



Juniper Networks

Data Center Glossary



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A

active flow monitoring Flow monitoring carried out on the same router that forwards the packets being monitored. In contrast, a passive monitoring router does not forward the packets being monitored—it receives mirrored packets from a router that is performing the forwarding. *See also* flow monitoring.

ADVPN *Reviewer: New*

aggregated interface Logical bundle of physical interfaces managed as a single interface with one IP address. Network traffic is dynamically distributed across ports, so administration of data flowing across a given port is done automatically within the aggregated link. Using multiple ports in parallel provides redundancy and increases the link speed beyond the limits of any single port.

autoinstallation Automatic configuration of a device over the network from a preexisting configuration file created and stored on a configuration server—typically a Trivial File Transfer Protocol (TFTP) server. Autoinstallation occurs on a device that is powered on without a valid configuration (boot) file or that is configured specifically for autoinstallation. Autoinstallation is useful for deploying multiple devices on a network.

B

Bidirectional Forwarding Detection BFD. Protocol that uses control packets and shorter detection time limits to more rapidly detect failures in a network.

Border Gateway Protocol BGP. Exterior gateway protocol (EGP) used to exchange routing information among routers in different autonomous systems. Can act as a label distribution protocol for MPLS.

BUM traffic Broadcast, unknown unicast, and multicast traffic. Essentially multi-destination traffic.

Reviewer: NEW

C

class of service CoS. Method of classifying traffic on a packet-by-packet basis using information in the type-of-service (ToS) byte to provide different service levels to different traffic. *See also* QoS.

Clos network fabric Multistage switching network in which switch elements in the middle stages are connected to all switch elements in the ingress and egress stages. Clos networks are well-known for their nonblocking properties—a connection can be made from any idle input port to any idle output port, regardless of the traffic load in the rest of the system.

cloud Internet based environment of virtualized computing resources, including servers, software, and applications that can be accessed by individuals or businesses with Internet connectivity. Cloud types include public, private, and hybrid.

cloud computing Cloud computing represents a paradigm shift in the way companies allocate IT resources. Fundamentally, a cloud is an Internet-based environment of computing resources comprised of servers, software, and applications that can be accessed by any individual or business with Internet connectivity. Customers, referred to as tenants, can access resources that they need to run their business. Clouds offer customers a pay-as-you-go, lease-style investment with little to no upfront costs, versus buying all of the required hardware and software separately. Clouds allow businesses to scale easily and tier more services and functionality on an as-needed basis. Cloud computing is the basis for Infrastructure as a Service (IaaS) and Software as a Service (SaaS).

control plane Virtual network path used to set up, maintain, and terminate data plane connections. *See also* data plane.

CoS class of service. Method of classifying traffic on a packet-by-packet basis using information in the type-of-service (ToS) byte to provide different service levels to different traffic. *See also* QoS.

D

data center *Reviewer: NEW*

data center aggregation switch *Reviewer: NEW*

data center bridging DCB. Set of IEEE specifications that enhances the Ethernet standard to allow it to support converged Ethernet (LAN) and Fibre Channel (SAN) traffic on one Ethernet network. DCB features include priority-based flow control (PFC), enhanced transmission selection (ETS), Data Center Bridging Capability Exchange protocol (DCBX), quantized congestion notification (QCN), and full-duplex 10-Gigabit Ethernet ports.

Data Center Bridging Capability Exchange protocol DCBX. Discovery and exchange protocol for conveying configuration and capabilities among neighbors to ensure consistent configuration across the network. It is an extension of the Link Layer Data Protocol (LLDP, described in IEEE 802.1ab, *Station and Media Access Control Connectivity Discovery*).

Data Center Interconnect (DCI) *Reviewer: NEW*

data plane Virtual network path used to distribute data between nodes. *Also known as* transport plane. *See also* control plane.

DCB data center bridging. Set of IEEE specifications that enhances the Ethernet standard to allow it to support converged Ethernet (LAN) and Fibre Channel (SAN) traffic on one Ethernet network. DCB features include priority-based flow control (PFC), enhanced transmission selection (ETS), Data Center Bridging Capability Exchange protocol (DCBX), quantized congestion notification (QCN), and full-duplex 10-Gigabit Ethernet ports.

DCBX Data Center Bridging Capability Exchange protocol. Discovery and exchange protocol for conveying configuration and capabilities among neighbors to ensure consistent configuration across the network. It is an extension of the Link Layer Data Protocol (LLDP, described in IEEE 802.1ab, *Station and Media Access Control Connectivity Discovery*).

Designated Forwarder (DF)	<p>The EVPN PE responsible for forwarding BUM traffic from the core to the CE.</p> <p><i>Reviewer: NEW</i></p>
Director Group	<p>There are two Director devices (DG0 and DG1) in both QFabric-G and QFabric-M implementations. These Director devices are the brains of the whole QFabric system and host the necessary virtual components (VMs) that are critical to the health of the system. The two Director devices operate in a master/slave relationship. Note that all the protocol/route/inventory states are always synced between the two.</p> <p><i>Reviewer: NEW</i></p>
E	
Enhanced Layer 2 Software	<p><i>Reviewer: New</i></p>
enhanced transmission selection	<p>ETS. Mechanism that provides finer granularity of bandwidth management within a link.</p>
ESX, VMWare ESXI	<p>Enterprise-level software hypervisors from VMware that do not need an additional operating system to run on host server hardware.</p>
Ethernet link aggregation	<p>Process that enables grouping of Ethernet interfaces at the Physical Layer to form a single Link Layer interface. <i>Also known as 802.3ad link aggregation, link aggregation group (LAG), LAG bundle.</i></p>
Ethernet Segment (ES)	<p>The Ethernet link(s) between a CE device and one or more PE devices. In a multi-homed topology the set of links between the CE and PEs is considered a single "Ethernet Segment." Each ES is assigned an identifier.</p> <p><i>Reviewer: NEW</i></p>
Ethernet Segment Identifier (ESI)	<p>A 10 octet value with range from 0x00 to 0xFFFFFFFFFFFFFFFF which represents the ES. An ESI must be set to a network-wide unique, non-reserved value when a CE device is multi-homed to two or more PEs. For a single homed CE the reserved ESI value 0 is used. The ESI value of "all FFs" is also reserved.</p> <p><i>Reviewer: NEW</i></p>
Ethernet Tag Identifier	<p>Identifies the broadcast domain in an EVPN instance. For our purposes the broadcast domain is a VLAN and the Ethernet Tag Identifier is the VLAN ID.</p> <p><i>Reviewer: NEW</i></p>
Ethernet VPN	<p>EVPN. Type of VPN that enables you to connect a group of dispersed customer sites by using a Layer 2 virtual bridge. As with other types of VPNs, an EVPN comprises customer edge (CE) devices (routers or switches) connected to provider edge (PE) devices. The PE devices can include an MPLS edge switch that acts at the edge of the MPLS infrastructure.</p>
EVI	<p>EVPN Instance, defined on PEs to create the EVPN service.</p> <p><i>Reviewer: NEW</i></p>
EZQOS-Voice	<p><i>Reviewer: New</i></p>

F

fabric	Interconnection of network nodes using one or more network switches that function as a single logical entity.
Fabric Mode	http://www.juniper.net/techpubs/en_US/junos13.2/topics/concept/vcf-components.html <i>Reviewer: NEW</i>
fabric schedulers	Identify a packet as high or low priority based on its forwarding class, and associate schedulers with the fabric priorities.
FC	Fibre Channel. High-speed network technology used for storage area networks (SANs).
FC forwarder	FCF. The two types of forwarders are: <ul style="list-style-type: none">• Fibre Channel switch that has all physical Fibre Channel ports and the necessary set of services as defined in the T11 Organization Fibre Channel Switched Fabric (FC-SW) standards.• Device that has the necessary set of services defined in the T11 Organization Fibre Channel Switched Fabric (FC-SW) standards and which has the FCoE capabilities to act as an FCoE-based Fibre Channel switch, as defined by the Fibre Channel Backbone – 5 (FC-BB-5) Rev. 2.00 specification.
FCF	FC forwarder, FCoE forwarder. The two types of forwarders are: <ul style="list-style-type: none">• FC forwarder. Fibre Channel switch that has all physical Fibre Channel ports and the necessary set of services as defined in the T11 Organization Fibre Channel Switched Fabric (FC-SW) standards.• FCoE forwarder. Device that has the necessary set of services defined in the T11 Organization Fibre Channel Switched Fabric (FC-SW) standards and which has the FCoE capabilities to act as an FCoE-based Fibre Channel switch, as defined by the Fibre Channel Backbone – 5 (FC-BB-5) Rev. 2.00 specification.
FCoE	Fibre Channel over Ethernet. Standard for transporting FC frames over Ethernet networks. FCoE encapsulates Fibre Channel frames in Ethernet so that the same high-speed Ethernet physical infrastructure can transport both data and storage traffic while preserving the lossless CoS that FC requires. FCoE servers connect to a switch that supports both FCoE and native FC protocols. This allows FCoE servers on the Ethernet network to access FC storage devices in the SAN fabric on one converged network
FCoE forwarder	FCF. Device that has the necessary set of services defined in the T11 Organization Fibre Channel Switched Fabric (FC-SW) standards and which has the FCoE capabilities to act as an FCoE-based Fibre Channel switch, as defined by the Fibre Channel Backbone – 5 (FC-BB-5) Rev. 2.00 specification.
FCoE Initialization Protocol	FIP. Layer 2 protocol that establishes and maintains Fibre Channel (FC) virtual links between pairs of FCoE devices such as server FCoE nodes (ENodes) and FC switches.

FCoE Initialization Protocol snooping	FIP snooping. Security feature enabled for FCoE VLANs on an Ethernet switch that connects FCoE nodes to Fibre Channel switches or FCFs. The two types of FIP snooping inspect data in FIP frames and use that data to create firewall filters that are installed on the ports in the FCoE VLAN. The filters permit only traffic from sources that perform a successful fabric login to the Fibre Channel switch. All other traffic on the VLAN is denied. FIP snooping can also provide additional visibility into FCoE Layer 2 operation.
FCoE transit switch	<p>Switch with a minimum set of features designed to support FCoE Layer 2 forwarding and FCoE security. The switch can also have optional additional features. Minimum feature support is:</p> <ul style="list-style-type: none"> • Priority-based flow control (PFC) • Enhanced transmission selection (ETS) • Data Center Bridging Capability Exchange (DCBX) protocol, including the FCoE application TLV • FIP snooping (minimum support is FIP automated filter programming at the ENode edge) <p>A transit switch has a Fibre Channel stack even though it is not a Fibre Channel switch or an FC forwarder.</p>
FCoE VLAN	Fibre Channel over Ethernet VLAN. VLAN dedicated to carrying only FCoE traffic. FCoE traffic must travel in a VLAN. Only FCoE interfaces should be members of an FCoE VLAN. Ethernet traffic that is not FCoE traffic must travel in a different VLAN.
Fibre Channel	FC. High-speed network technology used for storage area networks (SANs).
Fibre Channel fabric	Network of Fibre Channel devices that provides communication among devices, device name lookup, security, and redundancy.
Fibre Channel over Ethernet	FCoE. Standard for transporting FC frames over Ethernet networks. FCoE encapsulates Fibre Channel frames in Ethernet so that the same high-speed Ethernet physical infrastructure can transport both data and storage traffic while preserving the lossless CoS that FC requires. FCoE servers connect to a switch that supports both FCoE and native FC protocols. This allows FCoE servers on the Ethernet network to access FC storage devices in the SAN fabric on one converged network
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G

graceful restart Process that allows a router whose control plane is undergoing a restart to continue to forward traffic while recovering its state from neighboring routers. Without graceful restart, a control plane restart disrupts services provided by the router. Implementation varies by protocol. *Also known as* nonstop forwarding. *See also* cold restart, warm restart.

graceful Routing Engine switchover GRES. In a router that contains a master and a backup Routing Engine, allows the backup Routing Engine to assume mastership automatically, with no disruption of packet forwarding. *Also known as* Stateful Switchover (SSO).

graceful switchover Junos OS feature that allows a change from the primary device, such as a Routing Engine, to the backup device without interruption of packet forwarding.

H

HA high availability. Configuring devices to ensure service continuity in the event of a network outage or device failure. Used to provide fault detection and correction procedures to maximize the availability of critical services and applications. High availability provides both hardware-specific and software-specific methods to ensure minimal downtime and ultimately improve the performance of your network. *See also* high availability mode, chassis cluster.

high availability HA. Configuring devices to ensure service continuity in the event of a network outage or device failure. Used to provide fault detection and correction procedures to maximize the availability of critical services and applications. High availability provides both hardware-specific and software-specific methods to ensure minimal downtime and ultimately improve the performance of your network. *See also* high availability mode, chassis cluster.

hypervisor In cloud computing, platform virtualization software that runs on a host computer, allowing multiple instances of operating systems, called guests, to run concurrently on the host within their own VMs and share virtualized hardware resources. A virtualized software layer that manages the relationships between VMs that run on its host and compete for its resources. A hypervisor controls and manages resource allocation. A hypervisor is said to run on bare metal, that is, directly on the hardware whose resources it shares. The term hypervisor was created by IBM to refer to software that is conceptually one level higher than an operating system's supervisor. The vGW Virtual Gateway inserts a vGW kernel module in the hypervisor of each ESX/ESXi host to be secured. From this vantage, the vGW Virtual Gateway can monitor the security of each VM and apply protections adaptively as needed by changes to the VM security. By processing inspections in the VMware hypervisor kernel, the vGW Virtual Gateway maintains throughput and continuous firewall protection as VMs are moved from one host to another through a process called vMotion. Unlike traditional firewalls, the vGW Virtual Gateway supports live migration by maintaining open connections and security throughout the event. *Also known as* Virtual Machine Manager (VMM).

I

iaaS	Infrastructure as a Service <i>Reviewer: New</i>
in-service software upgrade	ISSU. General term for one of several different ways that Juniper Networks platforms upgrade software versions with minimal disruption to network traffic. Unified ISSU is used for routing platforms, which operate at Layer 2 and Layer 3. Nonstop software upgrade (NSSU) is used for switching platforms that operate at Layer 2 and Virtual Chassis configurations. Topology-independent in-service software upgrade (TISSU) is used for virtual environments, where devices are not linked by a hardware-based topology. <i>See also</i> NSSU, TISSU, and unified ISSU.
Infrastructure as a Service	iaaS <i>Reviewer: New</i>
IP fabric	<i>Reviewer: NEW</i>
IP VPN	a Layer 3 VPN service implemented using BGP/MPLS IP VPNs (RFC 4364) <i>Reviewer: NEW</i>

J

J-Web	Graphical Web browser interface to Junos OS on routing platforms. With the J-Web interface, you can monitor, configure, diagnose, and manage the routing platform from a PC or laptop that has Hypertext Transfer Protocol (HTTP) or HTTP over Secure Sockets Layer (HTTPS) enabled.
Junos Fusion	<i>Reviewer: NEW</i>

L

LACP	Link Aggregation Control Protocol. Mechanism for exchanging port and system information to create and maintain LAG bundles.
LAG	link aggregation group. Two or more network links bundled together to function as a single link. Distributes MAC clients across the Link Layer interface and collects traffic from the links to present to the MAC clients of the LAG. <i>Also known as</i> LAG bundle, 802.3ad link aggregation, EtherChannel.
LAG bundle	link aggregation group bundle. Two or more network links bundled together to function as a single link. Distributes MAC clients across the Link Layer interface and collects traffic from the links to present to the MAC clients of the LAG. <i>Also known as</i> LAG bundle, 802.3ad link aggregation, EtherChannel.
latency	Delay in the transmission of a packet through a network from beginning to end.
Leaf device	<i>Reviewer: New</i>

link aggregation group LAG. Two or more network links bundled together to function as a single link. Distributes MAC clients across the Link Layer interface and collects traffic from the links to present to the MAC clients of the LAG. *Also known as* LAG bundle, 802.3ad link aggregation, EtherChannel.

M

MAC-VRF MAC address virtual routing and forwarding table. This is the Layer 2 forwarding table on a PE for an EVI.

Reviewer: NEW

MetaFabric The architecture for next-generation data centers that simplifies and accelerates the deployment and delivery of applications within and across multiple data center locations.

Reviewer: NEW

MP2MP Multipoint to Multipoint.

Reviewer: NEW

MVRP *Reviewer: New*

N

NaaS Network as a Service

Reviewer: New

NEBS Network Equipment Building System. Set of guidelines originated by Bell Laboratories in the 1970s to assist equipment manufacturers in designing products that were compatible with the telecom environment.

Network as a Service NaaS

Reviewer: New

Network Director *Reviewer: New*

Network Functions Virtualization NFV. Standard IT virtualization technology that consolidates many network equipment types onto standard-architecture high-volume servers, switches, and storage. NFV involves designing, deploying, and managing network functions in software that can be moved to, or instantiated in, various locations in the network as required, without the need to install purpose-built hardware. Although NFV complements software-defined networking (SDN), NFV can be deployed without SDN and vice versa. *See also* SDN.

Network Node Group (NWNG) Each QFabric has one Network Node Group and up to eight physical Nodes can be configured to be part of the NWNG. The Routing Engines (RE) on the Nodes are disabled and the RE functionality is handled by the NWNG-VMs that are located on the Director devices.

Reviewer: NEW

network-attached storage (NAS) *Reviewer: NEW*

NFV	Network Functions Virtualization. Standard IT virtualization technology that consolidates many network equipment types onto standard-architecture high-volume servers, switches, and storage. NFV involves designing, deploying, and managing network functions in software that can be moved to, or instantiated in, various locations in the network as required, without the need to install purpose-built hardware. Although NFV complements software-defined networking (SDN), NFV can be deployed without SDN and vice versa. <i>See also</i> SDN.
nonstop active routing	NSR. High availability feature that allows a routing platform with redundant Routing Engines to preserve routing information on the backup Routing Engine and switch over from the primary Routing Engine to the backup Routing Engine without alerting peer nodes that a change has occurred. NSR uses the graceful Routing Engine switchover (GRES) infrastructure to preserve interface, kernel, and routing information. <i>Also known as</i> nonstop routing (NSR).
Nonstop bridging (NSB)	Keeps the Layer 2 protocol state synchronized between the master and backup Routing Engines <i>Reviewer: NEW</i>
nonstop software upgrade	NSSU. Software upgrade for switching platforms with redundant Routing Engines and for most Virtual Chassis or Virtual Chassis Fabric from one Junos OS release to another with no disruption on the control plane and with minimal disruption to network traffic. A switching architecture requires a different approach than the one for a routing architecture to preserve control plane information. <i>See also</i> ISSU, TISSU, and unified ISSU.
NSSU	nonstop software upgrade. Software upgrade for switching platforms with redundant Routing Engines and for most Virtual Chassis or Virtual Chassis Fabric from one Junos OS release to another with no disruption on the control plane and with minimal disruption to network traffic. A switching architecture requires a different approach than the one for a routing architecture to preserve control plane information. <i>See also</i> ISSU, TISSU, and unified ISSU.
NVGRE (Network Virtualization using Generic Routing Encapsulation)	<i>Reviewer: NEW</i>
Open vSwitch Database Management Protocol (OVSDB)	<i>Reviewer: NEW</i>
orchestration	<i>Reviewer: New</i>
Overlay networking	<i>Reviewer: NEW</i>
OVF	Open Virtualization Format. Platform-independent virtual machines (VMs) packaging and distribution method. The OVF supports industry-standard content verification and integrity checking and provides a basic scheme for managing software licensing. As described by the standard, the OVF defines an <i>open, secure, portable, efficient, and extensible format for the packaging and distribution of software to be run in virtual machines</i> . An OVF package consists of several files placed in one directory. The Open Virtualization Archive (OVA) is an alternative method that uses a TAR file containing the OVF directory.

P

P2MP	Point to Multipoint. <i>Reviewer: NEW</i>
passive flow monitoring	Technique to intercept and observe specified data network traffic by using a routing platform such as a monitoring station that is not participating in the network.
PFC	<ul style="list-style-type: none">• priority-based flow control. Link-level flow control mechanism defined by IEEE 802.1Qbb that allows independent flow control for each class of service to ensure that no frame loss from congestion occurs in data center bridging networks. PFC is an enhancement of the Ethernet PAUSE mechanism, but PFC controls classes of flows, whereas Ethernet PAUSE indiscriminately pauses all of the traffic on a link. <i>Also known as</i> priority flow control. <i>See also</i> Ethernet PAUSE.• Protocol Field Compression. Normally, PPP-encapsulated packets are transmitted with a two-byte protocol field. For example, IPv4 packets are transmitted with the protocol field set to 0x0021, and MPLS packets are transmitted with the protocol field set to 0x0281. For all protocols with identifiers from 0x0000 through 0x00ff, PFC enables routers to compress the protocol field to one byte, as defined in RFC 1661, <i>The Point-to-Point Protocol (PPP)</i>. PFC allows you to conserve bandwidth by transmitting less data. <i>See also</i> ACFC.
PMSI	Provider multicast service interface. A logical interface in a PE that is used to deliver multicast packets from a CE to remote PEs in the same VPN, destined to CEs. <i>Reviewer: NEW</i>
port mirroring	Method by which a copy of an IPv4 or IPv6 packet is sent from the routing platform to an external host address or a packet analyzer for analysis. <i>Also known as</i> traffic mirroring, switch port analyzer (SPAN), and lawful intercept. <i>See also</i> packet mirroring.
private cloud	A type of cloud implemented in a proprietary network or data center that uses cloud computing technologies to create a virtualized infrastructure operated solely for a single organization, whether it is managed internally or externally. <i>See also</i> public cloud.
public cloud	A cloud type in which a hosting service provider makes resources such as applications, storage, and CPU usage available to the public. Public clouds must be based on a standard cloud computing model. <i>See also</i> private cloud.

Q

QoS	quality of service. Performance, such as transmission rates and error rates, of a communications channel or system. A suite of features that configure queuing and scheduling on the forwarding path of an E Series router. QoS provides a level of predictability and control beyond the best-effort delivery that the router provides by default. (Best-effort service provides packet transmission with no assurance of reliability, delay, jitter, or throughput.) <i>See also</i> CoS.
QSFP	Quad (four-channel) small form-factor pluggable transceiver that provides support for optical or copper cables. QSFP transceivers are hot-insertable and hot-removable.

QSFP+	quad form-factor pluggable plus. Enhanced quad (four-channel) small form-factor pluggable transceiver that provides support for fiber-optic or copper cables. QSFP+ transceivers are hot-insertable and hot-removable.
Quantized Congestion Notification (QCN)	IEEE 802.1Qau) – A congestion management mechanism that sends a congestion notification message through the network to the ultimate source of the congestion. Instead of pausing transmission from the connected peer (as PFC does), QCN tries to stop congestion at its source—the network edge where the “end host” originates the congestion-causing flow. The idea is that instead of pushing a flow control message through the network one device at a time (like PFC), QCN tries to find the cause of congestion and stop the flow at the source. <i>Reviewer: NEW</i>
R	
Redundant Server Node Group (RSNG)	An RSNG consists of two physical Nodes. The Routing Engines on the Nodes operate in an active/backup fashion (think of a Virtual Chassis with two member switches). You can configure multiple pairs of RSNGs within a QFabric system. These mostly connect to dual-NIC servers. <i>Reviewer: NEW</i>
revenue port	<i>Reviewer: New</i>
S	
Security Director	<i>Reviewer: New</i>
Server Node Group (SNG)	This is the default group and consists of one Node. Whenever a Node becomes part of a QFabric system, it comes up as an SNG. These mostly connect to servers that do not need any cross Node redundancy. The most common examples are servers that have only one NIC. <i>Reviewer: NEW</i>
SFP	small form-factor pluggable transceiver. Provides support for optical or copper cables. SFP transceivers are hot-insertable and hot-removable. <i>See also</i> XFP.
SFP+	small form-factor pluggable plus. Enhanced SFP transceiver that provides support for data rates up to 10 Gbps for optical or copper interfaces. SFP+ transceivers are hot-insertable and hot-removable.
small form-factor pluggable plus	SFP+. Enhanced SFP transceiver that provides support for data rates up to 10 Gbps for optical or copper interfaces. SFP+ transceivers are hot-insertable and hot-removable.
software-defined networking	SDN. Approach to computer networking that uses methods of network abstraction, such as virtualization, to simplify and scale network components and uses software to define and manage network components. SDN separates the data plane, which forwards traffic, from the control plane, which manages traffic flow, and enables users to program network layers. SDN is often used with Network Functions Virtualization (NFV) to allow agile placement of networking services when and where they are needed. By enabling this level of programmability, SDN enables users to optimize their network resources, increase network agility, provide service innovation, accelerate service time-to-market, extract business intelligence, and ultimately enable dynamic, service-driven virtual networks. <i>See also</i> NFV.

Spine device *Reviewer: New*

STP Spanning Tree Protocol. Defined in the IEEE standard 802.1D, the Spanning Tree Protocol is an OSI Layer 2 protocol that ensures a loop-free topology for any bridged LAN. This protocol creates a spanning tree within a mesh network of connected Layer 2 bridges (typically Ethernet switches), and disables the links that are not part of that tree, leaving a single active path between any two network nodes.

STT (Stateless Transport Tunneling) *Reviewer: NEW*

T

TISSU topology-independent in-service software upgrade. Software upgrade for virtual machine and top-of-rack environments from one software image to another with no disruption to traffic transiting the device. In *topology-independent* virtual environments, devices are not linked by a hardware-based topology and such environments require a different approach for software upgrade than the one for hardware-based environments, which include routers and switches. *See also* ISSU, NSSU, and unified ISSU.

topology-independent in-service software upgrade TISSU. Software upgrade for virtual machine and top-of-rack environments from one software image to another with no disruption to traffic transiting the device. In *topology-independent* virtual environments, devices are not linked by a hardware-based topology and such environments require a different approach for software upgrade than the one for hardware-based environments, which include routers and switches. *See also* ISSU, NSSU, and unified ISSU.

U

unified in-service software upgrade unified ISSU. Software upgrade for routing platforms from one Junos OS release to another with no disruption of the control plane and with minimal disruption of traffic. Unified ISSU is supported only on platforms with dual Routing Engines. A routing architecture requires a unified approach to preserve routing tables and control plane information. *See also* ISSU, NSSU, and TISSU.

unified ISSU unified in-service software upgrade. Software upgrade for routing platforms from one Junos OS release to another with no disruption of the control plane and with minimal disruption of traffic. Unified ISSU is supported only on platforms with dual Routing Engines. A routing architecture requires a unified approach to preserve routing tables and control plane information. *See also* ISSU, NSSU, and TISSU.

V

vCenter The VMware[®] vCenter server, formerly known as VMware VirtualCenter, that centrally manages VMware vSphere environments, allowing administrators control over the virtual environment. The vCenter provides centralized control and visibility at every level of the virtual infrastructure. It manages clusters of ESX/ESXi hosts, including their VMs, hypervisors, and other parts of the virtualized environment. The vGW Virtual Gateway connects to the vCenter for visibility into all VMs.

VCF	Virtual Chassis Fabric <i>Reviewer: NEW</i>
vGW Series	A fault tolerant service provider and enterprise grade security solution purpose built for the virtualized environment. vGW Series delivers complete virtualization security for multitenant public and private clouds, and clouds that are a hybrid of the two. It maintains the highest levels of VM host capacity and performance while protecting virtualized environments.
Virtual Chassis	Interconnected devices functioning as one logical device. Similar to a Virtual Switching System or a stack.
Virtual Chassis Fabric	VCF. Evolution of the Virtual Chassis feature, which enables you to interconnect multiple devices into a single logical device, inside of a fabric architecture. <i>Reviewer: NEW</i>
Virtual Chassis Fabric Member	http://www.juniper.net/techpubs/en_US/junos13.2/topics/concept/vcf-components.html <i>Reviewer: NEW</i>
Virtual Chassis Ports (VCPs)	http://www.juniper.net/techpubs/en_US/junos13.2/topics/concept/vcf-components.html <i>Reviewer: NEW</i>
Virtual Machine Introspection	VMI. The vGW Virtual Gateway feature that gives a user a full view into all applications flowing between VMs and how they are used. VMI carries a complete VM and VM group inventory, including virtual network settings, and provides deep knowledge of each VM state, including installed applications, operating systems, patch levels, and registry values. The vGW Virtual Gateway incorporates VMI as part of its security policy definition and enforcement mechanism.
Virtual Router Redundancy Protocol	VRRP. On Fast Ethernet and Gigabit Ethernet interfaces, enables you to configure virtual default routers.
virtualization	Technology that abstracts the physical characteristics of a machine, creating a logical version of it, including creating logical versions of entities such as operating systems and various network resources.
VM	virtual machine. A simulation of a physical machine such as a workstation or a server that runs on a host that supports virtualization. Many VMs can run on the same host, sharing its resources. A VM has its own operating system that can be different from that of other VMs running on the same host.
VMI	Virtual Machine Introspection. The vGW Virtual Gateway feature that gives a user a full view into all applications flowing between VMs and how they are used. VMI carries a complete VM and VM group inventory, including virtual network settings, and provides deep knowledge of each VM state, including installed applications, operating systems, patch levels, and registry values. The vGW Virtual Gateway incorporates VMI as part of its security policy definition and enforcement mechanism.

vMotion	VMware [®] technology that allows for transition of active, or live, virtual machines from one physical server to another, undetectable to the user, it allows VMware to migrate a "live" VM (that is, a VM that is still running with no downtime), from one ESXi host to another host on a different physical server. vMotion allows for system maintenance on hosts and offers improved performance if greater capacity is available on another host.
VMSafe Firewall	The vGW Virtual Gateway installation mode, formally referred to as VMSafe Firewall + Monitoring, that provides both firewall configuration support and virtual machine monitoring. In this mode, the vGW Virtual Gateway loads a kernel module into the VMware hypervisor on the ESX/ESXi host to be secured and manages it.
VMSafe Firewall + Monitoring	The vGW Virtual Gateway installation mode that provides both firewall configuration support and virtual machine monitoring. In this mode, the vGW Virtual Gateway loads a kernel module into the VMware [®] hypervisor on the ESX/ESXi host to be secured and manages it. This is the default and recommended installation mode. This mode is also referred to as VMSafe Firewall mode.
VMSafe Monitoring	The vGW Virtual Gateway installation mode that is used for monitoring only. This mode is similar to the VMSafe Firewall + Monitoring mode except that no firewall policy is loaded on a VM. This mode allows you to deploy the vGW Virtual Gateway with the assurance that security policies do not block traffic.
VMware NSX	<i>Reviewer: NEW</i>
VMware vSphere	A VMware cloud operating system that can manage large pools of virtualized computing infrastructure, including software and hardware.
VMware vSphere client	An application or software that administers VMware vSphere.
vNIC	A virtualized network interface card that connects a VM to a vSwitch. A VM can have multiple vNICs. A vNIC presents the same media access control (MAC) interface that a physical interface provides.
vSwitch	A virtualized switch that resides on a physical server and directs traffic among VMs and their virtualized applications. Network activity between co located VMs transits it.
VXLAN	<i>Reviewer: New</i>
VXLAN (Virtual Extensible LAN)	<i>Reviewer: NEW</i>
VXLAN Network Identifier (VNI)	<i>Reviewer: NEW</i>
VXLAN Tunnel Endpoint (VTEP)	<i>Reviewer: NEW</i>
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Zero-Touch Provisioning	<i>Reviewer: New</i>