



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

Version 1.0



# Notices

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## Safety Information



Do not proceed beyond a hazard notice until the indicated conditions are fully understood and met.

A **CAUTION** notice denotes a hazardous situation that, if not avoided, could result in minor or moderate injury.

A **WARNING** notice denotes a hazardous situation that, if not avoided, could result in death or serious injury.

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## 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 2018.1.0.3](#)

### Deactivate Licenses from Windows computer

Ixia Registration Utility (IRU) works with Registration Codes for products 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.
  - a. 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 products installed in 2016 and comes with IxOS 8.01, 8.03, 8.10, 8.12, 8.13, 8.20, 8.21, 8.30, 8.31, 8.40, 8.41, 8.42 and 8.50.  
For details, see the *IRU to ILU Migration* section of the *Ixia Licensing Management Guide* - <https://support.ixiacom.com/user-guide/license-management>.
2. 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*.

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

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### 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.

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**⚠ WARNING**

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

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### 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 CloudStorm, PerfectStorm, K400, Multis, Novus, Xcellon-Ultra, Xcellon-Flex, XAir and XAir2 load modules are supported in Native IxOS version 8.50 EA.

### Upgrade FlixOS to FlixOS 2018.1.0.3

You can upgrade FlixOS using any of the following methods:

- USB Flash Drive Upgrade (The zip package *NativeIxOS\_USBUpgrade\_8.50.1700.5-EA\_1.0.7.55.zip* contains the FlixOS 2018.1.0.3 upgrade)
- FTP Upgrade

For details on the upgrade process, see the *FlixOS Upgrade Guide* -

[http://downloads.ixiacom.com/support/downloads\\_and\\_updates/public/ixos/](http://downloads.ixiacom.com/support/downloads_and_updates/public/ixos/).

The FlixOS 2018.1.0.3 upgrade is included in the same archive with the Native IxOS USB conversion script.

You can use *NativeIxOS\_USBUpgrade\_8.50.1700.5-EA\_1.0.7.55.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**.

```
Tue 21 Aug 2018 01:38:17 AM PDT -0700
IxOS IP: 10.216.100.27
WebUI IP: 10.39.37.6
Ixia FlixOS version 2018.1.0.3
VIXBP DRIVER INSTALLED

Running VMs:
  Quit
  1 Set up network
  2 Halt system (graceful)
  3 Halt system (forced)
  4 Reboot system (graceful)
  5 Reboot system (forced)
  c 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 - .

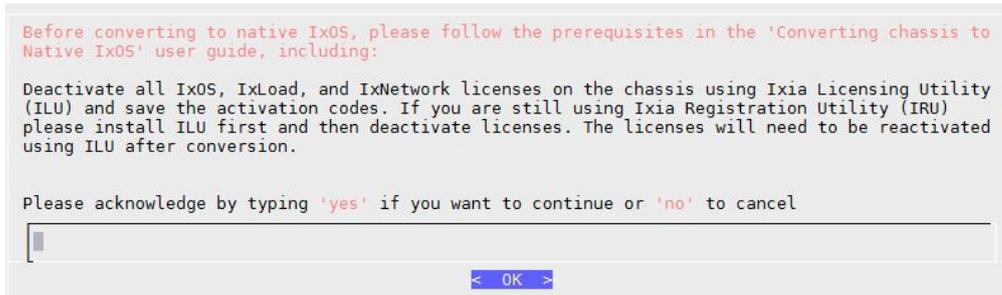
4. The following End User License Agreement message appears. Type **Yes** to continue.

```
PLEASE READ EULA AND PRESS ENTER

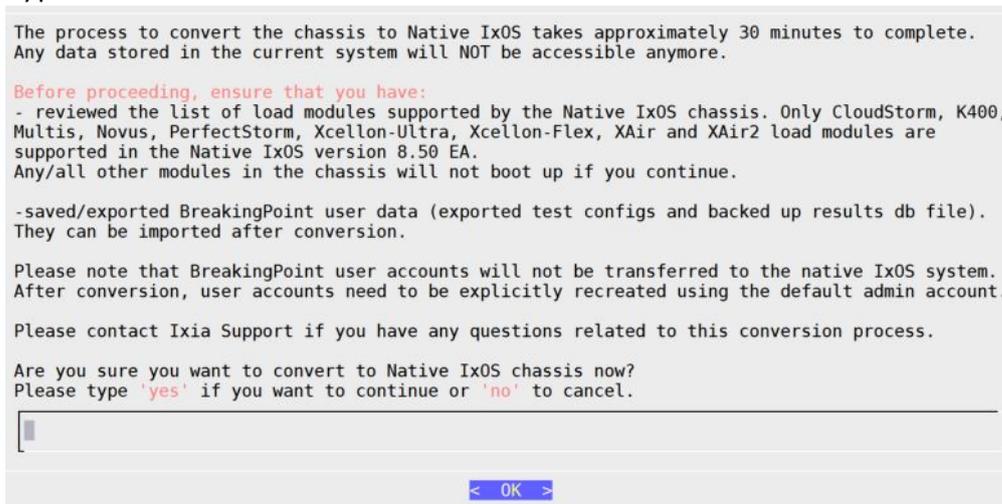
KEYSIGHT IxOS SOFTWARE END USER LICENSE AGREEMENT
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1(+)  
2%
< EXIT >
```

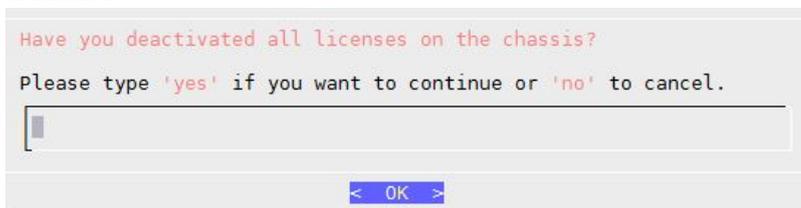
5. The following message on saving activation codes and deactivating licenses appears. Read the message carefully. If you have any questions, contact your local Ixia Sales representative or call Ixia Technical Support. Type **Yes** to continue.



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

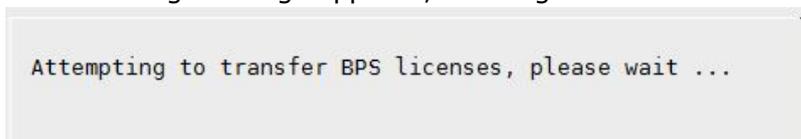


7. The following message appears asking if you have deactivated all licenses on the chassis.

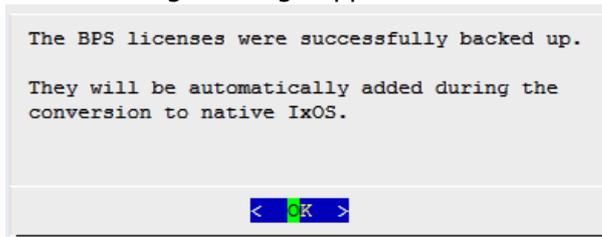


Type **Yes** to continue and click **OK**.

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



The following message appears when the licenses are backed up.



9. 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).

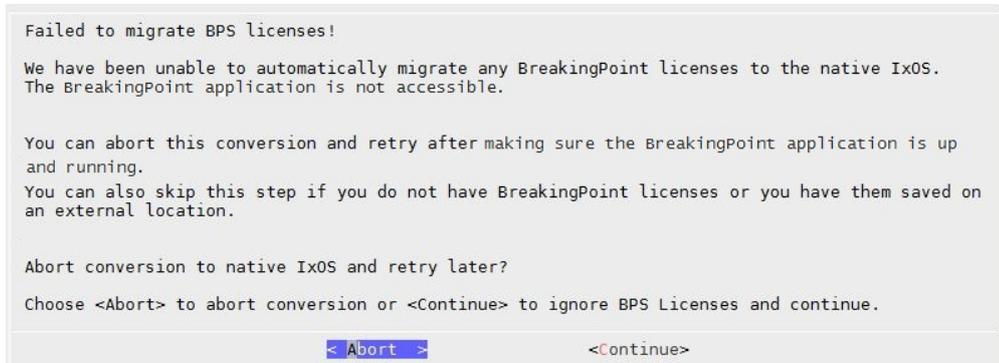
You can also ignore the failure and continue if you do not have any BreakingPoint licenses or you have the BreakingPoint licenses stored externally and you can re-import them after conversion.

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.

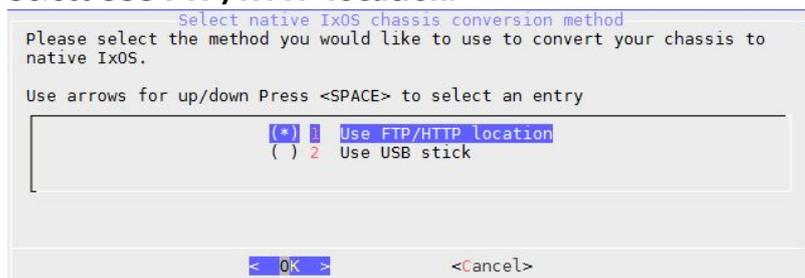
10. Next you need to select the conversion method.

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

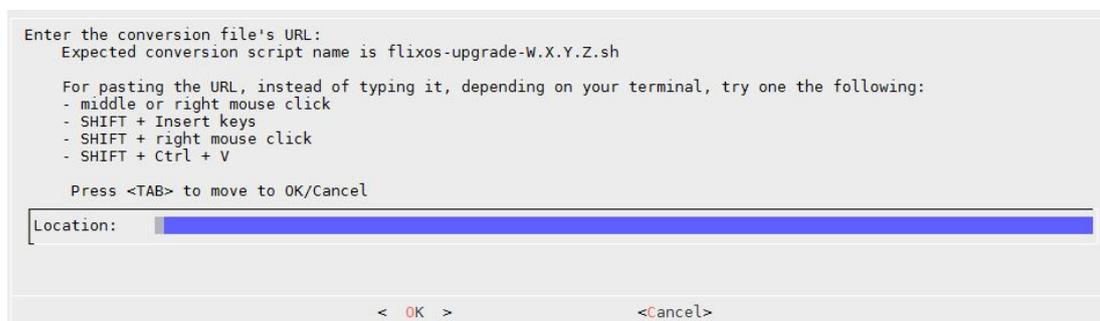
1. Select **Use FTP/HTTP location**.



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-8.50.1700.5-2018.1.78.12.sh`.



### NOTE

**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.



### NOTE

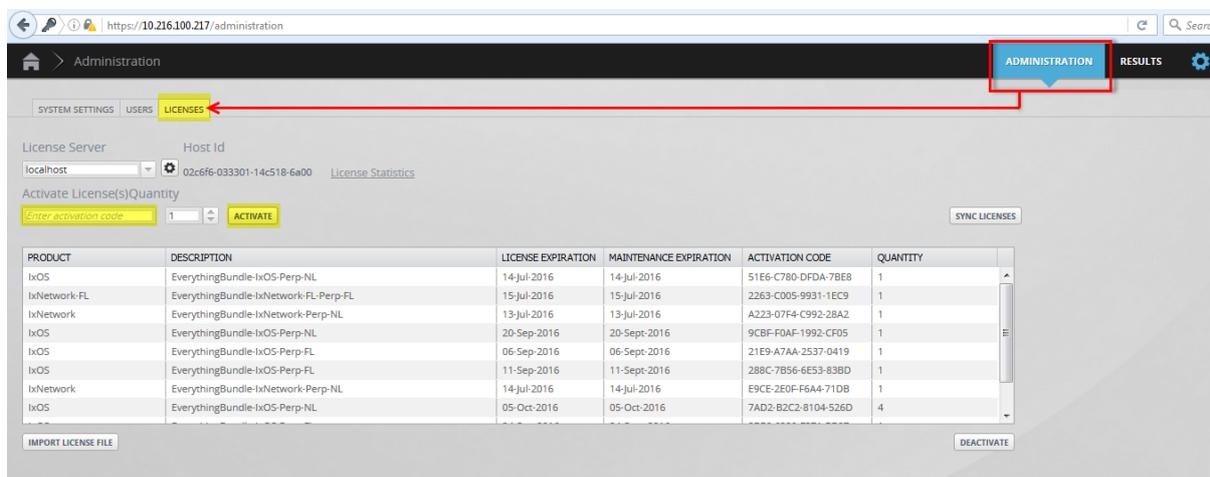
- The USB stick containing the extracted upgrade archive needs to be plugged in to the chassis or the PerfectStorm ONE appliance that you want to upgrade.
- The upgrade process will take about 30 minutes to complete.
- After converting your existing chassis to Native IxOS, [activate licenses](#) for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

After the conversion is done using either FTP or the USB stick, the system will continue configuring Ixia software. This process takes about 15 to 20 minutes. After the reboot, Ixia software will continue installing. Once the installation is over, you can connect to the new administration shell by SSH on chassis IP on port: 8022. You can also access the chassis using the web interface: [https://<Chassis\\_IP>:443](https://<Chassis_IP>:443).

## 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 by using the user *admin* and password *admin*.

Activate the licenses from the **Licenses** tab on the **Administration** page as shown in the following image:

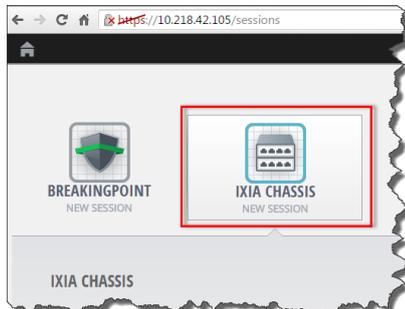


To start IxServer and verify Ixia Services running on the chassis, perform the following steps:

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 **restart-service ixServer** command. Wait for IxServer to restart.
5. Check Ixia Services by using the **show services** command and IxServer logs by using the **show log ixServer --latest** command.

**NOTE**

**Note: Optional:** After IxServer starts, view 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. To convert your chassis, do the following:

1. Connect to Command Line Interface by opening SSH client to the IP address of the chassis and port 8022, by using the user *admin* and password *admin*.
2. On the Command Line Interface, type ***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 restarts 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. This needs to be reactivated after the revert process. Any BreakingPoint custom data (configurations and reports) is lost unless exported.
- After restoring XGS-HS chassis to Windows, you need physical access to the chassis to remove the power cables from the chassis for 10 seconds before

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**NOTE**

powering it on. If the power is not removed, the chassis will power on but the management IP will not be accessible.

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**NOTE**

### BreakingPoint Available Disk Space

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

To reclaim the disk space, perform the following steps:

1. Connect to Command Line Interface by opening SSH client to the IP address of the chassis and port 8022, by using the user *admin* and password *admin*.
2. On the Command Line Interface, type **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.

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## Troubleshooting

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

- **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.
- **Error:** \${PARTITION} doesn't have enough space to upgrade(\$partition\_space).  
**Solution:** Indicates low disk space. Delete files to free space. Contact support for help.
- **Error:** Archive looks broken; giving up.  
**Solution:** Indicates that the conversion archive is corrupted. Download the archive again from the Ixia website.
- 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>*.

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