

# Upgrade AsyncOS Basic Procedure and Common Scenarios



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## Introduction

This document provides additional insight and steps associated with the upgrade process of AsyncOS for Email Security on the Cisco Email Security Appliance (ESA).

## Requirements

- Ensure the appliance RAID status is READY or OPTIMAL in the System Status output. Please do not initiate an upgrade on an appliance with a RAID status of DEGRADED. Please contact Cisco TAC to initiate an RMA case for your appliance.
- Verify if the ESA is a stand alone appliance or in a clustered environment. If clustered, please be sure to properly review the *Cluster Upgrade* section of this document.
- Assure Internet connectivity from the ESA on port 80 and 443 with no packet inspections.
- Functional DNS server(s) is required.
- Review the compatibility of the ESA and SMA systems before upgrading.

Older versions of AsyncOS for Email Security may require more than one upgrade in order to get to the latest version. For confirmation of the upgrade path and appliance provisioning please contact Cisco TAC.

## Prepare to upgrade

1. Save the XML configuration file off-box. If you need to revert to the pre-upgrade release for any reason, you will need this file.
2. If you are using the Safelist/Blocklist feature, export the list off-box.
3. Suspend all listeners. If you perform the upgrade from the CLI, use the **suspendlistener** command. If you perform the upgrade from the GUI, listener suspension occurs automatically.
4. Wait for the queue to empty. You can use the **workqueue** command to view the number of messages in the work queue or the rate command in the CLI to monitor the message throughput on your appliance.
5. If recommended by Cisco, disable reporting. Disabling reporting can only be performed from the appliance CLI:

```
> diagnostic
```

Choose the operation you want to perform:

- RAID - Disk Verify Utility.
- DISK\_USAGE - Check Disk Usage.
- NETWORK - Network Utilities.
- REPORTING - Reporting Utilities.
- TRACKING - Tracking Utilities.
- RELOAD - Reset configuration to the initial manufacturer values.

```
[> reporting
```

The reporting system is currently enabled.

Choose the operation you want to perform:

- DELETEDB - Reinitialize the reporting database.
- DISABLE - Disable the reporting system.

```
[> disable
```

Disabling reporting.....The reporting system is currently disabled.

## Download and install the upgrade

As of AsyncOS for Email Security version 8.0, the upgrade options are updated to now include **DOWNLOADINSTALL** in addition to **DOWNLOAD**. This gives the administrator flexibility to download and install in a single operation, or download in the background and install later.

```
C370.lab> upgrade
```

Choose the operation you want to perform:

- DOWNLOADINSTALL - Downloads and installs the upgrade image (needs reboot).
- DOWNLOAD - Downloads the upgrade image.

```
[> download
```

Upgrades available.

1. AsyncOS 9.5.0 build 035 upgrade For Email, 2015-04-04
2. AsyncOS 9.5.0 build 067 upgrade For Email, 2015-04-22
3. AsyncOS 9.5.0 build 201 upgrade For Email, 2015-05-26 This release is for Limited Deployment
4. AsyncOS 9.6.0 build 042 upgrade For Email, 2015-07-15 this release is for General Deployment
5. cisco-sa-20150625-ironport SSH Keys Vulnerability Fix

```
[5]>
```

Please refer to the User Guide for complete information.

## Upgrade on CLI

1. Run the **upgrade** command.
2. Choose an option for **DOWNLOADINSTALL** or **DOWNLOAD**.
3. Select the appropriate number associated to the upgrade version desired.
4. Complete the needed questions for saving current configuration and approve the reboot when the upgrade is applied.
5. Post-upgrade, please log-in to the CLI and run **resume** to resume the listeners and assure operation.
6. If you disabled reporting earlier, assure it is enabled at this time by running the **diagnostic > reporting > enable** commands.

## Upgrade on GUI

1. **System Administration > System Upgrade**
2. Click **Upgrade Options...**

3. Choose an option for *Download and install* or *Download*.
4. Click and highlight the upgrade version desired.
5. Select the appropriate options for *Upgrade Preparation*.
6. **Proceed**, to begin the upgrade and display the progress bar for your monitoring.
7. Post-upgrade, please log-in to the CLI and run `resume` to resume the listeners and assure operation: **System Administration > Shutdown/Suspend > Resume (Check All)**.
8. In the *Mail Operations* section, select **Commit**.
9. If you disabled reporting earlier, assure it is enabled at this time by revisiting the CLI and running the **diagnostic > reporting > enable** commands.

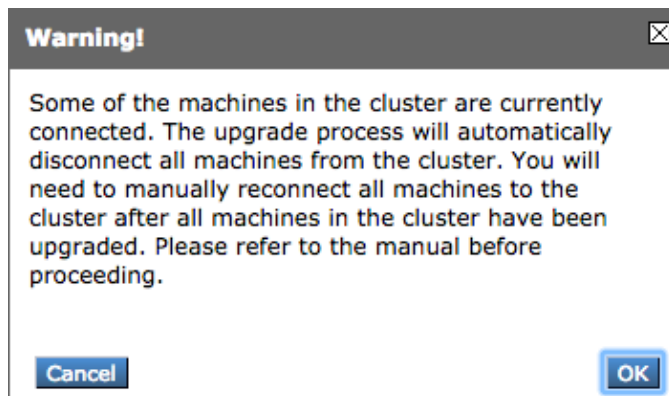
## Cluster upgrade

ESAs in cluster will follow the same upgrade process from CLI or GUI as above, with the one exception that there will be a prompt to disconnect devices off the cluster. Example as seen from CLI:

```
(Cluster my_cluster)> upgrade
```

This command is restricted to run in machine mode of the machine you are logged in to.  
Do you want to switch to "Machine applianceA.local" mode? [Y]> y

Example as seen from GUI:



**Note:** This is an administrative disconnect only. This will stop the appliances from only syncing configuration at the cluster level. This does not remove or alter the appliance configuration.

Cluster upgrade recommendations are:

- Do not reconnect ESAs at cluster level until ALL appliances are upgraded to matching version.
- If needed, once one ESA has completed an upgrade, resume the listener, if previously suspended, and allow it to function as a stand alone appliance.
- Please do not make configuration changes or modifications when ESAs are disconnected from cluster. This will avoid configuration inconsistencies when reconnected to cluster level post-upgrade.
- Once ALL appliances are upgraded to the same version, reconnect them at the cluster level to allow configuration sync and resume cluster operation.

## Troubleshoot

Should the upgrade fail due to network interruptions, similar errors may be seen during the upgrade process output:

```
Reinstalling AsyncOS... 66% 01:05ETA.  
/usr/local/share/doc/jpeg/libjpeg.doc: Premature end of gzip compressed data&colon;
```

```
Input/output error
tar: Error exit delayed from previous errors.
Upgrade failure.
```

This is typically due to a network interruption that may have occurred at during the transmission of data between the ESA and the update servers. Investigate any network firewall logs or monitor packet traffic from the ESA to update servers.

If needed, please refer to ESA Packet Capture Procedures to enable packet capture on the ESA, and then re-attempt the upgrade process.

**Note:** Firewalls need to allow idle connections to stay active, especially for the upgrade process.

For strict network firewalls requiring static upgrade servers, please refer to Content Security Appliance Upgrades or Updates with a Static Server for setting up static update and upgrade servers.

For hardware appliances, test connections to the following dynamic servers:

- telnet update-manifests.ironport.com:443
- telnet updates.ironport.com:80
- telnet downloads.ironport.com:80

For virtual appliances you will need to use the following dynamic servers:

- telnet update-manifests.sco.cisco.com:443
- telnet updates.ironport.com:80
- telnet downloads.ironport.com:80

Please refer to the User Guide for complete firewall information and port requirements.

- **Compatibility Matrix for Cisco Content Security Management Appliances**
- **ESA Upgrade Procedures**
- **ESA Packet Capture Procedures**
- **Content Security Appliance Upgrades or Updates with a Static Server**