PRODUCT IDENTIFICATION

Product   VPN Solution Value Pack
Version   V5.1-1A
Released   2010-12-15

PURPOSE

This is the release note of VPN Solution Value Pack V5.1-1A

The product automates the major part of the following tasks:

- Creation and deletion of Layer 3 VPN service. Fully-meshed and Hub & Spoke topologies are supported. Layer 3 multicast is supported (PIM sparse and spares-dense mode). Creation and deletion of Layer 2 VPN service.
- Creation and configuration of ASBR links automated as part of Layer 3 VPN Site service creations when a multi-AS-backbone core network is deployed.
- Building of a full mesh of LSPs between the PE routers hosting VPN sites, as part of a strategic Traffic Engineering component.
- Creation and deletion of Layer 2 VPWS (point-to-point) services of Port, Port-VLAN, Frame Relay and PPP types.
- Addition and removal of Layer 2 and Layer 3 VPN Site service. This includes allocation and reservation of the various Layer 2 or Layer 3 VPN and Site specific resources.
- Attachment of all service types via L2 switched Ethernet based access network.
- VRRP configuration. Optionally available when attachment is via multiple PE routers.
- Modification of Layer 3 Site services. This includes connectivity type (Fully meshed, Hub or Spoke), rate limit (CAR), Quality of Service (QoS profile), static routes. This also includes joining and leaving other VPNs (intranet and extranet) and enabling of multicast.
- Modification of Layer 2 Site services.
- Addition of multiple service types to an existing Site service (service multiplexing).
- Timed activation of Layer 2 VPLS, Layer 2 P2P VPWS and Layer 3 VPN Site operations such as creation, deletion and modification.
- Enable/disable of services without removing configuration.
- Collection of activation parameters through workflow-controlled dialogs with network operators.
- Execution of device specific configuration command dialogs with PE (and on Layer 3 for Managed Sites, CE routers) as required for each service request.
- Maintaining an inventory database of the information, resources and parameters which define each VPN service and reserved resources.
- Network upload of equipment related inventory elements, such as ports, interfaces and controllers.
- Service Discovery functionality that allows the discovery of pre-configured services from existing network devices (PE routers). The function is mainly aimed at the initial commencement of VPN SVP in an already provisioned network environment.
- A Reporting Tool that provides information about the services and resources managed by VPN SVP and which is not readily available in the Inventory view.
- Router configuration backup (manual and scheduled), edit, audit and upload. Multiple transfer protocol supported.
- Regions and associated operator roles support.
- Error/Diagnostic Handler that allows the operator to analyze, diagnose and possibly resubmit failed service requests. Supports resource retention or reselection as well as skip activation mode.
- Delayed Activation component that allows requests that fails due to temporary connectivity problems between the NOC and the NEs to be retried automatically.
- XML based Inventory data import and export tool.
- Service recovery required by equipment failures. This includes an automated interface recovery tool, which allows the operator to migrate all services configured on a specific port is to a selected replacement port.
- The Audit tool of HPSA is used to store VPN SVP specific historic records (audit trails) in the database for each NE activation made.
- A pan-optic network management integration foundation, currently towards HP Network Node Manager (NNMi) and HP Network Automation (NA) for network discovery, data load, VPN service integrity checks and GUI cross-launch.

The product includes a light-weight CRM Provisioning Portal, which can perform the following tasks:
- Creation/deletion of a customer.
- Creation/deletion of customer's L2 VPLS, L2 VPWS and L3 VPN services, addition/removal of VPN/VPLS/VPWS Sites and modification of specific VPN and Site parameters.
- Timed creation and deletion of VPN Site and VPWS services, timed VPN Site modification.
- Browsing of services' information.
- Re-issuing of failed requests.
- Enable/disable of services.

The product supports the following equipment types:
- Cisco routers and switches which support IOS 12.3 and MPLS.
- Juniper routers which support JunOS 9.4 and MPLS.

NOTE : The OSVersionGroup for Cisco templates are marked as 12.2 in VPN SVP. Create entries for IOS version 12.3 in the RouterTemplate and ActionTemplate tables in the VPN SVP inventory

This release adds the following major functions to the VPN SVP solution:
- A strategic Traffic Engineering component that builds a full mesh of LSPs between the PE routers hosting VPN sites.
- A pan-optic network management integration foundation, currently towards HP Network Node Manager (NNMi) and HP Network Automation (NA) for network discovery, data load, VPN service integrity checks and GUI cross-launch..

The product does not aim at providing a 100% solution for every Service Provider. For each Provider a certain amount of customization work must be expected to support specific configuration styles and service variants of the Provider.

DELIVERABLES
The package is delivered as an ISO image, JA698-15002.iso, that comprises the following folders and items:

Opensource/
Licenses/
- directory, containing the license information for the public domain libraries.
Sources/
- directory, containing the source files for the public domain libraries.

Binaries/
VPNSVP-V51-1A.zip	The VPN Solution pack zip file
VPNSVP-V51-1A.zip.sig	The VPN Solution pack certificate file

Documentation/
InstallGuide.pdf	Installation and initial configuration
AdminsGuide.pdf	Administrator's configuration and maintenance guide
UsersGuide.pdf	Operational procedures and tools description
SDGuide.pdf	Service Discovery configuration and operational procedures guide
ReleaseNotes.pdf	This document.

Readme/
- directory, containing the End User License Agreement (EULA) and Open Source and Third-Party Licenses.

CODE SIGNING
This Software Product from HP is digitally signed and accompanied by Gnu Privacy Guard (GnuPG) key.
It is supported only on Linux platform at the time of release.
For detailed instructions, refer to VPN SVP Installation Guide.

NEW OR CHANGED FEATURES
This release changes or enhances the following features:
- Solution compatible to HP Service Activator 5.1 core frame work
- Equipment Model is now part of HP Service Activator 5.1, available as a solution pack, CRModel. VPN SVP extends the CRModel.

- Address pools with /31 network mask are supported
- A strategic Traffic Engineering component that builds a full mesh of LSPs between the PE routers hosting L2 VPLS, VPWS and L3 Services.
- A pan-optic network management integration foundation, currently towards HP Network Node Manager (NNMi) and HP Network Automation (NA) for network discovery, data load, VPN service integrity checks and GUI cross-launch.
- Improved CRM Portal Customer and Service GUI for easier identification of jobs pending operator interactions
- Additional bug fixes, etc. are included

PREREQUISITES

Web Client
- Microsoft Internet Explorer 8.0 or Firefox 3.6

Server Platforms
- HP-UX 11i v3
- Solaris 10
- Red Hat Enterprise Linux 5.4
- Microsoft Windows® Server 2008

HP_UX

Hardware
The HP-UX 11i v3 activation server system must meet the following minimum requirements after installation of Service Activator 5.1:
- Itanium system
- 2 GB of memory
- Disk space available as follows:
  - 1 GB under /opt partition
  - 1 GB under /etc partition
  - 1 GB under /var partition
- The database system requires room for an Oracle 10g database instance of at least 4 GB for the product data.

Software
- HP-UX 11i v3 and all available patches.
- Java SE Development Kit (JDK) 1.5.0.20 or later as required by Service Activator 5.1 for Itanium
- HP Service Activator version 5.1 and all available patches. In particular:
  - HPSA 5.1 - V51-1A
  - HPSA 5.1 Hotfix SAV51-1A-3
- Secure Shell 3.7 or later
- Bash utility for HP-UX 11i v3
- Oracle Client (sqlplus and sqlldr) for HP-UX 11i v3

Solaris

Hardware
The Solaris 10 activation server system must meet the following minimum requirements after installation of Service Activator 5.1:
- Sun SPARC system
- 2 GB of memory
- Disk space available as follows:
  - 1 GB under /opt partition
  - 1 GB under /etc partition
  - 1 GB under /var partition
- The database system requires room for an Oracle 10g or 11g database instance of at least 4 GB for the product data.

Software
- Solaris 10 and all available patches.
- Java SE Development Kit (JDK) 1.5.0_22 or later as required by Service Activator 5.1 for Solaris 10
- HP Service Activator version 5.1 and all available patches. In particular:
  - HPSA 5.1 - V51-1A
  - HPSA 5.1 Hotfix SAV51-1A-3

- Secure Shell 3.6 or later
- Bash utility for Solaris 10
- Oracle Client (sqlplus and sqlldr) for Solaris 10

Linux

Hardware

The Redhat Enterprise Linux 5.4 activation server system must meet the following minimum requirements after installation of Service Activator 5.1:

- X86-64 based system
- 2 GB of memory
- Disk space available as follows:
  - o 1 GB under `/opt` partition
  - o 1 GB under `/etc` partition
  - o 1 GB under `/var` partition
- The database system requires room for an Oracle 10g or 11g database instance of at least 4 GB for the product data.

Software

- Redhat Enterprise Linux 5.4 for x86-64 and all available patches
- Java SE Development Kit (JDK) 1.5.0_22 or later as required by Service Activator 5.1 for Redhat Enterprise Linux 5.4.
- HP Service Activator version 5.1 and all available patches. In particular:
  - o HPSA 5.1 - V51-1A
  - o HPSA 5.1 Hotfix SAV51-1A-3
- Secure Shell 4.3 or later
- Oracle Client (sqlplus and sqlldr) for Redhat Enterprise Linux 5.4

Windows

Hardware

The Windows Server 2008 activation server system must meet the following minimum requirements after installation of Service Activator 5.1:

- Windows Server 2008 R2
- 1 GB of memory
- Disk space available as follows:
  - o 1 GB of disk space available on the drive on which Service Activator is installed
- 1 GB of virtual memory
- The database system requires room for an Oracle 10g or 11g database instance of at least 4 GB for the product data.

Software

- Microsoft Windows 2008 R2 and all available patches.
- Java SE Development Kit (JDK) 1.5.0_22 (32-bit) or later as required by Service Activator 5.1 for Windows
- HP Service Activator version 5.1 and all available patches. In particular:
  - o HPSA 5.1 - V51-1A
  - o HPSA 5.1 Hotfix SAV51-1A-3
- Open Ssh v3.6 or later
- Oracle Client (sqlplus and sqlldr) for Windows

NOTE : Use cygwin 1.7.x or later when the product is used with Windows 2008 R2.

INSTALLATION/DE-INSTALLATION

See: Documentation/InstallGuide.pdf

SOLVED PROBLEMS

The following problems known prior to release were solved in VPN Solution Value Pack V51-1A:

PR #	Problem description
17037	Missing command issue when we add a static route to an existing OSPF / BGP site
17016	Disabling the site does not update the site status in inventory
16923	Better overview of pending jobs required on CRM
16922	Router interface upload uses incorrect NE IP address
16096	HPSA Refresh keeps setting REFRESH to OFF
16093	When uploading interfaces with switch trunk, the created subinterfaces does not appear as reserved in inventory
16065	Inventory error when names contains ## in Service Discovery
15359	Continuation in WF L2VPN_AddSiteAttachment does not work upon site failure

KNOWN PROBLEMS

The following problems are known to exists for the current VPN Solution Value Pack V5.1-1A release:

PR #	Problem description	Workaround
17374	Export/import fails due to password policy.	To make export/import work, follow below steps:- 1. Login to HPSA Oracle system as Oracle user and export the CR_PWPOLICY table cd $SOLUTION/SAVPN/etc/VPNDemo exp userid=<DB User>/<DB Passwd>@<Instance Name> file=PWPOLICY.dmp tables=cr_pwpolicy 2. exportXMLDB.sh <sessionName> 3. importXMLDB.sh <sessionName>
15884	Pre-configured Vlans may be overwritten by Activation	NONE
15399	The names of policy maps are limited to 40 chars on Cisco devices. The auto-generated names may exceeded this limit in some L3 service situations where e.g. multicast is enabled	NONE

PATCHES

None

LIMITATIONS

The following limitations have been identified:

- Unnumbered PE-CE point-to-point links not supported
- Allocated PE-CE IP addresses can not be changed by a modify operation.
- Service Discovery currently handles only L3 VPN type of services and only on Cisco and Juniper devices.
- Service Discovery of ASBR links and their configuration not supported
- Multi-AS-backbone supports only L3 services
- Identification of Multi-AS-backbone ASBR links limited to 2 hop distances
- Access network currently only supported on Cisco switch devices
- The VPMS (E-Tree) service is not supported
- When a new switch is added to the ring, the VLAN configurations already activated on the ring will be missing from this switch.
- TE LSP configuration is limited to same ASN.
- TE LSP configuration is supported only on Juniper devices, not Cisco
- Missing TE LSP support for modify multicast QoS
- Limited support for Internationalization (I18N)
- Admin VPN VRF configuration not available for Juniper devices

- No support for rate-limit splitting according to percentages for Juniper devices
- Support for cleanup of CE router after delete managed service
- It is not possible to change between managed and unmanaged CE sites.
- No interface Encapsulation support on CE
- Creation of different CoS for VPWS not supported
- List of known RCs not uploaded by service discovery.
- Configuration files can not be uploaded incrementally by service discovery.
- Automatic Vendor and OS recognition does not happen in service discovery
- Two Full-Mesh OSPF Multicast sites on Cisco PE do not share the OSPF ID.

NA Integration
- Policies are not created for Multi ASN, LSP and Access Network configurations
- SSO functionality is not supported in VPN SVP – NA integration, due to limitation of NA.

NNM Integration
- Annotation: Service annotation on Juniper logical and aggregated interfaces are not supported.