Cisco Network Assurance Engine App Installation and Upgrade Guide, Release 5.0(1)

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Cisco Network Assurance Engine Application

Overview

The Cisco Network Assurance Engine app provides continuous verification and analysis of the entire data center network, giving operators confidence that their network is operating consistent with intent. It combines mathematically accurate network models with codified Cisco domain knowledge to generate smart events that pinpoint deviations from intent and offer remediation recommendations.

Management and Network Connectivity

Cisco NAE app can be deployed on the Cisco Application Services Engine cluster with each NAE services scheduled to run on any Cisco Application Services Engine node. The Out-of-band management interface on the Cisco Application Services Engine will be used as management interface on Cisco Application Services Engine. The In-band management interface will be used by the application to access the management network of the Cisco ACI and Cisco NX-OS fabrics. If in-band management interface is not configured, then out-of-band management interface will not be be used. Cisco NAE GUI is also reachable through the Cisco Application Services Engine Dashboard.

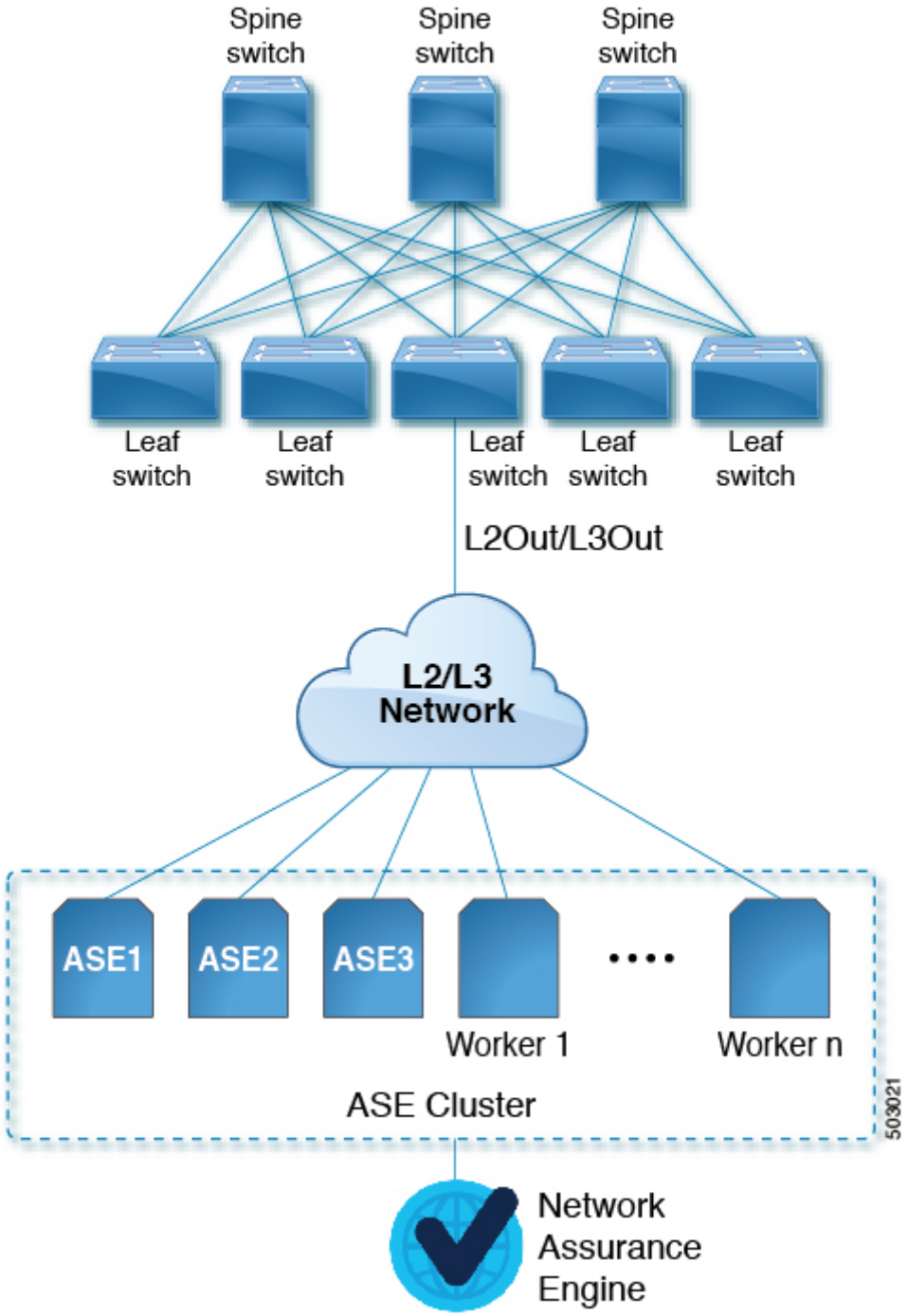


Figure 1. Cisco NAE App

See the Cisco Application Services Engine Getting Started Guide for information regarding Cisco Application Services Engine.

Installation Requirements

System Requirements

The following tables identify the system requirements for installing the Cisco NAE app on Cisco Application Services Engine.

Table 1. System Requirements

Requirement	Description
Cisco Application Services Engine	Physical form factor (ISO form factor)
Cisco Application Services Engine services nodes	A minimum of 3 node cluster

See the Cisco Application Services Engine Getting Started Guide for information regarding Cisco Application Services Engine.

See the Cisco Network Assurance Engine Documentation for information regarding Cisco NAE documentation.

Software Compatibility Information

Table 2. Compatiblity Information

Product Name	Release
Cisco Application Services Engine	1.1.3d and later
Cisco DCNM	• 11.4(1) • 11.3(1)
Cisco APIC	• 5.0(2) • 5.0(1) • 4.2(4) • 4.2(3) • 3.2(9)

See the Compatibility Matrix for more information.

Verified Scalability

The following table lists the maximum verified scalability limits for the Cisco NAE app.

Table 3. Verified Scalability Limits

Feature	Scale Limit
APIC Fabric Size	50 leaf switches for a 3 node cluster

Feature	Scale Limit
DCNM Fabric Size	50 leaf switches for a 3 node cluster

Installing Cisco Network Assurance Engine App

Prerequisites

- You have installed Cisco Application Services Engine Release 1.1.3.
- Cisco Application Services Engine cluster is successfully deployed.
- You have configured the in-band management interface in Cisco Application Services Engine.
- You have downloaded the Cisco NAE app from the Cisco DC App Center.
- You have the credentials for the SMTP server.
- Ensure that ports 443 and 22 are open for HTTPS and SSH communication between the Cisco NAE app and Cisco APIC.
- LDAP and TACACS+ server should be accessible from the in-band interface of the Cisco Application Services Engine.
- NVMe (Non-Volatile Memory Express) of 1.6T per Cisco Application Services Engine node is required for the Cisco NAE app.

Guidelines and Limitations

Cisco NAE app is only supported on Cisco Application Services Engine cluster SE-CL-L3.

Installing the Cisco NAE App

Use this procedure to install the Cisco NAE app on Cisco Application Services Engine.

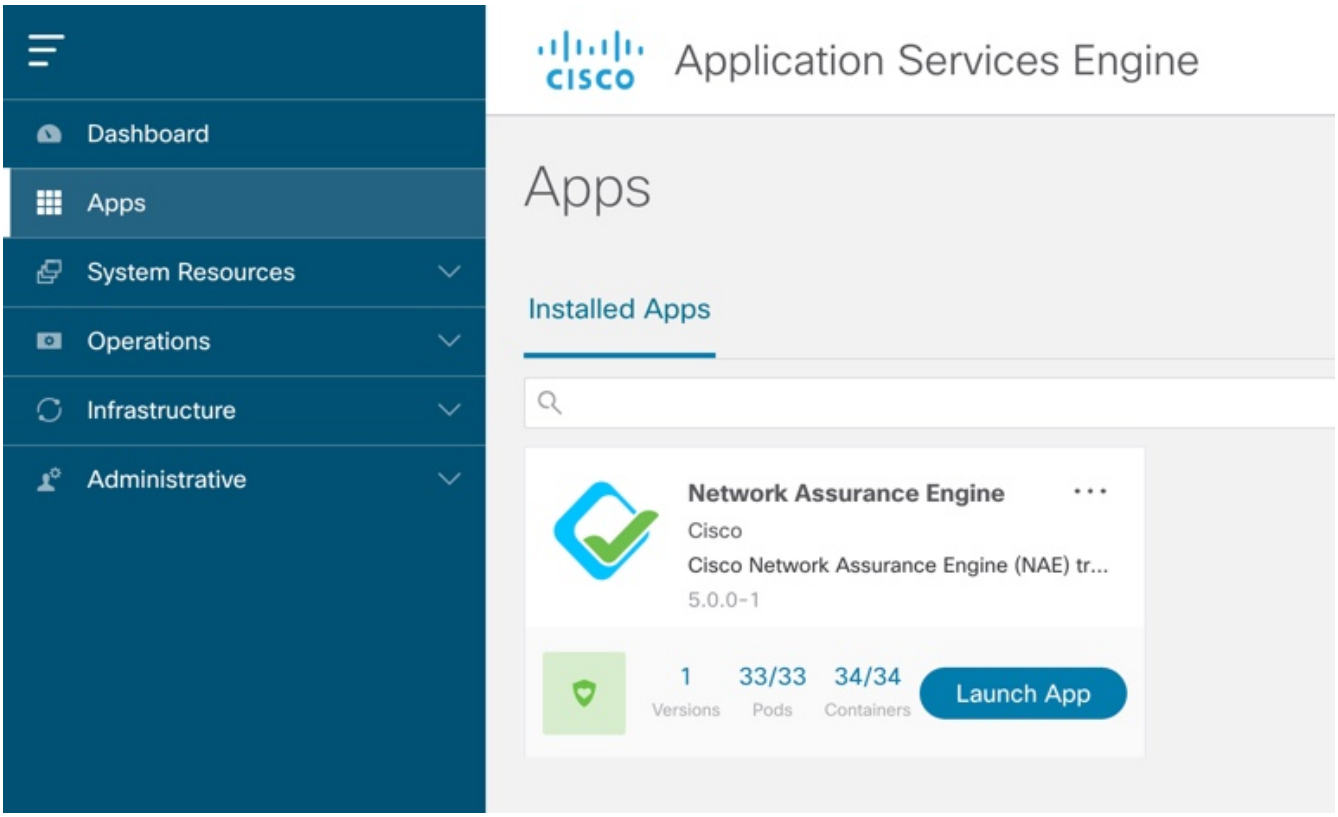
Before You Begin

- You must have administrator credentials to install the Cisco NAE app.
- You have installed and configured the Cisco Application Services Engine.
- You have downloaded the Cisco NAE app from the Cisco DC App Center.

Procedure

1. Download the Cisco NAE app from the Cisco DC App Center.
2. Host the downloaded app to a http server and copy the URL.
3. Log in to Cisco Application Services Engine as an admin.
4. In the **Navigation** pane, choose **Apps** .
5. Click **Actions** > **Upload App**.
6. Choose **Remote**.
7. In the **URL** field, enter the http address of the Cisco NAE app and click Submit.

8. Once the application installation is completed, click **Enable**. In the Cisco NAE installed on Cisco Application Services Engine, make sure that the health icon is green and all the pods and containers are running.



9. Click **Launch App** to launch the Cisco NAE app.
10. The Cisco NAE app GUI appears. Complete the following fields for **Administrator Profile**.
    a. Enter the email address.
    b. Enter the password and enter the password again to confirm.
11. Complete the following fields for SMTP server.

Cisco NAE app leverages email as the mechanism for password recovery. SMTP Server configuration is required for password recovery.

We strongly recommended that you configure the SMTP server information, since it is required by the admin for password recovery.

a. Enter the host name of the SMTP server.
b. Enter the port number. Examples include common default ports, SMTP port number 25, or secure SMTP (SSL) port number 465.
c. (Optional) Check the **SSL** check box to configure SSL for SMTP.
d. Enter the username and password to access the SMTP server.

12. Click **Submit**.

Viewing Cisco NAE App Information

Use this procedure to view Cisco NAE app information in Cisco Application Services Engine.

Procedure

1. Log in to Cisco Application Services Engine as an admin.
2. In the **Navigation** pane, choose **Apps** to view the apps hosted on Cisco Application Services Engine.
3. Click the app to display the app summary pane. The summary pane displays the app summary information such as name, description, app version, and system resources.
4. Click to view the app details pane.
   a. The **Overview** tab displays the app information such as name, description, app version, operational status, and app resources.
   b. The **System Resources** tab displays the configured pods and containers running on the selected app.
      i. Click **Pods** to view the pod details such as status, name, IP address, containers, age, CPU usage, and memory.
      ii. Click **Containers** to view the container details such as status, name, namespace, pod name, restart count, and age.

Deleting Cisco NAE App

Use this procedure to delete a Cisco NAE app.

Procedure

1. Log in to Cisco Application Services Engine as an admin.
2. In the **Navigation** pane, choose **Apps** to view the apps hosted on Cisco Application Services Engine.
3. Select the Cisco NAE app.
4. Click and then click **Disable** to disable the app.
5. Click and then click **Delete** to delete the app.

Upgrading Cisco Network Assurance Engine App

Upgrading the Cisco NAE App

Use this procedure to upgrade the Cisco NAE app on Cisco Application Services Engine.

Before You Begin

- You must have administrator credentials to upgrade the Cisco NAE app.
- You have downloaded the Cisco NAE app.

Procedure

1. Download the Cisco NAE app.
2. Host the downloaded app to a http server and copy the URL.
3. Log in to Cisco Application Services Engine as an admin.
4. In the **Navigation** pane, choose **Apps** .
5. Click **Actions** > **Upload App**.
6. In the **URL** field, enter the http address of the Cisco NAE app and click Submit.
7. Click and choose **Available Versions**.
8. Select the app version and click **Activate** to upgrade the Cisco NAE app. After the upgrade is completed, make sure that the health icon is green and all the pods and containers are running.
9. Click **Launch App** to launch latest version of the Cisco NAE app.

Downgrade of Cisco NAE app is not supported.