PRIMERGY TX200 S3 Server

Options Guide

Edition July 2006

Comments… Suggestions… Corrections…

The User Documentation Department would like to know your opinion of this manual. Your feedback helps us optimize our documentation to suit your individual needs.

Fax forms for sending us your comments are included in the back of the manual.

There you will also find the addresses of the relevant User Documentation Department.

Certified documentation according to DIN EN ISO 9001:2000

To ensure a consistently high quality standard and user-friendliness, this documentation was created to meet the regulations of a quality management system which complies with the requirements of the standard DIN EN ISO 9001:2000.

cognitas. Gesellschaft für Technik-Dokumentation mbH
www.cognitas.de

Copyright and Trademarks

Copyright © 2006 Fujitsu Siemens Computers GmbH.

All rights reserved.
Delivery subject to availability; right of technical modifications reserved.

All hardware and software names used are trademarks of their respective manufacturers.

Contents

1 Introduction 5
1.1 Overview of the documentation 5
1.2 Extensions and conversions 7
1.3 Notational conventions 9

2 Procedure 11

3 Safety notes 13

4 Preparation 19
4.1 Floorstand model 19
4.1.1 Opening the server 19
4.1.2 Removing the front cover 20
4.2 Rack model 22
4.2.1 Opening the server 22
4.2.2 Removing the rack front cover 25

5 Main memory 27
5.1 Equipping rules 27
5.2 Extending/replacing the main memory 28

6 Processors 31
6.1 Installing a second processor 31
6.2 Replacing the processor 42
6.3 Replacing the heat sink 45

7 Accessible drives 47
7.1 Installing a slim line CD/DVD-ROM drive 47
7.2 Installing an accessible 5.25-inch drive 50
7.3 Installing the SCSI hard disks extension box 55

8 Controller in the PCI slots 59
8.1 Installing a controller (PCI slots 1-4, 10) 60
8.2 Installing a controller (PCI slot 5) 62

9 SATA SW RAID 67
9.1 Inserting the RAID key 67

10 Parallel interface for printers 69
10.1 Installing a parallel interface 69

11 Upgrading to redundant system fans 71

12 Conversion standard PS to hot-plug PS 79

13 Converting from the floorstand model to the rack model . . 89

14 Completion 93
14.1 Floorstand model 93
14.1.1 Attaching the front cover 93
14.1.2 Closing the server 95
14.2 Rack model 96
14.2.1 Attaching the rack front cover 96
14.2.2 Closing the server 97

15 Appendix 101
15.1 Cabling 101

Abbreviations 109

Related publications 115

Index 117

1 Introduction

The PRIMERGY TX200 S3 Server is an Intel-based server for medium-sized and large networks. The server is suitable for use as a file server as well as an application, information, or Internet server. It is available as a floorstand or rack model. The floorstand model can be converted to a rack model using an optional conversion kit.

1.1 Overview of the documentation

PRIMERGY manuals are available in PDF format on the *ServerBooks* CD which is supplied in the *ServerView Suite* package for every server system.

These PDF files can also be downloaded free of charge from the Internet: at *http://manuals.fujitsu-siemens.com* you will find an overview page with the online documentation available on the Internet. You can go to the PRIMERGY Server documentation by clicking on *industry standard servers*.

Concept and target groups

This Options Guide shows you how you can expand and upgrade the server.

The Operating Manual for the server describes how you install/remove the hot-plug components.

The activities described in this manual may only be performed by technical specialists.

Additional documentation about the server

The PRIMERGY TX200 S3 documentation comprises the following additional manuals:

- The “Safety notes and other important information” manual (printed copy always supplied with the server, and available as a PDF file on the *ServerBooks* CD supplied)
- The “Guarantee” manual (printed copy always supplied with the server, and available as a PDF file on the *ServerBooks* CD supplied)
- The “Returning used devices” manual (PDF file available on the *ServerBooks* CD)

- The Operating Manual for PRIMERGY TX200 S3 (PDF available on the *ServerBooks* CD supplied)
- The Technical Manual for the system board D2109 (PDF available on the *ServerBooks* CD supplied)
- The “BIOS Setup” manual (PDF available on the *ServerBooks* CD supplied)
- The “PRIMERGY ServerView Suite - ServerStart” manual (printed copy always supplied with the server, and available as PDF file on the *ServerBooks* CD supplied)
- The “Global Array Manager Client Software User’s Guide” (PDF available on the *ServerBooks* CD supplied)
- The “Integrated Mirroring User’s Guide” (PDF available on the *ServerBooks* CD supplied)
- The “MegaRAID 320-0x Zero-channel PCI-X RAID Storage Adapter User’s Guide” (PDF available on the *ServerBooks* CD supplied)
- The “MegaRAID Configuration Software User’s Guide” (PDF available on the *ServerBooks* CD supplied)

You can order a supplementary *ServerBooks* CD by sending an e-mail to the following address, quoting your server data:
Reklamat-PC-LOG@fujitsu-siemens.com

Further sources of information:

- Technical Manual on the relevant rack
- Manual on the monitor
- Manual on *ServerView* Server Management
- Manual on *RemoteView* Remote Server Maintenance
- Documentation on boards and drives
- Documentation on your operating system
- Information files on your operating system

(see also “Related publications” on page 115)

1.2 Extensions and conversions

Second processor

The system board can be upgraded with a second processor. Only processors of the same type may be used on the system board. The second processor must have at least the same clock frequency as the first processor.

Extension of the main memory

Six slots (2 slots form a memory bank) are provided for the main memory. Each memory bank is equipped with two 512 Mbyte, 1 Gbyte, 2 Gbyte or 4 Gbyte FBD533/PC2-4200F or FBD667/PC2-5300F Fully Buffered DIMM memory modules.

Memory modules must always be incorporated in pairs. A memory bank must always be equipped fully with the same type of memory modules.

Additional accessible drives

Upto three free 5.25-inch bays are available for accessible drives.

SCSI hard disks extension box

In the SCSI base units it is possible to install a SCSI hard disks extension box in the upper two 5.25-inch bays for accessible drives.

The SCSI hard disks extension box enables up to three additional HDD modules to be integrated. Each HDD module can accommodate a SCSI hard disk drive with an SCA (Single Connector Attachment) interface and a height of at most 1 inch. The connection to the SCSI backplane is made without cables via the SCA interface. This makes it simple to plug in or pull out the HDD modules. If the server has a RAID controller and the corresponding RAID configuration, defective HDD modules can also be replaced while the system is operating.

Additional controllers in the PCI slots

The system board offers six PCI slots. The bus frequency of PCI slot 5 is 33 MHz, of the PCI slots 1, 2 and 10 is 100 MHz/133 MHz. The slots 3 and 4 are PCI express slots.

RemoteView

RemoteView provides you with a comprehensive test and diagnostics package. The relevant hardware components are integrated on the system board.

SATA Software RAID (scheduled autum 2006)

The SATA SW RAID 5 functionality will be activated by installing a license key (RAID key).

Parallel interface for printers

As an option, a parallel interface can be provided for printers.

Upgrading to redundant system fans

The standard fans can be upgraded to redundant system fans. If the redundant system fans are installed, the fans are operating in a redundant configuration. A defective system fan can be replaced during the next service.

Conversion standard power supply to hot-plug power supply

The standard power supply can be replaced by a hot-plug power supply. The hot-plug power supply consists of two power supply modules.

If one power supply module fails, the other power supply module guarantees the unrestricted operation and the defective power supply module can be replaced be replaced while the system is operating (hot-plug).

Conversion of the floorstand model to a rack model

The floorstand model can optionally be converted so that the server can be integrated into the common rack systems.

1.3 Notational conventions

The following notational conventions are used in this manual:

Text in italics	indicates commands, menu items or software programs.
„Quotation marks“	indicate names of chapters and terms that are being emphasized.
►	describes activities that must be performed in the order shown.
CAUTION!	pay particular attention to texts marked with this symbol. Failure to observe this warning may endanger your life, destroy the system or lead to the loss of data.
	indicates additional information, notes and tips.

Table 1: Notational conventions

2 Procedure

CAUTION!

The actions described in these instructions should only be performed by technical specialists. Equipment repairs should only be performed by authorized, qualified staff. Any unauthorized opening and improper repairs could expose the user to risks (electric shock, energy hazards, fire hazards) and could also damage the equipment. Please note that any unauthorized opening of the device will result in the invalidation of the warranty and exclusion from all liability.

- ► First of all please familiarize yourself with the safety instructions in the section chapter “Safety notes” on page 13ff.
- ► Ensure that all required manuals (see “Additional documentation about the server” on page 5) are available, printing out the PDF files if necessary. You will definitely need the Operating Manual for the server and the Technical Manual for the system board.
- ► Shut down the server correctly, switch it off, pull out the power plug, and open the server as described in the chapter “Preparation” on page 19ff.
- ► Extend or upgrade your server as described in the relevant chapter.

  The Operating Manual for the server describes how you install/remove the hot-plug components.

  Procedures which are identical for the floorstand and rack models are only described for the floorstand model.
- ► Close the server, connect it to the power outlet, and switch it on as described in the chapter “Completion” on page 93ff.
- ► Start the operating system and, if necessary, configure it as required (see the Operating Manual).

3 Safety notes

The following safety notes are also provided in the “Safety notes and other important information” manual.

This device complies with the relevant safety regulations for data processing equipment.

If you have any questions about where you can set up the device, contact your sales outlet or our customer service team.

CAUTION!

The actions described in these instructions should only be performed by technical specialists. Equipment repairs should only be performed by authorized, qualified staff. Any unauthorized openings and improper repairs could expose the user to risks (electric shock, energy hazards, fire hazards) and could also damage the equipment. Please note that any unauthorized openings of the device will result in the invalidation of the warranty and exclusion from all liability.

Before operating the device

CAUTION!

- During installation and before operating the device, observe the instructions on environmental conditions for your device.
- If the device is brought in from a cold environment, condensation may form both inside and on the outside of the machine.

  Wait until the device has acclimatized to room temperature and is absolutely dry before starting it up. Material damage may be caused to the device if this requirement is not observed.
- Transport the device only in the original packaging or in packaging that protects it from knocks and jolts.

Installation and operation

CAUTION!

- If the rack model is integrated in an installation that receives power from an industrial (public) power supply network with the IEC309 connector, the (public) power supply protection must comply with the requirements for the non-industrial (public) power supply networks for the type A connector.
- The server automatically sets itself to a voltage in the range of 100 V to 240 V. Make sure that your local voltage is within this range.
- This device has a specially approved power cable and must only be connected to a grounded insulated socket.
- Ensure that the power socket on the device or the grounded wall outlet is freely accessible.
- The ON/OFF button does not disconnect the device from the mains voltage. To disconnect the line voltage completely, switch OFF the mains power switch (if available on the standard power supply unit) and remove the power plug(s) from the grounded insulated socket(s).
- Always connect the device and the attached peripherals to the same power circuit. Otherwise you run the risk of losing data if, for example, the central processing unit is still running but the peripheral device (e.g. storage subsystem) has failed during a power outage.
- Data cables to peripheral devices must be adequately shielded.
- To the LAN wiring the requirements apply in accordance with the standards EN 50173 and EN 50174-1/2. As minimum requirement the use of a protected LAN line of category 5 for 10/100 MBps Ethernet, and/or of category 5e for Gigabit Ethernet is considered. The requirements of the specification ISO/IEC 11801 are to be considered.
- Route the cables in such a way that they do not form a potential hazard (make sure no-one can trip over them) and that they cannot be damaged. When connecting up a device, refer to the relevant notes in this manual.
- Never connect or disconnect data transmission lines during a storm (lightning hazard).

CAUTION!

- Make sure that no objects (such as bracelets or paper clips) fall into or liquids spill into the device (risk of electric shock or short circuit).
- In emergencies (e.g. damaged casing, controls or cables, penetration of liquids or foreign matter), switch off the device immediately, remove the power plug and contact your sales outlet or customer service team.
- Proper operation of the device (in accordance with IEC 60950/ EN 60950) is only ensured if the casing is completely assembled and the rear covers for the installation openings have been put in place (electric shock, cooling, fire protection, interference suppression).
- Only install system expansions that satisfy the requirements and rules governing safety and electromagnetic compatibility and relating to telecommunications terminal equipment. If you install other expansions, you may damage the system or violate the safety regulations and regulations governing RFI suppression. Information on which system expansions are suitable can be obtained from the customer service centre or your sales outlet.
- The components or parts marked with a warning label (e.g. lightning symbol) may only be opened, removed or exchanged by authorized, qualified personnel. The hot-plug power supply units are exceptions to this rule.
- The warranty expires if the device is damaged during the installation or replacement of system expansions.
- You may only set those resolutions and refresh rates specified in the „Technical data“ section of the monitor description. Otherwise, you may damage your monitor. If you are in any doubt, contact your sales outlet or customer service centre.

Batteries

CAUTION!

- Incorrect replacement of batteries may lead to a risk of explosion. The batteries may only be replaced with identical batteries or with a type recommended by the manufacturer (see the technical manual for the system board under “Related publications” on page 115).
- Replace the lithium battery on the system board in accordance with the instructions in the technical manual for the system board (see “Related publications” on page 115).

Notes on handling CDs and CD-/DVD-ROM drives

CAUTION!

- Use only CDs in proper condition in the CD-/DVD-ROM drive of your server to prevent data loss, damage to the device and injuries.
- Therefore, check each CD for damage, cracks, breakage etc. before inserting it in the drive.

  Please note that any additional labels applied may change the mechanical properties of a CD and cause imbalance.

  Damaged and imbalanced CDs can break at high drive speeds (data loss).

  Under certain conditions sharp-edged pieces of broken CDs can penetrate the cover of the drive (damage to the device) and be thrown out of the device (danger of injury, particularly on uncovered body parts such as the face or neck).

You protect the CD-/DVD-ROM drive and prevent mechanical damage, as well as premature wearing of the CDs, by observing the following suggestions:

– Only insert the CDs in the drive when needed and remove them after use.
– Store the CDs in suitable sleeves.
– Protect the CDs from exposure to heat and direct sunlight.

Note about the laser

The CD-/DVD-ROM drive is classified for laser class 1according to IEC 60825-1.

CAUTION!

The CD-/DVD-ROM drive contains a laser diode (LED). Sometimes the LED produces a stronger laser beam than laser class 1. Direct view into this laser beam is dangerous.

Never remove parts of the CD-/DVD-ROM drive assembly!

Modules with electrostatic-sensitive components:

Systems and components that might be damaged by electrostatic discharge (ESD) are marked with the following label:

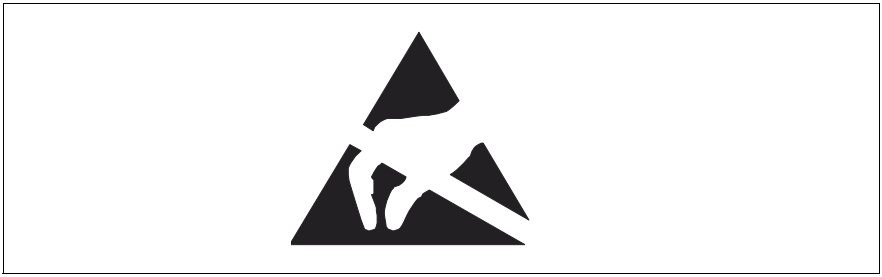

Figure 1: ESD label

When you handle components fitted with ESDs, you must observe the following points under all circumstances:

- Remove the power plug from the power socket before inserting or removing components containing ESDs.
- You must always discharge yourself of static charges (e.g. by touching a grounded object) before working.
- The equipment and tools you use must be free of static charges.
- Only touch the components at the positions highlighted in green (touch points).
- Do not touch any exposed pins or conductors on a component.
- Use a grounding cable designed for this purpose to connect yourself to the system unit as you install components.

- Place all components on a static-safe base.

You will find a detailed description for handling ESD components in the relevant European or international standards (DIN EN 61340-5-1, ANSI/ESD S20.20).

4 Preparation

CAUTION!

Observe the safety instructions in the chapter “Safety notes” on page 13ff.

4.1 Floorstand model

4.1.1 Opening the server

- Terminate all applications and shut down the server correctly.
- If your operating system has not switched off the sever, press the on/off switch.
- Pull all power connectors out of the power outlets.
- If required, remove the lock on the side cover.

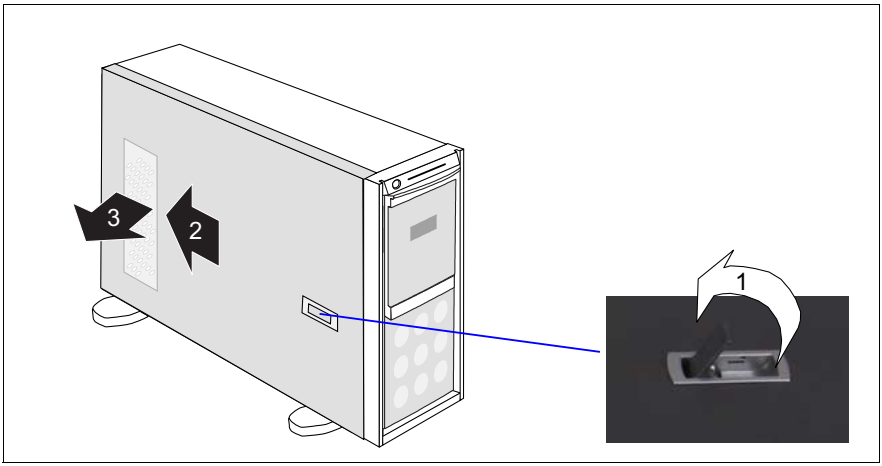

Figure 2: Opening the server

- Open the latch (1).
- Push back the left-hand side cover approxiate 2 cm (2).
- Remove the side cover (3).

4.1.2 Removing the front cover

Remove the front cover when making the following extensions and upgrades:

– Installing/removing accessible drives

– Upgrading the floorstand model to a rack model

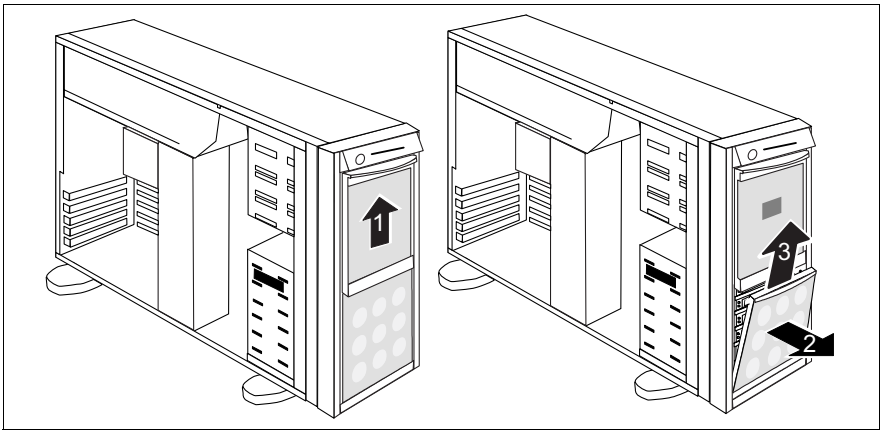

Figure 3: Removing the hard disk cover

► Open the server and remove the key.

► Push the drive cover up as far as possible (1).

► Remove the hard disk cover (2 + 3).

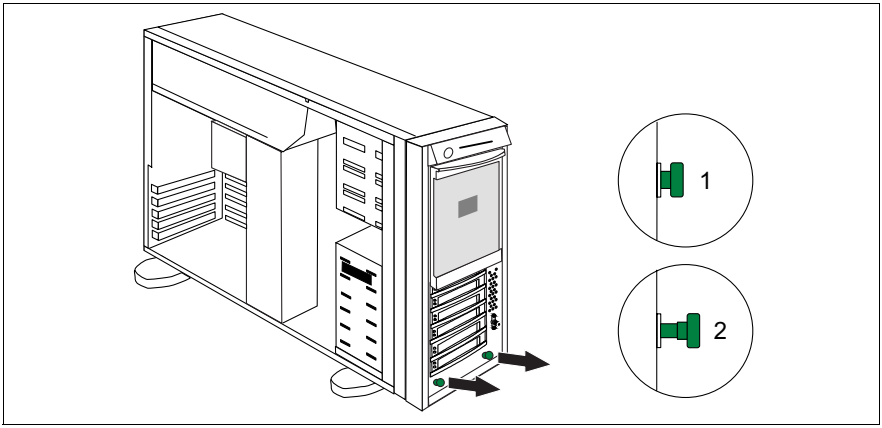

Figure 4: Pulling out the locking buttons

► Pull out the two green locking buttons (1+2).

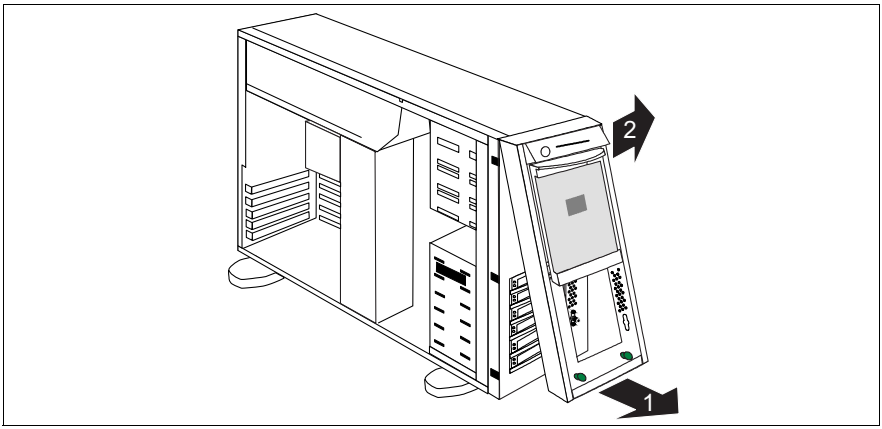

Figure 5: Removing the front cover

► Pull the front cover forward slightly at the lower edge (1).

► Unhook the front cover at the top (2) and remove it.

4.2 Rack model

- ► Terminate all applications and shut down the server correctly.
- ► If your operating system has not switched off the server, press the on/off button.
- ► Pull all power connectors out of the power outlets.

4.2.1 Opening the server

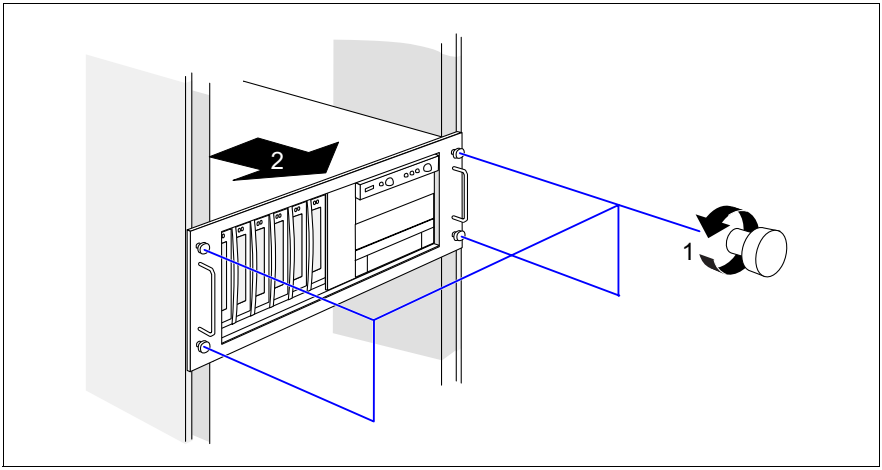

Figure 6: Loosening the knurled screws

- ► Loosen the four knurled screws (1) and pull the server as far as possible out of the rack (2).

Depending on how accessible the server is in the rack cabinet, it can make sense to remove it from the cabinet. If you do not want to remove the server from the rack cabinet, please skip this page.

If the server is integrated in a Classic rack cabinet, instructions on how to remove it are provided in the Operating Manual.

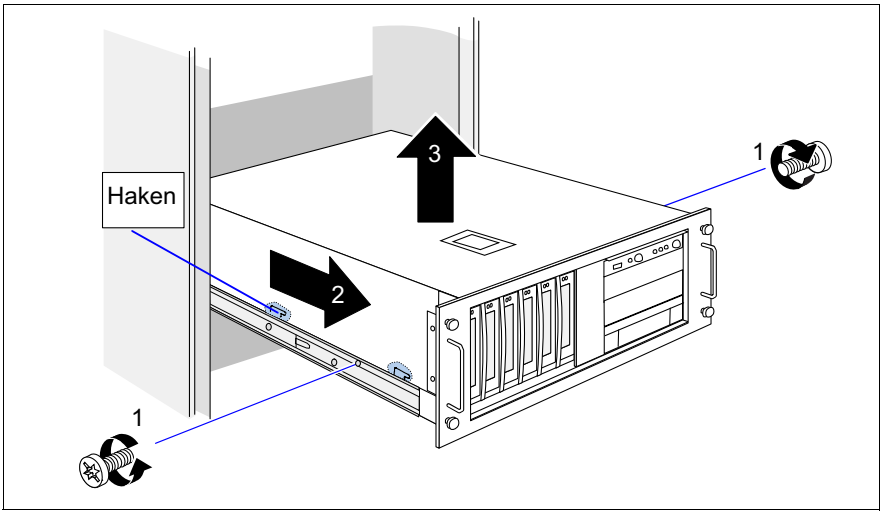

Figure 7: Removing the server from the rack cabinet

- ► Disconnect all cables on the rear of the server.
- ► Remove one screw on each side (1).
- ► Push the server a little way in the direction of the arrow (2) until the hooks on the telescopic rails are released.

CAUTION!

At least two people are needed to lift the server out of the rack cabinet.

- ► Lift the server out of the rails (3) and place it on a table, for example.

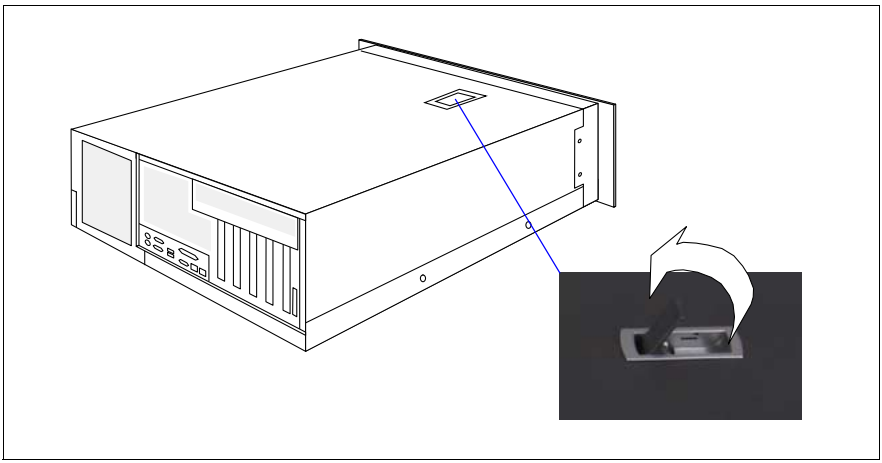

Figure 8: Opening the latch

► Open the latch.

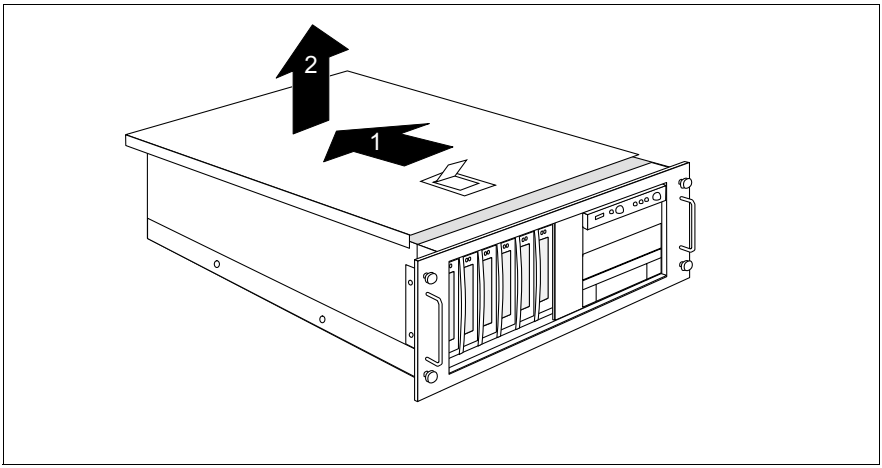

Figure 9: Removing the top cover

► Push back the top cover approxiate 2 cm (1).

► Remove the top cover (2).

4.2.2 Removing the rack front cover

Remove the rack front cover when carrying out the following extension:

– Installing/removing accessible drives

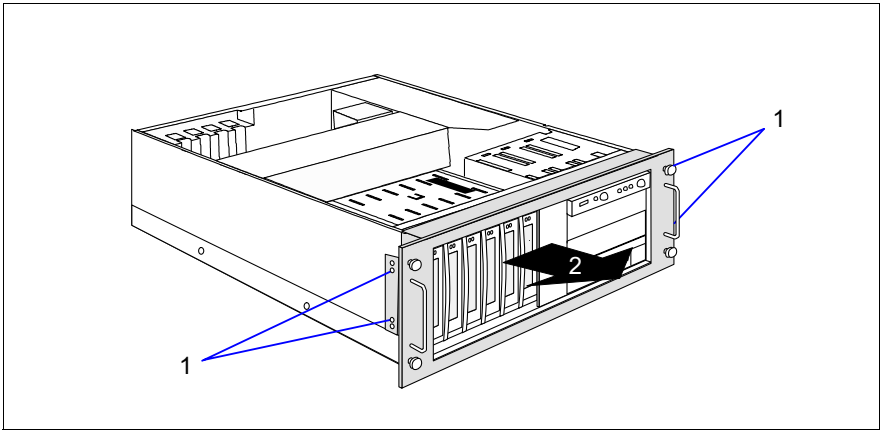

Figure 10: Removing the rack front cover

► Remove two screws on either side (1).

► Remove the rack front cover to the front together with the plastic cover (2).

5 Main memory

CAUTION!

Observe the safety instructions in the chapter “Safety notes” on page 13ff.

The system board supports up to 16 Gbytes of main memory. 6 slots (2 slots form a memory bank) are provided for the main memory. Each memory bank is equipped with two 512 Mbyte, 1 Gbyte, 2 Gbyte or 4 Gbyte FBD533/PC2-4200F or FBD667/PC2-5300F Fully Buffered DIMM memory modules.

A memory bank can optionally be configured as a hot-spare bank.

As memory bank 1 is already equipped either with 1 Gbyte, 2 Gbyte, 4 Gbyte or 8 Gbyte of memory in the basic unit, the memory extensions can be performed up to two times for memory banks 2 and 3.

ECC with memory scrubbing and with the Single Device Data Correction (SDDC, Chipkill) function is standard.

5.1 Equipping rules

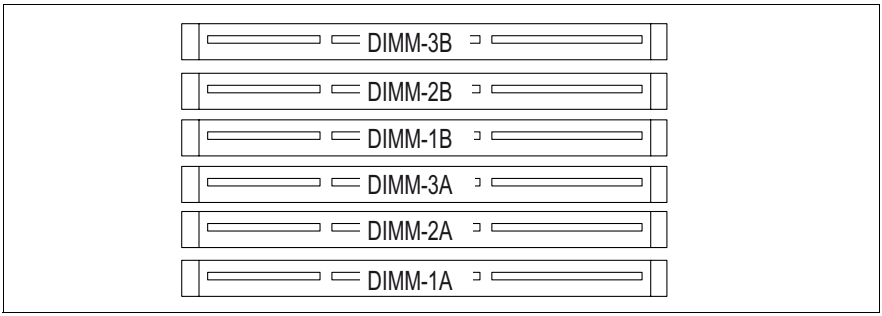

Figure 11: Structure of the main memory in memory banks and memory modules

– The memory modules have to be based on x4 or x8 organised single or dual ranked FBD533/PC2-4200F or FDB667/PC2-5300 fully buffered DIMM modules and must be populated in pairs. It is only allowed you use memory modules released by Fujitsu Siemens Computers.

– Each pair must consist of identical memory modules (2 way interleaved mode).

– The module capacity between pairs can differ: pair 1A/1B can be populated with two 512 Mbyte modules and pair 2A/2B with two 1 Gbyte modules.

The table below shows the order in which the memory banks must be equipped:

module pair 1A/1B (black)	**module pair 2A/2B (blue)**	**module pair 3A/3B (blue)**
populated	empty	empty
populated	populated	empty
populated	populated	populated

5.2 Extending/replacing the main memory

► Open the server as described in the chapter “Preparation” on page 19ff.

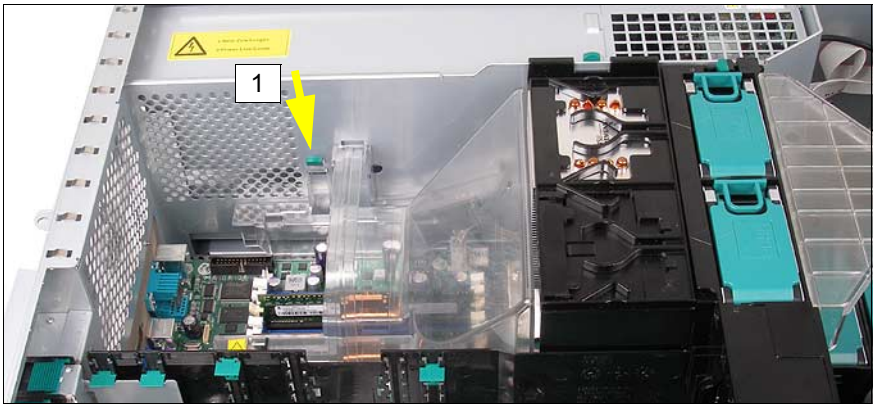

Figure 12: Removing the ventilation duct over the main memory

► Press the green touch point of the latch (1) in the direction of the arrow.

► Lift out the ventilation duct over the main memory.

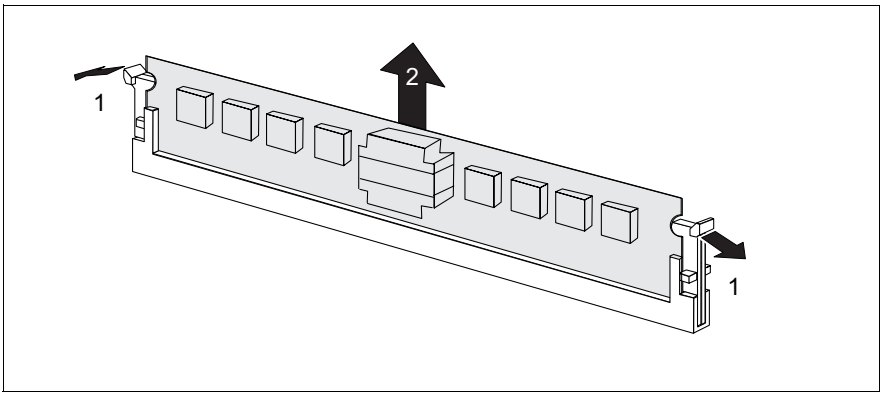

Figure 13: Removing a memory module

- ► Press the holders on either side of the mounting location concerned outward (1).
- ► If the mounting location was already equipped: pull the memory module out of the mounting location (2).

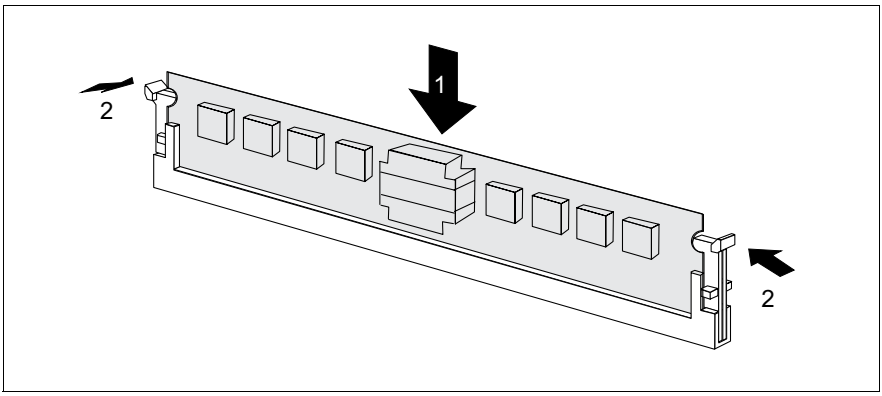

Figure 14: Inserting a memory module

- ► Press the holders on either side of the mounting location concerned outward.
- ► Insert the memory module in the mounting location (1) until the holders at the sides engage (2).

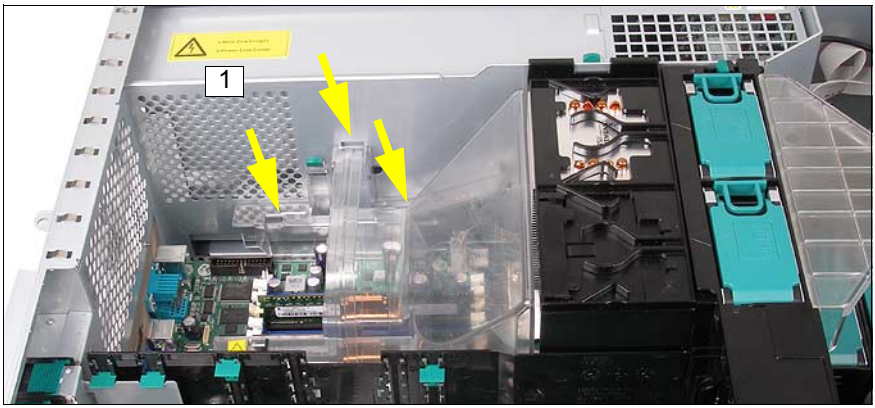

Figure 15: Inserting the ventilation duct over the main memory

► Reinsert the ventilation duct over the main memory.

CAUTION!

Take note of the guides in the chassis (see arrows).

Ensure that the latch (1) engages.

► Close the server, connect it to the power outlet, and switch it on as described in the chapter “Completion” on page 93ff.

6 Processors

CAUTION!

Observe the safety instructions in the chapter “Safety notes” on page 13ff.

CAUTION!

Processors are modules which can react extremely sensitively to electrostatic discharges and which must therefore always be handled with care. After a processor has been removed from its protective sleeve or from its socket, place it with its smooth side down on a non-conducting, antistatic surface. Never push a processor over a surface.

6.1 Installing a second processor

The system board can be upgraded with a second processor. The upgrade kit consists of a processor, a heat sink, and a processor fan.

CAUTION!

Only processors of the same type may be used on the system board. The second processor must have at least the same clock frequency as the first processor. The server always configures itself to the lower clock frequency of the two processors. For dual operation, use a suitable multiprocessor operating system.

- ► Open the server as described in the chapter “Preparation” on page 19ff.
- ► Remove the ventilation duct over the main memory (see page 28).

Server with standard fans

- Remove the heat sink holder (see figure 18 on page 33):
  - Press the green touch point in the direction of the arrow.
  - Lift out the heat sink holder.
- Remove the dummy cover from the heat sink holder (see figure 19 on page 34):
  - Press on the dummy cover in the direction of the arrow, unhook it and remove the dummy cover downward.

CAUTION!

Keep the dummy cover for future use. If you remove the processor again and do not replace it with a new one, reinstall the dummy cover. This ensures that the system is cooled properly.

Figure 16: Removing the standard fans

- Press the two green touch points in the direction of the arrows.
- Lift out the standard fans.

Server with option redundant fans

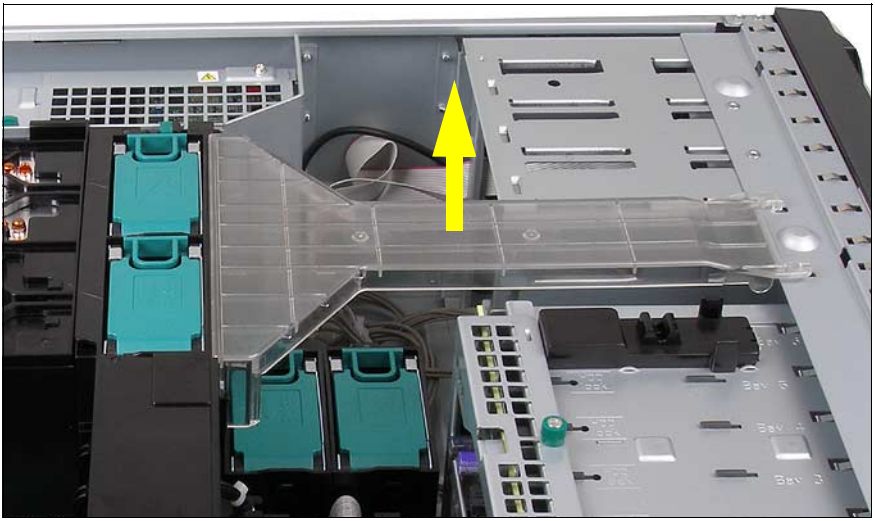

Figure 17: Removing the ventilation duct over the system fans

► Lift out the ventilation duct over the system fans.

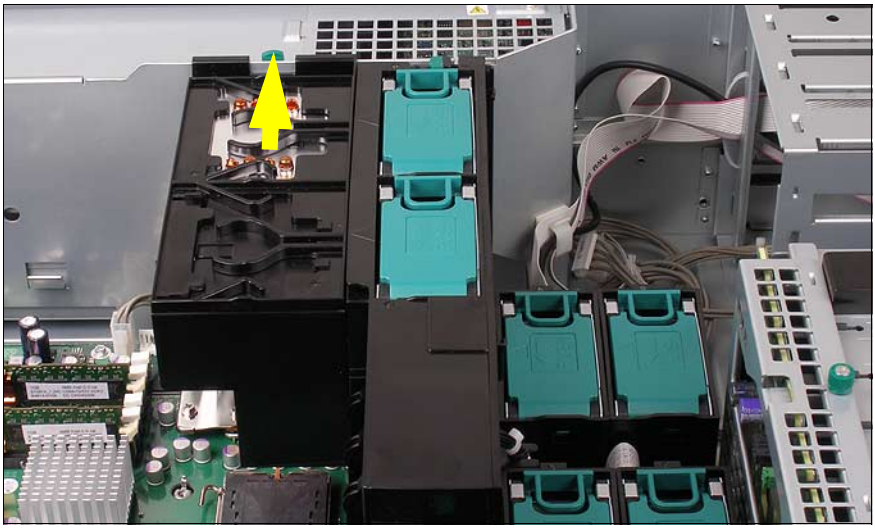

Figure 18: Removing the heat sink holder

► Press the green touch point in the direction of the arrow.

► Lift out the heat sink holder.

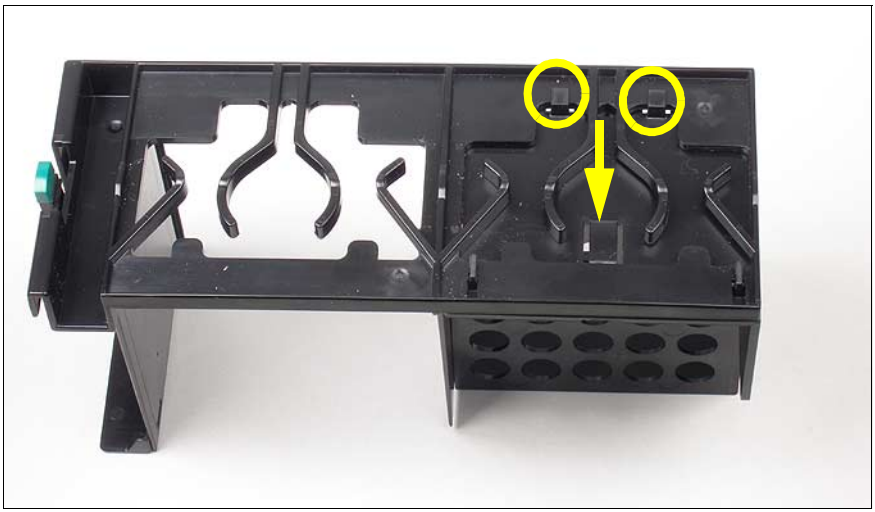

Figure 19: Removing the dummy cover for the processor fan

► Press on the dummy cover for the processor fan in the direction of the arrow, unhook it (see circles) and remove the dummy cover downward.

CAUTION!

Keep the dummy cover for future use. If you remove the processor again and do not replace it with a new one, reinstall the dummy cover. This ensures that the system is cooled properly.

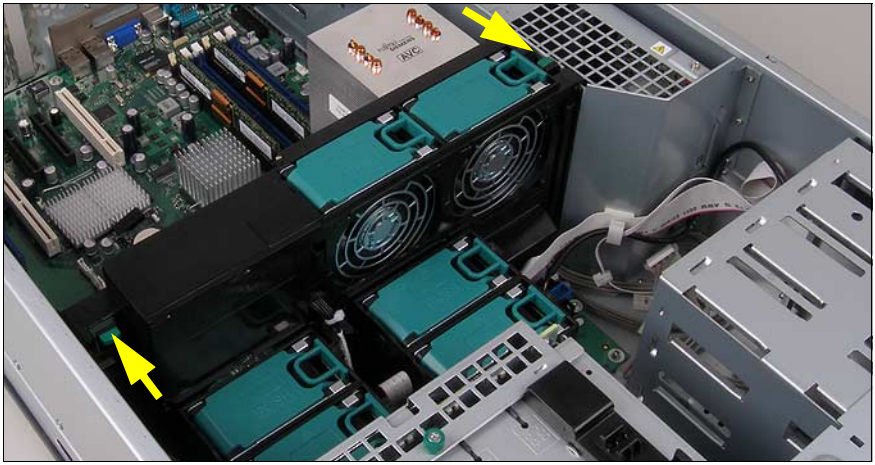

Figure 20: Removing the processor fan holder

► Press the two green touch points simultaneously in opposite directions (see arrows) and lift out the processor fan holder.

Installing the processor and the heat sink

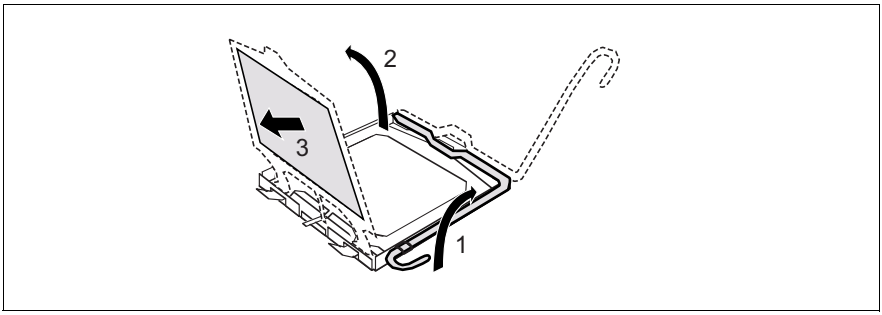

Figure 21: Releasing the lever

► Release the socket lifter by pressing it sideways and pull it upward as far as it will go (1).

► Open the cover (2).

► Remove the plastic cover (3).

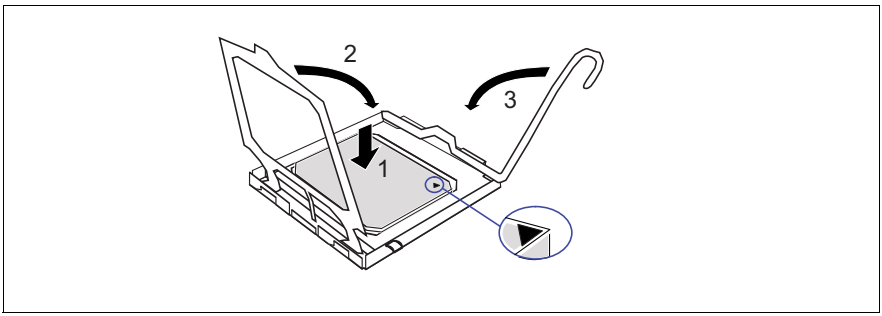

Figure 22: Inserting the processor

► Position the new processor over the socket and then carefully press it into the socket (1).

CAUTION!

The processor can only be installed in one particular direction. Note the marking on one of the corners. To avoid damaging the pins or the processor, do not force it into the socket.

► Close the cover (2).

► Lock the processor in place in the socket by returning the socket lifter to its original position (3).

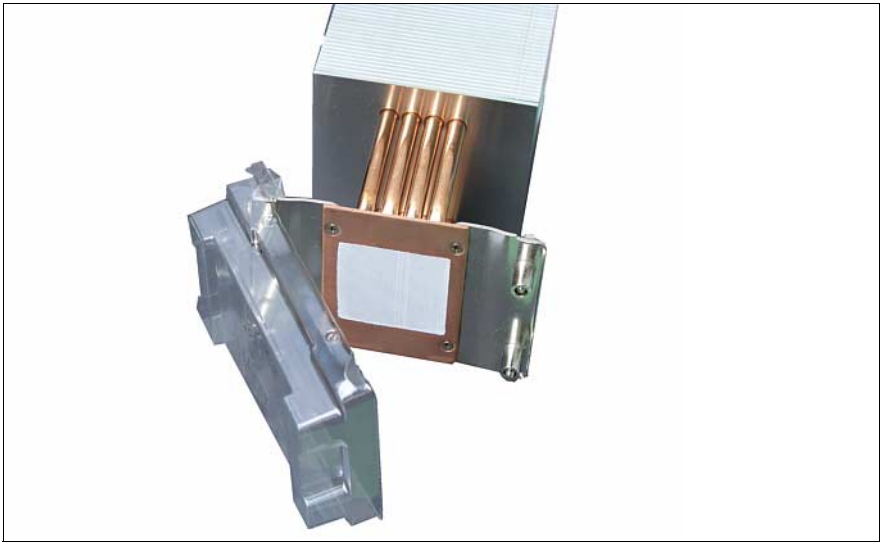

Figure 23: Removing the protective cover

► Remove the protective cover on the underside of the heat sink.

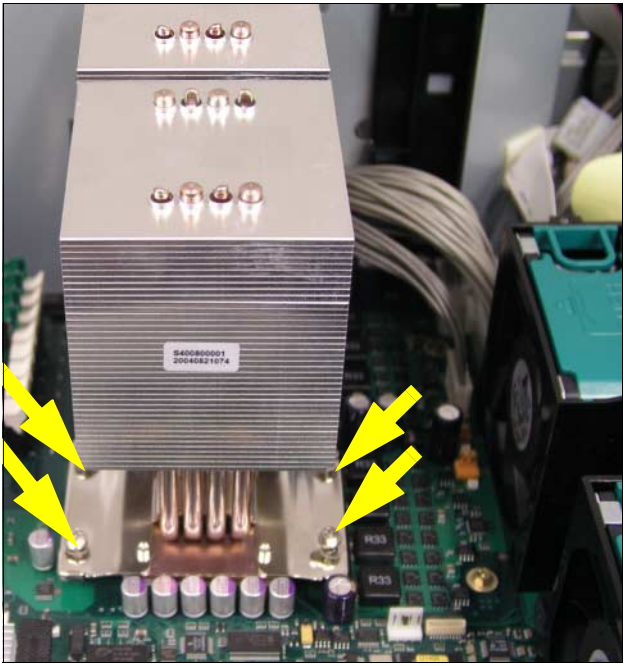

Figure 24: Installing the heat sink

► Place the heat sink on the processor socket.

CAUTION!

If you find an air flow arrow on the top side of the heat sink, place the heat sink in the way that the air flow arrow shows in direction of the server's rear side.

► Fasten the heat sink by tightening the four screws in a crossover pattern.

CAUTION!

Never install a processor without a heat sink and processor fan as otherwise the processor may overheat, causing the processor and system board to fail.

Server with standard fans

Figure 25: Installing the standard fans

► Reinstall the standard fans.

CAUTION!

Ensure that the two green touch points engage.

► Reinstall the heat sink holder (see figure 27 on page 40).

CAUTION!

Ensure that the green touch point engages.

► Reinstall the ventilation duct over the main memory (see page 30).

► Close the server, connect it to the power outlet, and switch it on as described in the chapter “Completion” on page 93ff.

Server with option redundant fans

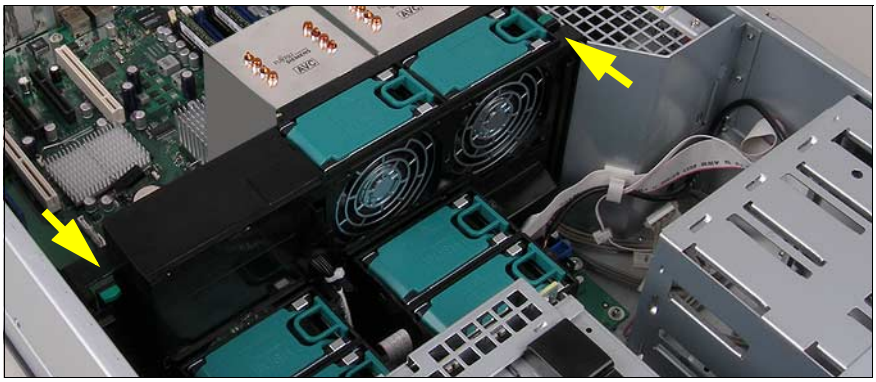

Figure 26: Installing the processor fan holder

► Reinstall the processor fan holder.

CAUTION!

Ensure that the two green touch points engage.

Figure 27: Installing the heat sink holder

► Reinstall the heat sink holder.

CAUTION!

Ensure that the green touch point engages.

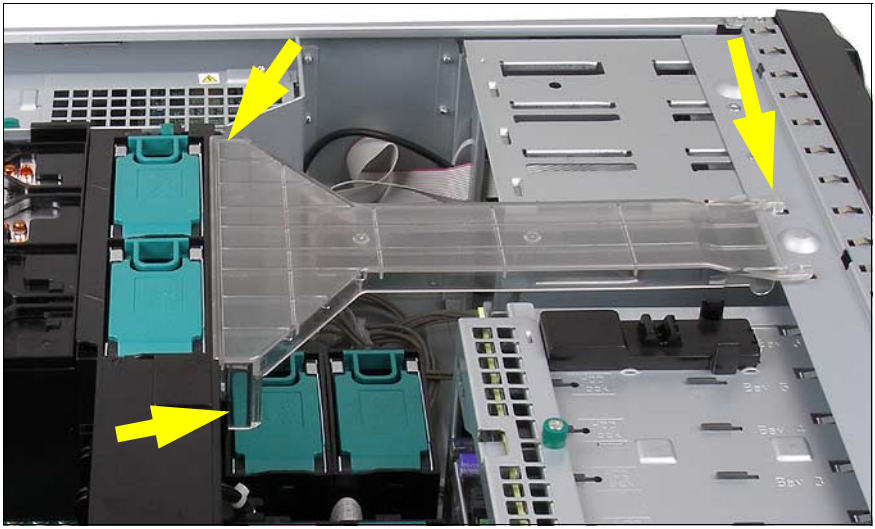

Figure 28: Installing the ventilation duct over the system fans

► Reinstall the ventilation duct over the system fans.

CAUTION!

Pay attention to the guides on the processor fan holder and the housing (see arrows).

Ensure that no damage is caused to the cables.

► Reinstall the ventilation duct over the main memory (see page 30).

► Close the server, connect it to the power outlet, and switch it on as described in the chapter “Completion” on page 93ff.

6.2 Replacing the processor

CAUTION!

Only processors of the same type may be used on the system board. The second processor must have at least the same clock frequency as the first processor. The server always configures itself to the lower clock frequency of the two processors. For dual operation, use a suitable multi-processor operating system.

- ► Open the server as described in the chapter “Preparation” on page 19ff.
- ► Remove the ventilation duct over the main memory (see page 28).
- ► Standard fans: Remove the standard fans (see page 32).
- ► Redundant fans: Remove the ventilation duct over the system fans (see page 33).
- ► Remove the heat sink holder (see page 33).
- ► Redundant fans: Remove the processor fan holder (see page 35).

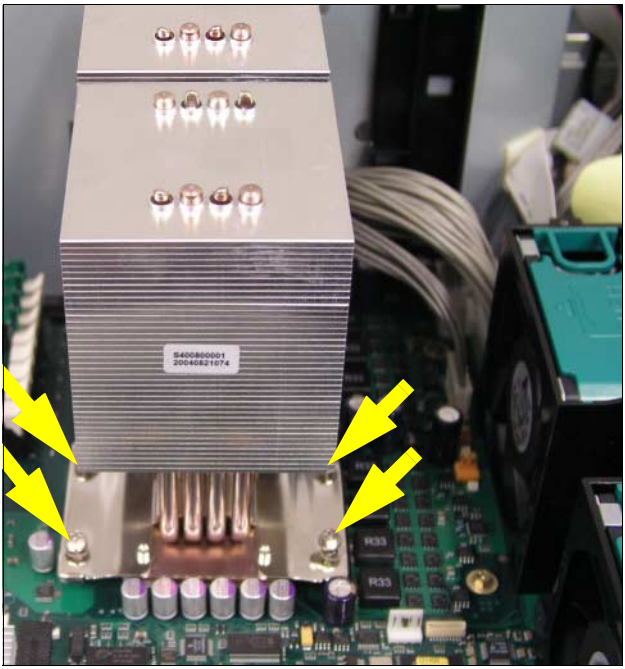

Figure 29: Removing the heat sink

- ► Loosen the four screws in a crossover pattern.
- ► Loosen the heat sink by turning it back and forth and then lift it out.
- ► Remove the residual thermal paste from the underside of the heat sink.
- ► Clean the underside of the heat sink using a lint-free cloth.

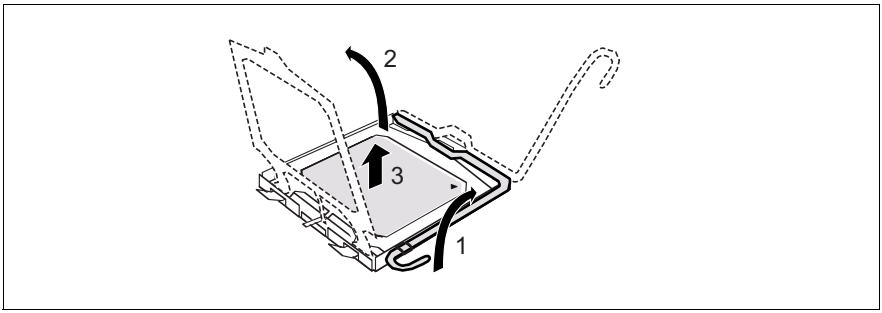

Figure 30: Removing an old processor

- ► Release the socket lifter by pressing it sideways and pull it upward as far as it will go (1).
- ► Open the cover (2).
- ► Lift the installed processor carefully out of the socket (3).

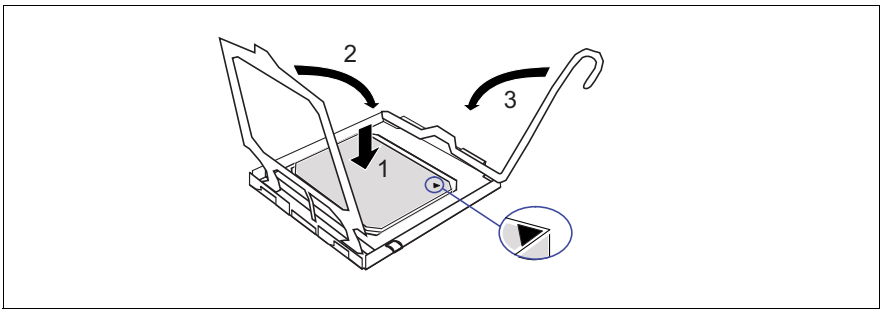

Figure 31: Inserting a new processor

- ► Position the new processor over the socket and then carefully press it into the socket (1).

CAUTION!

The processor can only be installed in one particular direction. Note the marking on one of the corners. To avoid damaging the pins or the processor, do not force it into the socket.

- ► Close the cover (2).
- ► Lock the processor in place in the socket by returning the socket lifter to its original position (3).

- ► Apply a small amount of thermal paste to the upper side of the new processor.
- ► Ensure a thin and even distribution of the thermal paste.
- ► Place the heat sink on the processor socket (see page 38).
- ► Fasten the heat sink by tightening the four screws in a crossover pattern.
- ► Standard fans: Reinstall the standard fans (see page 39).
- ► Redundant fans: Reinstall the processor fan holder (see page 40).
- ► Reinstall the heat sink holder (see page 40).
- ► Redundant fans: Reinstall the ventilation duct over the system fans (see page 41).
- ► Reinstall the ventilation duct over the main memory (see page 30).
- ► Close the server, connect it to the power outlet, and switch it on as described in the chapter “Completion” on page 93ff.

6.3 Replacing the heat sink

- ► Open the server as described in the chapter “Preparation” on page 19ff.
- ► Remove the ventilation duct over the main memory (see page 28).
- ► Standard fans: Remove the standard fans (see page 32).
- ► Redundant fans: Remove the ventilation duct over the system fans (see page 33).
- ► Remove the heat sink holder (see page 33).
- ► Redundant fans: Remove the processor fan holder (see page 35).
- ► Loosen the four screws on the heat sink socket in a crossover pattern (see page 43).
- ► Loosen the heat sink by turning it back and forth and then lift it out.
- ► Clean the upper side of the processor using a lint-free cloth.
- ► Remove the protective cover from the new heat sink (see page 37).
- ► Place the heat sink on the processor socket (see page 38).
- ► Fasten the heat sink by tightening the four screws in a crossover pattern.

- Standard fans: Reinstall the standard fans (see page 39).
- Redundant fans: Reinstall the processor fan holder (see page 40).
- Reinstall the heat sink holder (see page 40).
- Redundant fans: Reinstall the ventilation duct over the system fans (see page 41).
- Reinstall the ventilation duct over the main memory (see page 30).
- Close the server, connect it to the power outlet, and switch it on as described in the chapter “Completion” on page 93ff.

7 Accessible drives

CAUTION!

Observe the safety instructions in the chapter “Safety notes” on page 13ff.

Three free 5.25-inch bays are available for accessible drives.

The lowest 5.25-inch bay can be used to install a multibay with a 3.5-inch x 1-inch floppy disk drive. In this multibay a slim line CD/DVD-ROM drive can be installed above the floppy disk drive.

The two upper bays can be used to install a hard disks extension box (SCSI base units) or double-height tape drives.

7.1 Installing a slim line CD/DVD-ROM drive

- ► Open the server as described in the chapter “Preparation” on page 19ff.
- ► Redundant fans: Remove the ventilation duct over the system fans (see page 33).

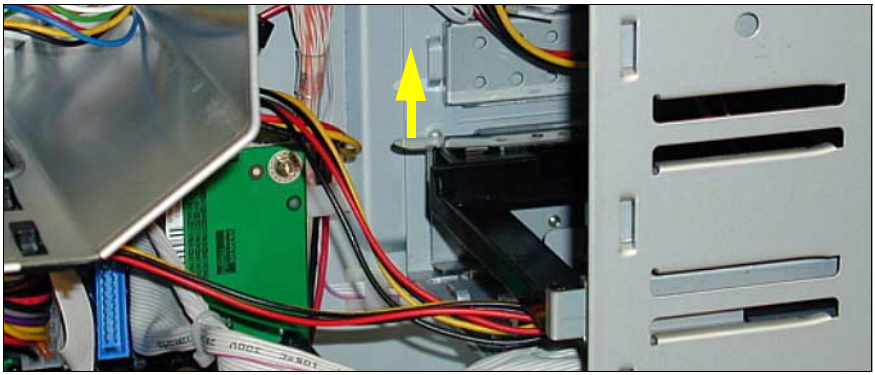

Figure 32: Loosening the locking tab

- ► Pull the locking tab of the CD/DVD-ROM dummy frame upward (see arrow) and push the dummy frame out of the bay in direction of the front side.

Figure 33: Installing the CD-DVD-ROM drive in the mounting frame

- ► Install the slim line CD/DVD-ROM drive in the provided mounting frame. No screws are needed. The mounting frame has little noses which fit into the CD/DVD-ROM drive.
- ► Push the mounting frame in its former bay until the locking tab engages at the rear.

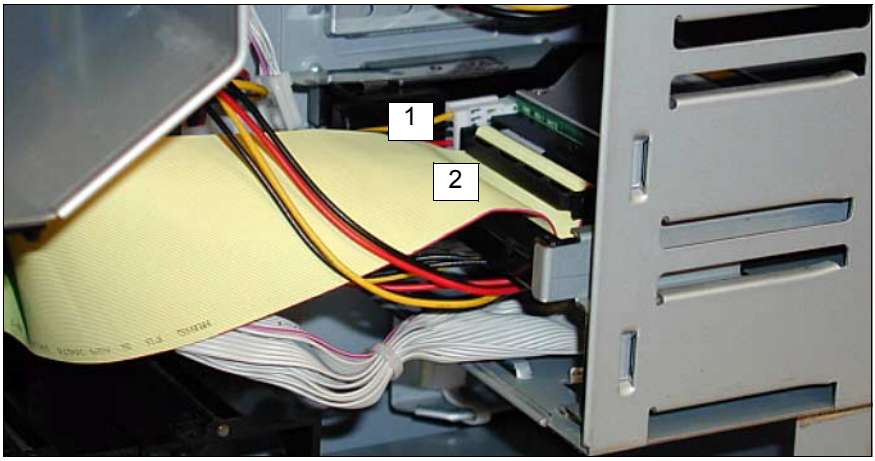

Figure 34: Connecting the cables to the CD-DVD-ROM drive

- ► Connect the power cable (1; Standard power supply plug P9 or hot-plug power supply connector Con 4 of the cable T26139-Y3952-V11) and the data cable (2; T26139-Y3662-V10) to the slim line CD/DVD-ROM drive.

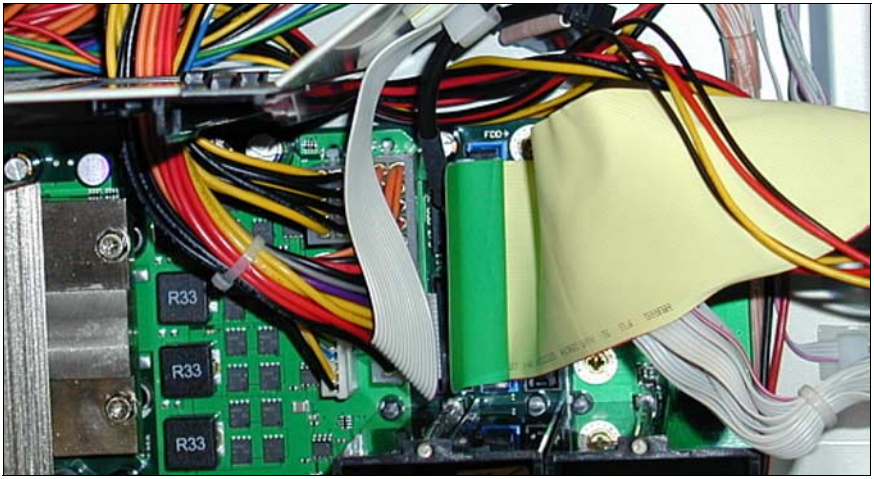

Figure 35: Connecting the data cable on the system board

- Connect the data cable to the system board. You will find the connector near to the connector of the floppy cable.
- Redundant fans: Reinstall the ventilation duct over the system fans (see page 41).
- Close the server, connect it to the power outlet, and switch it on as described in the chapter “Completion” on page 93ff.

7.2 Installing an accessible 5.25-inch drive

The 5.25-inch drives available are magnetic tape drives and DVD-ROM burners. These drives can be installed in the free 5.25-inch bays.

► Open the server and remove the front cover or rack front cover as described in the chapter “Preparation” on page 19ff.

New 5.25-inch drives are supplied without EasyClick rails. Before installing a new 5.25-inch drive you must therefore remove the EasyClick rails from the dummy cover and mount the EasyClick rails on the new 5.25-inch drive.

If you install a magnetic tape drive with double height (3.2-inch), two dummy covers of the free 5.25-inch bays must be removed.

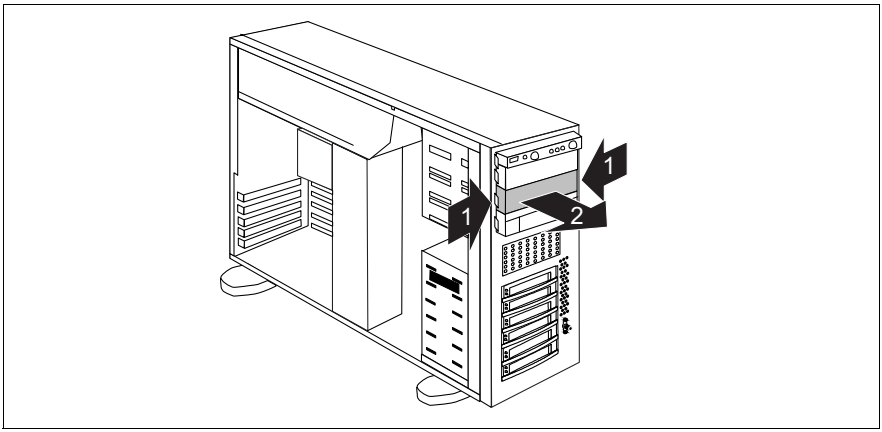

Figure 36: Removing the dummy cover

► Press the metal tongues on each side of the EasyClick rails inward (1) until the locking mechanism is released.

► Remove the dummy cover from the bay (2).

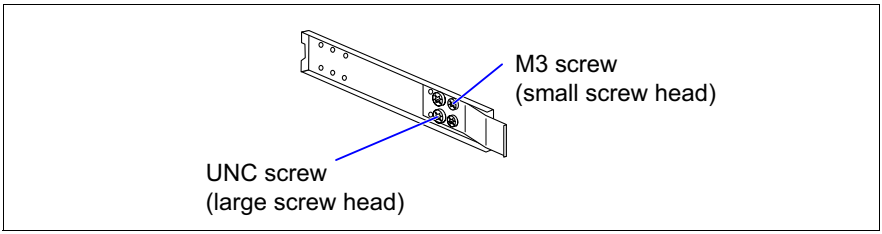

Figure 37: UNC and M3 screws

► Remove the EasyClick rails from the dummy cover by removing the four screws on each side.

Note that there are two M3 screws and two UNC screws on each side.

CAUTION!

Keep the dummy cover for future use. If you remove the accessible drive again and do not replace it with a new one, the dummy cover must be reinstalled to comply with EMC regulations and to satisfy cooling requirements and fire protection measures.

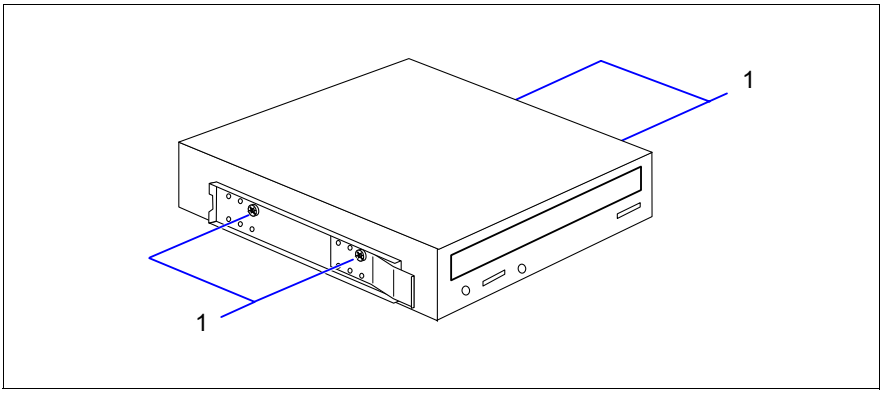

Figure 38: Attaching the EasyClick rails - DVD-ROM burner

► Screw the EasyClick rails onto either side of the new 5.25-inch drive using two M3x4.5mm screws (1).
Use the first hole in each upper row of holes as shown in the figure.

Keep the remaining screws for future use. The different drives are fastened using different screws. Starting on the next page, you will find figures which show the attaching of the EasyClick rails for magnetic tape drives.

- ► Push the new drive about halfway into the bay.
- ► Connect the data cable to the accessible drive (see the cabling plans in the Appendix).
- ► Connect the power cable to the accessible drive (see the cabling plans in the Appendix).
- ► Push the drive fully into the bay until the EasyClick rails latch in place.
- ► Attach the front cover or rack front cover, close the server, connect it to the power outlet, and switch it on as described in the chapter “Completion” on page 93ff.

You will find in the following figures which holes and screws should be used for the magnetic tape dives.

Magnetic tape drive LTO-2 HH Ultrium

CAUTION!

For the tape drive LTO-2 TAA:TS400-AN use only the screws from the manufacturer, which are part of the delivery. The Fujitsu Siemens Computers standard screw is too long and damages the nuts.

Magnetic tape drives LTO Ultrium 2 and LTO3 Ultrium

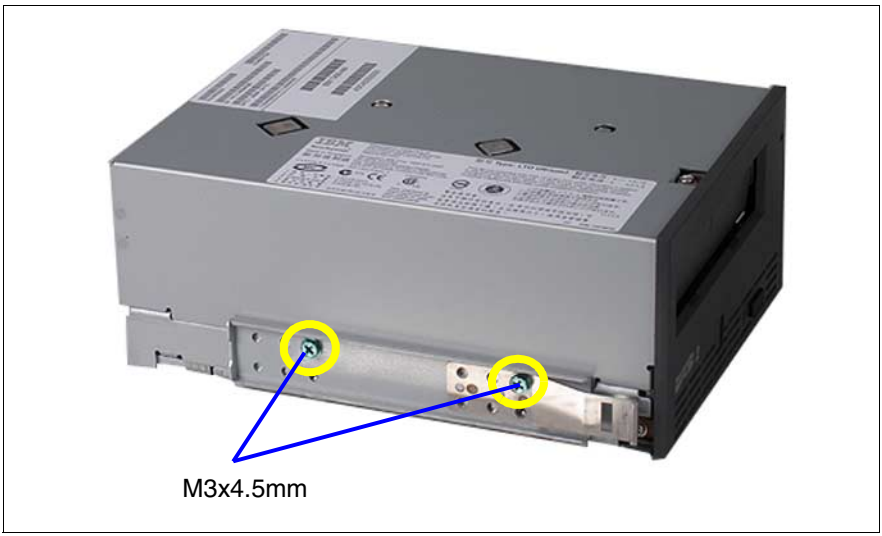

Figure 39: Attaching the EasyClick rails - magnetic tape drive LTO Ultrium 2

Magnetic tape drives Exabyte VXA-320 and Exabyte VXA-2

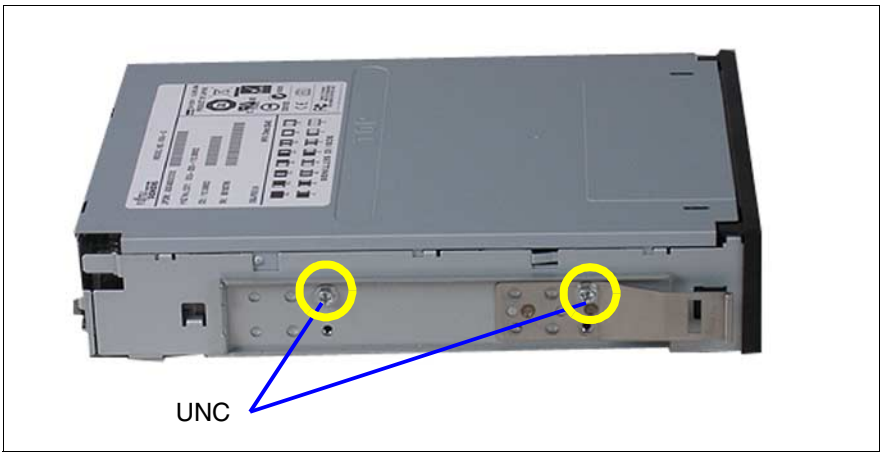

Figure 40: Attaching the EasyClick rails - magnetic tape drive Exabyte VXA-320

Magnetic tape drives DAT72, DDS Gen5 and DDS Gen6

These magnetic tape drives need a frame. This frame is positioned on each side between the EasyClick rails and the housing of the magnetic tape drive.

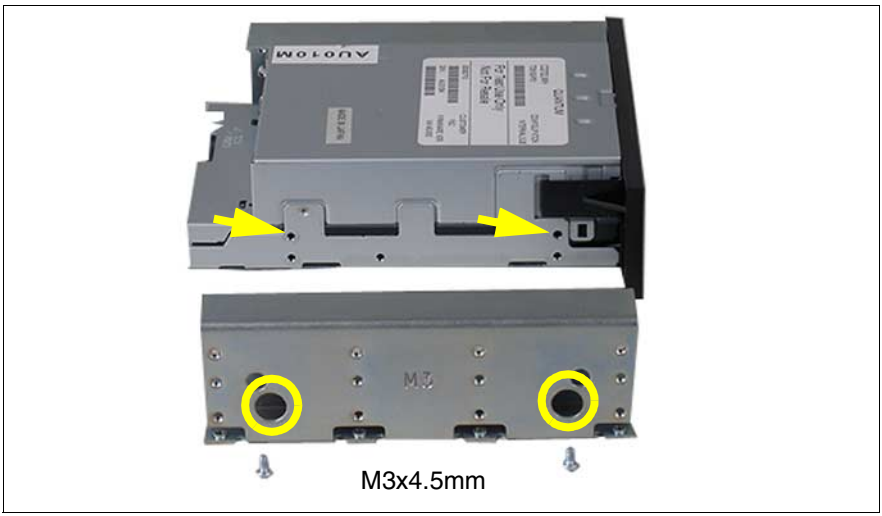

Figure 41: Attaching the frame - magnetic tape drive DAT72

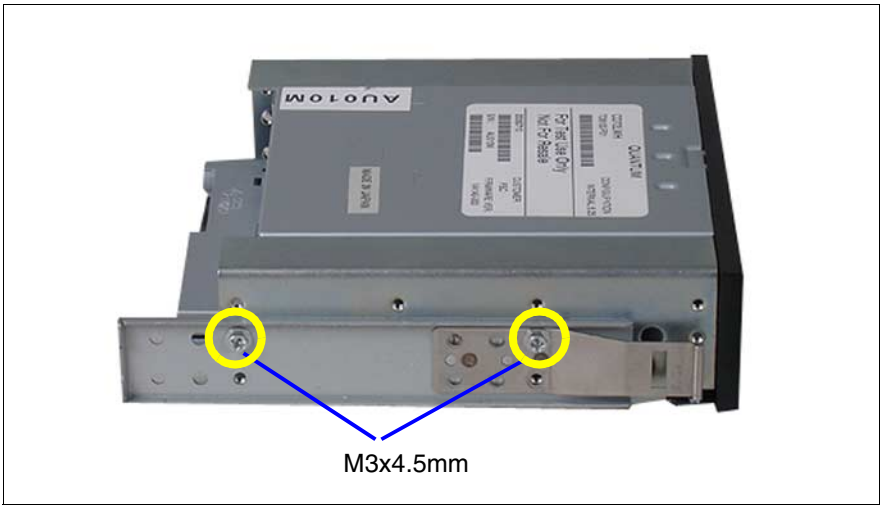

Figure 42: Attaching the EasyClick rails - magnetic tape drive DAT72

7.3 Installing the SCSI hard disks extension box

In the SCSI base units the two upper bays can be used to install a SCSI hard disks extension box.

- ► Open the server and remove the front cover or rack front cover as described in the chapter “Preparation” on page 19ff.

TheSCSI hard disks extension box is supplied without EasyClick rails. Before installing a new hard disks extension box you must therefore remove the EasyClick rails from one of the two dummy covers and mount the EasyClick rails on the hard disks extension box.

- ► Remove the dummy covers from the two upper 5.25-inch bays for accessible drives:
  - ► Press the two metal tongues of the EasyClick rails inward (1) until the locking mechanism is released.
  - ► Remove the dummy cover from the bay.
- ► Remove the EasyClick rails from one of the dummy covers by removing the four screws on each side.

Note that there are two M3 screws and two UNC screws on each side.

CAUTION!

Keep the dummy covers for future use. If you remove the hard disks extension box again and do not replace it with new drives, the dummy covers must be reinstalled to comply with EMC regulations and to satisfy cooling requirements and fire protection measures.

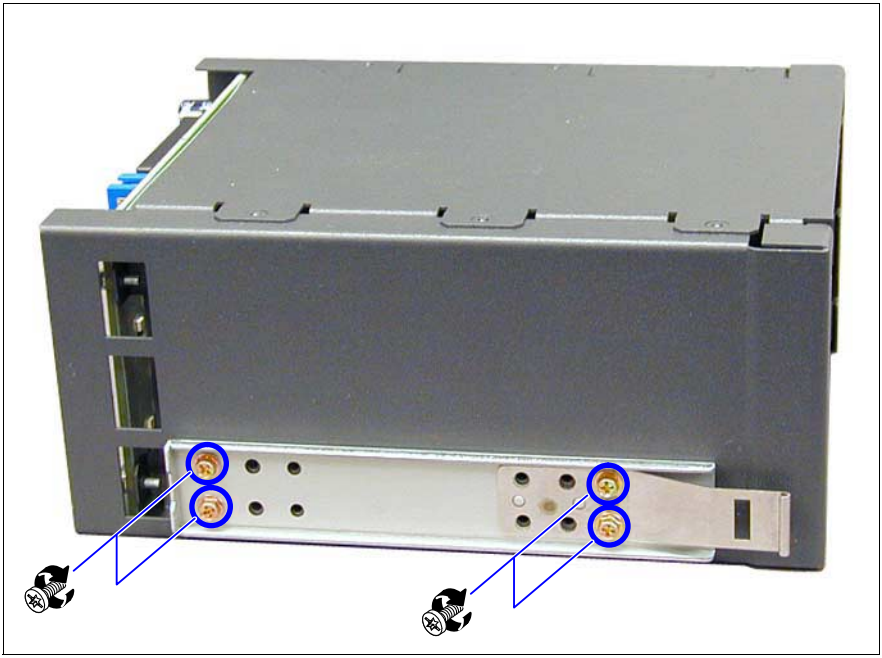

Figure 43: Attaching the EasyClick rails

- ► Screw the EasyClick rails onto either side of the SCSI hard disks extension box using four M3 screws for each rail. Use the holes marked above for this purpose.
- ► Disconnect the SCSI terminator from the last connector of the SCSI cable (T26139-Y3967-V101 or T26139-Y3917-V101).

CAUTION!

Keep the SCSI terminator for future use. If you remove the hard disks extension box again the SCSI cable must be terminated with this connector.

- ► Push the hard disks extension box fully into the bay until the EasyClick rails latch in place.

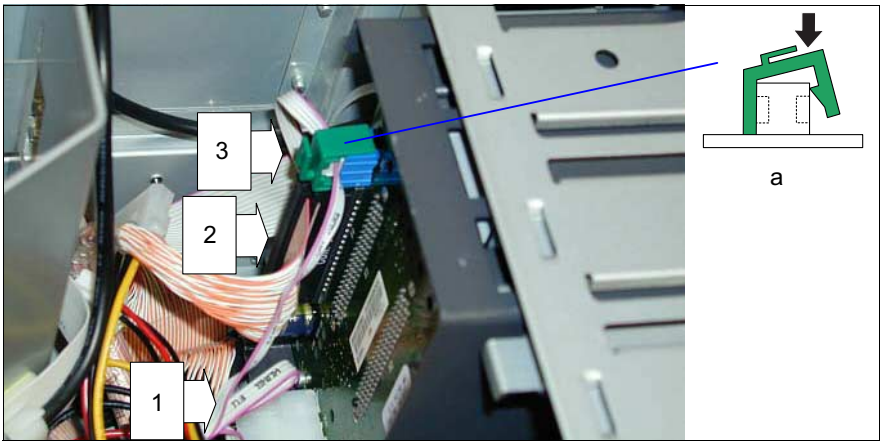

Figure 44: Connecting the cables

- Connect the power cable (Standard power supply: plug P7/ redundant power supply: cableT26139-Y3952-V11 connector Con2) to the SCSI hard disks extension box (1).
- Connect the last connector of the SCSI cable (T26139-Y3967-V101 or T26139-Y3917-V101) to the SCSI hard disks extension box (2).
- Connect the I^2C cable (T26139-Y3718-V601) connector Con2 to the hard disks extension box (3).
- Secure the I^2C cable with a green clamp (a).
- Attach the front cover or rack front cover, close the server, connect it to the power outlet, and switch it on as described in the chapter “Completion” on page 93ff.

8 Controller in the PCI slots

CAUTION!

Observe the safety instructions in the chapter “Safety notes” on page 13ff.

The system board offers six PCI slots. The bus frequency of PCI slot 5 is 33 MHz, of the PCI slots 1, 2 and 10 is 100 MHz/133 MHz. The slots 3 and 4 are PCI express slots.

The hardware of the system board optimizes the speed of the PCI bus (IOOP™) for PCI slots 1, 2 and 10, depending on how the slots are equipped. If only one of this three slots is occupied, the PCI bus speed is 133 MHz. For all other equipment variants the PCI bus speed is 100 MHz.

The PCI slot 1 is prepared for Zero Channel RAID (ZCR). The slot socket has the color blue.

The PCI slot 10 (lowest slot) is exclusive for the SAS controller D2107.

PCI slot 5 is equipped with a pull-out aid to facilitate the removing of the PCI board in this slot and to guarantee the cooling of the system.

8.1 Installing a controller (PCI slots 1-4, 10)

► Open the server as described in the chapter “Preparation” on page 19ff.

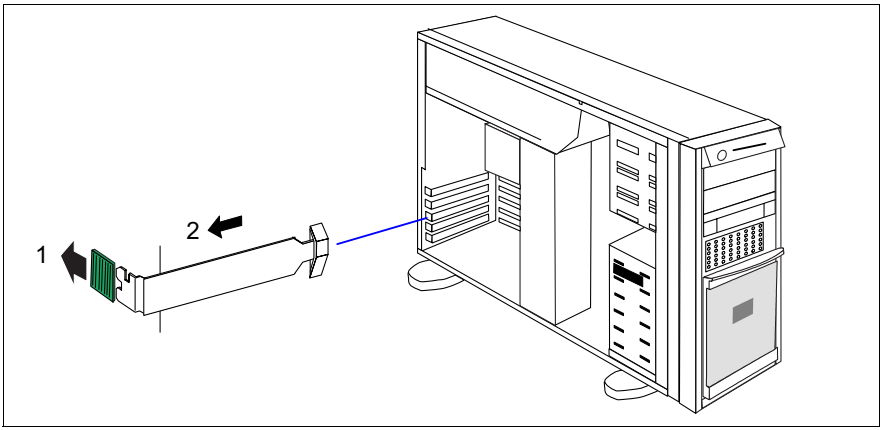

Figure 45: Removing the rear cover

► Push the green fastening slider toward the rear (1).

► Remove the PCI slot’s rear cover (2).

CAUTION!

Keep the rear cover of the PCI slot for future use. If you remove the controller again and do not replace it with a new one, the rear cover must be reinstalled to comply with EMC regulations and to satisfy cooling requirements and fire protection measures.

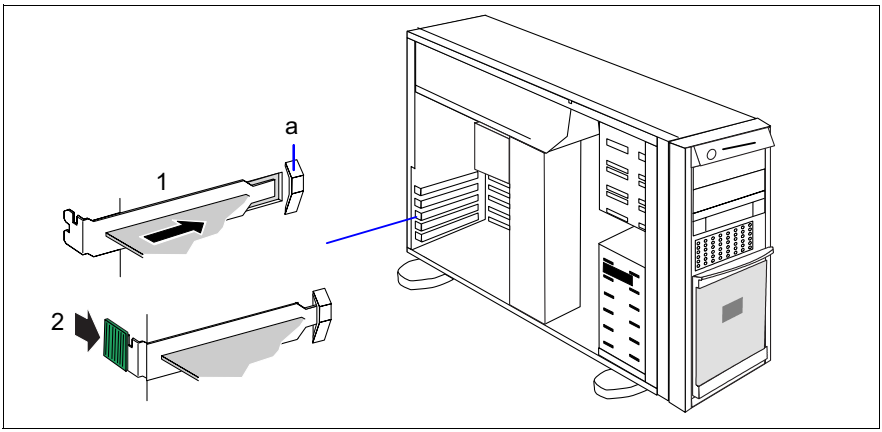

Figure 46: Installing a controller

- ► Install the controller in the PCI slot and press it carefully into the associated plug-in location on the system board (1). Ensure that the rear cover fits into the recess (a).
- ► Push the green fastening slider over the rear cover's bracket (2).
- ► If required, connect the cables to the controller and other components.
- ► Close the server, connect it to the power outlet, and switch it on as described in the chapter "Completion" on page 93ff.

8.2 Installing a controller (PCI slot 5)

CAUTION!

In PCI slot 5 it is obligatory to install the pull-out aid for cooling reasons.

► Open the server as described in the chapter “Preparation” on page 19ff.

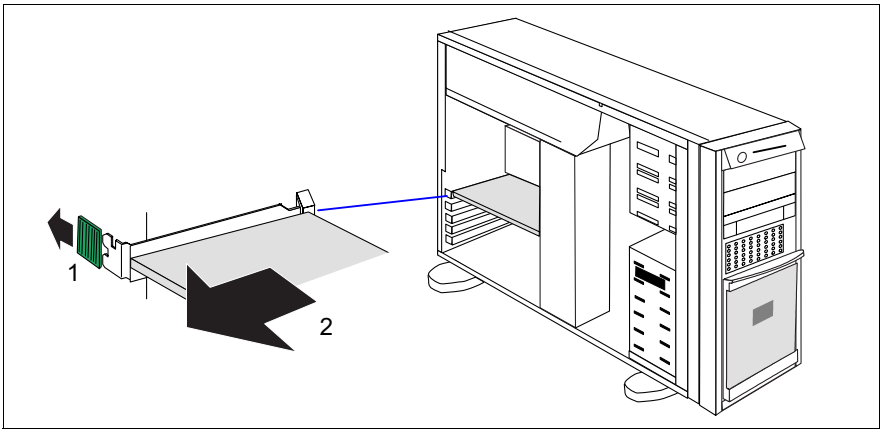

Figure 47: Removing the pull-out aid

► Push the green fastening slider toward the rear (1).

► Remove the pull-out aid (2).

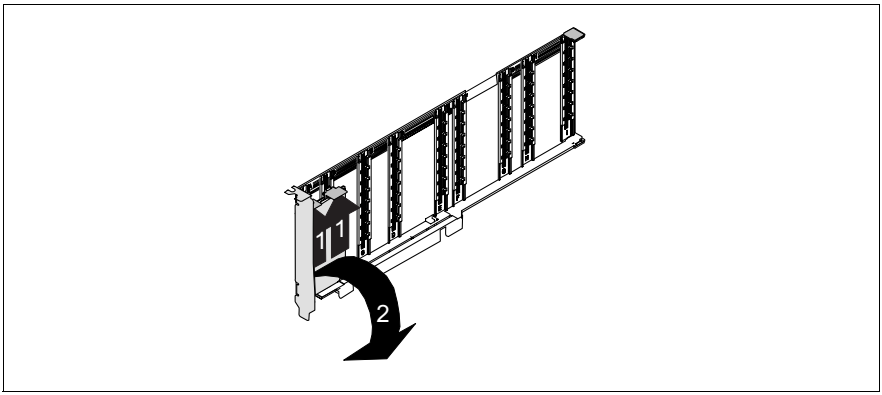

Figure 48: Removing the rear cover from the pull-out aid

- ► Lift the green movable snap-fits not more than 1 mm (1) until the rear cover is released completely.
- ► Remove the rear cover (2).

CAUTION!

Keep the rear cover. If the controller is removed and not replaced with a new one, the rear cover must be reinstalled due to cooling, to comply with applicable EMC regulations (regulations on electromagnetic compatibility) and to protect against fire.

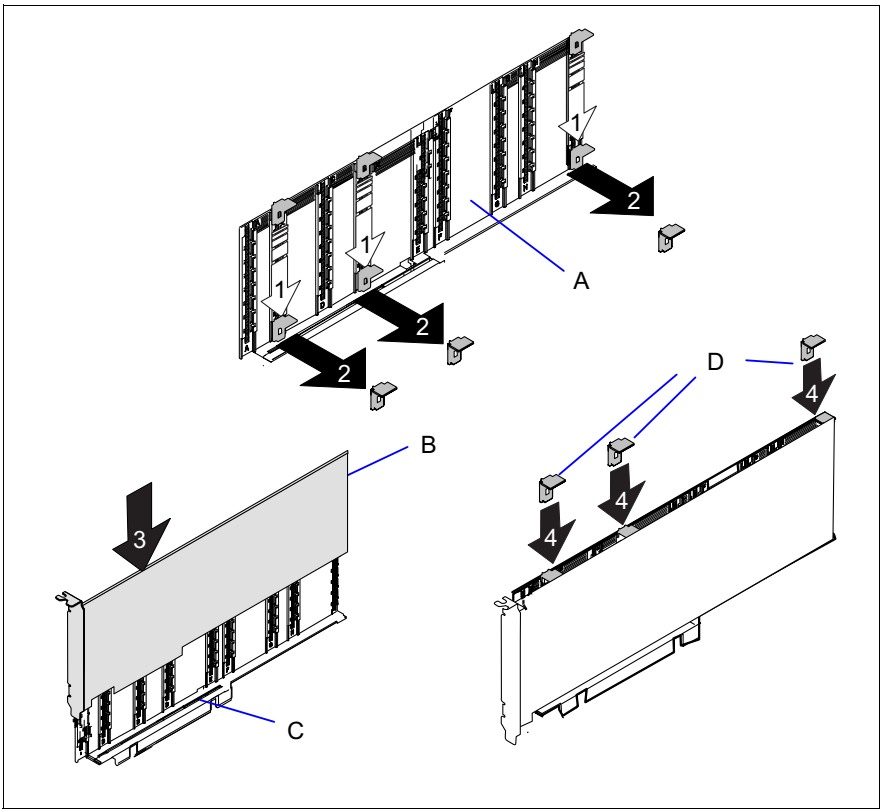

Figure 49: Installing the controller in the pull-out aid

- ► Press the green snap-fits down completely (1) until they are released from the pull-out aid (A) and remove it (2).
- ► Place the controller (B) into the slot (C) of the pull-out aid (3).
- ► Insert and move one green snap-fit (D) down the guidances next to where the controller is not covered by connectors. Make the snap-fit engage at the upper edge of the board (4).
- ► Repeat the procedure with some snap-fits (D).

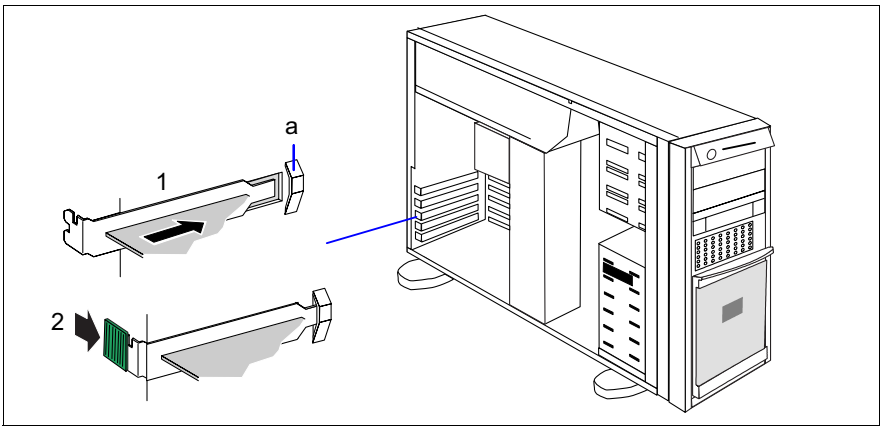

Figure 50: Installing the pull-out aid

- ► Install the pull-out aid with the controller in the PCI slot 5 and press it carefully into the associated plug-in location on the system board (1). Ensure that the rear cover fits into the recess (a).
- ► Push the green fastening slider over the rear cover's bracket (2).
- ► If required, connect the cables to the controller and other components.
- ► Close the server, connect it to the power outlet, and switch it on as described in the chapter "Completion" on page 93ff.

9 SATA SW RAID

CAUTION!

Observe the safety instructions in the chapter “Safety notes” on page 13ff.

The SATA SW RAID 5 functionality will be activated by installing a license key (RAID key).

9.1 Inserting the RAID key

► Open the server as described in the chapter “Preparation” on page 19ff.

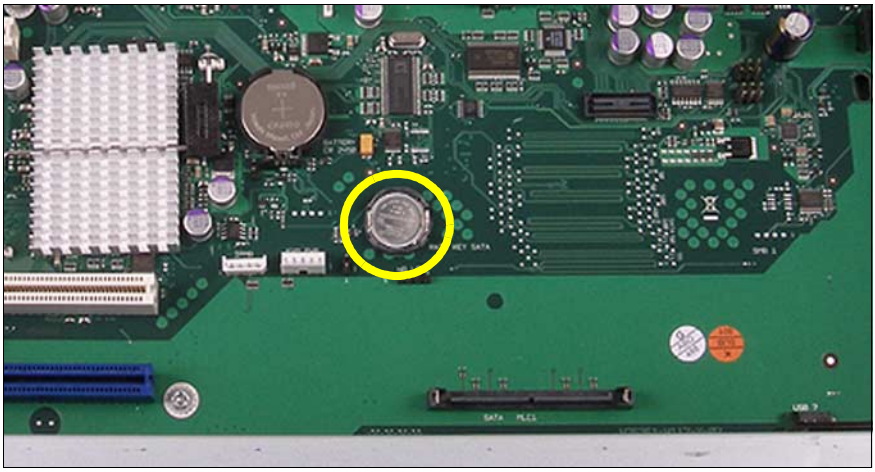

Figure 51: Inserting the RAID key

► Insert the RAID key in the round socket on the system board.

► Close the server, connect it to the power outlet, and switch it on as described in the chapter “Completion” on page 93ff.

10 Parallel interface for printers

CAUTION!

Observe the safety instructions in the chapter “Safety notes” on page 13ff.

10.1 Installing a parallel interface

You need the parallel interface cable T26139-Y3910-V3.

- ► Open the server as described in the chapter “Preparation” on page 19ff.
- ► Remove the ventilation duct over the main memory (see page 28).

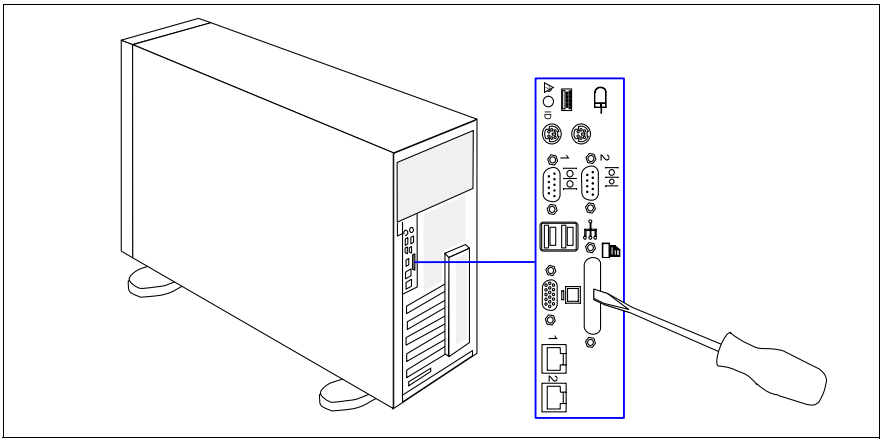

Figure 52: Breaking off the interface plate

- ► Break off the interface plate using a screwdriver.

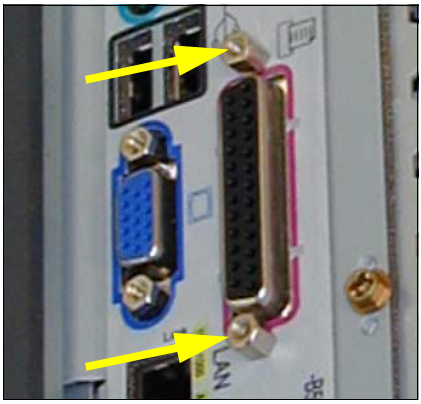

Figure 53: Fastening the plug connector at the rear of the housing

- ► Feed the plug connector through the notch at the rear of the housing.
- ► Fasten the plug connector to the rear of the housing using the threaded bolts supplied (see arrows).

Figure 54: Routing the cable

- ► Route the cable as shown in the photo.
- ► Connect the cable's connector to the parallel port connector on the system board (see arrow).
- ► Reinstall the ventilation duct over the main memory (see page 30).
- ► Close the server, connect it to the power outlet, and switch it on as described in the chapter "Completion" on page 93ff.

11 Upgrading to redundant system fans

CAUTION!

Observe the safety instructions in the chapter “Safety notes” on page 13ff.

If four system fans are installed, the fans are operating in a redundant configuration. A defective system fan can be replaced during the next service.

The upgrading kit contains one adapter board, four fan holders, four system fans, one processor fan holder (including two processor fans), a heat sink holder and an air duct.

- Open the server and remove the front cover as described in the chapter “Preparation” on page 19ff.
- Remove the ventilation duct over the system fans (see page 73).
- Remove the heat sink holder (see figure 18 on page 33):
  - Press the green touch point in the direction of the arrow.
  - Lift out the heat sink holder.

Figure 55: Removing the standard fans

- Press the two green touch points in the direction of the arrows.

► Lift out the standard fans.

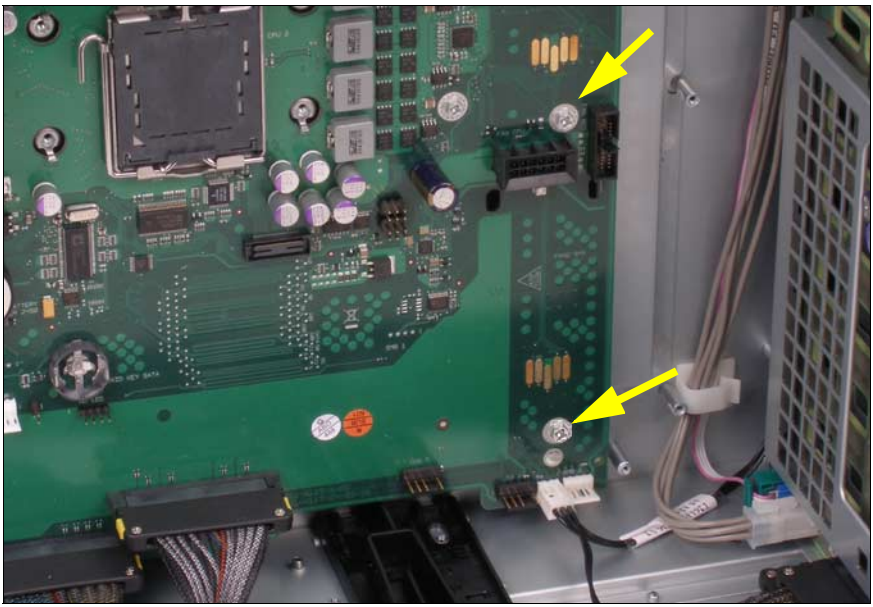

Figure 56: Removing screws

► Remove the two screws (see arrows).

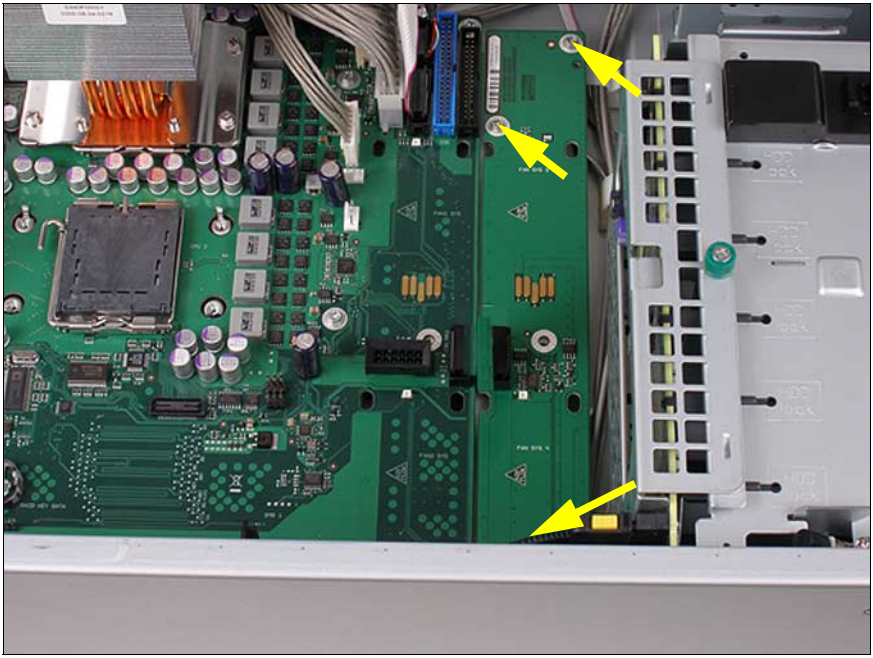

Figure 57: Inserting the adapter board

► Insert the adapter board and fasten it with 3 screws M3x4.5mm (see arrows).

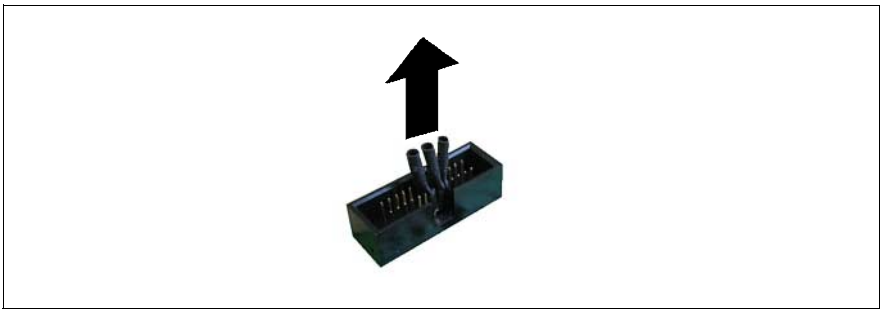

Figure 58: Removing the jumpers

► Remove the jumpers from the system board and from the adapter board.

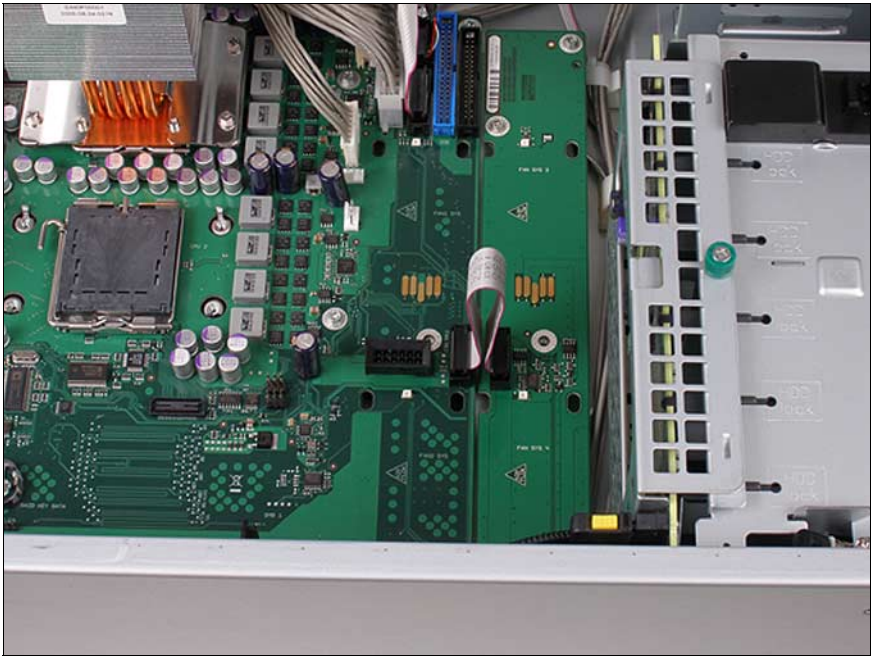

Figure 59: Connecting the cable

► Connect the cable T26139-Y2493-V8 as shown in the photo.

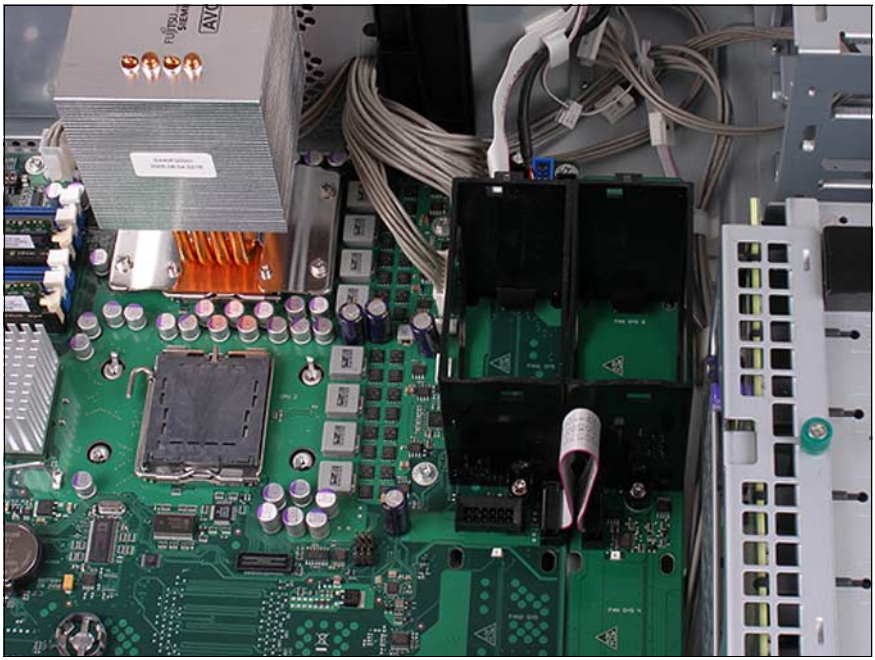

Figure 60: Installing the fan holders

- ► Hook the fan holder into the recesses on the adapter board.
- ► Fasten the fan holder with one captive screw.
- ► Install the second to the fourth fan holder in the same way.

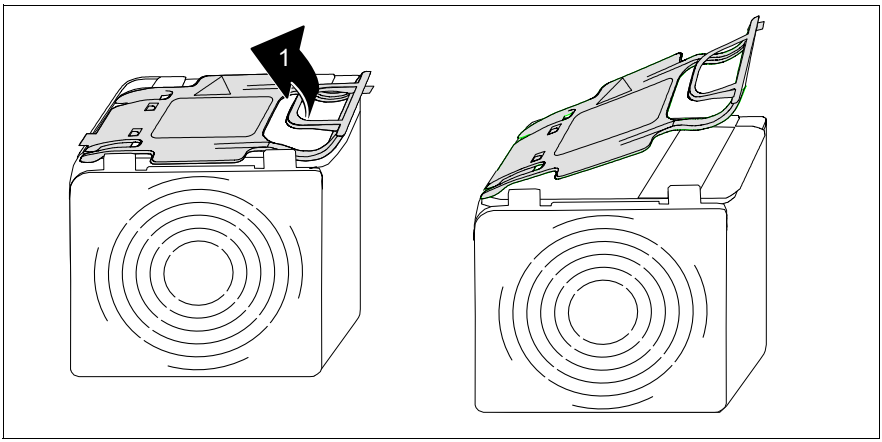

Figure 61: Installing a system fan

- ► Pull the tab up (1).
- ► Install the system fan in the empty fan holder.
- ► Press the tab down until it latches in place.

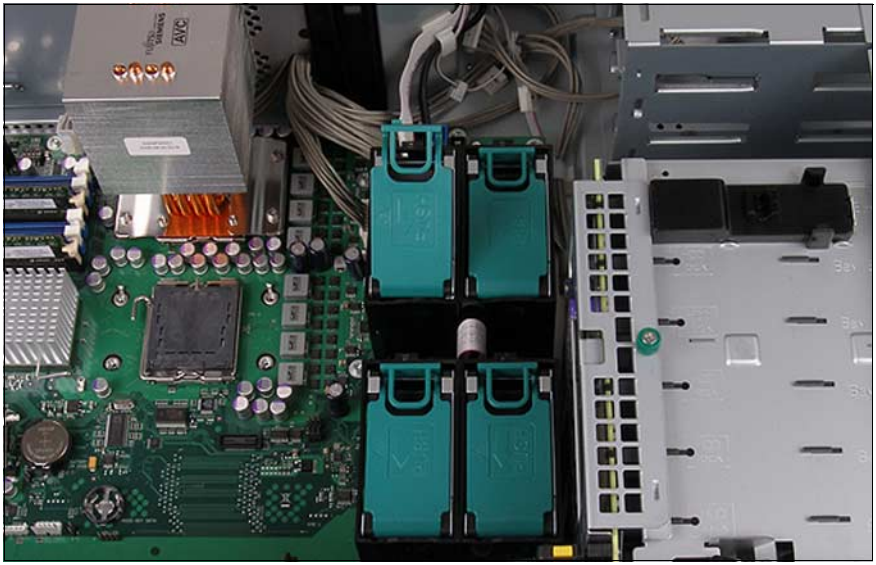

Figure 62: Installed system fans

- ► Install the second to the fourth system fan in the same way.

The detailed description of installing the processor fan holder, the heat sink holder and the ventilation duct over the system fans is part of the section “Installing a second processor”.

- ► Install the processor fan holder with the two processor fans (see page 40).
- ► Install the heat sink holder (see page 40).
- ► Install the ventilation duct over the system fans (see page 41).
- ► Reinstall the ventilation duct over the main memory (see page 30).
- ► Close the server, connect it to the power outlet, and switch it on as described in the chapter “Completion” on page 93ff.

12 Conversion standard PS to hot-plug PS

CAUTION!

Observe the safety instructions in the chapter “Safety notes” on page 13ff.

The conversion kit consists of a PS cage, a Power backplane, a PS safe guard and the power cables.

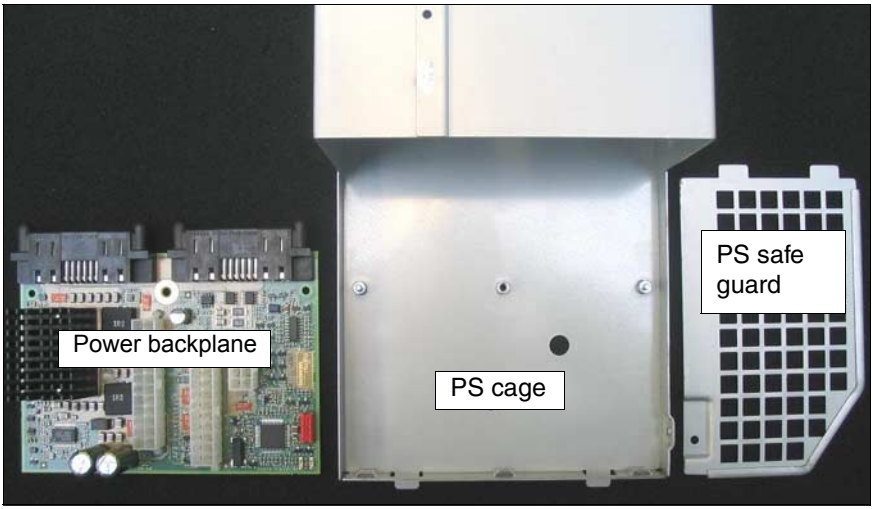

Figure 63: Conversion kit

- Open the server as described in the chapter “Preparation” on page 19ff.
- Standard fans: Remove the standard fans (see page 32).
- Redundant fans: Remove the ventilation duct over the system fans (see page 33).
- Redundant fans: Remove the processor fan holder (see page 35).

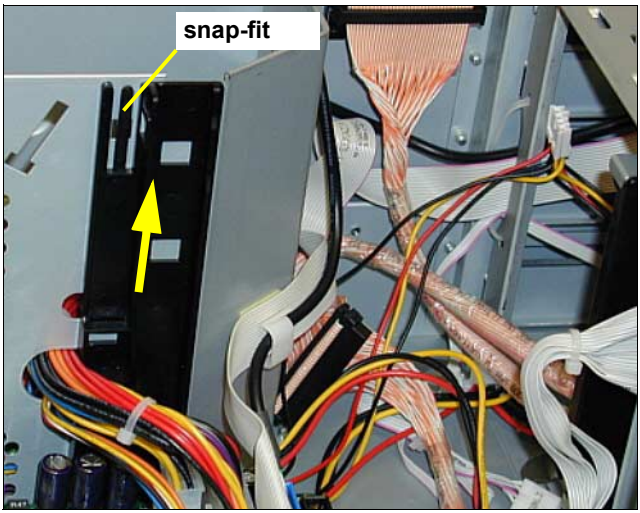

Figure 64: Removing the guidance of the processor fan holder

- ► Unlock the snap-fit.
- ► Push the guidance of the processor fan holder in direction of the arrow and take it out.
- ► Disconnect all power cables from the system board and the drives (see the cabling plans in the Appendix).

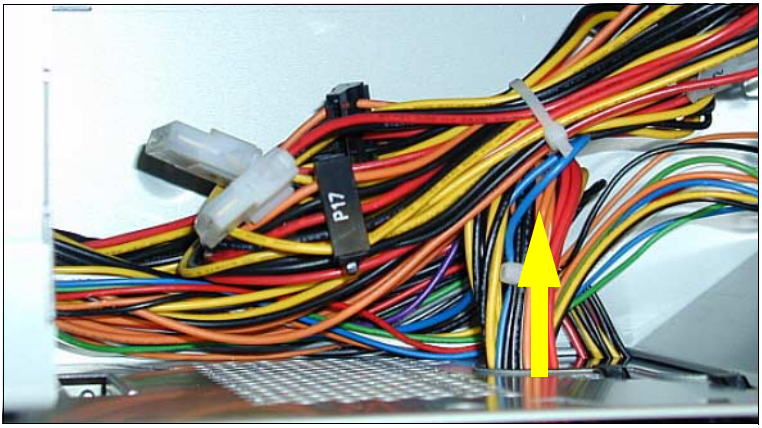

Figure 65: Threading the cables

- ► Thread the power cables through the opening.

Figure 66: Loosening the screws

► Remove the four screws and pull the power supply unit backward out of the server together with the adapter metal cover .

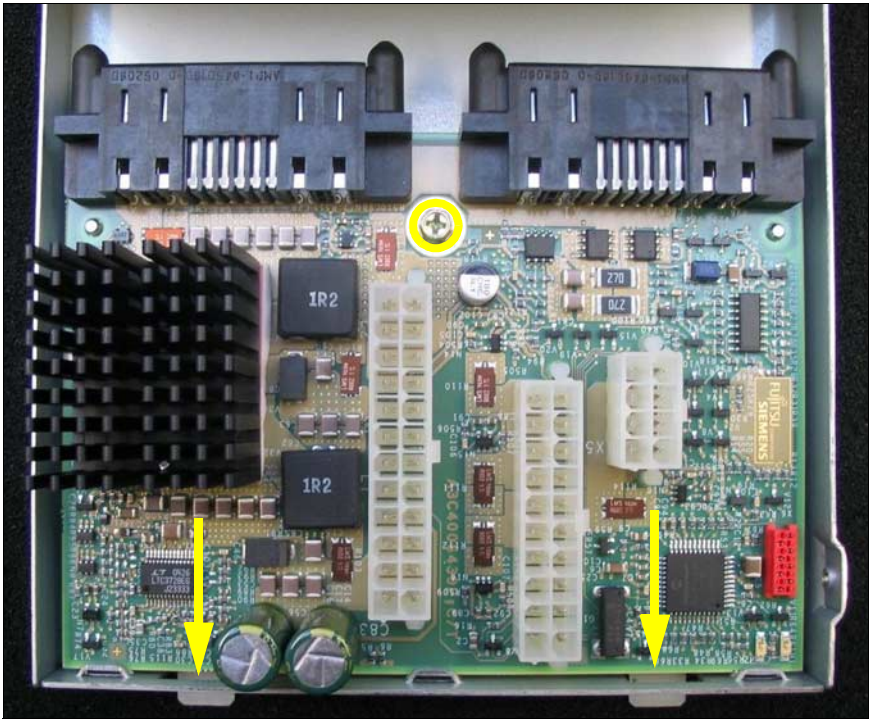

Figure 67: Installing the Power backplane in the PS cage

- ► Insert the Power backplane in the PS cage.
- ► Push the Power backplane in direction of the arrow until it engages in the guidances of the PS cage.
- ► Fasten the Power backplane with one screw M3x4.5mm (see circle).

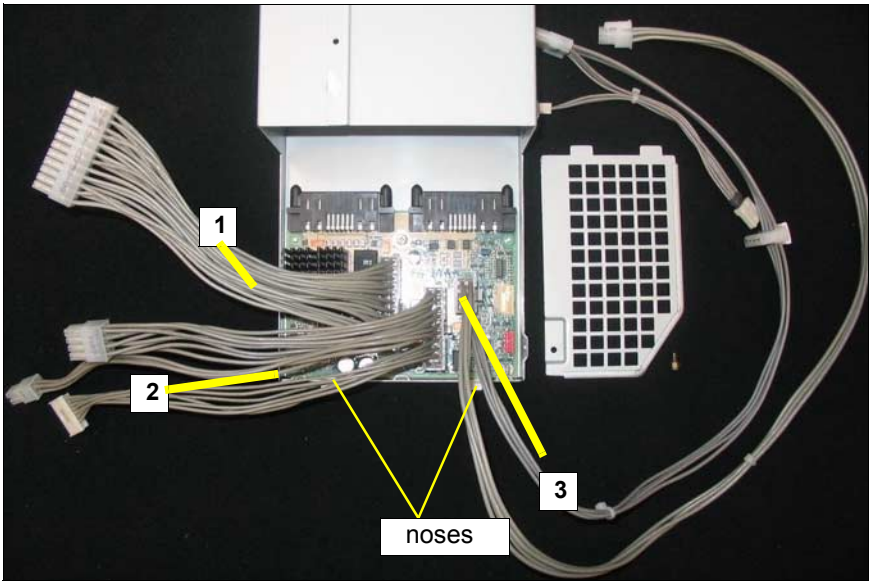

Figure 68: Connecting the cables

► Connect the following cables to the Xn connectors on the Power backplane:

No.	Xn connector	Cable designation
1	X3	T26139-Y3758-V8 / SNP:A3C40057456
2	X4	T26139-Y3952-V1 / SNP:A3C40064985
3	X5	T26139-Y3952-V11 / SNP:A3C40064987

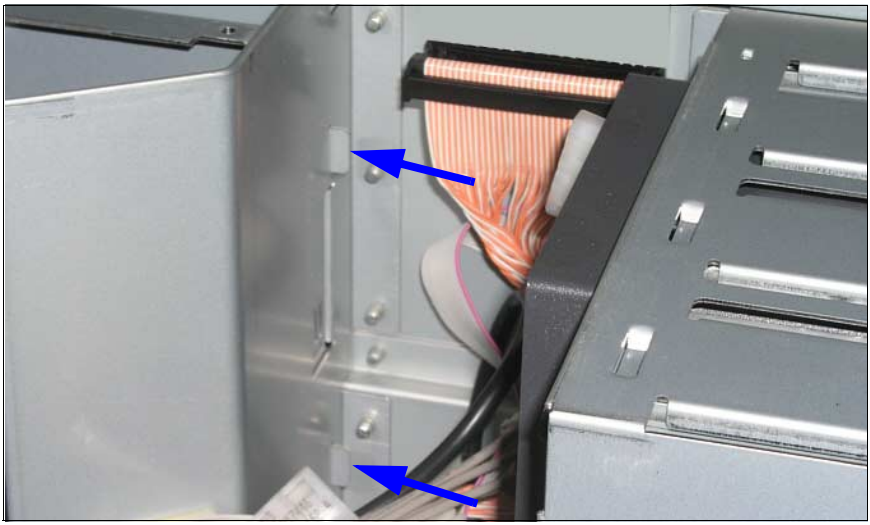

Figure 69: Installing the PS cage

► Push the PS cage from the rear side into the bay. In the floorstand model the Power backplane is positioned under the top cover, and in the rack model at the right-hand side cover (seen from front side).

CAUTION!

Make sure that the noses of the PS cage (see arrows) engage in the chassis.

Figure 70: Fastening the PS cage

- ► Fasten the PS cage with four screws M3x4.5 mm (see arrows) at the rear side.
- ► Push the both power supply modules in the bays of PS cage until they engage.

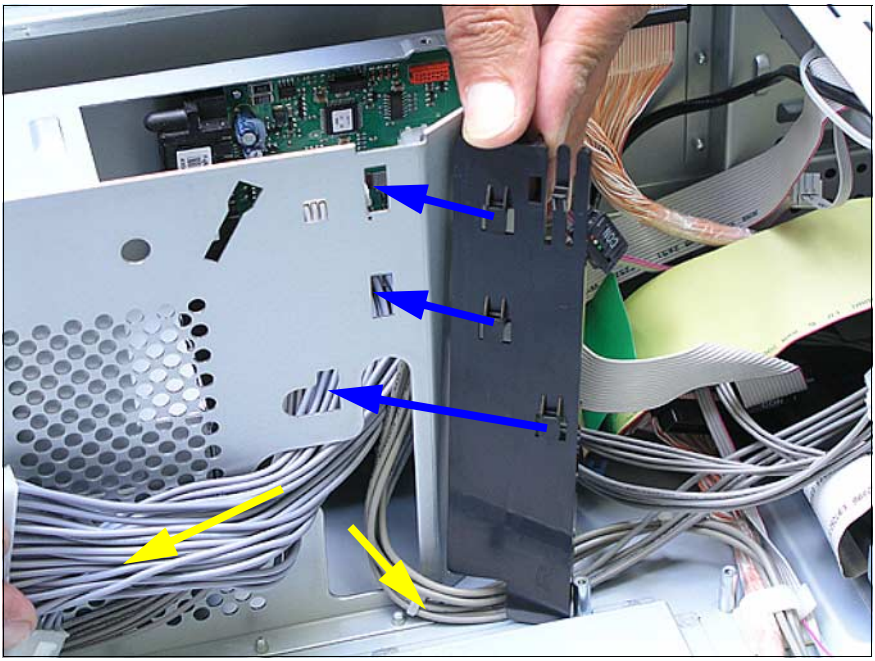

Figure 71: Replacing the guidance of the processor fan holder

- ► Lead the two shorter cables (T26139-Y3758-V8, T26139-Y3952-V1) through the left side of the opening.
- ► Lead the longer cable (T26139-Y3952-V11) to the right side of the opening.
- ► Place the noses of the guidance in the recesses of the chassis and push the guidance down until the noses engage.

CAUTION!

Ensure that no damage is caused to the cables.

- ► Connect all power cables to the system board and the drives (see the cabling plans in the Appendix).

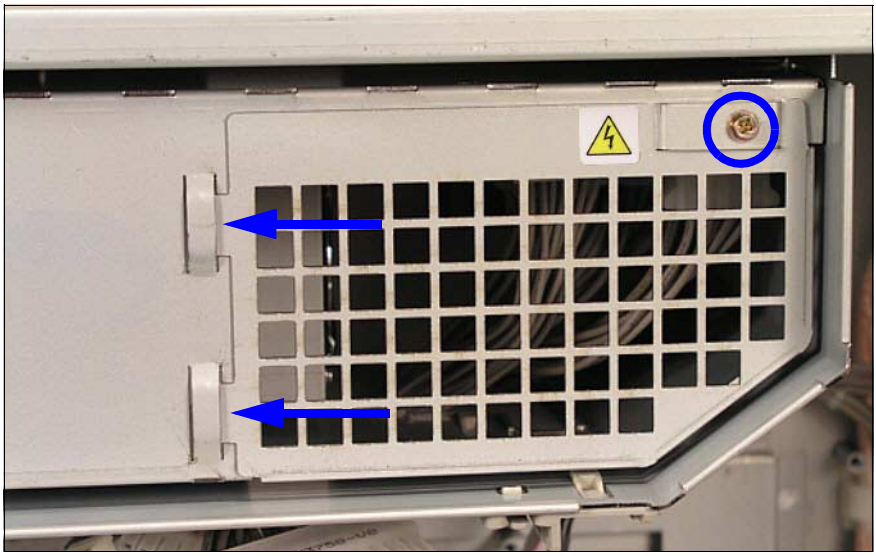

Figure 72: Installing the PS safe guard

- Install the PS safe guard and fasten it with one screw M3x4.5 mm.
- Standard fans: Reinstall the standard fans (see page 39).
- Redundant fans: Reinstall the processor fan holder (see page 40).
- Redundant fans: Reinstall the ventilation duct over the system fans (see page 41).
- Close the server, connect it to the power outlet, and switch it on as described in the chapter “Completion” on page 93ff.

13 Converting from the floorstand model to the rack model

CAUTION!

Observe the safety instructions in the chapter “Safety notes” on page 13ff.

► Open the server and remove the front cover as described in the chapter “Preparation” on page 19ff.

The front cover is no longer required.

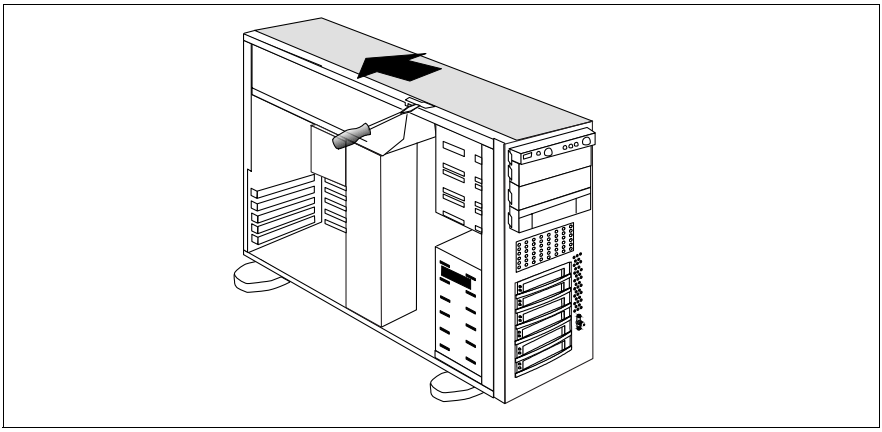

Figure 73: Removing the right-hand side cover

► Lift the hook up slightly using a screwdriver.

► Push the right-hand side cover in the direction of the arrow.

► Lift off the right-hand side cover.

The right-hand side cover is no longer required.

► Lay the server on its right-hand side. Get a second person to help you do this. The server can weigh up to 40 kg.

► Ensure that the feet project over the edge of the table.

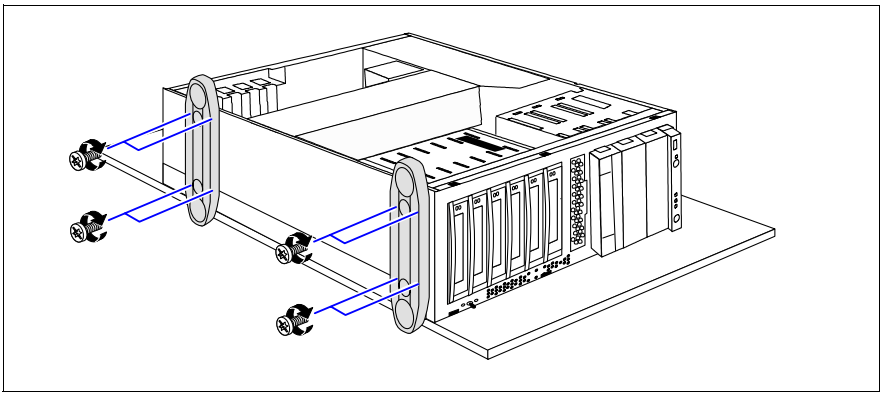

Figure 74: Removing the feet

- ► Remove four screws from each of the feet.
- ► Remove the feet.

The feet are no longer required.

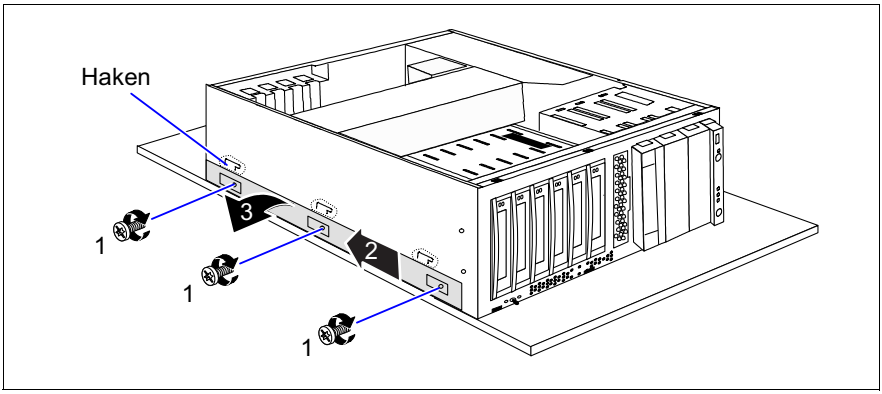

Figure 75: Removing the bar

- ► Remove the three screws (1) on the bar.
- ► Push the bar to the rear (2) until the hooks disengage.
- ► Remove the bar (3).

The bar is no longer required.

The drive cage for the accessible drives is constructed in such a way that the accessible drives and the operating panel module can be taken out simply, turned through 90° to the left, and then be reinstalled.

- ► Remove the ventilation duct over the system fans (see page 33).
- ► Remove the dummy covers from the drive cage (figure 36 on page 50).
- ► Unplug the cables from the system board or the accessible drives and remove the drives from the drive cage.
- ► Pull the operating panel module forward out of its mounting location until you can pull the I2C cable, the ribbon cable and USB cable out of the operating panel module. Remove the three cables.
- ► Remove the operating panel module.
- ► Turn the operating panel module through 90° to the left.

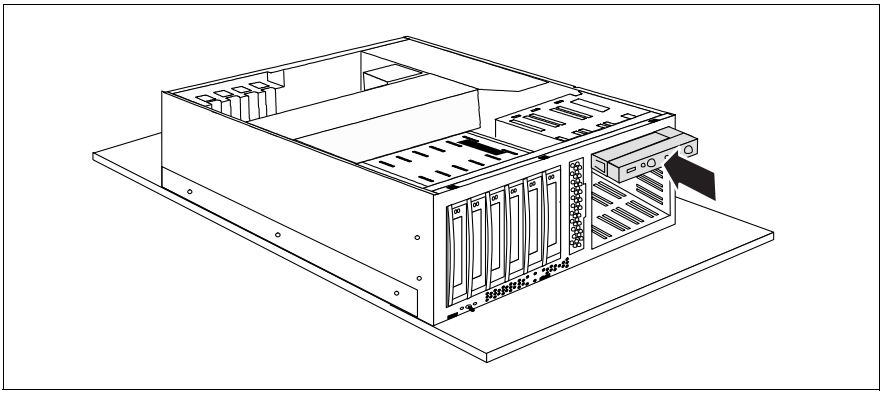

Figure 76: Installing the operating panel module

- ► Push the operating panel module halfway into the upper bay of the drive cage.
- ► Connect the I2C cable, the ribbon cable and USB cable to the operating panel module.
- ► Now push the operating panel module fully into the upper bay of the drive cage.
- ► Turn the drives removed beforehand through 90° to the left.
- ► Turn the dummy covers removed beforehand through 90° to the left.
- ► Install the drives and empty covers in the drive cage.

- ► Reestablish all connections to the drives.
- ► Reinstall the ventilation duct over the system fans (see page 41).
- ► Attach the rack front cover, close the server, connect it to the power outlet, and switch it on as described in the chapter “Completion” on page 93ff.

To enable the rack model to be presented correctly in ServerView, proceed as follows:

- ► Place the ServerStart CD-ROM in the drive.
- ► Under the path \Tools\System Configuration start the SCU_Chassis Model Conversion program and change the server type to "PRIMERGY TX200S3 Rack".

14 Completion

CAUTION!

Observe the safety instructions in the chapter “Safety notes” on page 13ff.

14.1 Floorstand model

14.1.1 Attaching the front cover

After you have installed all accessible drives, reattach the front cover.

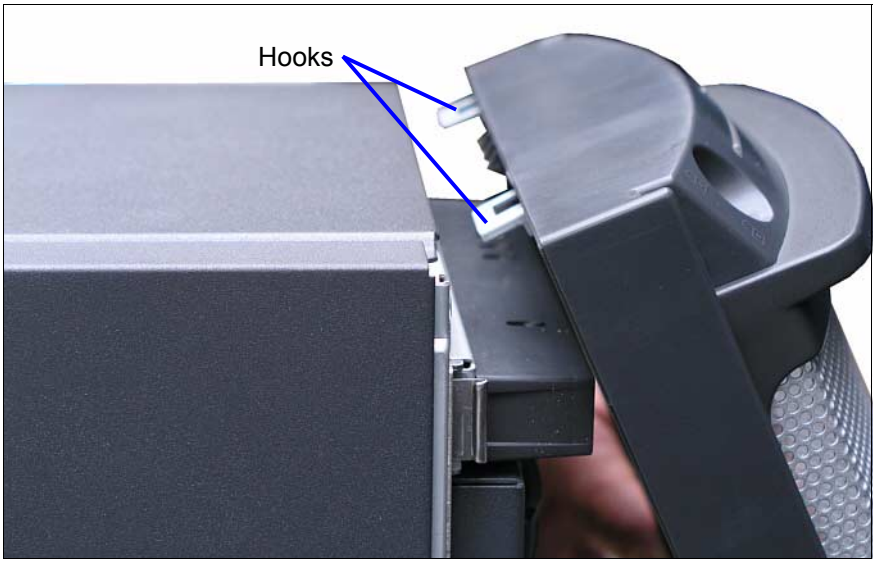

Figure 77: Hooks on the front cover

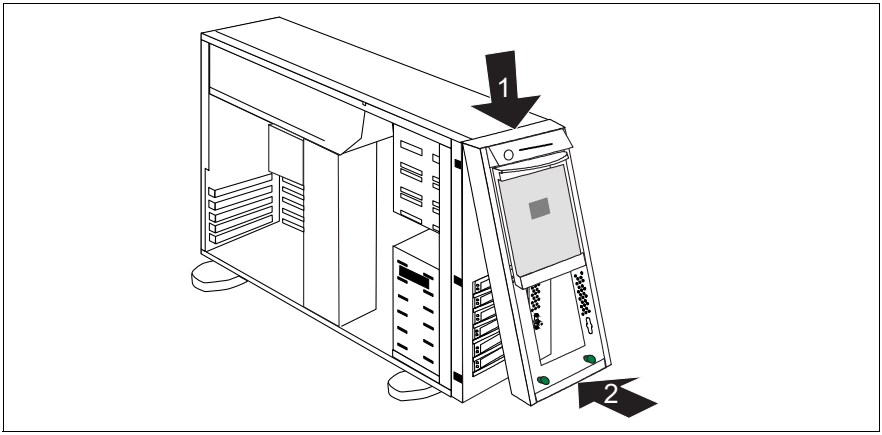

Figure 78: Attaching the front cover

- ► Hook on the front cover (1).
- ► Press the front cover onto the housing (2).

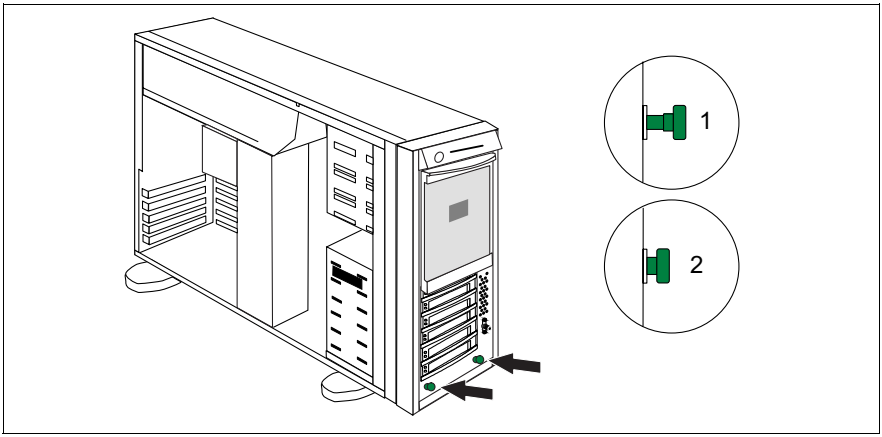

Figure 79: Engaging the locking buttons

- ► Press the two locking buttons (1+2) until they engage.

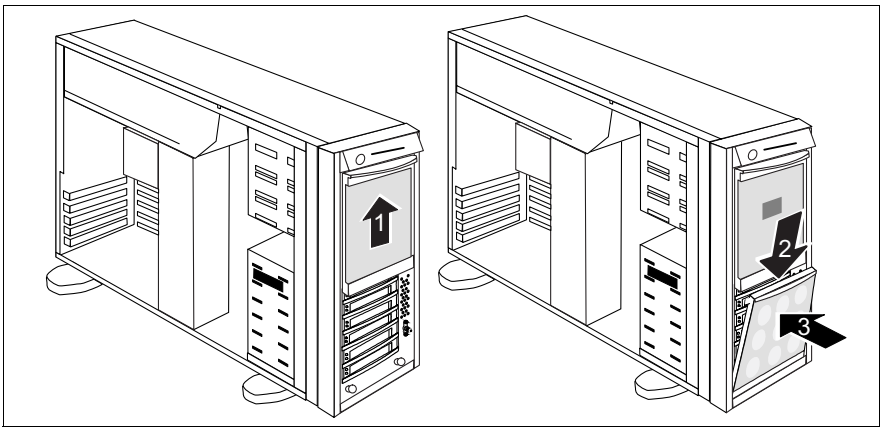

Figure 80: Attaching the hard disk cover

- ► Push the drive cover upward as far as possible (1).
- ► Reinstall the hard disk cover (2 + 3).

14.1.2 Closing the server

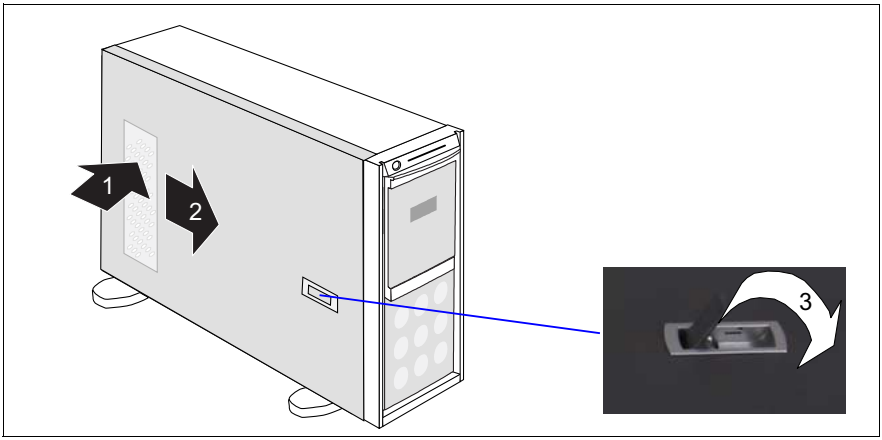

Figure 81: Attaching the left-hand side cover

- ► Position the left-hand side cover in such a way that it protrudes approxiate 2 cm at the rear (1).
- ► Push the left-hand side cover all the way forward (2).

- ► Push down the latch to lock the left-hand side cover (3).
- ► Insert the key.
- ► Lock the server.
- ► Connect all power plugs to the power outlets.
- ► Press the on/off key to start up the server.

14.2 Rack model

14.2.1 Attaching the rack front cover

Reattach the rack front cover after implementing the following extensions:
– Installation of further accessible drives
– Conversion of the floorstand model to a rack model

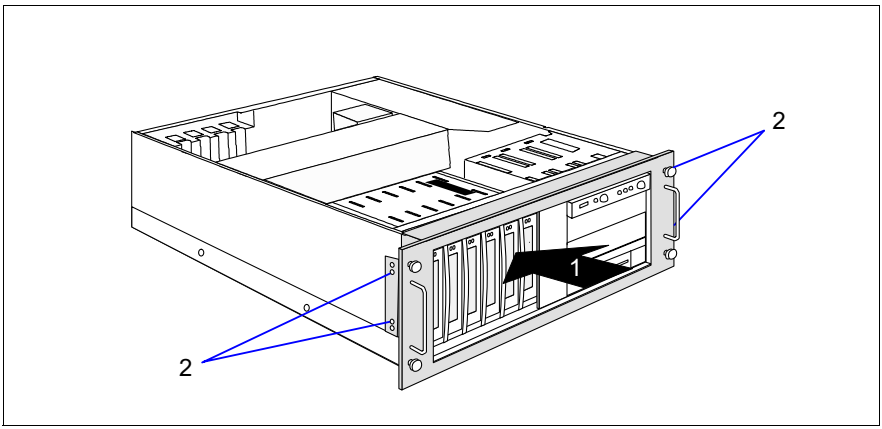

Figure 82: Attaching the rack front cover

- ► Attach the rack front cover, together with the plastic cover, from the front (1).

CAUTION!

The words “left” and “right” are printed on the angles of the rack front cover to indicate which way round it must be installed.

- ► Attach the rack front cover using two screws on each side (2).

14.2.2 Closing the server

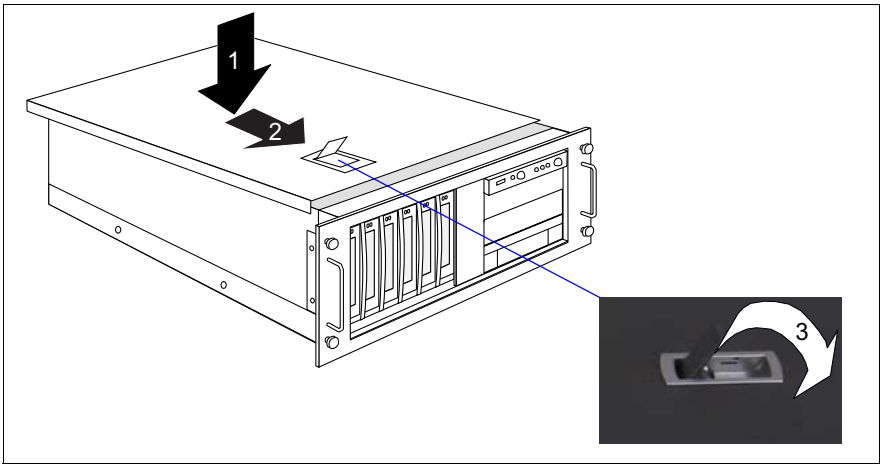

Figure 83: Attaching the top cover

- ► Position the top cover in such a way that it protrudes approxiate 2 cm at the rear (1).
- ► Push the top cover all the way forward (2).
- ► Push down the latch to lock the top cover (3).

If you have not removed the server from the rack cabinet, please skip this page.

If the server is incorporated in a Classic rack cabinet, you will find a description on how to install it in the Operating Manual.

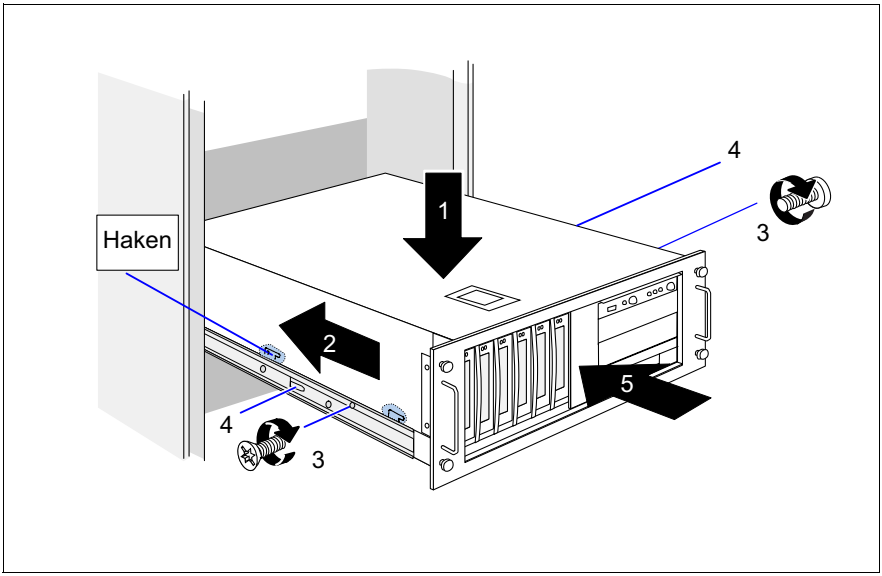

Figure 84: Installing the server in a rack cabinet

CAUTION!

At least two people are required to install the server in the rack cabinet.

Do not use the handles on the rack front cover to lift the server into the rack.

- ► Lower the server from above onto the extended telescopic rails (1).
- ► Push the server a little way in the direction of the arrow (2) until the hooks of the telescopic rails engage. The telescopic rails may not be unlocked when you do this.
- ► Screw the telescopic rails onto the left- and right-hand sides of the server using one M3x6 screw on each side (3).
- ► Reconnect all the cables you disconnected beforehand on the rear of the server.

► Press in the safety springs of the telescopic rails (4) on both sides and push the server as far as it will go into the rack (5).

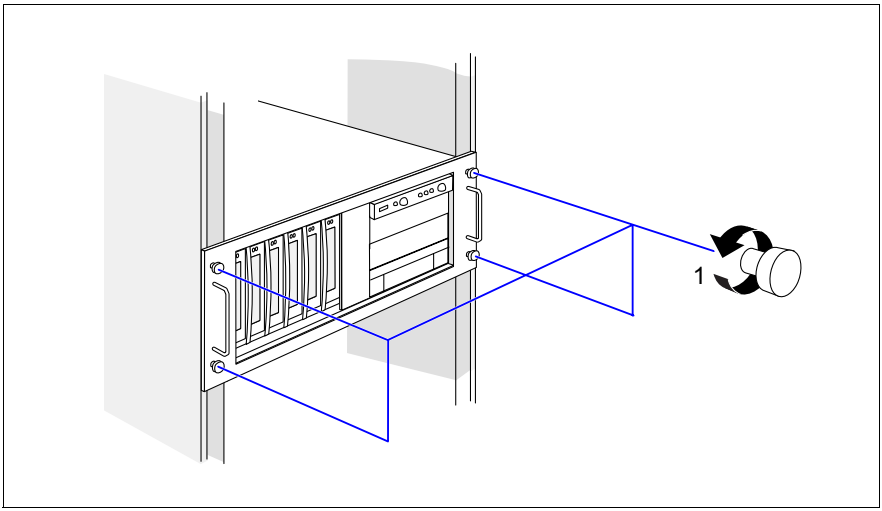

Figure 85: Fastening the server in the rack cabinet

► Fasten the server in the rack using the four knurled screws (1).

► Connect all power plugs to the power outlets.

► Press the on/off key to start up the server.

15 Appendix

15.1 Cabling

You will find suggestions for cabling on the next pages.

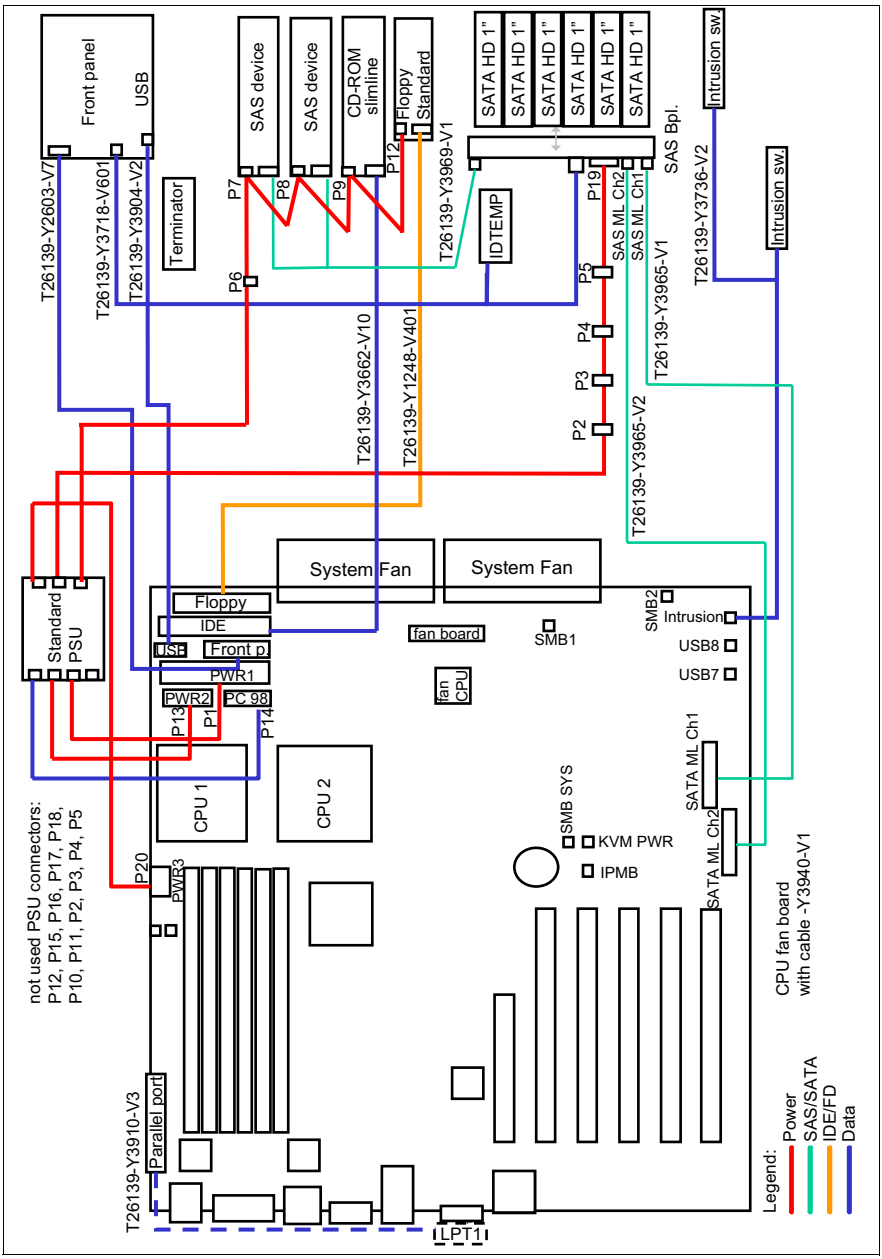

Figure 86: Standard PS with SATA hard disk drives

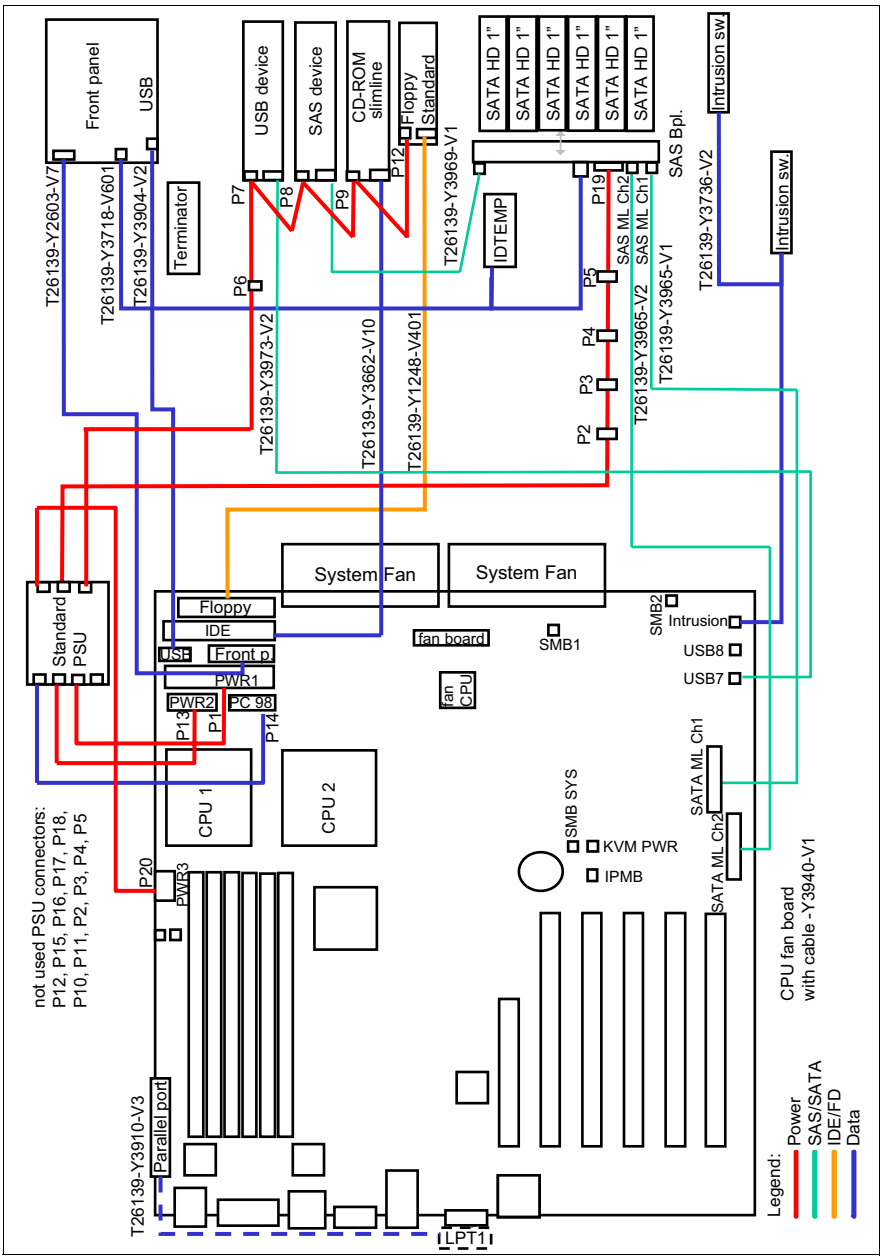

Figure 87: USB accessible drives

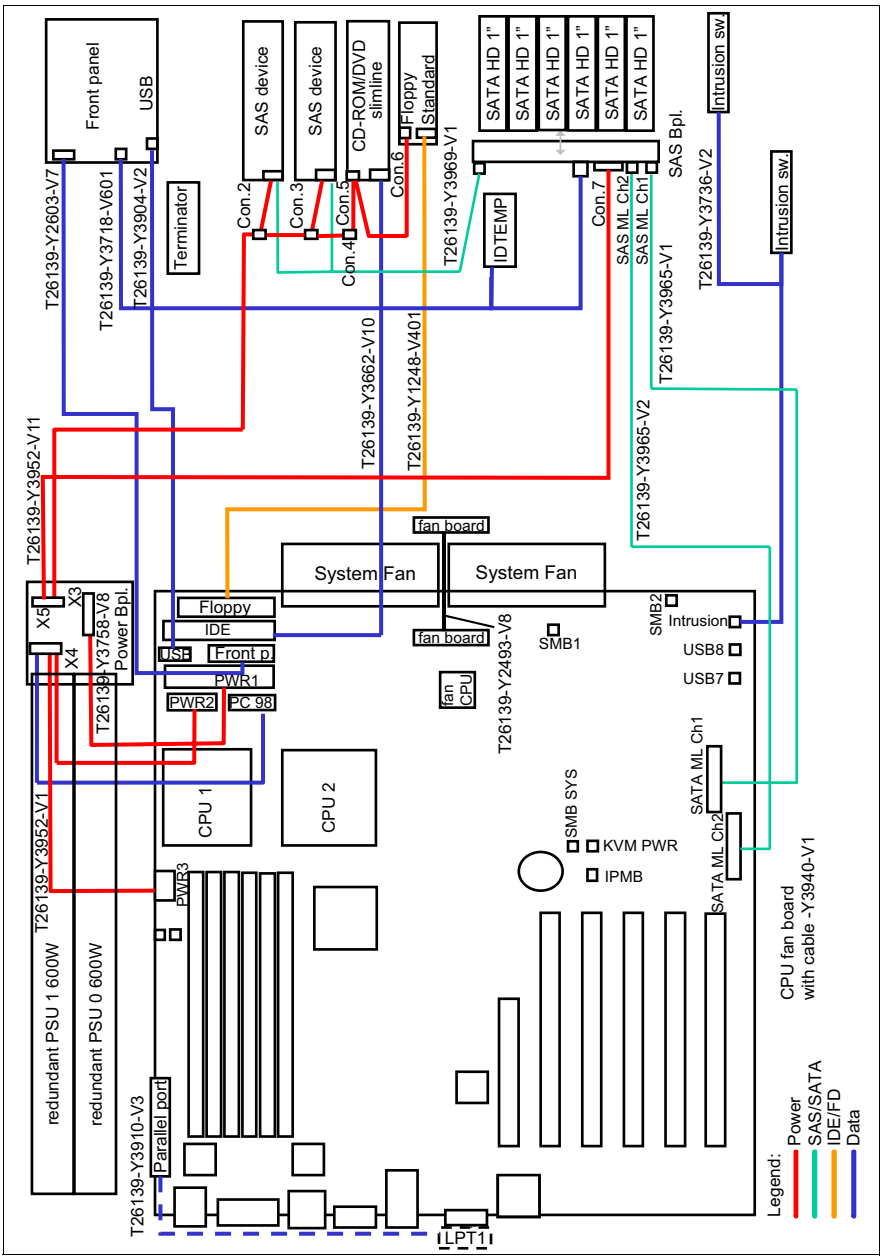

Figure 88: Redundant PS

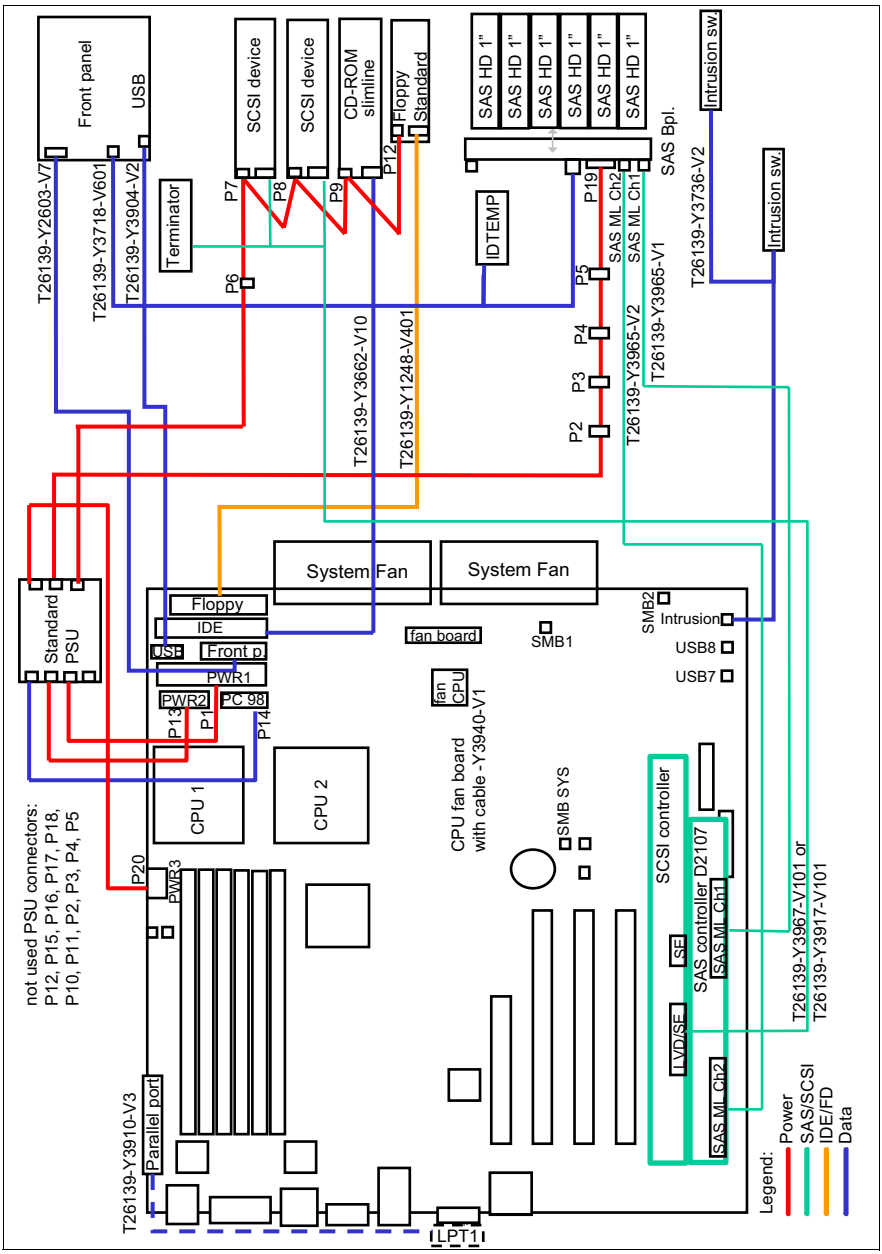

Figure 89: SCSI accessible drives

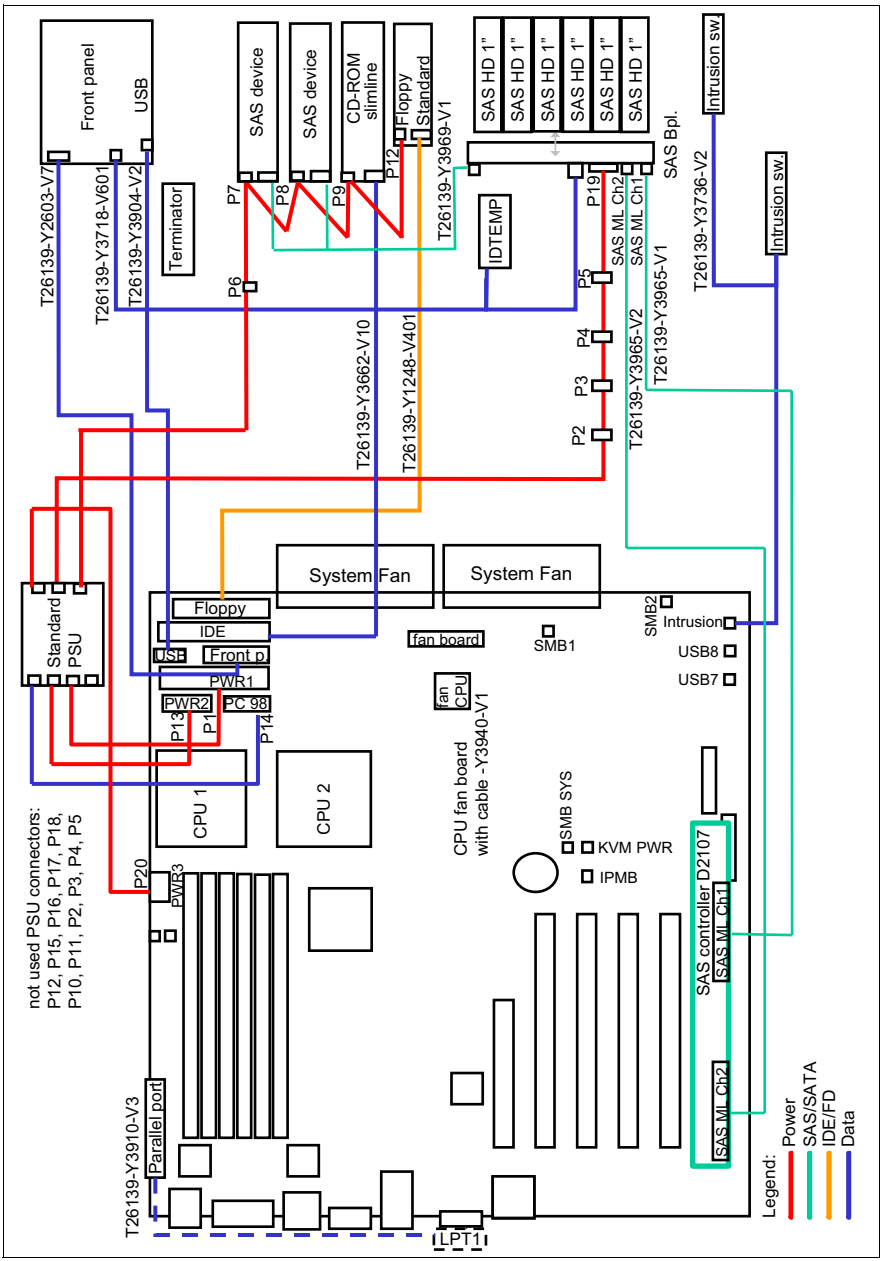

Figure 90: SAS hard disk drives and accessible drives

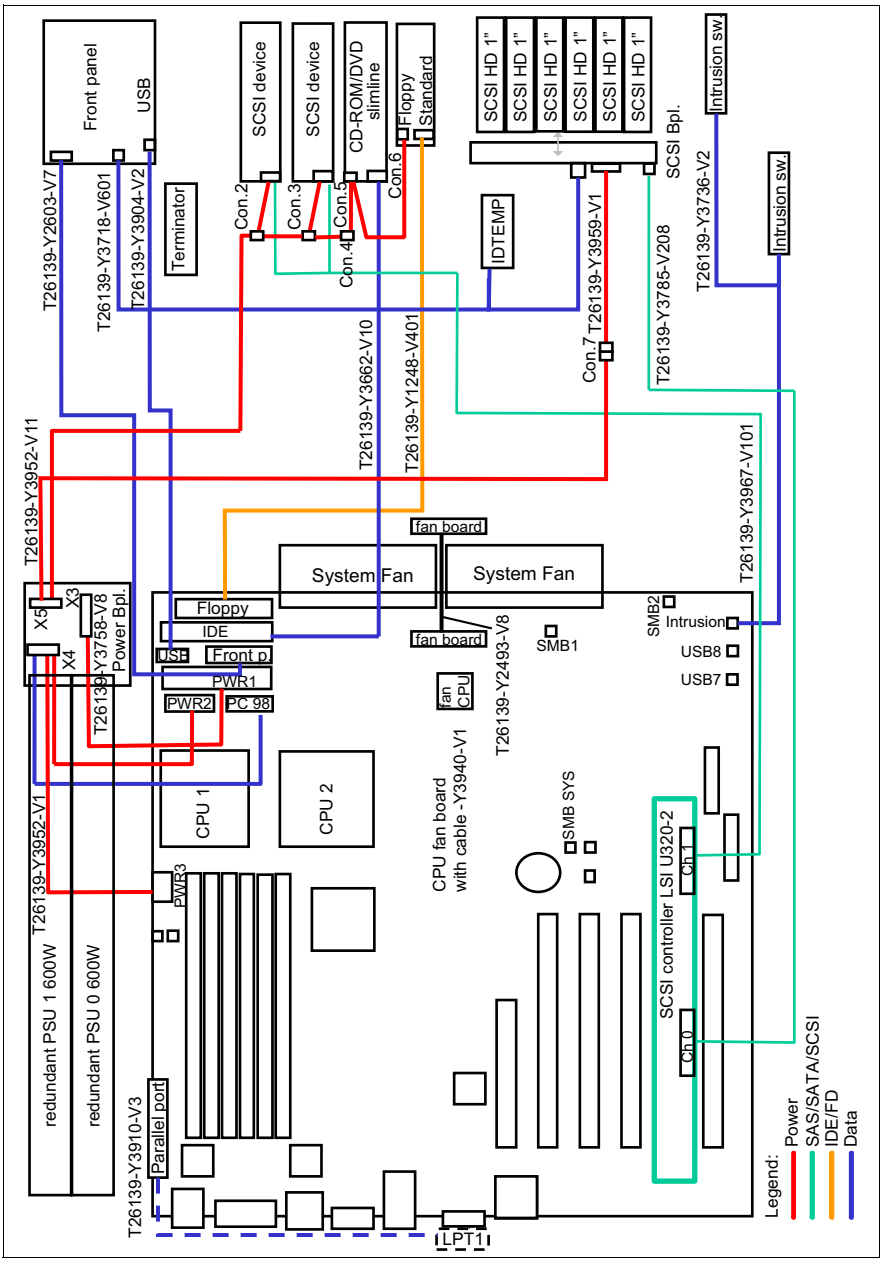

Figure 91: SCSI hard disk drives and accessible drives

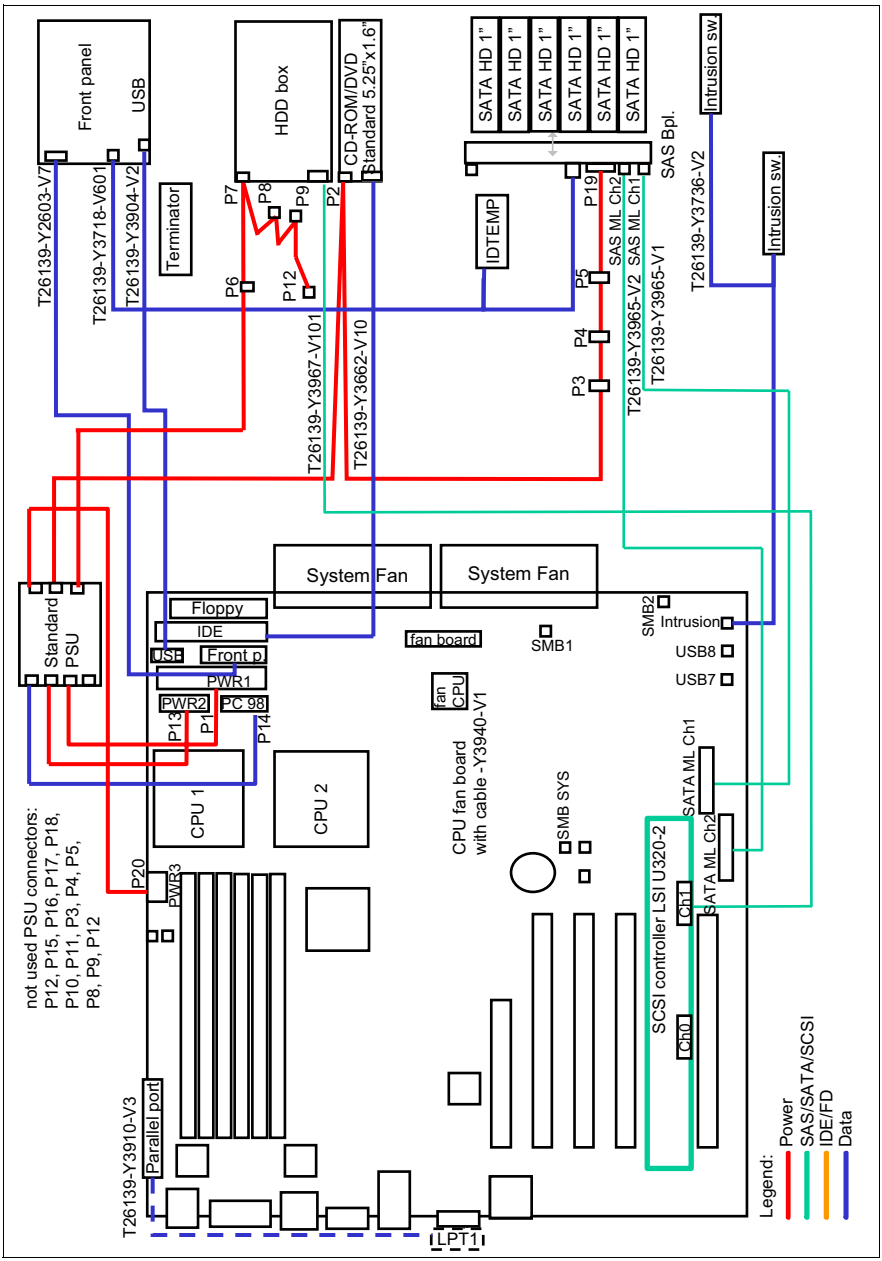

Figure 92: Standard CDROM and SCSI hard disks extension box

Abbreviations

AC
Alternating Current

ANSI
American National Standard Institut

ASR&R
Automatic Server Reconfiguration and Restart

BIOS
Basic Input-Output System

BMC
Baseboard Management Controller

CC
Cache Coherency

CD
Compact Disk

CD-ROM
Compact Disk-Read Only Memory

CHS
Cylinder Head Sector

CMOS
Complementary Metal Oxide Semiconductor

COM
Communication

CPU
Central Processing Unit

DC
Direct Current

DIMM
Dual Inline Memory Module

DIP
Dual Inline Package

DMA
Direct Memory Access

DMI
Desktop Management Interface

ECC
Errror Checking and Correcting

ECP
Extended Capabilities Port

EEPROM
Electrically Erasable Programmable Read-Only Memory

EMC
ElectroMagnetic Compatibility)

EMP
Emergency Management Port

EPP
Enhanced Parallel Port

ESD
ElectroStatic Discharge

FPC
Front Panel Controller

FRU
Field Replaceable Unit

FSB
Front Side Bus

GAM
Global Array Manager

GUI
Graphical User Interface

HDD
Hard Disk Drive

HSC
Hot-Swap Controller

I²C
Inter-Integrated Circuit

I/O
Input/Output

ICM
Intelligent Chassis Management

ID
Identification

IDE
Intergrated Drive Electronics

IOOP
Intetelligent Organization of PCI

iRMC
integrated Remote Management Controller

IRQ
Interrupt Request Line

LAN
Local Area Network

LBA
Logical Block Address

LCD
Liquid Crystal Display

LUN
Logical Unit Number

LVD
Low-Voltage Differential SCSI

MMF
Multi Mode Faser

MRL
Manually Retention Latch

NMI
Non Maskable Interrupt

NVRAM
Non Volatile Random Access Memory

OS
Operating System

PCI
Peripheral Component Interconnect

PDA
Prefailure Detection and Analysing

POST
Power ON Self Test

RAID
Redundant Arrays of Independent Disks

RAM
Random Access Memory

ROM
Read-Only Memory

RSB
Remote Service Board

RTC
Real Time Clock

RTDS
Remote Test- und Diagnose-System

SAF-TE
SCSI Accessed Fault-Tolerance Enclosures

SAS
Serial Attached SCSI

SATA
Serial ATA

SBE
Single Bit Error

SCA
Single Connector Attachment

SCSI
Small Computer System Interface

SDDC
Single Device Data Correction

SDR
Sensor Data Record

SDRAM
Synchronous Dynamic Random Access Memory

SEL
System Event Log

SMI
System Management Interrupt

SSU
System Setup Utility

SVGA
Super Video Graphics Adapter

USB
Universal Serial Bus

VGA
Video Graphics Adapter

Related publications

PRIMERGY manuals are available as PDF file on the *ServerBooks* CD. The *ServerBooks* CD is part of the *PRIMERGY ServerView Suite* delivered with each server system.

The current versions of the required manuals can be downloaded free of charge as PDF files from the Internet. The overview page showing the online documentation available on the Internet can be found via the URL: *http://manuals.fujitsu-siemens.com*. For the documentation of the PRIMERGY servers choose the navigation point *industry standard servers.*

[1] **Safety notes and other important information**

[2] **Ergonomics**

[3] **Warranty**

[4] **Returning used devices**

[5] **System board D2109 and SAS controller D2107**
Technical Manual

[6] **BIOS Setup**
Description

[7] **PRIMERGY TX200 S3**
Operating Manual

[8] **Quick Start Hardware - PRIMERGY TX200 S3**
Leaflet

[9] **Quick Start Software - PRIMERGY ServerView Suite**
Leaflet

[10] **PRIMERGY ServerView Suite**
ServerStart
User Manual

[11] **PRIMERGY ServerView Suite**
ServerView Installation
User Manual

[12] **PRIMERGY ServerView Suite**
ServerView S2
Server management
User Manual

[13] **PRIMERGY ServerView Suite**
ServerView
Server management
User Manual

[14] **PRIMERGY ServerView Suite**
RemoteView
User Manual

[15] **PRIMECENTER Rack**
Technical Manual

[16] **DataCenter Rack**
Technical Manual

[17] **19" Rack**
Technical Manual

[18] **Integrated Mirroring**
User's Guide

[19] **Global Array Manager Client Software**
User's Guide

[20] **Global Array Managerô Server Software**
User's Guide

[21] **MegaRAID 320-0X**
Zero-channel PCI-X RAID Storage Adapter
User's Guide

[22] **MegaRAID Configuration Software**
User's Guide

[23] **LSI Logic MegaRAID SAS Software**
User's Guide

[24] **LSI Logic MegaRAID SAS Device Driver**
Installation

[25] **Intagrated SAS for RAID**
User's Guide

[26] **Embedded MegaRAID Software**
User's Guide

Index

A
accessible drives 7, 47

C
chipDISK 8
controller 7, 60, 62
conversion of floorstand model to rack model 8
conversion standard power supply to hot-plug power supply 8
conversion standard PS to hot-plug PS 79

D
dual operation 31, 42

E
ESD (devices sensitive to electrostatic discharge) 17
ESD-sensitive devices 17

F
floorstand to rack model conversion 89
front cover 20, 93

H
heat sink 45

I
information material 6

L
light-emitting diode (LED) 17
lithium battery 16

M
magnetic tape drive
DAT72 54
Exabyte VXA-320 53
main memory 7, 27
meaning
of the symbols 9
multiprocessor operating system 31, 42

N
notational conventions 9
note about the laser 17

P
parallel interface 8, 69
processor 7, 31

R
rack front cover 25, 96
RAID key 67
RemoteView 8

S
SCSI hard disks extension box 7, 55
standard fan 32, 72

T
target group 5

U
upgrading to redundant system fans 8, 71

V
ventilation duct, front 33
ventilation duct, main memory 28

Fujitsu Siemens Computers GmbH
User Documentation
81730 München
Germany

Fax: (++49) 700 / 372 00000

email: manuals@fujitsu-siemens.com
http://manuals.fujitsu-siemens.com

Comments
Suggestions
Corrections

Submitted by

Comments on PRIMERGY TX200 S3
Server

Fujitsu Siemens Computers GmbH
User Documentation
81730 München
Germany

Fax: (++49) 700 / 372 00000

email: manuals@fujitsu-siemens.com
http://manuals.fujitsu-siemens.com

Comments
Suggestions
Corrections

Submitted by

Comments on PRIMERGY TX200 S3
Server

Information on this document

On April 1, 2009, Fujitsu became the sole owner of Fujitsu Siemens Computers. This new subsidiary of Fujitsu has been renamed Fujitsu Technology Solutions.

This document from the document archive refers to a product version which was released a considerable time ago or which is no longer marketed.

Please note that all company references and copyrights in this document have been legally transferred to Fujitsu Technology Solutions.

Contact and support addresses will now be offered by Fujitsu Technology Solutions and have the format *...@ts.fujitsu.com*.

The Internet pages of Fujitsu Technology Solutions are available at *http://ts.fujitsu.com/*...
and the user documentation at *http://manuals.ts.fujitsu.com*.

Copyright Fujitsu Technology Solutions, 2009

Hinweise zum vorliegenden Dokument

Zum 1. April 2009 ist Fujitsu Siemens Computers in den alleinigen Besitz von Fujitsu übergegangen. Diese neue Tochtergesellschaft von Fujitsu trägt seitdem den Namen Fujitsu Technology Solutions.

Das vorliegende Dokument aus dem Dokumentenarchiv bezieht sich auf eine bereits vor längerer Zeit freigegebene oder nicht mehr im Vertrieb befindliche Produktversion.

Bitte beachten Sie, dass alle Firmenbezüge und Copyrights im vorliegenden Dokument rechtlich auf Fujitsu Technology Solutions übergegangen sind.

Kontakt- und Supportadressen werden nun von Fujitsu Technology Solutions angeboten und haben die Form *...@ts.fujitsu.com*.

Die Internetseiten von Fujitsu Technology Solutions finden Sie unter *http://de.ts.fujitsu.com/*..., und unter *http://manuals.ts.fujitsu.com* finden Sie die Benutzerdokumentation.

Copyright Fujitsu Technology Solutions, 2009