Simplified patch management operations using NFM (Network Function Manager)

Contents

The present article shows how the NFM (Network Function Manager) portal simplifies the operations of maintaining the Cisco BroadWorks servers by automatically **downloading software** and performing most patching management operations including **creating custom patch bundle (PB)**.

The NFM portal is the preferred solution for Cisco BroadWorks operators to manage patches and software. Considering that the Xchange portal will be eventually decommissioned, it is strongly advised to leverage and understand these functionalities in order to fully optimize maintenance operations.

The Network Function Manager also supports these operations:

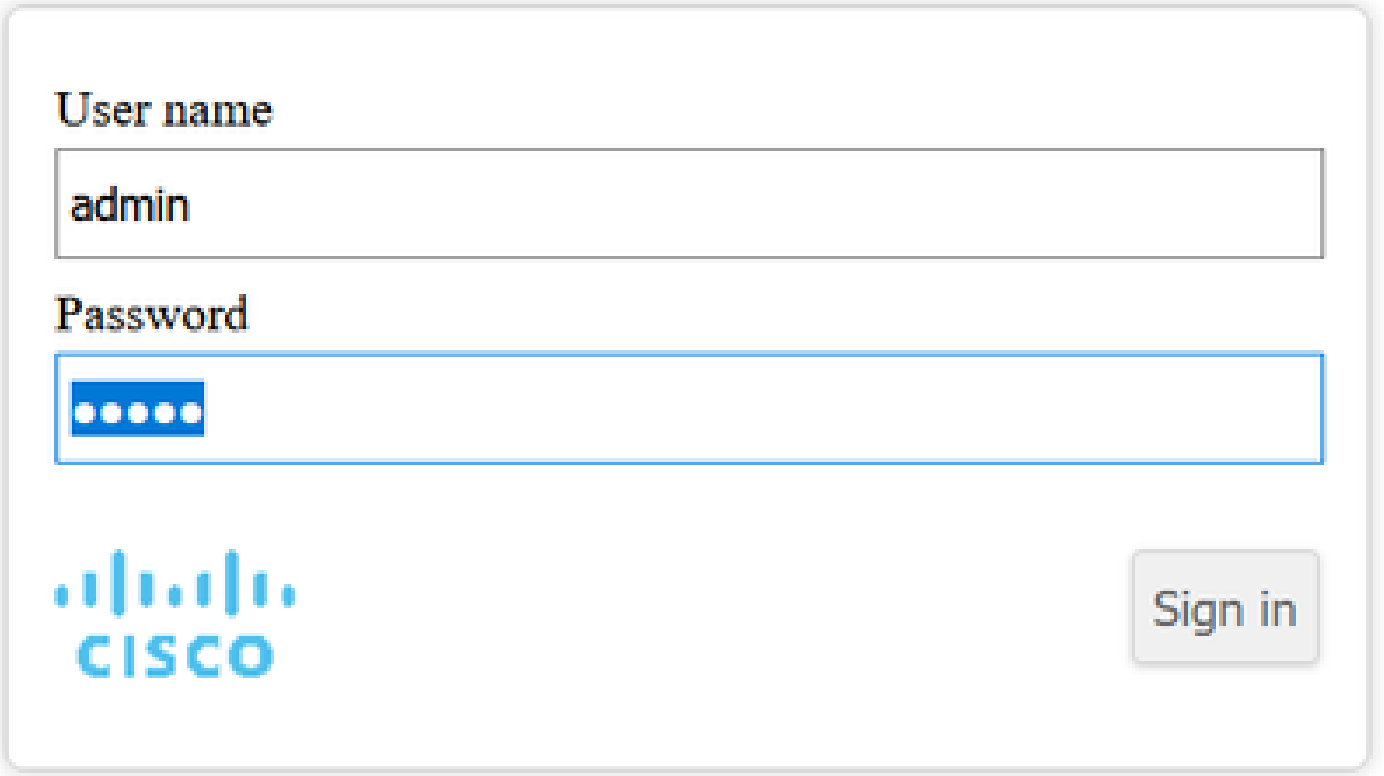
- Listing patches
- Applying and removing patches
- Running healthmon
- Automatically/manually updating SWManager
- Creating patching report

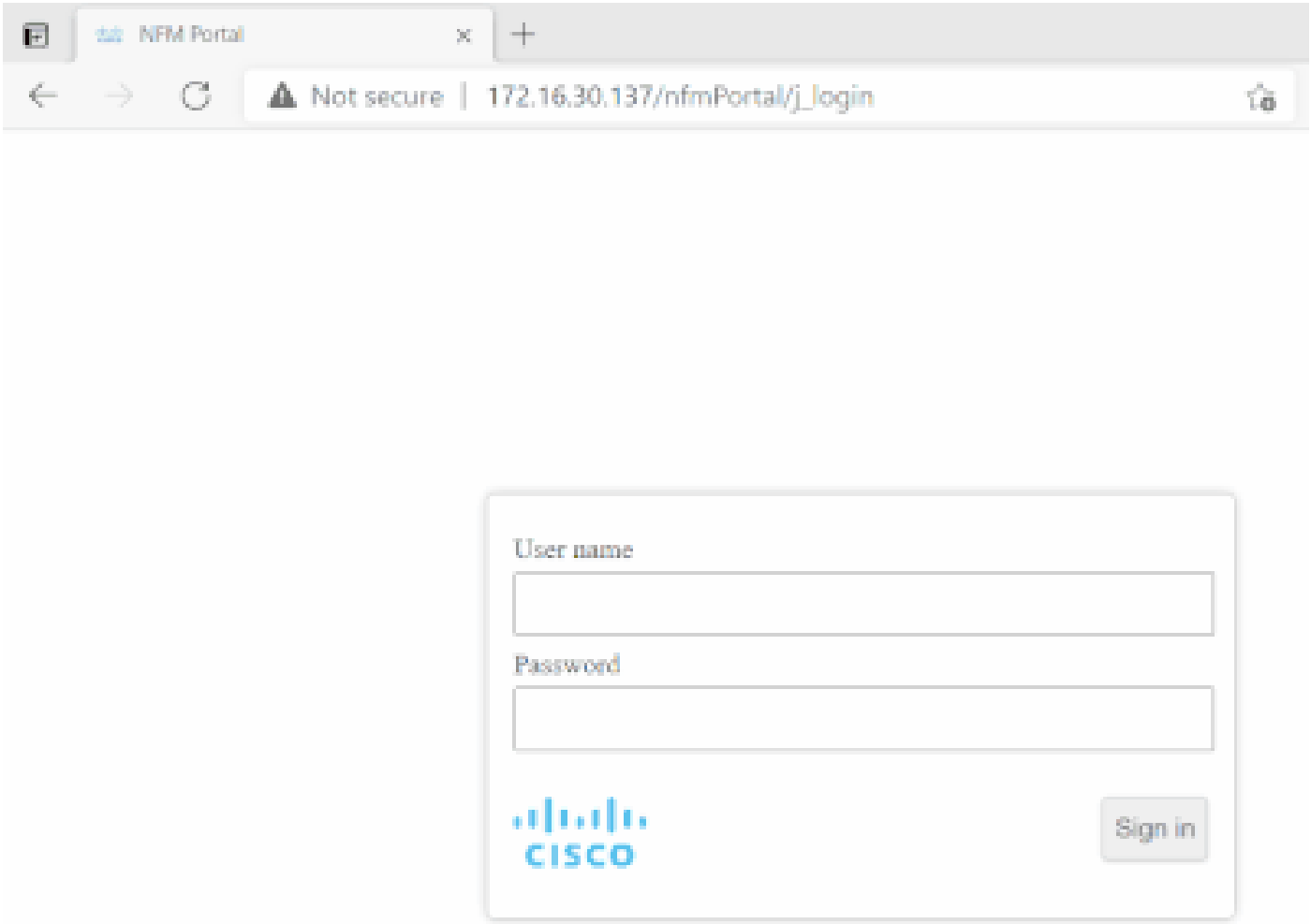
High Level Architecture

Main Key Components

NFM Portal

The operators typically performs most of the operations through the admin portal available from the NFM FrontEnd. It is typically deployed on /nfmPortal/ and therefore available via http(s)://<NFM_IP_or_FQDN>/nfmPortal/.


User name
admin
Password
Sign in



Software Distribution Center

Cisco Repository

This is the source repository where all patches and other components are downloaded from. The repository is using Web-based Distributed Authoring
and Versioning (WebDAV) and resides on Cisco. The transfers are fully automated as configured with the NFM scheduling.

```
NFM_CLI/Applications/SoftwareManagement/SoftwareDistributionCenter> get
site = https://api.cisco.com
username = <CiscoAccountLogin>
password = ********
downloadBinaryFiles = true
deletionDelayInDays = 1
```

```
connectionTimeoutInSeconds = 30
useCiscoDownload = true



NFM_CLI/Applications/SoftwareManagement/SoftwareDistributionCenter> validate
Validating Software Distribution Center configuration... successful.
NFM_CLI/Applications/SoftwareManagement/SoftwareDistributionCenter>
```

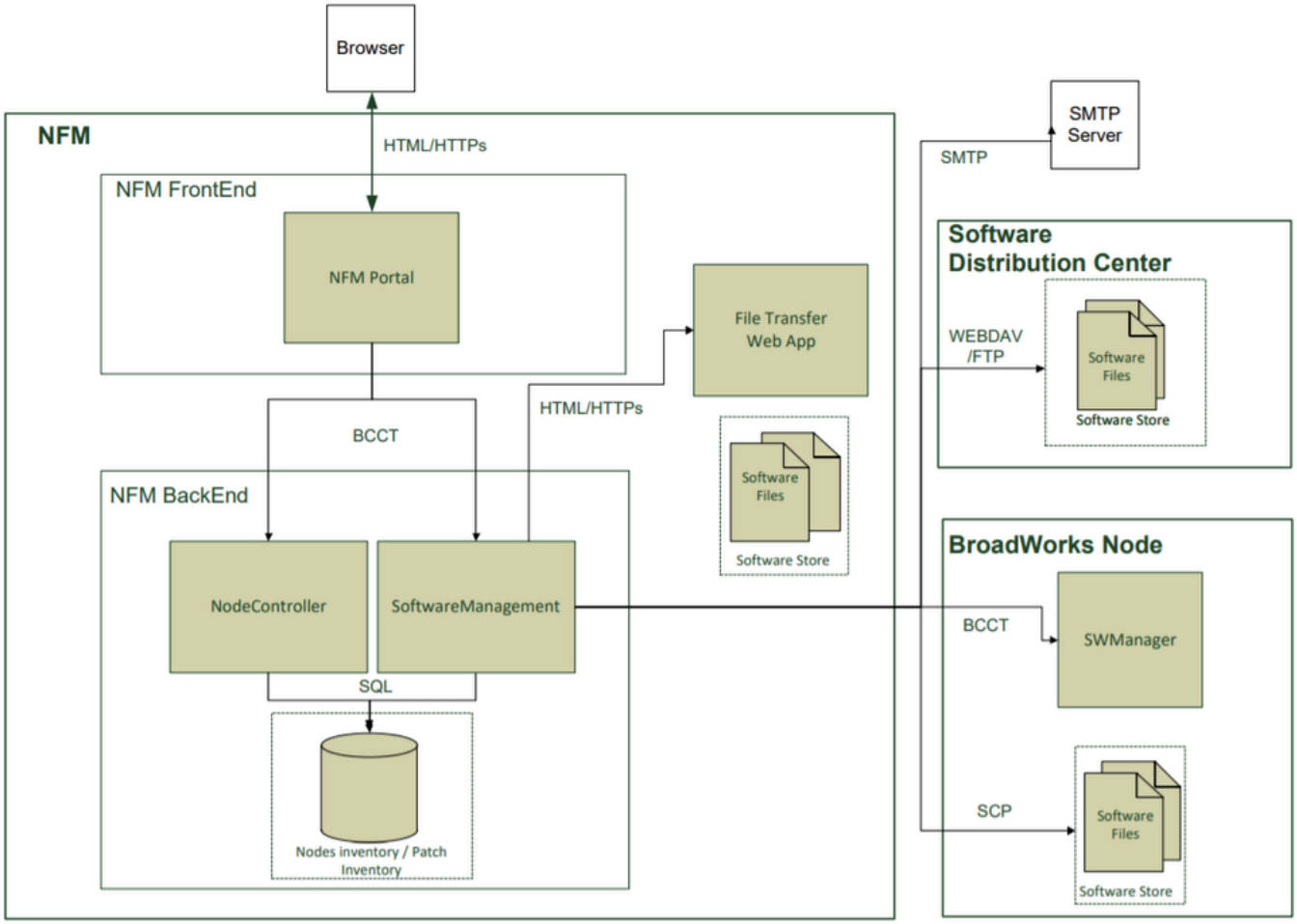
Local Repository

This is where the downloaded patches and other software components are stored locally, that is customer's environment.

Example:

```
bwadmin@r23nfm01.calo.cisco.com$ ls -1 /var/broadworks/fileTransfer/software/22.0.1123/
as/
bss/
dbs/
ips/
nds/
ns/
platform/
ps/
ums/
xs/
xsp/
bwadmin@r23nfm01.calo.cisco.com$
```

Architecture Diagram

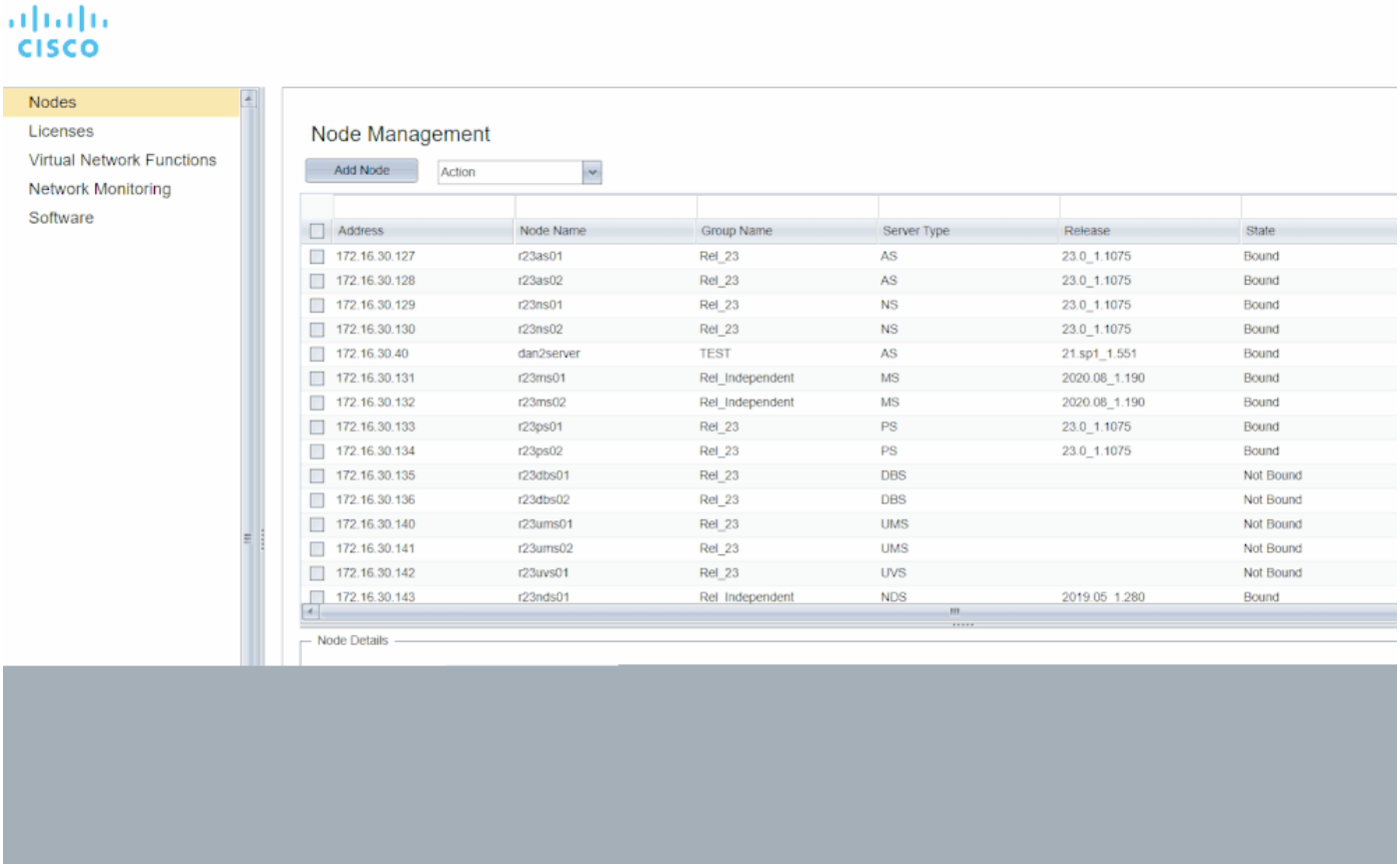


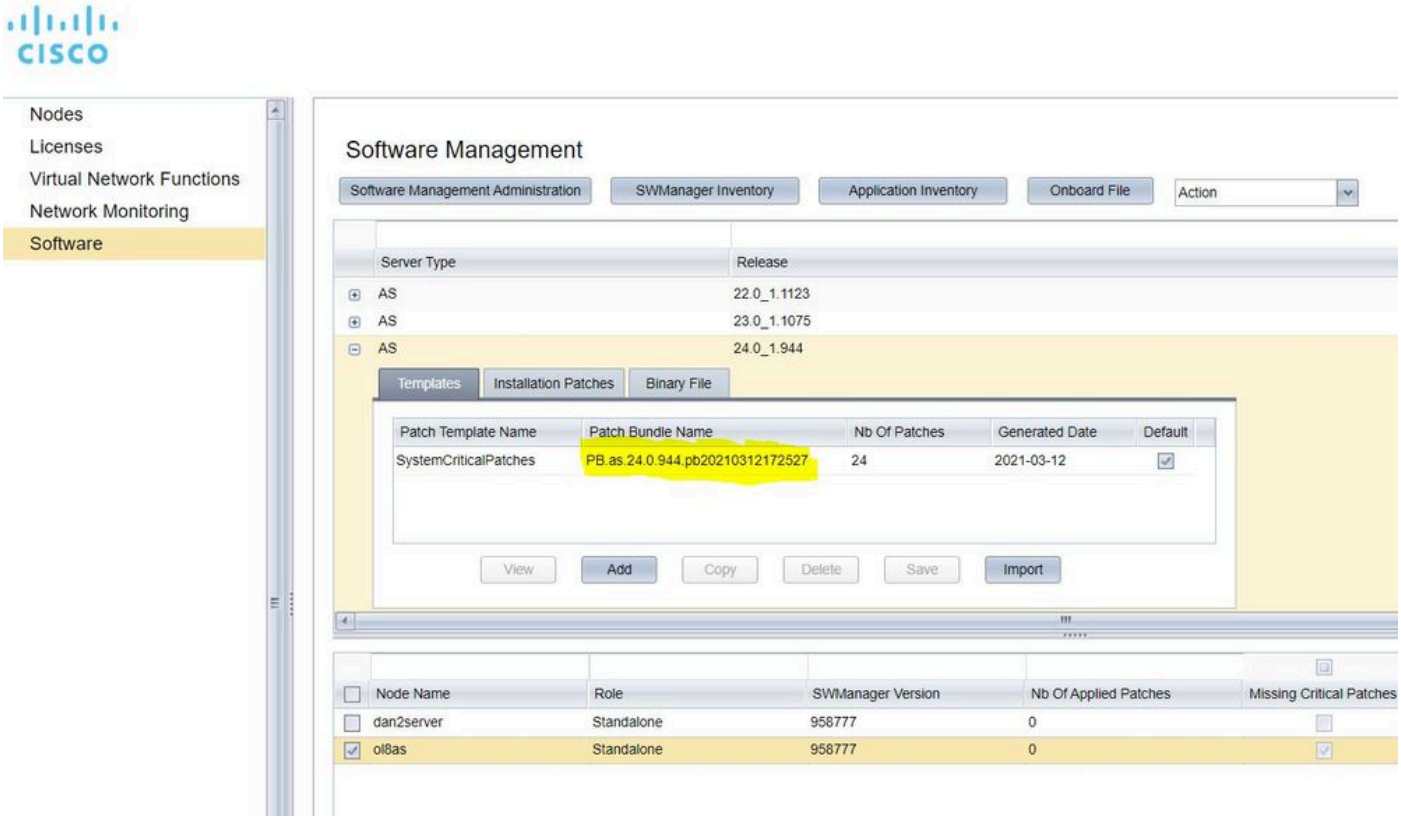
Creating a Custom PB (Patch Bundle)

Steps

- Login in the NFM portal
- Access the Software section from the left navigation panel
- Create a template by highlighting a specific software release, for example 24.0_1.944
- After expanding the selected release, click on 'Add' under the 'Templates' tab
- From the list of patches being displayed, select individual patches by manual selecting them or by using a filtering criteria, for example System Critical Patches (Sys Crit)
- Enter a "Patch Template Name" and "Save"
- After that step, the name of the Patch Bundle (BD) filename will eventually show up
- To transfer and/or apply this newly created PB, select a node from the list of the bottom panel
- Select the "Apply Patches" from the upper right pull down menu
- From the "Apply Patches" window, select the template name / patch bundle
- In order to only transfer the patch bundle (PB) file (and not to apply it), select "Upload patches only" checkbox
- Click on "Apply Patches" button
- The patch bundle (PB) will be transferred to the selected node under /var/broadworks/patches directory

Example





<#root>

```
bwadmin@ol8as.cisco.com$ ls -lhtr /var/broadworks/patches | tail -n1
-rw-rw---- 1 bwadmin bwadmin 189M Mar 12 17:29
```

PB.as.24.0.944.pb20210312172527

```
.Linux-x86_64.zip
bwadmin@ol8as.cisco.com$



AS_CLI/Maintenance/Patching> detail PB.as.24.0.944.pb20210312172527
Patch Name State
================================================================================
AP.as.24.0.944.ap375266 installed
AP.as.24.0.944.ap370326 installed
AP.as.24.0.944.ap376023 installed
AP.as.24.0.944.ap376410 installed
AP.as.24.0.944.ap376889 installed
AP.as.24.0.944.ap375902 installed
AP.as.24.0.944.ap375646 installed
AP.as.24.0.944.ap375273 installed
AP.as.24.0.944.ap378164 installed
AP.as.24.0.944.ap378122 installed
AP.as.24.0.944.ap378150 installed
AP.as.24.0.944.ap375996 installed
AP.as.24.0.944.ap375655 installed
AP.as.24.0.944.ap375369 installed
AP.as.24.0.944.ap375489 installed
AP.as.24.0.944.ap375860 installed
AP.as.24.0.944.ap376147 installed
AP.as.24.0.944.ap374803 installed
AP.as.24.0.944.ap378506 installed
AP.as.24.0.944.ap374832 installed
AP.as.24.0.944.ap376024 installed
AP.as.24.0.944.ap377651 installed
AP.as.24.0.944.ap378178 installed
AP.as.24.0.944.ap376205 installed
24 entries found.
* -> Patch(es) applied from this bundle.

AS_CLI/Maintenance/Patching>
```

Getting Started and References

- Cisco BroadWorks Feature Guides: Network Function Manager
- Network Function Manager: Patch Management