Cisco Network Planning Solution Reference
VNE Server Release Notes

Software Release 3.5

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OPNET VNE Server 3.5 Release Notes

These release notes give an overview of the differences between OPNET VNE Server 3.5 and the previous release. If you are upgrading from a previous release, you should review this document.

Contents

Part number: D00284
Version: 2

Release 3.5 Description

VNE Server> 3.5 is a software update to the VNE Server> 3.0 software release. This release also implements suggestions and fixes many software problems reported in earlier releases. Below is a list of notable enhancements that VNE Server> 3.5 delivers.

- Group-based reporting and enhanced report content
- EMC SMARTS adapter
- Nortel VPN Router (Contivity) adapter
- Cisco Content Switching Module (CSM) support
- Tellabs 8860 support
- Enhanced Cisco IOS, Cisco CatOS, and Juniper JUNOS command support
- Enhanced Link and Connection Inference
- Enhanced CiscoWorks support
- Enhanced Check Point FireWall-1 support
- Enhanced Nortel Ethernet Routing Switch 8000-series (formerly Nortel Passport 8000-series) support
- Enhanced Nortel Multi-Service (formerly Passport 7400/15000/20000-series) switch support
- Enhanced Device MIB Configuration Import adapter
- Enhanced merging capability
- Enhanced support for Windows 2000 Terminal Services
- New input format for Device and Platform Information File
- Database diagnostics

Installation CD Contents

The VNE Server version 3.5 PL1 installation CD contains the following:

- The VNE Server **setup_Windows.exe** installer executable for Windows
- The VNE Server Windows installation card PDF file: **VNES_35a_install.pdf**

Visit the OPNET website often to check for the newest version of release notes and available software updates:

https://secure.opnet.com/Lic_Priv/support/updates/home.html

System Requirements

The system requirements have been updated for version 3.5 PL1. Be sure to check for the latest system requirements on the OPNET support website.

Changes to Supported Platforms and Products

VNE Server 3.5 PL1 is supported on Windows 2000 Server, Windows 2003 Server, Windows 2000, and Windows XP Professional.

Installing or Upgrading VNE Server

To install or upgrade VNE Server, follow the instructions on the installation card. The account used to install VNE Server on a Windows host must have the following properties:

- Full administrative privileges
- ORA_DBA privileges
- Full control access over the Oracle installation directory tree

WARNING—When upgrading from an earlier VNE Server release, you must configure the Oracle database by running the setup accounts script (@setup_accounts.sql). This means that you must re-create the network database. Network models created by previous releases cannot be retained by this release.

Licensing

Licensing has not changed between version 3.0 and this version. If you are upgrading from 2.1PL2 or earlier, please refer to the VNE Server 3.0 Release Notes.

User Interface Changes

The following changes have been made to the VNE Server user interface.

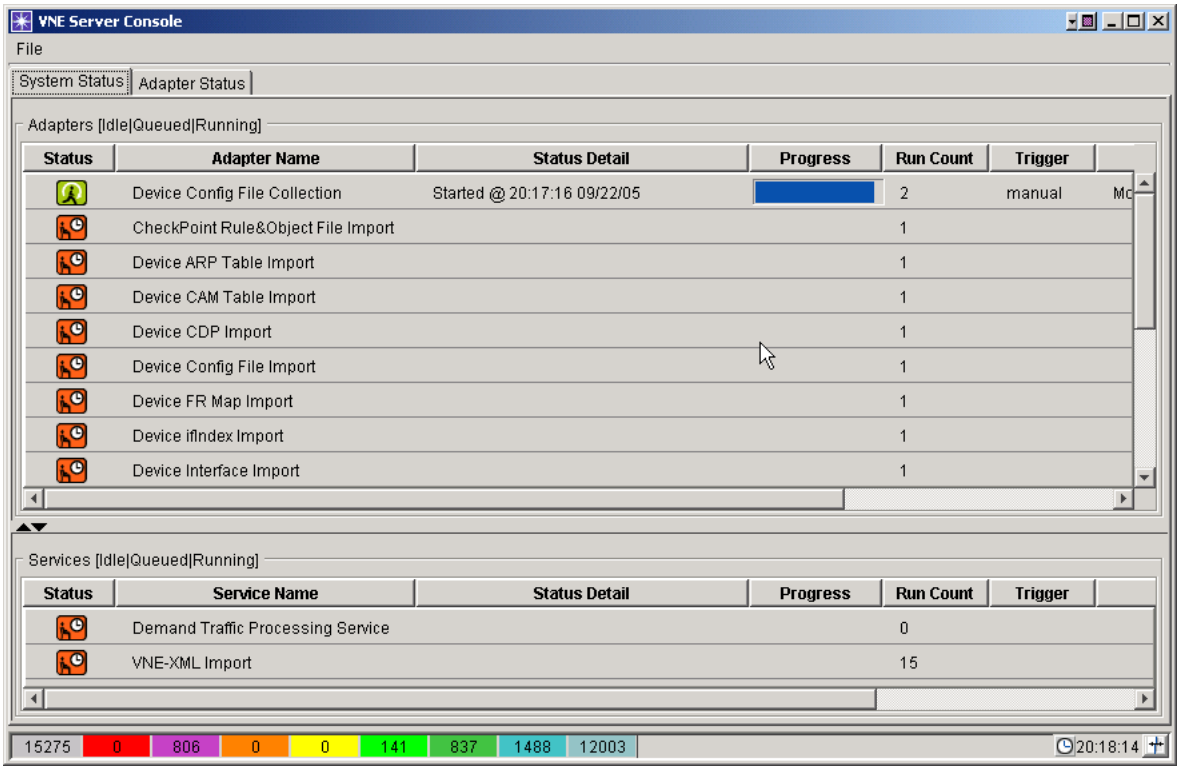
About VNE Server

The About VNE Server window has been modified. The version and build number can be found in the Info tab of the About VNE Server dialog box. Select Help > About VNE Server from the VNE Server Control Panel. Select the Info tab of the About VNE Server dialog box. The version and build number displays at the top.

VNE Server Console

The VNE Server Console has been streamlined as shown in Figure 3.5-1. You can no longer open the Control Panel, Adapter Statistics from the VNE Server Console. To display the Control Panel, use the Windows Start Programs shortcut or desktop shortcut (if you have chosen to create one). Use the Control Panel toolbar buttons or Data menu to open Adapter Statistics. Use the Control Panel toolbar buttons or Logs menu to open the Event Log Viewer.

Figure 3.5-1 VNE Server Console (Version 3.5)



New Features and Enhancements

Group-based Reporting and Enhanced Report Content

Reporting capability in VNE Server 3.5 has been significantly enhanced to include both additional report content as well as the ability to filter reports to specific groups of nodes. New reports in VNE Server 3.5 include:

- Link and Connection Inference Log
- PIX Access List Detail (with parent report Access List Summary)
- Interface (Port) Duplex Summary
- Interface (Port) Duplex Detail
- Network Service Management Summary
- Nodes Managed By Management Software
- Nodes Not Managed By Management Software
- Interfaces Managed By Management Software
- Interfaces Not Managed By Management Software
- Subinterfaces Managed By Management Software
- Subinterfaces Not Managed By Management Software
- Switch Capacity Summary
- Switch Capacity Detail
- System Up Time Summary

In addition to reporting on all nodes contained in the VNE Server database, the VNE Server Report Manager has been modified to allow reporting on a selected group. The groups themselves can be defined through the Group Configuration user interface, the Group Configuration Wizard, or via ASCII files presented to the ASCII Generic Data Import Adapter. Not all reports are group-based. Reports that are not group-based are dimmed in the Report Manager report selection list when a specific group name (other than “All”) is selected.

The Report Export Service has also been enhanced to permit the selection of groups. The index page created as part of report export is consistent with the VNE Server Report Manager and allows you to select the specific group in addition to the report.

EMC SMARTS Adapter

VNE Server 3.5 provides the capability to import topology from EMC's SMARTS, utilizing the SMARTS InCharge XML Adapter. The SMARTS Service Assurance Manager (SAM) application is part of the InCharge management suite. VNE Server 3.5 provides the capability to import this network topology and configuration data through the InCharge XML Adapter provided by the SAM installation.

Before you can use the adapter to import SMARTS data into VNE Server 3.5, you must first extract XML from the InCharge network model. VNE Server provides an extraction script that specifies the network elements and data to be exported to XML. Complete instructions for using the SMARTS import can be obtained from OPNET Technical Support. Abbreviated instructions for using the SMARTS adapter are provided below:

- Copy the XML extraction script (`vnes_smarts_export.asl`) from `<vnes_install_dir>/smarts` to the `<SAM_install_dir>/smarts/rules/xml-if` directory.
- Execute the InCharge XML Adapter (`sm_xml.exe`). This adapter is located in the `<SAM_install_dir>/smarts/bin` directory and is executed as follows:

```
sm_xml -s <SAM service name> export -xmlfile=vnes_smarts_export.xml
vnes_smarts_export.asl
```

You can locate the "SAM service name" by executing the command `brcontrol.exe` (located in the SAM bin directory). The resulting extracted XML file will be placed in the SAM bin directory.

Nortel VPN Router (Contivity) Adapter

VNE Server 3.5 provides support for the Nortel VPN Router (formerly Contivity) product line. The Nortel VPN router product line supports routing and secure remote access across managed IP infrastructures and the Internet. Automated collection and import of the device configuration file is provided.

A complete set of supported commands is available from OPNET Technical Support.

Cisco Content Switching Module (CSM) Support

Preliminary support for the Cisco Content Switching Module (CSM) has been provided in VNE Server 3.5. The CSM is a separate module available for the Cisco Catalyst 6500 series of devices. The module's configuration data is present in the routing module's configuration file, if the switch is in Hybrid mode, or the switch configuration file, if in native mode. The current Cisco IOS-based device configuration file import has been enhanced to support additional CSM commands.

All CSM-related dated is stored in a new NODE.SERVER_LOAD_BALANCING configuration data element on the node level. Supported constructs are client VLANs, server VLANs, server farms and virtual servers.

A complete set of supported commands is available from OPNET Technical Support.

Tellabs 8860 Support

Preliminary support for the Tellabs 8860 devices has been provided in VNE Server 3.5 via support for the import of Tellabs 8860 configuration files. Support of the Tellabs 8860 is limited to certain IP commands, routing commands (BGP, IS-IS, and OSPF), MPLS commands, VPLS commands, and BGP/MPLS VPN commands. A complete set of supported commands is available from OPNET Technical Support.

Enhanced Cisco IOS, Cisco CatOS, and Juniper JUNOS Command Support

VNE Server 3.5 broadens support for both Cisco and Juniper devices. Broadened support for Cisco IOS-based and CatOS-based devices include enhanced MPLS support as well as broadened support for chassis-based devices support redundant routing engines (i.e., dual MSFC configurations). Additional collection and parsing of the “show redundancy” command has been added to complete this support.

Broadened Juniper capability includes enhanced MPLS command support.

Enhanced Link and Connection Inference

The Link and Connection Inference Service has been enhanced in VNE Server 3.5 with an improved engine for inferring IP tunnels. In the case of IP tunnels, the tunnel physical source and/or destination network interface may not be explicitly stated in the device configuration. The tunnel configuration may lack source interface information, or refer to a logical source or destination loopback interface. The enhanced inference engine will determine the actual physical source and destination interfaces used to carry the tunnel data.

Additionally, enhancements have been made to the IP-based link inference engine in the presence of Layer-3 VLANs. Additional logic is now incorporated to attempt to determine physical connectivity in the presence of Layer-3 VLANs.

The capability to perform link inference on user-defined groups has been added to the link and connection inference service. The configuration for this feature is contained within the adapter resources for the link and connection inference service. Groups must be defined before this feature can be utilized.

Many existing configuration settings for the link and connection inference have been migrated to the Advanced Options folder. Additionally, new configuration settings have been added to allow control of the link and connection inference service. The default settings in the Advanced Options folder will suffice for most installations and should generally not be modified.

Enhanced CiscoWorks Support

The VNE Server 3.5 CiscoWorks adapters have been updated to support the CiscoWorks LAN Management Solution (LMS) 2.5 release. Specifically, support for Ciscoworks RME 4.0 (RME database), and Campus Manager 4.0 (ANI database) has been added.

Additionally the CiscoWorks adapters have been updated to support the data extracting engine (DEE) for releases previous to LMS 2.5. At present, DEE is not supported for the LMS 2.5 bundle but direct database connectivity to the RME and ANI databases is supported. DEE support for Resource Manager Essentials 4.0 and Campus Manager 4.0 will be added at a later date.

The specific versions of CiscoWorks bundle and modules present in your CiscoWorks installation can be found under CiscoWorks Common Services, Software Center, Software Update page.

Table 3.5-1 Summary of CiscoWorks Module Support in VNE Server 3.5

CiscoWorks Module	Direct Database Support?	Data Extracting Engine (DEE) Support?
Resource Manager Essentials 3.x	Yes (RME)	Yes
Campus Manager 2.x	Yes (ANI)	Yes
Resource Manager Essentials 4.x	Yes (RME)	No
Campus Manager 4.x	Yes (ANI)	No

Enhanced Check Point FireWall-1 Support

The VNE Server support of Check Point FireWall-1 has been significantly enhanced to support additional configuration commands as well as additional platforms. In addition, to supporting the Nokia IPSO appliance, Solaris, and Windows-based platforms, the adapters now supports collection and import from Check Point Secure Platform-based (SPLAT) systems.

Enhanced Nortel Ethernet Routing Switch 8000-Series (formerly Nortel Passport 8000-Series) Support

The Nortel Passport 8000-series device support has been enhanced to support additional configuration files commands including routing and VLAN configuration commands. Additionally, the Link and Connection Inference Services has been enhanced to correctly infer connectivity in the presence of multi-link trunking (MLT).

Enhanced Nortel Multi-Service (formerly Passport 7400/15000/20000-Series) Switch Support

The Nortel Passport 7400/15000/20000-series device support has been enhanced to support additional interface types and interface configurations.

Enhanced Device MIB Configuration Import Adapter

The Device MIB Configuration Import Adapter has been enhanced to support additional Nortel Networks and Extreme Networks MIBs.

Enhanced Merging Capability

Additional criteria for merging has been added. A common file naming convention as well as a concept known as merge identifiers can now be used to associate device information with existing devices. Previously, internal device attributes such as sysName, IP address, interface physical address, serial number, etc. were required for matching. This has now been extended to allow external criteria such as a common file naming convention, device ID, and merge ID to be used for matching and merging data associated with a device.

Additional attributes have been added to a device that allow higher-fidelity matching and merging. In addition to sysName, a device's hostname and prompt are also available.

Enhanced Support for Windows 2000 Terminal Services

Windows 2000 Terminal Services does not support remote connection to a console session as does Windows XP and Windows Server 2003. This limitation prevented the VNE Server Console, Live Event Viewer, and Adapter Statistics windows from being visible to a remote user of a system utilizing Windows 2000 Terminal Services. With VNE Server 3.5, this restriction no longer exists as all user interfaces are now decoupled from the underlying Windows services.

New Input Format for Device and Platform Information File

VNE Server 3.5 introduces a new format for the device info file displayed in the Device and Platform Information tab of the VNE Server Management Console. The new format introduces a new column and associated behavior. Please refer to Device Info File Format for 3.5 on page RN-3.5-13 for a complete description of the 3.5 file format.

A device info file in an older format cannot be read into the Device and Platform Info tab of the VNE Server Management Console in version 3.5. If you have a previous installation of VNE Server, you must convert the device info file to the 3.5 format. The device info file can be converted to the 3.5 format by:

- Choosing to migrate configuration settings from 3.0 when the 3.5 installer runs.
- Manually migrating text files from 3.0 after installing 3.5.
- Using the Device and Platform Info tab in the Management Console. To convert the file, press the **Add Devices From** button in the Device and Platform Info tab. Select **Device Info File (**3.0 PL1 **and earlier)**. Select the appropriate pre-3.5 device info file, then press **Apply**. The old file is converted to the new format and copied to the location specified in the Device Info File tab.

It is a good practice to keep a backup copy of your device info file. After you convert your pre-3.5 device info file to the 3.5 format, we recommend that you back up the new file.

Database Diagnostics

The VNE Server Bootstrap Service now performs database diagnostic tests to confirm connectivity, access, and tablespace compliance with your VNE Server configuration. Additionally, the database schema version is checked against the version of VNE Server. If a diagnostic fails, the Bootstrap Service will fail to start and log the failure.

Additional Configuration Data Delivered to OPNET Analysis Software

For the VNE Server 3.0 and OPNET 11.0 releases, the software was enhanced to support delivery of selected source configuration data (config, version, and vlan) from VNE Server to an OPNET analysis software client during an import from VNE Server. In VNE Server 3.5 and OPNET 11.5, this feature has been expanded to include additional configuration data. The configuration data that VNE Server 3.5 PL1 provides to OPNET 11.5 include config, version, vlan, redundancy, module, and IP routing table.

Note—To use this feature, you must first collect configuration data and import it into VNE Server. In this release, configuration data is not available for incremental import or import of a previously exported VNE Server network data archive.

Event Log Messages for Invalid Files

In previous versions of VNE Server, when a command line interface (CLI) import adapter (e.g., Device Config File Import, Device Version Import, etc.) encountered an unsupported input file that it could not parse, Error (yellow) messages were written to the event log. These messages have been moved to the warning (light green) category. The Invalid Files report provides a summary of all of files that VNE Server could not parse and marked as INVALID.

Device Info File Format for 3.5

The device info file displays in the Device and Platform Info tab of the Management Console. The device info file can be constructed off-line in an editor such as Wordpad or in a spreadsheet using the format described in this section.

Filename, Location, and Delimiter

The filename, location and delimiter for the device info file are defined in the Device Info File tab of the Management Console. By default the filename and location is:
`<vnes_install_dir>\input\DeviceInfo\deviceInfo.txt.`

Valid field delimiters are:

- tab
- comma (,)
- semicolon (;)
- space

The default value for delimiter is tab.

Note—To generate a starter file with header information and column headers, open the Management Console, Device and Platform Info tab and add a device, then press the Apply button. The device info file is generated using the filename, location, and delimiter specified in the Device Info File tab of the Management Console.

File Header

Include the following header information at the top of the file:
// VNE SERVER VERSION : 3.5

When you create a starter file as described in the previous section this header information is included.

Comments

Any line in the device info file that begins with a pound sign (#) is interpreted as a comment and is ignored.

Fields

Keywords are shown below inside quotes, however when you use these keywords in a device info file, do not include the quotation marks.

Mandatory fields are shown below in **bold** text. For each entry in the device info file, you must include these mandatory fields. If you do not, the device info file entries missing mandatory fields will not read or displayed in the Device and Platform Info tab.

Note—The deviceId and userId fields are mandatory fields in the device info file, however they are not displayed in the Device and Platform Info tab. The remaining fields display in order in the Device and Platform Info tab with one exception. The isActive field displays under the heading “Active” in the Device and Platform Info tab immediately to the right of “Device Name.”

- **deviceId**—(hidden field) – Set this to a unique integer for each device
- **userId**—(hidden field) – Set this to 1 for all devices
- **nodeName**—Hostname of the device or “none”
- **hostAddress**—Network address used to access the device or “none”
- **mergeId**—Set this to “none” or define a unique text string for each device. We recommend that you set this to “none” when creating the initial device info file and generate merge IDs using the Device and Platform Info tab of the Management Console.
- **userName**—Username used to login to the device or “none”
- **password**—Password used to login to the device or “none”
- **privPassword**—Password for privileged exec mode or “none”
- **commString**—SNMP community string or “none”
- **vendorType**—Device access script for device vendor (or subtype) or “unknown.” This must match a device access script defined for the Device Config File Collection adapter.
- **isActive**—(TRUE | FALSE) – Activates a device for collection
- **isActiveDCFC**—(TRUE | FALSE) – Activates a device for Device Config File Collection (isActive must be set for this flag to be read)
- **isActiveDMCI**—(TRUE | FALSE) – Activates a device for Device MIB Configuration Import (isActive must be set for this flag to be read)
- **isActiveMIUI**—(TRUE | FALSE) – Activates a device for MIB Interface Utilization Import (isActive must be set for this flag to be read)
- **accessMethod**—An integer that corresponds to the access method for the device. Specify 1 (non-TACACS), 2 (TACACS), 3 (SSHv1), or 4 (SSHv2).
- sysName—System Name by which the device is known in the VNE Server database

- v3userName—SNMPv3 User Name
- contextID—SNMPv3 Context ID
- contextName—SNMPv3 Context Name
- v3AuthProt—SNMPv3 Authentication Protocol
- v3SecurityLevel—SNMPv3 Security Level
- v3AuthPassword—SNMPv3 Authentication Password
- v3PrivProt—SNMPv3 Privacy Protocol
- v3PrivPassword—SNMPv3 Privacy Password
- comments

Note—If you enter information for the optional fields, fill them in order. To leave an optional field blank, enter the keyword “none.”

Example

This example shows a spreadsheet program with several device info file entries. These entries contains valid data for all mandatory fields.

Figure 3.5-2 Device Info File Example

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	# Vne Server -- Device info file														
2	# This file contains the login and password details to connect to the device														
3	# Format : all variables are tab seperated														
4	**# deviceId**	**userId**	**nodeName**	**hostAddress**	**mergeId**	**userName**	**password**	**priv Password**	**comm String**	**vendorType**	**isActive**	**isActive DCFC**	**isActive DMCI**	**isActive MIUI**	**acces Methe**
5	// VNE SERVER VERSION : 3.5														
6	1	1	Accelar-8110	10.10.10.1	none	opnet	password1	password2	public	Nortel Networks (Passport 8000)	TRUE	TRUE	TRUE	FALSE	2
7	2	1	Atlanta	10.10.10.2	none	opnet	password1	password2	public	Cisco Systems	TRUE	TRUE	TRUE	FALSE	1
8	3	1	C55CO1	10.10.10.3	none	none	opnet1	opnet2	public	Cisco Systems (Catalyst)	TRUE	TRUE	TRUE	FALSE	1
9	4	1	C55Co1_RSFC	10.10.10.4	none	none	opnet1	opnet2	public	Cisco Systems	TRUE	TRUE	TRUE	FALSE	1

Restrictions and Limitations

This section describes restrictions and limitations of this VNE Server release.

Version of DirectX

Versions of DirectX older than 9.0.c are known to interfere with the correct operation of the VNE Server installer and VNE Server. Select Start > Run > dxdiag to determine the version of DirectX installed. If your DirectX version is older than 9.0c, upgrade your version (FAQ 1539).

VNE Server 3.5 Installer

The configuration of the host system may cause the installer to hang or abort around the time the splash screen would normally appear. If you see this happen, try the following steps (FAQ 1536):

1) Disable any virus scan software that may be running.

2) If you are running Dell OpenManager on the system, disable OpenManager.

3) If you are running PC Anywhere on the system, disable PC Anywhere.

4) If you are running another remote access application, disable the application.

5) If you are trying to remotely drive the installation, try running the installer while directly accessing the system. Do not try to run the installer via a remote access session.

6) Copy the installer executable (setup.exe) to the system's disk, and execute the installer locally. Verify that installer file size matches the original you copied.

7) Check the version of DirectX. In the Start > Run dialog, type dxdiag.A DirectX Diagnostic Tool windows opens. Check the DirectX Version near the bottom of the window. If the version is older than 9.0.c, upgrade DirectX to version 9.0.cor newer.

8) Disable hardware acceleration for your video card.

9) Reboot the system and try again. After installation completes, re-enable any applications you disabled to get through the installation. If none of these steps allow installation to proceed, do the following:

a) Take a screen shot of any output, if possible, and forward to OPNET Technical Support.

b) Start the installer and immediately press and hold the CTRL key. When the initial installer progress dialog reaches 100% completion, a console window will appear. Installer output messages are displayed to this window. Capture (cut and paste, screenshots) the output, and forward to OPNET Tech Support. You may need to do this twice. On the first try, set the console window properties to support 999 lines in the display buffer. Save and check the "Modify shortcut..." radio button. Run the installer again in debug mode. You should be able to capture all output now.

Installation Restrictions

- The installation path for VNE Server, and the path chosen for the temporary directory and the archive directory cannot contain embedded spaces.
- OPNET Report Server and VNE Server should not be installed to the same parent directory on the same host.

Uninstalling Previous Versions of VNE Server

If you installed a local license server with your previous version of VNE Server and when you installed VNE Server 3.5 PL1, do not uninstall the previous version of VNE Server. Doing so will uninstall the 3.5 PL1 license server.

Launch of Control Panel

See Version of DirectX on page RN-3.5-16.

User Interface Operation

See Version of DirectX on page RN-3.5-16.

User Interface Look and Feel

If you are running VNE Server on Windows XP and have a white menu bar in the application window, change the theme from Windows XP to Windows Classic. You can change the theme in the Display panel by opening the Windows OS **Control Panel > Display**.

Service Startup

When a VNE Server host running a local license server is rebooted, VNE Server may be unable to return the license to the license server. If, following a reboot, you are unable to start VNE Server services, exit VNE Server and revoke the license. Restart VNE Server after ensuring the license is available.

Note—Please visit the FAQs section of the OPNET support website for additional troubleshooting information related to startup of VNE Server services.

Database Access

When VNE Server detects problems with database access, the service framework is automatically shut down and Emergency level messages are displayed in the Event Viewer. This can happen if the network database is down, unreachable, or in a bad state. The service framework will also shut down if data that violates the underlying table schema is imported into the database. Some examples of this are type mismatches between data and table schema or a field overflow situation. Data problems may arise when receiving invalid or unexpected data from a 3rd party product or directly from a device polled by VNE Server. In either case, services will shut down when the invalid data item is encountered.

Contact OPNET Technical Support for assistance when you encounter this situation. To work around this situation, open the VNE Server Management Console. Select the Project Properties panel, and expand VNESFeatures. Set the “stopServicesOnDatabaseFailures” property to false. Apply the change, and restart services.

Licensing

VNE Server has the following restrictions and limitations with respect to product licensing.

- Standalone licensing is not supported by VNE Server.
- Loanable licenses are not supported by VNE Server.
- Only one local license server may be installed on the VNE Server host.
- The OPNET licensing software deployed with VNE Server does not include the License Manager user interface. Instead, a command line utility, LS_UTIL, is provided.
- The VNE Server command line licensing utility (LS_UTIL) cannot revoke a license managed by a remote license server.