OneController Release Notes

Software Version 1.0

Table of Contents

1 Overview

These release notes document the Extreme Networks SDN OneController 1.0.

This chapter contains the following sections:

New Features in OneController 1.0

This section lists the new features in OneController 1.0.

Multiple features are installed with OneController. Several of these features are also active (functioning). You can make installed, but inactive, features active (see *OneController Installation and User Guide*).

The following table lists all OneController installed features, and indicates which ones are active by default (✓ in **Active** column).

Table 1: List of Installed and Active Features

Feature	Description	Active
AAA	Authentication, Authorization, and Accounting	✓
ADSAL	API Driven Service Abstraction Layer	✓
ARP Manager	Address Resolution Protocol Manager	✓
BGP	Border Gateway Protocol	
Controller	OpenDaylight Controller and its Config Plugins	✓
COPS	Common Open Policy Service	
DLUX	Web UI with Extreme Platform Manager	✓
Felix Dependency Manager	OSGi Dependency Management	✓

Table 1: List of Installed and Active Features (Continued)

Feature	Description	Active
FRM	Forwarding Rules Manager	✓
GBP	Group Based Policy	
Gemini Web	OSGi Web Container	✓
Host Tracker	Catalogs Hosts in the Network	✓
Jackson JAX RS	Java Data Parsing Tools	✓
Jersey	RESTful Web Services framework	✓
Jetty	Java Servlet Container	✓
LISP	Locator/Identifier Separation Protocol	
MDSAL	Model Driven Service Abstraction Layer	✓
MDSAL API Docs	API Explorer based on Swagger	✓
NETCONF	Network Configuration Protocol	✓
Netty Config	Netty.io Configuration API	✓
OpenFlow	OpenFlow Protocol Plugins	✓
OVSDB	Open vSwitch Database Protocol	
PCEP	Path Computation Element Communication Protocol	
Platform Manager	OneController Platform Manager API	✓
Plugin2OC	Plugin to OpenContrail	
RESTConf	REST API for accessing YANG / NETCONF	✓
SDNI	SDN Interface (Cross-Controller Federation)	
SFC	Service Function Chaining	
SLF4J Logging	Simple Logging Façade for Java	✓
SNBI	Secure Network Bootstrapping Infrastructure	
SNMP	Simple Network Management Protocol	
Spring	Spring Dependency Injection Framework	✓
Stats Manager	Send Statistics Requests to OpenFlow Nodes	✓
Switch Manager	Catalogs Capabilities of Network Elements	✓
Tomcat	Java Servlet Container	
Topology Manager	Network Topology Manager	✓
TTP	Table Type Patterns	
VTN	Virtual Tenant Network	
YANG	Tools for YANG models	✓

OneController Models

OneController is available in two models:

- OneC-A-600—physical appliance
- OneC-V—virtual appliance

OneC-V Supplemental Installation Instructions

To ensure that you have the correct, most up-to-date installation of OneC-V:

1 Install and deploy the OVA file (see "Installing OneController Virtual Machine" in the *OneControllerInstallation and User Guide)*.
2 Upgrade the OneC-V software (see "Upgrading OneController" in the *OneControllerInstallation and User Guide)*.

OneController Compatibility Matrix

OneController 1.0 has been validated to be compatible with the following combination of Extreme Networks and third-party products:

- OneController v1.0
- NetSight v6.2
- ExtremeXOS v15.7
- OneFabric Connect v2.05
- Open vSwitch 2.0.2
- OpenStack Juno-Devstack
- HyperGlance 3.5_Beta1_50
- Purview 6.2.0.157

OpenFlow Supported Platforms

OpenFlow is supported on the following platforms:

- Summit X440, X430, X460, X460-G2, X480, X670, X670-G2, and X770 series switches
- E4G-200 and 400 cell site routers
- BlackDiamond X8 with a single Management module
- BlackDiamond 8900 (XL-series) and C-series with single Management module only

Licensing Information

OneC-V

OneC-V is available as subscription that includes 24 × 7 × 365 TAC support, software updates, and upgrades.

For OneController 1.0 release, OneC-V comes with a fixed capacity of eight cores and cannot be changed. Future releases of OneController will provide purchasable capacity increases in increments of eight cores.

OneC-A-600

The OneC-A-600 hardware appliance comes with the OneController software installed and with perpetual right-to-use and usage of all 24 cores by OneController. You may purchase a service contract to entitle you to software updates, upgrades, and bug fixes.

Web Browser Recommendations

We recommend the following web browsers for use with the OneController DLUX GUI:

- Mozilla Firefox
- Google Chrome

OneController Open Ports

OneController IPv4 Open Ports

The following lists the OneController open ports for IPv4:

JMX

TCP dport 1099

Web socket server

TCP dport 8185

SNMP4SDN

UDP dport 162

BGP

TCP dport 179

UDP dport 179

BGP/PCEP (BGP/Path Computation Element Protocol)

TCP dport 1790

UDP dport 1790

PCEP (Path Computation Element Protocol)

TCP dport 4189

UDP dport 4189

JConsole

TCP dport 5005

UDP dport 5005

Java debug access

TCP dport 8000

ODL Clustering-Related Messages

TCP dport 2550

UDP dport 2550

TCP dport 2551

UDP dport 2551

TCP dport 2552

UDP dport 2552

TCP dport 5666

UDP dport 5666

TCP dport 7800

UDP dport 7800

TCP dport 12001

UDP dport 12001

NTP Connections

UDP dport 123

SSH Connections

TCP dport 22

SNMP Agent Access

TCP dport 161

UDP dport 161

Inter-Langley Connection Access

TCP dport 20506

TCP dport 20504

JMX

TCP dport 1088

NETCONF

TCP dport 8383

UDP dport 8383

TCP dport 1830

UDP dport 1830

OSGi Console

TCP dport 2400

OpenFlow

TCP dport 6633

UDP dport 6633

TCP dport 6653

UDP dport 6653

NSX Protocol

TCP dport 6632

UDP dport 6632

Connections to OpenDaylight Web Portal

TCP dport 8080

TCP dport 8181

TCP dport 8282

Connections to OVSDB

TCP dport 6640

UDP dport 6640

Dynamic Ports—Used in Response to Controller Queries

TCP dport 32767:65535

UDP dport 32767:65535

Ping

icmp icmp-type echo-request

OneController IPv6 Open Ports

The following lists the OneController open ports for IPv6:

NTP Connections

UDP dport 123

SSH Connections

TCP dport 22

SNMP Agent Access

TCP dport 161

UDP dport 161

Dynamic Ports—Used in Response to Controller Queries

TCP dport 32767:65535

UDP dport 32767:65535

Service Notifications

To receive proactive service notification about newly released software or technical service communications (for example, field notices, product change notices, etc.), please register at:

www.extremenetworks.com/support/service-notification-form

Additional SDN Documentation

Extreme Networks provides the following additional SDN documentation available at www.extremenetworks.com/documentation.

Table 2: Additional SDN Documentation

Title	Content
User	
SDN Getting Started Guide	Explains Extreme Networks SDN offerings and provides various high-level resources.
OneController Installation and User Guide	Covers OneController installation and usage for both the OneC-V (virtual machine) and OneC-A-600 (hardware appliance)
OneC-A-600 Quick Reference Card	Covers basic installation, setup, configuration, and compliance information for the OneC-A-600.
Developer	
Developers Resources Guide	Covers information for developers regarding Extreme Networks SDN architecture, resources, available APIs, communities/forums, points of contact, and support.
OneController SAL Programmers Guide	Covers Service Abstraction Layer (SAL) developer information.
ExtremeXOS SOAP/XML API Programmers Guide	ExtremeXOS SOAP/XML API reference.
ExtremeXOS Native C/C++ API Programmers Guide	ExtremeXOS Native C/C++ API reference.
Purview API Programmers Guide	Purview API reference.
ExtremeXOS Python API Programmers Guide	ExtremeXOS Python API reference.
OneFabric Connect API Programmers Guide	OneFabric Connect API reference.

2 Open Issues, Known Behaviors, and Resolved Issues

This chapter describes items needing further clarification and behaviors that might not be intuitive.

This chapter contains the following sections:

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Open Issues

The following are the open issues for supported features in OneController 1.0.

Table 3: Open Issues for OneController 1.0

ID Number	Description
Backups	
xdn0000295	With a remote backup scheduled, leaving the **Backup** page (under **System Configuration** > **Maintenance**) causes the remote server to no longer be listed as the destination for the backup. However, scheduled backups are still correctly sent to the remote server. To clear scheduled backups, select **Never** for **Frequency**, and then click **Clear Schedule**.
Control Plane	
xdn0000264	With the OneController odl-extreme-occonnect feature installed "default" flows are pushed to the switch with respect to the OpenFlow-enabled VLAN ports. After disabling, and then enabling, OpenFlow on the switch, the "default" flows installed are either partial or not present. **Workaround:** Reboot OneController, and then enable OpenFlow on the switch.

Table 3: Open Issues for OneController 1.0 (Continued)

ID Number	Description
Management Plane	
xdn0000304	To use OpenFlow and similar protocols through the OneController data plane interfaces (esa0, esa1, esa2), you must allow management traffic on those interfaces. Management traffic is allowed on the data plane interfaces by default, but this can be disabled from the OneController GUI. If you have disabled management traffic on a data plane interface, re-enable it: 1 Click **System Configuration**, and then click **Setup** on the menu bar. 2 Click the **Interfaces** tab. 3 Click the **edit icon** for a data plane interface in the table. 4 Select the **Allow Management Traffic** check box. 5 For each interface, ensure that the **Gateway** box has a valid address. 6 Click the **Summary** tab. A summary of all of your system settings appears. 7 Click **Submit**.
xdn0000248	OneController does not discover slot 2 ports when configured as egress tagged. You cannot push flows. "`WARN Bad action bad out-port`" message appears and flow push fails.
GUI	
xdn0000289	The OneController GUI does not appear to refresh when viewed from an Internet Explorer web browser. Configuration changes made with the Internet Explorer browser take effect, but the changes are not reflected in the browser display. The latest releases of Firefox and Chrome provide the best experience of the OneController GUI. If you must use Internet Explorer, after submitting a change, close all open Internet Explorer sessions on your computer, and then start a new session.

Table 3: Open Issues for OneController 1.0 (Continued)

ID Number	Description
OpenDaylight	
xdn0000100	Administrators with access to the operating system level of OneController can invoke the OneController (Apache Karaf) command line interface (CLI) directly from the Linux shell. The credentials to log on to the Karaf CLI are different than the ones used to log on to OneController itself. Regardless of the credentials used to log on to OneController, use user name "`karaf`" and password "`karaf`" to log on to the Karaf CLI.
xdn0000126	With L2 Switch feature installed, connecting Summit series switches using OpenFlow v1.0, causes a scrolling translation null point exception in the OneController Openflow plugin. **Workaround:** Do not use OpenFlow v1.0 with L2 Switch feature.
xdn0000179	OneController does not send an OpenFlow flow mod packet if any of the following flags are set in the YANG UI for flow installation: CHECK_OVERLAP, RESET_COUNT, NO_PKT_COUNTS, NO_BYT_COUNTS, or SEND_FLOW_REM.
xdn0000251	Change event subscription works on namespace level, but not on path within the namespace.
xdn0000277	Host entries detected by address-tracker in OneController never time out, even after stopping the traffic.
xdn0000284	When either the idle or hard timeout is reached on an active flow, the flow appears to be removed as expected. However, trying to re-push the same flow again is not accepted. **Workaround:** Delete the flow or change the timeout or other values for the flow.

xdn0000102	After enabling the L2Switch and MDSAL features in OneController, default flows "Drop All" and "LLDP" are installed onto the Summits series switches. The "Drop All" flow literally drops everything, including data packets, except LLDP packets, so inherently no flow would ever be installed.
	
	Workaround: Edit the `58-l2switchmain.xml` file manually to not install the "Drop All" flow, then reboot OneController.
	
	`vi /usr/opendaylight/etc/opendaylight/karaf/58-l2switchmain.xml`
	
	Change this line from "true" to "false".
	
	`<is-install-dropall-flow>`**`false`**`</is-install-dropall-flow>`

xdn0000103	After installing the following features: odl-nsf-all, odl-openflowplugin-all, odl-adsal-compatibility-all, and odl-vtn-manager-all executing the command `log:tail` in the Karaf command line produces an error message and you are automatically disconnected from Karaf. **Workaround:** Add the Grep option.

Table 3: Open Issues for OneController 1.0 (Continued)

ID Number	Description
xdn0000117	After installing the VTN feature, with ADSAL compatibility, the following node creation error appears for the Summit series switch connected to OneController: `2014-11-10 12:51:38,286	WARN	otification-1078	ToSalConversionsUtils	292 - org.opendaylight.controller.sal-compatibility - 1.1.0.Helium	nodeConnector creation failed at node: OF|00:00:00:04:96:8f:94:57 with nodeConnectorUri: OF:19705861207:CONTROLLER`
xdn0000118	The Neutron Northbound API of OneController encounters a class exception when interacting with OpenStack (Icehouse version) Neutron. This mainly occurs when OpenStack is telling OneController to create a network using VTN, etc.
xdn0000119	With the L2Switch feature installed on OneC-V in a 3-node ring topology, issuing a single ping causes data and control packets to loop continuously. This appears to be due to one of the switch output ports in a flow being programmed incorrectly—instead of programming the host connected port, it programmed a ring port, causing a loop over the ring.
xdn0000121	After installing a flow through L2Switch in OneController, flow, inventory, and stats exceptions occur.

xdn0000123	The default L2Switch Idle (1,800 secs) and hard (3,600 secs) timeouts are unrealistic for a real network and unrealistic on Summit series switches due to ACL rule limits. These default timeout values cause unwanted flows to remain in the ACL OpenFlow tables for the Summits series switches for an undesirable amount of time.
	
	Workaround: Edit the timeout values.
	
	`vi /usr/opendaylight/etc/opendaylight/karaf/58-l2switchmain.xml`
	
	Change the following lines to the indicated values:
	
	`<reactive-flow-idle-timeout>`**300**`</reactive-flow-idle-timeout>`
	
	`<reactive-flow-hard-timeout>`**0**`</reactive-flow-hard-timeout>`

xdn0000149	Openflow plugin error appears when Summit series switches attempt to connect with OneController. Summit series switches appear to connect properly, but OneController does not display the Summit IP addresses in the GUI nor in Karaf.
xdn0000150	Cannot retrieve flows with flow ID from the flow table from "operational" data store for flows created by L2Switch and ones created manually using the YANG UI.
xdn0000151	It takes a varying amount of time to update the port/flow statistics in OneController.
xdn0000152	OneController YANG UI config/config/modules and config/operational/modules error on get. No information appears and state is "Error sending request".
xdn0000155	After deleting a pair of flows under /config/nodes/node/nodex/table/0/, a sending request error appears on a get. The default table list icon should be returned instead.

Table 3: Open Issues for OneController 1.0 (Continued)

ID Number	Description
xdn0000174	Unable to retrieve node-connector queue (qosprofile) statistics from OneController using the REST API.
xdn0000181	OneContoller OpenFlow plugin reports no receipt of Barrier msgReply. However, reply was sent from ExtremeXOS.
xdn0000183	OneController OpenFlow plugin reports no receipt of Echo msgReply. However, reply was sent from ExtremeXOS.
xdn0000184	The default OpenFlow flag sent by OneController for flow installation is send_flow_rem, even though the flag was not selected through the YANG UI. Unable to use the commands OFPFC_MODIFY or OFPFC_MODIFY_STRICT to modify flows that are already installed.
xdn0000185	OneController OpenFlow plugin does not transmit set-dl-type-action when using action set in YANG UI.
xdn0000186	OneController OpenFlow plugin does not transmit set-vlan-cfi-action when using action set in YANG UI.
xdn0000189	OneController OpenFlow plugin does not transmit loopback-action when using action set in YANG UI.
xdn0000190	OneController OpenFlow plugin does not transmit all fields in push-vlan-action when set in YANG UI.
xdn0000192	OneController OpenFlow plugin does not transmit flood-action when using action set in YANG UI.
xdn0000193	OneController OpenFlow plugin does not transmit sw-path-action when using action set in YANG UI.
xdn0000194	OneController OpenFlow plugin does not transmit hw-path-action when using action set in YANG UI.
xdn0000201	L2Switch: Default flows are not installed after OneController reboots.
xdn0000225	OneController GUI: If you click **Network** on the left navigation bar, and then click **Add Static Route**, the Cancel button appears to have no functionality.
xdn0000227	OneController does not send flow table and aggregate statistics, even though it has received statistics from network entities.
xdn0000230	OneController GUI: "Nodes" command does not appear in the left navigation bar for several minutes after nodes connect.
xdn0000238	OneController GUI: After clicking **Nodes** on the left navigation bar, the "Node Name" of each connected node always appears as "None".
xdn0000218	Sending request error appears on get of /opendaylight-inventory/config/nodes/node/table. You cannot delete flows due to get of table 0 errors.

Table 3: Open Issues for OneController 1.0 (Continued)

ID Number	Description
xdn0000300	You cannot use 0.0.0.0" as a destination address for a static route in the OneController GUI (**System Configuration** > **Maintenance** > **Routes**) making it impossible to define a static default route. **Workaround:** Define two static routes that effectively cover the entire address range. The example below shows two static routes that combined provide equivalent functionality: **1st Static Route** Destination Address = 127.0.0.0 Netmask = 128.0.0.0 Gateway = 10.3.0.2 Interface = eas0 **2nd Static Route** Destination Address = 128.0.0.0 Netmask = 128.0.0.0 Gateway = 10.3.0.2 Interface = eas0 As a result of the above configuration, all traffic requiring routing is forwarded through esa0 to gateway 10.3.0.2.
System Setup	
xdn0000257	Each interface of a OneController has a gateway, which is the gateway of the subnet on which the interface resides. OneController's default gateway is the gateway of the "Admin" interface. **Workaround:** It is not always desirable to have the default gateway be on the Admin interface. Administrators can override this default behavior by adding one or more static routes: On the left navigation bar of the OneController GUI, click **System Configuration**, **Maintenance**, and then **Routes**.