

OpenDaylight SDN Controller Platform (OSCP) Proposal

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Name

OpenDaylight SDN Controller Platform

[blocked URL](#)

Repo Name

l3extensions

Description

The OpenDaylight SDN Controller Platform is the network application platform providing unified network intelligence, enterprise-class scalability and high availability, and a platform to deploy a wide range of network applications, including data center network virtualization. OSCP uses industry standard protocols, like OpenFlow, to create a common abstraction and universal data model for the underlying network data plane elements. When combined with open and published application programming interfaces (APIs), OSCP offer the most flexible platform to deploy universal, network-wide applications. Features include:

- Topologies: Support for non-OF networks, VLAN-network tagging
- High Availability (active/standby)
- OpenFlow Support
- Management features:
 - REST API
 - Command Line Interface (CLI)
 - SNMP
 - Graphical User Interface (GUI) for monitoring
 - Statistics (CPU, RAM/Disk utilization)
 - Controller-Switch message tracing
 - Syslog
 - NTP
 - Management/Control interface separation
- Switch Support
 - Virtual Switches
 - Open vSwitch (OVS)
 - Hardware Switches
 - Arista 7050
 - Brocade MLXe
 - Brocade CER
 - Brocade CES
 - Extreme Summit x440, x460, x670
 - Huawei openflow-capable router platforms
 - HP 3500, 3500yl, 5400zl, 6200yl, 6600, and 8200zl (the old-style L3 hardware match platform)
 - HP V2 line cards in the 5400zl and 8200zl (the newer L2 hardware match platform)
 - IBM 8264
 - Juniper (MX, EX)
 - NEC IP8800
 - NEC PF5240
 - NEC PF5820
 - NetGear 7328SO
 - NetGear 7352SO
 - Pronto (3290, 3295, 3780) - runs the shipping pica8 software
 - Switch Light platform

For more information, please see [OpenDaylight SDN Controller Platform](#)

Scope

The scope of the OpenDaylight SDN Controller Platform includes:

- Northbound API (REST)
- High Availability (HA)
- OpenFlow 1.0 Southbound Plugin
- Host-Tracker
- Stats Manager
- [Command-Line Interface \(CLI\)](#)
- Forwarding Manager
- Switch Manager
- Topology Manager
- [Network Virtualization](#)
 - overlays (tunneling) with OVS virtual switch
 - network isolation by MAC, subnet, or Port
 - Security: spoofing protection and ACLs
 - virtual routing
 - Policy:
 - Broadcast handling – ARP, DHCP, and other broadcast traffic is optimized and can be broadcast, selectively unicast, or dropped.
 - Membership rules – based on L1-L4 portions of the header as well as meta-information available to the application.
- IaaS Cloud Orchestration Integration
 - [OpenDaylight OpenStack Quantum Plugin](#)
 - Cloudstack

Resources Committed (developers committed to working)

Committers and four additional four contributors listed below are committed as resources for development:

Committers:

- Rob Sherwood (rob.sherwood@bigswitch.com)
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Active Community

The core "sdnplatform" component of the project is currently supported by almost 1000 subscribers, with over 600 messages per month to the public mailing list. Contributions to the project have been made by multiple various commercial and research organizations.

History of Releases

The core "sdnplatform" component of the project has gone through three major releases over the past 16 months, using a public, open development and release methodology.

Vendor Neutral

- No vendor package names in code
- No vendor branding / trademark present in code or output of build
- No vendor branding / trademark present in documentation

Meets Board Policy (including IPR)

