit/view/vedit patch	105990-01
SunOS 5.6: POINT PATCH: 4074114 - bugfix for /kernel/strmod/ms	106017-01
SunOS 5.6: /usr/ccs/bin/make patch	106029-01
SunOS 5.6: /usr/bin/getopt patch	106035-01
SunOS 5.6: X Input & Output Method patch	106040-13
SunOS 5.6: /usr/lib/nss_nisplus.so.1 patch	106044-01

SunOS 5.6: /usr/sbin/in.telnetd patch	106049-01
SunOS 5.6: sgml patch	106123-02
SunOS 5.6: Patch for patchadd and patchrm	106125-05
SunOS 5.6: /usr/bin/mkdir patch	106141-01
SunOS 5.6: in.dhcpd and pntadm patch	106150-02
SunOS 5.6: Jumpstart install fails searching for profile()	106152-01
SunOS 5.6 HW398: Jumpstart install fails searching for profile()	106154-01
SunOS 5.6: dma driver patch	106168-02
SunOS 5.6: sbusmem driver patch	106169-02
SunOS 5.6: /kernel/drv/esp patch	106170-03
SunOS 5.6: /kernel/drv/lebuffer patch	106171-01
SunOS 5.6: /kernel/drv/fas patch	106172-04
SunOS 5.6: /kernel/misc/scsi patch	106173-03
SunOS 5.6: cfgadm utility & libraries	106183-04
SunOS 5.6: y2000 sysid unzip patch	106193-03
SunOS 5.6: /platform/sun4u/kernel/drv/envctrl patch	106216-02
SunOS 5.6: luxadm.1m Manual Page Patch	106219-02
SunOS 5.6: /usr/sbin/format patch	106226-01
SunOS 5.6: lp patch	106235-02
SunOS 5.6: /usr/lib/libpam.so.1 patch	106257-04
SunOS 5.6: Manual Pages Patch for ffbconfig.1m	106260-01
SunOS 5.6: Manual Pages Patch cfgadm.1m config_admin.3x libcfgadm.4	106261-01
SunOS 5.6: Manual Pages Patch for qfe.7d	106262-01
SunOS 5.6: /usr/lib/security/pam_unix.so.1 patch	106271-04
SunOS 5.6: /kernel/sys/msgsys patch	106285-01
SunOS 5.6: pkgadd/pkginstall & related utilities	106292-02
SunOS 5.6: /usr/sbin/in.ftpd patch	106301-01
SunOS 5.6: /usr/lib/netsvc/yp/rpc.yppasswdd patch	106303-01
SunOS 5.6: upgrade_script terminated abnormally during upgrade	106317-01
SunOS 5.6: /etc/inet/services patch	106323-01
SunOS 5.6: csh/jsh/ksh/rksh/rsh/sh patch	106361-04
SunOS 5.6: /platform/sun4u1/kernel/drv/cvc patch	106381-03
SunOS 5.6: /usr/bin/localedef patch	106388-01
SunOS 5.6: patch for ide and atapi misc. fixes	106407-03
SunOS 5.6: Fixes the Chinese True Type fonts	106409-01

SunOS 5.6: /kernel/drv/mm patch	106429-01
SunOS 5.6: /usr/kernel/drv/pm patch	106435-01
SunOS 5.6: /usr/sbin/syslogd patch	106439-02
SunOS 5.6: /usr/sbin/ping patch	106448-01
SunOS 5.6: /usr/sbin/df & /usr/xpg4/bin/df patch	106466-01
SunOS 5.6: /kernel/fs/autofs patch	106471-01
SunOS 5.6: truss & truss support library patch	106495-01
SunOS 5.6: Manual Pages Patch for ldap	106497-01
SunOS 5.6: /platform/SUNW,Ultra-250/kernel/drv/envctrltwo patch	106504-01
SunOS 5.6: /usr/bin/cat patch	106507-01
SunOS 5.6: /usr/bin/ftp patch	106522-01
SunOS 5.6: bad iso-2022-cn string cause crash in iconv problem	106556-01
SunOS 5.6: /usr/sbin/aspppd patch	106561-01
SunOS 5.6: libauth.a & libauth.so.1 patch	106569-01
SunOS 5.6: /usr/lib/nfs/statd patch	106592-01
SunOS 5.6: Japanese UTF-8 iconv patch	106613-01
SunOS 5.6: bad iso-2022-cn string cause crash in iconv problem	106618-01
SunOS 5.6: /kernel/strmod/rpcmod patch	106639-02
SunOS 5.6: /usr/lib/fs/nfs/mount patch	106641-01
SunOS 5.x: rpc.pcnfsd accepting "." as printer name fix	106646-01
SunOS 5.6: /usr/lib/netsvc/rstat/rpc.rstatd patch	106651-01
SunOS 5.6: /usr/lib/sa/sadc patch	106653-01
SunOS 5.6: iostat/mpstat/vmstat patch	106655-01
SunOS 5.6: /usr/lib/libposix4.so.1 patch	106797-01
SunOS 5.6: /usr/bin/dc patch	106808-01
SunOS 5.6: /usr/sbin/sar patch	106818-01
SunOS 5.6: /usr/bin/date patch	106828-01
SunOS 5.6: Feature patch for Euro currency support	106842-03
SunOS 5.6: /etc/cron.d/logchecker patch	106863-01
SunOS 5.6: /usr/lib/nfs/nfsd patch	106882-01
The PC Card are not recognized in Ultra5_10	106901-01
SunOS 5.6: /usr/sbin/uadmin patch	106929-01
SunOS 5.6: /usr/ucb/ucblinks patch	106994-01
SunOS 5.6: Ejecting a cdrom when still accessing causes panics	107068-01
SunOS 5.6: /usr/lib/fs/ufs/quota patch	107099-01

SunOS 5.6: ssJDK1.2.1_03 fails with fatal error in ISO8859-01 Locales	108091-03
SunOS 5.6: multiple xterm fixes	105464-01
OpenWindows 3.6: printtool patch	105497-01
OpenWindows 3.6: Xcms patch	105618-01
OpenWindows 3.6: Xsun patch	105633-14
OpenWindows 3.6: ToolTalk patch	105802-07
OpenWindows 3.6: mp fails to set correct A4 paper size information	106138-01
OpenWindows 3.6: filemgr (ff.core) fixes	106222-01
OpenWindows 3.6: Xview Patch	106331-03
OpenWindows 3.6: libXext patch	106404-01
OpenWindows 3.6: w returns wrong login user number in xdm	106415-01
OpenWindows 3.6: libce suid/sgid security fix	106648-01
OpenWindows 3.6: libdeskset patch	106649-01
OpenWindows 3.6: mailtool attachment security patch	106650-03
OpenWindows 3.6: Keytables patch	106841-01
OpenWindows 3.6: fstobdf core dumps with 2-byte fonts	106957-01
CDE 1.2: dtterm libDtTerm.so.1 patch	105160-07
CDE 1.2: dtmail patch	105338-14
CDE 1.2: dtpad patch	105558-03
CDE 1.2: calendar manager patch	105566-05
CDE 1.2: libDtWidget patch	105630-01
CDE 1.2: dtwm patch	105634-05
CDE 1.2: dtlogin patch	105703-07
CDE 1.2: dtappgather Patch	105837-02
CDE 1.2 sdtfprop: patch for group permissions	106025-01
CDE 1.2 dtsession: patch for screenlock	106027-02
CDE 1.2: dtfile patch	106112-02
CDE 1.2: libDtHelp.so.1 fixes	106242-01
CDE 1.2: sdtimage fixes	106267-02
CDE 1.2: Print Manager Patch	106437-01
CDE 1.2: Actions patch	106660-02
Creator 2.6: FFB Graphics Patch	105360-20
VIS/XIL 2.6: Graphics Patch	105361-07
PGX 2.6: M64 Graphics Patch	105362-16

4.1.1.4 Patch levels for Windows NT (Intel)

The supported version of the Microsoft Windows NT (Intel platform) operating system is Version 4 Service Pack 5 with no additional patches installed.

4.2 Router

The table shows the recommended router.

Router Recommendations	Product Number	Product Name
Router for IP protocol support	Cisco2610 S26C-12.0.2 or higher WIC-1T CAB-X21MT	1 Ethernet Modular Router with Cisco IOS IP Software Cisco 2600 Series IOS IP 1-Port Serial WAN Interface Card X.21 Cable, DTE, Male, 10 Feet

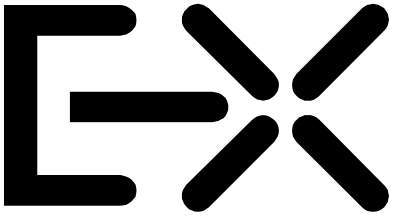
The router CISCO 2610 is the recommended router type because of its improved fail over functionality (HSRP, Hot Standby Routing Protocol).

The formerly recommended router CISCO Series 25nn and 36nn are also fully supported.

Router also supported	Product Number	Product Name
Router for IP protocol support	Cisco2501 S25C-11.3(6) *or higher* CAB-X21MT	Ethernet/Dual Serial Router Cisco 2500 Series IOS IP only Feature Set X.21 Cable, Male, 10 Feet
Router for IP protocol support	Cisco3620 S362C-11.3(6) *or higher* NM-1E2W WIC-1T CAB-X21MT	2-Slot Modular Router-AC Cisco 3620 Series IOS IP only Feature Set 1 Ethernet 2 WAN Card Slot Network Module 1-Port Serial WAN Interface Card X.21 Cable, Male, 10 Feet

CISCO Systems routers greater than Series 36nn are oversized (but allowed).

X-pand into the **Future**



Simulation Guide for Eurex Release 4.0

2nd May – 9th June 2000

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1. Introduction

This document is intended to give Eurex Members guidelines on the Eurex Release 4.0 Simulation to be performed from 2nd May – 9th June 2000 in the simulation environment of the Eurex System, advising members on preparation, test and reporting activities.

It is directed to all Eurex Members' Central Co-ordinators, System Administrators, Traders and back office staff who will be involved in the simulation.

2. Objectives

The Eurex Release 4.0 Simulation will be performed in order to ensure a smooth transition from Eurex Release 3.0 to Eurex Release 4.0 (Production start will be 26.06.2000). It therefore has the following objectives:

- Enable members to become familiar with new Eurex clearing GUI
- Support 3rd party software readiness interfacing to Eurex Release 4.0
- Test new Eurex Release 4.0 functionality (e.g. extended Give up/ Take up functionality)
  Details on new functionality can be found in the Functional Release Notes

3. Participation

All members are advised to take part in the simulation. The simulation is strongly recommended for all Clearing Members especially for the new clearing functionalities that are introduced with Eurex 4.0.

4. Registration

All members were asked to send a simulation registration by 7th April 2000 using the fax reply attached to circular 026/00. If you have not registered so far, please do so as soon as possible.

5. Kit Distribution

The Simulation Kit Software for UD and MISS based architectures will be distributed to members on 25th April 2000 and will be transferred after trading. Please keep your installations ready for receipt. On 26th April 2000 please check that you have received all files.

Depending on each member's system platform, the following software kits will be distributed. Simulation kits will be provided for the chosen MISS hardware platform as well as for Windows/ NT.

		Compaq – OpenVMS	IBM – AIX	SUN - Solaris	Windows/ NT
Kits for UD based architecture	UD-Kit	X	X		
	SAT-Kit	X	X		
Kits for MISS based architecture*	Eurex 4.0 Kit		X	X	X
	Gate 2.0 Kit		X	X	X

Disk Space Requirements - The following table shows the necessary disk space for the installation kits:

Platform	Disk Space Required
Sun Solaris (MISS)*	120 MB
IBM AIX (MISS)*	120 MB
Intel Windows NT (MISS)	50 MB
IBM AIX (UD)	70 MB
Compaq/DEC OpenVMS (UD)	110 MB

*includes the disk space requirements for the respective platform and the NT kit

Attention:

In Simulation the rights for all traders to use screen A048 and the Clearing GUI will be set automatically and the functionalities are available. In Production these rights have to be set manually by the Security Co-ordinator.

6. Simulation Calendar

The release simulation for Eurex Release 4.0 will be performed from the 2nd May until 9th June according to the calendar below. All times are CET.

Members' positions at the start of Eurex Release 4.0 simulation will be the same as those at 7th April 2000 in the Eurex Release 3.0 simulation environment except OCNF.

After the introduction into production of the new release on 26th June 2000, a permanent simulation on Eurex 4.0 will be available.

On May 19th, between 11 am and 12 am, "No Data" broadcasts will be generated to ensure that third party applications of the members are able to handle these broadcasts.

"No data" broadcasts are generated in certain circumstances by the Exchange application with the purpose of filling gaps in the stream sequence. For further information see Member Front End Development Guide – Volume 2A, Page 59 and following.

Week 18	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Date	**01.05.00**	**02.05.00**	**03.05.00**	**04.05.00**	**05.05.00**	**06.05.00**	**07.05.00**
Simulation Date		25.05.00		30.05.00	30.05.00		
Trading Time	Closed	09:00-16:00	Batch-Review	09:00-24:00	00:00-12:00	Closed	Closed
Remarks		./.			Monthly End Processing		
		Batch 16:30			Batch 12:30		

Week 19	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Date	**08.05.00**	**09.05.00**	**10.05.00**	**11.05.00**	**12.05.00**	**13.05.00**	**14.05.00**
Simulation Date	02.06.00	08.06.00	08.06.00	09.06.00	12.06.00	12.06.00	12.06.00
					Batch Review		
Trading Time	09:00-16:00	12:00-24:00	00:00-12:00	09:00-16:00	15:00-24:00	00:00-24:00	00:00-24:00
Remarks	./.		Expiry FBND	./.	Simulation environment open during weekend	Simulation environment open during weekend	Simulation environment open during weekend
	Batch 16:30		Batch 12:30	Batch 16:30			

Week 20	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Date	**15.05.00**	**16.05.00**	**17.05.00**	**18.05.00**	**19.05.00**	**20.05.00**	**21.05.00**
Simulation Date	12.06.00	13.06.00		16.06.00	16.06.00		
Trading Time	00:00-12:00	09:00-16:00		09:00-24:00	00:00-12:00	Closed	Closed
Remarks	Delivery Day FBND(D)	Delivery Day FBND(CH)	Batch Review		Epiry OSTK/OINX/ FINX		
					Test of "No Data" mes-sages		
	Batch 12:30	Batch 16:30			Batch 12:30		

Week 21	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Date	**22.05.00**	**23.05.00**	**24.05.00**	**25.05.00**	**26.05.00**	**27.05.00**	**28.05.00**
Simulation Date	19.06.00	23.06.00	23.06.00		30.06.00		
Trading Time	09:00-16:00	12:00-24:00	00:00-12:00	Batch Review	09:00-16:00	Closed	Closed
Remarks	Expiry FINT/OFIT Batch 16:30		Expiry OFBD Batch 12:30		Monthly End Processing Batch 16:30		

Week 22	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Date	**29.05.00**	**30.05.00**	**31.05.00**	**01.06.00**	**02.06.00**	**03.06.00**	**04.06.00**
Simulation Date	**03.07.00**	**11.07.00**	**11.07.00**	**17.07.00**	**21.07.00**	**21.07.00**	**21.07.00**
Trading Time	09:00-16:00	12:00-24:00	00:00-12:00	09:00-16:00	Batch Review 15:00-24:00	00:00-24:00	00:00-24:00
Remarks	./. Batch 16:30		./. Batch 12:30	Expiry FINT Batch 16:30	Simulation environment open during weekend	Simulation environment open during weekend	Simulation environment open during weekend

Week 23	Mon	Tue	Wed	Thu	Fri
Date	**05.06.00**	**06.06.00**	**07.06.00**	**08.06.00**	**09.06.00**
Simulation Date	**21.07.00**	**21.07.00**	**24.07.00**		**31.07.00**
Trading Time	09:00-24:00	00:00-12:00	09:00-16:00	Batch Review	09:00-16:00
Remarks		Expiry OSTK/OINX Batch 12:30	Expiry OFBD Batch 16:30		Monthly End Processing Batch 16:30

Start Pre-Trading = 30 min before start Trading; start Post-Trading = end of Trading; end of Post Trading = 30 min after end of Trading

Batch Review: Please check all reports you receive after each batch run.

Note: The simulation will be completely unsupported from Fridays at 20:00 h to Mondays at 09:00 h.

7. Reporting

Eurex needs to gain an authentic status on the readiness of Members' installations. All simulation participants are kindly asked to report regularly on simulation activities and changes in the readiness status of their software applications.

For this, please make copies of the fax reply attached to this guide and send your updated status every Wednesday during the simulation, i.e.:

- 3rd May 2000
- 10th May 2000
- 17th May 2000
- 24th May 2000
- 31st May 2000
- 7th June 2000

To:

Eurex Functional Member Readiness Fax: +49 (0) 69-2101-1701

After a member has completed all relevant tests and reported full readiness, no further updates will be required under normal circumstances.

8. Related Documentation

For further information on the introduction of Eurex Release 4.0, please refer to the Eurex Circulars and documentation listed below. All Circulars and documents can be downloaded from the Internet at **http://www.eurexchange.com**. Circulars are contained in the password-protected section "Members/ Circulars/ Functional". Manuals can be downloaded from "Members/ Download/ Manuals". Documentation on Values API can be found in the Member Front End Development Guide at "Entrance Hall/ Access to Eurex/ Programming to Eurex".

Document	Topic	Date (1999)	Comment
Eurex Circular No. 103/99	Eurex Release 4.0	15.10.1999	Announcement of Release 4.0 Member Front End Development Guide (Planning Version)
Eurex Circular No. 123/99	Eurex Release 4.0 - Information	16.12.1999	R. 4.0 Preliminary Technical Release Notes R. 4.0 Preliminary Functional Release Notes Member Front End Development Guide (Programming Vers.) Release 4.0 Information Calendar and Milestones
Eurex Circular No. 010/00	System Software Upgrade for Eurex Release 4.0	10.02.2000	Supported Systems Software for R. 4.0 (Ignore reference for Compaq AXP MISS)
Eurex Circular No. 011/00	Clearing GUI Training Program	01.03.2000	Update Training for Clearing GUI
Eurex Circular No. 019/00	Termination of Support for Compaq/AXP OpenVMS and IBM AIX Platforms	09.03.2000	Supported platforms for Eurex Release 4.0. Supported platforms for Eurex Release 5.0.
Eurex Circular No. 026/00	Preparation for Eurex Release 4.0 Simulation	28.03.2000	Distribution of Simulation Registration form and preliminary Simulation Calendar
Member Manuals	http://www.eurexchange.com		↳ Info for members ↳ Manuals
Member Front End Development Guide			↳ Entrance hall ↳ Access to Eurex ↳ Programming to Eurex
Technical Overview and Functional Overview			↳ Entrance hall ↳ Access to Eurex ↳ Overview
Eurex Clearing Update Training Handbook			↳ Info for members ↳ Download and CDs ↳ Member manuals ↳ Simulation Manuals - Release 4 MISS
Eurex Clearing System User Guide			↳ Info for members ↳ Download and CDs ↳ Member manuals ↳ Simulation Manuals - Release 4 MISS

9. Support

For questions on	***Please contact***	***phone***	***fax***
Simulation Calendar, Simulation Checklists, Applications, Eurex Circulars	Eurex Functional Member Readiness	+49 (0) 69-2101-1700	+49 (0) 69-2101-1701
Technical Set-up	Eurex Technical Helpdesk	+49 (0) 69-2101-1200	+49 (0) 69-2101-1201
Equity Products	Eurex Market Supervision	+49 (0) 69-2101-1210	+49 (0) 69-2101-4345
Index Products	Eurex Market Supervision	+49 (0) 69-2101-1220	+49 (0) 69-2101-4345
Fixed Income Products	Eurex Market Supervision	+49 (0) 69-2101-1240	+49 (0) 69-2101-4347
Clearing	Eurex Market Supervision	+49 (0) 69-2101-1250	+49 (0) 69-2101-4334

10. Checklist for Eurex Release 4.0 Simulation

Eurex recommends all members to execute this checklist to make themselves familiar with the new **Eurex Clearing GUI and the new Clearing functionalities.** The actions relate to referenced sections of the ***Eurex Clearing Update Training Handbook*** and ***Eurex Clearing System User Guide.***

The steps in the Exercises or Walk Through referenced in the column "Clearing Update Training Handbook" (identified by page number) should be performed during the simulation.

Action	**Reference**	
	Clearing Update Training Handbook (Exercises/Walk Through)	**Eurex Clearing System User Guide**
Login/ Logout		
• Login/ logout of the Eurex System and Eurex Clearing System	3.1.1	1.7, page 21 4.1.2, page 79
Position Keeping		
• Use the *Position Overview* window to inquire for a summary of the daily position movements and the up-to-date position balances related to specific contracts	3.2 page 56	4.2. page 85
• Initiate the inquiry of detailed information on the daily position movements for one specific contract.	page 56	
• Initiate various position adjustments - position close out - position account transfer - position transfer	page 58 page 61 page 63/65/69	
Trade Management		
• Position Detail Filter - Create a position detail filter for the *Position Detail Overview* window. - use the *Position Detail Filter* window to view detailed information on the position movements of a specific contract.	3.3.1 page 71 page 71	4.5.15, page 197 4.2.4, page 95
• Position Detail Overview - inquire for information on the position movements related to a specific contract	3.3.2 page 75	4.2.4, page 95

• Historical Trade Transfer - perform a historical trade transfer.	3.3.2.1 page 77	3.4.3.4, page 46
• Trade Separation - copy the original trade into one new trade in order to add any additional information (text etc.). - separate one trade into several (maximum six) smaller trades	3.3.2.2 page 79 page 80	4.2.6, page 105
• Trade Account Transfer - transfer a single trade transaction from one account to another account of the same Exchange Member. - transfer multiple trade transactions from one account to another account of the same Exchange Member.	3.3.2.3 page 84 page 84	3.4.3.3, page 46
• Open/Close Adjustment - close out a trade transaction. - reopen a trade transaction	3.3.2.4 page 87 page 88	3.4.3.2, page 45
Give-up / Take-up		
• Create and use a filter for the *Give-up Overview* window. • Undesignate, and accept trades designated for give-up. Cancel give-ups. • Give-up trades and modify trades.	3.4.1.1, page 91 3.4.1.2, page 93 3.4.1.3, page 98/99	4.2.8, page 111 4.2.8, page 111 4.2.9, page 116
• Create and use a filter for the Take-up Overview window. • Accept and reject take-ups. • Take-up trades and remove trades from the list box.	3.4.2.1, page 109 3.4.2.2, page 109/110 3.4.2.3, page 107	4.2.10, page 120 4.2.10, page 120 4.2.11, page 125
Settlement		
• Options Clearing - Create and use an exercise filter for a profile, product and/or contract. - Exercise and adjust open long positions. Inquire exercised positions and assignments.	3.5.1 page 116 page 116/117	 4.3.1, page 130 4.3.1, page 130 4.3.2, page 134

• Settling Futures Contracts - View futures notifications and enter and adjust delivery notifications - Inquire deliverable bonds and allocation information.	3.5.2 page 122 (FMS Screen K055)	4.3.3, page 136 4.3.4, page 139 4.3.5, page 142
• Delivery - Use the *Delivery Filter* window to view data for a specific profile, product or contract - Inquire pending and settled deliveries	3.5.3 page 127	4.3.6, page 145 4.3.6, page 145
Settings		
• Market Supervision Messages	3.6.1, page 129	4.4.1, page 148
• Settlement Price Overview	3.6.2, page 130	4.4.2, page 151
• Profile Selection - Create, modify, delete profiles and select a profile as default	3.7.1, page 139	4.5.1, page 155 4.5.2, page 158
• Product • Contract • External Underlying Selection	3.7.1.3, page 141 3.7.1.4, page 142 -	4.5.3, page 164 4.5.4, page 167 4.5.5, page 170
• Pre-define Text Field and Member Configuration	3.7.2/3.7.3 page 144ff	4.5.6, page 173ff
• Change - Date/Number Format - Color - Font - Password	 3.7.4, page 148 3.7.5ff , page 151/153 3.7.6ff, page 156 3.7.7, page 157	4.5.8, page 180ff
• Clearing Filter - Create and use the *Clearing Filter* window to view data for a specific profile, product or contract.	3.7.8 page 160	4.5.14, page 195
Eurex Clearing System Online Help		
Help Window use the various menus and buttons in the *Help* window to display help information, set preferences for the online help interface and navigate through the help documents.	3.8 page 163/164	4.6, page 210ff

11. List of Products Set Up in the Simulation Environment

ID	Remark	ID	Remark
Stock Products		***Index Products***	
ALV	Allianz-Holding	**FDAX**	DAX® Futures
AVE	Aventis (F)	**FESX**	Dow Jones Euro STOXX® 50 Futures
BAY	Bayer	**ONOR**	DOW JONES NORDIC STOXX 30SM Index Option / Nordic Stock Index
BMW	BMW	**OSMI**	SMI®Options
CON	Continental	**OSTX**	Dow Jones STOXX® 50 Options
CSGN	Credit Suisse Group N	**FFOX**	FOX™ Futures
DBK	Deutsche Bank	**FNOR**	DOW JONES NORDIC STOXX 30SM Index Futures / Nordic Stock Index
PHI	Philips St. (N)	**FSMI**	SMI® Futures
RPL	UPM-Kymmene Corp.	**FSTX**	Dow Jones STOXX® 50 Futures
SET	Tele. Italia (I)	**ODAX**	DAX® Options
SIE	Siemens	**OESX**	Dow Jones Euro STOXX® 50 Options
UBSN	UBS AG N	**OFOX**	FOX™ Option
VOW	VW		
HOL	Holderbank I	***Interest Rate Products***	
MOB	Mobilcom	**OGBM**	Options on Euro-BOBL Futures
NOA3	Nokia Corporation	**OGBS**	Options on Euro-SCHATZ Futures
		FGBL	Euro-BUND Futures
Money Market Products		**FGBM**	Euro-BOBL Futures
LIB3	Three-Month Euromark-Futures	**FGBS**	Euro-SCHATZ Futures
EULI	ROLL-OVER FACILITY LIB3- FEU3	**FGBX**	Euro-BUXL Futures
FEU3	Three-Month EURIBOR Futures	**OGBL**	Options on Euro-BUND Futures
OEU3	Options on Three-Month EURIBOR Futures		
FEU1	One-Month EURIBOR Futures		
FSLI	Three-Month EuroSwiss Futures		
FEON	Three-Month EONIA Futures		

It may be that additional products will be set up in the simulation database for internal tests. If this is the case, you will be informed via the News Board (D050) (for User Devices) or via the Market Supervision Message window (for MISSs) that trading in these products is not possible.

X-pand into the Future

F a x - R e p l y

Eurex Release 4.0 Simulation 2nd May 2000 – 9th June 2000

We kindly ask you to copy, fill in and return this fax on Wednesday 3rd May, 10th May, 17th May, 24th May, 31st May and 7th June 2000.

To: Eurex Member Readiness Frankfurt **Fax: +49 (0) 69-2101-1701**

MEMBER – ID __ __ __ __ __ Name _____

Company _____ Phone _____

☐ **MISS Architecture** ☐ **UD Architecture**		
Front Office	STIR Time-Spreads	Other Products
a) Successfully traded with Eurex X-ceed? (**MISS ONLY**)	❍	❍
b) Successfully traded with Eurex trading screens? (**UD ONLY**)	❍	❍
Successfully traded with Third Party application Name of the application:_____		
Back Office	GCM/DCM- acceptance for Give-up /Take-up	Trade Adjustments on OTC-Block Trade
Successfully used the Eurex Clearing GUI/FMS Screens	❍	❍
Successfully used a back office Third Party application Name of the application:_____	❍	❍
End of Day processing	YES	NO
Pre-Batch Assignments received correctly?	❍	❍
Theoretical Price File processed correctly?	❍	❍
End of Day processing performed correctly?	❍	❍
All Front Office Applications are ready for production	❍	❍
All Back Office Applications are ready for production	❍	❍
Problems / comments:		

Date Signature