



# Cisco APIC-EM Services

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## About Cisco APIC-EM Services

The Cisco APIC-EM creates a Platform as a Service (PaaS) environment for your network, using Grapevine as an Elastic Services platform to support the controller's infrastructure and services. A service in this PaaS environment is a horizontally scalable application that adds instances of itself when demand increases, and frees instances of itself when demand decreases.

The Cisco APIC-EM controls elasticity at the service level, rather than at the Grapevine client level.

## Service Managers and Monitors

The Cisco APIC-EM services that run on the Grapevine Elastic Services Platform provide the controller with its functionality. The Grapevine Elastic Services Platform consists of the following components:

- Grapevine root—Handles all policy management in regards to service updates, as well as the service lifecycle for both itself and the Grapevine client.
- Grapevine client—Location where the supported services run.

After installation, service functionality is enabled using the following managers and monitors:

- Grapevine Root
  - Service manager—Starts, stops, and monitors service instances across the Grapevine clients.
  - Capacity manager—Provides on-demand capacity to run the services.
  - Load monitor—Monitors the load and health of services across the Grapevine clients.
  - Service catalog—Repository of service bundles that can be deployed on the Grapevine clients.
- Grapevine Client

- Service manager—Starts, stops, and monitors service instances on the Grapevine client.
- Service instance manager—Deploys the service.

## Service Features

The Cisco APIC-EM provides the following service features:

- Adding capacity on an existing client—When a service load exceeds a specified threshold on a client, the controller can request another service instance to start on a second, preexisting client.
- Adding capacity on a newly instantiated client—When a service load exceeds a specified threshold on a client, the controller can request a new client to be instantiated and then start another service instance on this client.
- Allows automatic scaling of services—As the service load increases, the controller instantiates additional service instances in response. As the service load decreases, the controller tears down the number of instances in response.
- Resiliency for services—When a service fails, the controller starts a replacement instance. The controller then ensures that the service's minimum instance count requirements are maintained.

## Services

The following is a list of Cisco APIC-EM services for this release.



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**Note**

The Cisco APIC-EM services available on the controller is dependent upon the applications installed and enabled on the host. For information about troubleshooting services, see the *Cisco Application Policy Infrastructure Controller Enterprise Module Troubleshooting Guide*.

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- access-policy-programmer-service
- apic-em-event-service
- apic-em-inventory-manager-service
- apic-em-jboss-ejbca
- apic-em-network-programmer-service
- apic-em-pki-broker-service
- app-vis-policy-programmer-service
- cas-service
- election-service
- file-service
- identity-manager-pxgrid-service

- ip-pool-manager-service
- ipgeo-service
- log-aggregator
- nbar-policy-programmer-service
- network-poller-service
- node-ui
- pfr-policy-programmer-service
- pnp-service
- policy-analysis-service
- policy-manager-service
- postgres
- qos-lan-policy-programmer-service
- qos-policy-programmer-service
- rbac-service
- remote-ras
- reverse-proxy
- router
- scheduler-service
- task-service
- telemetry-service
- topology-service
- visibility-service

