Install XCP

XCP 1.6.2

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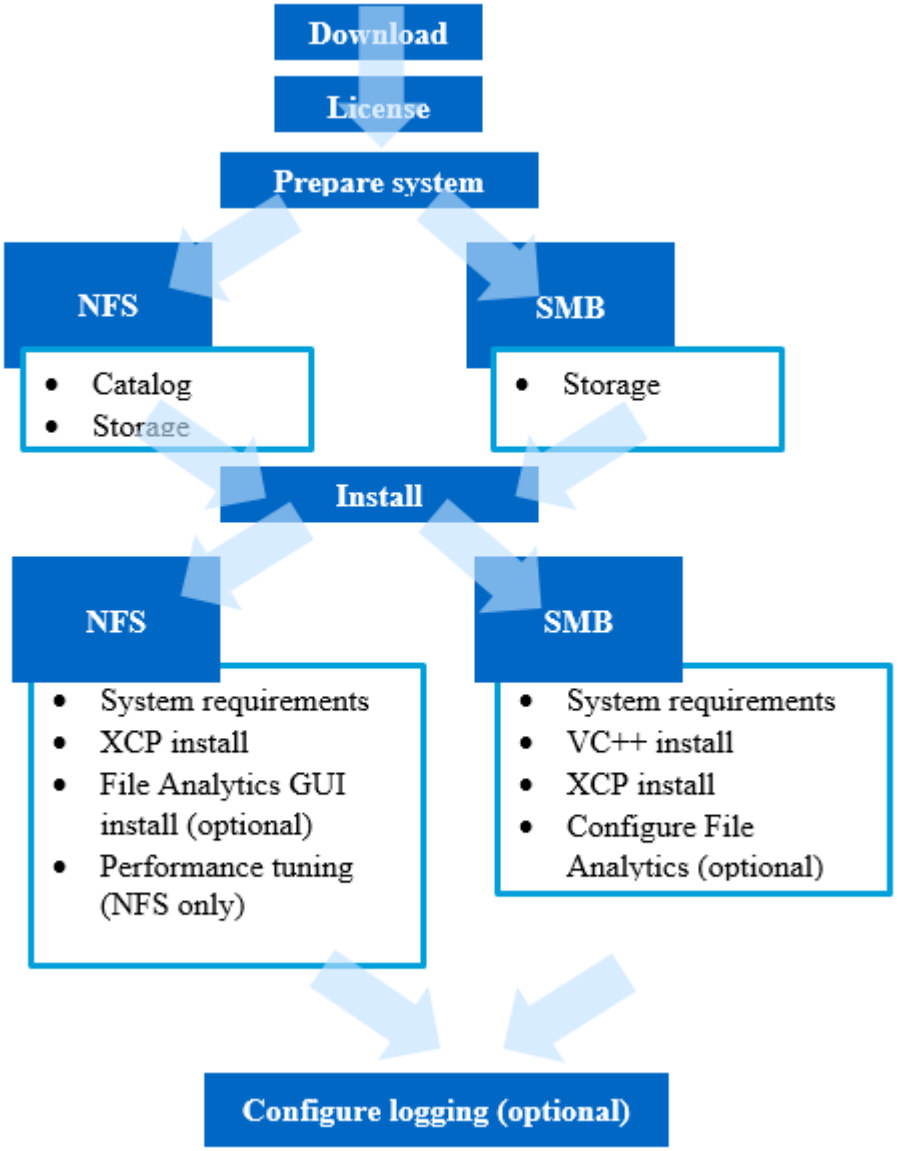
Install XCP

Install and configure workflow

This document provides an easy workflow for installing and setting up XCP on NFS and SMB systems.



Download XCP

Download XCP from the NetApp support site and obtain a license from the XCP site.

You can download XCP from the NetApp Support site.

License XCP

NetApp offers a free 90-day XCP license. You can obtain the license file from https://xcp.netapp.com. The licensing portal offers different licensing options. After 90 days you can renew the license for another 90 days using the same portal.

The XCP license is available as an offline or online license. If you want to send migration statistics use an online license. The online license requires an internet connection. The offline license does not require an internet connection.

Prepare your system

If you are using XCP NFS on a Linux system, you must prepare catalog and storage.

If you are using XCP SMB on a Microsoft Windows system, you must prepare storage.

Prepare Linux for XCP NFS

XCP NFS uses Linux client host systems to generate parallel I/O streams and fully use available network and storage performance.

Configure catalog

XCP saves operation reports and metadata in an NFSv3-accessible catalog directory. Provisioning the catalog is a one-time preinstallation task requiring the following:

- A NetApp NFSv3 export for security and reliability.
- At least ten disks or solid-state drives in the aggregate containing the export for performance.
- Storage configured to allow root access to the catalog export for the IP addresses of all Linux clients used to run XCP (multiple XCP clients can share a catalog location).
- Approximately 1 GB of space for every 10 million objects (directories plus files and hard links) to be indexed; each copy that can be resumed or synched and each offline-searchable scan requires an index.

You should store XCP catalogs separately. They should not be located on either the source or destination NFS export directory. XCP maintains metadata—reports in the catalog location specified during the initial setup. You must specify and update the location for storing the reports before you run any operation with XCP.

Configure storage

XCP NFS transitions and migrations have the following source and target storage requirements:

- Source and target servers must have NFSv3 protocol service enabled. For NFSv4 ACL migration,

you must enable NFSv4 protocol service and NFSv4 ACL on the destination server.

- Source and target volumes must be exported with `root` access to the XCP Linux client host.

Configure the source for NFSv3 and NFSv4 exports as read-only so administrators cannot accidentally modify it.

Prepare Windows for XCP SMB

XCP SMB uses Windows client host systems to generate parallel I/O streams and fully use available network and storage performance.

Configure storage

XCP SMB transitions and migrations have the following user login requirements:

- XCP host system: An XCP host user must have administrator privilege (the user must be part of "BUILTIN\Administrators" group on the XCP SMB host system).
- Add the migration or XCP host user to the audit and security log policy for Active Directory. To locate the 'Manage Auditing and Security Log' Policy on Windows 10, follow these steps:
  1. Open the Group Policy Editor dialog box.
  2. Go to: Computer Configuration > Windows Settings > Security Settings > Local Policies > User Rights Assignment.
  3. Click “Mange auditing and security log”.
  4. To add an XCP host user, select “Add User or Group”.

     For more information see: Manage auditing and security log.
- Target storage system: XCP host user must have read and write access.
- Source storage system:
  - If the user is part of the “Backup Operators” group in the source storage system, the members of this group can read files while bypassing the security rules, regardless of any permissions that protect those files.
  - If the user is not part of “Backup Operators” group in source system, the user must have read access.

Write permission is required in the source storage system for supporting the XCP option “- preserve-atime”.

Prepare File Analytics

File Analytics has the following two parts:

- File Analytics server running on Linux
- XCP SMB service running on Windows

File Analytics installation has the following requirements:

- Supported OS and system requirements are the same as given for NFS and SMB installation. Because the database will reside on a Linux box, you must make sure you have a minimum of 10 GB free space.
- The Linux machine where you install the File Analytics server must be connected to the internet or the yum repository. The installation script talks to the yum repository to download the required packages, such as PostgreSQL, HTTP and SSL.
- The File Analytics GUI can only be hosted on a Linux machine along with XCP services for Linux running on same box.
- For running SMB services, complete the following steps:
  - Verify that your Windows box can ping the Linux machine where the File Analytics server is running.
  - If you are inside a firewall, verify that ports 5030 and 5432 are open. Port 5030 is used to make the REST call to Windows. Port 5432 port is used for the PostgreSQL connection.

The XCP File Analytics server always runs on a Linux machine. There is no separate installation available for SMB File Analytics. If you are a Windows user and want to run File Analytics for SMB share, then you must install File Analytics for Linux and connect the Windows box to a Linux database.
If you only use XCP File Analytics, you do not need to configure the XCP Catalog for NFS.

Install XCP NFS

If you want to upgrade XCP, delete the current installation and replace it with a new installation of the latest version.
This section details the system requirements and the procedures for the initial setup of XCP on a Linux client and the INI file configuration.

System Requirements

	Requirement
System	64-bit Intel or AMD server, minimum 4 cores and 32 GB RAM
Operating System & Software	RHEL8. See the IMT for supported operating systems

	Requirement
Special Requirements	Network connectivity and root level access to source and destination NFSv3 exports No other active applications
Storage	20 MB of disk space for the XCP binary and at least 50 MB of disk space for the logs that are stored in the /opt/NetApp/xFiles/xcp/ directory
Supported Protocol Version	NFSv3 and NFSv4 (ACL only)
Supported browser (File Analytics only)	XCP File Analytics supports Google Chrome version 76 and later. See the IMT matrix for all the supported versions of the browser

Steps

1. Log in to the Linux machine as the root user and download and install the license:

```
[root@scspr1980872003 ~]# ls -l
total 36188
-rw-r--r--  1 root root 37043983 Oct  5 09:36 NETAPP_XCP_<version>.tgz
-rw-------. 1 root root     1994 Sep  4  2019 license
```

2. Untar XCP to extract the tool:

```
[root@scspr1980872003 ~]# tar -xvf NETAPP_XCP_<version>.tgz
[root@scspr1980872003 ~]# ls
NETAPP_XCP_<version>.tgz license xcp
[root@scspr1980872003 ~]# cd xcp/linux/
[root@scspr1980872003 linux]# ls
xcp
```

3. Verify that the `/opt/NetApp/xFiles/xcp` path is available on the system from a previous version of XCP.

   If `/opt/NetApp/xFiles/xcp` is available, activate the license by using the `xcp activate` command and proceed with data migration.

   If `/opt/NetApp/xFiles/xcp` is not available, the system creates the XCP host configuration directory and files at `/opt/NetApp/xFiles/xcp` when you run the `xcp activate` command is run for the first time.

   The `xcp activate` command fails as license is not installed.

```
[root@scspr1980872003 linux]# ./xcp activate
(c) 2020 NetApp, Inc.
xcp: Host config file not found. Creating sample at '/opt/NetApp/xFiles/xcp/xcp.ini'

xcp: ERROR: License file /opt/NetApp/xFiles/xcp/license not found.
Register for a license at https://xcp.netapp.com
```

4. Copy the license to `/opt/NetApp/xFiles/xcp/`:

```
[root@scspr1980872003 linux]# cp ~/license /opt/NetApp/xFiles/xcp/
```

5. Verify that the license file was copied to `/opt/NetApp/xFiles/xcp/`:

```
[root@ scspr1980872003 ~]# ls -altr /opt/NetApp/xFiles/xcp/
total 44
drwxr-xr-x 3 root root    17 Oct  1 06:07 ..
-rw-r--r-- 1 root root   304 Oct  1 06:07 license
drwxr-xr-x 2 root root     6 Oct  1 10:16 xcpfalogs
drwxr-xr-x 2 root root    21 Oct  1 10:16 xcplogs
-rw-r--r-- 1 root root   110 Oct  5 00:48 xcp.ini
drwxr-xr-x 4 root root    83 Oct  5 00:48 .
[root@scspr1978802001 ~]#
```

6. Activate XCP:

```
[root@scspr1980872003 linux]# ./xcp activate
XCP <version>; (c) 2020 NetApp, Inc.;
XCP already activated
```

Install XCP SMB

This section details the system requirements and the procedure for VC++ redistributable installation and the initial setup of XCP on a Windows client.

There is no option to upgrade, reinstall XCP (?) to replace any existing version.

System Requirements

	Requirement
System	64-bit Intel or AMD server, minimum 4 cores and 32GB RAM
Operating System & Software	Windows 2k12 R2 or above. See the IMT matrix for supported Microsoft OS versions Visual C++ 2017 redistributable must be installed on the XCP host.
Special Requirements	The source storage system, XCP host, and the target ONTAP system must be part of same Active Directory domain
Storage	20 MB of disk space for the XCP binary and at least 50 MB of disk space for the logs that are stored in the C:\NetApp\XCP directory
Supported Protocol Version	All SMB protocol versions
Supported browser (File Analytics only)	XCP File Analytics supports Google Chrome version 76 and later. See the IMT matrix for all the supported versions of the browser

XCP SMB Microsoft VC++ Redistributable installation

Follow these steps for the VC++ redistributable installation.

Steps

1. Go to https://go.microsoft.com/fwlink/?LinkId=746572 and download VC++ 2017 redistributable.
2. To start the installation, double click the installer. Accept the terms and conditions and click Install.
3. When the installation is complete, click Restart.

XCP SMB Initial Setup Procedure

Follow these steps to perform the initial setup of XCP SMB.

Steps

1. Copy the license and the XCP SMB binary `NETAPP_XCP_<version>.tgz` on a Windows host.
2. Create an `xcp` directory on your desktop.
   Verify that the `C:\NetApp\XCP` path is available on the system from a previous version of XCP.
   If `C:\NetApp\XCP` is available, activate XCP by using the `xcp activate` command and proceed with data migration.

   If `C:\NetApp\XCP` is not available, the system creates the XCP host configuration directory and files at

`C:\NetApp\XCP` when you run the `xcp activate` command for the first time. The `activate xcp` command fails and creates an error message asking for a new license.

```
C:\>xcp.exe activate
(c) 2020 NetApp, Inc.

License file C:\NetApp\XCP\license not found.
Register for a license at https://xcp.netapp.com
```

3. Copy the license to the newly created folder `C:\NetApp\XCP:`

```
C:\>copy license c:\NetApp\XCP
        1 file(s) copied.
```

4. Activate XCP:

```
C:\>xcp.exe activate
XCP SMB; (c) 2020 NetApp, Inc.;

XCP already activated

C:\>
```

Install File Analytics for NFS

For system requirements for NFS, see *Install XCP NFS*.
The `configure.sh` script installs and enables default configurations of HTTPD and PostgreSQL available for Linux server. You can change/update to a more recent version as needed and to adhere to security guidelines.

Before you begin

- You cannot run the XCP application and XCP as service simultaneously in the same host. If any XCP operations are running, complete the operations before you start configuration.
- Your Linux machine must be connected to the Yum repository server or the internet.

Steps

1. Go to your XCP folder and run the `./configure.sh script`.
   The script takes three to ten minutes to configure the Linux machine and complete the following tasks:
   a. Download PostgreSQL packages

b. Install the PostgreSQL server

c. Install the HTTPD

d. Use the open SSL to create a self-signed certificate (`server.key and server.crt`)

e. Create the XCP File Analytics database

2. Select option 1 Configure client system from the XCP configuration menu.
3. For a new install, update the password for the administrator and database users.
   For an upgrade, you are prompted to stop the XCP service. When done, select option 0.
4. Start the XCP service.
   Use the following command to check if the XCP service is running:
   service xcp status
5. Launch File Analytics in the browser: **https:// <ip address of linux>/xcp**.