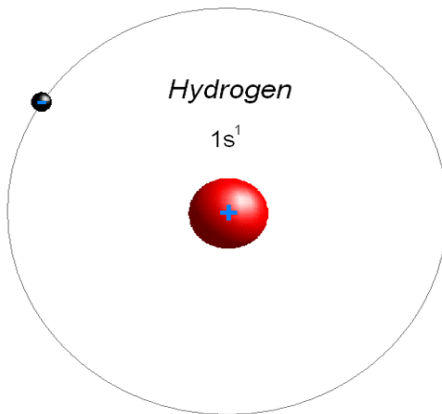


OpenDaylight

Introduction and Overview



David Meyer
SP CTO and Chief Scientist
Brocade

http://www.1-4-5.net/~dmm/talks/onug_2013.pdf

Agenda

- Introduction
- Architecture Overview/Interesting Features
- Project Life Cycle, Simultaneous Release Plan and Projects
- How to Get Involved and A Bit on Governance
- Q&A

What is OpenDaylight?

- *OpenDaylight is an open source project under the [Linux Foundation](#) with the mutual goal of furthering the adoption and innovation of Software Defined Networking (SDN) through the creation of a common industry supported framework.*

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

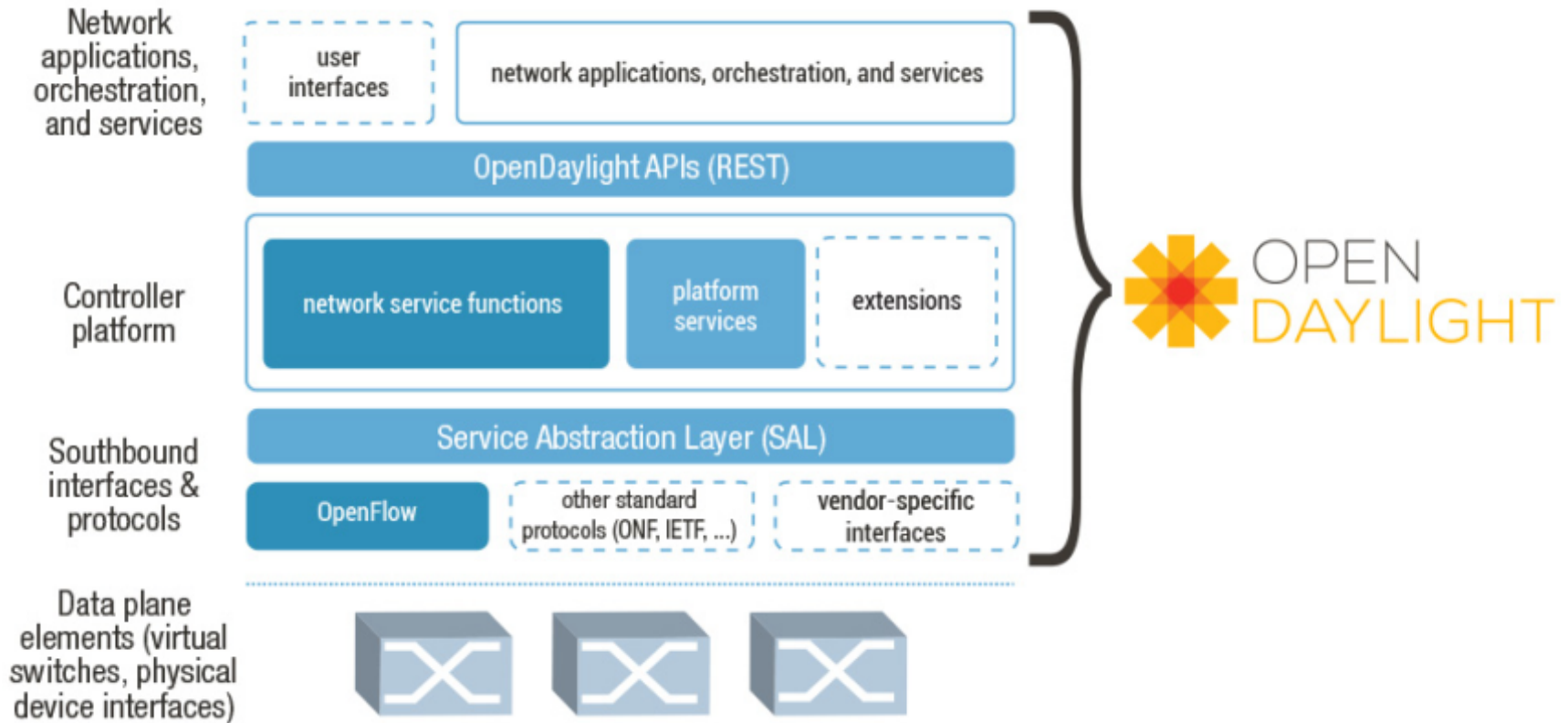


Code

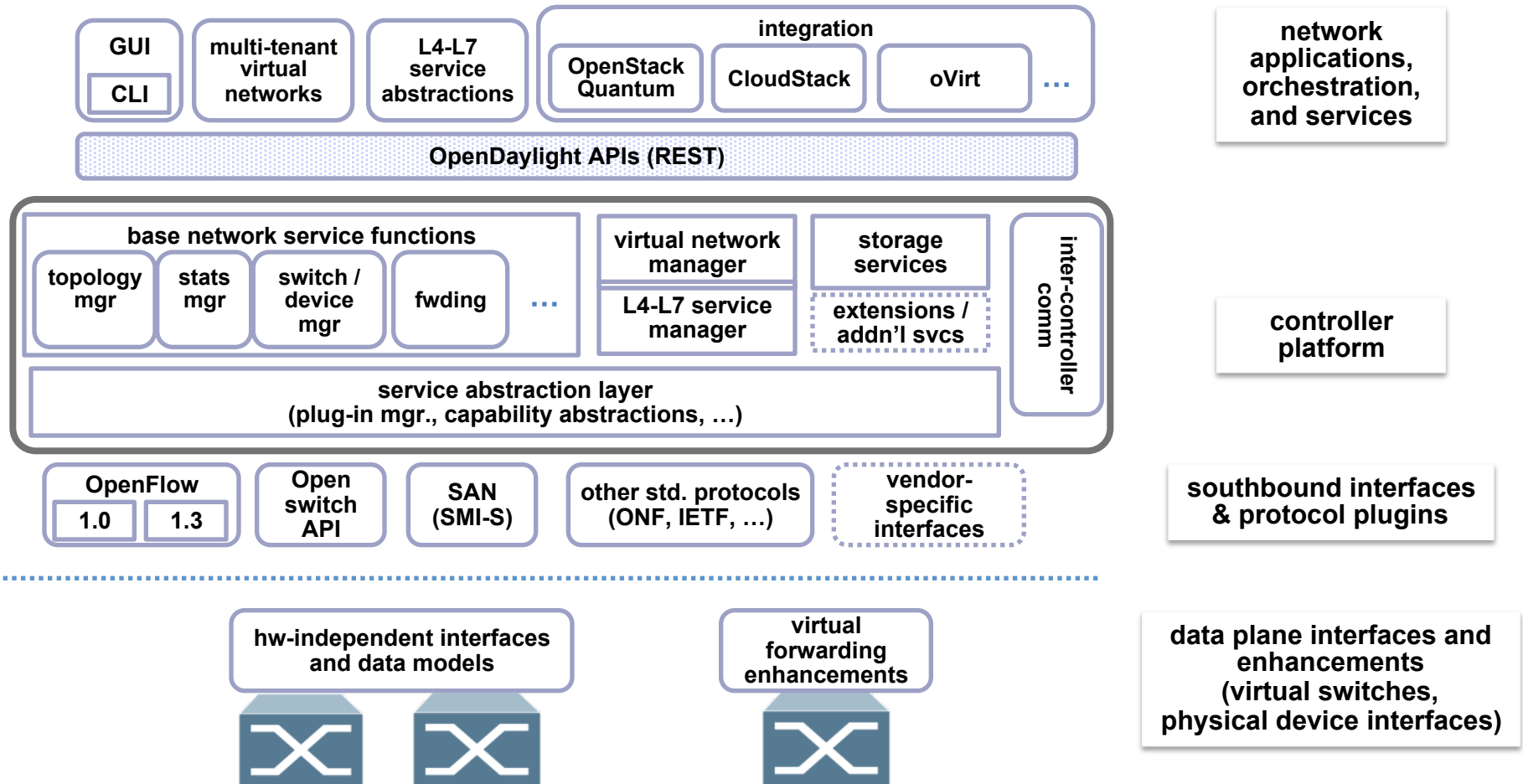
(The Coin of the Realm)

- A wide array of technologies contributed by leading companies and developers
 - See “Current 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 architecture?

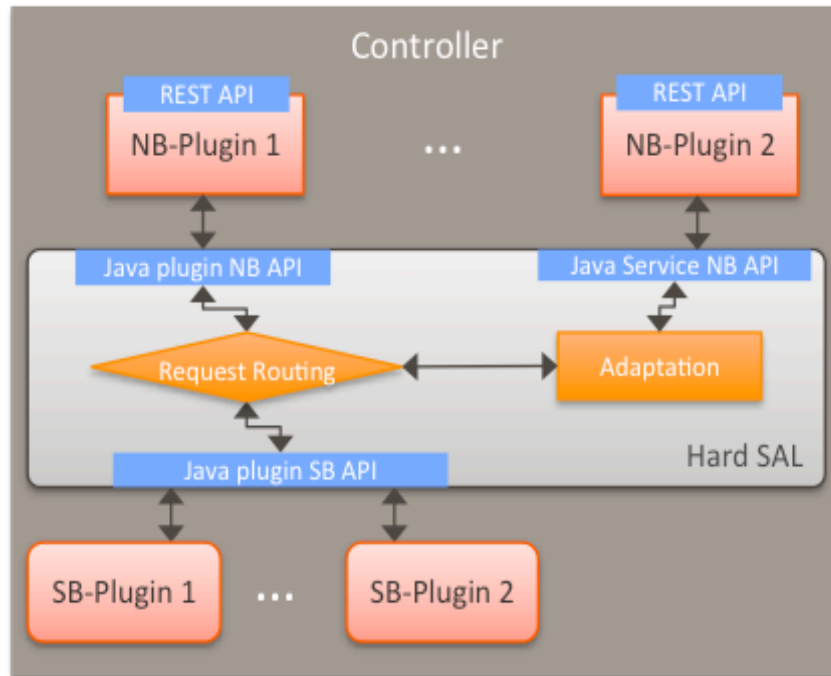
Project Framework



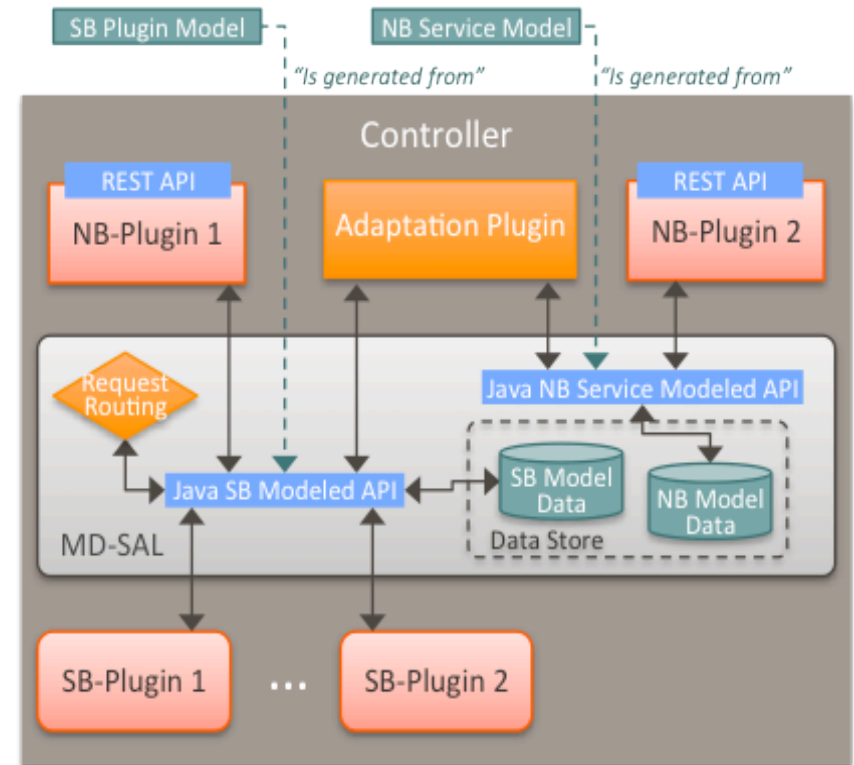
Architectural Framework



Major Architectural Feature: Service Abstraction Layer (SAL)

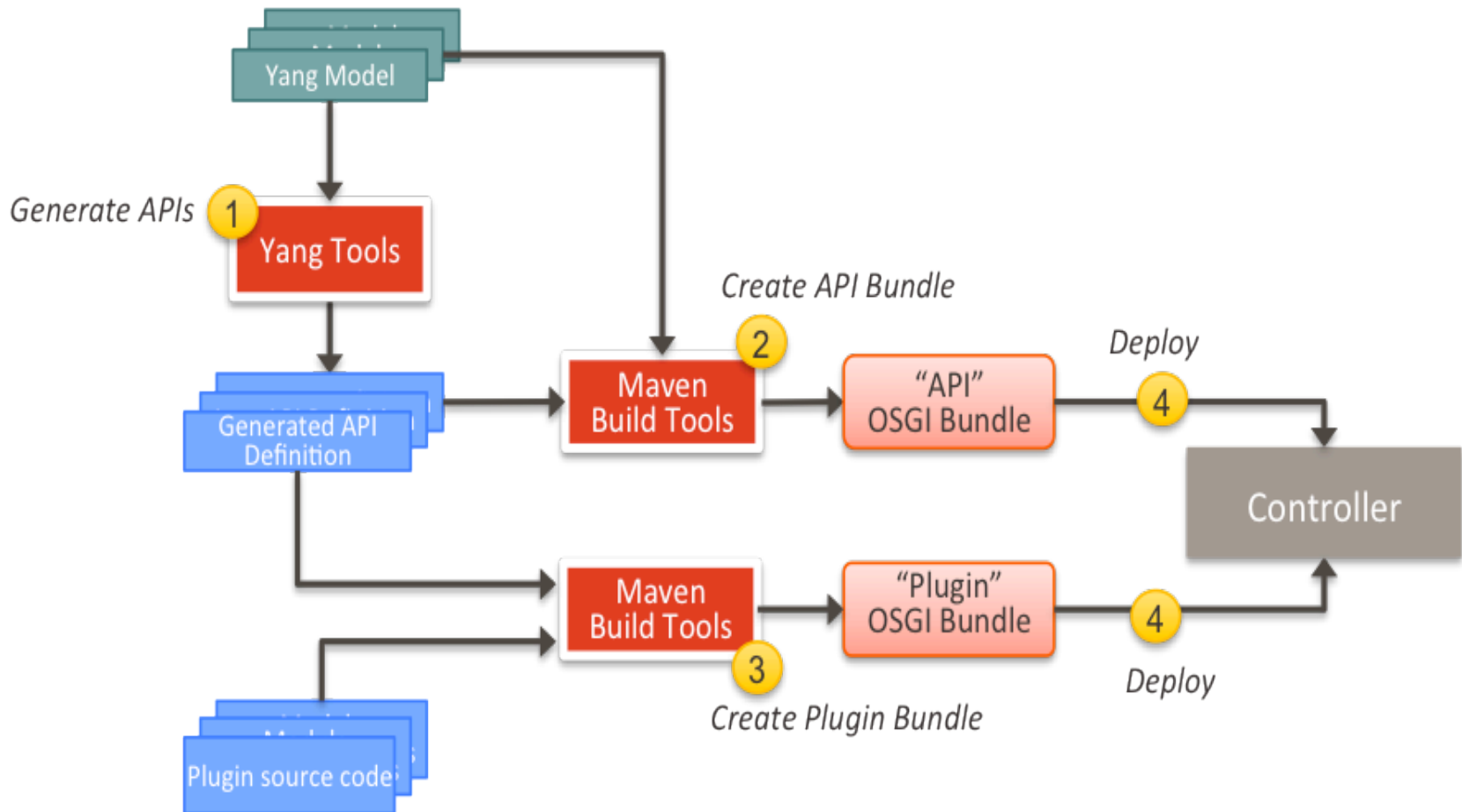


Hard SAL

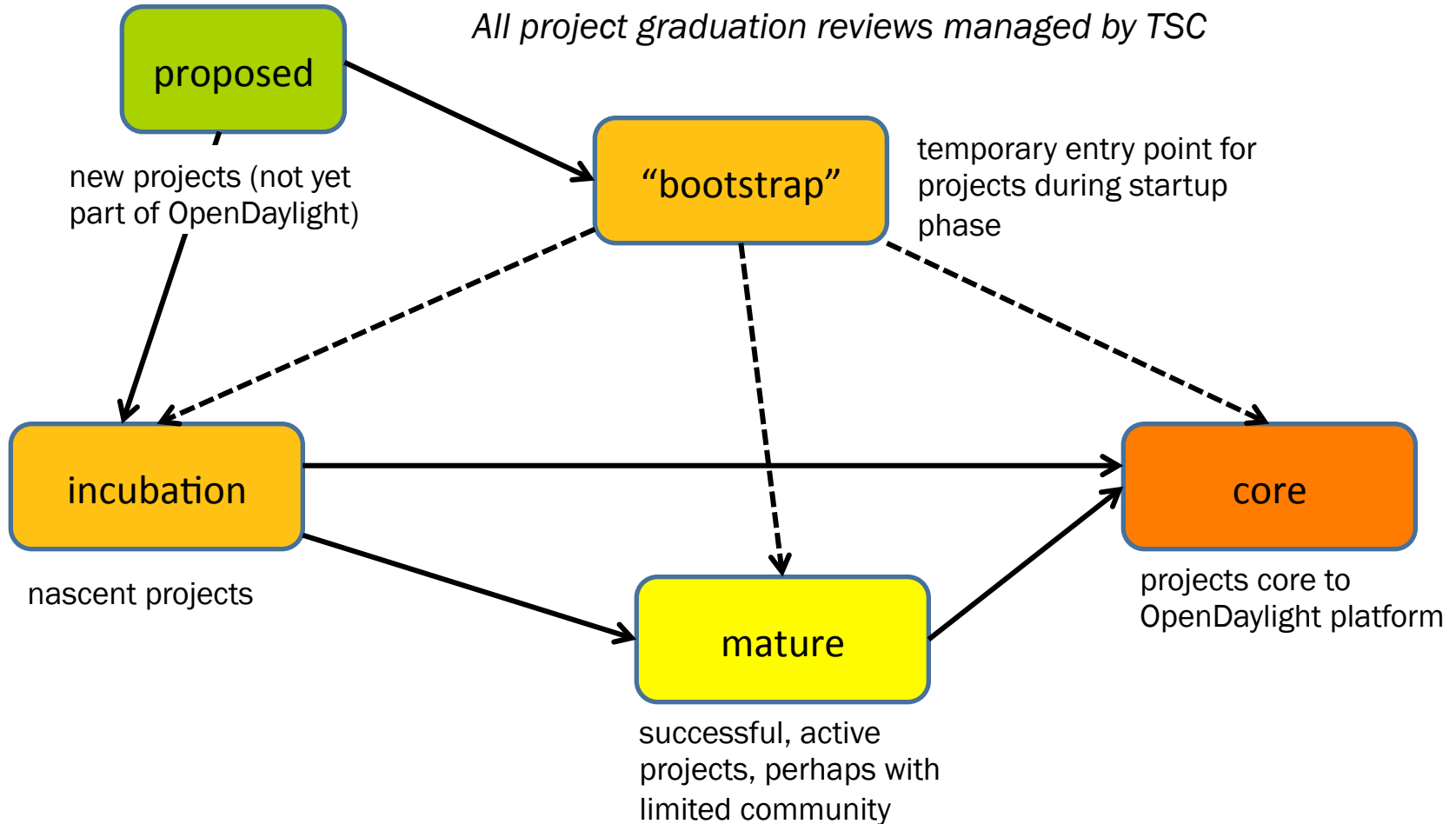


MD SAL

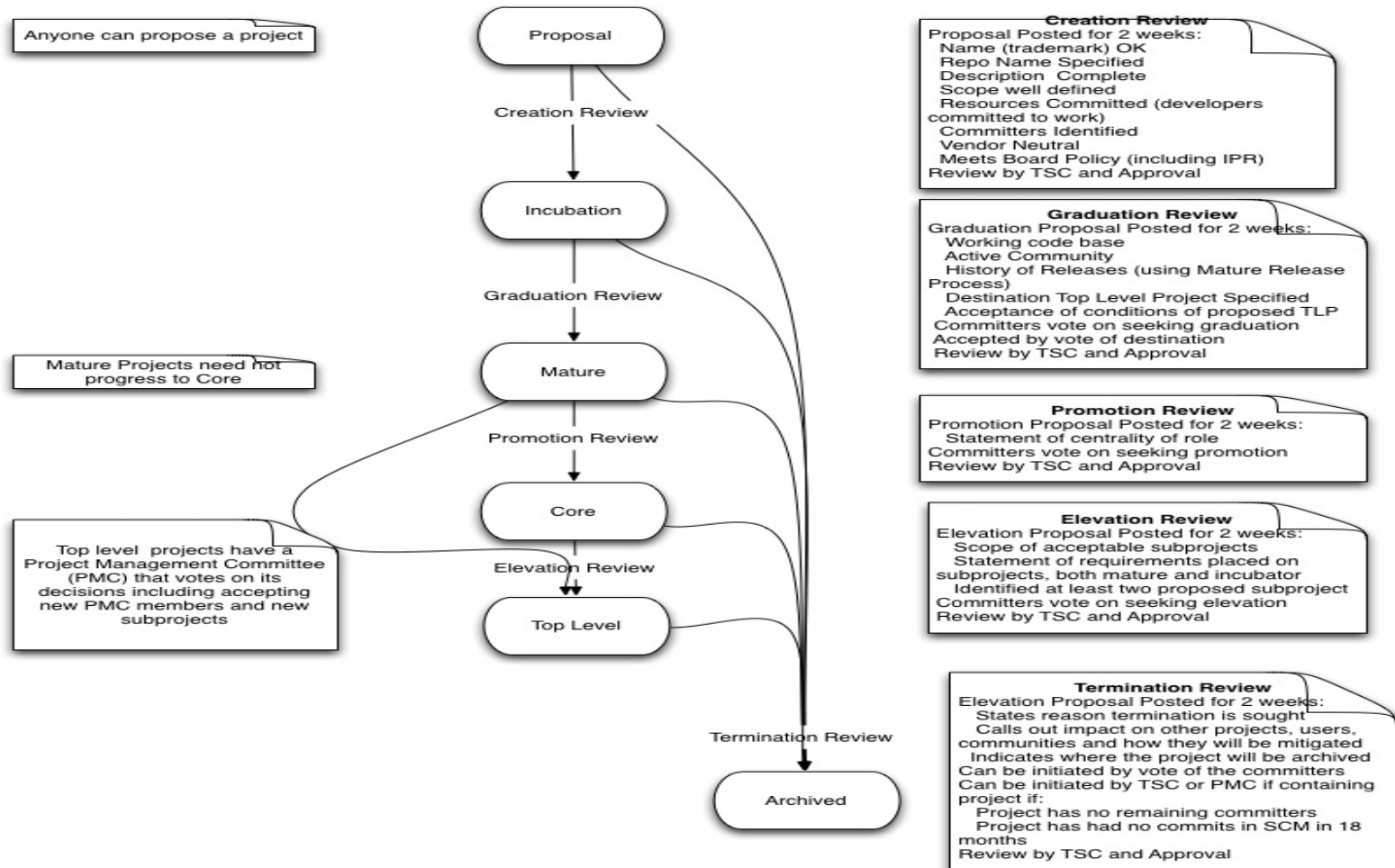
SAL Plugin Design Process



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)

- See <http://wiki.opendaylight.org>

Hydrogen Simultaneous Release Plan 2013

Schedule

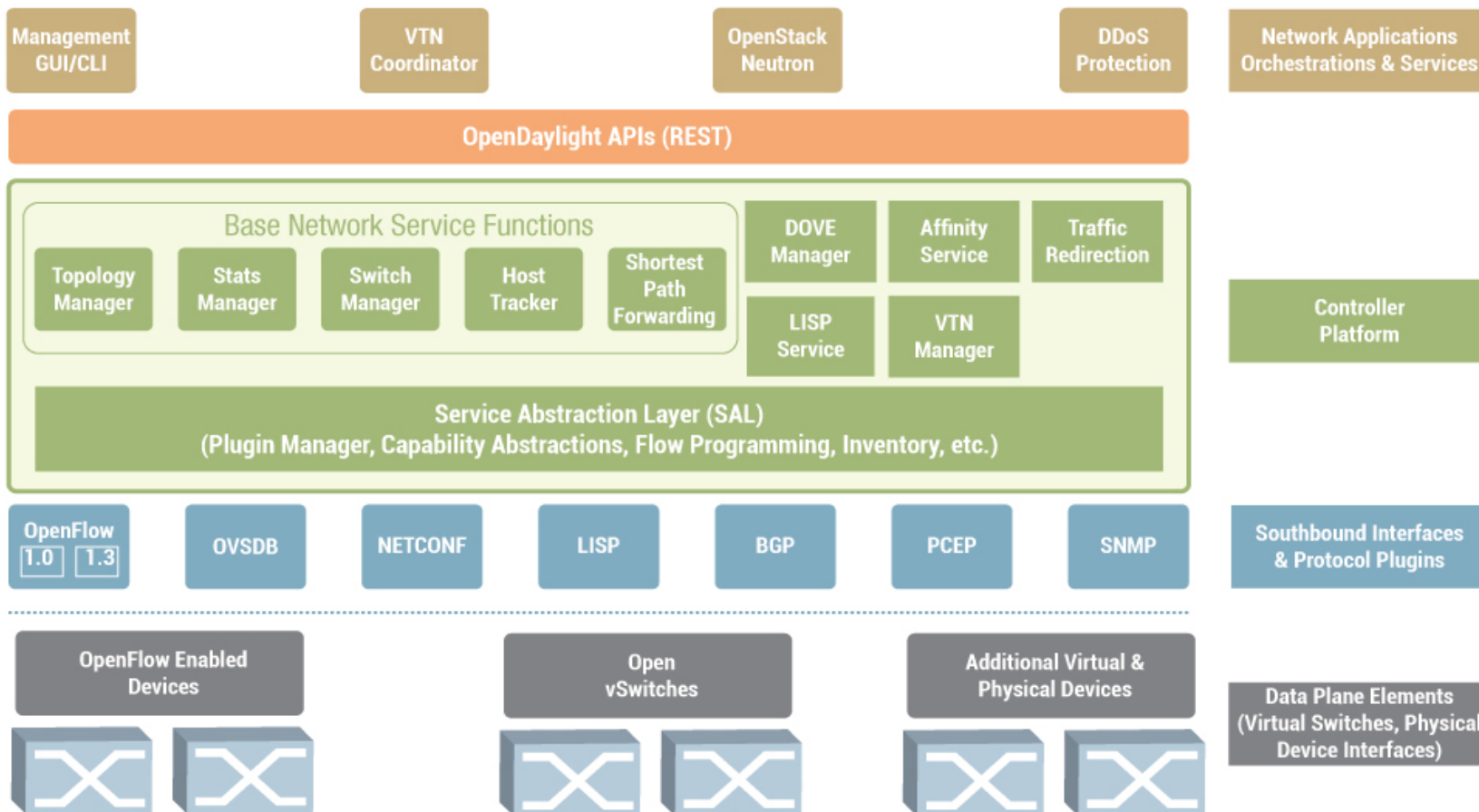
[\[edit\]](#)

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	<ol 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	<ol style="list-style-type: none">1. API Freeze2. Latest possible Continuous System Test Start
M5	11/11/2013	11/13/2013	11/15/2013	<ol 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			



First Code Release “Hydrogen”

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



Proposed Hydrogen Release Vehicles

- Release Vehicles and their contents are still being finalized
- Current proposal:
 - Base Edition
 - Virtualization Edition
 - Service Provider Edition

Management
GUI/CLI

Network Applications
Orchestration & Services

OpenDaylight APIs (REST)

Base Network Service Functions

Topology
Mgr

Stats
Mgr

Switch
Mgr

Host
Tracker

Shortest
Path
Forwarding

Network
Config

Controller Platform

Service Abstraction Layer (SAL)
(plug-in mgr., capability abstractions, flow programming, inventory, ...)

OpenFlow

1.0

1.3

NETCONF

Southbound Interfaces
& Protocol Plugins

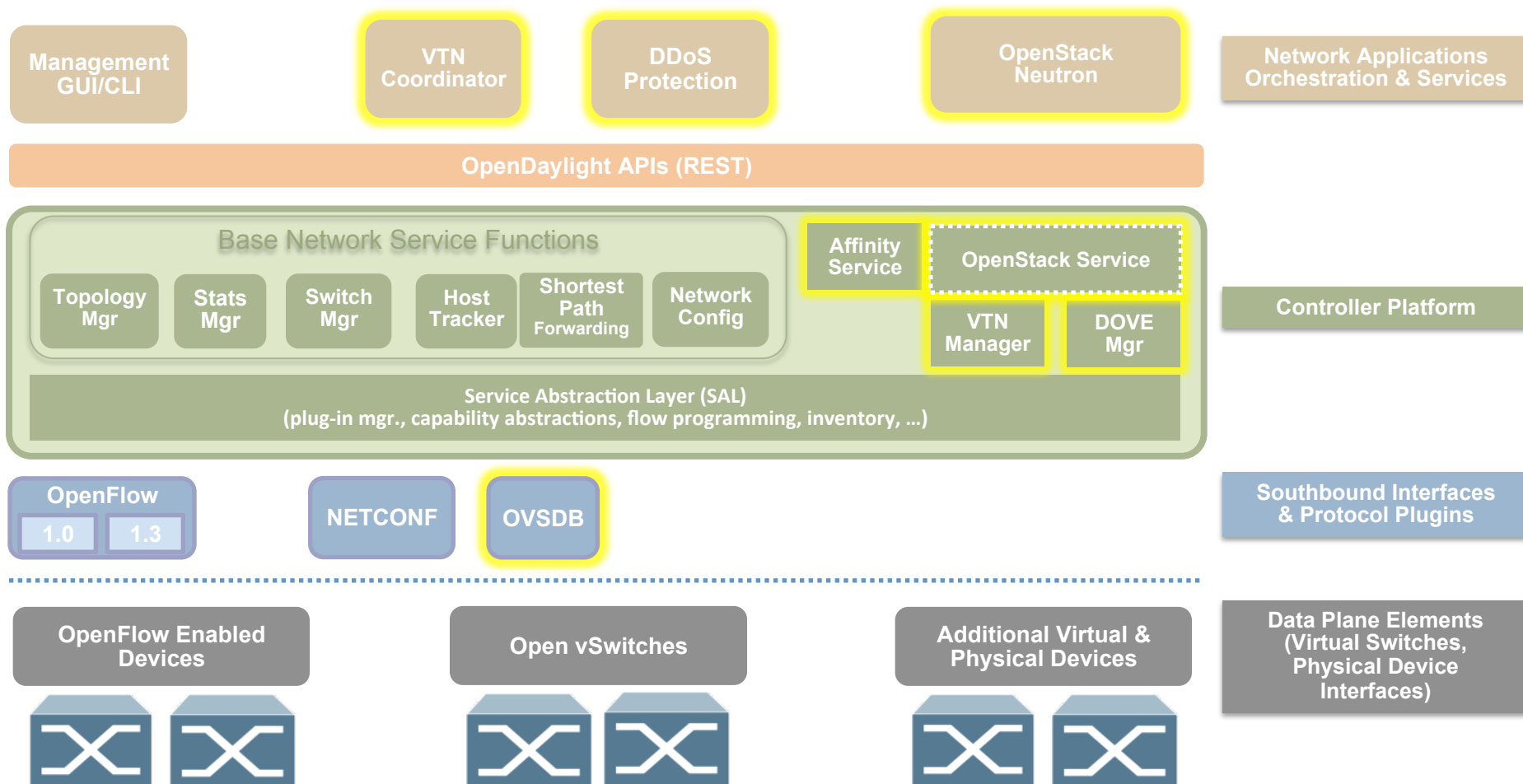
OpenFlow Enabled
Devices

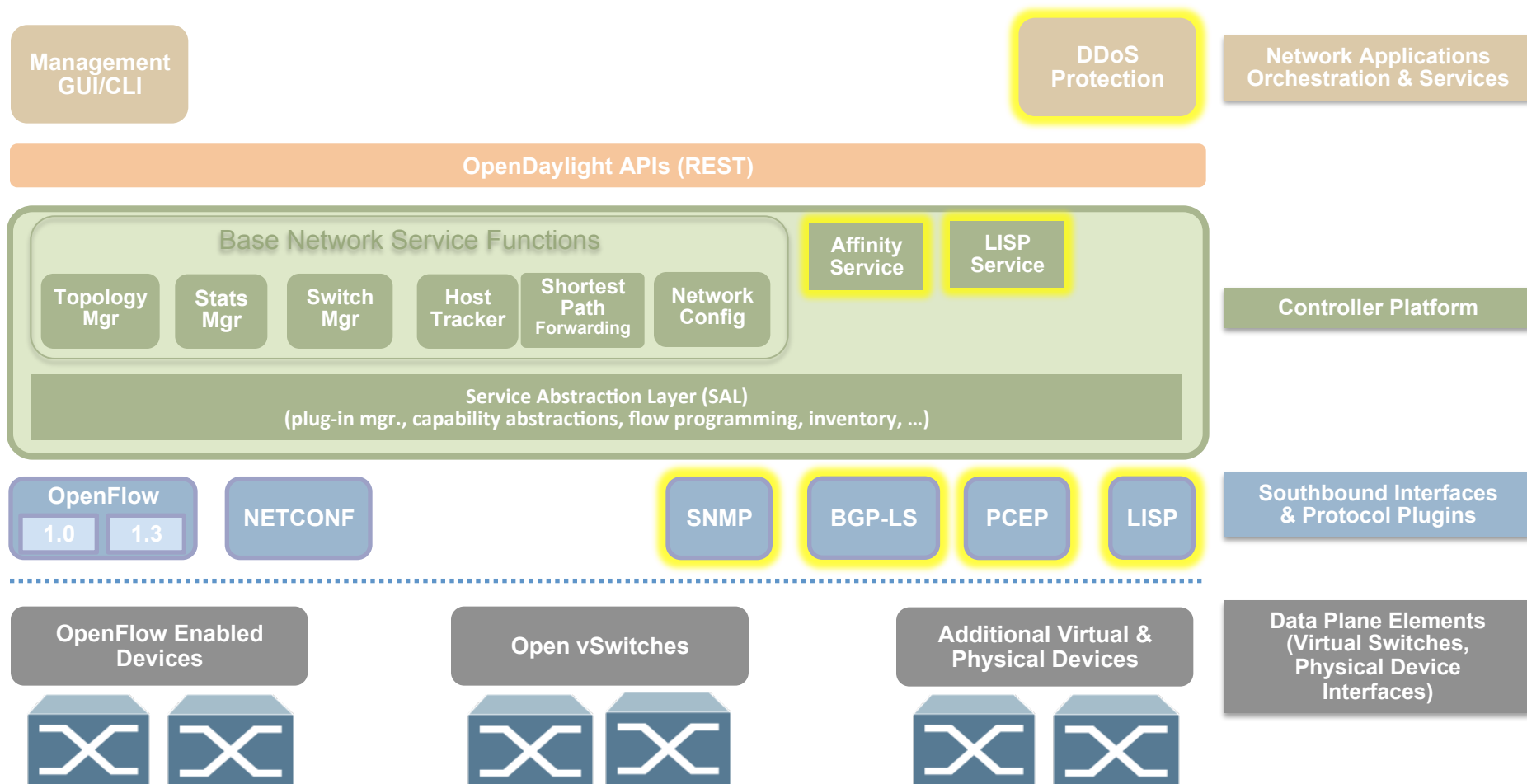
Open vSwitches

Additional Virtual &
Physical Devices

Data Plane Elements
(Virtual Switches,
Physical Device
Interfaces)








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

**OPEN
DAYLIGHT**

Navigation

[Main page](#)
[Community portal](#)
[Current events](#)
[Recent changes](#)
[Random page](#)
[Help](#)

Toolbox

[What links here](#)
[Related changes](#)
[Upload file](#)
[Special pages](#)
[Printable version](#)

Page **Discussion** Read [Edit](#) [View history](#)

Main Page

Welcome to the OpenDaylight Developer Documentation Wiki

This wiki contains all of the developer level documentation for the OpenDaylight Project. As components are being proposed for inclusion in the project and added to the software repository, we are adding the documentation for each component as it has been provided by the contributor. These contributions and their documentation are either the project lifecycle state of "Bootstrap" or "Incubation" (as identified below). As the projects graduate from these early lifecycle states to more mature states, their associated wiki documentation will also become more mature and integrated.

Contents [\[hide\]](#)

- [1 Mature/Core/Top Level Projects](#)
- [2 Bootstrap Projects](#)
- [3 Incubation Projects](#)
- [4 Proposed Contributions](#)
- [5 To Propose a New Contribution to OpenDaylight](#)
- [6 Hackfests](#)

Mature/Core/Top Level Projects

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 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



Q&A

Thanks!