

Interner Prüfbericht

Internal Test Report

IPB/ITR 05/06

Testobject / -bezeichnung:

Test item / description:

iSCSI Storage System Promise VTrak M500i, M300i**Ersteller/Veranlasser:**

Initiator:

Christoph Bast**Prüfverantwortlicher:**

Test responsible:

Christoph Bast**Auftragsdatum:**

Date of Issue:

22.02.2006*(last editing 29.07.2006)***Zieltermin:**

Deadline:

Verteiler:

Distribution List:

Gewünschte Sprache:

Desired Language:

Deutsch**Englisch**

1. Ziel der Prüfung / Test objective:

Multiscope 4x4 with Promise iSCSI RAID Storage System VTrak M300i

GeViScope with Promise iSCSI RAID Storage System VTrak M500i, M300i

2. Testumgebung / Test environment:

- GeViScope , Build 186
- MultiScope III / 4x4 , Motherboard Intel 945, RAM 1 GB, CPU Celeron 2,53 GHz
- USB 2.0 Network card 100 MBit/s (Linksys Type: USB200M-DE)
- Microsoft iSCSI Initiator 2.01
- Desktop Network card 1000 MBit/s (Intel Type: INTEL PRO/1000 MT Desktop Adapter)
- Gigabit Ethernet Switch (Compushak Type: Switch 8000 Smart)
- Promise VTrak M300i (SATA RAID Storage System)
 - 12 hot-swap drive bays in a robust 2U chassis
 - Supports SATA II 3Gb/s drives
 - 2 iSCSI host ports (1Gb Ethernet), cluster ready
 - Up to 350 MB/s sustained throughput
 - Redundant, hot-swap power and cooling units
 - Mgmt =Management Port (100 MBit/s) (Telnet Port, Webserver Port 80)

**VTrak M300i**

Interner Prüfbericht

Internal Test Report

IPB/ITR 05/06

3. Prüfergebnisse / Test results:



Never use MultiScope III and GeviScope with one Network Connection for iSCSI and standard network connection together!

You must install multiple Network Interface Cards (NICs) or iSCSI HBA (HostBusAdapter)

1 Configure VTrak with Hyper Terminal

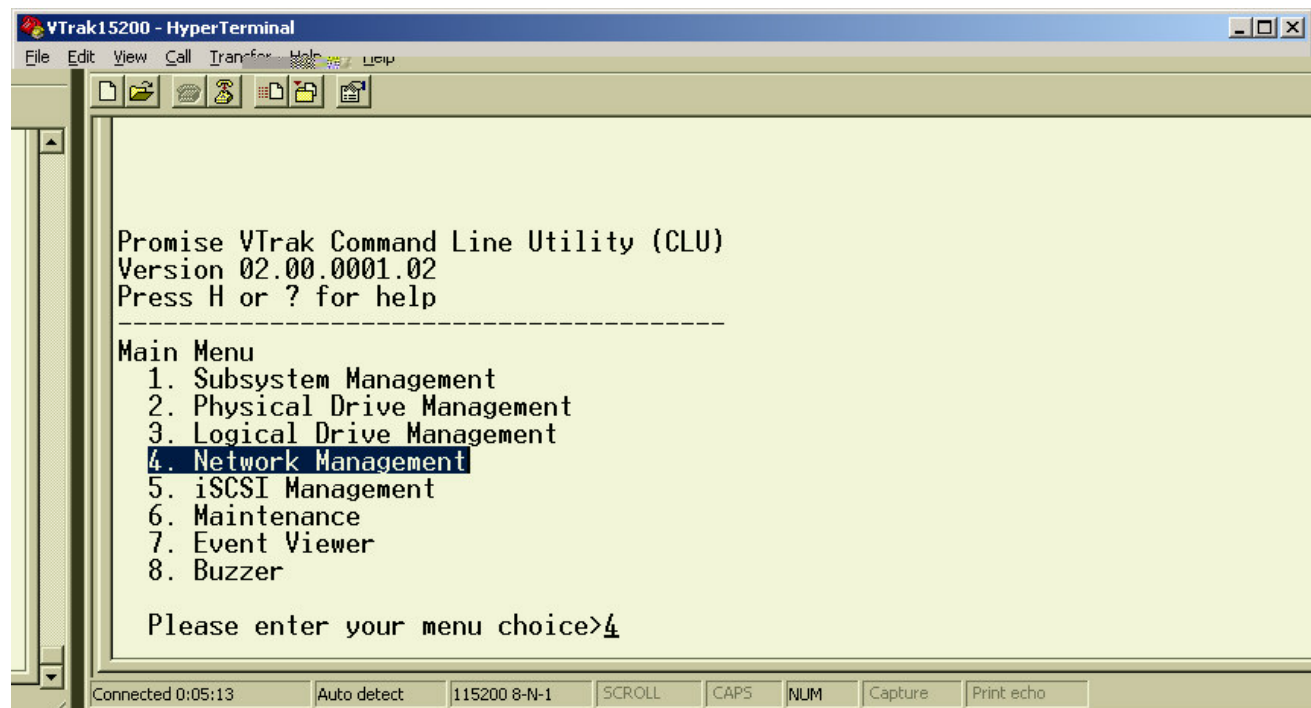
- Bits per second: **115200**
- Data bits: **8**
- Parity: **None**
- Stop bits: **1**
- Flow control: **none**

At the **Login** prompt, type **administrator** and press Enter.

At the **Password** prompt, type **password** and press Enter.

Set IP Adress for Management Port, iSCSI 1 and iSCSI 2

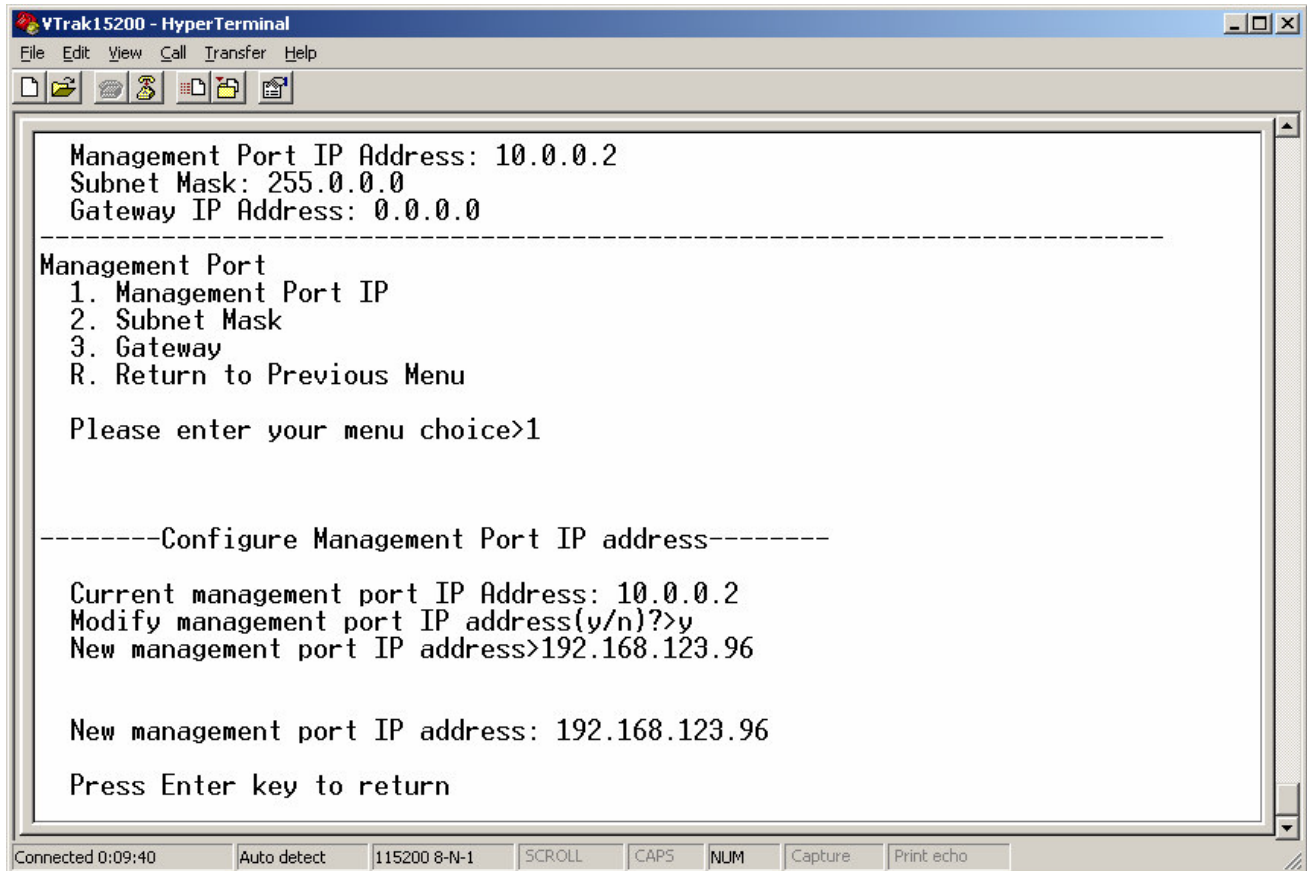
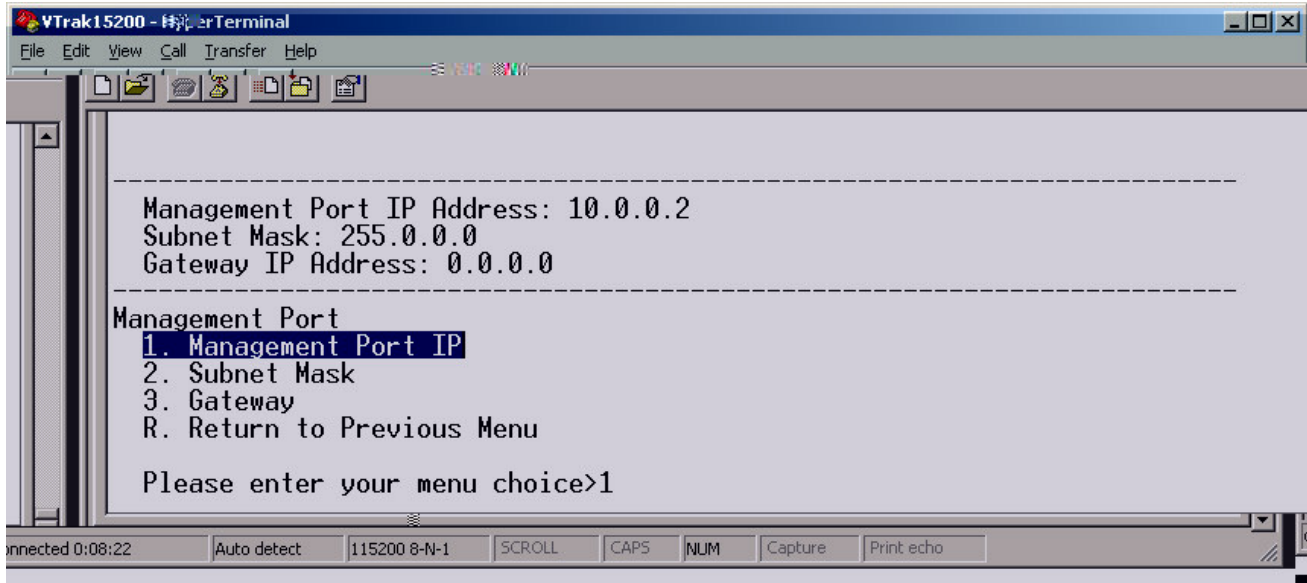
| | |
|----------------|----------------------|
| Mgmt | 192.168.2.250 |
| iSCSI 1 | 192.168.2.251 |
| iSCSI 2 | 192.168.2.252 |



Interner Prüfbericht

Internal Test Report

IPB/ITR 05/06



Interner Prüfbericht

Internal Test Report

IPB/ITR 05/06

2 Software-based Microsoft iSCSI Software Initiator V 2.01

You can use a software-based iSCSI initiator in combination with a GbE NIC.
If you choose a Microsoft software iSCSI initiator Install the iSCSI initiator on your Host PC then proceed with the following steps.



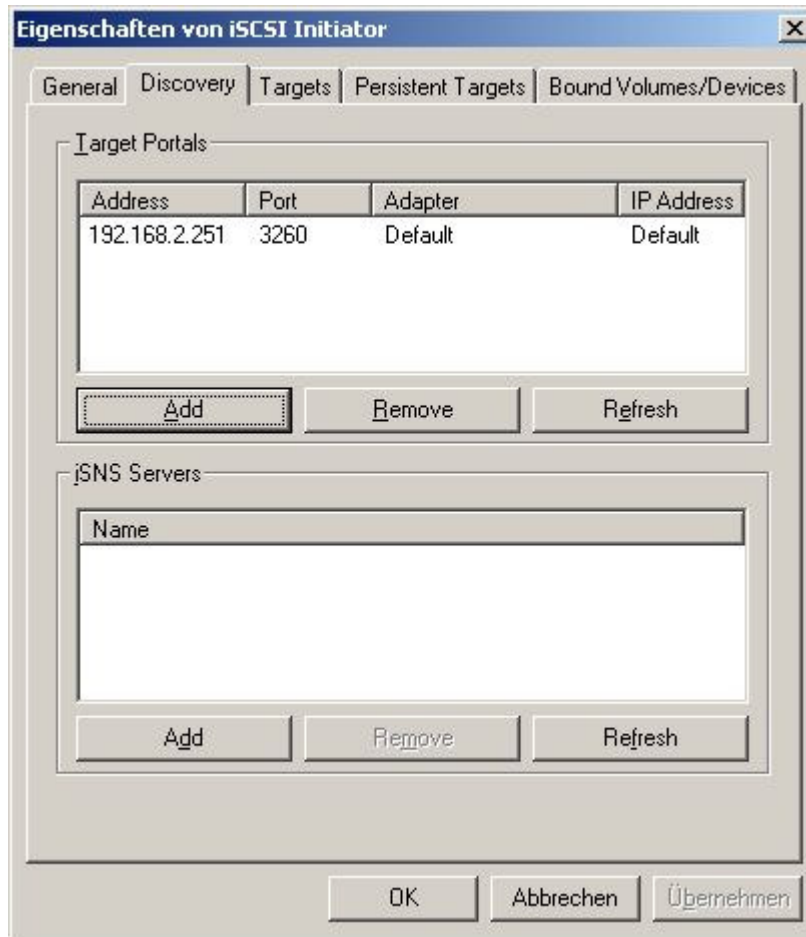
Multipathing MPIO

Interner Prüfbericht

Internal Test Report

IPB/ITR 05/06

2. On the Target Portals tab, click on **Add** button.
3. In the Add Target Portal dialog box, type in the IP address of one of the VTrak's iSCSI ports and click **OK**.



Interner Prüfbericht Internal Test Report

IPB/ITR 05/06

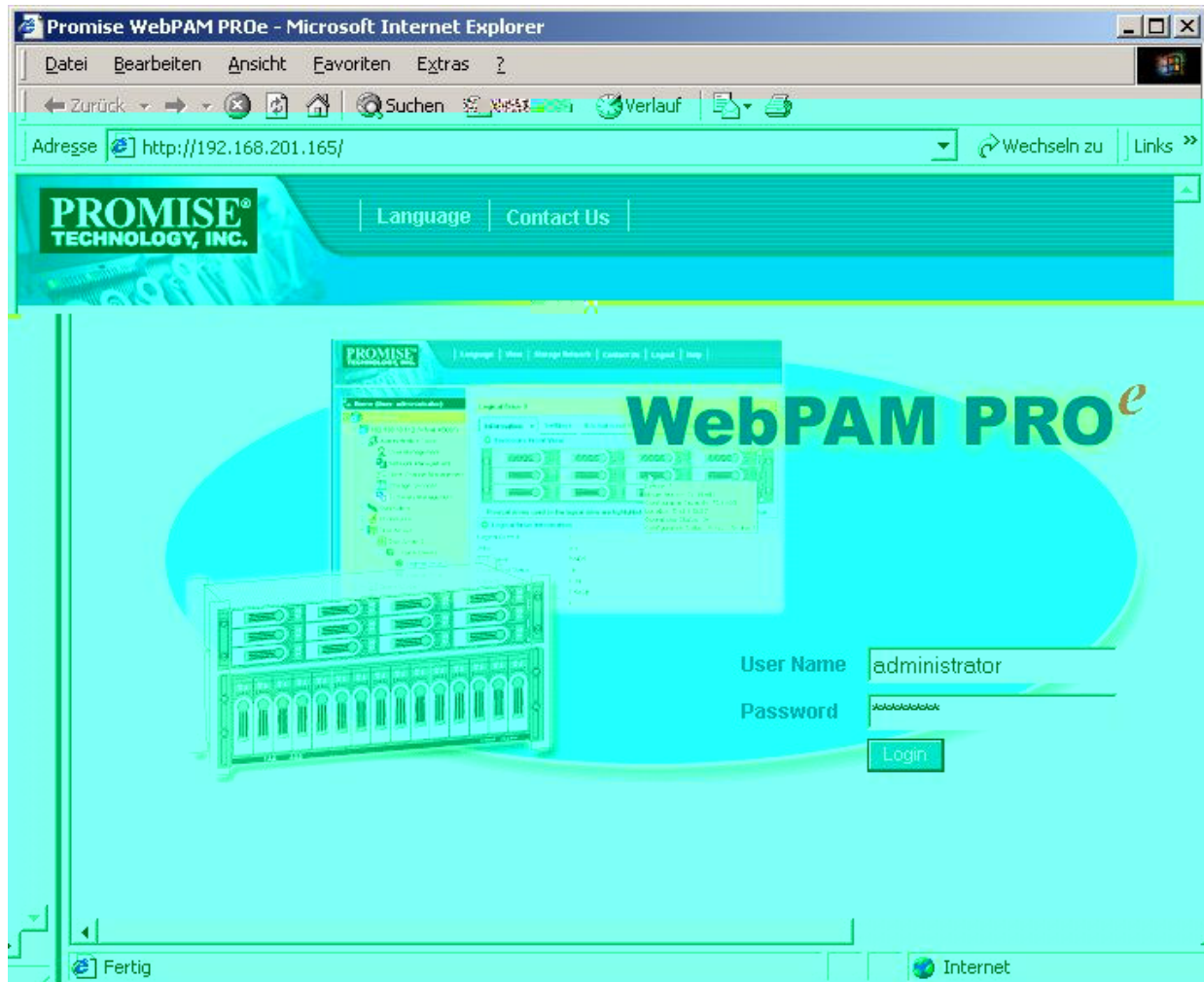
3 Configurartion (Management Port) with software WebPAM PROe

Launch your Browser

WebPAM PROe uses an HTTP connection *http://192.168.2.250*

User Name: **administrator**

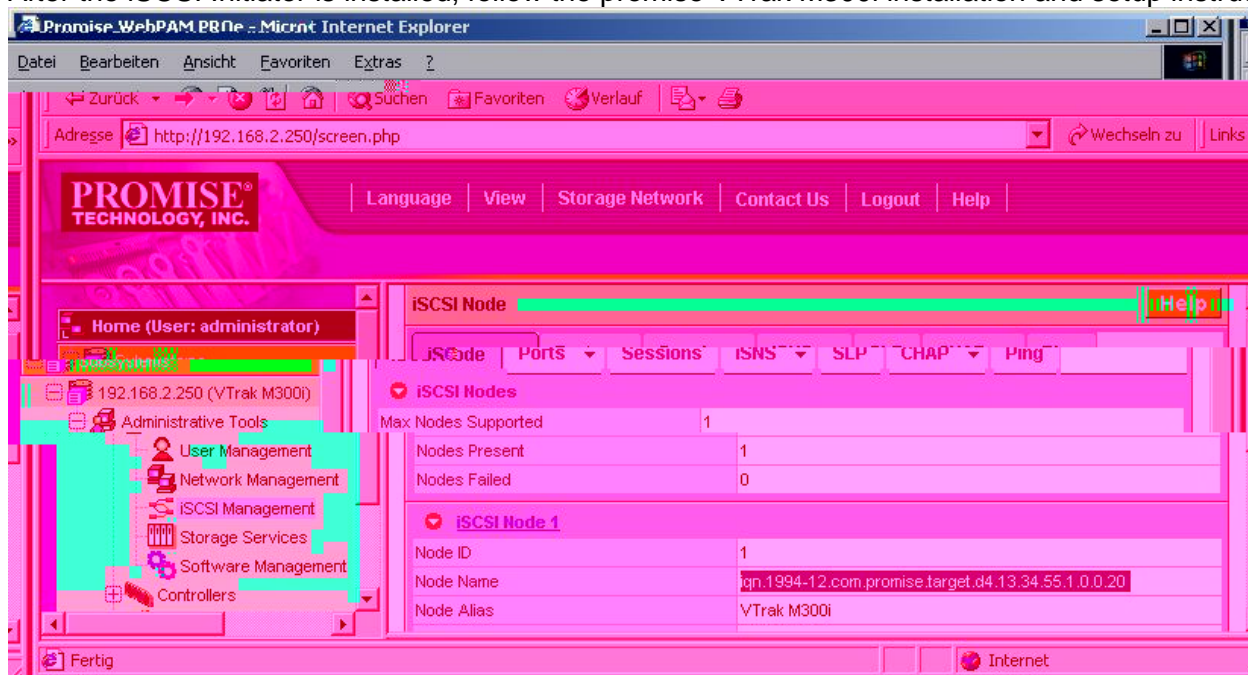
Password: **password**



Interner Prüfbericht Internal Test Report

IPB/ITR 05/06

After the iSCSI Initiator is installed, follow the promise VTrak M300i installation and setup instructions



iSCSI Sessions

The iSCSI Management–Sessions tab lists the current Microsoft iSCSI initiator sessions on the NIC Data Ports.

Interner Prüfbericht

Internal Test Report

IPB/ITR 05/06

Storage Services

Storage Services include managing Initiator and LUN mapping.

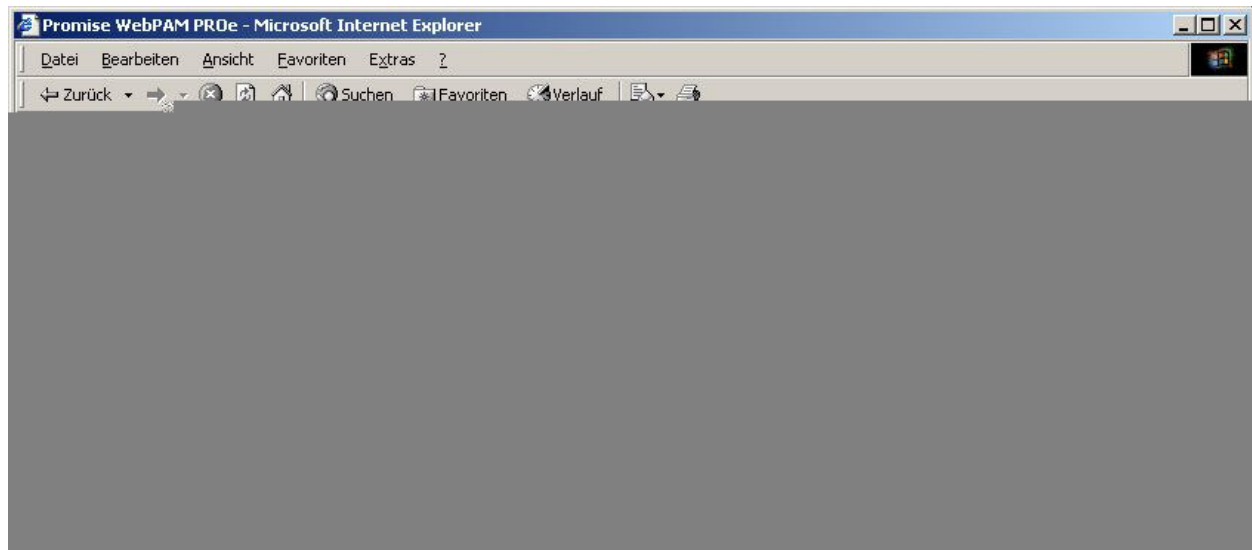
1. select Add Initiator.

1. Enter the initiator's Microsoft node name. in the **Initiator Name** field.

Initiator Node Name: iqn.1991-05.com.microsoft:4x4-945-w2k



Note that this node name must match exactly with the initiator's node name setting from the host side in order for the connection to work.



LUN Map

The Storage Services–LUN Map tab displays a list of initiators recognized by the VTrak controller and their corresponding LUN mapping.

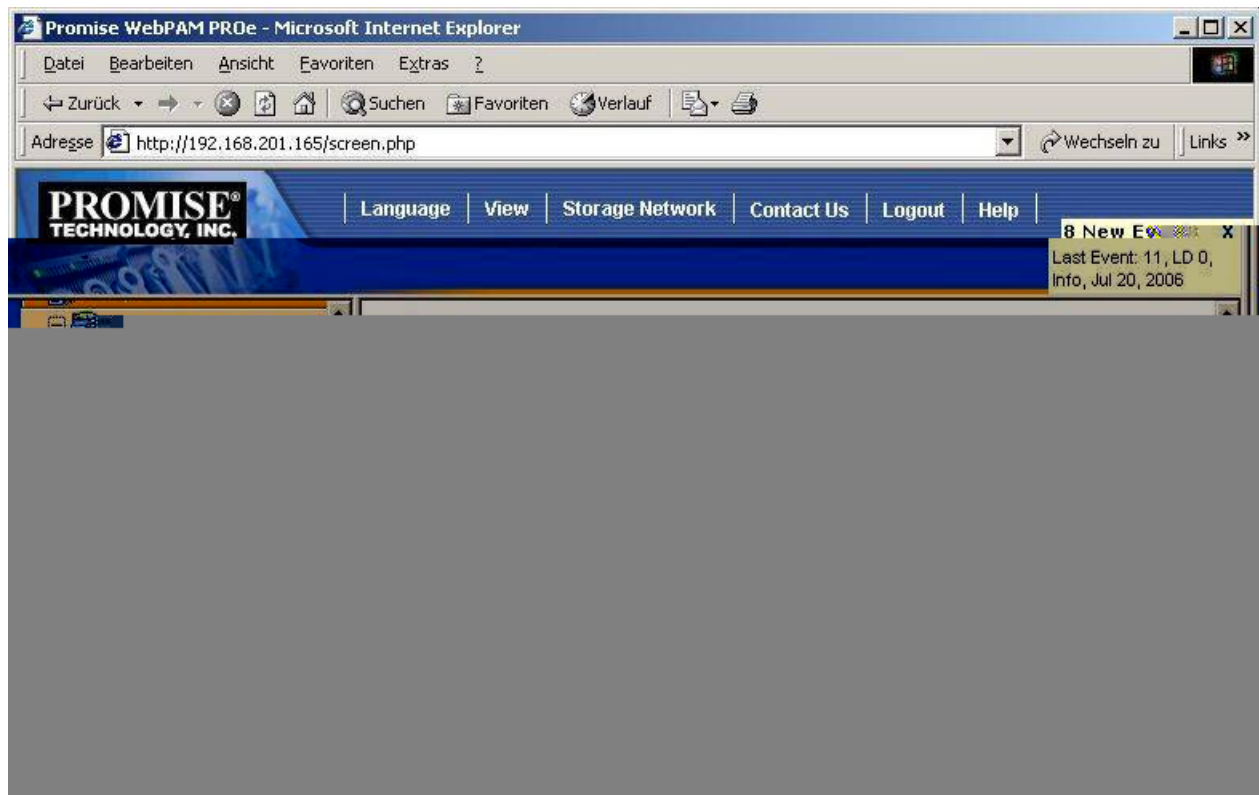
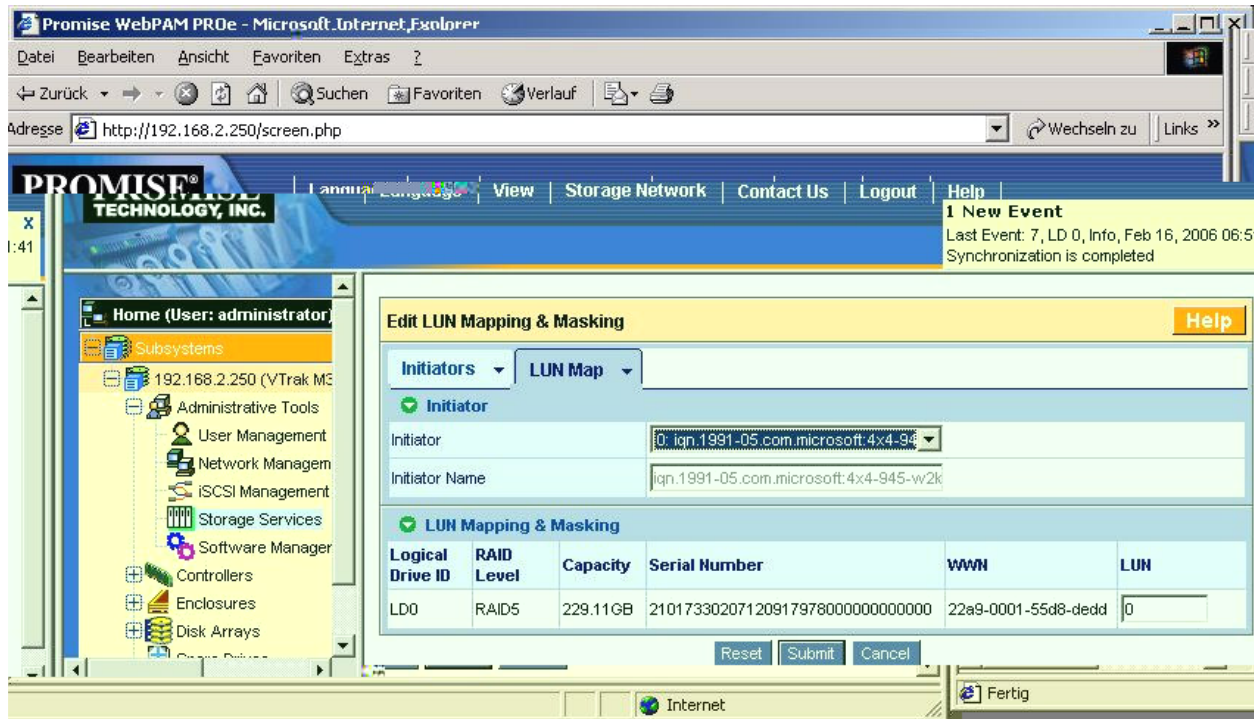
LUN Mapping Parameters

- Initiator – Select Microsoft initiator from this list of initiators recognized by the VTrak controller.
- Logical Drive ID – This is actually the disk array ID number.
- RAID Level – RAID Level of the logical drive.
- Capacity – Capacity of the logical drive.
- Serial Number – Serial number of the logical drive.
- WWN – World Wide Number (node name) of the logical drive. Note that iSCSI WWNs are somewhat diff

Interner Prüfbericht

Internal Test Report

IPB/ITR 05/06



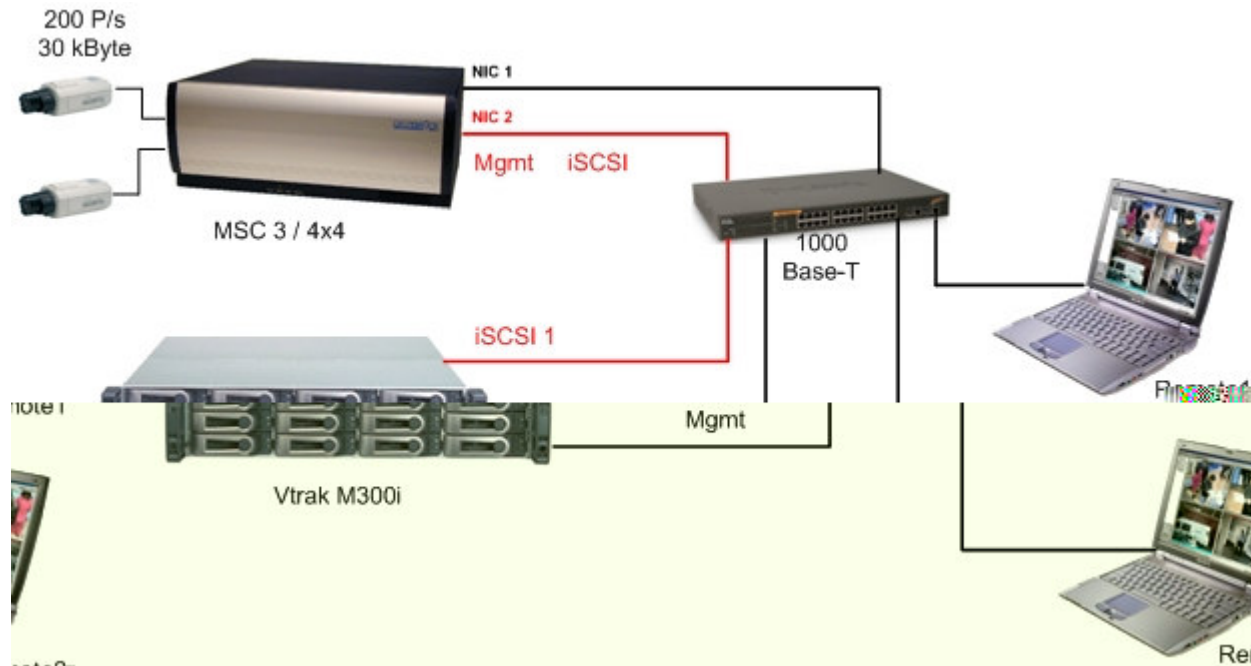
Interner Prüfbericht Internal Test Report

IPB/ITR 05/06

4 MultiScope III

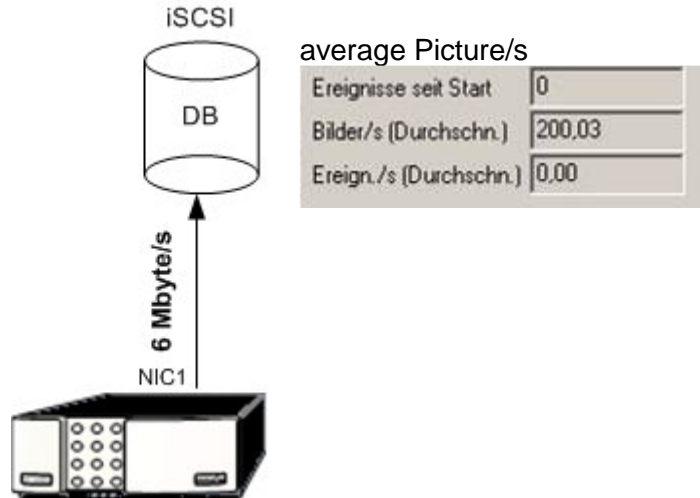
 **MultiScope III is not allowed with one Network Connection**

MultiScope III 3 /4x4 permanent 200 P/s 30 kByte/s > 6 MByte/s

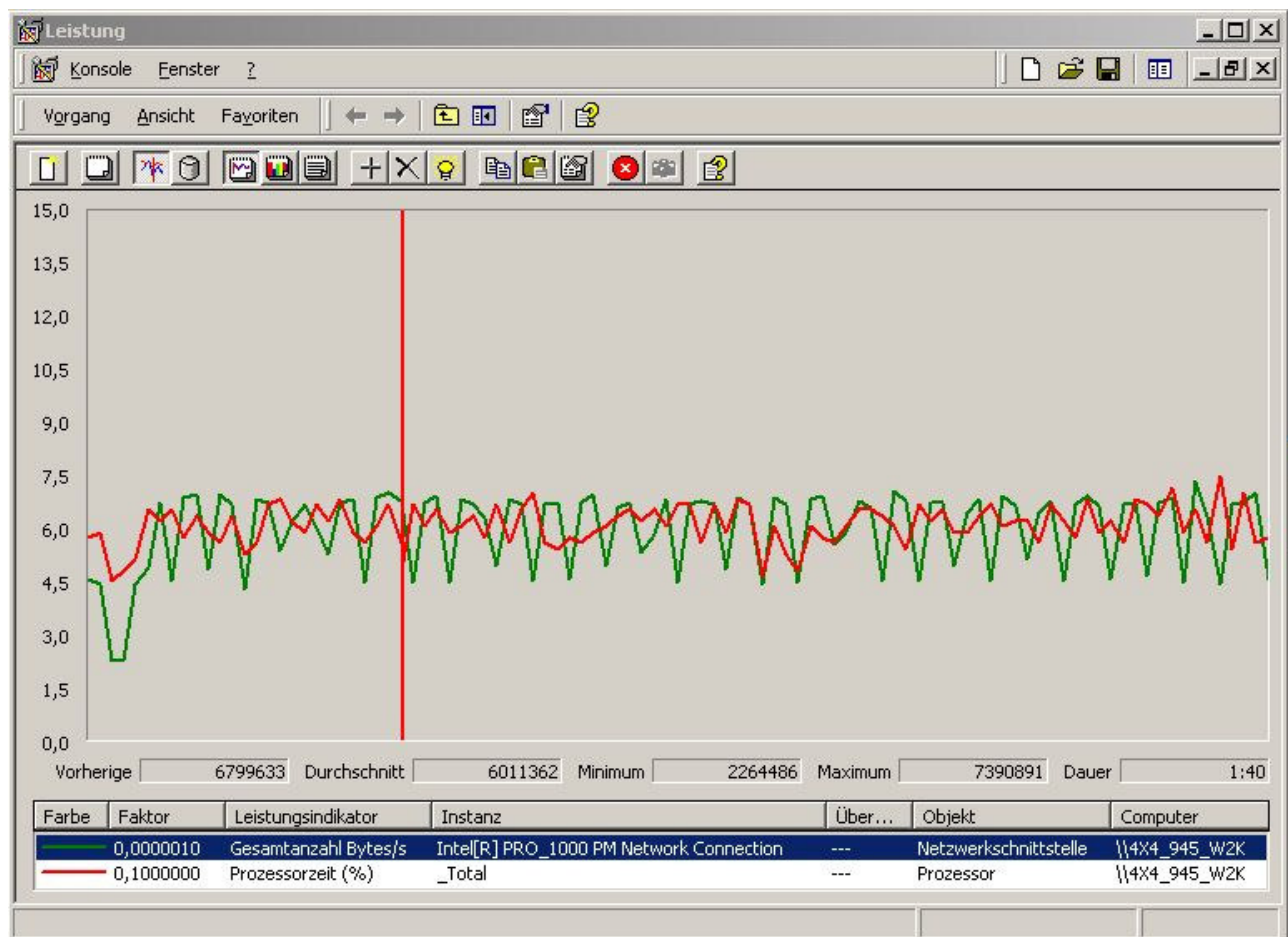


Interner Prüfbericht Internal Test Report

IPB/ITR 05/06

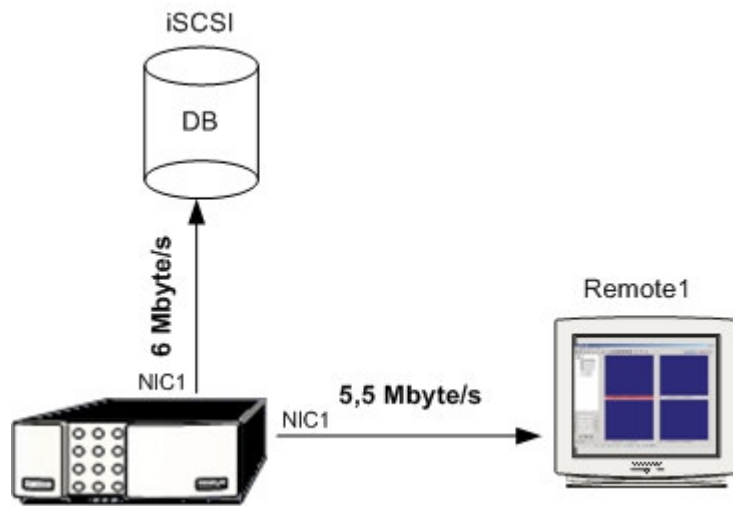


MSC3 Network Connection average 6,01 MByte/s
 CPU average 60,84 %



Interner Prüfbericht Internal Test Report

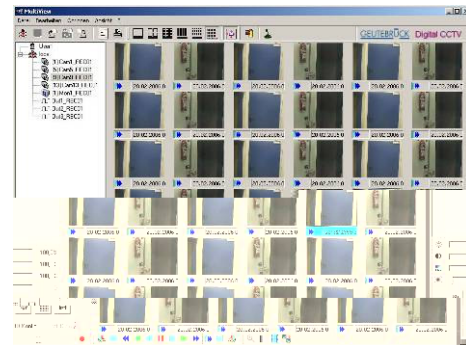
IPB/ITR 05/06



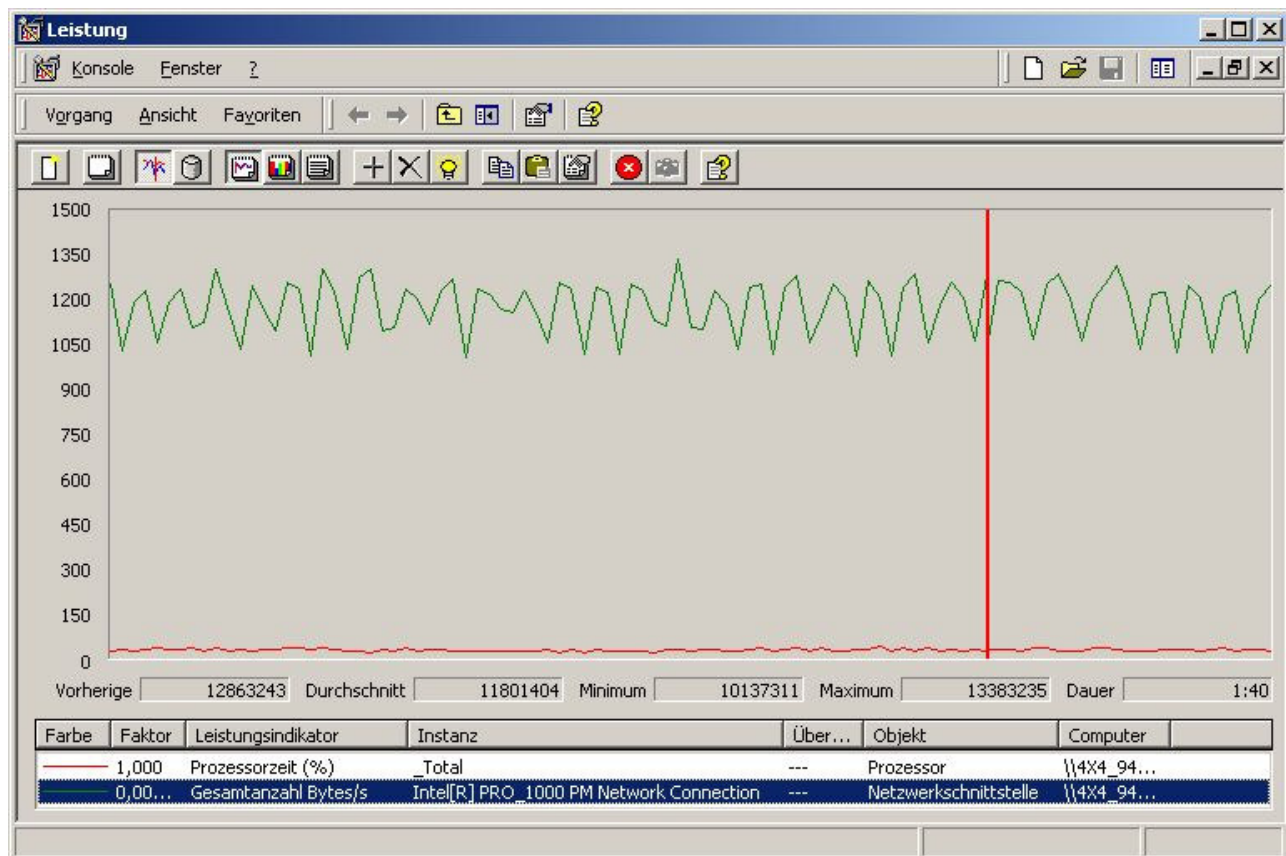
average Picture/s

| | |
|------------------------|--------|
| Ereignisse seit Start | 0 |
| Bilder/s (Durchschn.) | 198,86 |
| Ereign./s (Durchschn.) | 0,00 |

Open Remote 1 Multiview establish MSC3 connection Set Viewer to 36 camera views



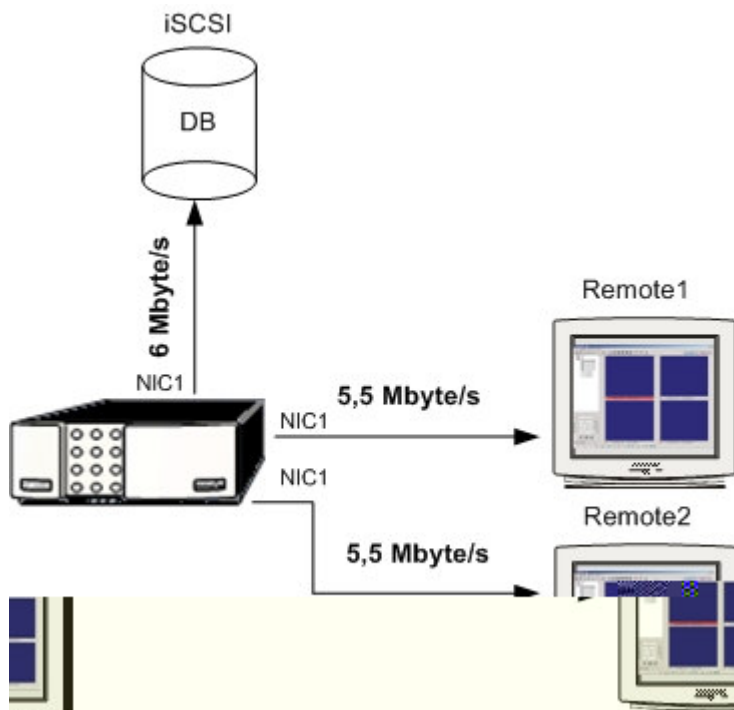
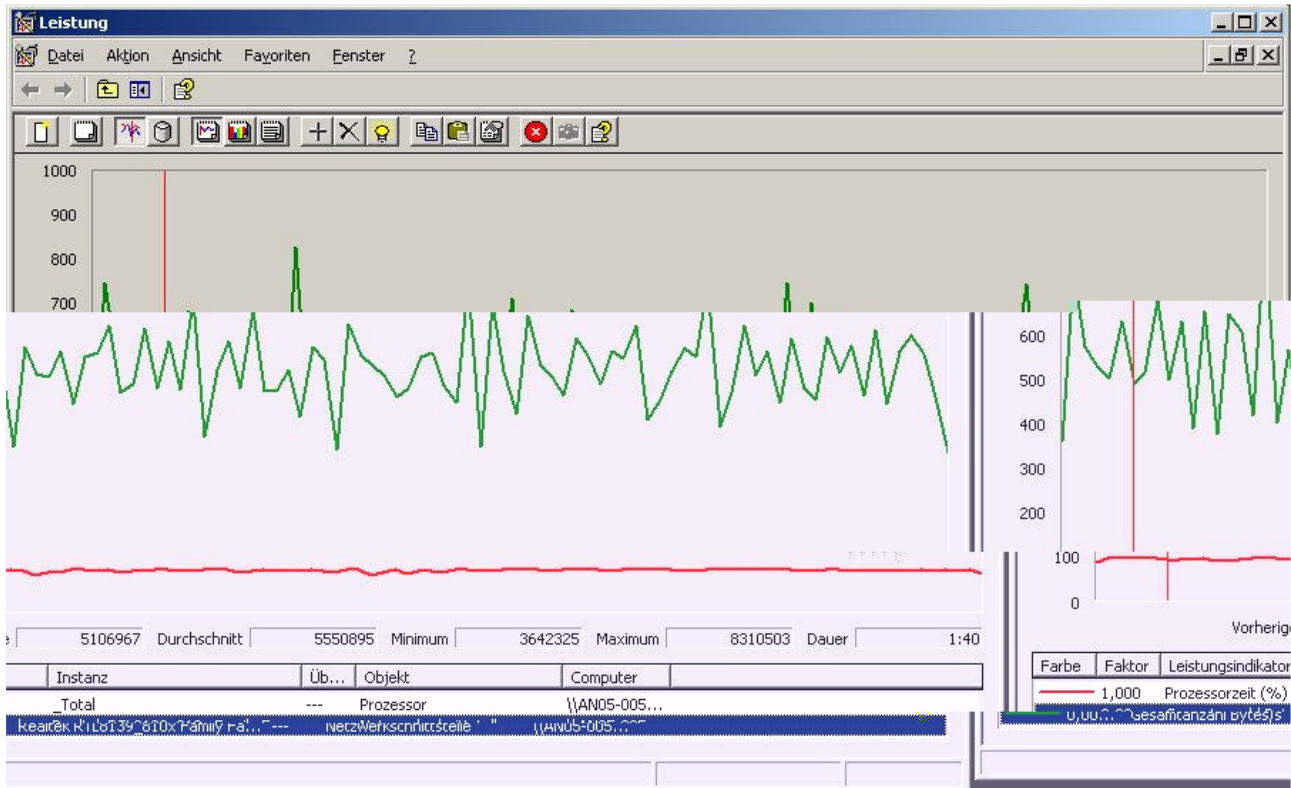
MSC3 Network Connection 1 average 11,8 MByte/s



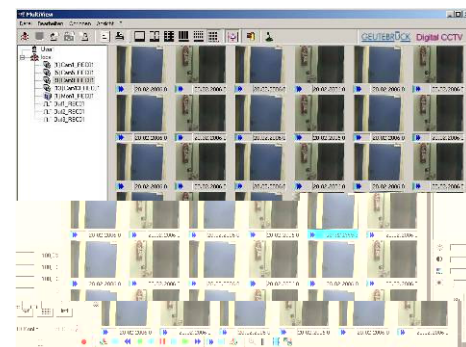
Interner Prüfbericht Internal Test Report

IPB/ITR 05/06

Remote 1 Network Connection average 5,5 MByte/s



Open Remote 1 Multiview establish MSC3 connection
Set Viewer to 36 camera views

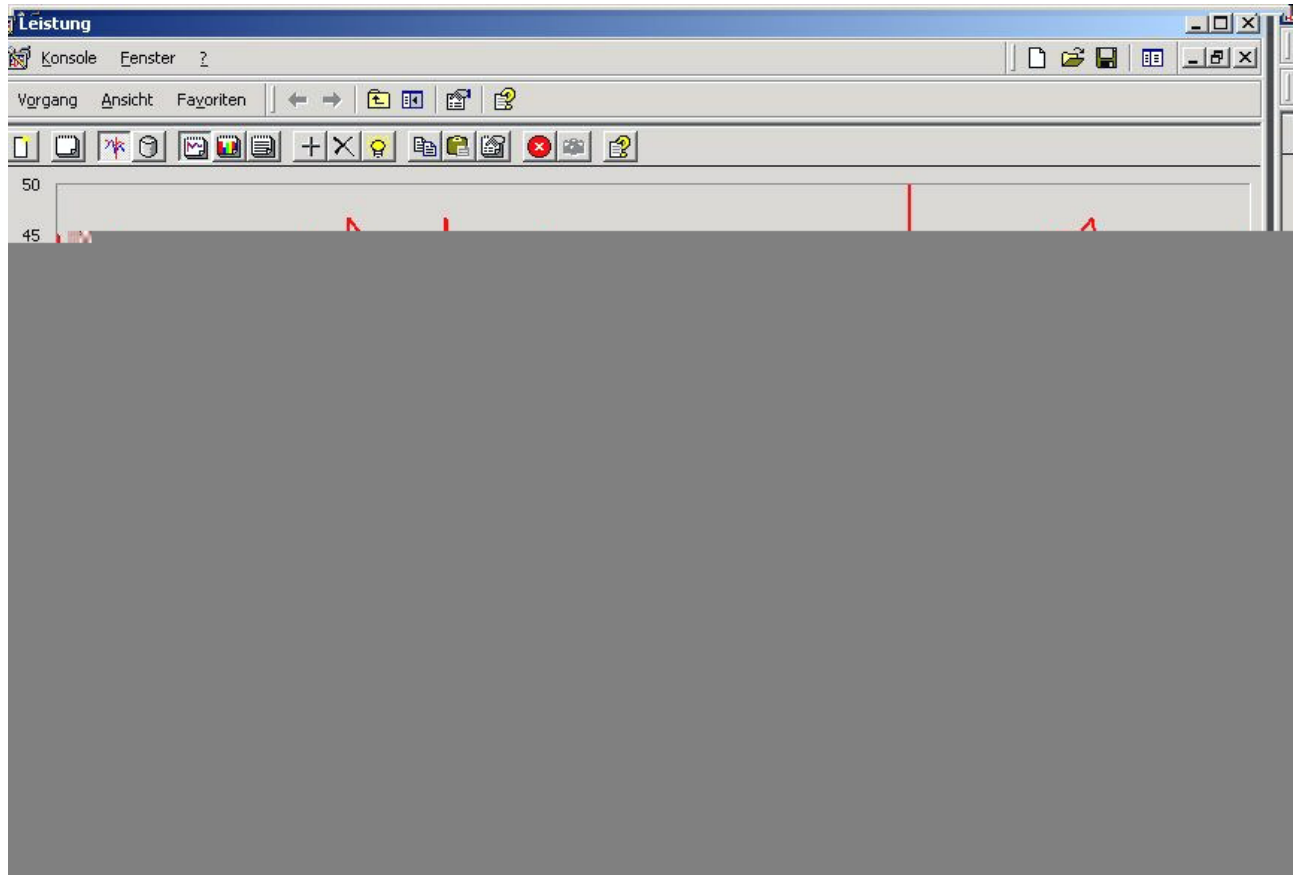


Open Remote 2 Multiview establish MSC3 connection
Set Viewer to 36 camera views

Interner Prüfbericht Internal Test Report

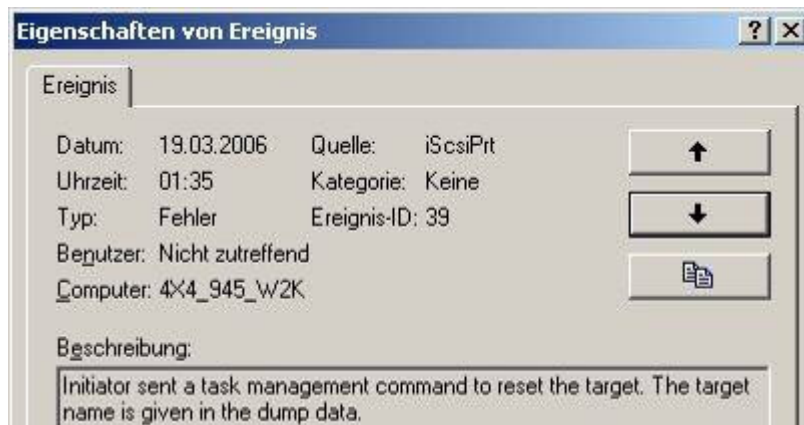
IPB/ITR 05/06

 **MultiScope III is not allowed with one Network Connection**



As soon as established the second remote connection to the Multiscope server network crashed

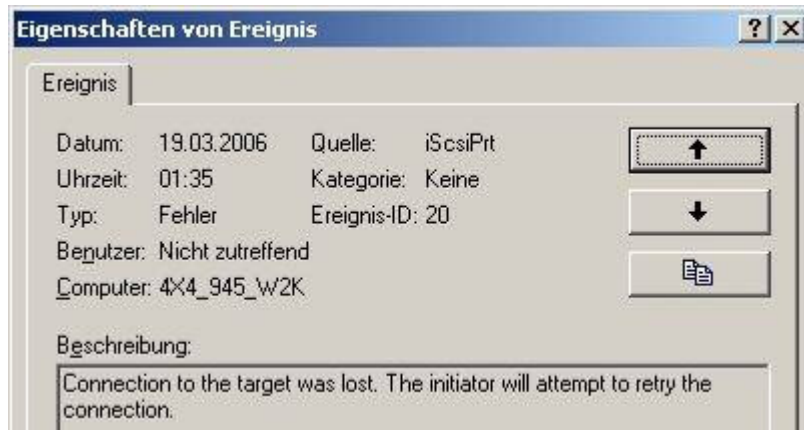
The following eventlogs tells us that there is a kind of timeout and a lot of collisions.



Interner Prüfbericht

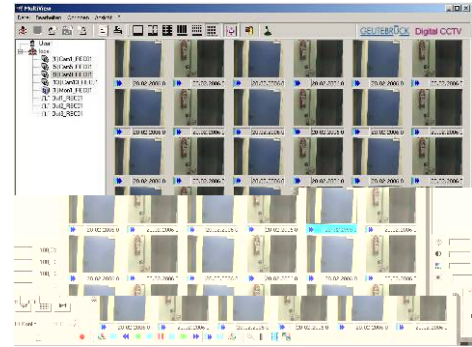
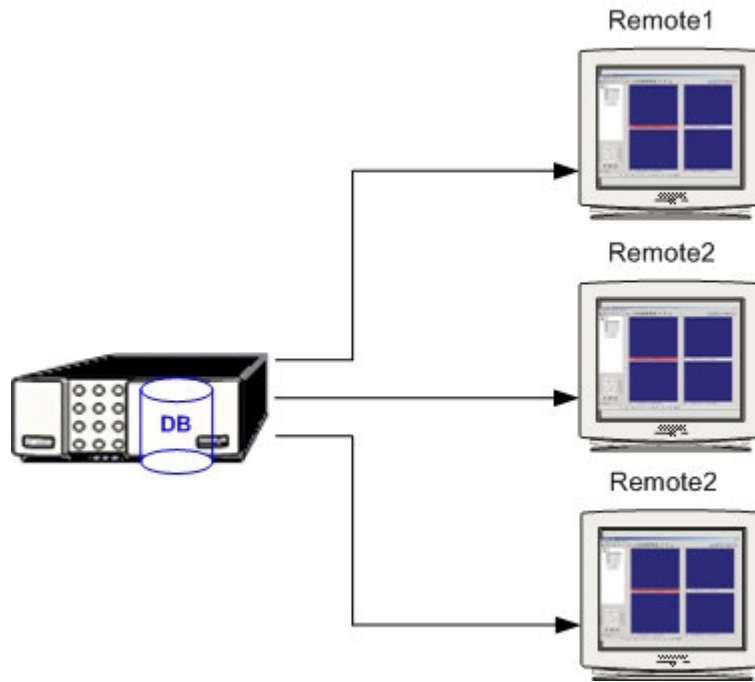
Internal Test Report

IPB/ITR 05/06



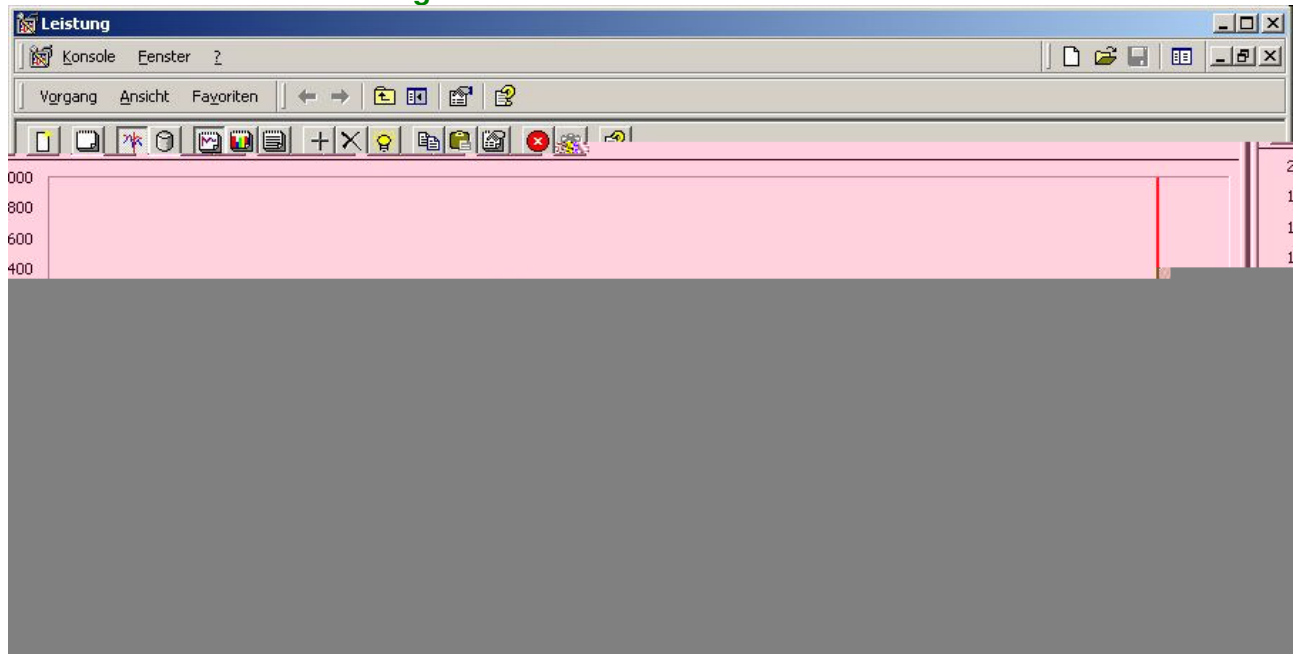
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IPB/ITR 05/06



Open Remote 1-2-3 Multiview
establish MSC3 connection
Set Viewer to 36 camera views

MSC3 > local Database average Network Connection O.K.

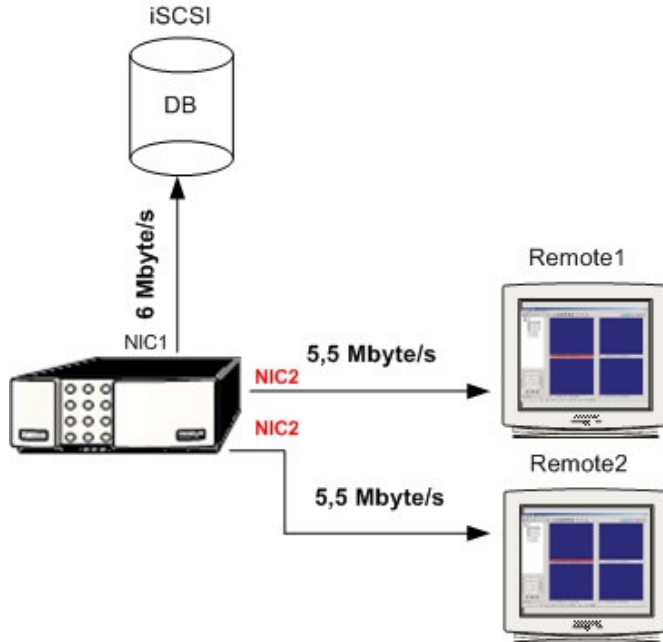


Interner Prüfbericht Internal Test Report

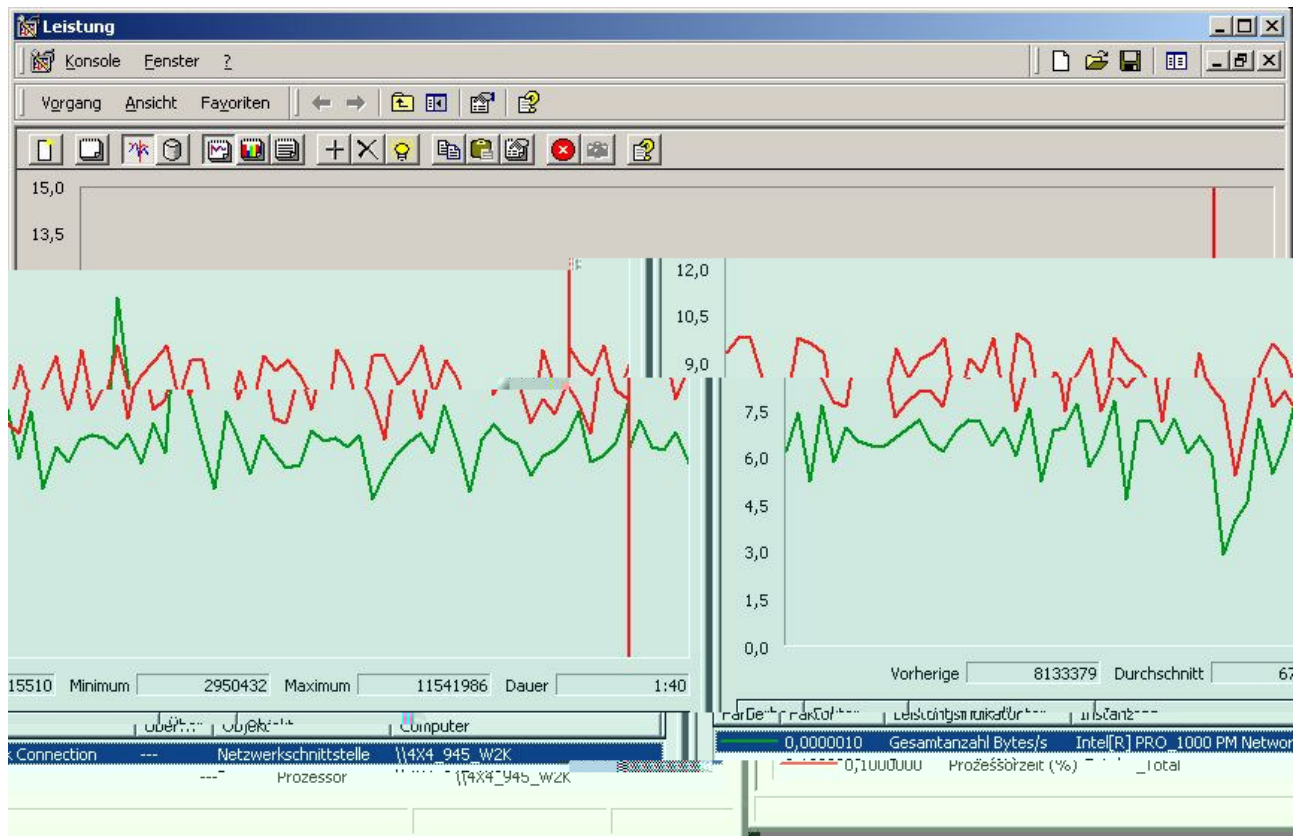
IPB/ITR 05/06

! MultiScope III > multiple Network Interface Cards (NICs).

Intel 1 GBit Network Interface Cards (NIC 1) connection with iSCSI
 USB 100 MBit Network Interface Cards (NIC 2) connection with Remote 1-2I



MSC3
 Network Connection 1 average 6,71 MByte/s
 CPU average 86,7 %



Interner Prüfbericht Internal Test Report

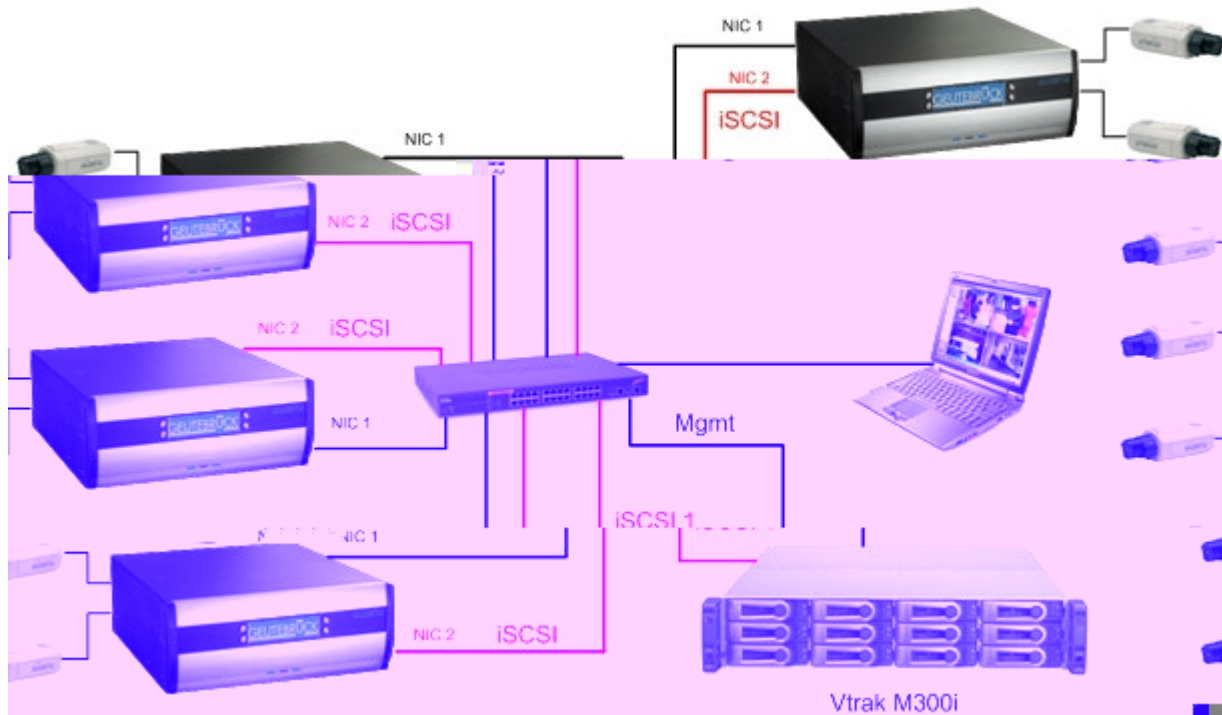
IPB/ITR 05/06

5 GeViScope



GeviScope is not allowed with one Network Connection

You must create two different Disk Array's with each two Logical Drive's



iSCSI host interface 1 GBit Ethernet

| | | | |
|-------------|-----------|---------|---------------------------------|
| GeviScope 1 | permanent | 400 P/s | 16,5 MByte/s (without Overhead) |
| GeviScope 2 | permanent | 350 P/s | 15,5 MByte/s (without Overhead) |
| GeviScope 3 | permanent | 350 P/s | 15 MByte/s (without Overhead) |
| GeviScope 4 | permanent | 400 P/s | 16,5 MByte/s (without Overhead) |

iSCSI Storage Disk Write Performance permanent 1600 P/s 64 MByte/s

Interner Prüfbericht Internal Test Report

IPB/ITR 05/06

5.1 Disk Array 0, Disk Array 1

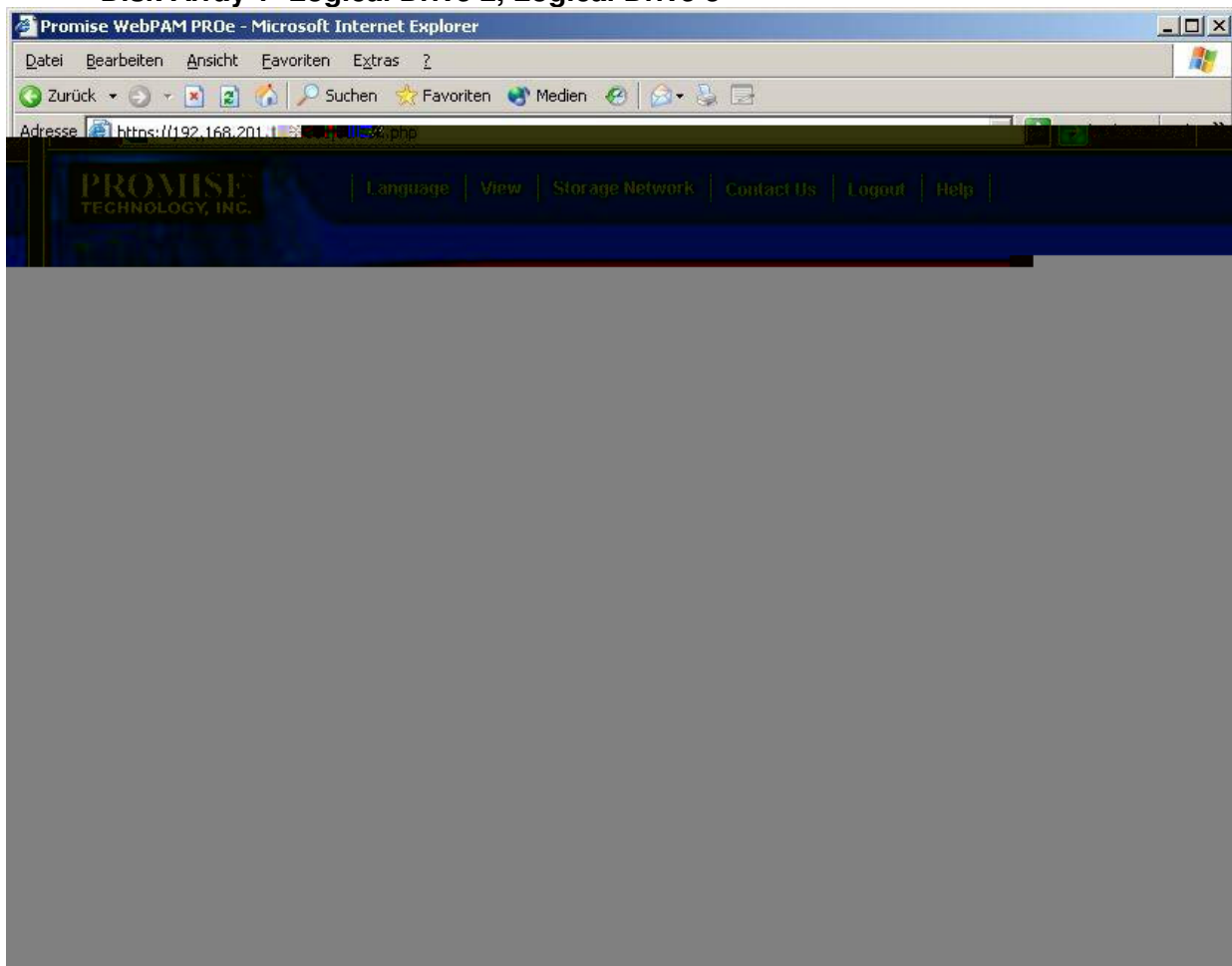


It is not allowed only one Disk Array 0

- collision detected,
- performance decrease (GeviSCOpe Server Picture/s)

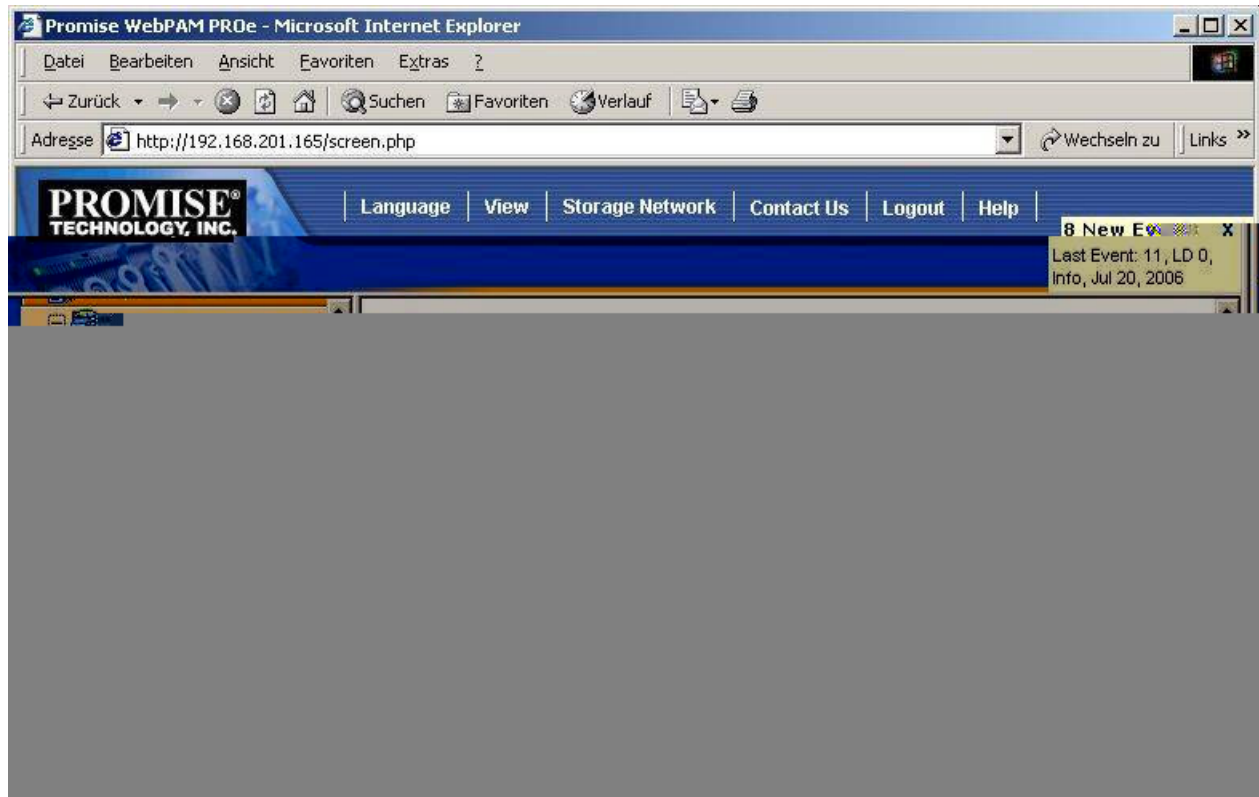


**Create Disk Array 0 Logical Drive 0, Logical Drive 1
Disk Array 1 Logical Drive 2, Logical Drive 3**

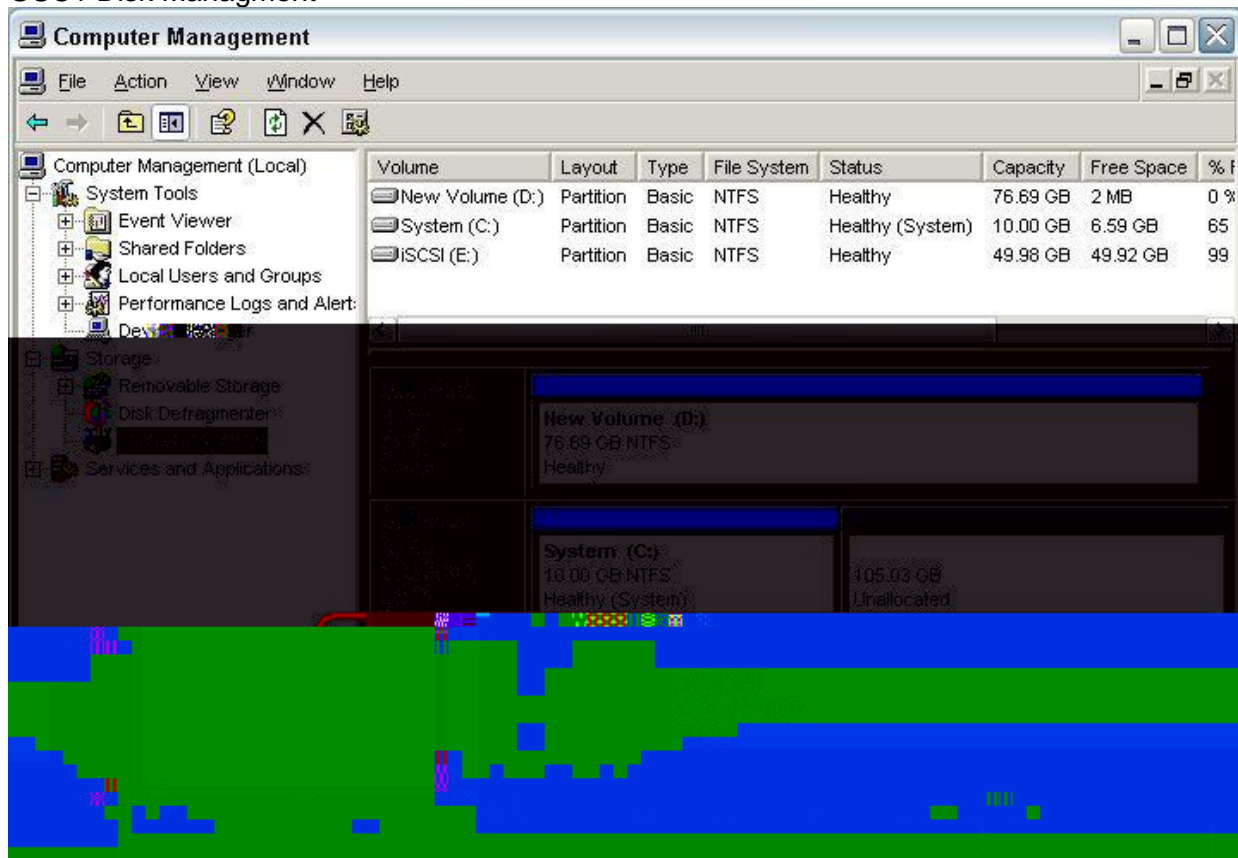


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IPB/ITR 05/06



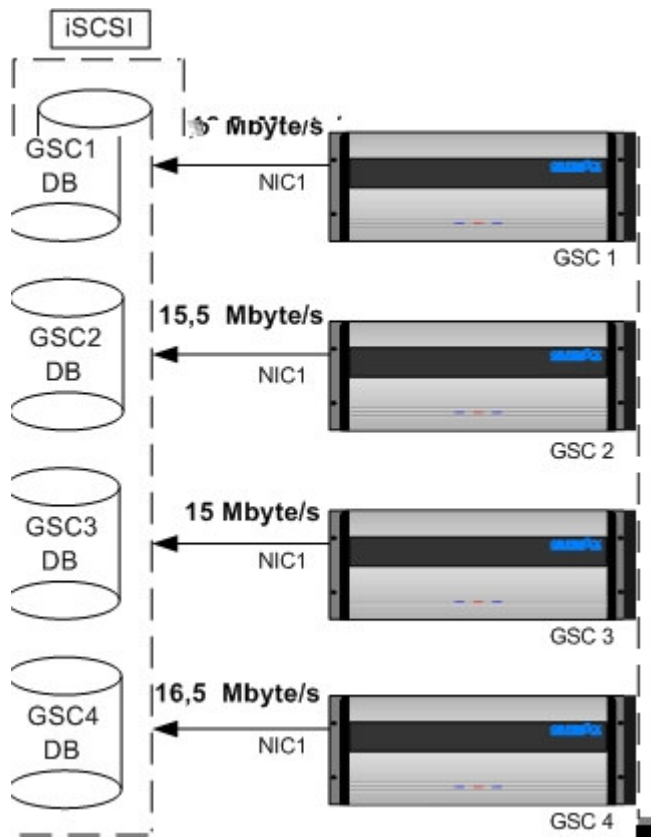
GSC1 Disk Management



Interner Prüfbericht Internal Test Report

IPB/ITR 05/06

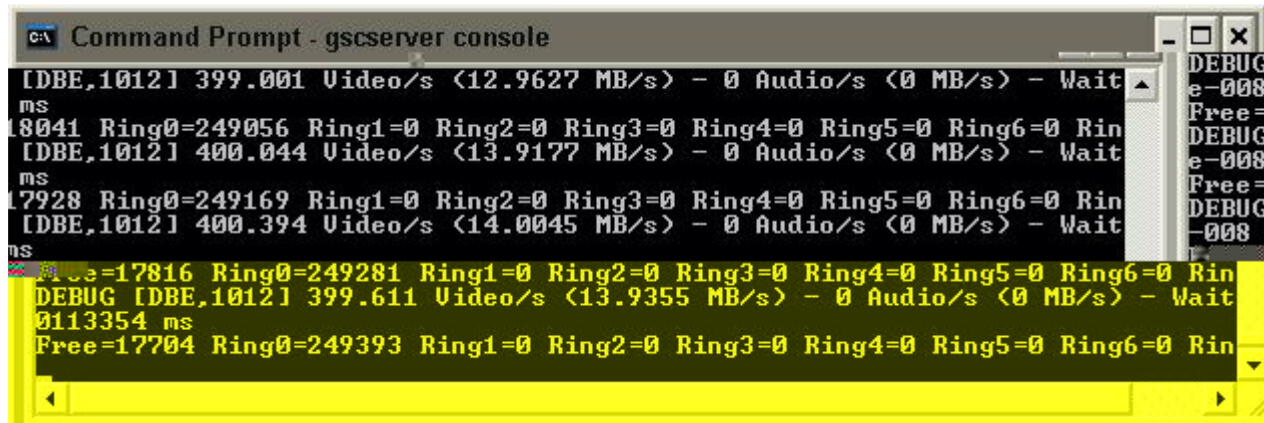
5.2 VTRak iSCSI host interface 1 GBit Ethernet



Interner Prüfbericht Internal Test Report

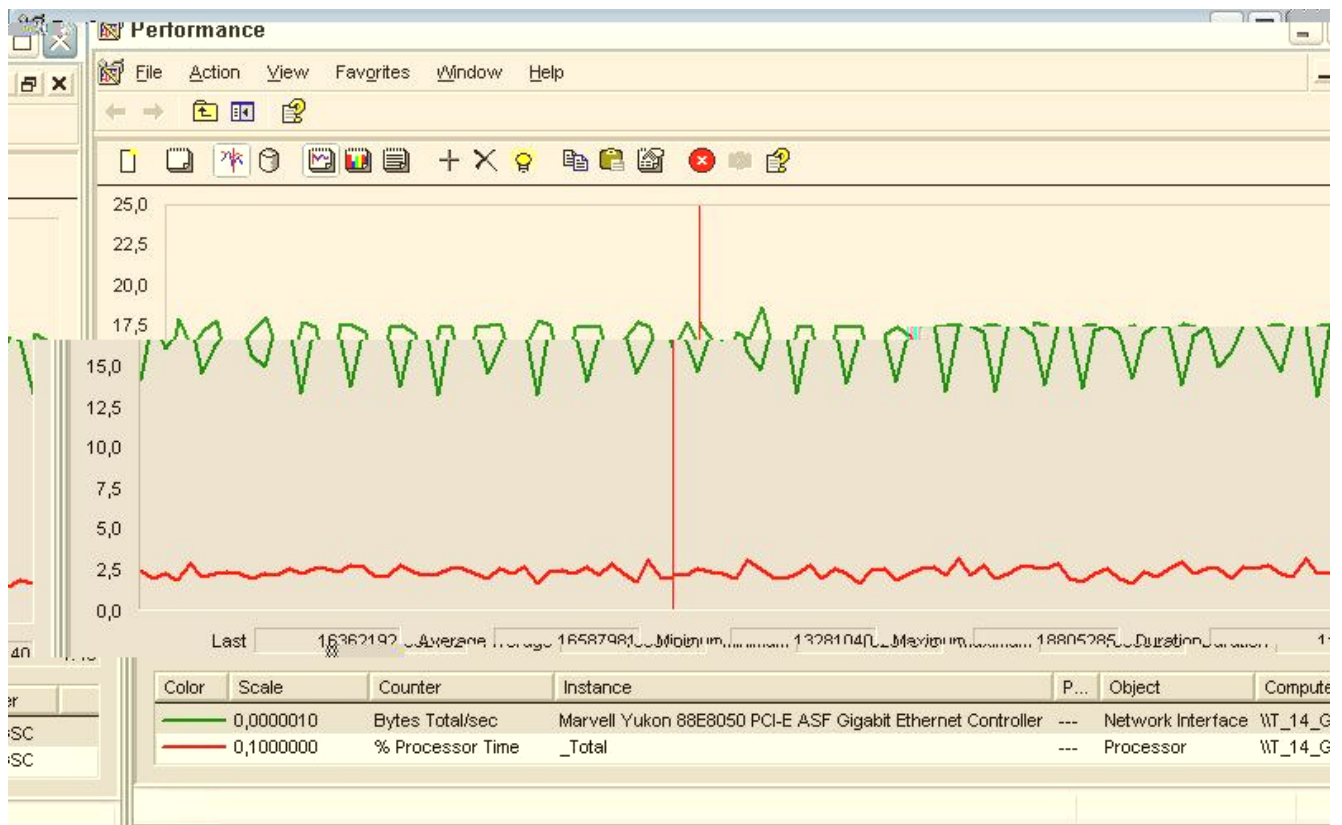
IPB/ITR 05/06

GeviScope 1 permanent 400 P/s 14 MByte/s (without Overhead)



GSC1

Network Connection 1 average 16,58 MByte/s

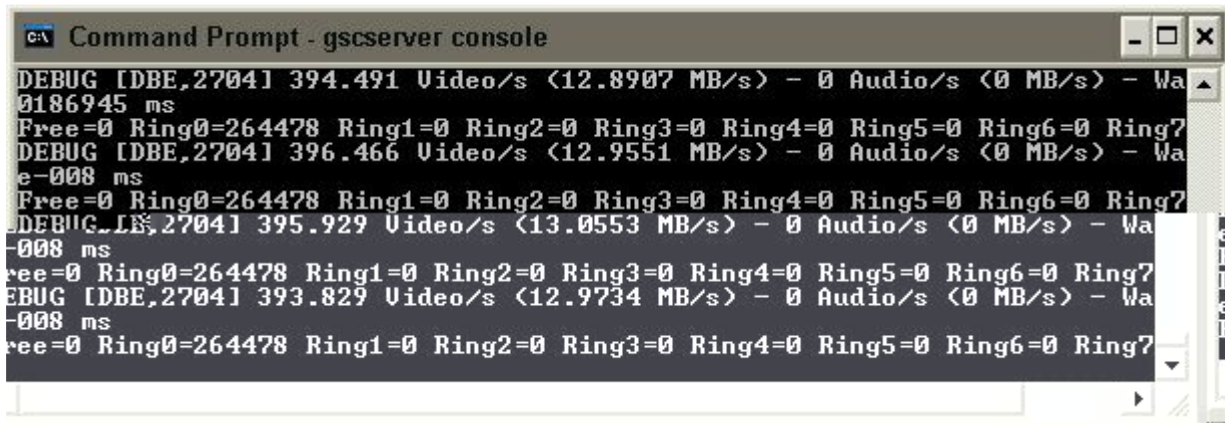


Interner Prüfbericht

Internal Test Report

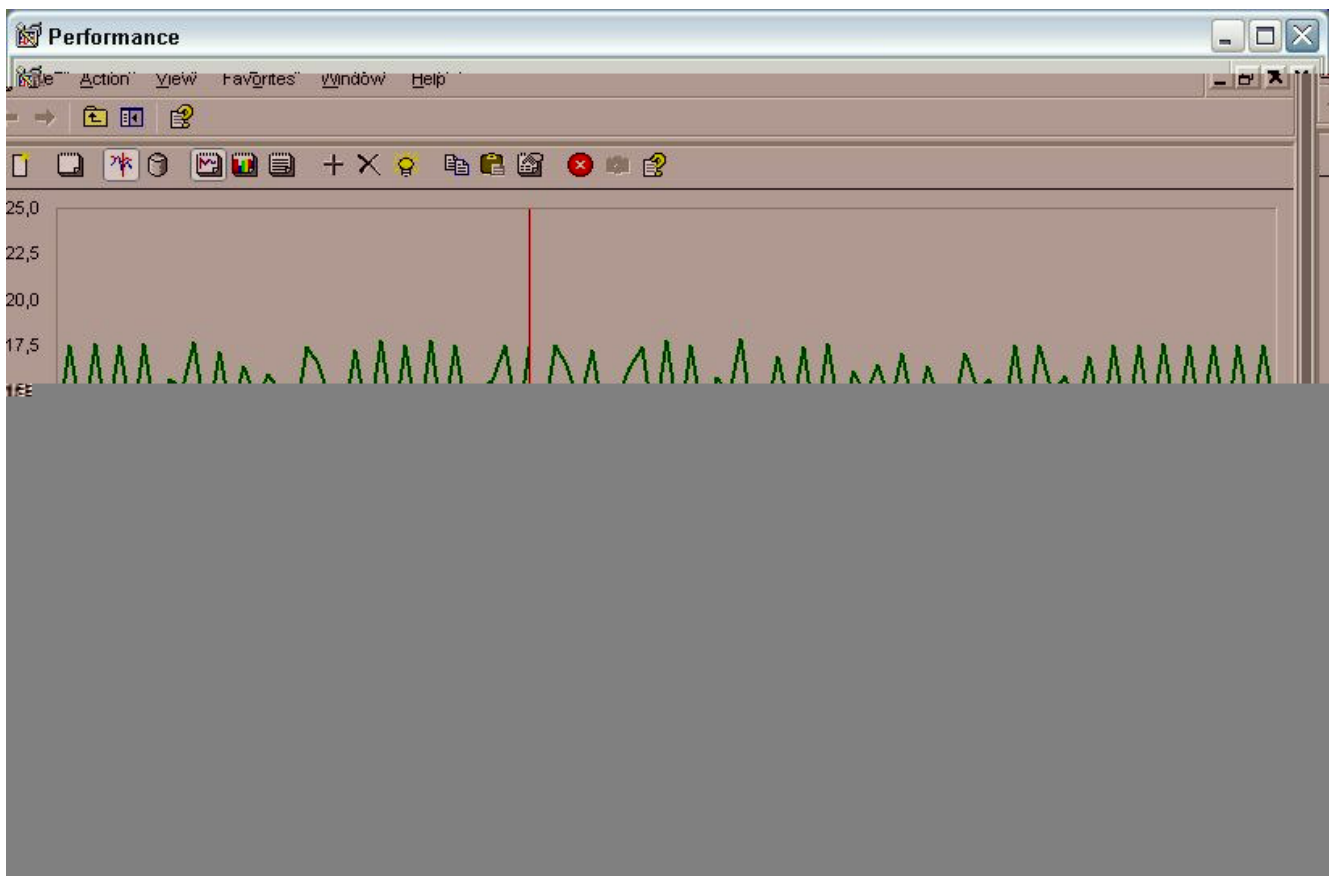
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GeviScope 2 permanent 400 P/s 13 MByte/s (without Overhead)



GSC2

Network Connection 1 average 15,46 MByte/s

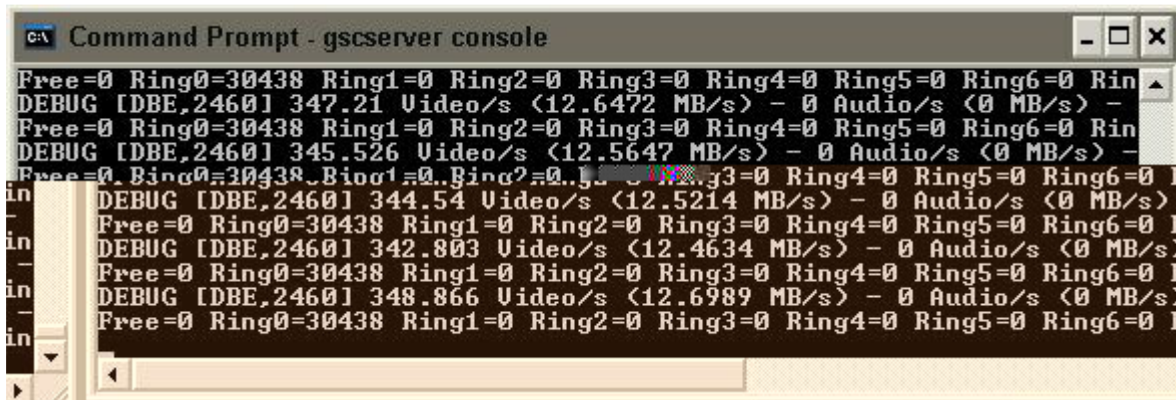


Interner Prüfbericht

Internal Test Report

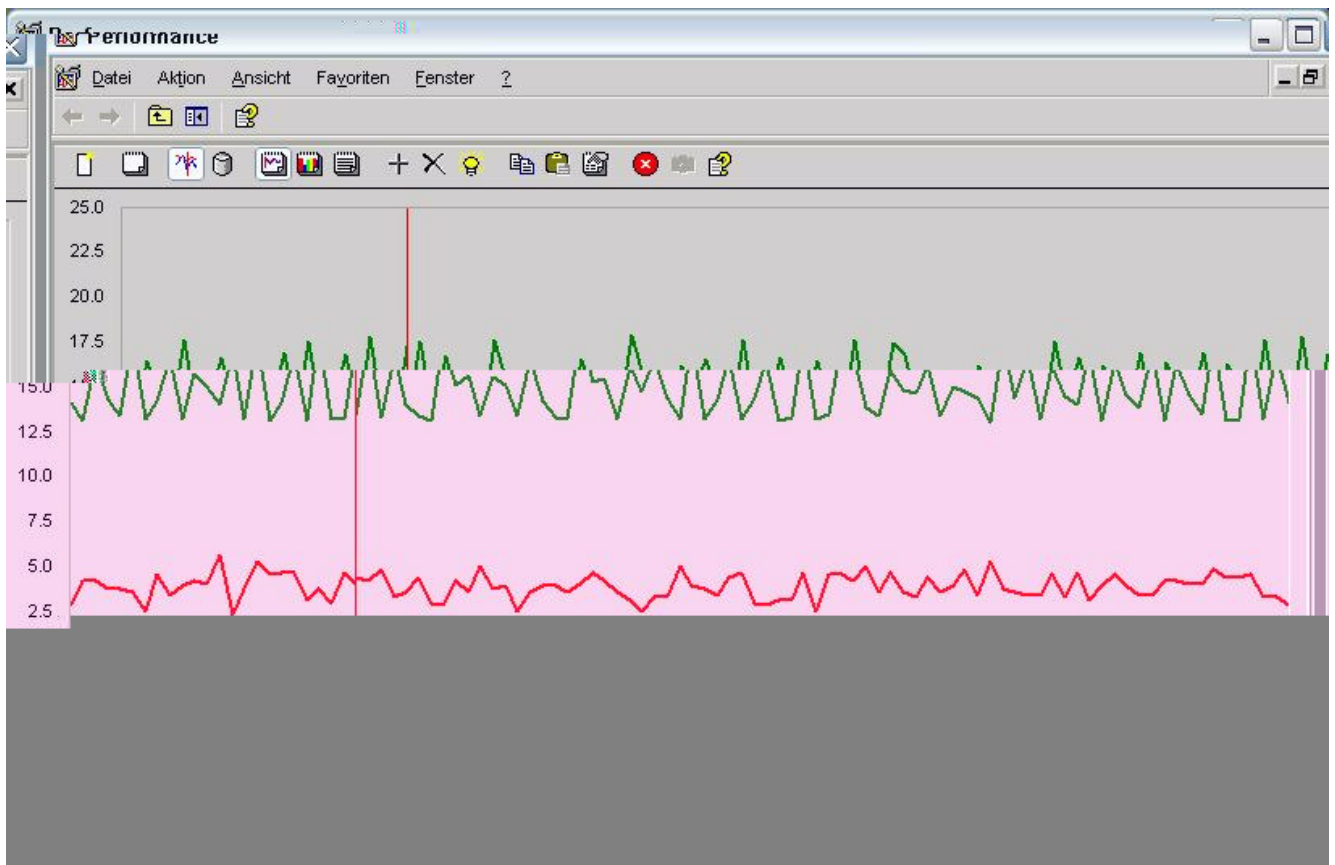
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GeviScope 3 permanent 350 P/s 12,7 MByte/s (without Overhead)



GSC3

Network Connection 1 average 14,98 MByte/s

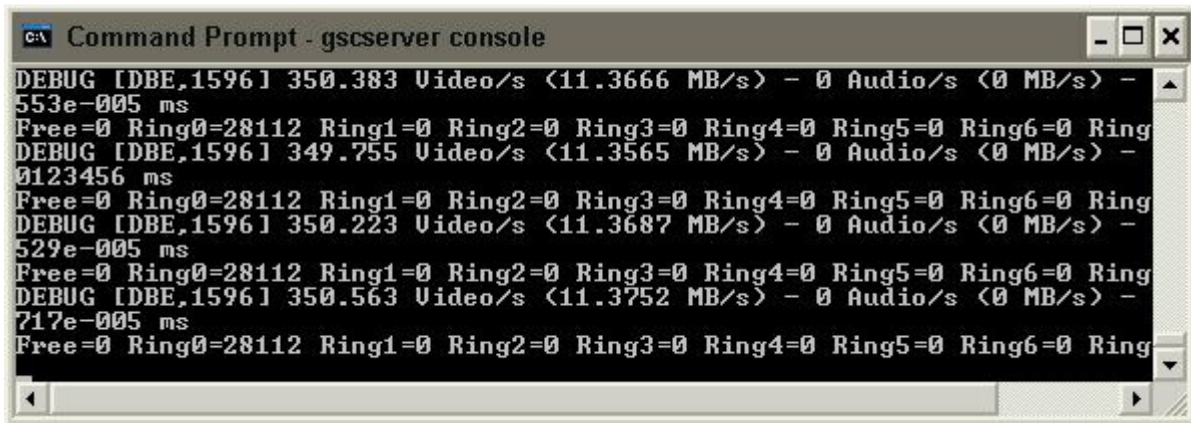


Interner Prüfbericht

Internal Test Report

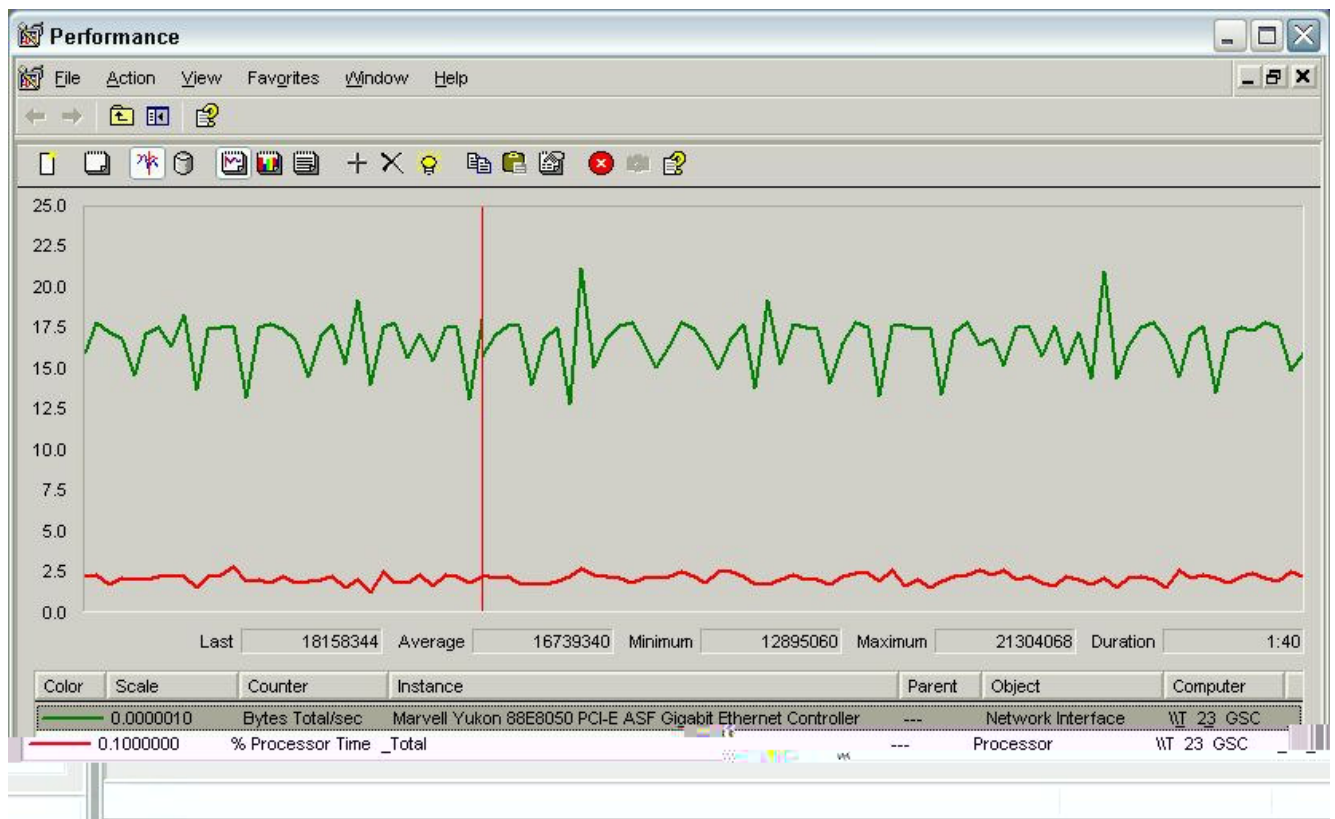
IPB/ITR 05/06

GeviScope 4 permanent 350 P/s 11,37 MByte/s (without Overhead)



GSC4

Network Connection 1 average 16,73 MByte/s



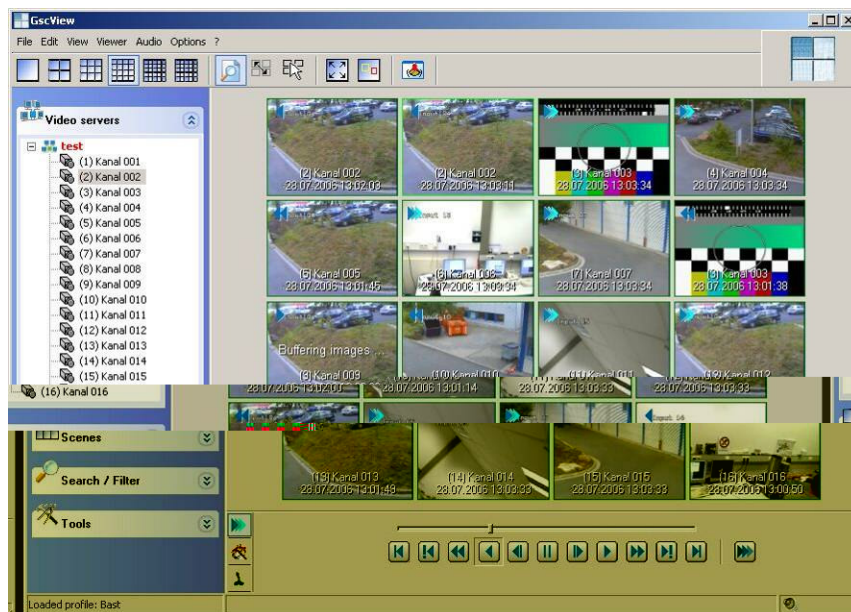
Interner Prüfbericht Internal Test Report

IPB/ITR 05/06

5.3 GSC1 *multiple Network Interface Cards (NICs)*

Intel 1 GBit Network Interface Cards (NIC 1) connection with iSCSI
 Intel 1 GBit Network Interface Cards (NIC 2) connection with Remote 11

Open Remote 1 GSC View establish GSC 1 connection
 Set Viewer to 16 camera views



Interner Prüfbericht

Internal Test Report

IPB/ITR 05/06

NIC 1

GeviScope 1 permanent 400 P/s 13,83 MByte/s (without Overhead)

```

C:\> Command Prompt - gscserver console
INFO [LiveStream,1300] Audio packets: 0 AudioData: 0 Byte/s
INFO [LiveStream,1300] Report packets: 123.164 ReportData: 14779.6 Byte/s
INFO [LiveStream,1300] -----
INFO [LiveStream,1300] TOTAL SEND:
INFO [LiveStream,1300] Video packets: 62.4984 VideoData: 2.1584e+006 B
yte/s Discarded: 0
INFO [LiveStream,1300] Audio packets: 0 AudioData: 0 Byte/s
INFO [LiveStream,1300] Report packets: 0 ReportData: 0 Byte/s
INFO [LiveStream,1300] -----
DEBUG [DBE,200] 406.607 Video/s <13.8375 MB/s> - 0 Audio/s <0 MB/s> - Wait 0.000
874406 ms
Free=5290 Ring0=21404 Ring1=0 Ring2=0 Ring3=0 Ring4=0 Ring5=0 Ring6=0 Ring7=0
    
```

GSC1

Network Connection 1 average 23,73 MByte/s

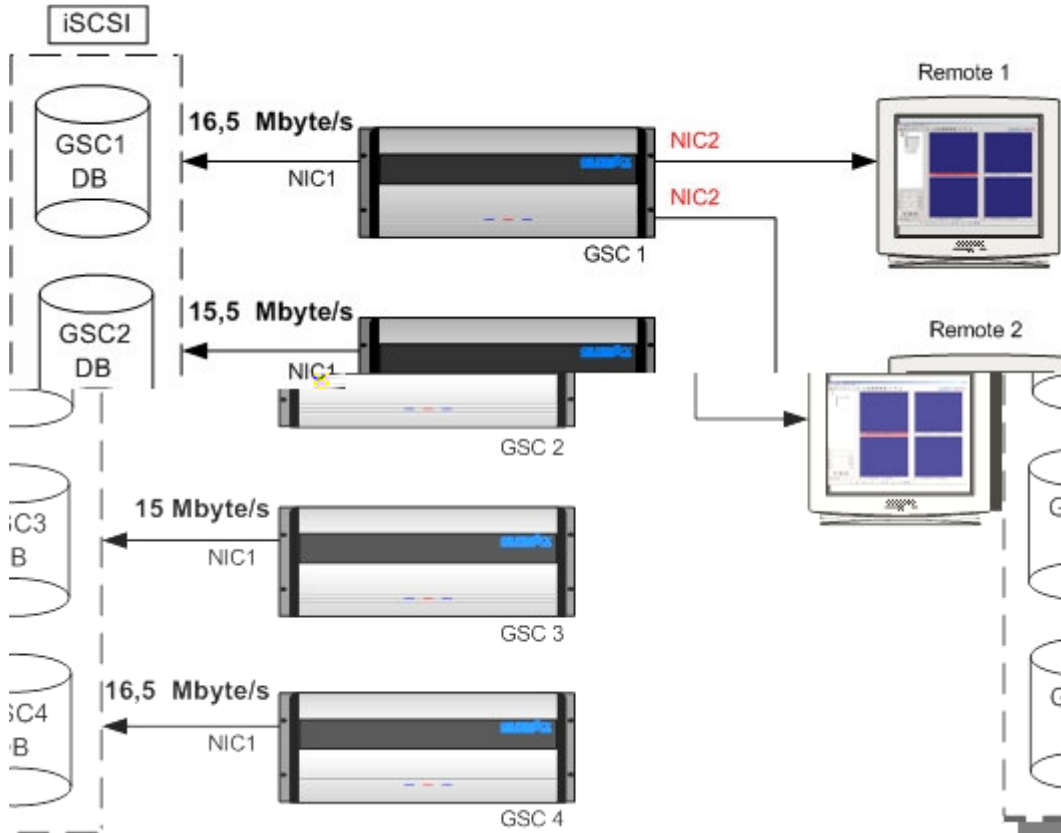


Interner Prüfbericht

Internal Test Report

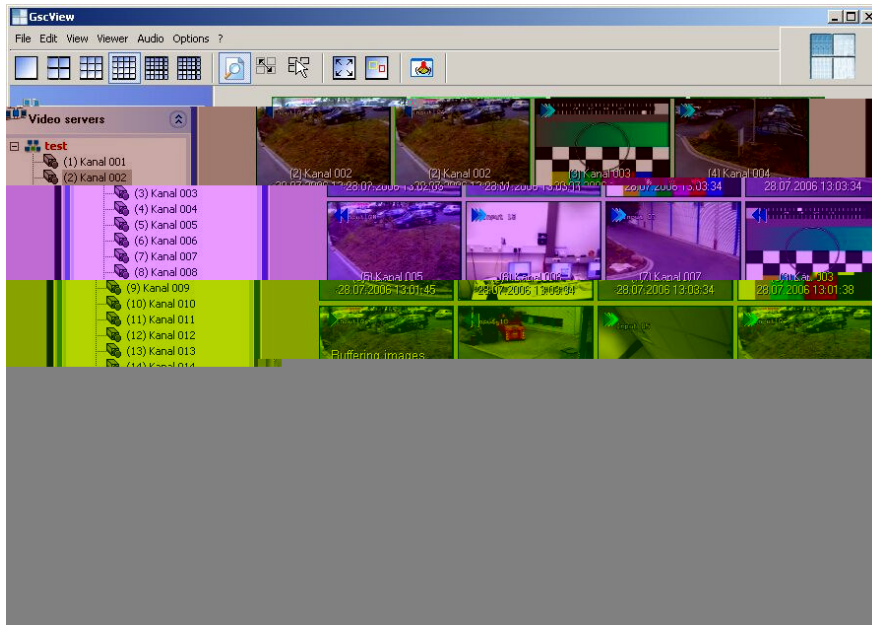
IPB/ITR 05/06

Intel 1 GBit Network Interface Cards (NIC 1) connection with iSCSI
 Intel 1 GBit Network Interface Cards (NIC 2) connection with Remote 11



Open Remote 1 and Remote 2 GSC View
 Set Viewer to 16 camera views

establish GSC 1 connection



Interner Prüfbericht Internal Test Report

IPB/ITR 05/06

NIC 1

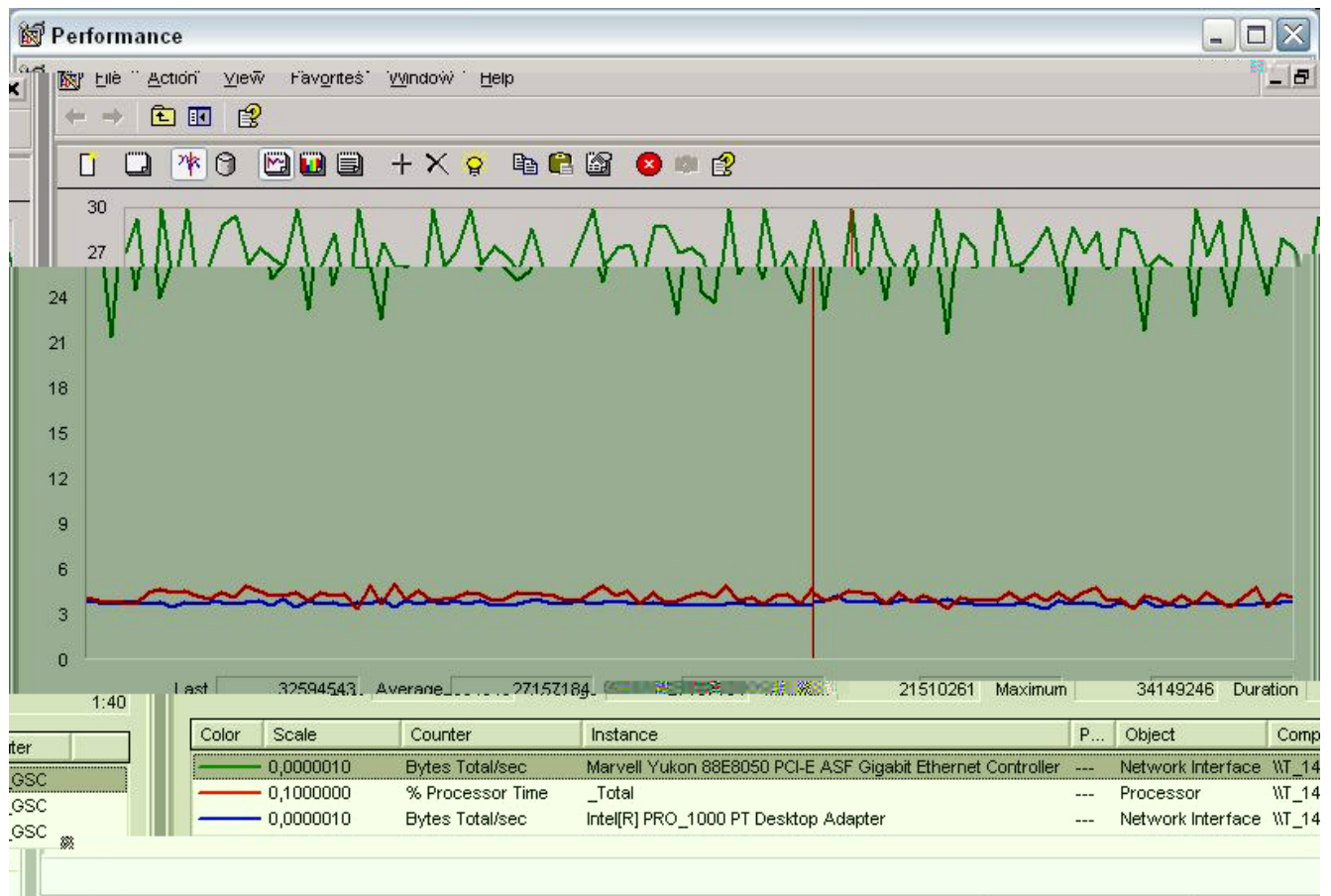
GeviScope 1 permanent 400 P/s 13,83 MByte/s (without Overhead)

```

Command Prompt - gscserver console
INFO [LiveStream,1300] Audio packets: 0 AudioData: 0 Byte/s
INFO [LiveStream,1300] Report packets: 123.164 ReportData: 14779.6 Byte/s
INFO [LiveStream,1300] -----
INFO [LiveStream,1300] TOTAL SEND:
INFO [LiveStream,1300] Video packets: 62.4984 VideoData: 2.1584e+006 B
yte/s Discarded: 0
INFO [LiveStream,1300] Audio packets: 0 AudioData: 0 Byte/s
INFO [LiveStream,1300] Report packets: 0 ReportData: 0 Byte/s
INFO [LiveStream,1300] -----
DEBUG [DBE,200] 406.607 Video/s <13.8375 MB/s> - 0 Audio/s <0 MB/s> - Wait 0.000
874406 ms
Free=5290 Ring0=21404 Ring1=0 Ring2=0 Ring3=0 Ring4=0 Ring5=0 Ring6=0 Ring7=0
    
```

GSC1

Network Connection 1 average 27,15 MByte/s



Interner Prüfbericht

Internal Test Report

IPB/ITR 05/06

5.4 Disk Array 0



It is not allowed only one Disk Array 0



As soon as established threeGeviScope to the iSCSI host interface 1 and using only 1 GBit Ethernet collision detected, performance decrease (GeviScope Server Picture/s)

Established two GeviScope Server to the iSCSI host interface 1 performance gone

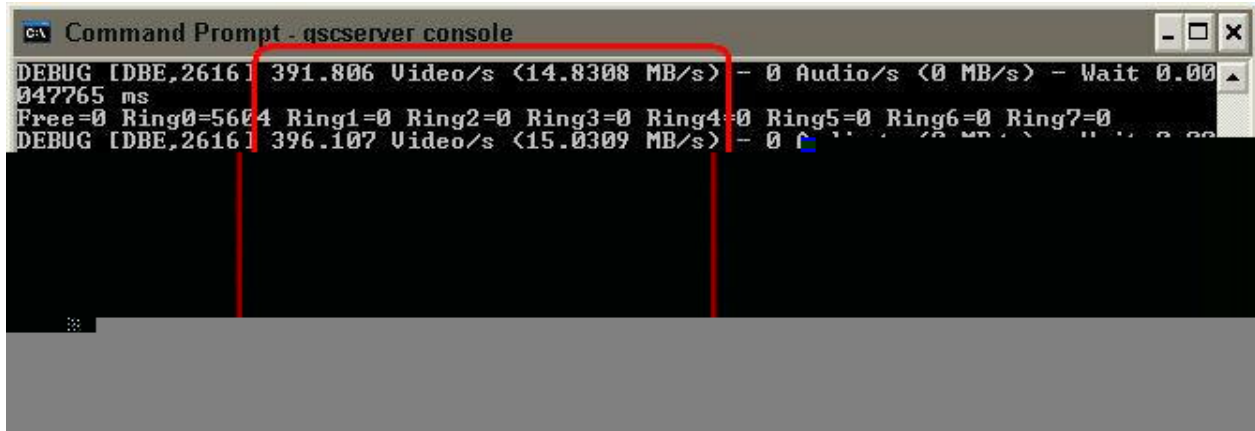
Interner Prüfbericht

Internal Test Report

IPB/ITR 05/06

5.4.1 VTrak iSCSI host interface 1 with 2 GeviScope Server

GeviScope 1 permanent 396 P/s 15 MByte/s (without Overhead)



Network Connection 2 average 17,64 MByte/s



Interner Prüfbericht

Internal Test Report

IPB/ITR 05/06

GeviScope 2 permanent 400 P/s 13,93 MByte/s (without Overhead)

```

Command Prompt - gscserver console
538223 ms
Free=0 Ring0=5606 Ring1=0 Ring2=0 Ring3=0 Ring4=0 Ring5=0 Ring6=0 Ring7=0
DEBUG [DBE,2920] 400.128 Video/s <13.8319 MB/s> - 0 Audio/s <0 MB/s> - Wait 0.00
0647848 ms
Free=0 Ring0=5606 Ring1=0 Ring2=0 Ring3=0 Ring4=0 Ring5=0 Ring6=0 Ring7=0
DEBUG [DBE,2920] 400.079 Video/s <13.9355 MB/s> - 0 Audio/s <0 MB/s> - Wait 0.00
135152 ms
Free=0 Ring0=5606 Ring1=0 Ring2=0 Ring3=0 Ring4=0 Ring5=0 Ring6=0 Ring7=0
DEBUG [DBE,2920] 400.072 Video/s <13.7958 MB/s> - 0 Audio/s <0 MB/s> - Wait 0.00
0213314 ms
Free=0 Ring0=5606 Ring1=0 Ring2=0 Ring3=0 Ring4=0 Ring5=0 Ring6=0 Ring7=0
DEBUG [DBE,2920] 404.635 Video/s <13.9854 MB/s> - 0 Audio/s <0 MB/s> - Wait 0.00
158381 ms
Free=0 Ring0=5606 Ring1=0 Ring2=0 Ring3=0 Ring4=0 Ring5=0 Ring6=0 Ring7=0
    
```

Network Connection 2 average 16,45 MByte/s

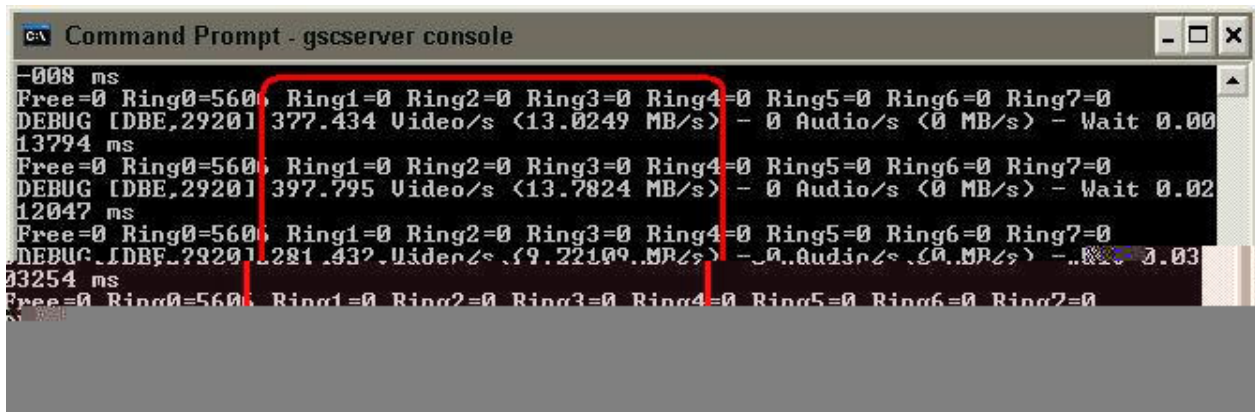


Interner Prüfbericht Internal Test Report

IPB/ITR 05/06

5.4.2 VTrak iSCSI host interface 1 with 3 GeviScope Server

GeviScope 1 permanent 281 P/s 9,72 MByte/s (without Overhead)



Network Connection 2 average 12,42 MByte/s



Interner Prüfbericht

Internal Test Report

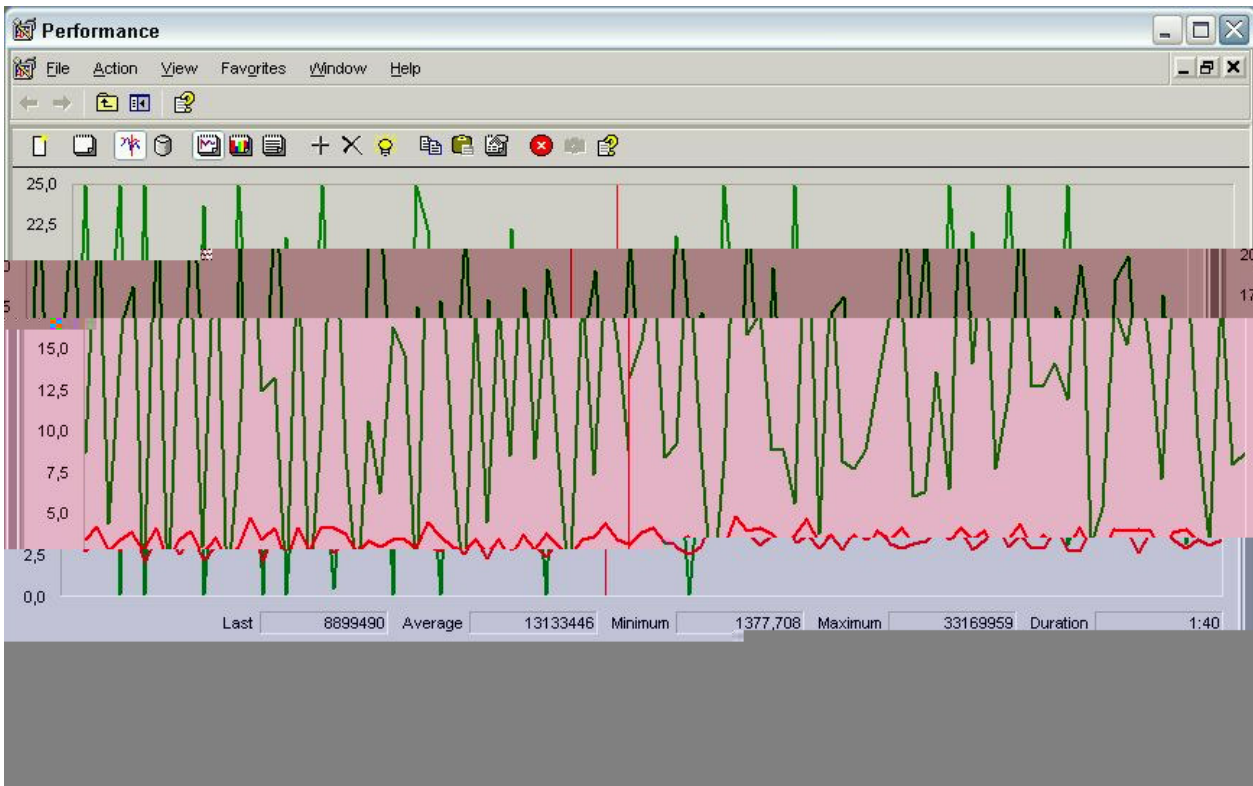
IPB/ITR 05/06

GeviScope 2 permanent 256 P/s 9,57 MByte/s (without Overhead)

```

Command Prompt - gscserver console
310267 ms
Free=0 Ring0=560 Ring1=0 Ring2=0 Ring3=0 Ring4=0 Ring5=0 Ring6=0 Ring7=0
DEBUG [DBE,2616] 393.226 Video/s <14.6034 MB/s> - 0 Audio/s <0 MB/s> - Wait 0.00
0408401 ms
Free=0 Ring0=560 Ring1=0 Ring2=0 Ring3=0 Ring4=0 Ring5=0 Ring6=0 Ring7=0
DEBUG [DBE,2616] 343.623 Video/s <12.7366 MB/s> - 0 Audio/s <0 MB/s> - Wait 0.00
181083 ms
Free=0 Ring0=560 Ring1=0 Ring2=0 Ring3=0 Ring4=0 Ring5=0 Ring6=0 Ring7=0
DEBUG [DBE,2616] 256.523 Video/s <9.57094 MB/s> - 0 Audio/s <0 MB/s> - Wait 0.02
77658 ms
Free=0 Ring0=560 Ring1=0 Ring2=0 Ring3=0 Ring4=0 Ring5=0 Ring6=0 Ring7=0
DEBUG [DBE,2616] 306.382 Video/s <11.3895 MB/s> - 0 Audio/s <0 MB/s> - Wait 0.02
98037 ms
    
```

Network Connection 2 average 13,13 MByte/s



Interner Prüfbericht

Internal Test Report

IPB/ITR 05/06

GeviScope 3 permanent 203 P/s 7,78 MByte/s (without Overhead)

```

Command Prompt - gscserver console
DEBUG [TRN,3652] TTimeRangeNotifier::Run
INFO [DBE,2308] Starting database...
INFO [DBE,2308] \\?\Volume{03b12a8a-5236-4379-9e62-b3c87699ce81}\GeviScope_Databas
INFO [DBE,2308] Database started in 77.74 seconds.
INFO [GscServerSetup,2432] SRT Read : Address = 127.0.0.1:1373 : User = sysadmi
DEBUG [DBE,2308] 203.405 Video/s <7.7857 MB/s> - 0 Audio/s <0 MB/s> - Wait 0.0260
Free=0 Ring0=5600 Ring1=0 Ring2=0 Ring3=0 Ring4=0 Ring5=0 Ring6=0 Ring7=0
DEBUG [DBE,2308] 256.754 Video/s <9.87064 MB/s> - 0 Audio/s <0 MB/s> - Wait 0.022
Free=0 Ring0=5600 Ring1=0 Ring2=0 Ring3=0 Ring4=0 Ring5=0 Ring6=0 Ring7=0
DEBUG [DBE,2308] 221.48 Video/s <8.55366 MB/s> - 0 Audio/s <0 MB/s> - Wait 0.02282
Free=0 Ring0=5600 Ring1=0 Ring2=0 Ring3=0 Ring4=0 Ring5=0 Ring6=0 Ring7=0
DEBUG [DBE,2308] 273.886 Video/s <10.6583 MB/s> - 0 Audio/s <0 MB/s> - Wait 0.0216
Free=0 Ring0=5600 Ring1=0 Ring2=0 Ring3=0 Ring4=0 Ring5=0 Ring6=0 Ring7=0
DEBUG [DBE,2308] 208.443 Video/s <8.17148 MB/s> - 0 Audio/s <0 MB/s> - Wait 0.0244
    
```

Network Connection 2 average 10,53 MByte/s



Interner Prüfbericht Internal Test Report

IPB/ITR 05/06

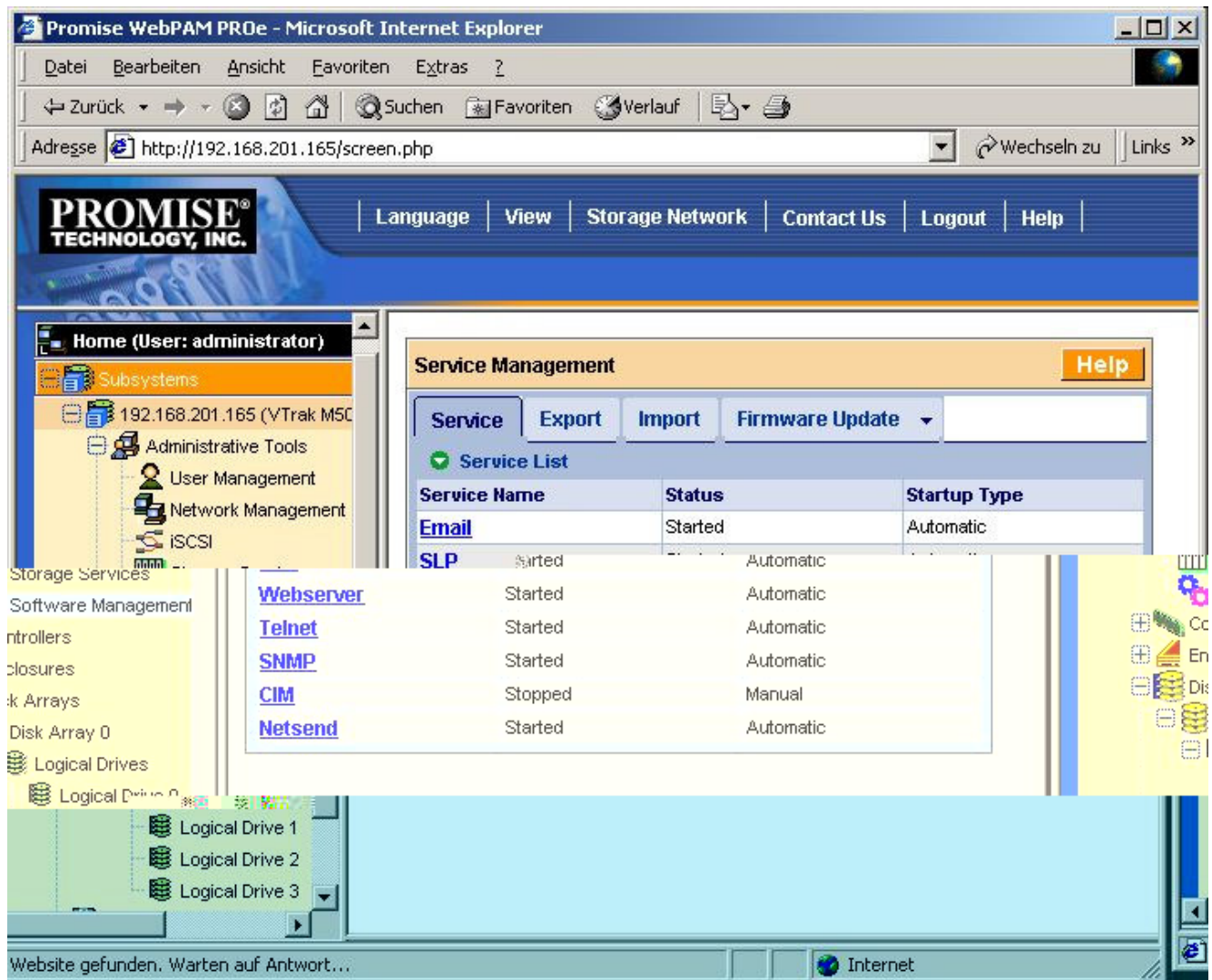
4. Freigabeentscheid / Release decision:

- Technische Freigabe / Technical approved
- Unter Vorbehalt / Restricted approval *
- Nicht freigegeben / Unapproved *

* Siehe Bemerkungen / See remarks

5. Bemerkungen / Remarks:

- **Netsend notification**



Interner Prüfbericht

Internal Test Report

IPB/ITR 05/06

Adresse <http://192.168.201.165/screen.php> Wechseln zu Links >>

PROMISE TECHNOLOGY, INC. | Language | View | Storage Network | Contact Us | Logout | Help

Home (User: administrator)

Subsystems

- 192.168.201.165 (VTrak M500i)
 - Administrative Tools
 - User Management
 - Network Management
 - iSCSI
 - Storage Services
 - Software Management
 - Controllers
 - Enclosures
 - Disk Arrays
 - Disk Array 0
 - Logical Drives
 - Spare Drives
 - Logical Drive Summary

Netsend Settings Help

Service | Export | Import | Firmware Update

Service Status -- Netsend

Running Status: Started

Buttons: Stop, Restart

Service Setting -- Netsend

Startup Type: Automatic Manual

Message Recipient

Recipient IP Address: 0.0.0.0

Recipient Filter: Info Warning Minor Major Critical Fatal

Buttons: Update, Delete

Message Event Severity Filter

| # | Recipient IP Address | Recipient Filter |
|---|----------------------|------------------|
| 1 | 192.168.201.10 | Info and above |
| 2 | 192.168.201.144 | Info and above |
| 3 | 192.168.123.200 | Info and above |

Fertig Internet

Nachrichtendienst [X]

Nachricht von Netsend an 192.168.201.144 am 21.07.2006 10:26:44

No.1 From: SEP 1 Enc 1 in VTrak M500i (Alias M500i)
Event: SEP is found

OK

Nachrichtendienst [X]

Nachricht von Netsend an 192.168.201.144 am 21.07.2006 11:09:38

No.5 From: PD 14 in VTrak M500i (Alias M500i)
Event: Physical Disk is marked as DEAD due to removal

OK

Interner Prüfbericht

Internal Test Report

IPB/ITR 05/06

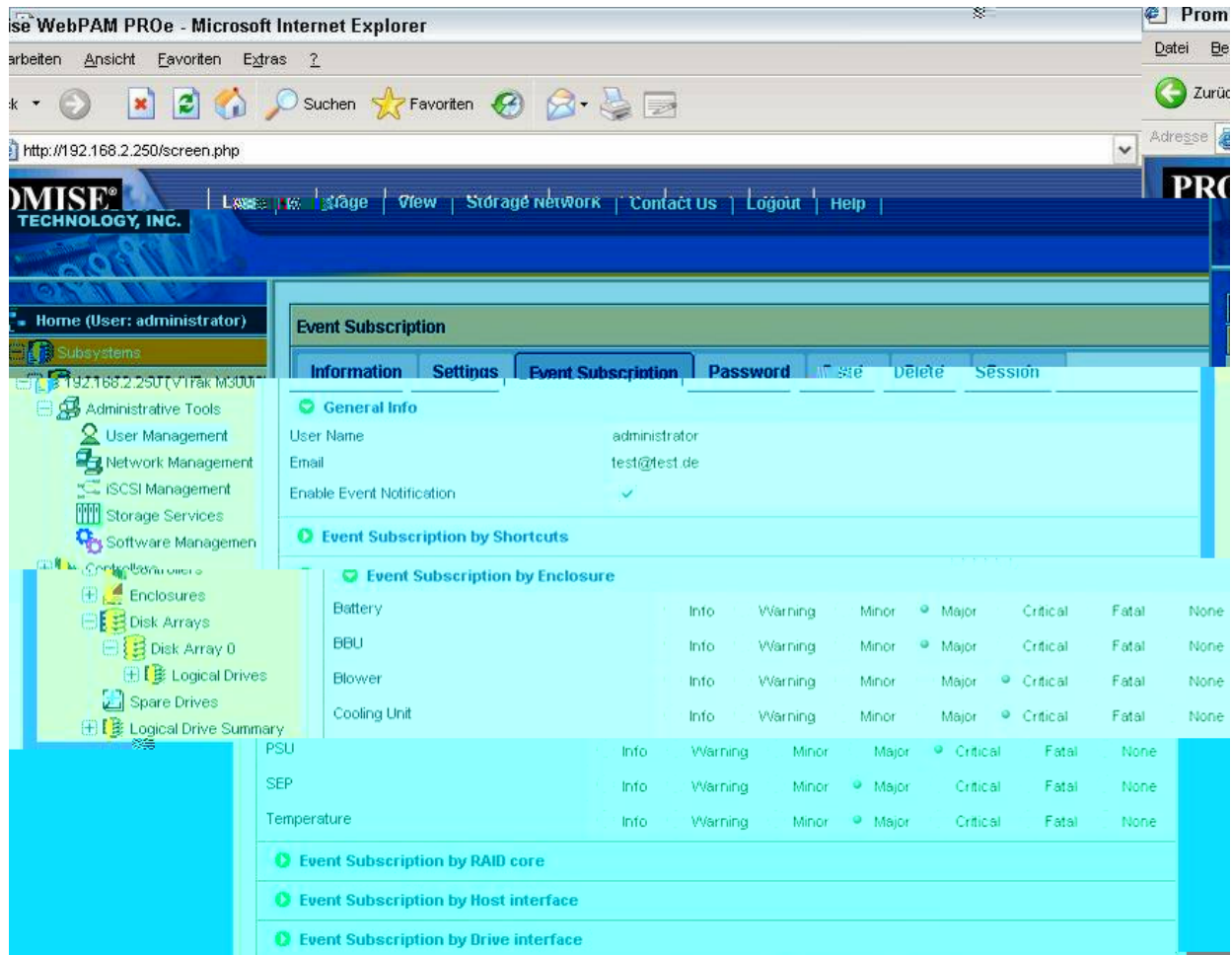
- Email notification

Installed Mercury: Freeware-Mailserver for Windows



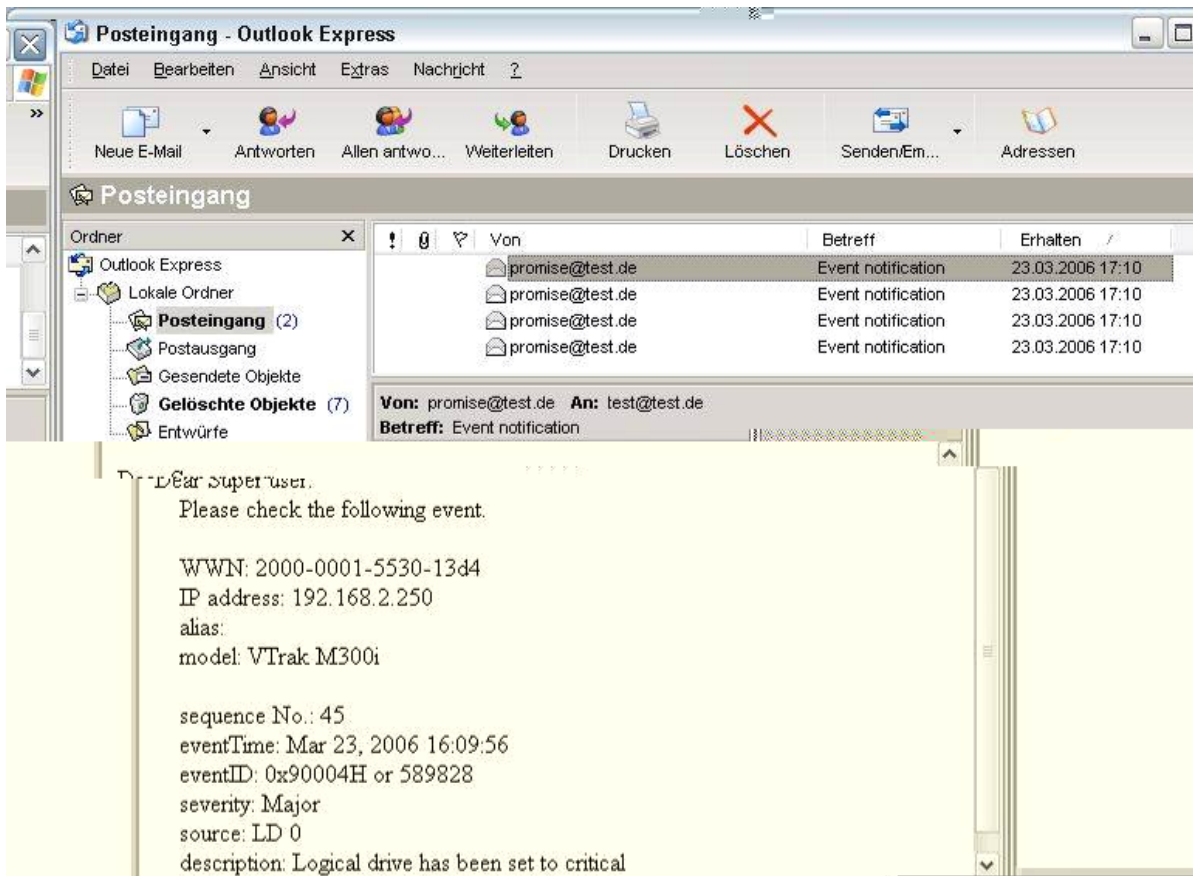
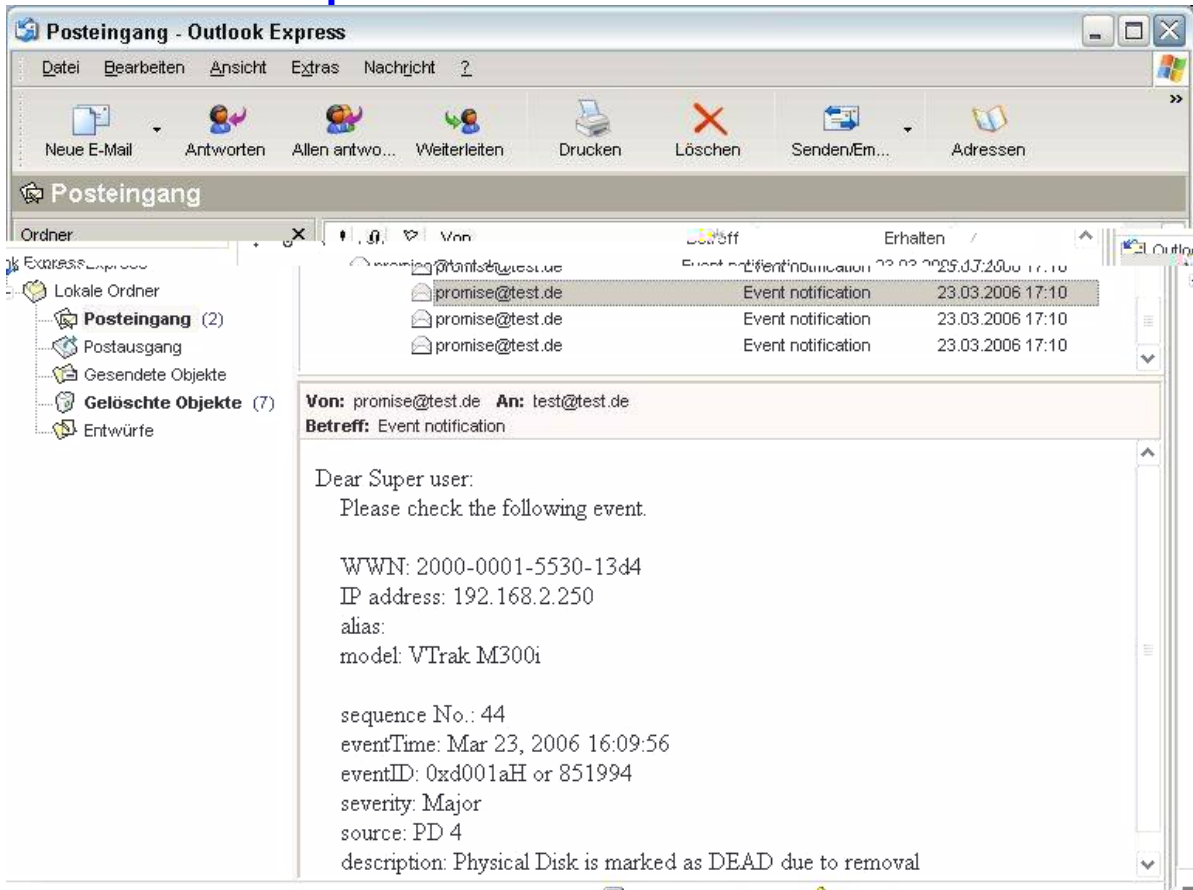
Interner Prüfbericht Internal Test Report

IPB/ITR 05/06



Interner Prüfbericht Internal Test Report

IPB/ITR 05/06



Interner Prüfbericht

Internal Test Report

IPB/ITR 05/06

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