



Der Gedanke dieses Dokumentes ist eine Schritt für Schritt Beschreibung um einen Software Upgrade auf einer MPX durchzuführen, eine zweite MPX als redundante Managementversorgung einzubauen und anschließend die Redundanz der beiden MPXs zu überprüfen

Folgende Schritte werden durchgeführt:

- Console auf Primary MPX (hier in Slot 1) und den aktuellen Zustand des Chassis abfragen
- Einbauen der secondary MPX in Slot 2
- Console auf Secondary (hier in slot 2)
- Erstellen eines neuen Filesystems (nur bei Software Upgrade noetig)
- Kontrolle des Filesystems mit ls (damit auch wirklich alle Files entfernt sind)
- Console auf Primary
- Imagesync (Es werden alle Images und Configs von Primary auf Secondary transferiert)
- Configsync (Ist normalerweise nicht nötig, da die Synchronisation automatisch geschieht, kann aber abgeschaltet werden)
- Reset der Secondary MPX mit **secreset**
- Redundanzüberprüfung (Renounce and Takeover)
- Harte Redundanzüberprüfung (Swap on und pysikalisches Entfernen)

1. Überprüfen des Chassis

`/ % slot`

Slot	Module-Type Part-Number	Adm-Status Oper-Status	HW Rev	Board Serial #	Mfg Date	Firmware-Version Base-MAC-Address
1*	MPX 5019306	Enabled Operational	A10	84730152	12/04/98	3.4.5.10 (F) 00:20:da:a5:3b:30
1-1	HREX	Operational				
2	Empty					
3	ESX-C12 5022206	Enabled Operational	A7	92281292	06/04/99	3.4.5.10 (F) 00:20:da:de:7e:40
4	GSX/FM_2 5023766	Enabled Operational	C4	92130951	06/09/99	3.4.5.10 (F) 00:20:da:ec:8c:f0 00:20:da:ec:8d:00
5	HSX 5022406	Enabled Operational	A1	91131811	03/18/99	3.4.5.10 (F) 00:20:da:e7:d6:40 00:20:da:e7:d6:50
5-2	ATM2155-RFM 5017529		B3	90580573	01/27/99	
.						
.						
.						



```
/ % swap on
Swap is ON for 5 minutes
```

2. Stecken Sie die MPX in den Slot 2

Der Betriebszustand der zweiten MPX ändert sich von

- ➔ Booting
- ➔ Pending
- ➔ Responding
- ➔ Redundant (nur bei synchronisierter Konfiguration)

```
/ % 0x41c71468 (tChasMgr): HRE-X detected on other MPX in slot 2
```

```
/ % swap off
Swap is OFF, timeout is 5 minutes
```

```
/ % slot
```

Slot	Module-Type Part-Number	Adm-Status Oper-Status	HW Rev	Board Serial #	Mfg Date	Firmware-Version Base-MAC-Address
1*	MPX 5019306	Enabled Operational	A10	84730152	12/04/98	3.4.5.10 (F) 00:20:da:a5:3b:30
1-1	HREX	Operational				
2	MPX 5019306	Enabled Booting	A10	92130681	06/02/99	Unknown 00:20:da:ec:5c:70
2-1	HREX	Disabled				
3	ESX-C12 5022206	Enabled Operational	A7	92281292	06/04/99	3.4.5.10 (F) 00:20:da:de:7e:40
4	GSX/FM_2 5023766	Enabled Operational	C4	92130951	06/09/99	3.4.5.10 (F) 00:20:da:ec:8c:f0 00:20:da:ec:8d:00
5	HSX 5022406	Enabled Operational	A1	91131811	03/18/99	3.4.5.10 (F) 00:20:da:e7:d6:40 00:20:da:e7:d6:50
5-2	ATM2155-RFM 5017529		B3	90580573	01/27/99	

```
.
.
/ %
/ %
```

```
/ % slot
```

```
0x41c71468 (tChasMgr): Initializing HRE-X on MPM in slot 2.
```

Slot	Module-Type Part-Number	Adm-Status Oper-Status	HW Rev	Board Serial #	Mfg Date	Firmware-Version Base-MAC-Address
1*	MPX 5019306	Enabled Operational	A10	84730152	12/04/98	3.4.5.10 (F) 00:20:da:a5:3b:30
1-1	HREX	Operational				
2	MPX 5019306	Enabled Pending	A10	92130681	06/02/99	3.4.5.4 (F) UNTERSCHIEDLICHE 00:20:da:ec:5c:70 SOFTWARE



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2-1 HREX Disabled

```

3      ESX-C12 Enabled   A7   92281292 06/04/99 3.4.5.10 (F)
      5022206 Operational                00:20:da:de:7e:40

4      GSX/FM_2 Enabled  C4   92130951 06/09/99 3.4.5.10 (F)
      5023766 Operational                00:20:da:ec:8c:f0
      00:20:da:ec:8d:00

5      HSX Enabled      A1   91131811 03/18/99 3.4.5.10 (F)
      5022406 Operational                00:20:da:e7:d6:40
      00:20:da:e7:d6:50

5-2 ATM2155-RFM          B3   90580573 01/27/99
      5017529

```

.
.
.
.

/ % slot

Slot	Module-Type Part-Number	Adm-Status Oper-Status	HW Rev	Board Serial #	Mfg Date	Firmware-Version Base-MAC-Address
1*	MPX 5019306	Enabled Operational	A10	84730152	12/04/98	3.4.5.10 (F) 00:20:da:a5:3b:30
1-1	HREX	Operational				
2	MPX 5019306	Enabled Responding	A10	92130681	06/02/99	3.4.5.4 (F) 00:20:da:ec:5c:70
2-1	HREX	Disabled				
3	ESX-C12 5022206	Enabled Operational	A7	92281292	06/04/99	3.4.5.10 (F) 00:20:da:de:7e:40
4	GSX/FM_2 5023766	Enabled Operational	C4	92130951	06/09/99	3.4.5.10 (F) 00:20:da:ec:8c:f0 00:20:da:ec:8d:00
5	HSX 5022406	Enabled Operational	A1	91131811	03/18/99	3.4.5.10 (F) 00:20:da:e7:d6:40 00:20:da:e7:d6:50
5-2	ATM2155-RFM 5017529		B3	90580573	01/27/99	

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.
..

3. Console auf Secondary

/ % slot

Slot	Module-Type Part-Number	Adm-Status Oper-Status	HW Rev	Board Serial #	Mfg Date	Firmware-Version Base-MAC-Address
1	Unknown					
2*	MPX 5019306	Enabled Responding	A10	92130681	06/02/99	3.4.5.4 (F) 00:20:da:ec:5c:70
2-1	HREX	Unknown				
3	Unknown					

.
.



/ % **newfs**

You are about to destroy all files on file system /flash. If you are experiencing problems with the flash file system, you might want to use the "fsck" command to help determine where problems may exist.

Are you absolutely sure you want to strip the current file system and create a new one? (n) y

/ %

/ % **ls**

7069364 bytes free.

/ %

Console auf Primary

/ %

/ %

/Mpm %

/Mpm % **slot**

Slot	Module-Type Part-Number	Adm-Status Oper-Status	HW Rev	Board Serial #	Mfg Date	Firmware-Version Base-MAC-Address
1*	MPX 5019306	Enabled Operational	A10	84730152	12/04/98	3.4.5.10 (F) 00:20:da:a5:3b:30
1-1	HREX	Operational				
2	MPX 5019306	Enabled Responding	A10	92130681	06/02/99	3.4.5.4 (F) 00:20:da:ec:5c:70
2-1	HREX	Disabled				
3	ESX-C12 5022206	Enabled Operational	A7	92281292	06/04/99	3.4.5.10 (F) 00:20:da:de:7e:40
4	GSX/FM_2 5023766	Enabled Operational	C4	92130951	06/09/99	3.4.5.10 (F) 00:20:da:ec:8c:f0 00:20:da:ec:8d:00
5	HSX 5022406	Enabled Operational	A1	91131811	03/18/99	3.4.5.10 (F) 00:20:da:e7:d6:40 00:20:da:e7:d6:50
5-2	ATM2155-RFM 5017529		B3	90580573	01/27/99	

.
. .
. .
. .
. .

/Mpm % **imgsync**

Sync cmd file mpx.cmd (y) : **y**

4 files to be synchronized

Syncing .

Replacing /flash/mpx.cmd...

Replacing /flash/mpx.img.....

Replacing /flash/esx.img...

Replacing /flash/asm.img.....

/%

Syncing configuration data with secondary 2 .. complete

/ % **configsync**

Syncing Config file.

Config files are currently synchronized

/ %



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/%

/% slot

Slot	Module-Type Part-Number	Adm-Status Oper-Status	HW Rev	Board Serial #	Mfg Date	Firmware-Version Base-MAC-Address
1*	MPX 5019306	Enabled Operational	A10	84730152	12/04/98	3.4.5.10 (F) 00:20:da:a5:3b:30
1-1	HREX	Operational				
2	MPX 5019306	Enabled Redundant	A10	92130681	06/02/99	3.4.5.4 (F) 00:20:da:ec:5c:70
2-1	HREX	Disabled				
3	ESX-C12 5022206	Enabled Operational	A7	92281292	06/04/99	3.4.5.10 (F) 00:20:da:de:7e:40
4	GSX/FM_2 5023766	Enabled Operational	C4	92130951	06/09/99	3.4.5.10 (F) 00:20:da:ec:8c:f0 00:20:da:ec:8d:00
5	HSX 5022406	Enabled Operational	A1	91131811	03/18/99	3.4.5.10 (F) 00:20:da:e7:d6:40 00:20:da:e7:d6:50
5-2	ATM2155-RFM 5017529		B3	90580573	01/27/99	
.						
.						
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.						

/Mpm % secreset (Rebooted die secondary MPX)

/Mpm % Module 2 changed while Swap OFF

0x41c71468 (tChasMgr): HRE-X detected on other MPX in slot 2

/Mpm % slot

Slot	Module-Type Part-Number	Adm-Status Oper-Status	HW Rev	Board Serial #	Mfg Date	Firmware-Version Base-MAC-Address
1*	MPX 5019306	Enabled Operational	A10	84730152	12/04/98	3.4.5.10 (F) 00:20:da:a5:3b:30
1-1	HREX	Operational				
2	MPX 5019306	Enabled Booting	A10	92130681	06/02/99	3.4.5.4 (F) 00:20:da:ec:5c:70
2-1	HREX	Disabled				
3	ESX-C12 5022206	Enabled Operational	A7	92281292	06/04/99	3.4.5.10 (F) 00:20:da:de:7e:40
4	GSX/FM_2 5023766	Enabled Operational	C4	92130951	06/09/99	3.4.5.10 (F) 00:20:da:ec:8c:f0 00:20:da:ec:8d:00
5	HSX 5022406	Enabled Operational	A1	91131811	03/18/99	3.4.5.10 (F) 00:20:da:e7:d6:40 00:20:da:e7:d6:50
5-2	ATM2155-RFM 5017529		B3	90580573	01/27/99	
.						
.						
.						
.						

Initializing HRE-X on MPM in slot 2.



Omni Tip: MPM/MPX Software Upgrade und Redundanztest

/Mpm % slot

Slot	Module-Type Part-Number	Adm-Status Oper-Status	HW Rev	Board Serial #	Mfg Date	Firmware-Version Base-MAC-Address
1*	MPX 5019306	Enabled Operational	A10	84730152	12/04/98	3.4.5.10 (F) 00:20:da:a5:3b:30
1-1	HREX	Operational				
2	MPX 5019306	Enabled Redundant	A10	92130681	06/02/99	3.4.5.10 (F) 00:20:da:ec:5c:70
2-1	HREX	Disabled				
3	ESX-C12 5022206	Enabled Operational	A7	92281292	06/04/99	3.4.5.10 (F) 00:20:da:de:7e:40
4	GSX/FM_2 5023766	Enabled Operational	C4	92130951	06/09/99	3.4.5.10 (F) 00:20:da:ec:8c:f0 00:20:da:ec:8d:00
5	HSX 5022406	Enabled Operational	A1	91131811	03/18/99	3.4.5.10 (F) 00:20:da:e7:d6:40 00:20:da:e7:d6:50
5-2	ATM2155-RFM 5017529		B3	90580573	01/27/99	
.						
.						
.						
.						

/Mpm % renounce

```
Confirm? (n) : y
System going down immediately...
Flash file system check in progress...
Checking root file system... OK
Performing file consistency check...
Done.
```

System Boot

.

.

.

.

```
Press any key to stop auto-boot...
0
auto-booting...
```

```
Boot device      : ffs
Boot file       : /flash/mpx.img
```

```
Startup script  : /flash/mpx.cmd
Console params  : 9600,n81c
Modem params    : 9600,n81d
Boot flags      : 0xb
Other           : dvip:DemoUnit,10.142.1.1,255.255.0.0,10.142.255.255;
```

```
Loading /flash/mpx.img...25312 + 1698928 + 314784
Starting at 0x40e00000...
```

```
Flash file system check in progress...
Checking root file system... OK
```



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```

Performing file consistency check...
Done.

Attaching net i/f lo0. IP=127.0.0.1 ...done.
Configuring default VLAN hostname DemoUnit at addr 10.142.1.1

Adding 13728 symbols for standalone.
Executing startup script /flash/mpx.cmd ...
cmDoDump = 1;
_cmDoDump = 0x40856f90: value = 1 = 0x1
cmInit
0x41fe1900 (tShell): HRE-X detected on this MPX in slot 1
This MPM is Secondary
value = 1 = 0x1

Done executing startup script /flash/mpx.cmd

```

This product includes software developed by the University of California, Berkeley and its contributors.

Welcome to the Xylan Omni Switch/Router! Version 3.4.5.10 (F)

```
login : admin
password:
```

/ % slot

Slot	Module-Type Part-Number	Adm-Status Oper-Status	HW Rev	Board Serial #	Mfg Date	Firmware-Version Base-MAC-Address
1*	MPX 5019306	Enabled Config FB	A10	84730152	12/04/98	3.4.5.10 (F) 00:20:da:a5:3b:30
1-1	HREX	Unknown				
2	Unknown					
3	Unknown					
4	Unknown					
5	Unknown					
6	Unknown					
7	Unknown					
8	Unknown					
9	Unknown					

/ % slot

Slot	Module-Type Part-Number	Adm-Status Oper-Status	HW Rev	Board Serial #	Mfg Date	Firmware-Version Base-MAC-Address
1*	MPX 5019306	Enabled Config FB	A10	84730152	12/04/98	3.4.5.10 (F) 00:20:da:a5:3b:30
1-1	HREX	Unknown				
2	Unknown					
3	Unknown					
4	Unknown					

Es wurde noch keine
Konfigurationssynchronisation durchgeführt.



Omni Tip: MPM/MPX Software Upgrade und Redundanztest

```
5      Unknown
6      Unknown
7      Unknown
8      Unknown
9      Unknown
```

```
/ % !
```

```
/ %
```

```
Primary syncing configuration data .....complete
```

```
/ % slot
```

Slot	Module-Type Part-Number	Adm-Status Oper-Status	HW Rev	Board Serial #	Mfg Date	Firmware-Version Base-MAC-Address
1*	MPX 5019306	Enabled Redundant	A10	84730152	12/04/98	3.4.5.10 (F) 00:20:da:a5:3b:30
1-1	HREX	Unknown				
2	Unknown					
3	Unknown					
4	Unknown					
5	Unknown					
6	Unknown					
7	Unknown					
8	Unknown					
9	Unknown					

```
/ %
```

```
/ % takeover
```

```
Confirm? (n): Y
```

```
/ % 0x41f011e0 (tTakeover): HRE-X detected on this MPX in slot 1
```

```
Taking over as Primary
```

```
Updating User Interface to support ATM... OK!
```

```
Updating SNMP agent to support ATM... OK!
```

```
Xylan SNMP Agent Operational.
```

```
interrupt: Chassis Mgr watchdog trapped! 932376360
```




Omni Tip: MPM/MPX Software Upgrade und Redundanztest

/ % slot

Slot	Module-Type Part-Number	Adm-Status Oper-Status	HW Rev	Board Serial #	Mfg Date	Firmware-Version Base-MAC-Address
1*	MPX 5019306	Enabled Operational	A10	84730152	12/04/98	3.4.5.10 (F) 00:20:da:a5:3b:30
1-1	HREX	Operational				
2	MPX 5019306	Enabled Booting	A10	92130681	06/02/99	Unknown 00:20:da:ec:5c:70
2-1	HREX	Disabled				
3	ESX-C12 5022206	Enabled Operational	A7	92281292	06/04/99	3.4.5.10 (F) 00:20:da:de:7e:40
4	GSX/FM_2 5023766	Enabled Operational	C4	92130951	06/09/99	3.4.5.10 (F) 00:20:da:ec:8c:f0 00:20:da:ec:8d:00
5	HSX 5022406	Enabled Operational	A1	91131811	03/18/99	3.4.5.10 (F) 00:20:da:e7:d6:40 00:20:da:e7:d6:50
5-2	ATM2155-RFM 5017529		B3	90580573	01/27/99	
6	Empty					
7	Empty					
8	Empty					
9	Empty					

/ % 0x41c44300 (tChasMgr): Initializing HRE-X on MPM in slot 2.

/ % slot

Slot	Module-Type Part-Number	Adm-Status Oper-Status	HW Rev	Board Serial #	Mfg Date	Firmware-Version Base-MAC-Address
1*	MPX 5019306	Enabled Operational	A10	84730152	12/04/98	3.4.5.10 (F) 00:20:da:a5:3b:30
1-1	HREX	Operational				
2	MPX 5019306	Enabled Config FB	A10	92130681	06/02/99	3.4.5.10 (F) 00:20:da:ec:5c:70
2-1	HREX	Disabled				
3	ESX-C12 5022206	Enabled Operational	A7	92281292	06/04/99	3.4.5.10 (F) 00:20:da:de:7e:40
4	GSX/FM_2 5023766	Enabled Operational	C4	92130951	06/09/99	3.4.5.10 (F) 00:20:da:ec:8c:f0 00:20:da:ec:8d:00
5	HSX 5022406	Enabled Operational	A1	91131811	03/18/99	3.4.5.10 (F) 00:20:da:e7:d6:40 00:20:da:e7:d6:50
5-2	ATM2155-RFM 5017529		B3	90580573	01/27/99	

.
.
.



Omni Tip: MPM/MPX Software Upgrade und Redundanztest

```
/ %  
Syncing configuration data with secondary 2 .. complete
```

```
/ % !  
slot
```

Slot	Module-Type Part-Number	Adm-Status Oper-Status	HW Rev	Board Serial #	Mfg Date	Firmware-Version Base-MAC-Address
1*	MPX 5019306	Enabled Operational	A10	84730152	12/04/98	3.4.5.10 (F) 00:20:da:a5:3b:30
1-1	HREX	Operational				
2	MPX 5019306	Enabled Redundant	A10	92130681	06/02/99	3.4.5.10 (F) 00:20:da:ec:5c:70
2-1	HREX	Disabled				
3	ESX-C12 5022206	Enabled Operational	A7	92281292	06/04/99	3.4.5.10 (F) 00:20:da:de:7e:40
4	GSX/FM_2 5023766	Enabled Operational	C4	92130951	06/09/99	3.4.5.10 (F) 00:20:da:ec:8c:f0 00:20:da:ec:8d:00
5	HSX 5022406	Enabled Operational	A1	91131811	03/18/99	3.4.5.10 (F) 00:20:da:e7:d6:40
5-2	ATM2155-RFM 5017529		B3	90580573	01/27/99	00:20:da:e7:d6:50
.						
.						
.						
.						

HARD TEST (Remove of primary physically)

```
/ %
```

Console auf Secondary

```
/ %
```

```
login : admin  
password:
```

```
/ % slot
```

Slot	Module-Type Part-Number	Adm-Status Oper-Status	HW Rev	Board Serial #	Mfg Date	Firmware-Version Base-MAC-Address
1	Unknown					
2*	MPX 5019306	Enabled Redundant	A10	92130681	06/02/99	3.4.5.10 (F) 00:20:da:ec:5c:70
2-1	HREX	Unknown				
3	Unknown					
4	Unknown					
5	Unknown					
6	Unknown					



```
7      Unknown
8      Unknown
9      Unknown
```

```
/ % swap on
swap - not valid on this secondary MPM.
```

Entfernen Sie jetzt die Primary MPX durch Herausziehen der MPX
Sie werden folgende Meldung erhalten

```
/ % 0x41f011e0 (tTakeover): HRE-X detected on this MPX in slot 2
Taking over as Primary
Updating User Interface to support ATM... OK!
Updating SNMP agent to support ATM... OK!
Xylan SNMP Agent Operational.
interrupt: Chassis Mgr watchdog trapped! 932376653
```

```
/ % slot
```

Slot	Module-Type Part-Number	Adm-Status Oper-Status	HW Rev	Board Serial #	Mfg Date	Firmware-Version Base-MAC-Address
1	Empty					
2*	MPX 5019306	Enabled Operational	A10	92130681	06/02/99	3.4.5.10 (F) 00:20:da:ec:5c:70
2-1	HREX	Operational				
3	ESX-C12 5022206	Enabled Operational	A7	92281292	06/04/99	3.4.5.10 (F) 00:20:da:de:7e:40
4	GSX/FM_2 5023766	Enabled Operational	C4	92130951	06/09/99	3.4.5.10 (F) 00:20:da:ec:8c:f0 00:20:da:ec:8d:00
5	HSX 5022406	Enabled Operational	A1	91131811	03/18/99	3.4.5.10 (F) 00:20:da:e7:d6:40 00:20:da:e7:d6:50
5-2	ATM2155-RFM 5017529		B3	90580573	01/27/99	

```
.
.
.
```

VORSICHT!

Bei Redundanzüberprüfungen sollte man sich auch ein wenig an die Realität halten und keine 5 oder 10 Hard Test innerhalb von Minuten durchführen, denn dies würde das System unnötig belasten und könnte unter Umständen durch eventuelle Spannungsspitzen an den Kontakten eine Zerstörung der Backplane hervorrufen.