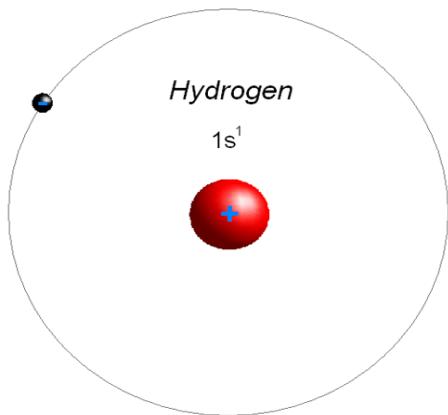


OpenDaylight

Introduction and Overview



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SP CTO and Chief Scientist

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Agenda

Introduction

Architecture Overview

Project Life Cycle, Simultaneous Release Plan and Projects

How to Get Involved and A Bit on Governance

Q&A

What is the OpenDaylight Project?

The OpenDaylight Project is a collaborative open source project that aims to accelerate adoption of Software-Defined Networking (SDN) and create a solid foundation for Network Functions Virtualization (NFV) for a more transparent approach that fosters new innovation and reduces risk. Founded by industry leaders and open to all, the OpenDaylight community is developing a common, open SDN framework consisting of code and blueprints.

Broad Industry Support



Goals

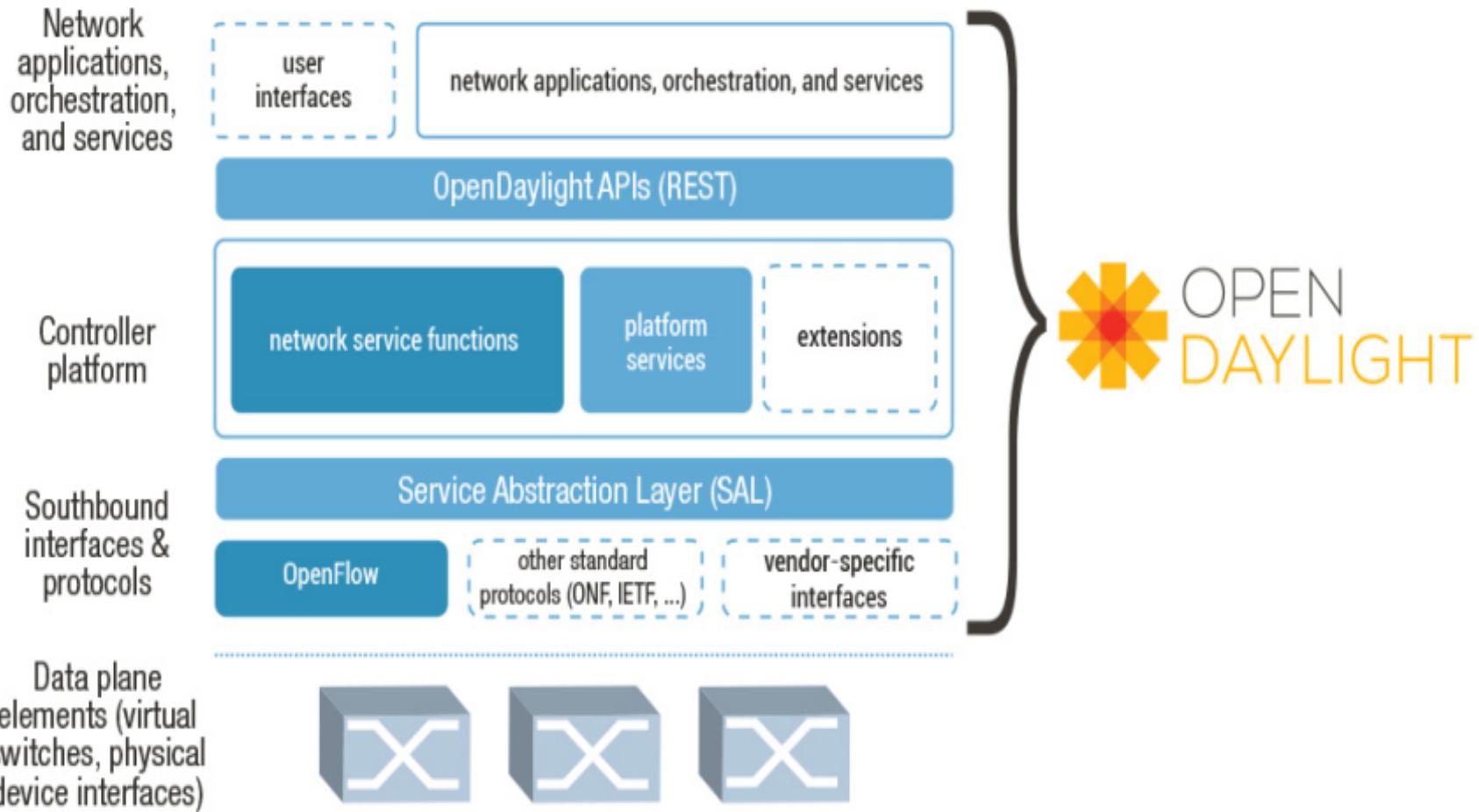
- **Code:** To create a robust, extensible, open source code base that covers the major common components required to build an SDN solution
- **Acceptance:** To get broad industry acceptance amongst vendors and users
- **Community:** To have a thriving and growing technical community contributing to the code base, using the code in commercial products, and adding value above, below and around
- **Key Principles:** Open, transparent, fair



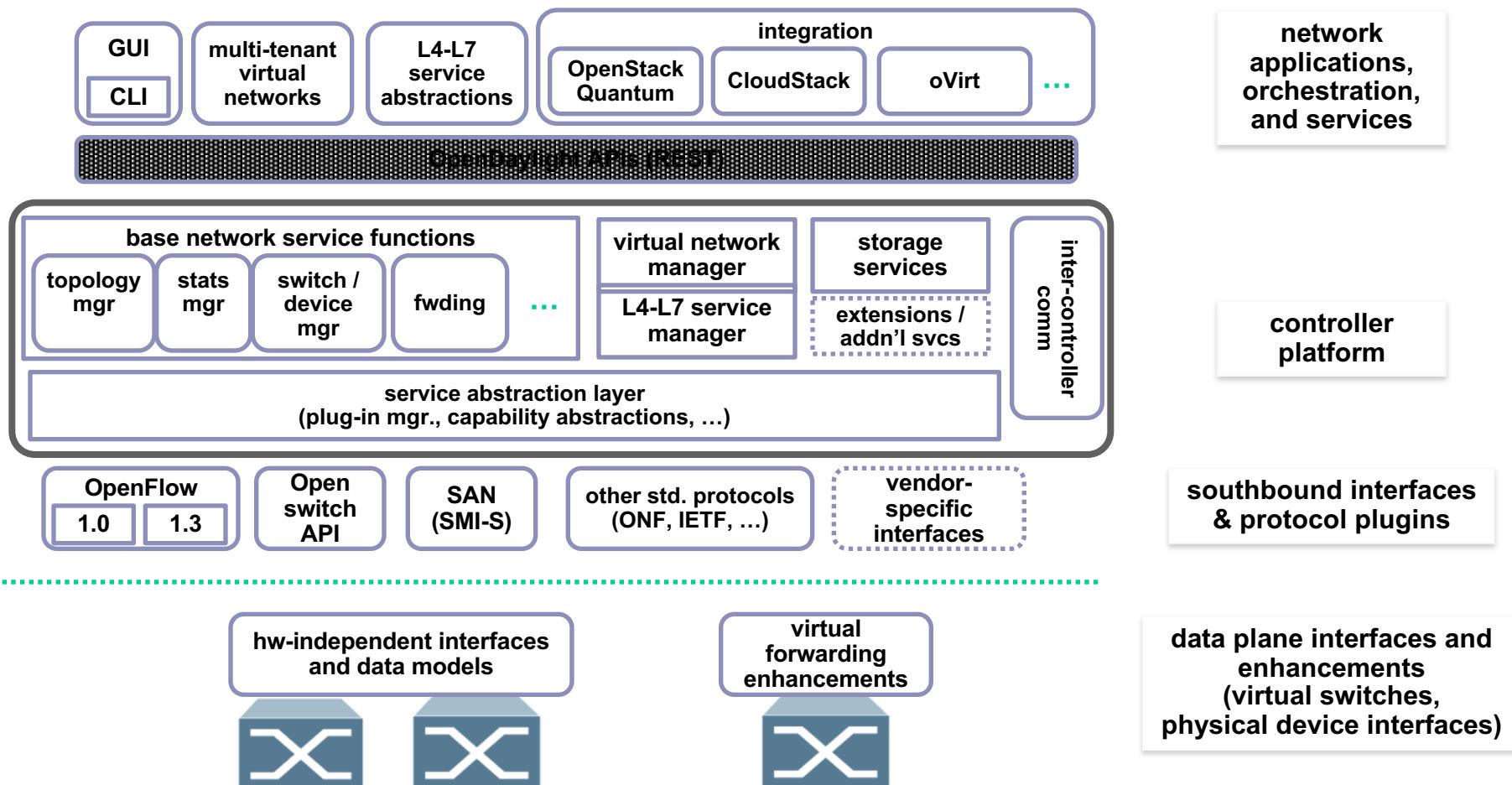
Code

- “Coin of the Realm”
- A wide array of technologies contributed by leading companies and developers
- See “Hydrogen Projects” in a few slides
- Open Source: Any developer can contribute code as an individual
- Robust framework/platform for new apps and tools
- [Eclipse Public License \(EPL\)](#)
- So what is the ODP Project Framework and Architecture?

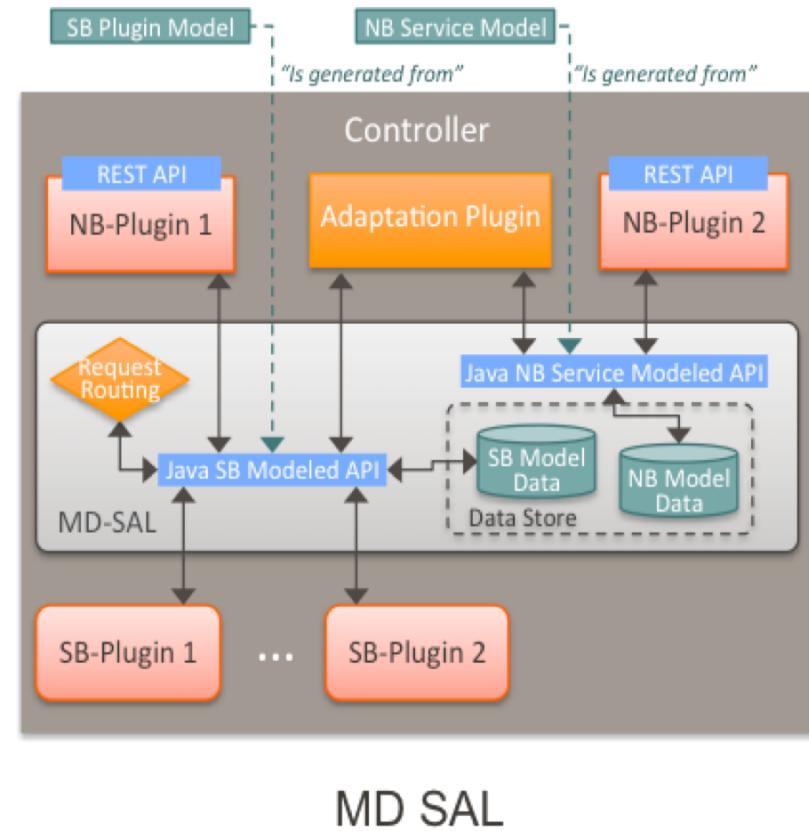
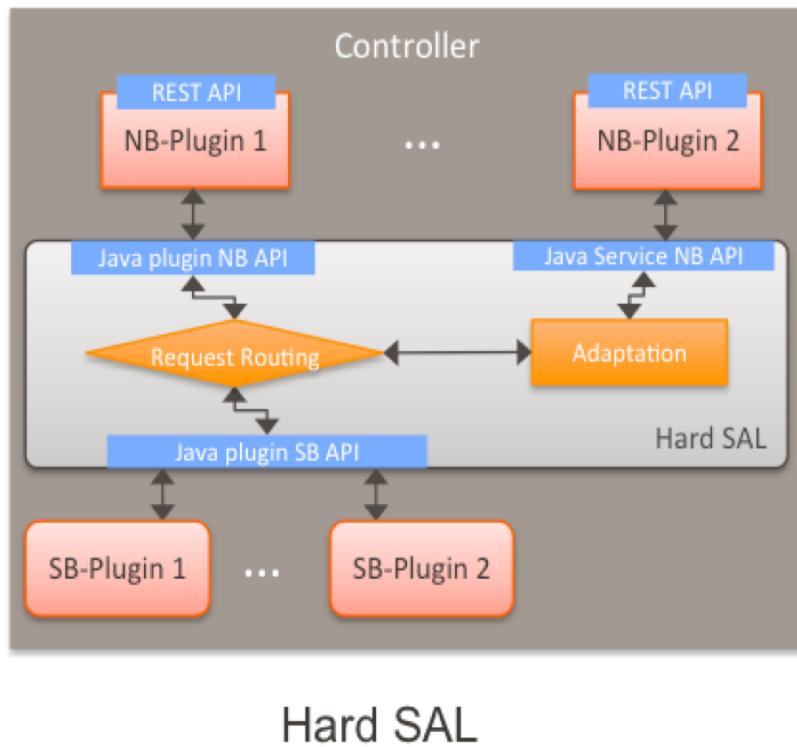
General Project Framework



Drilling Down a Bit...

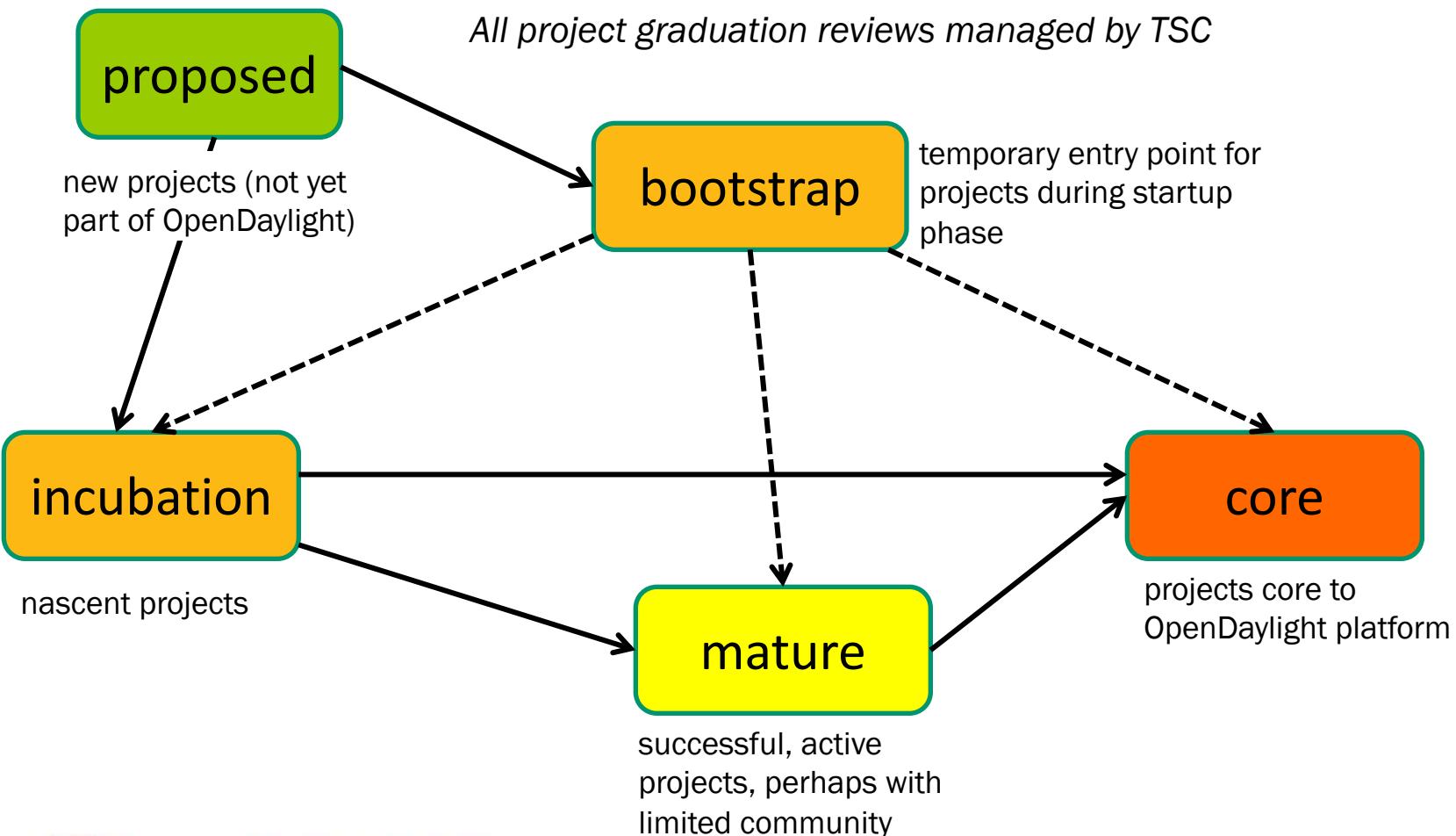


Major Architectural Feature: Service Abstraction Layer (SAL)

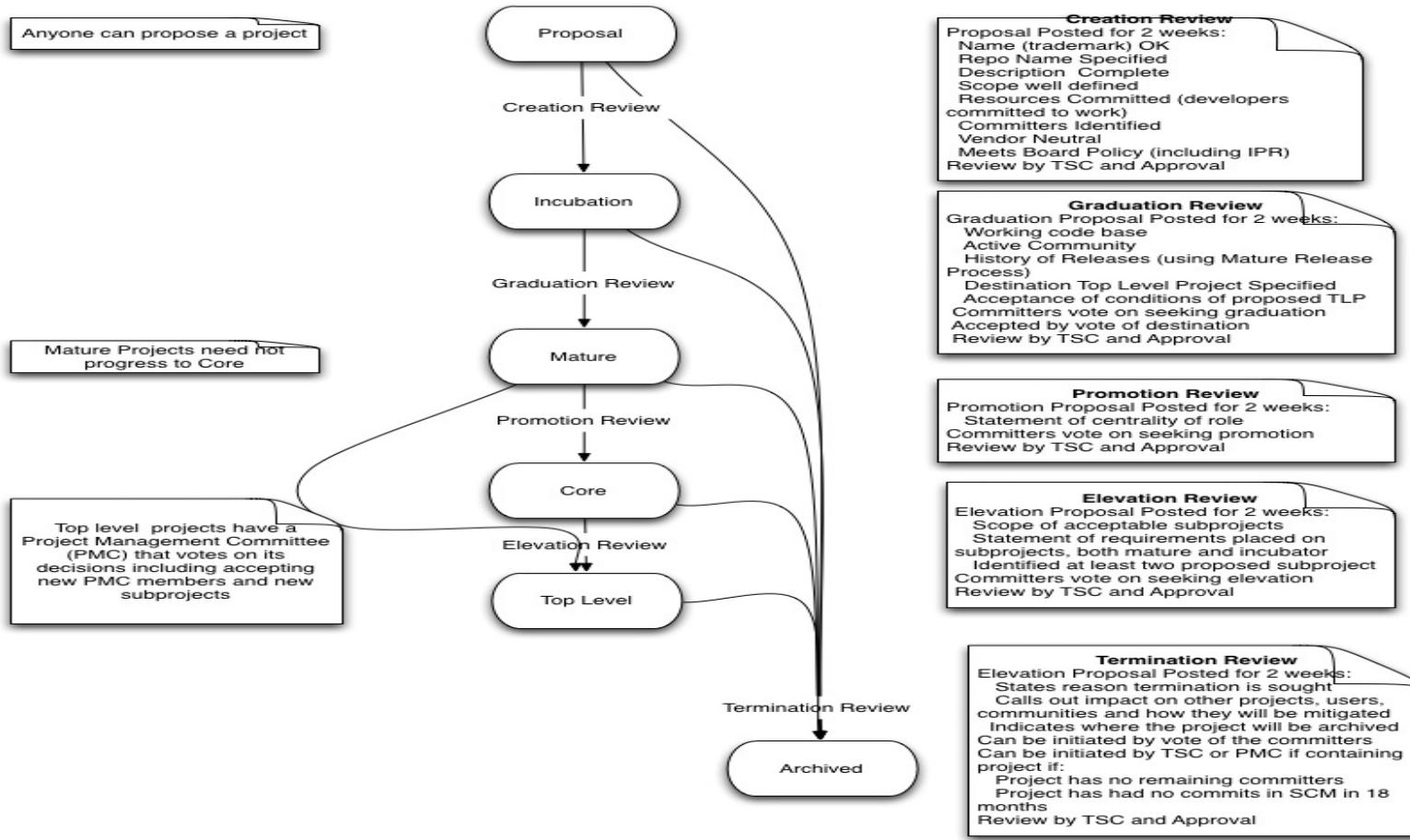


https://wiki.opendaylight.org/view/OpenDaylight_Controller:MD-SAL:FAQ

Project Life Cycle Schematic



Project Life Cycle Detail



Hydrogen Projects

Projects in Bootstrap State

Controller (Cisco)

Network Virtualization Platform (BSN)

Virtual Tenant Network (NEC)

Open DOVE (IBM)

OpenFlow Plugin (Ericsson/Cisco/Pantheon)

Affinity Metadata Service (Plexxi)

Projects in Incubation State

YANG Tools (Cisco)

LISP Flow Mapping (ConteXtream)

OVSDB Integration (UK/Cisco)

Openflow Protocol Library (Pantheon/Cisco)

BGP-LS/PCEP (Cisco)

Defense4All (Radware)

SNMP4SDN (ITRI)

New Projects

- Integration
- DilUX

Hydrogen Simultaneous Release Plan 2013

Schedule

[edit]

Milestone	Offset 0 Date	Offset 1 Date	Offset 2 Date	Events
M0	6/24/2013	6/26/2013	6/28/2013	Simultaneous Release Open
M1	7/22/2013	7/24/2013	7/26/2013	<ul style="list-style-type: none">1. Projects must have declared intent to participate in Simultaneous Release2. Participating Projects must have published a candidate Release Plan for public comment (Release Plan Template)
M2	8/19/2013	8/21/2013	8/23/2013	Participating Projects must have declared their final Release Plan
M3	9/16/2013	9/18/2013	9/20/2013	Latest possible Continuous Integration Test Start
M4	10/14//2013	10/16/2013	10/18/2013	<ul style="list-style-type: none">1. API Freeze2. Latest possible Continuous System Test Start
M5	11/11/2013	11/13/2013	11/15/2013	<ul style="list-style-type: none">1. Code Freeze (bug fixes only from here)2. String Freeze (all internationalizable strings frozen to allow for translation)3. Latest possible date for commencing User Facing Documentation
RC0	11/18/2013	11/20/2013	11/22/2013	
RC1	11/25/2013	11/27/2013	11/29/2013	
RC2	12/2/2013	12/4/2013	12/6/2013	Participating Projects must hold their Release Reviews, including User Facing Documentation.
Formal Release	12/9/2013			

Projects in the “Hydrogen” Release - Coming 12/9/13

Project	Description	Originator (others)
Controller	Modular, extensible, scalable, and multi-protocol SDN controller based on OSGi	Cisco (IBM, RedHat, NEC, etc.)
Virtual Tenant Network	Multi-tenant network virtualization application using OpenFlow	NEC
YANG Tools	Java-based NETCONF and YANG tooling for OpenDaylight projects	Cisco
OpenFlow Protocol Library	OF 1.3 protocol library implementation	Pantheon (IBM, Cisco, Ericsson)
OpenFlow Plugin	Integration of OpenFlow protocol library in controller SAL	Ericsson, IBM, Cisco
Affinity Metadata Service	APIs to express workload relationships and service levels	Plexxi
Defense4All	DDoS detection and mitigation framework	Radware
BGP-LS/PCEP	Support for traffic engr with BGP-LS (BGP protocol library and topology model) and PCEP (path programming model)	Cisco
OVSDB	OVSDB configuration and management protocol support (e.g., for Open vSwitch and other OVSDB servers)	Univ. of Kentucky
LISP Flow Mapping	LISP (locator/identifier separation protocol) plugin, LISP mapping service (can be used to implement virtual networks)	ConteXtream
SNMP4SDN	SNMP protocol support; APIs to manage commodity Ethernet switches	Industrial Technology Research Inst.
Open DOVE	Multi-tenant network virtualization based on overlays, including ctrl plane and OVS-based data plane	IBM



First Code Release “Hydrogen”

VTN: Virtual Tenant Network
DOVE: Distributed Overlay Virtual Ethernet
DDoS: Distributed Denial Of Service
LISP: Locator/Identifier Separation Protocol
OVSDB: Open vSwitch DataBase protocol
BGP: Border Gateway Protocol
PCEP: Path Computation Element Communication Protocol
SNMP: Simple Network Management Protocol

Management
GUI/CLI

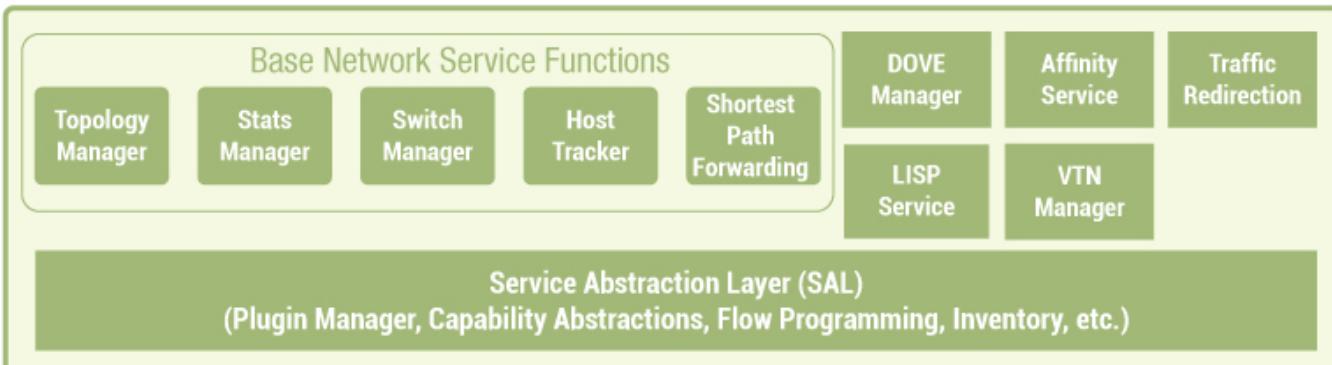
VTN
Coordinator

OpenStack
Neutron

DDoS
Protection

Network Applications
Orchestrations & Services

OpenDaylight APIs (REST)



OpenFlow
1.0 1.3

OVSDB

NETCONF

LISP

BGP

PCEP

SNMP

Southbound Interfaces
& Protocol Plugins

OpenFlow Enabled
Devices



Open
vSwitches



Additional Virtual &
Physical Devices



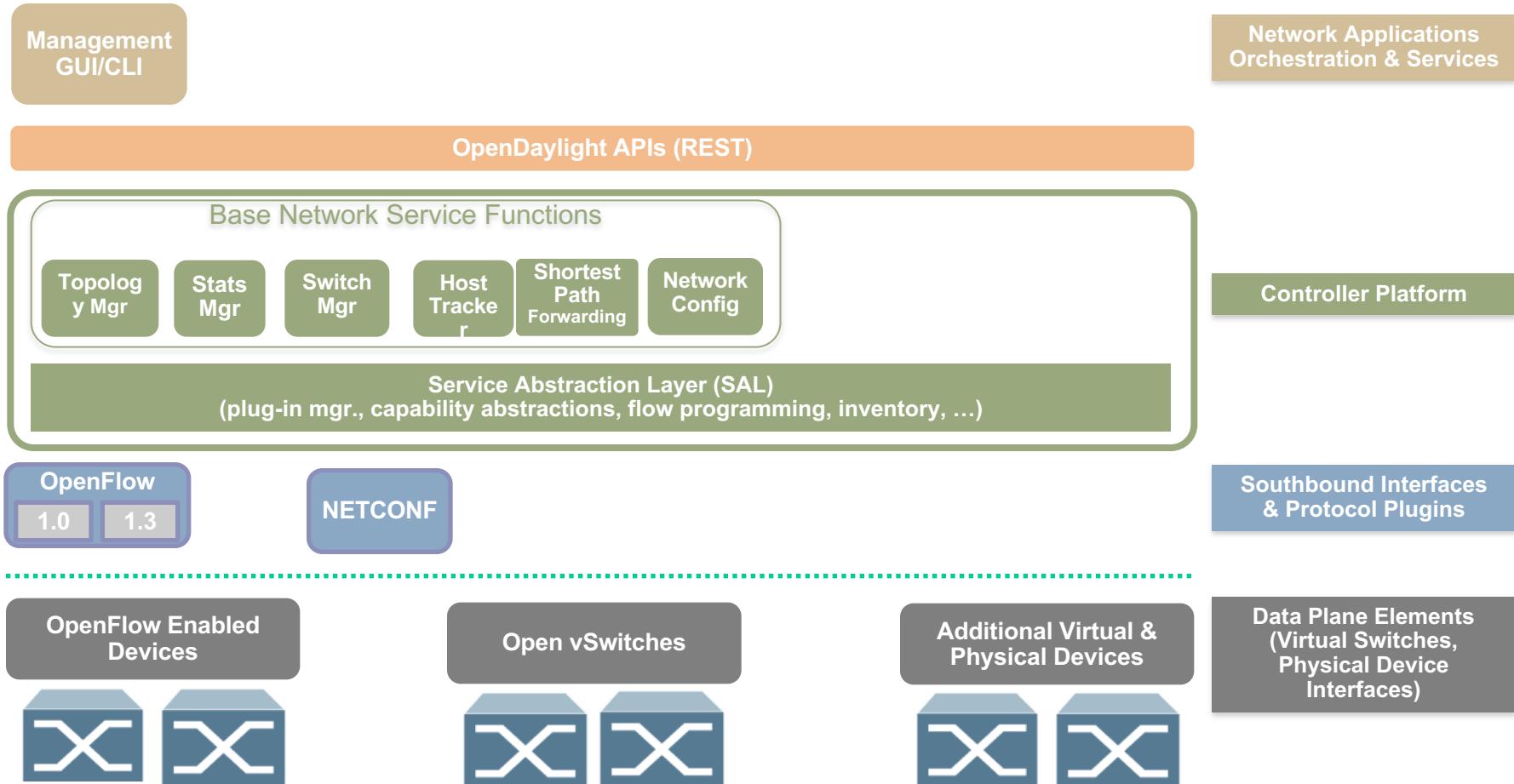
Data Plane Elements
(Virtual Switches, Physical
Device Interfaces)

Proposed Hydrogen Release Vehicles

- Release Vehicles and their contents are still being finalized
- Current proposal:
 - Base Edition
 - Virtualization Edition
 - Service Provider Edition
- Note: REL (yum) packages in process

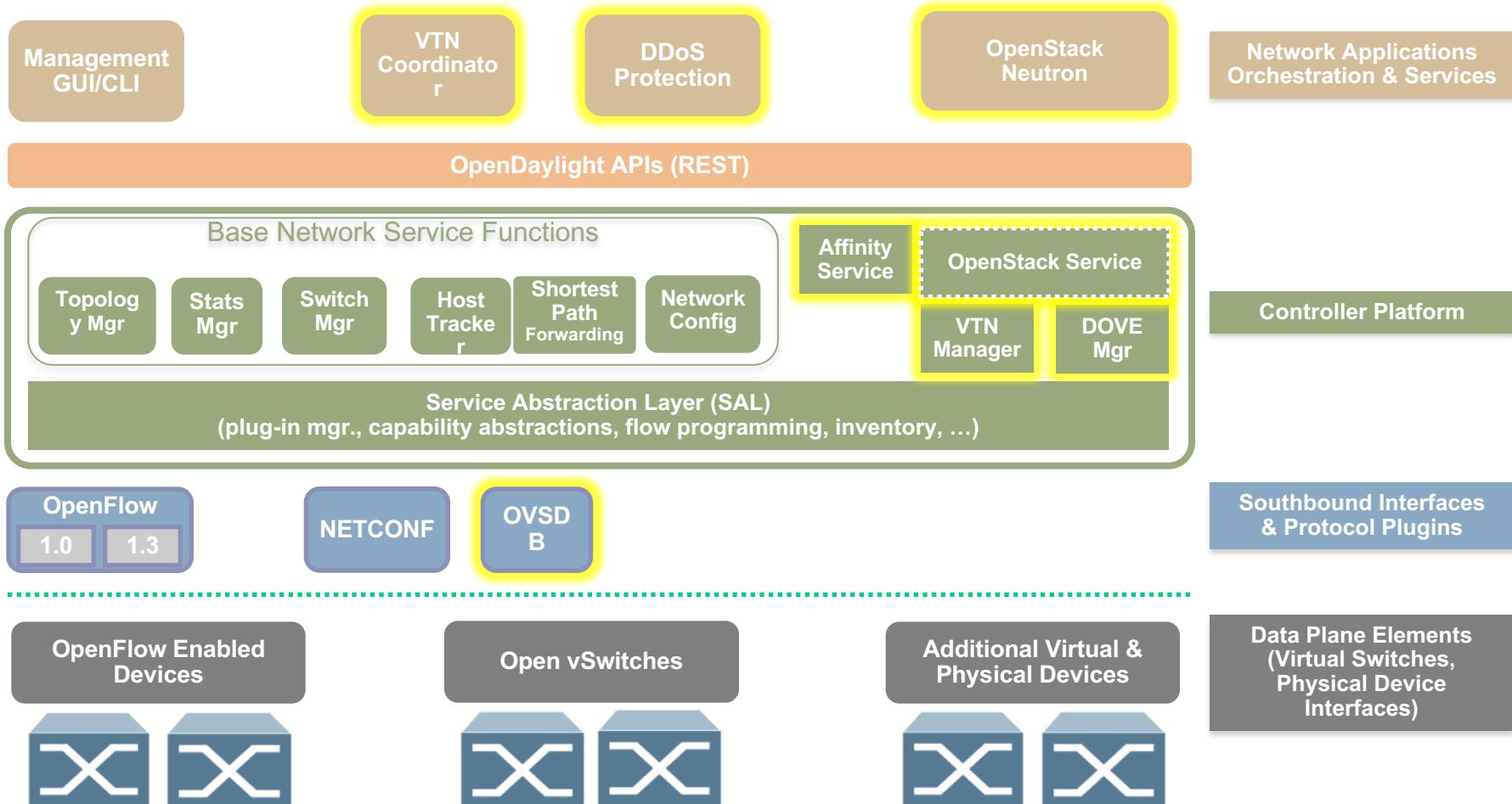


Base Edition



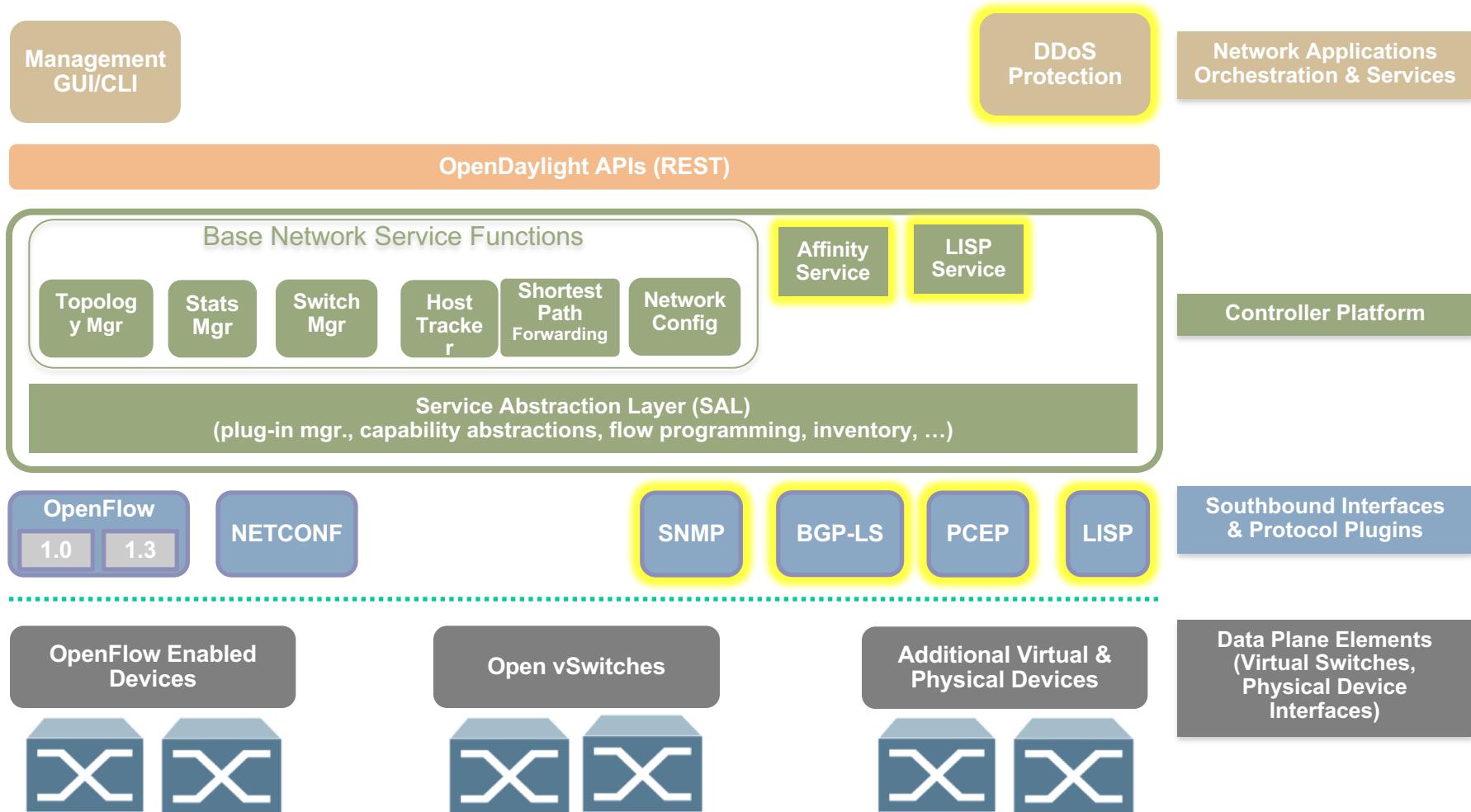


Virtualization Edition





Service Provider Edition



Getting Involved

Developer documentation: wiki.opendaylight.org

list of current projects in various states

links to documentation on current projects, e.g., how to get/build code, architecture, ...
information on proposing new projects for OpenDaylight

The screenshot shows the main page of the OpenDaylight Developer Documentation Wiki. The top navigation bar includes links for Page, Discussion, Read, Edit, View history, Search, Go, and Site map. The left sidebar contains links for Navigation (Main page, Community portal, Current events, Recent changes, Random page, Help) and a Toolbox (What links here, Related changes, Upload file, Special pages, Printable version). The main content area features a "Main Page" header and a "Welcome to the OpenDaylight Developer Documentation Wiki" message. Below this, a "Contents [hide]" section lists categories: 1 Mature/Core/Top Level Projects, 2 Bootstrap Projects, 3 Incubation Projects, 4 Proposed Contributions, 5 To Propose a New Contribution to OpenDaylight, and 6 Hackfests. A "Mature/Core/Top Level Projects" section is also visible.



www.opendaylight.org

Getting Involved, Cont

Open mailing lists: lists.opendaylight.org

discussion groups on specific projects
cross-project discussions
announcements

lists.opendaylight.org Mailing Lists

Welcome!

Below is a listing of all the public mailing lists on lists.opendaylight.org. Click on a list name to get more information about the list, or to subscribe, unsubscribe, and change the preferences on your subscription. To visit the general information page for an unadvertised list, open a URL similar to this one, but with a '/' and the list name appended.

List administrators, you can visit [the list admin overview page](#) to find the management interface for your list.

If you are having trouble using the lists, please contact mailman@lists.opendaylight.org.

List	Description
controller-announce	OpenDaylight Controller Announcements (low volume)
controller-bugs	Notifications from Bugzilla for the OpenDaylight Controller.
controller-dev	Developer discussions for the Open Daylight Controller.
controller-gerrit	Gerrit automated notices about the OpenDaylight Controller.
controller-jenkins	Jenkins CI notifications for the OpenDaylight Controller
controller-users	Community driven support alias for the OpenDaylight Controller.
Discuss	OpenDaylight cross project discussion
opendaylight-announce	OpenDaylight Announcements (low volume)
opendaylight-users	OpenDaylight community support
project-proposals	OpenDaylight project proposals to the TSC
TSC	OpenDaylight Technical Steering Committee



version 2.1.12



OpenDaylight governance – 10K view

Bylaws: <http://www.opendaylight.org/project/bylaws>

ODP *Board of Directors* will manage business leadership for OpenDaylight including governance, marketing and operational decisions

Initial BOD populated by Platinum members + 1 gold + 1 silver

ODP *Technical Steering Committee* sets technical direction

TSC provides technical leadership for OpenDaylight

TSC members are elected and is comprised of developers and project leaders

Initially seeded with Platinum member representatives

TSC chair ex-officio member of the Board

TSC chair elected annually with no term limits

Importantly: ***OpenDaylight is open to anyone.*** In particular

Anyone can develop and contribute code

Anyone get elected to the Technical Steering Committee

Anyone can get elected to the Board

Anyone can help steer a project forward in any number of ways

A Little More on the TSC

Technical direction set by the Technical Steering Committee

Responsible for maintaining platform codebase

Sets release train scope and schedule

TSC membership

Initialized with representatives from platinum member companies

Will evolve to be comprised of core project leads and community representatives

TSC meetings and mailing list are open to the community

See [lists.opendaylight.org](https://lists.opendaylight.org/list/tsc@lists.opendaylight.org) to subscribe to the TSC mailing list

TSC calls are Thursday at 1000 PDT (open to all)

See <https://wiki.opendaylight.org/view/TSC:Main>

TSC Meeting Minutes and Call recordings

See <https://wiki.opendaylight.org/view/TSC:Main>

Technical Work Stream calls are Monday at 1300 PDT (open to all)

See https://wiki.opendaylight.org/view/Tech_Work_Stream:Main

Resources

- More information and to join:
 - wiki.opendaylight.org
- Keep informed and join the conversation
 - IRC: #.opendaylight on Freenode
 - Open mailing lists: lists.opendaylight.org
 - [@openDaylightSDN](https://twitter.com/OpenDaylightSDN)
 - [#OpenDaylight](#)



Thanks!