



Converting XGS2-HS chassis, XGS12-HS chassis and PerfectStorm ONE appliance to Native IxOS

Version 1.1



About This Guide

This guide explains how to convert your existing PerfectStorm ONE appliance, XGS12-HS and XGS2-HS chassis running on Windows Operating System, to Native IxOS. This conversion also involves moving the user data to the new Native IxOS.

Prerequisites

Before converting to Native IxOS, you need to do the following:

- [Deactivate Licenses from Windows computer](#)
- [Save BreakingPoint User Data](#)
- [Copy Useful Information](#)
- [Verify Load Modules](#)
- [Upgrade FlixOS to FlixOS 2017.2.0.4](#)

Deactivate Licenses from Windows machine

Ixia Registration Utility (IRU) works with Registration Codes for computers installed before 2016. If you have IRU licenses, perform the following steps.

If you have the new Ixia Licensing Utility (ILU) licenses installed, follow step 3.

1. Connect to the chassis by opening a remote desktop connection to the chassis address.
2. Migrate IRU to ILU. You need to download and install the latest version of License Server from: <http://support.ixiacom.com/support-overview/product-support/downloads-updates/versions/33011>.
ILU works with Activation Codes for computers installed in 2016 and comes with IxOS 8.01, 8.03, 8.10, 8.12, 8.13, 8.20, 8.21 and 8.30.
For details, refer *IRU to ILU Migration* section of the *Ixia Licensing Management Guide* - <https://support.ixiacom.com/user-guide/license-management>.
3. Store the activation codes. You also have the option to store the activation codes by saving the receipt. Then, by using ILU, deactivate all your licenses from the Windows computer.
See also *Deactivate Licenses* section of the *Ixia Licensing Management Guide*.

NOTE

After you [convert the chassis to Native IxOS](#), activate the licenses again. See also [Activate Licenses](#).

For BreakingPoint Users: Save BreakingPoint User Data

If you are using BreakingPoint, do the following:

- Export BreakingPoint test configurations, network neighborhoods, custom application and super flows. To do this, open the BreakingPoint application and click Control Center -> Administration -> Export Tests.
See also *BreakingPoint Administration Page Overview* section of the *BreakingPoint User Guide* - <https://strikecenter.ixiacom.com>.
- Export the database. To do this, click WAF Administration -> Database -> Export Database.

**WARNING**

All BreakingPoint user accounts will be lost and will need to be created again after switching to Native IxOS.

Copy Useful Information

Any other useful information stored on the windows-based chassis becomes inaccessible when you convert to Native IxOS. So it should be copied externally.

Verify Load Modules

Verify the list of Ixia Load Modules that are supported on the new Native IxOS by using the Ixia Product Compatibility Matrix.

All variants of PerfectStorm, Multis, and Novus load modules are supported in IxOS 8.20 EA, 8.21 EA and 8.30 EA.

Upgrade FlixOS to FlixOS 2017.2.0.4

You can upgrade FlixOS using any of the following methods:

- USB Flash Drive Upgrade (The zip package *NativeIxOS_USBUpgrade_8.40.1400.5-EA_1.0.7.32.zip* contains the FlixOS 2017.2.0.4 upgrade)
- FTP Upgrade

For details on the upgrade process, see the *FlixOS Upgrade Guide* - http://downloads.ixiacom.com/support/downloads_and_updates/public/ixos/.

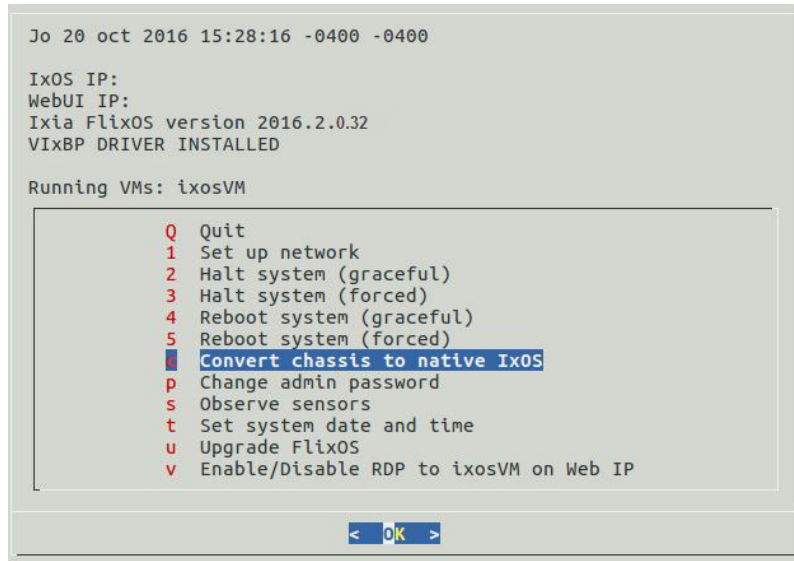
The FlixOS 2017.2.0.4 upgrade is included in the same archive with the Native IxOS USB conversion script.

You can use *NativeIxOS_USBUpgrade_8.40.1400.5-EA_1.0.7.32.zip* instead of the package mentioned in the generic FlixOS Upgrade Guide.

Convert Chassis to Native IxOS

To convert your existing chassis to Native IxOS, do the following:

1. Open SSH client and connect to the IP address of the chassis and port 8022. The Administrative Console prompts you to log on.
2. Enter the following credentials:
 - User ID: **admin**
 - Password: **admin**
3. In the admin window, click **Convert chassis to native IxOS**.



```
Jo 20 oct 2016 15:28:16 -0400 -0400

IxOS IP:
WebUI IP:
Ixia FlixOS version 2016.2.0.32
VixBP DRIVER INSTALLED

Running VMs: ixosVM

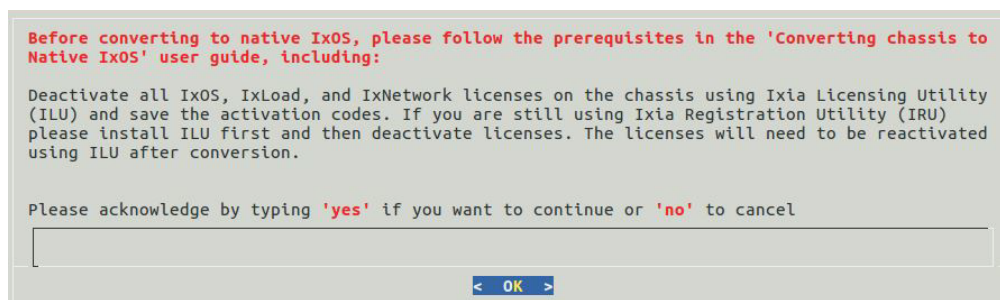
  Q Quit
  1 Set up network
  2 Halt system (graceful)
  3 Halt system (forced)
  4 Reboot system (graceful)
  5 Reboot system (forced)
  6 Convert chassis to native IxOS
  p Change admin password
  s Observe sensors
  t Set system date and time
  u Upgrade FlixOS
  v Enable/Disable RDP to ixosVM on Web IP

< OK >
```

NOTE

- Starting with FlixOS 2017.1.0.1 version, use the **Convert chassis to Native IxOS** option. If you do not see this option, ensure that FlixOS installed on your system is upgraded to this version.
- At the time of conversion from Windows to Native IxOS, hostnames that do not respect RFC921 <https://tools.ietf.org/html/rfc921>, will be automatically changed. Any invalid characters will be replaced with a - .

4. The following message on saving activation codes and deactivating licenses appears. Read the message carefully. If you have any questions, contact your local Ixia Sales representative or call Ixia Technical Support.
Type **Yes** to continue.



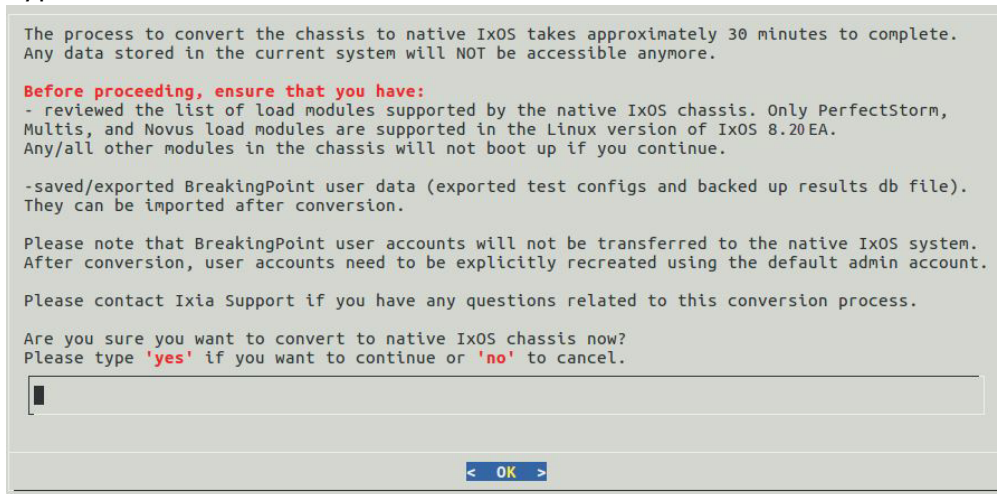
```
Before converting to native IxOS, please follow the prerequisites in the 'Converting chassis to Native IxOS' user guide, including:

Deactivate all IxOS, IxLoad, and IxNetwork licenses on the chassis using Ixia Licensing Utility (ILU) and save the activation codes. If you are still using Ixia Registration Utility (IRU) please install ILU first and then deactivate licenses. The licenses will need to be reactivated using ILU after conversion.

Please acknowledge by typing 'yes' if you want to continue or 'no' to cancel

< OK >
```

5. The following message appears prompting you to convert to Native IxOS. Type **Yes** to continue.



The process to convert the chassis to native IxOS takes approximately 30 minutes to complete. Any data stored in the current system will NOT be accessible anymore.

Before proceeding, ensure that you have:

- reviewed the list of load modules supported by the native IxOS chassis. Only PerfectStorm, Multis, and Novus load modules are supported in the Linux version of IxOS 8.20 EA. Any/all other modules in the chassis will not boot up if you continue.
- saved/exported BreakingPoint user data (exported test configs and backed up results db file). They can be imported after conversion.

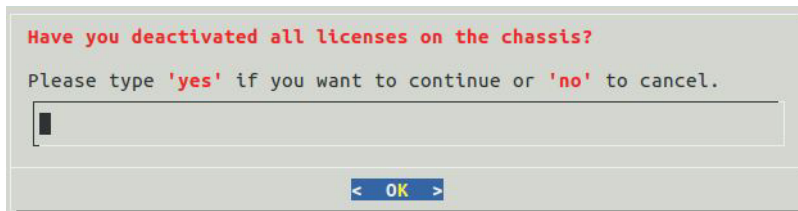
Please note that BreakingPoint user accounts will not be transferred to the native IxOS system. After conversion, user accounts need to be explicitly recreated using the default admin account.

Please contact Ixia Support if you have any questions related to this conversion process.

Are you sure you want to convert to native IxOS chassis now?
Please type 'yes' if you want to continue or 'no' to cancel.

< OK >

6. The following message appears asking if you have deactivated all licenses on the chassis.



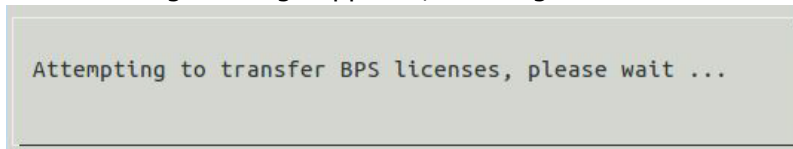
Have you deactivated all licenses on the chassis?

Please type 'yes' if you want to continue or 'no' to cancel.

< OK >

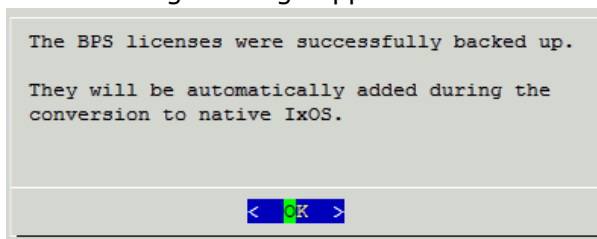
Type **Yes** to continue and click **OK**.

7. The following message appears, showing that licenses are being transferred.



Attempting to transfer BPS licenses, please wait ...

The following message appears when the licenses are backed up.



The BPS licenses were successfully backed up.

They will be automatically added during the conversion to native IxOS.

< OK >

8. Click **OK** to continue.

On some systems where BreakingPoint did not receive any upgrades (firmware or ATI package) or the BreakingPoint System is not accessible, the BreakingPoint license transfer can fail with one of the failure messages. To resolve the issue follow the guidance from the message: make sure you can access the BreakingPoint application using your browser or install any BreakingPoint upgrade (firmware or ATI package).

You can also ignore the failure and continue if you do not have any BreakingPoint

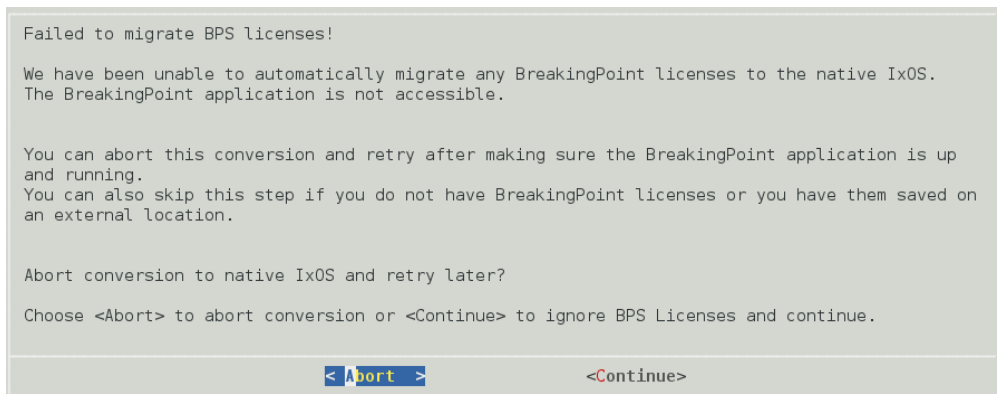
licenses or you have the BreakingPoint licenses stored externally and you can re-import them after conversion.

The reason for failure can be one of the following:

- a. Failure because the ATI package needs to be updated.



- b. Failure because the BreakingPoint system is not accessible.



- c. Failure because BreakingPoint licenses do not exist on the chassis since only IxLoad or only IxNetwork is installed on it.

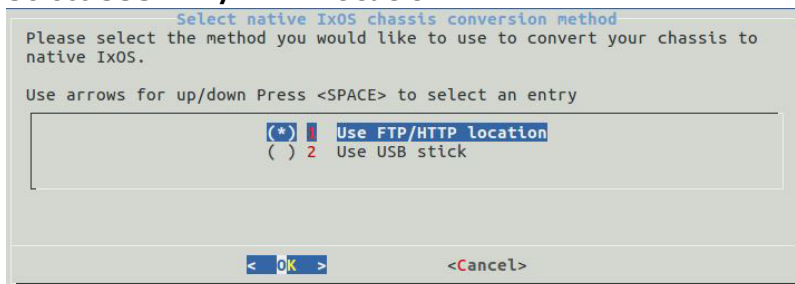
9. Next you need to select the conversion method.

The following options are available to convert your chassis to Native IxOS:

- [Use FTP or HTTP Location](#)
- [Use USB Stick](#)

Use FTP or HTTP Location

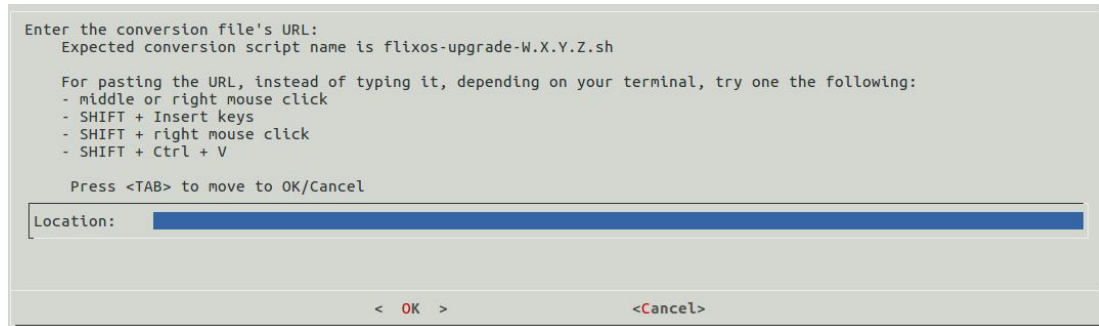
1. Select **Use FTP/HTTP location**.



-
2. The following window appears.

Enter a valid location of the installation script in the **Location** box as shown in the image below.

You must specify a FTP or HTTP URL. Example: *ftp://<FtpOrUrlAddress>/floxos-upgrade-8.40.1400.5-2017.2.77.17.sh*.



Enter the conversion file's URL:
Expected conversion script name is floxos-upgrade-W.X.Y.Z.sh

For pasting the URL, instead of typing it, depending on your terminal, try one the following:

- middle or right mouse click
- SHIFT + Insert keys
- SHIFT + right mouse click
- SHIFT + Ctrl + V

Press <TAB> to move to OK/Cancel

Location:

< OK > <Cancel>

NOTE

In case an FTP server is used for the update, it needs to support anonymous access credentials.

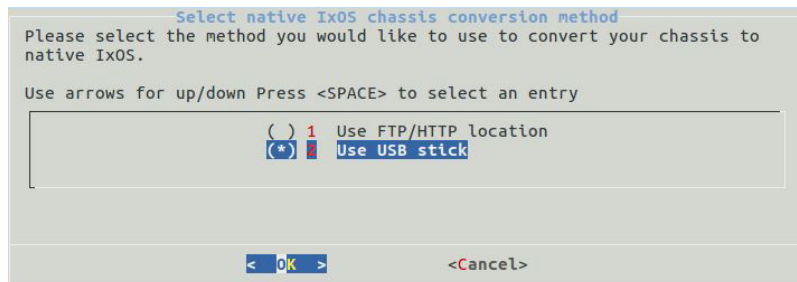
The chassis should be able to connect to the FTP or HTTP server.

3. With the **OK** option highlighted, press the Enter key to confirm that you want to run the installation script.

This will install CentOS 7 and other Ixia applications.

Use USB Stick

1. Select **Use USB stick**. The chassis conversion to Native IxOS begins.



Select native IxOS chassis conversion method

Please select the method you would like to use to convert your chassis to native IxOS.

Use arrows for up/down Press <SPACE> to select an entry

()	1	Use FTP/HTTP location
(*)		Use USB stick

< OK > <Cancel>

After the conversion is done, the chassis will automatically reboot. When reboot finishes (usually around 5 minutes) you can connect to the new administration shell by SSH on chassis IP on port: 8022 and also connect to the chassis IP using your browser.

NOTE

- The USB stick containing the extracted upgrade archive needs to be plugged in to the chassis or the PerfectStorm ONE appliance that you want to upgrade.
- The upgrade process will take about 30 minutes to complete.
- After converting your existing chassis to Native IxOS, [activate licenses](#) for the Ixia applications.

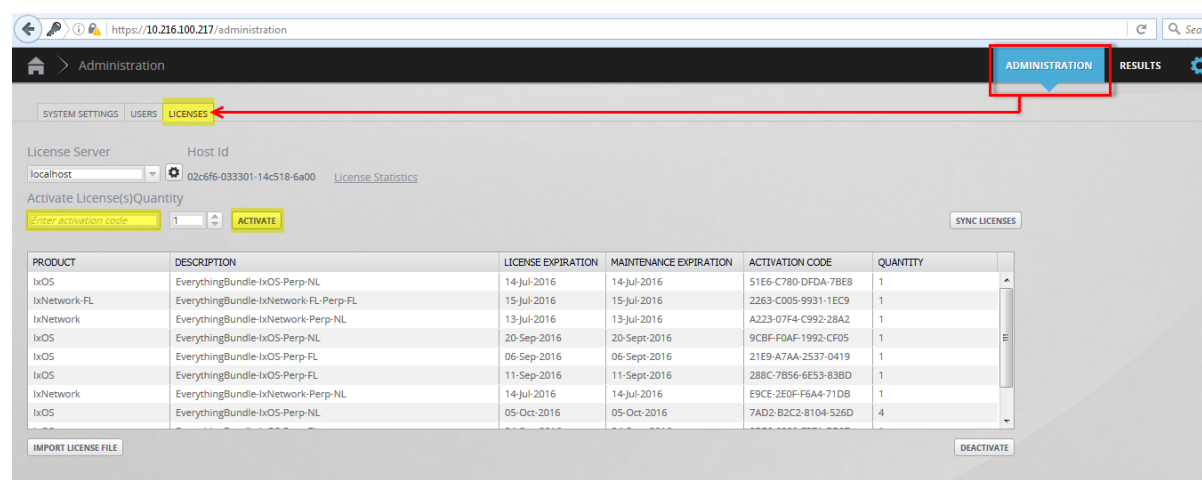
Activate Licenses

After converting your existing chassis to Native IxOS, activate licenses for the Ixia applications.

Using a computer that has access to the chassis, open a browser connection to the chassis IP address and log on the web user interface.

Log on to the chassis web page using the user *admin* and password *admin*.

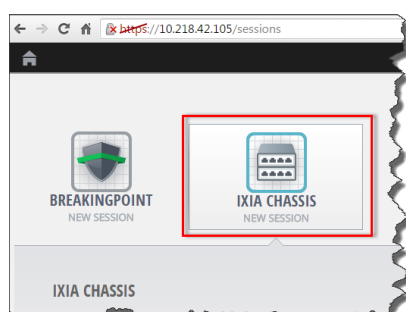
You can activate the licenses from the **Licenses** tab on the **Administration** page as shown in the following image.



You need to perform the following steps:

1. Activate all the required licenses - IxOS, IxLoad and IxNetwork (if applicable).
2. Connect to Command Line Interface by opening SSH client to the IP address of the chassis and port 8022, using the user *admin* and password *admin*.
3. The following message appears:
*"No IxOS licenses found on the chassis. IxServer will not be in ready state."
Please check IxServer logs using "show log ixServer --latest".
After activating licenses on the chassis, please trigger ixServer restart using command "restart-service ixServer"."*
4. After activating licenses on the chassis, please trigger ixServer restart using the command **restart-service ixServer**.
Wait for IxServer to restart.
5. Check Ixia Services using the command **show services** and IxServer logs and IxServer logs using the command **show log ixServer --latest**.

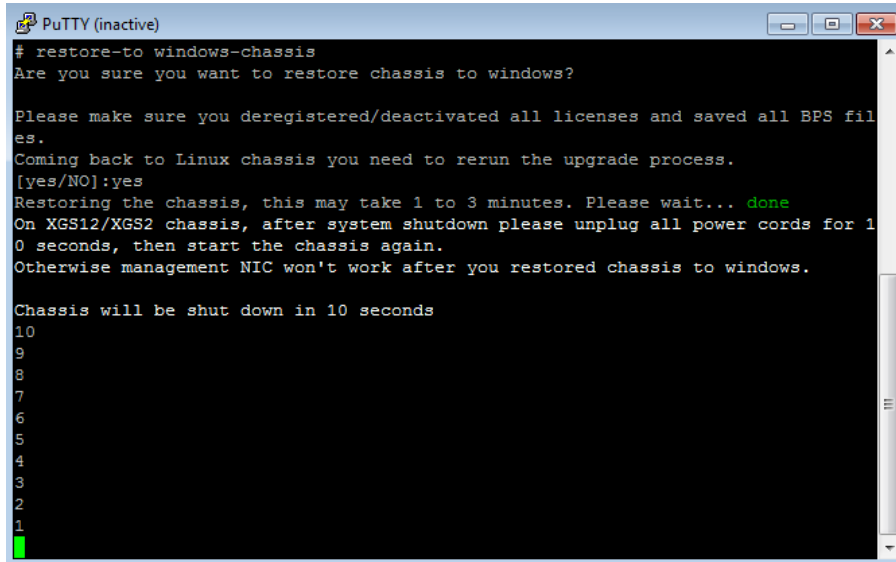
NOTE **Optional:** After IxServer starts, you can see the cards and IxServer logs from the browser in the **Chassis Management Console** application. To see the cards, click **Ixia Chassis**.



Restore to Windows Chassis

You can convert your chassis from Native IxOS back to Windows OS. You need to perform the following steps:

1. Connect to Command Line Interface by opening SSH client to the IP address of the chassis and port 8022, using the user *admin* and password *admin*.
2. On the Command Line Interface, type the command **restore-to windows-chassis**. This closes the IxOS application, does a cleanup of the files that remain after the installation and shuts down XGS-HS chassis and reboots the PerfectStorm ONE appliances.



```
PuTTY (inactive)
# restore-to windows-chassis
Are you sure you want to restore chassis to windows?

Please make sure you deregistered/deactivated all licenses and saved all BPS files.
Coming back to Linux chassis you need to rerun the upgrade process.
[yes/NO]:yes
Restoring the chassis, this may take 1 to 3 minutes. Please wait... done
On XGS12/XGS2 chassis, after system shutdown please unplug all power cords for 10 seconds, then start the chassis again.
Otherwise management NIC won't work after you restored chassis to windows.

Chassis will be shut down in 10 seconds
10
9
8
7
6
5
4
3
2
1
```

NOTE

- Before reverting to Windows-based IxOS chassis, you need to deactivate IxOS, IxNetwork and IxLoad licenses used on Native IxOS machine to be reactivated after the revert process. Any BreakingPoint custom data (configurations and reports) will be lost unless exported.
- After restoring XGS-HS chassis to Windows, you need physical access to the chassis in order to remove the power cables from the chassis for 10 seconds before powering it on. If the power is not removed, the chassis will power on but the management IP will not be accessible.

NOTE

BreakingPoint Available Disk Space

About 70% of the available disk space will be still used for the pre-conversion file system to allow the restore of the BreakingPoint system to Windows . Once you are confident that you will not need to revert to the previous version you can reclaim the disk space.

You need to perform the following steps:

1. Connect to Command Line Interface by opening SSH client to the IP address of the chassis and port 8022, using the user *admin* and password *admin*.
2. On the Command Line Interface, type the command **uninstall bps legacy**. This will delete the pre-conversion BreakingPoint application files to reclaim the used space for the BreakingPoint in Native IxOS. Restoring the previous data will not be possible.

Troubleshooting

The following error messages may occur while converting the chassis to Native IxOS.

1. **Error:** Non-standard partition table found.
Solution: Indicates a chassis with non-standard partition scheme. The chassis needs to be RMA if user wants to convert it.
2. **Error:** \${PARTITION} doesn't have enough space to upgrade(\$partition_space).
Solution: Indicates low disk space. You need to delete files to free space. Contact support for help.
3. **Error:** Archive looks broken; giving up.
Solution: Indicates that the conversion archive is corrupted. You need to download the archive again from the Ixia website.
4. XGS12-HS shuts down rather than automatically rebooting.
Solution: Power cables need to be plugged out for at least 10 seconds and then plugged back in. Otherwise the chassis remains unreachable.

The following are some of the messages that you may encounter while converting to Native IxOS. These are not critical and can be ignored.

- Error in GnuTLS initialization: Failed to acquire random data.
- Failed to get D-Bus connection: Operation not permitted.
- Non-fatal POSTIN scriptlet failure in rpm package *<rpm package>*.