e u r e x *circular 80/99*

To: All Eurex members and vendors

Date: Frankfurt, 17th August 1999

1. **Values API Architectural Limits on the MISS**
2. **Correction to Published date of Introduction of Extended Basis Trading Facility**
3. **Updated Release 3.0 Sizing Guidelines**

Dear Sir or Madam,

Please note the following information:

VALUES API – Architectural Limits

Eurex Release 3.0 has the following architectural limits with respect to use of the VALUES API:

- Maximum 40 VALUES sessions per MISS,
- Maximum 10 logins per VALUES session,
- Maximum 50 outstanding requests (login/logout, subscribe/unsubscribe or submit) per VALUES session,
- Maximum 100 broadcast subscriptions per MISS/MISS-group.

Correction to Published date of Introduction of Extended Basis Trading Facility

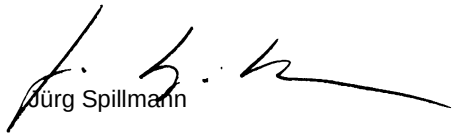
Please note that the extended Basis Trading Facility will come into effect on 20th September 1999, not on 23rd August as stated in Eurex Circular 77/99. The version of circular 77/99 published on the web-site will be corrected.

Eurex Release 3.0 Sizing Guidelines - Version 4.0

A small correction has been made to section 2.2.1 of the sizing guidelines to resolve the inconsistency with section 2.3.1 The new version of the document will only be attached to the version of this circular published on the Eurex web-site; it will not be distributed with the hard copy, nor with the e-mail version.

If you have any questions on the VALUES limits, please address them by e-mail to eurex-help@exchange.de. For other questions, our technical help-desk on +49 (0)69-2101-1200 will be pleased to assist you

Yours sincerely,



Jürg Spillmann



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X-pand into the **Future**

Eurex Release 3.0

Sizing Guidelines

Version 4.0

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Table of Contents

1	**INTRODUCTION**	**2**
1.1	Purpose	2
1.2	Scope	2
1.3	Contents	2
2	**TECHNICAL ENVIRONMENT**	**3**
2.1	Overview	3
2.2	Workstation	3
2.2.1	Workstation Platforms	4
2.2.2	Workstation Software	4
2.2.3	Workstation to MISS LAN	4
2.3	MISS	5
2.3.1	MISS Platforms	5
2.3.2	MISS Software	5
2.3.3	MISS to Router LAN	5
2.4	Router	6
2.5	Basic Eurex MISS-based Front End Configuration	6
2.5.1	Small Configuration, Normal Availability (A)	7
2.5.2	Small Configuration, High Availability (B)	7
2.5.3	Large Configuration, Normal Availability (C)	8
2.5.4	Large Configuration, High Availability (D)	8
3	**SIZING GUIDELINES**	**10**
3.1	Introduction	10
3.2	Assumptions	10
3.3	Sizing Drivers	10
3.4	Sizing Information - Workstation	11
3.4.1	CPU - Workstation	11
3.4.2	Physical Memory - Workstation	11
3.4.3	Disk Space - Workstation	12
3.4.4	Workstation to MISS LAN	12
3.5	Sizing Information - MISS	13
3.5.1	CPU - MISS	13
3.5.2	Physical Memory - MISS	13
3.5.3	Disk Space - MISS	14
3.5.4	MISS to router LAN	14
3.6	Sizing Information – MISS running the Eurex Trading Application	15
3.6.1	CPU – MISS running the Eurex Trading Application	15
3.6.2	Physical Memory – MISS running the Eurex Trading Application	15
3.6.3	Disk Space – MISS running the Eurex Trading Application	16
3.6.4	MISS to router LAN	16
4	**APPENDIX**	**17**
4.1	Configuration for Release 3	17
4.1.1	Detailed Requirement Specification	17
4.1.1.1	Operating System	17
4.1.1.2	Patch levels for IBM AIX	17
4.1.1.3	Patch levels for SUN Solaris	25
4.1.1.4	Patch levels for Windows NT (Intel)	31
4.1.1.5	Download of NT patches	31
4.1.1.6	Patch levels for OpenVMS	31
4.1.1.7	Layered Products	31
4.2	Router	32

1 INTRODUCTION

1.1 Purpose

This document explains the sizing guidelines for users of the new Eurex MISS (Member Integration System Server) based front end. Existing UD (User Device) based front end sizing guidelines are not covered by this document. These guidelines were developed based on test installations for Eurex. The document is based on Eurex Release 3 software.

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 Eurex members in planning their network, hardware and Eurex software configuration.

1.2 Scope

These guidelines cover Release 3 of Eurex and 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 UD-based front ends.

Eurex 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 implemented with Eurex Release 3. 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".

1.3 Contents

Section 2 TECHNICAL ENVIRONMENT contains short definitions of the hardware and software components used to build a Eurex front end configuration. It describes the basic front end configurations in relation to the Eurex 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 examined regarding their sizing.

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 software provided by Eurex. Additional software installed on the Eurex front end may affect sizing requirements and performance and are purely the end user's responsibility.

The Eurex Release 3 software continues to support the ability to run multiple environments (e.g. parallel execution of the software). The sizing guidelines provide recommendations only for 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 derivative market trading systems of Eurex.

The Eurex front end must be able to run the Eurex Release 3 software components necessary to establish and maintain a connection with the Eurex back end applications. The configuration components of a Eurex front end configuration are shown in Figure 1 and are defined in the following sections. Note that the configuration shown in Figure 1 is a high availability configuration provided through redundancy of MISSes, routers and WAN lines.

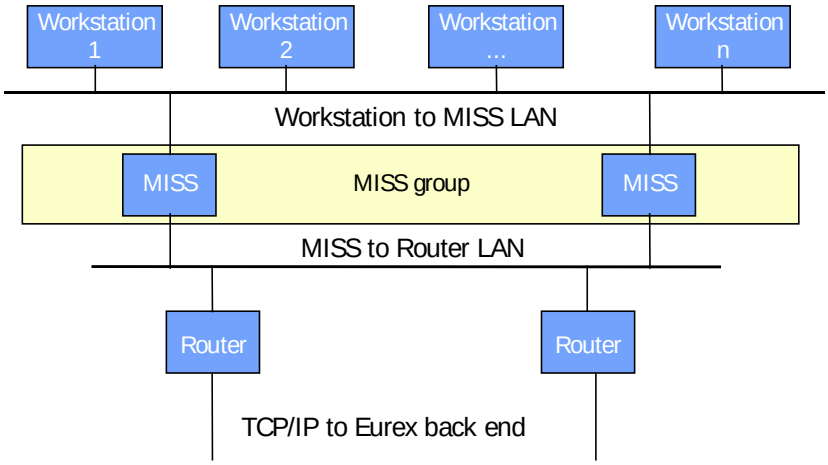


Figure 1 Eurex front end configuration

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 workstation software installed.

The workstation is responsible for the presentation of market information and handling of Eurex member requests for the Eurex back end applications. Eurex provided software, which runs on the workstation, are Eurex Trading Application using the VALUES API (Virtual Access Link Using Exchange Services Application Programming Interface) and the front end architecture services that support the applications.

Eurex member as well as third-party developed applications may also run on the workstation in addition to or instead of the Eurex 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 following workstation platforms are supported:

- IBM AIX 4.3.1
- Microsoft Windows NT Workstation (Intel) 4.0 English Service Pack 3
- Sun Solaris 2.6
- OpenVMS 7.1-2

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

Note: For Eurex Release 3 homogeneous front end configurations (MISSes and workstations of the same platform) were tested by Eurex as well as the combination of OpenVMS, 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 3 must be installed instead.

2.2.2 Workstation Software

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

Eurex software:

- Electronic Trading Application

Architecture software:

- Architecture services

System software:

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

2.2.3 Workstation to MISS LAN

Communication between the MISS and Eurex 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. The only LAN type, which has been tested by Eurex, is Ethernet.

2.3 MISS

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

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

2.3.1 MISS Platforms

The following MISS platforms are supported:

- IBM AIX 4.3.1
- Microsoft Windows NT Server (Intel) 4.0 English Service Pack 3
- Sun Solaris 2.6
- OpenVMS 7.1-2

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

Note: For Eurex Release 3 homogeneous front end configurations (MISSes and workstations of the same platform) were tested by Eurex as well as the combination of OpenVMS, AIX or Solaris based MISSes with Windows NT (Intel) workstations.

2.3.2 MISS Software

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

Architecture software:

- Architecture services

System software:

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

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.

The only LAN type, which has been tested by Eurex, is Ethernet.

2.4 Router

Routers maintain the TCP/IP connections from the MISS to the Eurex back ends. In Release 3 communication is done via TCP/IP to the Eurex back end. Fault tolerance is achieved by providing multiple routing paths to the Eurex back end applications.

The router platform approved by Eurex for the use with Eurex are CISCO models. Detailed information about model series and operating software is contained 4.1.1 Detailed Requirement Specification.

2.5 Basic Eurex MISS-based Front End Configuration

To participate in Eurex, the Eurex member can choose to use a UD- or a MISS-based front end. 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 switchover takes place. For disaster recovery, an additional MISS or MISS group may be established. However, failover to the disaster recovery site must be managed by the Eurex member organization.

Release 3 supports more than one MISS per Eurex member. 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, failover to the disaster recovery site must be managed by the Eurex member. Splitting of MISSes of a MISS group across different physical locations has not been tested.

There are several possibilities for the set up of the Eurex front end configuration. The drivers for choosing one of the described configurations are:

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

Figure 2 Availability-Size-Relation shows four configuration alternatives that are a function of the number of Eurex 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.

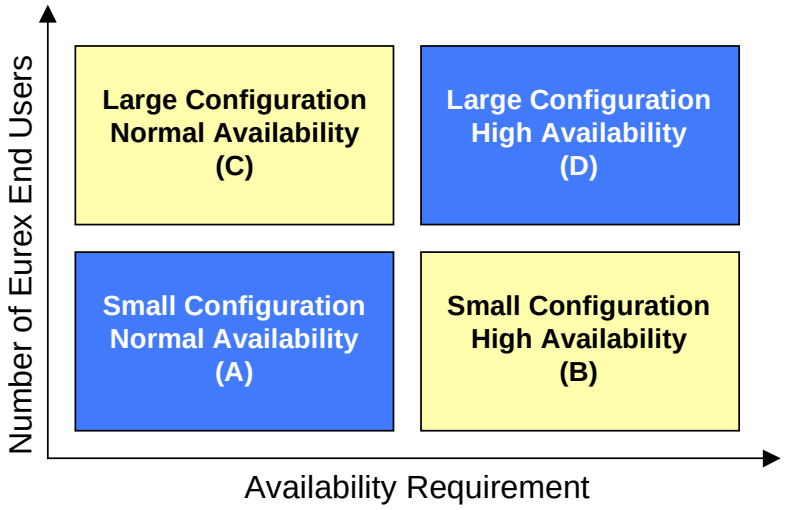


Figure 2 Availability-Size-Relation

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

2.5.1 Small Configuration, Normal Availability (A)

Figure 3 shows a Eurex front end configuration that provides normal availability for one user. The user runs the Eurex Trading Application directly on the MISS.

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

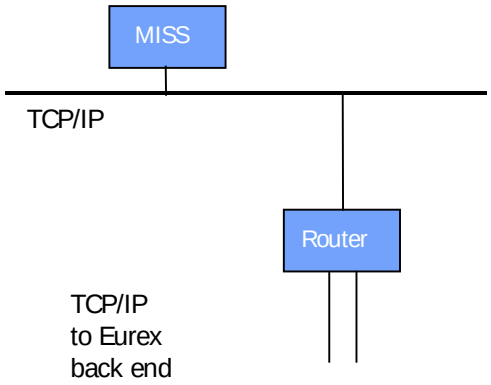


Figure 3 Small configuration for normal availability

2.5.2 Small Configuration, High Availability (B)

In Figure 4 a Eurex front end configuration is shown that provides high availability (no single point of failure) for one user. The user runs the Eurex Trading Application directly on the MISS. If any individual configuration component fails, there is a parallel component available to support continuing Eurex operations.

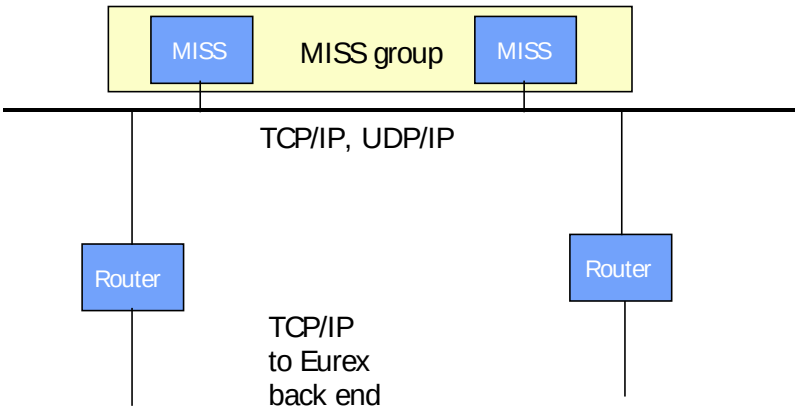


Figure 4 Small configuration for high availability

2.5.3 Large Configuration, Normal Availability (C)

Figure 5 shows a Eurex front end configuration that provides normal availability for multiple users. Each user runs the Eurex Trading Application on their own workstation. Note that failure of any component other than a workstation will terminate all user access to the Eurex 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. This type of front end configuration allows to be independent from the Eurex network addressing in the workstation MISS LAN.

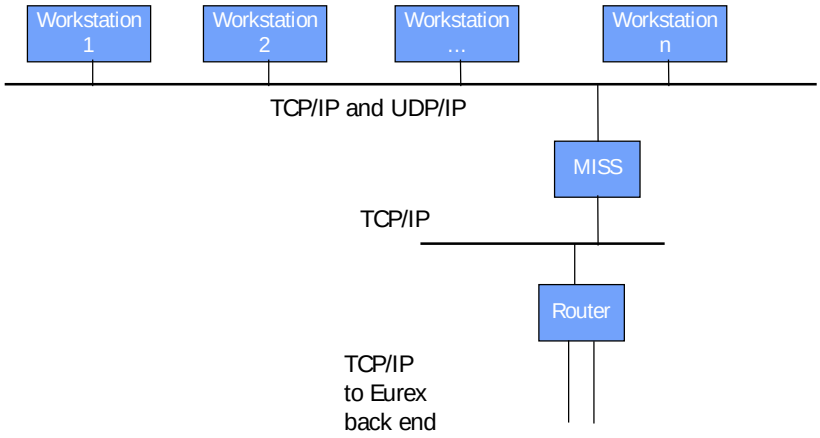


Figure 5 Large configuration for normal availability

2.5.4 Large Configuration, High Availability (D)

Figure 6 shows a Eurex front end configuration that provides high availability for multiple users. Each user runs the Eurex 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 Eurex network addressing in the workstation MISS LAN.

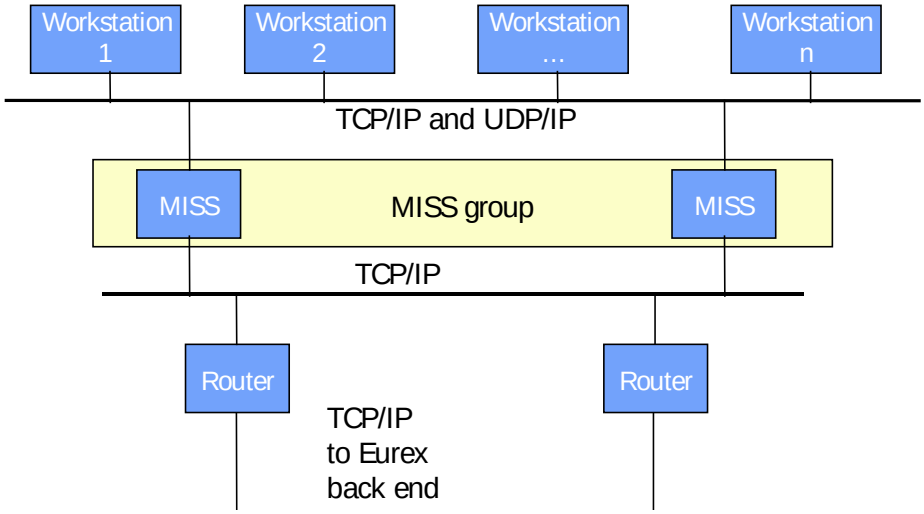


Figure 6 Large configuration for high availability

3 SIZING GUIDELINES

3.1 Introduction

This chapter provides guidelines to support Eurex members in sizing CPU, memory, disk and network resources of their Eurex Release 3 MISS-based front end installations.

The sizing parameters 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 MISS and workstation 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 Eurex Trading Application (using the VALUES API) and the architecture services.
2. On the MISS no instance of the Eurex Trading Application is running, if it is not stated explicitly (as in 3.6. Sizing Information – MISS running the Eurex Trading Application) i.e. the sizing guidelines described in sections 3.4 Sizing Information – Workstation and 3.5 Sizing Information – 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 aggregate number of orders, inquiries, etc. entered by a front end's users determines the level of processing on a MISS that is directly under control of the Eurex 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 - Workstation

The recommendations for CPU, memory and network are dependent on the activity on the machine. The tables present the sizing recommendations for Eurex Release 3.

3.4.1 CPU - Workstation

CPU load is caused by running the Eurex Trading Application and architecture services. The majority of the load on the workstations is generated by market activity (e.g. own order 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]**	**COMPAQ OpenVMS [SPECint95]**
50	9	11	9	9
75	10	14	10	11
100	11	16	11	13
150	14	21	14	15
200	17	26	17	18
250	20	29	20	21

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.

3.4.2 Physical Memory - Workstation

The main memory required, 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]**	**COMPAQ OpenVMS [MByte]**
128	128	128	128

3.4.3 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]**	**COMPAQ OpenVMS [MByte]**
Workstation software	150	150	150	150
Swap area	500	500	500	500
Internal data files [per day]	50	50	50	50

3.4.4 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	6
100	12
150	18
200	24
250	30

3.5 Sizing Information - 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 3.

3.5.1 CPU - MISS

CPU load is caused by running the MISS processes and architecture services. 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]**	**COMPAQ OpenVMS [SPECint95]**
50	4	5	4	6
100	6	9	6	9
150	8	13	8	11
200	11	17	11	13
250	14	21	14	15

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 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]**	**COMPAQ OpenVMS [MByte]**
128	128	128	128

3.5.3 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]	COMPAQ OpenVMS [MByte]
MISS software	350	350	350	350
Swap area	500	500	500	500
Report files and internal files [per day]	200	200	200	200
Static data files	500	500	500	500

If reports of more than one trading day are to be stored on the MISS, additional disk space is required. It is the system administrator's responsibility to maintain the file system where the reports are stored and to provide the required disk space.

3.5.4 MISS to router LAN

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

3.6 Sizing Information – 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 3.

3.6.1 CPU – MISS running the Eurex Trading Application

CPU load is caused by running the MISS processes, the Eurex Trading Application and the architecture services. 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]	COMPAQ OpenVMS [SPECint95]
13	18	13	15

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

3.6.2 Physical Memory – MISS running the Eurex Trading Application

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]	COMPAQ OpenVMS [MByte]
256	256	256	256

3.6.3 Disk Space – MISS running the Eurex Trading Application

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]**	**COMPAQ OpenVMS [MByte]**
MISS software	200	200	200	200
Swap area	1000	1000	1000	1000
Report files and internal files [per day]	200	200	200	200
Static data files	500	500	500	500
Internal data files [per day]	50	50	50	50

If reports of more than one trading day are to be stored on the MISS, additional disk space is required. It is the system administrator's responsibility to maintain the file system where the reports are stored and to provide the required disk space.

3.6.4 MISS to router LAN

See 3.5.4 MISS to router LAN.

4 APPENDIX

4.1 Configuration for Release 3

4.1.1 Detailed Requirement Specification

4.1.1.1 Operating System

The next tables show the software versions and patches supported by Eurex for the Eurex front end configuration of Release 3. The PAL (Portable Abstraction Layer) run time library required by the Eurex front end architecture and GUI as well as a Perl interpreter required for the operations procedures are contained in the installation kits for the MISS and workstation software. Eurex supports the software only with the given versions.

Workstation and MISS Software Release 3	**IBM AIX**	**Microsoft Windows NT (Intel)**	**SUN Solaris**	**COMPAQ OpenVMS**
Operating System	AIX 4.3.1 (English version)	MS Windows NT (Intel) Workstation 4.0 (English version)	Solaris 2.6 (English version)	OpenVMS 7.1-2

4.1.1.2 Patch levels for IBM AIX

Based on the IBM AIX Release 4.3.1 and depending on the individual hardware and software system configuration the subset, applicable for the individual system configuration, of the patches listed below is to be installed.

Package	Version
Java.adt.includes	1.1.4.3
Java.adt.src	1.1.4.4
Java.rte.Dt	1.1.4.1
Java.rte.bin	1.1.4.4
Java.rte.classes	1.1.4.4
Java.rte.lib	1.1.4.4
Java.samples.AIXDemos	1.1.4.1
Java.samples.demos	1.1.4.3
Java.samples.jni_example	1.1.4.1
OpenGL.GL32.dev.mca.8ee3	4.3.1.1
OpenGL.OpenGL_X.dev.buc.00004002.PPC	4.3.1.1
OpenGL.OpenGL_X.dev.mca.8f61	4.3.1.1
OpenGL.OpenGL_X.dev.pci.14105400.PPC	4.3.1.1
OpenGL.OpenGL_X.dev.pci.14105400.PPC_mp	4.3.1.1
OpenGL.OpenGL_X.dev.pci.14105e00.PPC	4.3.1.1
OpenGL.OpenGL_X.dev.pci.14105e00.PPC_mp	4.3.1.1
OpenGL.OpenGL_X.dev.vfb	4.3.1.1
OpenGL.OpenGL_X.rte.base	4.3.1.3
OpenGL.OpenGL_X.rte.base_mp	4.3.1.1

OpenGL.OpenGL_X.rte.soft	4.3.1.4
OpenGL.OpenGL_X.tools.debugger	4.3.2.0
OpenGL.OpenGL_X.tools.debugger	4.3.2.1
PEX_PHIGS.dev.buc.00004002	4.3.2.0
PEX_PHIGS.dev.buc.00004002	4.3.2.2
PEX_PHIGS.dev.mca.8ee3	4.3.2.0
PEX_PHIGS.dev.mca.8ee3	4.3.2.2
PEX_PHIGS.dev.mca.8f61	4.3.2.0
PEX_PHIGS.dev.mca.8f61	4.3.2.2
PEX_PHIGS.dev.mca.8fbc	4.3.2.0
PEX_PHIGS.dev.mca.8fbc	4.3.2.2
PEX_PHIGS.dev.pci.14103c00	4.3.2.0
PEX_PHIGS.dev.pci.14103c00	4.3.2.1
PEX_PHIGS.dev.pci.14105400	4.3.2.0
PEX_PHIGS.dev.pci.14105400	4.3.2.2
PEX_PHIGS.dev.pci.14105e00	4.3.2.0
PEX_PHIGS.dev.pci.14105e00	4.3.2.2
PEX_PHIGS.dev.pci.14108e00	4.3.2.2
PEX_PHIGS.graPHIGS.rte.base	4.3.2.0
PEX_PHIGS.graPHIGS.rte.base	4.3.2.2
PEX_PHIGS.graPHIGS.rte.pipe	4.3.2.0
PEX_PHIGS.graPHIGS.rte.pipe	4.3.2.2
PEX_PHIGS.graPHIGS.rte.plot	4.3.1.1
PEX_PHIGS.graPHIGS.rte.rnuc	4.3.1.1
PEX_PHIGS.graPHIGS.rte.soft	4.3.2.0
PEX_PHIGS.graPHIGS.rte.soft	4.3.2.1
X11.Dt.ToolTalk	4.3.1.2
X11.Dt.adt	4.3.1.1
X11.Dt.lib	4.3.1.2
X11.Dt.rte	4.3.1.3
X11.adt.ext	4.3.1.2
X11.adt.motif	4.3.1.1
X11.apps.aixterm	4.3.1.1
X11.apps.clients	4.3.1.1
X11.apps.pm	4.3.1.1
X11.apps.rte	4.3.1.1
X11.apps.xdm	4.3.1.1
X11.apps.xterm	4.3.1.2
X11.base.lib	4.3.1.4
X11.base.rte	4.3.1.4
X11.base.rte	4.3.2.0
X11.base.smt	4.3.1.1
X11.compat.lib.X11R5	4.3.1.3
X11.fnt.fontServer	4.3.1.1

X11.man.en_US.Dt.rte	4.3.1.1
X11.motif.lib	4.3.1.3
X11.samples.apps.clients	4.3.1.1
X11.samples.apps.demos	4.3.1.1
X11.samples.ext	4.3.1.2
X11.samples.fnt.util	4.3.1.2
X11.samples.lib.Core	4.3.1.1
X11.vsm.lib	4.3.1.2
X11.vsm.rte	4.3.1.2
bos.64bit	4.3.2.0
bos.64bit	4.3.2.1
bos.adt.base	4.3.1.1
bos.adt.debug	4.3.1.3
bos.adt.include	4.3.2.0
bos.adt.include	4.3.2.2
bos.adt.prof	4.3.2.0
bos.adt.prof	4.3.2.1
bos.adt.samples	4.3.1.2
bos.adt.sccs	4.3.1.1
bos.adt.syscalls	4.3.1.2
bos.alt_disk_install.rte	4.3.1.1
bos.atm.atmle	4.3.1.2
bos.cns.com.asw	4.3.0.1
bos.cns.p10.asw	4.3.0.1
bos.cns.p10.rte	4.3.1.1
bos.cns.p10.tools	4.3.1.1
bos.cns.s20.asw	4.3.1.1
bos.compat.NetInstl	4.3.1.1
bos.diag.com	4.3.1.2
bos.diag.com	4.3.2.0
bos.diag.rte	4.3.2.0
bos.diag.rte	4.3.2.1
bos.dlc.8023	4.3.1.1
bos.dlc.ether	4.3.1.1
bos.dlc.fddi	4.3.1.1
bos.dlc.qllc	4.3.1.1
bos.dlc.sdlc	4.3.1.1
bos.dlc.token	4.3.1.1
bos.docsearch.rte	4.3.1.2
bos.loc.adt.locale	4.3.1.1
bos.loc.adt.unicode	4.3.1.1
bos.loc.com.JP	4.3.1.1
bos.loc.iso.hu_HU	4.3.1.1
bos.loc.iso.is_IS	4.3.1.1

bos.loc.pc_compat.Is_IS	4.3.1.1
bos.mh	4.3.1.3
bos.mp	4.3.2.0
bos.mp	4.3.2.2
bos.msg.en_US.docsearch.client.com	4.3.0.1
bos.msg.en_US.net.tcp.client	4.3.1.3
bos.msg.en_US.rte	4.3.1.2
bos.net.ipsec.rte	4.3.1.1
bos.net.nfs.cachefs	4.3.1.2
bos.net.nfs.client	4.3.2.0
bos.net.nfs.client	4.3.2.3
bos.net.nis.client	4.3.1.5
bos.net.nis.client	4.3.2.0
bos.net.nis.server	4.3.1.2
bos.net.nis.server	4.3.2.0
bos.net.ppp	4.3.1.1
bos.net.tcp.adt	4.3.1.1
bos.net.tcp.client	4.3.2.0
bos.net.tcp.client	4.3.2.2
bos.net.tcp.server	4.3.2.0
bos.net.tcp.server	4.3.2.1
bos.net.tcp.smit	4.3.1.1
bos.net.uucp	4.3.1.1
bos.powermgt.rte	4.3.1.1
bos.rte	4.3.1.1
bos.rte	4.3.2.0
bos.rte.ILS	4.3.1.1
bos.rte.SRC	4.3.1.1
bos.rte.aio	4.3.1.2
bos.rte.archive	4.3.1.1
bos.rte.bind_cmds	4.3.1.3
bos.rte.boot	4.3.1.2
bos.rte.bosinst	4.3.1.2
bos.rte.commands	4.3.1.3
bos.rte.compare	4.3.1.1
bos.rte.console	4.3.1.1
bos.rte.control	4.3.1.3
bos.rte.control	4.3.2.0
bos.rte.cron	4.3.1.2
bos.rte.date	4.3.1.1
bos.rte.devices_msg	4.3.1.1
bos.rte.diag	4.3.1.1
bos.rte.edit	4.3.1.1
bos.rte.filesystem	4.3.1.1

bos.rte.ifor_ls	4.3.1.1
bos.rte.im	4.3.1.1
bos.rte.install	4.3.1.3
bos.rte.libc	4.3.2.0
bos.rte.libc	4.3.2.2
bos.rte.libcur	4.3.1.1
bos.rte.libpthreads	4.3.1.4
bos.rte.loc	4.3.1.1
bos.rte.lvm	4.3.2.0
bos.rte.lvm	4.3.2.2
bos.rte.man	4.3.1.1
bos.rte.misc_cmds	4.3.1.1
bos.rte.net	4.3.1.1
bos.rte.net	4.3.2.0
bos.rte.odm	4.3.2.0
bos.rte.odm	4.3.2.1
bos.rte.printers	4.3.1.3
bos.rte.security	4.3.1.3
bos.rte.security	4.3.2.0
bos.rte.serv_aid	4.3.2.0
bos.rte.serv_aid	4.3.2.2
bos.rte.shell	4.3.1.3
bos.rte.streams	4.3.1.3
bos.rte.tty	4.3.2.0
bos.rte.tty	4.3.2.1
bos.sysmgt.nim.client	4.3.1.1
bos.sysmgt.nim.master	4.3.1.2
bos.sysmgt.nim.spot	4.3.1.1
bos.sysmgt.serv_aid	4.3.1.4
bos.sysmgt.serv_aid	4.3.2.0
bos.sysmgt.smit	4.3.1.2
bos.sysmgt.sysbr	4.3.1.2
bos.sysmgt.trace	4.3.1.1
bos.sysmgt.trace	4.3.2.0
bos.terminfo.ibm.data	4.3.0.1
bos.txt.spell	4.3.1.1
bos.txt.tfs	4.3.1.2
bos.txt.tfs.data	4.3.0.2
bos.txt.xpv.rte	4.3.1.1
bos.up	4.3.2.0
bos.up	4.3.2.2
dce.cds.rte	2.2.0.1
dce.client.core.rte	2.1.0.11
dce.client.core.rte.admin	2.2.0.1

dce.client.core.rte.cds	2.2.0.1
dce.client.core.rte.config	2.2.0.1
dce.client.dfs.rte	2.1.0.24
dce.client.dfs.rte	2.2.0.2
dce.dfs_server.rte	2.1.0.16
dce.dfsnfs.rte	2.1.0.7
dce.edfs.rte	2.1.0.19
dce.edfs.rte	2.2.0.2
dce.msg.en_US.client.core.rte	2.1.0.3
dce.msg.en_US.client.core.rte	2.2.0.1
dce.pthreads.rte	2.1.0.1
dce.security.rte	2.1.0.8
devices.base.diag	4.3.1.1
devices.buc.00004001.X11	4.3.1.1
devices.buc.00004001.rte	4.3.1.1
devices.buc.00004002.X11	4.3.1.2
devices.buc.00004005.rte	4.3.1.1
devices.buc.00004006.rte	4.3.1.1
devices.buc.00004007.rte	4.3.1.1
devices.chrp.base.diag	4.3.1.3
devices.chrp.base.rte	4.3.2.0
devices.chrp.base.rte	4.3.2.1
devices.chrp.pci.rte	4.3.1.1
devices.chrp.pci.rte	4.3.2.0
devices.common.IBM.atm.rte	4.3.1.4
devices.common.IBM.cx.rte	4.3.1.1
devices.common.IBM.hdlc.sdlc	4.3.1.1
devices.common.IBM.ssa.diag	4.3.1.3
devices.common.IBM.ssa.rte	4.3.1.3
devices.common.IBM.ssa.rte	4.3.2.0
devices.common.base.diag	4.3.1.1
devices.graphics.com	4.3.1.2
devices.isa.IBM0010.rte	4.3.1.1
devices.isa.PNP80CC.rte	4.3.1.1
devices.isa.cxia.com	4.3.1.3
devices.isa.cxia.com	4.3.2.0
devices.isa.cxia.rte	4.3.0.1
devices.isa.cxia128.rte	4.3.0.1
devices.isa.mm2.mpqp	4.3.1.1
devices.isa.pc8s.rte	4.3.0.1
devices.isa_sio.IBM0005.IBM8301.rte	4.3.2.0
devices.isa_sio.IBM001F.rte	4.3.2.0
devices.isa_sio.PNP0501.rte	4.3.1.3
devices.isa_sio.PNP0501.rte	4.3.2.0

devices.isa_sio.PNP0600.rte	4.3.2.0
devices.isa_sio.PNP0E00.rte	4.3.2.0
devices.isa_sio.chrp.ecp.rte	4.3.1.1
devices.isa_sio.chrp.ecp.rte	4.3.2.0
devices.isa_sio.pnpPNP.501.rte	4.3.2.0
devices.mca.61fd.rte	4.3.1.1
devices.mca.8ee3.X11	4.3.1.1
devices.mca.8ee3.rte	4.3.1.1
devices.mca.8ee3.ucode	4.3.1.1
devices.mca.8ee4.X11	4.3.1.1
devices.mca.8f61.X11	4.3.1.4
devices.mca.8f61.diag	4.3.1.2
devices.mca.8f61.rte	4.3.1.2
devices.mca.8f67.com	4.3.1.1
devices.mca.8f67.diag.com	4.3.1.1
devices.mca.8f95.rte	4.3.1.1
devices.mca.8f9a.X11	4.3.1.2
devices.mca.8fa2.rte	4.3.1.1
devices.mca.8fbc.X11	4.3.1.3
devices.mca.edd0.com	4.3.1.2
devices.mca.edd0.com	4.3.2.0
devices.mca.ffe1.rte	4.3.1.3
devices.mca.ffe1.rte	4.3.2.0
devices.msg.en_US.diag.rte	4.3.1.2
devices.msg.en_US.rspc.base.com	4.3.0.1
devices.msg.en_US.sys.mca.rte	4.3.1.1
devices.pci.00100100.rte	4.3.2.0
devices.pci.00100300.diag	4.3.2.0
devices.pci.00100f00.rte	4.3.1.1
devices.pci.00100f00.rte	4.3.2.0
devices.pci.0e100091.X11	4.3.1.2
devices.pci.0e100091.diag	4.3.1.1
devices.pci.0e100091.rte	4.3.1.1
devices.pci.0e100091.rte	4.3.2.0
devices.pci.14101800.diag	4.3.1.2
devices.pci.14101800.rte	4.3.1.1
devices.pci.14101800.rte	4.3.2.0
devices.pci.14101b00.X11	4.3.1.1
devices.pci.14101b00.rte	4.3.1.1
devices.pci.14101b00.rte	4.3.2.0
devices.pci.14102e00.rte	4.3.1.1
devices.pci.14103c00.X11	4.3.1.2
devices.pci.14103c00.com	4.3.1.2
devices.pci.14103c00.diag	4.3.1.1

devices.pci.14103c00.rte	4.3.1.1
devices.pci.14103e00.rte	4.3.2.0
devices.pci.14105300.diag	4.3.1.1
devices.pci.14105300.rte	4.3.1.2
devices.pci.14105300.rte	4.3.2.0
devices.pci.14105400.X11	4.3.1.2
devices.pci.14105400.diag	4.3.1.1
devices.pci.14105400.rte	4.3.1.1
devices.pci.14105e00.X11	4.3.1.4
devices.pci.14105e00.diag	4.3.1.1
devices.pci.14105e00.rte	4.3.1.2
devices.pci.14107c00.com	4.3.1.1
devices.pci.14107c00.com	4.3.2.0
devices.pci.14107c00.diag	4.3.1.2
devices.pci.14107c00.diag	4.3.2.0
devices.pci.22100020.rte	4.3.2.0
devices.pci.23100020.rte	4.3.1.1
devices.pci.23100020.rte	4.3.2.0
devices.pci.2b101a05.X11	4.3.2.0
devices.pci.2b101a05.X11	4.3.2.1
devices.pci.2b101a05.diag	4.3.1.1
devices.pci.2b101a05.rte	4.3.1.2
devices.pci.2b101a05.rte	4.3.2.0
devices.pci.331121b9.com	4.3.1.1
devices.pci.331121b9.rte	4.3.1.1
devices.pci.331121b9.rte	4.3.2.0
devices.pci.33531188.diag	4.3.1.1
devices.pci.33531188.rte	4.3.1.1
devices.pci.3353c088.X11.com	4.3.1.2
devices.pci.3353c088.com	4.3.1.2
devices.pci.3353c088.rte	4.3.1.1
devices.pci.3353c188.rte	4.3.1.1
devices.pci.3353c288.rte	4.3.1.1
devices.pci.3353c388.rte	4.3.1.1
devices.pci.4f111100.com	4.3.1.3
devices.pci.4f111100.com	4.3.2.0
devices.pci.4f111100.diag	4.3.1.2
devices.pci.4f111b00.diag	4.3.1.2
devices.pci.4f111b00.rte	4.3.0.1
devices.pci.86808404.rte	4.3.2.0
devices.pci.isa.rte	4.3.2.0
devices.pcmcia.serial.com	4.3.1.2
devices.pcmcia.serial.com	4.3.2.0
devices.rs6ksmp.base.rte	4.3.1.1

devices.rspc.base.diag	4.3.1.4
devices.rspc.base.rte	4.3.2.0
devices.scsi.disk.rte	4.3.1.1
devices.serial.tablet1.X11	4.3.1.1
devices.sio.fda.diag	4.3.0.1
devices.sio.sa.rte	4.3.2.0
devices.ssa.IBM_raid.rte	4.3.1.1
devices.ssa.disk.rte	4.3.1.2
devices.ssa.network_agent.rte	4.3.1.2
devices.ssa.tm.rte	4.3.1.1
devices.sys.pci.rte	4.3.2.0
devices.tty.rte	4.3.1.1
devices.tty.rte	4.3.2.0
ifor_ls.base.cli	4.3.1.1
ifor_ls.base.gui	4.3.1.1
perfagent.tools	2.2.31.3
printers.lex4049.rte	4.3.0.1
printers.lexOptraC.rte	4.3.0.1
printers.lexOptraE.rte	4.3.0.1
printers.lexOptraEp.rte	4.3.0.1
printers.lexOptraN.rte	4.3.0.1
printers.lexOptraS.rte	4.3.0.1
printers.lexOptraSC.rte	4.3.0.1
printers.rte	4.3.1.1
sysmgt.websm.apps	4.3.1.1
sysmgt.websm.framework	4.3.1.2
sysmgt.websm.rte	4.3.1.1
xlC.cpp	4.3.0.0
xlC.rte	3.6.4.0

4.1.1.3 Patch levels for SUN Solaris

The supported version of the Sun Solaris operating system is version 2.6 Release 5/98 with the following patches installed additionally:

Package	Patch ID#
SunOS 5.6: kernel update patch	105181-11
SunOS 5.6: libc & watchmalloc patch	105210-17
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
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	105568-12
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: /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
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	106040-10
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: /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: 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: libDtSvc Patch	105669-04
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
Motif 1.2.7: Runtime library patch	105284-18

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 3 with the following patches installed additionally:

Package	Patch ID#
User Manager Does Not Recognize February 2000 As a Leap Year	Q175093
Control Panel Date/Time applet	Q180122
Custom date properties on Word documents	Q183125
Find File entry fields	Q183123

4.1.1.5 Download of NT patches

You can find the above mentioned four patches on the following ftp site:
ftp://ftp.microsoft.com/bussys/winnt/winnt-public/fixes/usa/nt40/hotfixes-postSP3/y2k-fix/y2kfixi.exe

4.1.1.6 Patch levels for OpenVMS

No patches are needed for OpenVMS 7.1-2.

4.1.1.7 Layered Products

For OpenVMS the following Layered Products have to be installed with the specified patch level.

Layered Products
Digital TCP/IP Services Version 4.2 for OpenVMS Alpha (former UCX) ECO2
DEC FMS Runtime Version 2.4 for OpenVMS AXP

4.2 Router

The table shows the router recommended by Eurex.

Router Recommendations Release 3	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 for Eurex because of its improved failover functionality (HSRP, Hot Standby Routing Protocol).

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

Router also supported for Release 3	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) for Eurex purposes.