CHAPTER 1

Introduction

This chapter introduces Virtual Network Elements (VNEs) and describes the types of information available in this guide.

This chapter contains the following topics:

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Introduction to VNEs

VNEs (Virtual Network Elements) are independent software processes that run on the Cisco ANA Unit Servers. Each VNE is assigned to manage a single network element (NE) using the NE's management interfaces (for example, SNMP and/or Telnet). The VNEs maintain a live model, or abstraction, of each NE and the entire network.

As the VNE loads, it starts investigating the NE and automatically builds a live model of the NE, including its physical and logical inventory, its configuration, and its status. After modeling the NE, the VNE begins negotiating with peer VNEs, which represent the peer NEs, in order to determine NE connectivity and topology at different layers. This model of the network topology, NE state, and NE inventory is constantly being updated by the VNEs, which track every change that occurs in the NEs and the network.

The VNEs communicate between themselves to analyze end-to-end flows, which provide information for root-cause and impact analysis, service path tracing, and more.

Understanding the Tables

This section describes key information that can be found in the VNE support information chapters in this guide.

This section contains the following topics:

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- Device Package (DP) Version, page 1-2
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Software Versions

The Software Version column in the tables in this guide identifies the third-party NE software versions that are compatible with Cisco ANA and that can be running on the third-party NEs that Cisco ANA supports.

When an NE software release is not explicitly supported, Cisco ANA attempts to model the NE using the default version for that device series. The default version is a device-specific fallback set of commands and MIB instrumentation that allows Cisco ANA to discover and query for basic device properties, including:

- Managed element information.
- Basic physical inventory.
- Logical Inventory (including the Routing Table, ARP, BGP and OSPF information). Modelling of other technologies is done on a best-effort basis.

The default version does not correspond to any specific supported NE software version. Building of the physical model and its containment structure depends on the instrumentation (MIB and CLI commands) used by the default version. The default version may show you different containment structures (modules and cards) from what you will see for an explicitly supported NE software version. You can discover whether the default version is being used for a particular VNE by looking in the AVM log located in *install directory*/main/logs (search for ***default version***).

If you have additional questions, contact Cisco Professional Services or your Cisco Sales Representative.

ANA Versions

The ANA Version column found in the tables in this guide lists the version of Cisco ANA that supports the NE.

Device Package (DP) Version

The DP Version column found in the tables in this guide lists the version of DP during which a VNE supporting the specified NE module, software, topology, or other feature was first introduced. It is therefore the earliest DP version that supports that NE. All later versions of DP also support the NE. For example: If the guide indicates that Juniper M-Series devices are supported on DP 1.0, they are also supported on DP 2.0, 3.0, and so on.

The latest DP is cumulative of previous DP releases and the latest DP contains greatest of the VNE drivers update until that particular date.

Note All DP versions of Cisco ANA 3.7.2 are compatible with Cisco ANA 3.7.3.

Expedite Legend

Table 1-1 describes the meaning of the Expedite column found in the service event (service alarm) tables in this guide.

Table 1-1 Expedite Legend in Service Event Tables

Value	Descriptions
Y	The service event is expedited by a syslog or trap generated by the device. This means that the syslog or trap causes the VNE to poll the device without waiting for the usual polling cycle, thus enabling quicker detection of the event.
N	The service event is not expedited.This means that the VNE will poll this device during the next regularly scheduled polling cycle.

Obtaining Cisco ANA Third-Party VNE Drivers

To obtain Cisco ANA 3.7.2 Third-Party DP tar file or Cisco ANA 3.7.3 Third-Party DP tar file for installation, contact a Cisco representative or download from Cisco ANA Software Download site on Cisco.com.