

# TTP EMEA 2025



# Open Enterprise Server

Troubleshooting OES Upgrade Issue

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# Agenda – Troubleshooting OES Upgrade Issue

- Some best practices
- OES to upgrade or NOT to upgrade
- Upgrade to 2x.x – Avoid Issues
- Known Issues



**Open Enterprise Server (And iPrint)**

**Last Thursday of the month**

**16:00 CET**

# Some best practices to apply (1)

- **/etc/ssh/sshd\_config:**

```
UseDNS no
```

- **/etc/sysconfig/ntp:**

```
NTPD_FORCE_SYNC_ON_STARTUP="yes"
```

```
NTPD_FORCE_SYNC_HWCLOCK_ON_STARTUP="yes"  
(default)
```

- **/etc/zypp/zypp.conf**

(added to the end of the file):

```
# Consulting customization  
commit.downloadMode = DownloadInAdvance  
download.use_deltarpm = false
```

## **/etc/nam.conf**

```
namconfig set cache-only=yes  
namconfig set persistent-search=no  
namconfig set dont-deny-pamservice=yes  
namconfig set convert-lowercase=yes  
namconfig set alternative-ldap-server-  
list=<remote IP>  
namconfig set preferred-server=<local IP>  
  
namconfig get | egrep "server|convert|cache-  
only|dont|upper|search"
```

**namconfig -k** needs to be executed to  
distribute the certificates for the alternative  
LUM LDAP servers to /var/lib/novell-lum  
(just hit RETURN when asked for a password).

## Some best practices to apply (2)

- The SLP configuration of the **server** (the only SLP DA) has been modified as follows:

- **/etc/slp.conf** (added to the end of the file):

```
net.slp.useScopes = OT-Tree_Scope      # SLP registration backup configuration settings
net.slp.isBroadcastOnly = false         net.slp.isDABackup = true
                                         net.slp.DABackupInterval = 900
                                         net.slp.DABackupLocalReg = true

# SLP DA configuration settings
net.slp.isDA = true

                                         # SLP registration synchronisation settings
                                         net.slp.DASyncReg = true
```



**Open Enterprise Server  
to upgrade or NOT to upgrade**

# OES - to upgrade or NOT to upgrade

- Recommended configuration:
  - UEFI
  - GPT
  - btrfs
- Consider installing new servers and moving data and services instead of upgrading servers
- Easiest for cluster nodes
  - Remove node from eDirectory and install into the same context with the same hostname and IP address

[NCS Admin Guide 5.11: Adding a Single Node That Was Previously in a Cluster](#)

[NCS Admin Guide 5.12: Adding Multiple Nodes That Were Previously in a Cluster](#)

# OES - to upgrade or NOT to upgrade

- eDirectory/LDAP/iManager/Login/SLP DA servers:
  - Install new servers
  - Add R/W replicas
  - Adjust any DNS CNames and additional A-records
  - Adjust `slp.conf` on all servers
- Stand-alone file and service servers
  - Same as above
  - Move services
  - Move data



# OES - moving services and data

- Many options
  - Migration Tool Administration Guide
  - Storage Services File System Administration Guide for Linux
    - [NSS Admin Guide 12.4: Migrating NSS Data from NSS32 to NSS64](#)

# OES - moving services (1)

## ■ DHCP

- Assign DHCP Service object to the new DHCP Server
- Optional: copy the leases file `/var/lib/dhcp/db/dhcpd.leases`

## ■ DNS

- Add new DNS Server to relevant DNS zones
- Make sure to adjust Designated Primary server for each zone
- Adjust DHCP option 6

# OES - moving services (2)

## ■ iPrint

- Use iManager to move iPrint DriverStore(s)
  - If you have multiple DriverStores consider to consolidate to one  
DriverStore: `iPrintDriverStoreCustomers` → iPrint PrintManagers  
PrintManager: `iPrintManagerIDS` → iPrint DriverStore
- Use iManager to move iPrint PrintManager(s)
- Adjust DNS CNames for iPrint PrintManager(s)

# OES - moving services (3)

- Moving the Certificate Authority to a new host server (1)
  - Export the self-signed certificates (RSA and ECDSA) including their private keys
  - Delete the CA object
  - Stop eDirectory on old and new CA host server
  - Copy the RSA CRL database (`crl.db`, `crl.01`, `crl.lck` and the `crl.rlf` directory) to the new CA host server
  - Copy the ECDSA CRL database (`crlec.db`, `crlec.01`, `crlec.lck` and the `crlec.rlf` directory) to the new CA host server
  - Copy the Issue Certificates database (`cert.db`, `cert.01`, `cert.lck` and the `cert.rlf` directory) to the new server CA host
  - Start eDirectory on old and new CA host server
  - Create a new CA using the Import option of the CA creation wizard

# OES - moving services (4)

- Moving the Certificate Authority to a new host server (2)
  - CRL Distribution Points are of every certificate
  - If CRL Distribution Points are not available certificates may become invalid
    - as a precaution the name of old CA host server should be preserved
    - create a DNS CName for the old CA host server name referencing the FQDN of the new CA host server
    - consider adding the IP address of the old CA host server as secondary IP address to the new CA host server

# OES - moving data (1)

## ■ Moving disks

- Backup Homedirectory attribute of all user objects
- De-activate pool(s) on the source server
- Remove disk(s) from the source server
- Add disk(s) to the target server
- Activate pool(s) on the target server
- Upgrade pool(s) into eDirectory
- Mount volume(s) on the target server
- Upgrade volume(s) into eDirectory
- Restore Homedirectory attribute of all user objects
- Alternative: rename and link the existing volume object to the target server

# OES - moving data (2)

## ■ Moving data across the wire (1)

- Create and exchange SSH keys for all servers (`ssh-keygen`, `ssh-copy-id`)
- Treat data and metadata separately

- Data:

```
rsync --protect-args -vv -r --numeric-ids -lHtogS --delete  
<SourceServer>:/media/nss/<VolumeName>/<dir1>/.../<dirn>/  
/media/nss/<VolumeName>/<dir1>/.../<dirn> --stats
```

- Executed repeatedly to accommodate changes
- Login is disabled and user connections are cleared before final sync
  - Stop other services that allow access to the file system (CIFS, FTP, ...)

# OES - moving data (3)

- Moving data across the wire (2)

- Metadata:

- 1. Remove invalid trustees from source volume

- ```
metamig save -m tr <VolumeName>
```

- 2. Backup all metadata

- ```
metamig save <VolumeName> > <VolumeName>.metamig
```

- 3. Restore all metadata

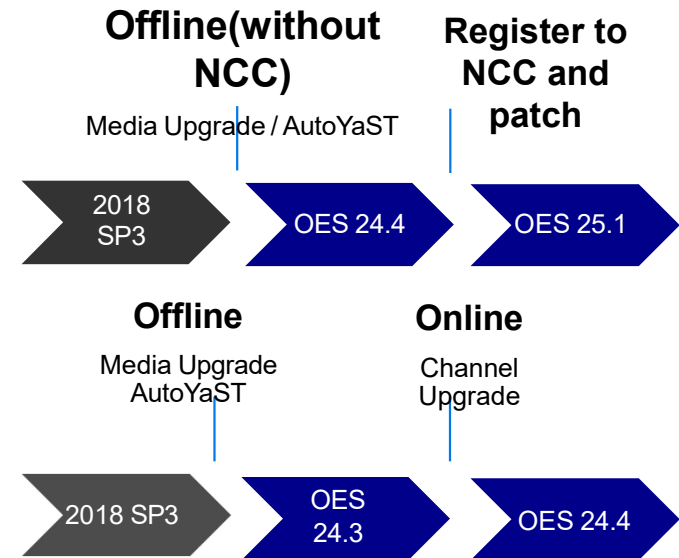
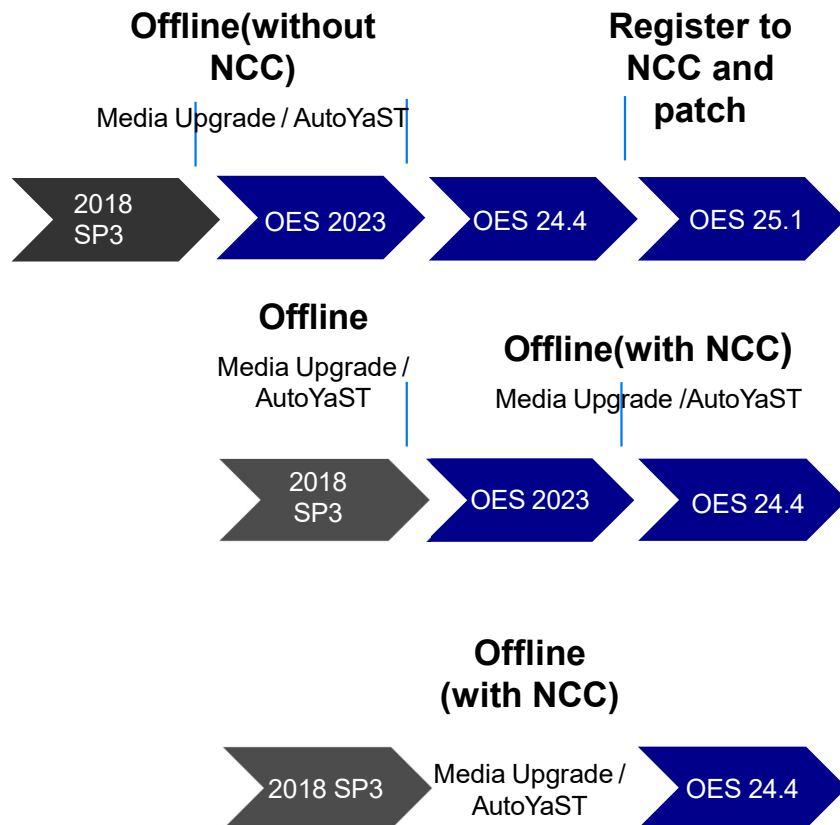
- ```
metamig restore <VolumeName> < <VolumeName>.metamig
```



A composite image featuring a view of Earth from space, showing the blue oceans and white clouds. In the upper left, the Moon is visible. A large, semi-transparent map of the state of Texas is overlaid in the upper center. A bright light source, likely the sun, is on the right, creating a lens flare and illuminating the Earth's horizon.

**Upgrade to OES 25.1**

# Upgrade Path



# OES upgrades – best practices (1)

## ■ Prerequisites

- Correct time (system and hardware clock)
- Sufficient free disk space
- SLP is working properly
- Certificates are not expired
- sysconfig files are current
- eDirectory
  - Time in sync
  - Replication in sync
  - No database errors
- Latest updates for current release have been deployed

# OES upgrades – best practices (2)

## ■ Upgrade checklist (1)

| Down server upgrade (AutoYaST) from OE S2018 SP3 to OE S2023 |                                              |                                                                                                                                                                                                                                                                                    |                                                                      |                   |                  |                 |
|--------------------------------------------------------------|----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|-------------------|------------------|-----------------|
| #                                                            | Step                                         | Action                                                                                                                                                                                                                                                                             | Hints                                                                | <srv1><br><ip1>   | <srv2><br><ip2>  | <srv3><br><ip3> |
| 1                                                            | Check time is current                        | date; hwclock                                                                                                                                                                                                                                                                      | use hwclock -w to update hardware clock in case of any discrepancies | 15:24             | 10:48            |                 |
| 2                                                            | Check for old cores                          | for DIR in /var/cores /var/crash<br>/var/opt/novell/eDirectory/data/dib; do ls -l \$DIR/*core*;<br>done                                                                                                                                                                            |                                                                      | 15:24             | 10:48            |                 |
| 3                                                            | delete old cores if found in step 3          |                                                                                                                                                                                                                                                                                    |                                                                      | n/a               | n/a              |                 |
| 4                                                            | Verify free disk space                       | brfs filesystem usage /                                                                                                                                                                                                                                                            | > 5 GB !!!                                                           | 15:24<br>10.92 GB | 10:49<br>9.23 GB |                 |
| ***** Cluster Nodes only *****                               |                                              |                                                                                                                                                                                                                                                                                    |                                                                      |                   |                  |                 |
| 5                                                            | leave the cluster                            | cluster leave                                                                                                                                                                                                                                                                      |                                                                      |                   |                  |                 |
| 6                                                            | stop NCS                                     | systemctl stop novell-ncs                                                                                                                                                                                                                                                          |                                                                      |                   |                  |                 |
| 7                                                            | disable NCS                                  | systemctl disable novell-ncs                                                                                                                                                                                                                                                       |                                                                      |                   |                  |                 |
| ***** DSFW server only *****                                 |                                              |                                                                                                                                                                                                                                                                                    |                                                                      |                   |                  |                 |
| 8                                                            | Obtain the newest DSFW Healthcheckscript     | Source:<br><a href="https://community.microfocus.com/img/oes/w/oes_tips/24279/checking-the-run-time-status-of-domain-services-for-windows-server">https://community.microfocus.com/img/oes/w/oes_tips/24279/checking-the-run-time-status-of-domain-services-for-windows-server</a> |                                                                      |                   | 10:58            |                 |
| 9                                                            | Execute the newest DSFW Healthcheckscript    | sh /root/ndsd_dsfw_healthchk_oes2018sp3.sh                                                                                                                                                                                                                                         |                                                                      |                   | 10:59            |                 |
| 10                                                           | rename logfile in /var/opt/novell/xad/log    | dsfw_healthchk.log --><br>dsfw_healthchk_<hostname>_before_OES2023.log                                                                                                                                                                                                             |                                                                      |                   | 10:59            |                 |
| 11                                                           | start screen before initiating the update    | screen -S Update                                                                                                                                                                                                                                                                   |                                                                      | 15:36             | 11:53            |                 |
| 12                                                           | Deploy the latest updates for the current OS | zypper patch                                                                                                                                                                                                                                                                       |                                                                      | 15:36             | 11:55            |                 |
| 13                                                           | reboot                                       |                                                                                                                                                                                                                                                                                    |                                                                      | 15:49             | 12:10            |                 |

# OES upgrades – best practices (3)

## ■ Upgrade checklist (2)

| Down server upgrade (AutoYaST) from OE S2018 SP3 to OE S2023 |                                                             |                                                                                                                                                                                           |                                               |                        |                       |                 |
|--------------------------------------------------------------|-------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|------------------------|-----------------------|-----------------|
| #                                                            | Step                                                        | Action                                                                                                                                                                                    | Hints                                         | <srv1><br><ip1>        | <srv2><br><ip2>       | <srv3><br><ip3> |
| 14                                                           | verify communication with all SLP DAs                       | for DA in <IP DA1> <IP DA2>; do echo "DA: \$DA"; for SERVICE in \$(slptool -u \$DA findsrvtypes   sort); do echo \$SERVICE; slptool -u \$DA findsrvs \$SERVICE   wc -l; done;             |                                               | 15:56                  | 14:18                 |                 |
| 15                                                           | Verify certificates                                         | for SSL_ADDRESS in \$(HOSTNAME:636 \$HOSTNAME:443 \$HOSTNAME:8009; do echo \$SSL_ADDRESS; echo   openssl s_client -connect \$SSL_ADDRESS 2>/dev/null   openssl x509 -noout -enddate; done |                                               | 15:57<br>16. März 2029 | 14:19<br>10. Sep 2023 |                 |
| 16                                                           | Verify time synchronization                                 | ndsrepair -T                                                                                                                                                                              |                                               | 15:57                  | 14:19                 |                 |
| 17                                                           | Conditional: repair network addresses                       | ndsrepair -N                                                                                                                                                                              | only if the preceding step gives lots of -602 | n/a                    | n/a                   |                 |
| 18                                                           | Verify eDirectory synchronization                           | ndsrepair -E                                                                                                                                                                              |                                               | 15:57                  | 14:19                 |                 |
| 19                                                           | Repair local database                                       | ndsrepair -R                                                                                                                                                                              | need to reach 0 errors                        | 15:57 (2)              | 14:20                 |                 |
| 20                                                           | Verify that eDir is configured properly                     | grep SERVICE_CONFIGURED /etc/sysconfig/novell/edir_*                                                                                                                                      | SERVICE_CONFIGURED="yes"                      | 15:58                  | 14:21                 |                 |
| 21                                                           | Verify that the existing eDir server is available           | grep REPLICCA /etc/sysconfig/novell/edir_*                                                                                                                                                |                                               | 15:59                  | 14:21                 |                 |
| 22                                                           | ensure sysconfig files are current                          | execute /opt/novell/oes-install/util/oes_upgrade_check.pl                                                                                                                                 | apply changes as applicable and repeat        | 16:00                  | 14:22                 |                 |
| 23                                                           | boot from AutoYaST ISO and select option UPGRADE to OES2023 |                                                                                                                                                                                           |                                               | 16:15                  | 14:25                 |                 |
| 24                                                           | enable chronyd                                              | systemctl enable chronyd                                                                                                                                                                  |                                               | 18:06                  | 17:55                 |                 |
| 25                                                           | comment "include /etc/chrony.d/*.conf" in /etc/chronyd.conf |                                                                                                                                                                                           | We do not want any public ntp time sources    | 18:06                  | 17:55                 |                 |
| 26                                                           | verify SLES version                                         | cat /etc/os-release                                                                                                                                                                       |                                               | 18:06                  | 17:55                 |                 |
| 27                                                           | verify OES version                                          | cat /etc/novell-release                                                                                                                                                                   |                                               | 18:06                  | 17:55                 |                 |
| 28                                                           | Verify the product status (OES Version must be 2023-0)      | zypper pd -i                                                                                                                                                                              |                                               | 18:06                  | 17:55                 |                 |

# OES upgrade issues (1)

- Upgrade enables `firewalld` (replacement for SUSEfirewall2)
- `chronyd` uses default time sources from a SUSE pool
  - If these time providers are not reachable it is best to comment the include command at the end of `chrony.conf`.

```
# Also include any directives found in configuration files in /etc/chrony.d
# include /etc/chrony.d/*.conf
```

# OES upgrade issues (2) - NCS

- Cluster enabled DNS server fails with error 13 (permission denied)

--> aa-disable /opt/novell/named/bin/novell-named



## OES upgrade issues (3) - DSfW

- `oes-upgrade_check.pl` can break  
`/etc/sysconfig/novell/oes-ldap`

**correct:**

```
CONFIG_LDAP_ADMIN_CONTEXT="cn=Administrator,cn=Users,dc=customer,dc=de"  
XAD_TREE_ADMIN_CONTEXT="cn=Admin,o=Customer"
```

**wrong:**

```
XAD_TREE_ADMIN_CONTEXT="cn=Administrator,cn=Users,o=Customer"  
XAD_TREE_ADMIN_CONTEXT=""
```

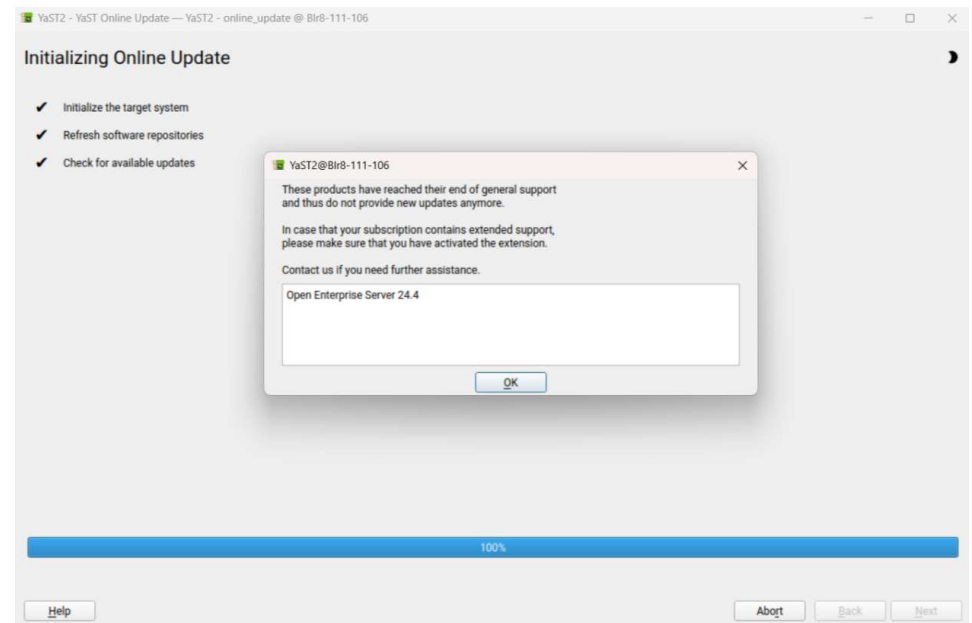


# OES upgrade issues (4) – UPGRADE\_FROM

- During the Upgrade, if we see that eDirectory and other services are failing, we have to check UPGRADE\_FROM value in /etc/sysconfig/novell/oes-ldap is correct.
- If we are Upgrading from OES 24.3 then the value will be UPGRADE\_FROM="OES2023"
- In Fresh install setup this value will be missing.
- This value will be written/updated in file during the upgrade process.
- If this value is empty or wrong, during the upgrade then the upgrade will fail.

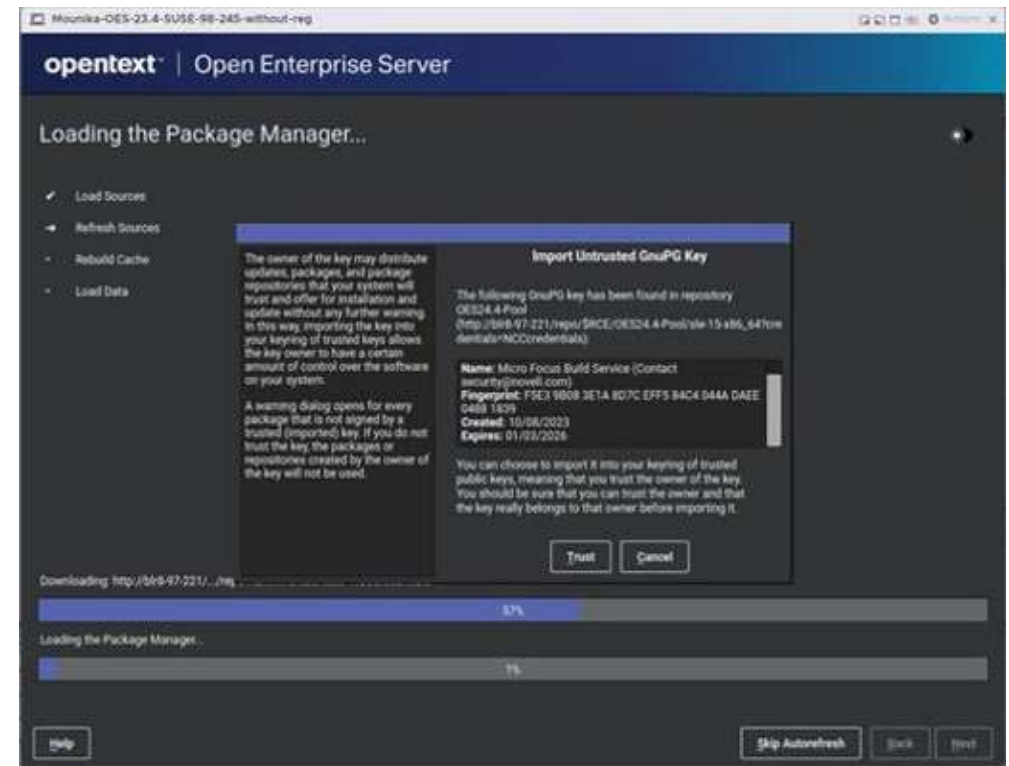
# OES upgrade issues (5) - End of life Issue

- Popup seen during running `yast2 online_update`
- This issue is related to the wrong End Of Life value.
- This will not cause any issues; it just warns that the product has reached the end of general support.
- This is fixed



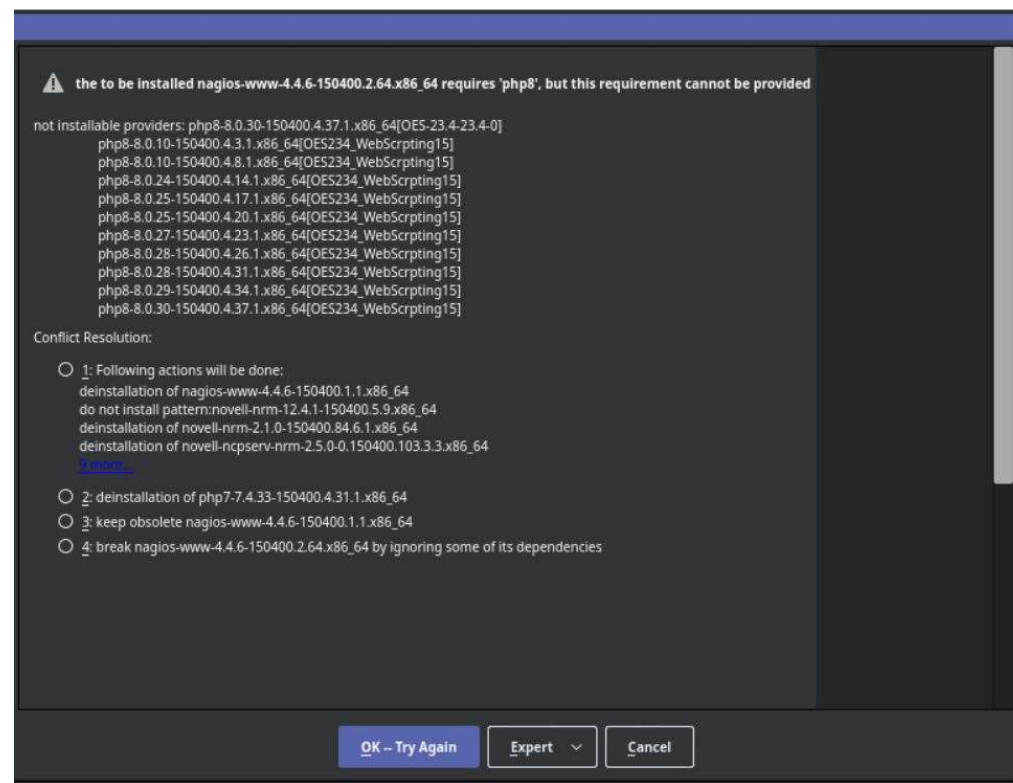
# OES upgrade issues (6) - Untrusted GnuPG key

- This popup will be seen during an upgrade, and this is because of a change in the repo keys, this will not cause any failures.
- Click Trust and Proceed.



# OES upgrade issues (7) - nagios-www requires php 8

- In rolling upgrade setups where php 5 or php 7 is present then during the upgrade to OES 24.4 we may see this conflict.
- To proceed select the de-installation option for php 5 or php7 and Proceed.



# OES upgrade issues (8) - iPrint

- Post Upgrade to OES 2024 with iPrint base pattern installed
  - OES iprint base and advanced pattern merged in OES24.4 release.
- After Upgrade, ipp page will get redirected to print portal page. So in order to get the printers listed in print portal, login to the ipcon so that mobility will get configured and printers will get listed in the print portal page
- Continue with ipp page
  - `sh /opt/novell/iprintmobile/bin/ipp_page_enable_disable.sh -enable`

## OES upgrade issues (8) - iPrint

- <https://community.opentext.com/portfolio/iprint/w/tips/49115/upgrading-to-oes-24-4-server-while-running-the-normal-iprint>
- <https://support.microfocus.com/kb/doc.php?id=7024075>
-

# OES upgrade issue (9) - Media upgrade / LAN

- It is expected and working as designed - per the SUSE YaST team.
- In short, during an upgrade, the network needs to be configured manually. Once the package installation is over all the old configurations will be copied back and read.
- Ensure to configure the network settings using the Network Configuration... button on the top right corner of the Customer Center Configuration page before proceeding with registration.
- [5.4.4 Specifying Customer Center Configuration Settings](#)

# OES upgrade issues (10) – File Conflicts

- With Apache-TLS1.3-Util....



# OES upgrade issues (11) - Other

- SuMA
  - Requires a PTF for SuSE or End of Jan 2025
  
- NSS32toNSS64
  - Homedir attribute and Directory Map Object – path attribute
    - Fixed in OES 25.1
  
  - Soon for Cluster Pools/Volumes available

A composite image of Earth from space. The Earth's horizon is visible on the right, with a bright orange and yellow glow from the sun. The Earth's surface is blue with white clouds. The Moon is visible in the upper left. A large, semi-transparent map of Texas is overlaid on the background.

# Further Information

# Where to Find OES Information

## [Open Enterprise Server Community Forum](#)

- Discussions
- Idea Exchange
- Tips/News/Events

## [Open Enterprise Server documentation](#)



**Open Enterprise Server (And iPrint)**  
**Last Thursday of the month**  
**16:00 CET**



[Open Enterprise Server](#)

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