



BreakingPoint Firmware Release Notes

Release 8.40, Dec. 2017

Release Notes Version 1.1

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Overview

Document Purpose

These release notes provide information regarding the BreakingPoint 8.40 release. This includes information about new features, resolved SRs, known defects and workarounds (if available).

Background

Powered by Application and Threat Intelligence, BreakingPoint enables companies to maintain resilient IT infrastructures against escalating threats. Only BreakingPoint security and performance testing products stress and optimize end-to-end IT infrastructures by creating real user actions with a blend of application and attack traffic including malware, mobile malware, DDoS, and more.

Technical Support

To contact the BreakingPoint Support team, e-mail them at support@ixiacom.com or call them at 1-818 595 2599.

Documentation

The listed BreakingPoint documentation can be obtained at: <https://support.ixiacom.com/user-guide> > **BreakingPoint**

- *Ixia BreakingPoint User Guide*
- *Ixia BreakingPoint Storm Installation Guide*
- *Ixia BreakingPoint FireStorm Installation Guide*
- *Ixia BreakingPoint FireStorm ONE Installation Guide*
- *Ixia BreakingPoint 20 Installation Guide*
- *Ixia BreakingPoint Virtual Edition (VE) Installation Guide*
- *Ixia BreakingPoint Migration Guide*

Documentation for, *PerfectStorm - XGS12 Chassis Platform Assembly Guide*, can be obtained at:

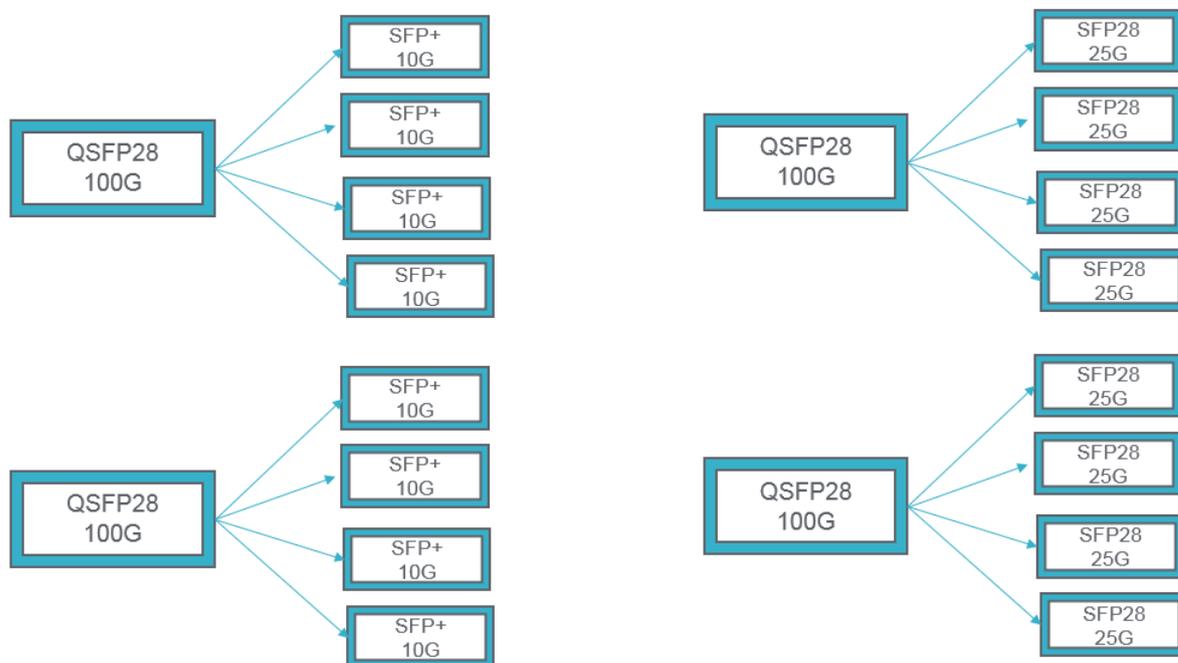
http://downloads.ixiacom.com/library/user_guides/IxOS/8.00/EA_8.00_Rev_A/XGS12ChassisPlatformAssemblyGuide/XGS12ChassisPlatformAssemblyGuide.pdf

New Features

The new features in BreakingPoint 8.40 release are:

CloudStorm 10GE/25GE Fan-out Support:

In the BreakingPoint 8.40 release, we are introducing 10GE/25GE Fan-out support. Two 100G QSFP28 ports in CloudStorm splits into either EIGHT ports of SFP+ 10GE or EIGHT ports of SFP28 25GE. Resources from each 100GE CloudStorm port are distributed onto the 4 Fan-out ports in a single resource group. Each Fan-out Port will work as an independent port instance in the Blade. Resources on a 100G card are distributed among the Fan-out ports to achieve the same overall performance as the 100G CloudStorm card.



BreakingPoint Port Management Improvement:

The responsiveness between the BreakingPoint System and Chassis resources have been improved in the 8.40 release. The user will now experience a faster response during Port Reservation, Port Release and Mode Switch operations. All of these operations are now able to run simultaneously from the same or multiple sessions.

Centralized WebPlatform:

BreakingPoint 8.40 release has been integrated to work with Central Web Management interface. It allows BreakingPoint users to perform centralized user

Management and chassis management and have access to an improved CLI. Please refer to the WebPlatform user guide for more details.

DPDK support for BreakingPoint on AWS:

In this release, BreakingPoint VE on AWS supports DPDK (Data Plane Development Kit) enabled ENA (Elastic Network Adaptor) to provide improved performance in terms of bandwidth. By using i3.8xlarge (ena) instance, user can expect 10Gbps of throughput performance in BreakingPoint test.

Delayed ACK Support:

In the BreakingPoint 8.40 release, we enhanced Delayed ACK in the TCP configuration to allow for a fixed timer configuration and a dynamic timer value based on the retry quantum and receive window. It will allow Piggyback ACK on data whenever possible. When the receive window is full it will send ACK with double the advertised window.

Note: There is a new check box added to the Application Simulator component options named, "Disable Piggy-back Data on ACK(experimental)". Enabling this option forces the transmitting side to send an empty ACK (no data) before starting to send data packets (instead of piggy-backing data on the ACK packets).

REST API Enhancements:

We continue to enhance and improve the REST API coverage and in this release, we've added:

- Access to read and modify Shared Component Settings
- Allow users to reboot a Test Slot from REST

SNI Support for TLS:

As a part of enhancing Security protocols, BPS 8.40 now supports Server Name Indication for TLS. With this enhancement, during the TLS handshake process the BPS client can now include the Hostname of the Server to which it is attempting to connect in the ClientHello packet.

Software Compatibility

BreakingPoint 8.40 Firmware Release is a cross-platform release. Please review the following table to identify the software required for your hardware platform.

Platform	BreakingPoint Firmware	IxOS Software	Flix OS Software
Firestorm chassis (Storm, Firestorm, Firestorm20)	BreakingPoint 8.40	Not applicable	
Firestorm ONE appliance	BreakingPoint 8.40		
XGS12-HS chassis (PerfectStorm Load Modules)	BreakingPoint 8.40	IxOS 8.40EAPatch1	FlixOS for Native IxOS: 2017.2.77.xx (see the Product Compatibility Matrix for the correct FlixOS version) FlixOS for Windows IxOS: 2017.2.0.xx
PerfectStorm ONE Fusion appliances	BreakingPoint 8.40	IxOS 8.40EAPatch1	FlixOS for Native IxOS: 2017.2.77.xx (see the Product Compatibility Matrix for the correct FlixOS version) Note: Starting with 8.13, PerfectStorm ONE does not support Windows-based software. To support 8.13 and higher releases, PerfectStorm ONE appliances need to be converted to Native IxOS .
BreakingPoint Virtual	BreakingPoint 8.40	Not Applicable	

Hardware Compatibility

The BreakingPoint 8.40 Release is supported on all hardware platforms and BreakingPoint VE.

12-slot XGS12 Chassis and CloudStorm/PerfectStorm Fusion Load Module

Part Number	Description
940-0006	XGS12-HS 12-slot, Chassis Bundle
905-1014	CloudStorm 25GE FAN-OUT FACTORY INSTALLED Option
905-1015	CloudStorm 25GE FAN-OUT-UPG FIELD UPGRADE Option
905-1018	CloudStorm 10GE FAN-OUT FACTORY INSTALLED Option
905-1019	CloudStorm 10GE FAN-OUT-UPG FIELD UPGRADE Option
905-1028	Field Hardware Upgrade from CloudStorm 10G to CloudStorm 10/40G
905-1030	Field Hardware Upgrade from CloudStorm 10/40G to CloudStorm 10/40/25G
905-1030	Field Hardware Upgrade from CloudStorm NonFusion to CloudStorm Fusion
944-1232	CloudStorm Fusion, 2-port 100GE Load Module (CS100GE2Q28NG), 40G Support with Upgrade license
944-1237	CS40GE2Q28NG: CloudStorm 40G fusion CloudStorm Fusion, 2-port 40GE Load Module (CS40GE2Q28NG), 100G Support with Upgrade license
944-1201	PerfectStorm Fusion, 2-port 40/10GE QSFP+ Load Module (PS40GE2NG)
944-1200	PerfectStorm Fusion, 8-port 10/1 GE SFP+ Load Module (PS10GE8NG)
944-1209	PerfectStorm Fusion, 4-port 10/1 GE SFP+ Load Module (PS10GE4NG)
944-1210	PerfectStorm Fusion, 2-port 10/1 GE SFP+ Load Module (PS10GE2NG)
944-1202	PerfectStorm Fusion, 1-port 100GE CXP Load Module (PS100GE1NG)

3-slot Firestorm Chassis and Firestorm ONE appliance

Part Number	Description
981-0001	BreakingPoint Firestorm, 3-slot chassis
981-0058	BreakingPoint Firestorm ONE, 4-port 10/1 GigE SFP+ appliance

982-0001	BreakingPoint Firestorm 4-port 10/1GigE SFP+ blade
982-0021	BreakingPoint System Controller
982-0037	BreakingPoint Storm, 1 GigE 4-port blade
982-0026	BreakingPoint Storm, 1 GigE 8-port blade
982-0027	BreakingPoint Storm, 10 GigE 4-port blade
982-0040	BreakingPoint Firestorm 20, 20-port 10/1GigE SFP+ blade

PerfectStorm ONE Fusion Appliances

Part Number	Description
941-0028	PerfectStorm ONE Fusion, 40GE 2-port QSFP+ appliance (PS40GE2NG)
941-0027	PerfectStorm ONE Fusion, 8-port 10/1 GE SFP+ appliance (PS10GE8NG)
941-0031	PerfectStorm ONE Fusion, 4-port 10/1 GE SFP+ appliance (PS10GE4NG)
941-0032	PerfectStorm ONE Fusion, 2-port 10/1 GE SFP+ appliance (PS10GE2NG)
941-0033	PerfectStorm ONE Fusion, 8-port 1 GE SFP+ appliance (PS1GE8NG)
941-0034	PerfectStorm ONE Fusion, 4-port 1 GE SFP+ appliance (PS1GE4NG)

For PerfectStorm platform, please refer to the [Product Compatibility Matrix](#) available on Ixia's website. An Ixia website account is required before accessing.

Browser Compatibility

The table below lists the HTML browsers supported by BreakingPoint. Browser versions that are more current than the versions listed in the table may work, but have not been tested at this time. Beta versions of HTML browsers are not supported.

Browser	Recommendation for Windows	Recommendation for MAC
Google Chrome	62.0.3202.94 (64-bit)	62.0.3202.94 (64-bit)
Firefox	57.0	57.0
Microsoft Edge	40.15063.674.0	N/A
Safari	Not supported	10 and higher

Internet Explorer	Not supported	Not supported
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Note: In BreakingPoint 3.5.1, and higher releases, logging in to the management UI will not be allowed from HTML browsers that have a maximum SSL version setting that is limited to only sslv3 (ssl3).

Note: Mac users with OS 10.8.2 can use Firefox or Google Chrome as their browser.

Upgrading to Release 8.40

Before you upgrade to a new firmware release, please create a backup of your current system.

There are 2 backup scenarios:

- **Backup before Native IxOS conversion** - If you plan to convert a system to the Native IxOS, the proper way to backup data before conversion is documented in the conversion guide (which can be downloaded from the Ixia support web page (go to: <https://support.ixiacom.com/> and then log in. Click **Software Downloads** > **IxOS** (IxServer, IxTCLServer, IxExplorer)).

Note: After conversion to Native IxOS there may not be enough available disk space to restore a previously exported backup (especially for files larger than 1GB). If there is not enough space available, you can delete the pre-conversion BreakingPoint data by using the IxOS CLI command, **uninstall bps legacy** (which frees up 250GB of disk space). Be aware that if you are reverting to a Windows-based architecture, BPS application (BPS VM) will not start after uninstalling BPS legacy.

- **BreakingPoint Backup for Firestorm** – Use the BPS Backup to a NFS Server procedure

Compatibility Matrix

BreakingPoint	8.40
IxOS	8.40 EAPatch1
FlixOS	FlixOS for Native IxOS: 2017.2.77.xx (see the Product Compatibility Matrix for the correct FlixOS version) FlixOS for Windows IxOS: 2017.2.0.xx
IxLoad	8.40EA
IxNetwork	8.40EA
Licensing	5.0 EA

General Notes

Specific instructions for installation on PerfectStorm and FireStorm systems are contained in the sections below.

Note: Be aware that you must upgrade your BreakingPoint system to the latest ATI package before initiating Security component testing.

BreakingPoint Installation

Ixia strongly recommends that you create backups of your system before upgrading to the 8.40 Firmware release *and* after upgrading to the 8.40 Firmware release.

Note: After upgrading to 3.4.1 and above, Backup and Restore to USB is supported on Firestorm and Firestorm ONE.

The tables below describe the steps that are required to upgrade to 8.40 from earlier BreakingPoint Firmware releases.

- [For Legacy \(Storm/FireStorm\), XGS2 and XGS-12](#)
- [For PerfectStorm ONE \(or to transition to Native IxOS on XGS2 or XGS-12\)](#)
- [For XGS2 and XGS-12](#)

For Legacy (Storm/FireStorm), XGS2 and XGS-12

Current BreakingPoint Firmware	Upgrade Path to BreakingPoint 8.40 Firmware		
8.30	-> 8.40		
8.21	-> 8.40		
8.20.1	-> 8.40		
8.20	-> 8.40		
8.13	-> 8.21	-> 8.40	
8.10	-> 8.20.1	-> 8.40	
8.0.x	-> 8.20.1	-> 8.40	
3.5.x	-> 8.0.x	-> 8.20.1	-> 8.40
3.4.x	-> 8.0.x	-> 8.20.1	-> 8.40
3.3.x	-> 8.0.x	-> 8.20.1	-> 8.40
3.2 or earlier	Contact Ixia Technical Support		

For PerfectStorm ONE (or to transition to Native IxOS on XGS2 or XGS12)

Note: Windows OS is no longer supported. Systems must be converted to native IxOS for release 8.13 and higher.

Current BreakingPoint Firmware	Upgrade Path to BreakingPoint 8.40 Firmware			
8.30 Native IxOS	-> 8.40 Native IxOS			
8.21 Native IxOS	-> 8.40 Native IxOS			
8.20.1 Native IxOS	-> 8.40 Native IxOS			
8.20 Native IxOS	-> 8.40 Native IxOS			
8.13 Native IxOS	-> 8.40 Native IxOS			
8.10 Windows	-> 8.40 Native IxOS			
8.0.x Windows	-> 8.30 Native IxOS	-> 8.40 Native IxOS		
3.5.x Windows	-> 8.0.x Windows	-> 8.30 Native IxOS	-> 8.40 Native IxOS	
3.4.x Windows	-> 8.0.x Windows	-> 8.30 Native IxOS	-> 8.40 Native IxOS	
3.3.x Windows	-> 8.0.x Windows	-> 8.30 Native IxOS	-> 8.40 Native IxOS	
3.2 or earlier Windows	-> 3.3.x Windows	-> 8.0.x Windows	-> 8.30 Native IxOS	-> 8.40 Native IxOS

BreakingPoint VE

Note: User has the option to deploy BreakingPoint 8.40 VE system using the OVA images from the support.ixiacom.com download page.

Current BreakingPoint Firmware	Upgrade Path to BreakingPoint 8.40 Firmware	
8.30	→ 8.40	
8.21	→ 8.40	
8.20.1	→ 8.40	

Note: To transition to **Native IxOS**, see [For PerfectStorm ONE \(or to transition to Native IxOS on XGS2 or XGS-12\)](#):

Note: During an update from 3.0, the user may encounter the following system error: "Nov 21 16:03:54 localhost [dbchecker] database connection not functional, restarting". This is a normal occurrence. Ignore the message and continue with the upgrade.

After upgrading the FireStorm system to a new version, you must restart the system in order for all of the subsystems to initialize.

Upgrading multi-blade FireStorm systems requires installation of the new firmware to all Firestorm blades. For example, if the Ixia BreakingPoint software needs to upgrade a Firestorm in slots 0, 1, and 2, all blades must be checked before upgrading. The FireStorm in slot 0 will upgrade at a relatively shorter time than the Firestorms in slots 1 and 2.

Installation on XGS2-HS, XGS12-HS Chassis and PerfectStorm ONE Fusion Appliances

There are two procedures available depending on your update scenario:

- [For XGS2-HS, XGS12-HS XGS chassis that will remain on Windows IxOS](#)
- [For XGS2-HS, XGS12-HS chassis and PerfectStorm ONE appliances that will be converted to Native IxOS](#)

Note: PerfectStorm ONE appliances starting with 8.13 release do not support IxOS on Windows and only Native IxOS version is offered for this platform.

For XGS2-HS, XGS12-HS chassis that will remain on Windows IxOS:

To install BreakingPoint 8.40, you must perform the following steps:

1. Optionally, before starting the upgrade, we recommend that you perform a database backup and export all test configurations
2. Upgrade FlixOS to the 2017.2.0.x version which is available at: <https://support.ixiacom.com/support-overview/product-support/downloads-updates> > IxOS (Windows). Use the *FLIX OS Upgrade Guide* (PDF) for guidance.
3. Upgrade the IxOS version to 8.40EAPatch1.
4. Upgrade BreakingPoint software to firmware 8.40.

For XGS2-HS, XGS12-HS chassis and PerfectStorm ONE appliances that will be converted to Native IxOS

Note: If your chassis will be converted to Native IxOS, please read the detailed information provided in the document that describes how to convert the chassis. This document can be downloaded from the Ixia support web page (go to: <https://support.ixiacom.com/> and then log in. Click **Software Downloads** > **IxOS** (IxServer, IxTCLServer, IxExplorer)).

In summary, to install BreakingPoint 8.40, you must perform the following step (make sure to read and follow the conversion guide (see note below) for the complete, detailed instructions):

1. Convert the system to Native IxOS using FlixOS 2017.2.77.x (see the [Product Compatibility Matrix](#) for the correct FlixOS version). After the chassis is converted to Native IxOS, the IxOS version will be IxOS 8.40 EA and BPS version 8.40 EA. Upgrade IxOS version to 8.40EAPatch1.

Note: The **Conversion Guide** can be downloaded from the Ixia support web page (go to: <https://support.ixiacom.com/> and then log in). Click **Software Downloads** > **Windows IxOS**.

Note: New PerfectStorm and PerfectStorm ONE systems currently shipped to customers do not require a FLIX OS update. The systems ship with the latest FLIX OS version. Customers who currently use the PerfectStorm system must upgrade the FLIX OS.

Upgrading IxOS 8.40 EAPatch1

Note: For systems that will be converted to Native IxOS, the FlixOS 2017.2.77.x (see the [Product Compatibility Matrix](#) for the correct FlixOS version) will also contain the IxOS 8.40EA. Upgrade IxOS version to 8.40EAPatch1.

There are two paths for upgrading IxOS. Select the upgrade path that applies based on your current operating system.

- [Upgrading IxOS on Native IxOS](#)
- [Upgrading IxOS 8.40EA on Windows IxOS](#)

Upgrading IxOS on Native IxOS systems

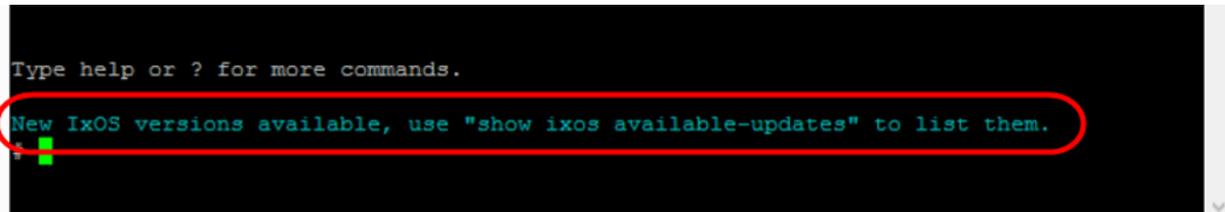
Note: For chassis with Native IxOS - This procedure is not required if you converted the chassis from Windows IxOS to Native IxOS using the 8.40 FlixOS conversion package 2017.2.77.xx (see the [Product Compatibility Matrix](#) for the correct FlixOS version), as it already contains 8.40 EA versions for IxOS and BPS. IxOS version should be upgraded to 8.40EAPatch1.

There are 2 methods for upgrading.

Online:

1. Access the Ixia Chassis CLI - `ssh admin@<chassisIP> -p 22, password: admin`
2. Apply command "enter Chassis" to access to Chassis CLI

You will be notified through the CLI when new builds of IxOS are available.

A screenshot of a terminal window showing the Ixia Chassis CLI. The prompt is "Type help or ? for more commands." Below it, a message is displayed: "New IxOS versions available, use 'show ixos available-updates' to list them." This message is circled in red. A green cursor is visible at the end of the line.

3. Run the `install ixos <version>` command to perform the install. The build will be installed automatically from Ixia IxOS online repository (which is predefined in the OS).

Offline:

1. Download the IxOS build from <http://support.ixiacom.com/support-overview/product-support/downloads-updates/versions/21>.
2. Use FTP to put the file on to the Chassis..

```
ftp://<chassisIP>  
user: admin  
password: admin
```

```
Put Ixia_Hardware_Chassis_XX.XX.XX-EA.tar.gz.gpg
```

4. Access the IxOS CLI - `ssh admin@<chassisIP> -p 22, password: admin`
5. Apply command "enter Chassis" to access to Chassis CLI
6. Run the `install ixos <version>` command to perform the install of the version that was downloaded.
7. Reboot the chassis.

Upgrading IxOS 8.40EAPatch1 on Windows IxOS

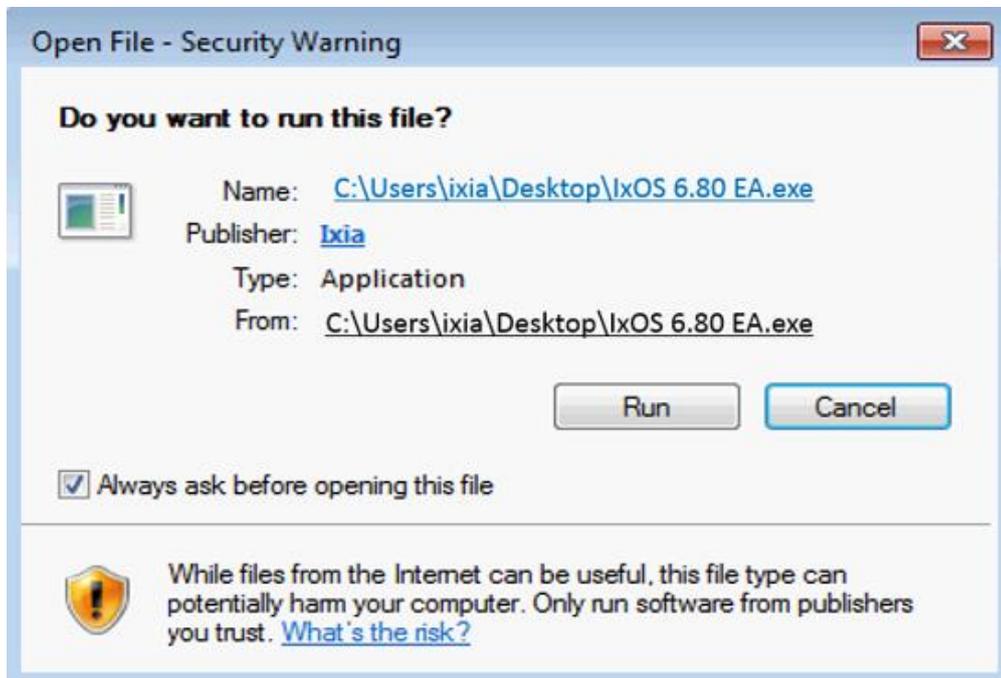
Software and Installation Instructions are located at the following location:
<http://support.ixiacom.com/support-overview/product-support/downloads-updates/versions/21>

Note: The version numbers displayed in the images below may differ from the version numbers that are displayed when you upgrade 8.40EA.

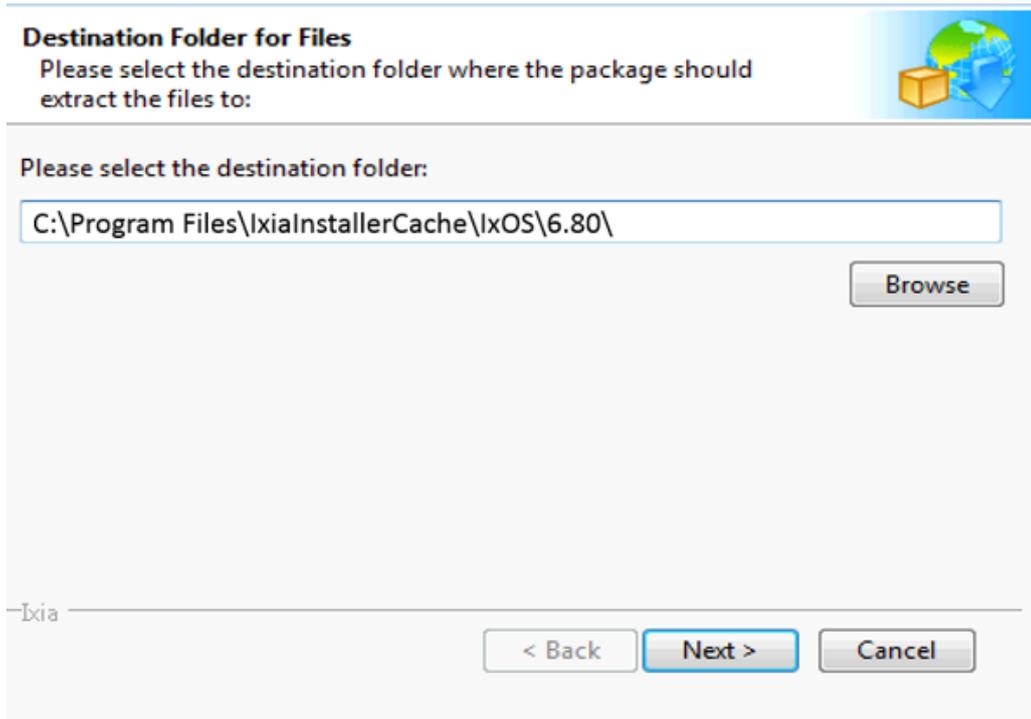
Note: BUG1354074: A Stop Error (Blue Screen) may occur while upgrading IxOS due to a Microsoft Windows issue. A Microsoft hotfix is available to resolve this issue, see [Windows Update kb2675806](#).

Starting from the Windows VM:

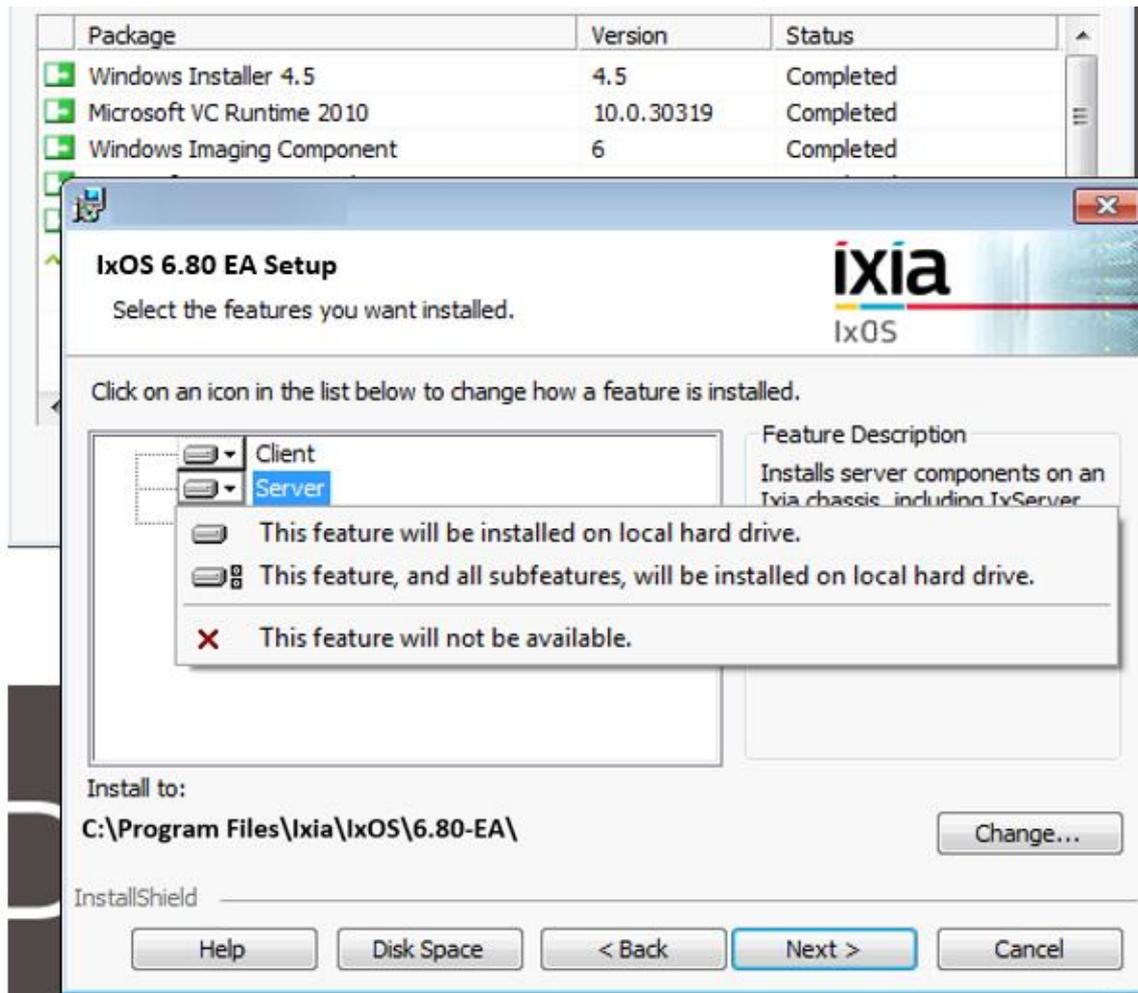
1. Open Remote Desktop and Login to the Ixia Windows VM.
2. Copy the IxOS executable to the Desktop.
 - a. You may need to copy the *.exe file onto the Ixia Windows VM.
 - b. The file can be directly downloaded on the VM using the link above.
 - c. If no direct network access to ixiacom exists, then a shared file system with the Ixia Windows VM is needed to gain access to the VM.
3. Stop IxExplorer and IxServer.
 - a. Use a graceful shutdown, File -> Exit
4. Run *.exe.



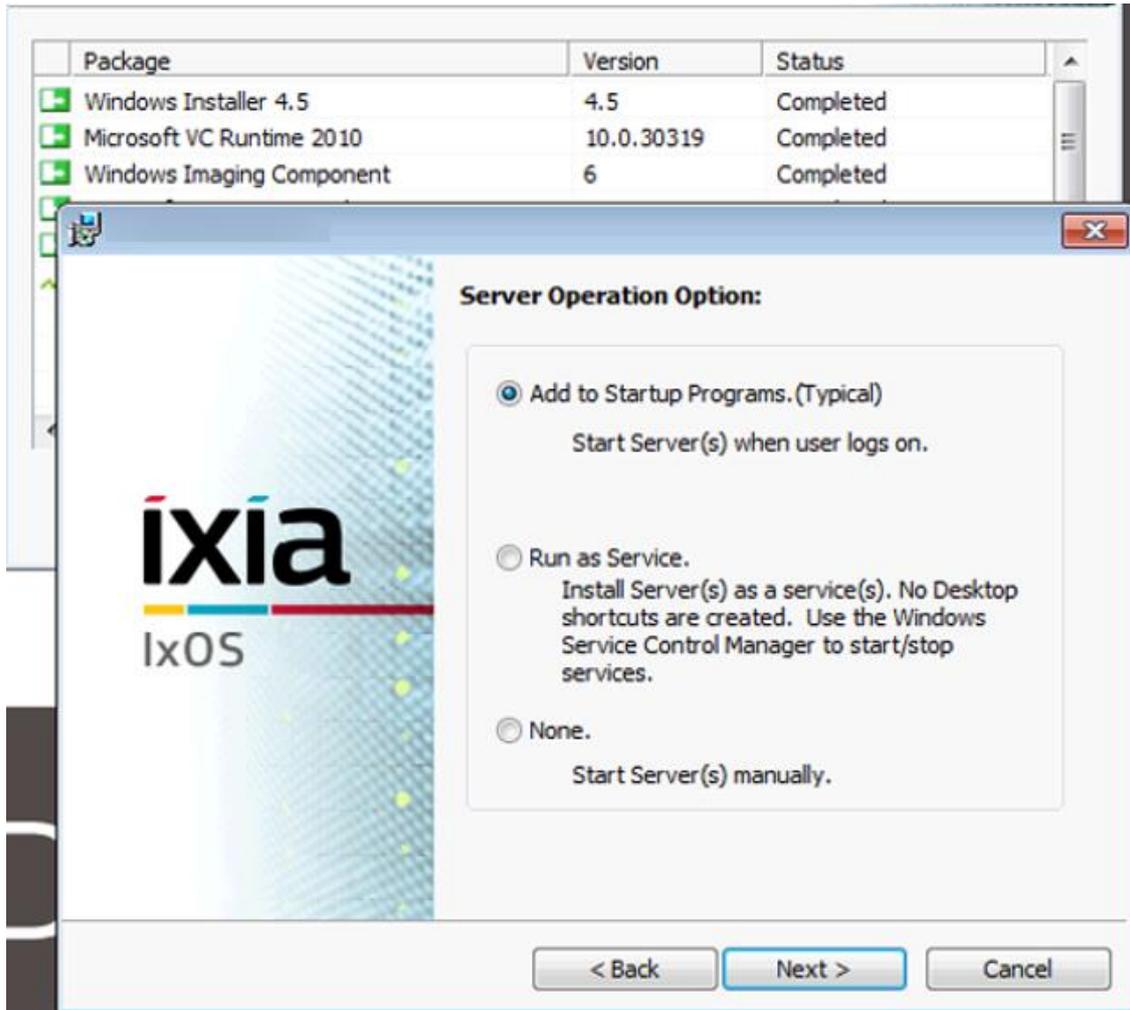
5. Click the **Run** button.



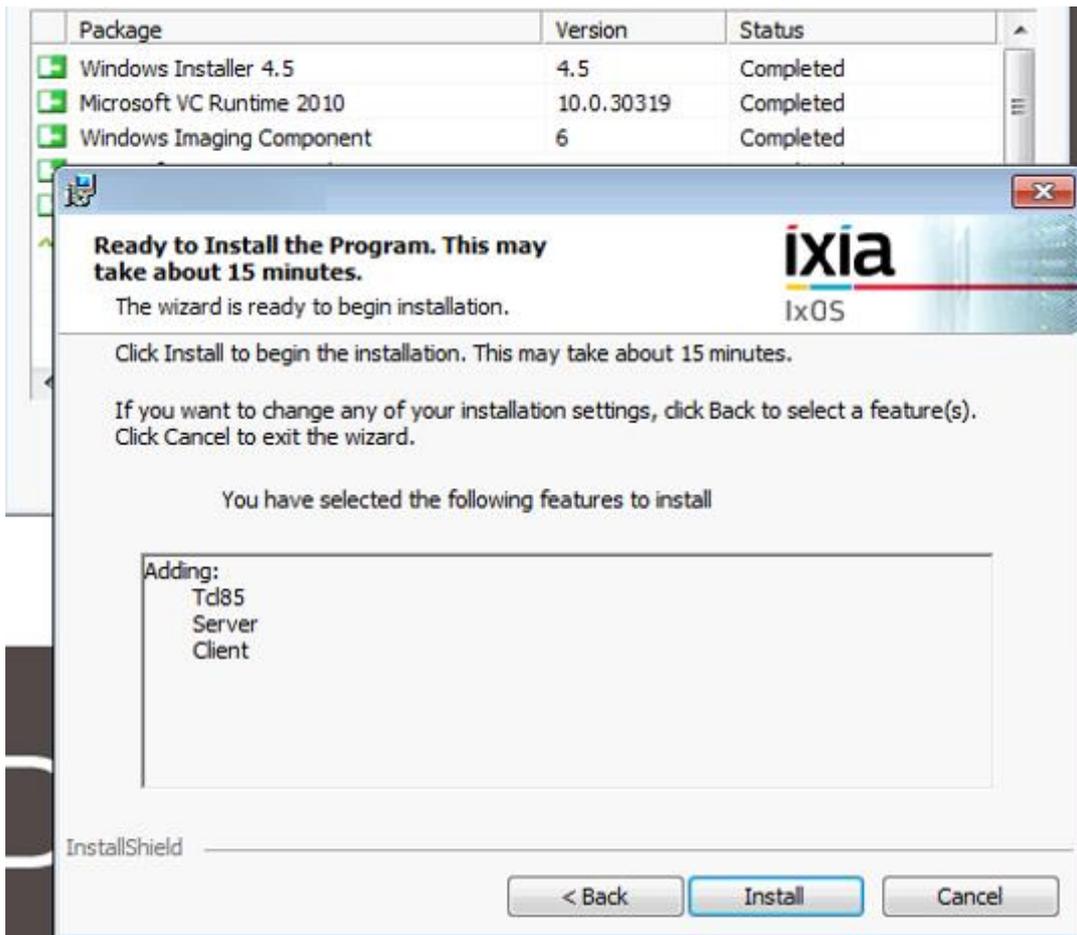
6. Accept the Default Destination Folder for the Installation. Click **Next**.



7. Set Client and Server to install and **“This feature, and all sub features, will be installed on local hard drive”**, then click **Next**.
 - a. Note: TCL server install is optional.



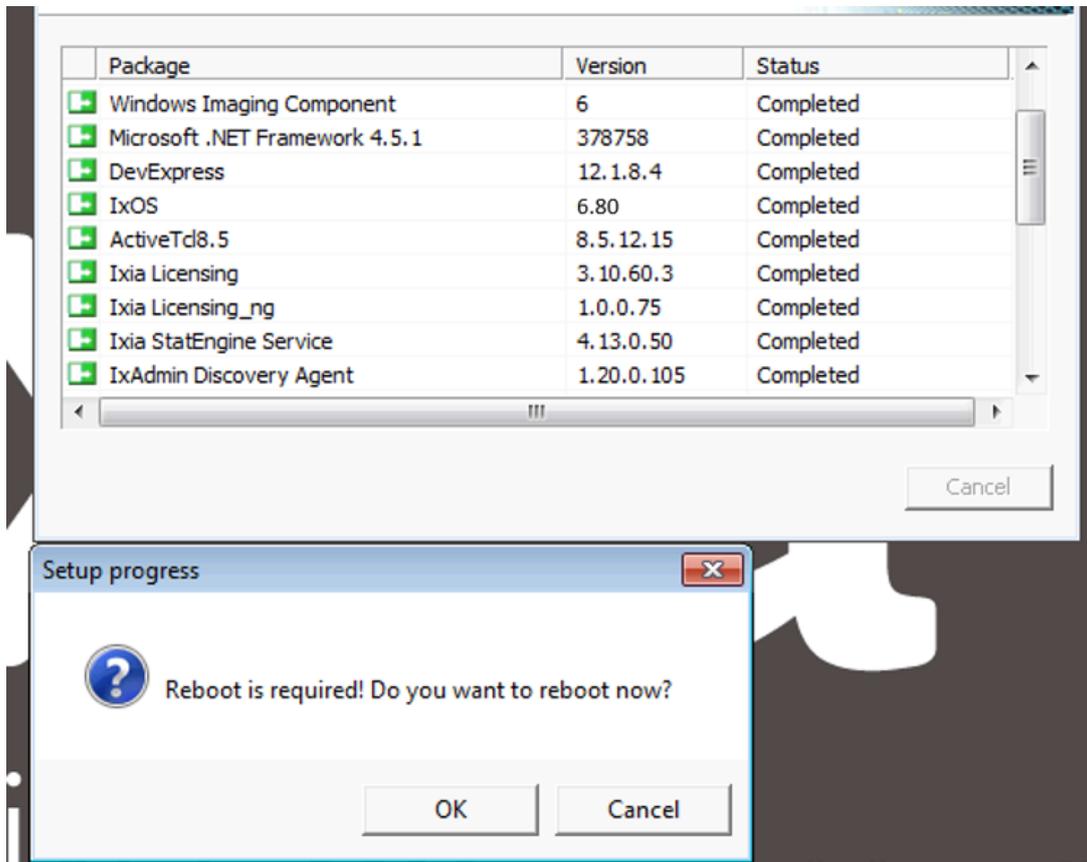
8. Select the following option: **"Add to Startup Programs.(Typical)"**, then click **Next**.



9. After some essential components complete installation, the IxOS server will be ready to install, click **Install**.



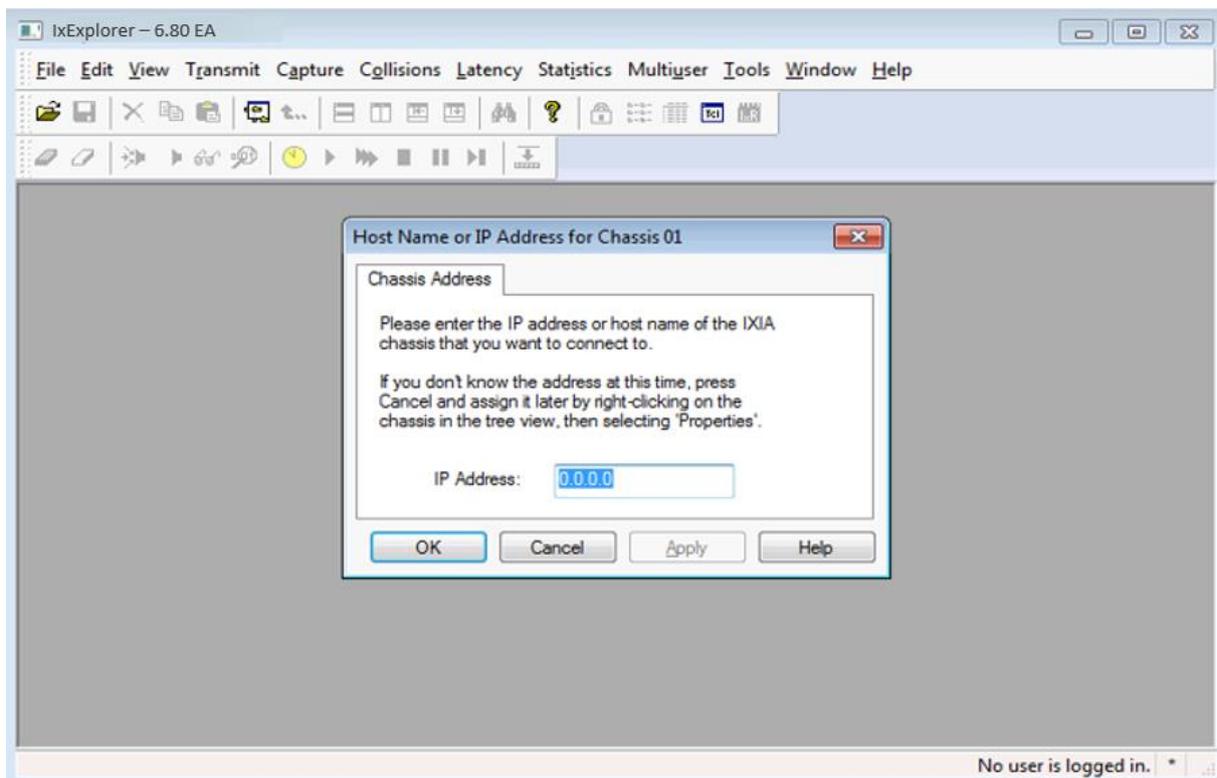
10. After several minutes of installation, new IxOS application links will be copied to the desktop.



11.The system will ask the user to reboot the Windows VM.

12.After the Windows VM reboots IxServer will start automatically and will continue setting up the system hardware.

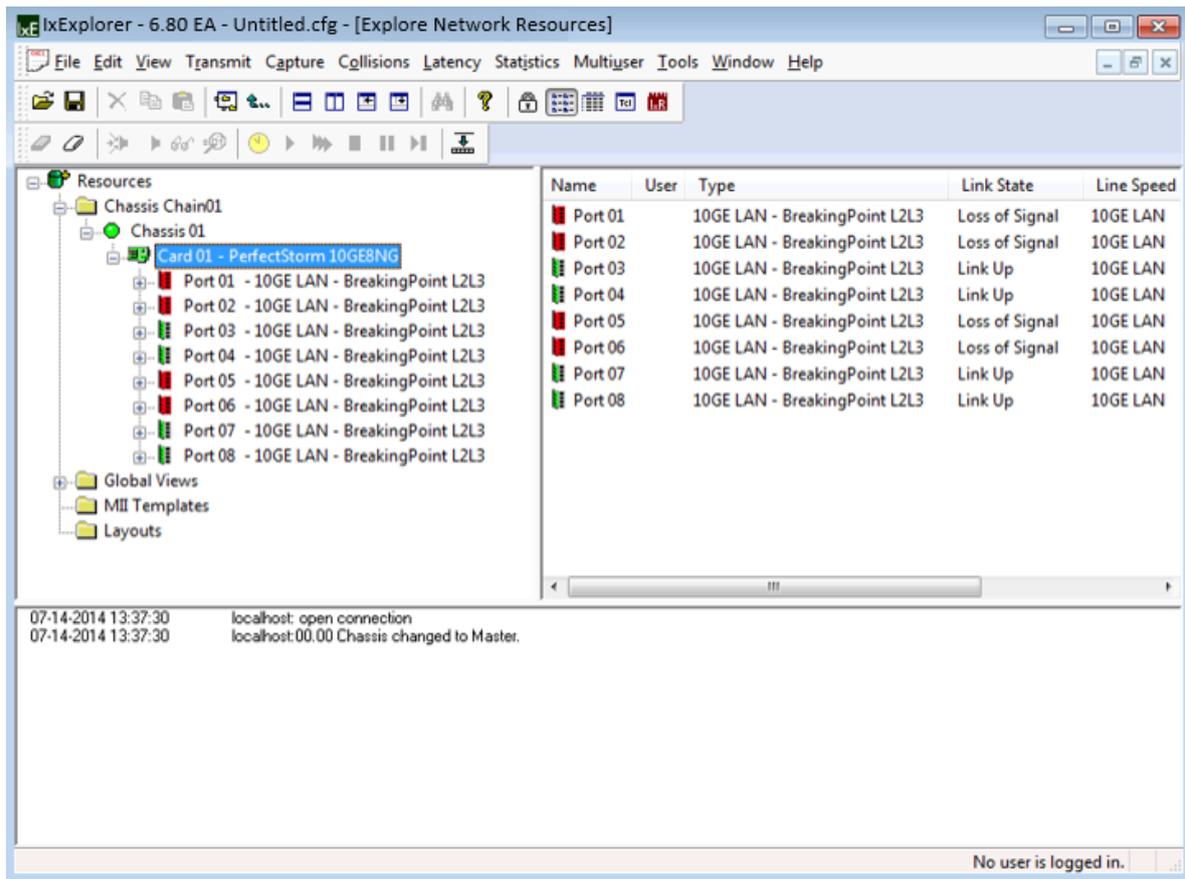
- a. Note: Starting IxServer the first time after installation will be slower and may take more than **10 minutes** for each slot to be prepared to run with the new IxOS version.



13. Then open IxExplorer and make sure that it is the same version as IxServer.

- a. In the **IP Address** field, type: `localhost`
- b. **Click OK.**

Saving the configuration for a later time is optional, we selected **No** for this example.



14. IxExplorer will show the status of the blades connected to the chassis along with the mode they are running in.
- Seeing a green status indicator for Chassis indicates the blade is communicating with IxServer.
 - Green Ports indicate Link Up status.
 - Red Ports indicate Link Down status.

Upgrading BreakingPoint Virtual Edition

Note: You must have BreakingPoint VE controller version 3.4.2 or higher to perform this upgrade.

1. Download the BreakingPoint Virtual Edition VM update file (update_vm.xx.bps) from IXIA Support download web page.
2. Log in to the Ixia BreakingPoint VE System.
3. Navigate to **ADMINISTRATION -> SYSTEM SETTINGS -> UPDATES**.
4. Select **UPDATE SYSTEM** and then see the image below.
 - a. After you have created a backup of your vController, select the, **I already created a backup**, option.
 - b. **Browse** to the location of the BreakingPoint VE update file and select **OK** to start the update.

UPDATE SYSTEM

⚠ Please make sure you created a backup of your vController before starting the update process!

I already created a backup

	SLOT	VERSION	PROD BUILD	STRIKE BUILD
<input checked="" type="checkbox"/>	0	3.4.2	236924	236208

Local File **BROWSE**

Web Location

Server Location

OK CANCEL

5. The BreakingPoint VE update will take 15-20 minutes to complete.
6. To verify that the update has been installed, see the version information in the **Installed Applications** section of the **UPDATES** tab.

Upgrading the BreakingPoint System

Note: There are 3 different types of BPS update file. Use the appropriate update file for your BreakingPoint system.

- **BPS in Native IxOS:** `ixia-web-platform-bps-xx.xx.xx.xx.el7.x86_64.waf` should be used for chassis or appliances running in a Native IxOS system. See [BPS Migration Procedure](#).
- **BPS VE:** `Update_vm.x.x.bps` should be used for BPS VE. Please refer to *the BreakingPoint VE installation Guide* and the "Upgrading BreakingPoint Virtual Edition" section in this release notes document.
- **Windows System:** `Update.x.x.bps` should be used for chassis or appliances running on Windows IxOS and for legacy Firestorm/Storm systems. See [Windows System Update](#).

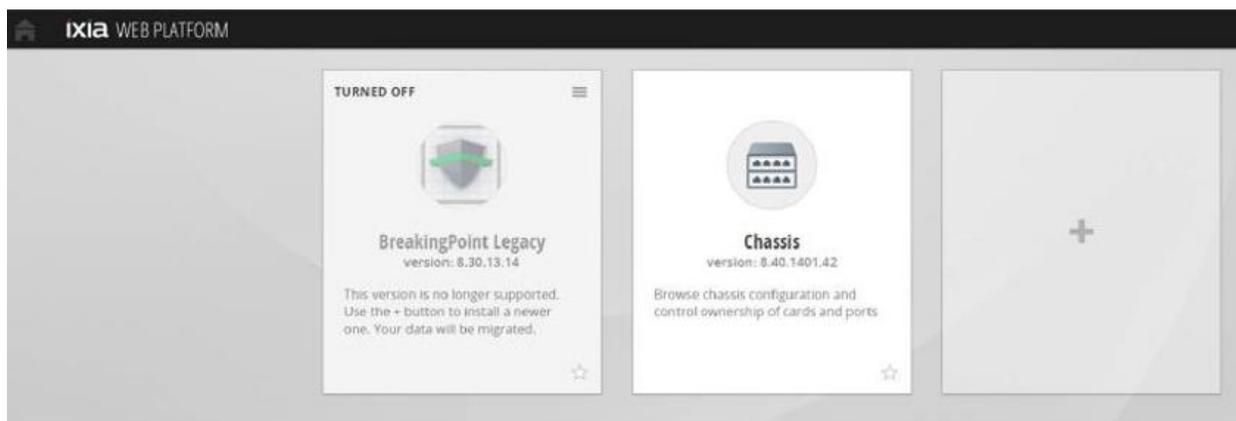
BPS Migration Procedure

This section describes the steps required to migrate to BreakingPoint release 8.40 from previous releases.

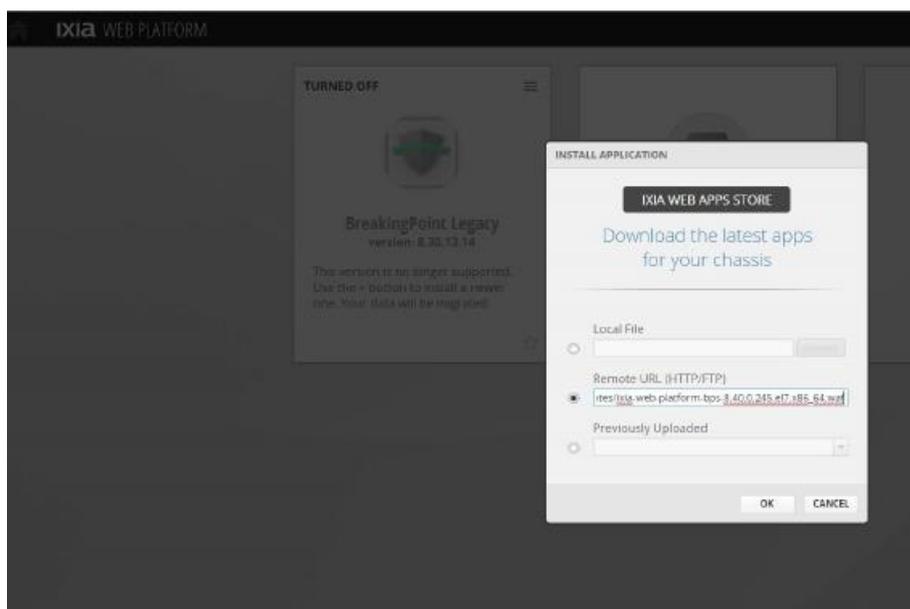
Note: Ixia strongly recommends that you create backups of your system and test results before upgrading to BreakingPoint 8.40.

1. Install IxOS 8.40 EAPatch1 by following the IxOS installation Guidelines.
2. Once the IxOS installation is complete, connect to Chassis IP:
`https://<Chassis IP>`.
3. Log in using user id: admin, password: admin.

After logging in, the WebPlatform Dashboard will display as shown in the image below.



4. Click the **Install New Applications** icon (+) to install BreakingPoint using the BreakingPoint installer Package (`ixia-webplatform-bps-8.40...waf`). The installer package (`ixia-webplatform-bps-8.40...waf`) can be downloaded IXIA support download web page.
5. Select the Installer Package as shown in the image below. Then click **OK** to start the BreakingPoint installation.



6. After the installation is complete, log in using user id: admin and password: admin.
7. Click the **BreakingPoint Application** icon to launch BreakingPoint.

The migration procedure is now complete.

Windows System Update

To update the Ixia BreakingPoint System:

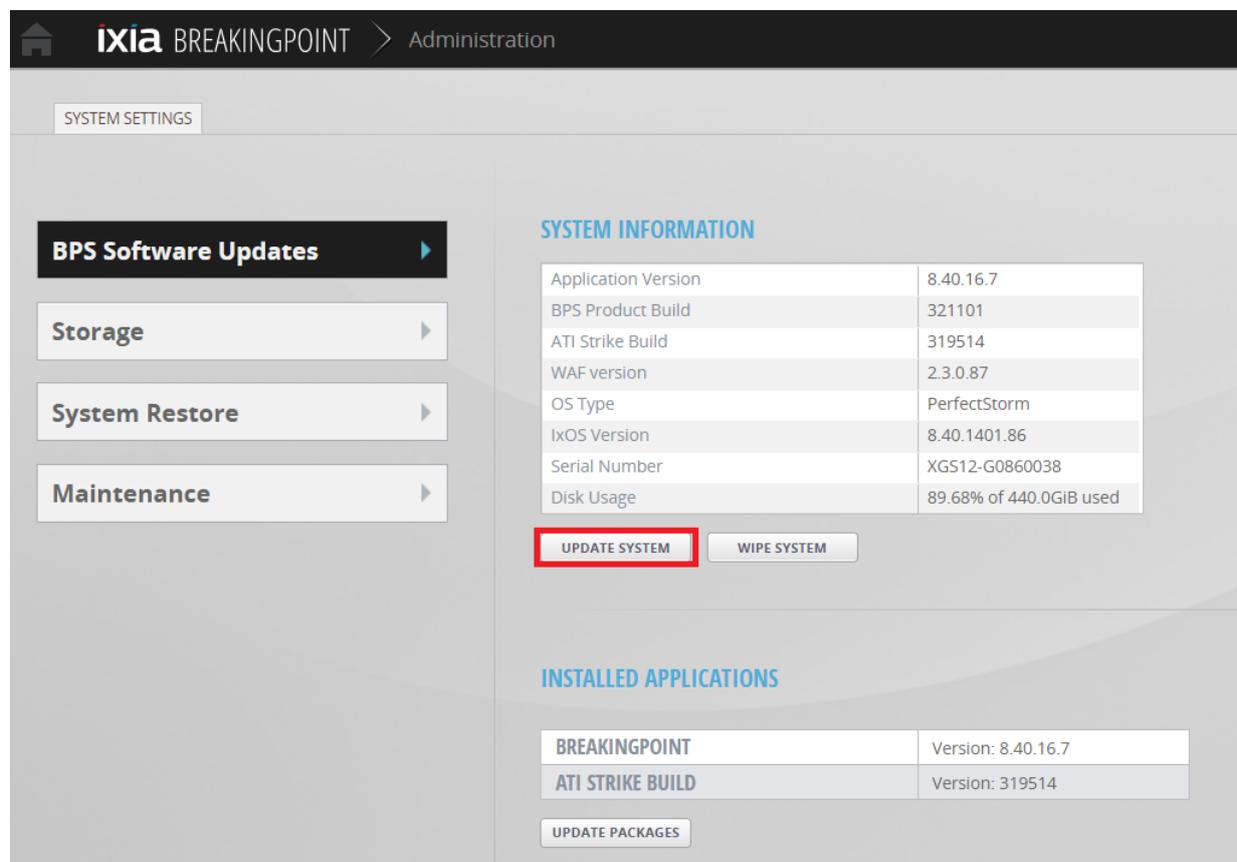
1. Download the required BPS update file (update-xxx.bps) from IXIA support download web page.
2. Log in to the Ixia BreakingPoint System.
3. Navigate to **ADMINISTRATION > SYSTEM SETTINGS > UPDATES**.
4. Select **UPDATE SYSTEM** (see **figure 1** below).
5. Browse to the location of the BreakingPoint update file (update-xxx.bps) and select **OK**.
6. The BreakingPoint update will take 30-45 minutes to complete.

Update Packages

The Application and Threat Intelligence (ATI) program provides updates every 2 weeks ensuring delivery of the industry's most up to date application and threat intelligence.

1. We recommend that customers install the latest ATI update since some BreakingPoint issues are resolved by installing ATI updates (see **Update Packages** in **figure 1** below). ATI Update Packages are available at: <https://support.ixiacom.com/support-overview/product-support/downloads-updates> > **BreakingPoint Software**.

Figure 1: Ixia WEB APPS Start Page



Switching to BreakingPoint Mode

All PerfectStorm Fusion load modules (blades) are capable of operating in IxLoad or BreakingPoint mode. When booting up, all PerfectStorm Fusion load modules default to IxLoad mode.

Note: Cards retain the mode they were in prior to being rebooted.

On PerfectStorm (XGS12-HS), a red square in the upper right corner of the card on the Device Status screen indicates that the module is in IxLoad mode. A green square indicates that the module is in BreakingPoint mode. On PerfectStorm ONE, the text "IxLoad Mode" at the bottom left side of the chassis on the Device Status screen indicates that the unit is in IxLoad mode. The text "Settings" indicates that the PerfectStorm ONE unit is in BreakingPoint mode.

To Transition from IxLoad Mode to BreakingPoint Mode:

1. Click a port on the load module to begin the transition process. The **Reboot Slot** window will display.
2. Change the Slot Option setting to **Mode**. Select **BreakingPoint Mode** or **BreakingPoint L2/L3 Mode**.
3. Click **Apply** and wait for the mode change to complete.

Note: The transition from IxLoad mode to BreakingPoint mode takes approximately three minutes for each load module.

Note: To transition multiple load modules to BreakingPoint mode on PerfectStorm, each load module must be allowed to completely transition before the mode change process for the next load module can begin. Transitioning multiple modules simultaneously is prohibited.

Resolved Defects

The following table lists defects from previous releases that have been resolved. If you have any concerns or questions regarding the defects listed here, please contact the BreakingPoint support team at support@ixiacom.com or call them at 1- 818 595-2599.

Reference #	Description
778378	Resolved the issue where LiveProfile was displaying an incorrect Percentage of Flows and Bytes in the SuperFlow content.
744637	Resolved the issue where a test becomes unresponsive at sending the Run Test command from REST API.
761874	Resolved the issue where the BPS UI would become unresponsive while editing a Load Profile for the Stack Scrambler test.
766785	Resolved the issue where a RFC2544 test generated too many destination MAC addresses.
767995	Resolved the issue on PerfectStorm where test Reports indicated that the appAttempted count value was not equal to appSuccessful+appUnsuccessful value.
769168	Resolved the issue where the Destination MAC was incorrect for IMAP tests.
769280	Resolved the issue where attempts to configure the proxy from the Admin CLI reported errors.
770902	Resolved the issue where an error occurred when exporting a PCAP when using a Linux TCL Shell script.
775330	Resolved the issue where "SNMP" was not displayed in the Allowed Strike list in CSV reports.
776399	Resolved the issue where updating BPS from release 8.20.1 (using the Update System button in the UI) did not transfer resources files to the new version.

Known Issues and Defects

The following section details the known issues and defects of Firmware Release 8.40. Workarounds are listed for each defect if they are available. If you have any concerns or questions regarding the defects listed here, please contact the

BreakingPoint support team at support@ixiacom.com or call them at 1-818-595-2599.

Reference #	Description
BUG1465919	TCL automated regression tests may occasionally be affected by an "Invalid test name" error message after importing a complex test. Workaround: To work around this issue, please restart the failed tests in isolation.
BUG1465949	When restoring a database from an earlier BPS release to an XGS chassis running BPS 8.40, you may rarely see the following message; "Restore database action remains blocked because bps container is not rebooting". Workaround: To work around this issue, reboot the BPS application. Note that this issue does not occur on PSOne.
BUG1445915	When running GTP with AppSim, all tunnels are not brought down at the end of the test. Workaround: To work around this issue, increase the ramp-down time.
BUG1449582	Real time statistics polling may appear to lag when the Chrome browser is under heavy load. Workaround: To work around this issue, disable the "Background Tabs Throttling" feature in Chrome as described below. 1. Open Google Chrome web browser and type chrome://flags/ in the address bar. Press Enter. The Advanced Configuration page will display. 2. Select Ctrl+F to launch the find window. Type "throttling". 3. Select the Disabled option from the drop-down selector. 4. Click Relaunch Now . The Chrome web browser will restart.
BUG1450334	On BPS VE, with HW Performance Acceleration ON, some frames may be dropped when running Routing Robot traffic.
BUG1451296	BPS on AWS supports a performance acceleration mode based on DPDK support. Currently, this functionality is only supported with the Amazon ENA (Elastic Network Adapter) driver.
BUG1452285	When the BPS Network Neighborhood is configured to use jumbo frames (MTU size greater than 1500 bytes), ensure that the DUT network is also configured to support jumbo frames. This action will avoid occasional TCP connection resets.
BUG1453557	BPS VE performance optimization with SR-IOV/PCI-Passthrough is not available on Intel(R) Ethernet Controller 10G X550T NIC.

BUG1458455	When a test is running with Routing Robot having multiple paths, the configured objective is applied to all the paths and multiplied to the number of paths present in the test.
BUG1459708	A Routing Robot test, running with the default Maximum Stream Count value of "64", will stress some DUTs which may cause some packet loss. Workaround: To work around this issue, and achieve maximum bandwidth, reduce the Maximum Stream Count value to "16" in the Routing Robot configuration.
BUG1459712	On 10G and 25G CloudStorm, when reporting for a low frame rate test (for example, 1 frame/sec. on Bit Blaster or Routing Robot), the Aggregated Statistics value may fluctuate below/above the actual rate. This issue will be resolved in a future release.
BUG1459756	On the BPS Windows IxOS platform, creating a system backup to a NFS server is no longer supported. Backup DB/Restore DB can be used instead.
BUG1461452	Changing the mode of a PerfectStorm card (e.g., from BPS to BPS L23 or IxLoad to BPS), on the Windows IxOS platform will cause the card to not be displayed for 2-3 minutes while the operation is in progress.
BUG1461543	With user defined data rates, if BPS is not able to Piggyback the ACK on a data packet, an explicit ACK packet is sent. This does not affect scenarios where the data rate is unlimited.
BUG1464498	Aggregate statistics for Advance Routing Robot test may randomly show some abrupt spikes for long run. Those spikes may not happen for the individual components. This is a known issue and will be addressed in next releases.

Operational Considerations

Reference #	Description
1445408	The IxOS CLI and IxOS web UI diagnostics are complementary and are incomplete as standalone diagnostics tools. Both diagnostics should be provided for the best characterization of an issue when contacting Ixia Technical Support team.
1427345	The available disk space on the chassis after Native IxOS conversion becomes limited. Up to 70% of the HDD contains information for restoring the chassis to Windows mode (undoing the Native IxOS conversion). We recommended that you reclaim this disk space by deleting the legacy BPS information (use IxOS CLI command: <code>uninstall bps legacy</code>) before running a long duration scaled test.
1425901	CloudStorm hardware interprets the increment/decrement port settings in a slightly different manner than earlier BPS blades. In both cases the user sets the "starting port number" and the "mask size". For example, consider an incrementing case where the mask is set to eight bits; In CloudStorm, the port numbers generated will increment from "starting port + 0" to "starting port + 255". In blades other than CloudStorm, using the same settings, the eight least significant bits in the starting port will be replaced by an incrementing value of 0 to 255. It should be noted that if the user sets the "starting port number" such that the masked bits are zero, the resulting port # sequences generated by both sets of hardware will be identical. This is likely the most common configuration as the masked bits in the "starting port number" are essentially ignored by legacy hardware. The newer mechanism gives more flexible control over the port ranges.
1425332	On CloudStorm for a Security/Security NP test in combination with other components such as AppSim or Routing Robot, adding a new component and changing the tags might take an extended period of time. The higher the number of components the longer the delay for the tag change.
1423380	Four AppSim components are required to achieve the Max GTP UE attached rate on CloudStorm.
1422408	The Delayed Start feature in Layer 2/3 on a CloudStorm blade has a +/- 10 second tolerance in this release.
1409901	The files created for backups of native IxOS databases vary in size, and can take more than an hour to backup or to restore. The main component of their size is the number and size of test reports included in the database files. If you wish to reduce the time taken by the backup and restore functions, delete unneeded test reports prior to running the backup or restore.
1402051	Due to a queuing mechanism in "Performance Acceleration" (DPDK) mode, intermittently, response times may be slow if there are a large number of requests in queue. Tests that have a short duration may appear to stop without proper closure of sessions.

1401956	When a BPS VE host supports required CPU flags, you must select "Copy host CPU configuration" in the Virtual Machine Manager to deploy a vBlade.
1401796	When in "Performance Acceleration" (DPDK) mode, increasing available resources for BPS VE may not help to successfully deploy vBlades.
1399525	On BPS VE, the Security component should be shared with other test components in order for security packets to be successfully delivered.
1399069	When running BPS VE on EXSi 5.5, L2/L3 components drop a large number of packets due to the vSwitch. Workaround: To work around this issue, use ESXi 6.0.
1398134	Note that GTP tunnel creation is not dependent on the number of sessions. BPS creates tunnels irrespective of session rate.
1396164	On BPS VE, in a scenario where the configured throughput of a test exceeds the link speed, the licenses that are allocated (checked out) are based on the link speed that can be achieved on the NIC.
1309762	When PerfectStorm is in L2/L3 mode, only one network processor is available to generate application traffic. Therefore, maximum performance/throughput is expected to be lower for L4/L7 test components while L2/L3 tests will perform as expected.
N/A	On BPS VE, in certain scenarios, "incorrect" L4 checksums might appear in the packet capture on those segments sent by the same host you are capturing on. This happens with hardware checksum offloading because the packets are captured in software.