

Software Upgrade Service

Service Overview

The decision to upgrade the software version running on your infrastructure is a difficult one, which no network operations decision maker takes lightly. If you don't do it, there will be lacking functionality, missing features, or bugs to contend with, but if anything goes wrong during the upgrade, there can be lots of damage to the network functionality. The result can be devastating to the corporation and to careers. With the Juniper Software Upgrade Service, the effort and risk associated with these kinds of upgrades will be greatly reduced.

Service Description

Most corporations relying on their network for their business find that it is necessary to upgrade the software powering their network gear (routers, switches, etc.) on a regular basis. The reasons for this vary from out-of-compliance software, to deploying new features, to standardizing on a corporate version on all routers/switches.

Such a network-wide upgrade, on a live network, poses risks and comes at a cost. One of the biggest problems with upgrades is that the risk/reward balance is asymmetric; if it goes well, then the rewards are relatively unnoticeable; if it doesn't, the penalties can be huge. The rewards can be exemplified as the resolution of an issue or the ability to deploy a new network service such as VoIP. The penalties will be much more spectacular; for example, the network might go down, with devastating consequences to the corporation, and the work to resolve and restore the network can be extremely costly—not least to the future career of the decision maker.

To make an upgrade successful and to avoid adverse impacts, the upgrade must be carefully planned and executed. This requires a Method of Procedure (MOP) created with a "Plan B" for backing out the changes, with thorough testing of all steps on the proper equipment as essential elements.

Key Components

When subscribing to Juniper Networks® Software Upgrade Service, you will get the following help and hands on assistance (services are based on the current software and targeted upgrade version):

- A Juniper engineer, who will work with you to determine and deploy appropriate tools for automation of the upgrade.
- A MOP is an upgrade plan that includes a template that will be carefully reviewed to make sure it conforms to the hardware, geographic locations, maintenance windows, and other end-user specifics. The MOP serves as a Plan of Record for the Juniper Networks Technical Assistance Center (JTAC), ensuring assistance is provided as quickly as possible in the event any issues are encountered during the maintenance window.

This MOP will outline:

- Time and duration for maintenance window(s)
- List of devices to be upgraded, with current software version and target version
- Time needed for the upgrade
- Plan for how to handle traffic during downtime (failover, shutdown, rerouting, etc.)
- Detailed steps for the upgrade, such as the download source for the new software; commands needed to bring down the device, download the software, bring up the device, and verify that the new software is properly working; and a "Plan B" for backing out the new software and restoring old software in case of problems

- Scripts needed to execute the upgrade
- Steps needed to restore network functionality after a device upgrade
- In what order devices will be upgraded (e.g., will multiple upgrade windows be needed)
- Testing once the Juniper devices are upgraded
- Any other needed special considerations
- A test plan will be created for the verification of the MOP, with the appropriate equipment. The test plan will be reviewed with the customer's team and Juniper will then verify the MOP in the lab, against this test plan.
- The test plan will verify that the upgrade will work on the desired hardware with the desired software.
- The test plan will also verify that the target software version is capable of being used with the existing or desired network services, and show any configuration changes, if needed, to make it work.

Features and Benefits

Juniper knows best practices for how to upgrade Juniper software, best versions for specific hardware, what pitfalls there are, and how to best avoid them. We have long experience doing this for Juniper gear.

Testing will ensure that the MOP is really working for the specified hardware, software, and configuration. A timeline for the upgrade will be set, allowing you to know, with reasonable certainty, how long the upgrade will take for proper expectation setting. Plan B, which can be used to restore the previous version in case something goes wrong and can't be fixed during the maintenance window, will give you the confidence of knowing that the network will be up and running at the end of the maintenance window.

Partnering with Juniper gives you the benefit of our extensive knowledge and expertise with our own equipment, and long experience with upgrades of Juniper software versions across multiple industries and enterprises.

When partnering with Juniper Networks, the end user will enjoy the following benefits:

- Juniper knows best practices for upgrades.
- Juniper knows how to develop the Method of Procedure (MOP).
- Juniper will test and verify the MOP.
- The Juniper MOP tester will work directly with Juniper engineers to resolve any potential issues found during the MOP test cycle.
- Juniper will create scripts to automate the upgrade.
- Juniper will create a "back out" plan that removes the risks inherent in any software upgrade project.

Ordering Information

The Software Upgrade Service may be ordered using the part number shown in the table below.

Model Number	Description
PRO-JSD-SWUP-BASE	Software Upgrade Service for one network function (a single use case for the device type or a single configuration file)
PRO-JSD-SWUP-PLUS	Software Upgrade Service, incremental testing for one more network function (one more additional use case for the device type or one more additional configuration file)

About Juniper Networks

Juniper Networks brings simplicity to networking with products, solutions and services that connect the world. Through engineering innovation, we remove the constraints and complexities of networking in the cloud era to solve the toughest challenges our customers and partners face daily. At Juniper Networks, we believe that the network is a resource for sharing knowledge and human advancement that changes the world. We are committed to imagining groundbreaking ways to deliver automated, scalable and secure networks to move at the speed of business.

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