OVDSB: Helium Release Plan

Contents

Introduction

The OVSDB Plugin project is an overlay Network Virtualization project that leverages other critical open source projects, OpenStack and Open vSwitch and integrates into them producing a controller driven framework for policy instantiation and operational management.

Release Deliverables

Name	Description
OVSDB Plugin Library: Redesigned OVSDB Library	The library can be used separately by any Java OVSDB implementation to help serve as a reference implementation.
Implement a strong CI framework	Avoid developer downtime, reduce software bugs and increase the quality of the final deliverable
OVSDB plugin/Neutron: Implement various NXM extensions:	Upstream extensions Openflowlibrary project in order to leverage necessary extension to develop OpenStack services in the OVSDB Neutron integration.
Integrate OpenStack Security Groups and Rules	First of many OpenStack Neutron service integration. This will consolidate Port security functionality into the OVS network forwarding pipeline rather than the IP Tables Linux daemon.
Integrate OpenStack Neutron FWaaS	Integrate Firewall As a Service
Integrate OpenStack Neutron LBaaS	Integrate LoadBalancer As a Service
ARP Responding/Handling	L3 East/West forwarding distributed to the hypervisor
VLAN Support	To facilitate traditional non-overlay fabric integration.
Persistence OpenFlow v1.3 Storage Across Controller Reloads	Recover from a controller failure and restore consistency with OpenStack and Open vSwitch without interruption to existing provisioned resources.
Continue to be a Community-Driven Project.	Ensure the Community made up of open source developers and network operators and engineers always have as much input and decision making in the spirit of Open Source Software.

Release Milestones

Milestone	Offset 0 Date	Deliverables
M1	5/12/2014	<table><tr><th>Name</th><th>Description</th></tr><tr><td>Release Plan</td><td>Candidate Release Plan</td></tr></table>

M2 — 6/09/2014

Name	Description	Progress
OVSDB Plugin Library: Redesigned OVSDB Library	Merge initial cut at the redesign into master.	Good progress tracked in the Topic Branch
Implement a strong CI framework	Establish the basic workflow in Jenkins and Pax Exam	OVSDB plugin library IT/SI in parallel in library topic branch, initial Pax Exam complete, OF tests next up]]
OVSDB plugin /Neutron: Implement various NXM extensions:	Commit extensions upstream and implement in the Neutron Integration	Progress: Leverage the existing SetField Match /Action/Instructions with NXM types. Done: Basic TCP Sec State / Pending: Tunnel IPv4 Src/Dst model commit
Integrate OpenStack Security Groups and Rules	Commit the Neutron APIs in the NB-API and along with ML2 Neutron Integration	API and OS work done
ARP Responding /Handling	Get ARP responder working and the required Nicira extensions to do so upstream.	Extensions which do not use SetField matching will be dependent on OpenFlow plugin being extensible. Topic in OFPlugin weekly meeting Monday 6/16
VLAN Support	Facilitate traditional non-overlay OVS/Openstack fabric integration.	Done
Persistence OpenFlow v1.3 Storage Across Controller Reloads	MD_SAL Data Store Dependent (in it's release plan)	Slipping until MD_SAL Data Store implementation completes
Gateway Support	Investigate the needs (if any) for any additional work needed for the OpenStack gateway we have from OpenStack currently. Continue to support hardware vendors ODL OVSDB plugin integration.	OpenStack network node gateway complete Continue to support the community with HW gateway solutions which implement the OVSDB protocol as they show interest.

M3 — 7/07/2014

Name	Description	Progress
OVSDB Plugin Library: Redesigned OVSDB Library	Verify the implementation through the newly added test coverage and community feedback	Topic branch will be merged into master on 07/10/2014. Strong initial CI. OVS HW schema pending.
Implement a strong CI framework	Additional coverage and community documentation	OVSDB Coverage is looking excellent. OF coverage is not at all. There is zero OpenFlow Java API IT in ODL. This is currently a focus. See the ODL/OVSDB plugin Jenkins configuration.
OVSDB plugin /Neutron: Implement various NXM /NX_Action /SubAction extensions:	Continue to add as services demand and add test coverage to the dependency from OpenflowPlugin	Extensibility is still not available but we have included the NXMs we need in the project. The last immediate NXM need is awaiting merge in Patch #7722 NXAST (NX Actions) can not be done via SetField NXMs so require functioning extensibility from OpenFlowJava, OpenFlowPlugin and Controller.
Integrate OpenStack Security Groups and Rules	Finish OVSDB flow mod integration + QA at some scale to verify scale.	Was on hold for the new OVSDB plugin Schema/Library work. This has slipped as we are focusing on redoing how we consume and instantiate OF flow mods. This is a focus in coming weeks along with OF IT.
ARP Responding /Handling	Get ARP responder working and the required Nicira extensions to do so upstream.	On hold, until NX Actions are implemented or extended in OpenflowPlugin /OpenFlowJava.

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<tr><td>M4</td><td>8/04/2014</td><td>
<table>
<tr><th>Name</th><th>Description</th><th>Progress</th></tr>
<tr><td>API Freeze</td><td>Freeze OVSDB External dependent APIs</td><td>Done.</td></tr>
<tr><td>OVSDB Plugin Library: Redesigned OVSDB Library</td><td>Final Validation, Documentation and Coverage</td><td>Done.</td></tr>
<tr><td>Implement a strong CI framework</td><td>Continue to validate and include new services as they develop</td><td>We have a very good CI framework in place and we are enhancing it as planned</td></tr>
<tr><td>OVSDB plugin/Neutron: Implement various NXM extensions:</td><td>Finish any bug fixes and last-minute needs upstream before code freeze.</td><td>We were completely blocked by Openflowplugin /OpenflowJava/MD-SAL extensibility support.</td></tr>
<tr><td>Integrate OpenStack Security Groups and Rules</td><td>Focus on Test Coverage</td><td>We didn't make big progress due to the consistent blockage on the Openflow NXM extensibility support.</td></tr>
<tr><td>Integrate OpenStack Security Groups and Rules</td><td>First of many OpenStack Neutron service integration.</td><td>We didn't make big progress due to the consistent blockage on the Openflow NXM extensibility support.</td></tr>
<tr><td>Persistence OpenFlow v1.3 Storage Across Controller Reloads</td><td>(unknown) MD_SAL Data Store Dependant</td><td>Unsure if we will be delivering this at all.</td></tr>
<tr><td>VLAN Support</td><td>To facilitate traditional non-overlay fabric integration.</td><td>Done.</td></tr>
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<tr><td>M5</td><td>9/1/2014</td><td>
<table>
<tr><th>Name</th><th>Description</th><th>Progress</th></tr>
<tr><td>Code Freeze</td><td colspan="2"></td></tr>
<tr><td>Done</td><td>MD-SAL: Clustering: Automated Integration testing of Clustered Data Store</td><td>Run the Automated Integration testing of Clustered Data Store from build system</td><td>Decided to push to Lithium</td></tr>
<tr><td>Performance Testing</td><td>Test performance and interoperability with OpenStack and Open vSwitch of both OpenFlow and OVSDB protocols.</td><td colspan="2">Decided to push to Lithium</td></tr>
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<tr><td>RC0</td><td>9/9/2014</td><td>
<table>
<tr><th>Name</th><th>Description</th><th>Progress</th></tr>
<tr><td>RC0 Bugfixes</td><td>Bugfixes intended for RC0</td><td>On Target</td></tr>
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<tr><td>RC1</td><td>9/15/2014</td><td>
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<tr><th>Name</th><th>Description</th><th>Progress</th></tr>
<tr><td>RC1 Bugfixes</td><td>Bugfixes intended for RC1</td><td>On Target</td></tr>
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<tr><td>RC2</td><td>9/22/2014</td><td>
<table>
<tr><th>Name</th><th>Description</th><th>Progress</th></tr>
<tr><td>Release Review</td><td>Release Review Description</td><td></td></tr>
<tr><td>Deliverable Name</td><td>Deliverable Description</td><td>On Target</td></tr>
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<tr><td>Formal Release</td><td>9/29/2014</td><td>
<table>
<tr><th>Name</th><th>Description</th></tr>
<tr><td>Deliverable Name</td><td>Deliverable Description</td></tr>
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Expected Dependencies on Other Projects

Depends On	Dependency Description	Needed By	Is in Other Project Release Plan
Openflowplugin/ Openflowjava/ Controller Yang Models	OpenFlow v1.3 Support for selected NXM and MF Extensions	M2 and M3 depending on the field	No
MD_SAL Data Store	Durable Configuration Storage	M3/M4	Yes

Compatibility with Previous Releases

Themes and Priorities

1. Community
2. Performance
3. Robust Scale

4. Innovation
5. Solve Real-World OpenStack Problems
6. Kittens