



Upgrading to the BIG-IP iSeries

With the launch of the F5® BIG-IP® [iSeries™](#) running F5® TMOS® version 12.1.1+, organizations can take advantage of software enhancements and new capabilities that are based on years of product development and have been included in the latest iSeries appliance models. Replacing old BIG-IP platforms reduces TCO by saving data center space, power, and administrative costs as a result of consolidation and improved performance, reliability, and capacity. In turn, applications can run faster, smarter, and safer. New capabilities—such as TurboFlex™, which enables use case-based acceleration of specific functions and traffic at line rate—extend and maximize the lifecycle of iSeries for investment protection and futureproofing.

F5 recognizes that migrating from older generations to newer BIG-IP appliances, or just upgrading software to the latest version, can be challenging due to the rich BIG-IP feature set, customization, and complex configurations required to meet specific application and infrastructure needs. There are multiple ways to migrate configurations, including using config sync or good old-fashioned copy and paste of the individual config files. Copy and paste requires manual editing and creates a greater chance of errors being introduced. Config sync does not copy over all the necessary objects. Upgrading is also fraught with risk, but good preparation greatly increases the likelihood that an upgrade or migration will be successful.

Recommended Steps

There are three key actions that F5 recommends organizations perform to provide an operational framework that will make migrating to the BIG-IP iSeries or upgrading to the latest TMOS version simpler, faster, and less error-prone. More information and links for the associated resources are located below.

1. Prior to migrating the config or performing the upgrade process, upload your qkview to the iHealth (ihealth.f5.com) service and run Upgrade Advisor.
2. Review the Upgrade Guide on askf5.com and follow the steps as they pertain to your currently running TMOS version on your old platform.
3. Migrate your configuration objects to the new platform by creating a user configuration set (UCS) file if it doesn't exist already on your current system. Copy it to the new system, configure the L2 objects, then load the UCS file via the **load ucs** command using the **platform-migrate** flag.

Some organizations that procure the new iSeries platform want a simple and fast way to migrate the configurations from their existing BIG-IP platform running an older code version. The standard operating procedure (SOP) may require some validation testing/QA process in a non-production environment, followed by deployment in production during a scheduled maintenance window. In that scenario, you should perform actions #1 and #3.

Another BIG-IP refresh scenario is when organizations are not replacing all their BIG-IP appliances, but instead want to have their entire BIG-IP installed base running the same TMOS version. Regression testing may be part of procuring the iSeries replacements before deployment to ensure the latest version is without issue. Following the above steps complements your existing upgrade preparations and increases the predictability of the upgrade while reducing your upgrade time.

Resources and Tools Overview

iHealth Upgrade Advisor

The iHealth Upgrade Advisor provides insights into potential issues with the planned BIG-IP upgrade so that you can remediate them prior to the upgrade. The guidance is specific to a BIG-IP platform based on its configuration, the version of software it is currently running, and the target version. When an issue can be avoided by making a configuration change prior to upgrading, the Upgrade Advisor will tell you exactly what to change. For some issues, it will list the corrective actions to take after the upgrade.

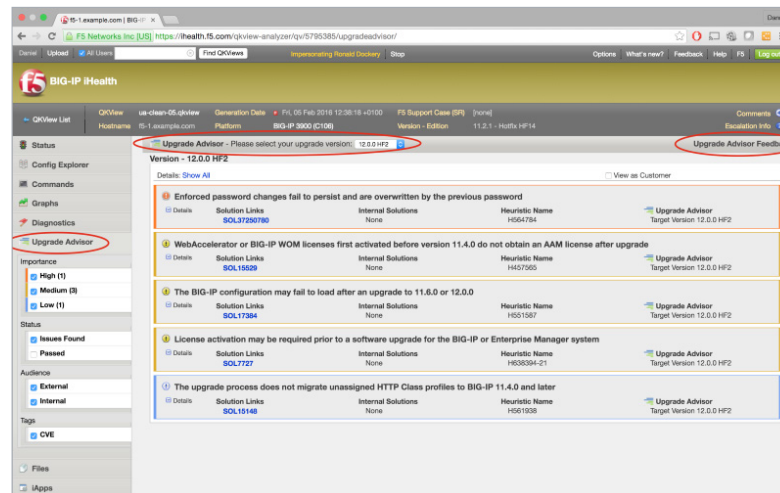


Figure 1: Use the iHealth Upgrade Advisor to identify issues prior to upgrading.

For more information, including a demo video on how Upgrade Advisor works and examples of the guidance it provides, see the DevCentral article [iHealth Upgrade Advisor: Making Upgrades a Little Easier](#).

BIG-IP Upgrade Guide

The upgrade guide provides detailed, systematic guidance on preparing for the upgrade, performing the actual upgrade, and then verifying that the upgrade was completed successfully. The guide covers the most common upgrade scenarios, including specifics of which version you're upgrading from (v10.x or v11.x) as well as the various high-availability configurations, from v10 active/passive and active/active pairs to v11 device service clusters and traffic groups. Part of the preparation may depend on which type of software modules are provisioned on the existing BIG-IP platform. Other considerations include new features and improvements that may affect existing configurations, including the change from HTTP Class profile to the Local Traffic Policies feature in BIG-IP version 11.4.0.

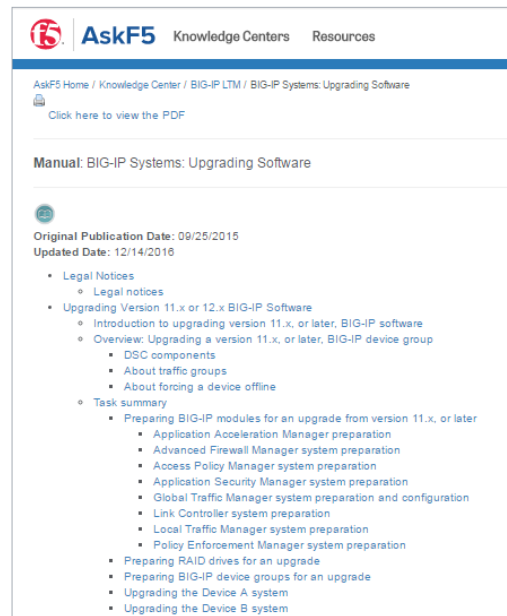


Figure 2: The BIG-IP upgrade guide provides detailed guidance for performing a successful upgrade.

To read the upgrade guide, see the AskF5 manual [BIG-IP Systems: Upgrading Software](#).

Load UCS File Platform-Migrate Option in TMSH (for LTM/GTM)

TMSH command: `load ucs <ucs-filename> platform-migrate`

With TMOS 12.1.1, F5 has introduced a new platform migration feature in TMSH, reducing the time migration takes and increasing accuracy. Taking advantage of the UCS file for archiving and backup, a new option called **platform-migrate** has been added to the **tmsh load sys ucs** command. This option allows BIG-IP administrators to migrate configurations from older platforms to newer platforms, such as the BIG-IP iSeries, or from a physical platform to a vCMP guest or a BIG-IP Virtual Edition. Before loading the UCS file from the source platform, you must first configure all low-level configuration objects (for example, VLANs, self IPs, route domains, trust domains, etc.) on which the target platform's high-level configuration depends.

```
Saving active configuration...
The hostname is set to sh_8800-1.f5net.com
Extracting manifest: /var/local/ucs/8800-1110-basic.ucs
Product : BIG-IP
Platform: UCS   : D88
          System: Z101
Version  : UCS   : 11.1.0
          System: 12.1.1
Edition  : Final
Hostname: sh_8800-1.f5net.com
Installing --full-- configuration on host sh_8800-1.f5net.com
Installing configuration...
WARNING: All web-acceleration profile cache-sizes are being reduced to 75% the original value.
WARNING:
  This system's device certificate uses a key size that is considered insecure.
  It is strongly recommended that you use a certificate with a key size of at least 2048 bits.
ATTENTION REQUIRED:
  Your previous configuration files have been archived, as listed
  below. If you customized any settings in these files before
  upgrading, you will need to manually restore those changes by
  using the Configuration utility or Traffic Management Shell (tmsh).
Archiving /config/wa/pvsystem.dtd.11.1.0
Archiving /config/wa/globalfragment.xml.11.1.0
Archiving /config/wa/pvsystem.conf.11.1.0
Post-processing...
usermod: no changes
Reloading license and configuration - this may take a few minutes...
Platform migrate loaded successfully. Saving configuration.
/var/local/ucs/8800-1110-basic.ucs is loaded.
root@(sh_8800-1)(cfg-sync Standalone)(Active)(/Common)(tmsh)#
```

Figure 3: The platform migration feature in TMSH helps reduce migration time and improves accuracy.

For more details and to see the versions supported, please refer to the AskF5 article [K8240512: Overview of the UCS Archive Platform-Migrate Option](#).

Additional Resources

When you need help, have questions, or decide to engage F5 Professional Services, the following resources are available to you.

- Redesigned [AskF5.com](#) support site with improved search and troubleshooting wizards:
 - [Building a Better Customer Experience](#)
 - [BIG-IP TMOS Operations Guide](#)
- Industry-Recognized [F5 Technical Support](#)
- [Guardian Professional Services Partners](#)
- F5 Professional Services:
 - [Migration and Installation Services](#)
 - [Proactive Assessment](#)
 - [F5 Solution Definition Workshop](#), a resource for performing not only similar architecture migrations, but also for redesigning your architecture and/or deploying new security software modules to consolidate multiple vendors' products

Summary

F5 has developed and delivered detailed documentation, tools, and resources to provide a framework to help organizations migrate to the BIG-IP iSeries in a timely and simple fashion. F5 is committed to developing and evolving resources to reduce errors and the time it takes to upgrade between BIG-IP TMOS releases and platforms.

