OVSDB:Beryllium Release Notes

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Major Features

Beryllium marked the fourth release of the OVSDB NetVirt project. The release delivers increased code and testing coverage and improved network virtualization integration with OpenStack.

Release Deliverables

- Code quality, stability and usability
- Remove deprecated AD-SAL APIs
- Netvirt updates for flow optimizations and config migration
- ODL SFC and OPNFV SFC integration, application pipeline coexistence
- Increased Neutron parity by adding Security Groups and Metadata support
- Enhanced L3 DVR functionality
- Hardware VTEP southbound support
- Open_ySwitch southbound support for QoS and Queue
- Clustering/HA/Persistence support
- DPDK enhancements to the Southbound and NetVirt to support DPDK

Experimental Deliverables

Experimental support is added for the following features:

- Clustering using the OpenFlow plugin-li plugin. The feature is odl-ovsdb-openstack-clusteraware.
- Network Virtualization DLUX user interface. The feature is the odl-ovsdb-ui.

Target Environment

For Execution

Same as the usual JRE requirements for OpenDaylight

For Development

Same as the usual JDK and Maven requirements for OpenDaylight

Known Issues and Limitations

- OpenStack SFC integration requires a workaround when used with the current NSH OVS implementation as described in VTEP Workaround for OpenStack Instantiated VMs.
- The DLUX integration is considered an experimental feature. The feature works well but has not been extensively tested.
- Full ODL OVSDB L3 functionality requires a minimum OVS version of 2.3.2. The version is required for ARP responder flows in table 20.
- Stateful Security Groups support using conntrack requires a minimum OVS version of 2.5. Stateless Security Groups without conntrack is supported from OVS 2.3.2 and later.
ODL OVSDB L3

The L3 functionality is disabled by default. To enable the L3 functionality add `ovsdb.l3.fwd.enabled=yes` to the `etc/custom.properties` file.

Security Groups with Conntrack

Conntrack functionality is disabled by default. To enable the conntrack support add `<conntrack-enabled>true</conntrack-enabled>` to the `etc/opendaylight/karaf/netvirt-impl-default-config.xml` file.

Service Function Chaining

Some configuration is required due to application co-existence for the OpenFlow programming. The SFC project programs flow for the SFC overlay and NetVirt programs flow for the tenant overlay. Coexistence is achieved by each application owning a unique set of tables and providing a simple handoff between the tables.

First, configure NetVirt to use table 1 as it's starting table:

```
http://localhost:8181/restconf/config/netvirt-providers-config
{
   "netvirt-providers-config": {
      "table-offset": 1
   }
}
```

Next, configure SFC to start at table 150 and configure the table handoff. The configuration starts SFC at table 150 and sets the handoff to table 11 which is the NetVirt SFC classification table.

```
http://localhost:8181/restconf/config/sfc-of-renderer
{
   "sfc-of-renderer-config": {
      "sfc-of-app-egress-table-offset": 11,
      "sfc-of-table-offset": 150
   }
}
```

Known Bugs

Bug 5351 - Security group connection tracking flows are not getting inserted in OVS. The solution was tested against OVS 2.4.9 and pre-release patches. There has been a change in the connection tracking state bit values in the official OVS 2.5 release. The workaround is to use the OVS 2.4.9 with pre-release patches or to use a later ODL build with the current fix: [https://git.opendaylight.org/gerrit/#/c/34655/](https://git.opendaylight.org/gerrit/#/c/34655/).

Changes Since Previous Releases

New APIs for supporting SFC integration and using NetVirt as the classifier:
Fixes:

4924        Fixed IPs of dhcp_port are not updated when a new subnet is added to the network.
5278        Service Unavailable exception when associating a Neutron router with a tenant subnet.
5331        unable to read topology after recovering a failed controller in cluster
5040        LLDP Spoofing  attack warning when using Openstack with ODL Cluster (both features)
4569        Ownership changed consistently without down any node
5038        Instances are not reachable in Openstack when ODL used as cluster (using OFPlugin He design)
5042        Creating Bridge in Cluster Mode returns 500 and throws exception in karaf log
5018        No Flow Entries are installed to br-int while trying the NetVirt Cluster (clusteraware)
3974        br-int is not getting created with lithium 0.3.0 snapshot
4277        Deleted Network flow entries retained in br-int,if network associated and disassociated from
virtualsegment interface
4888        Ovsdb Southbound Clustering Inconsistent output for sudo ovs-vsctl list bridge br-int
4916        In OvsDB Single node clustering 2 switches registered with same manager there are two "OWNER" found
in southbound, and with this two "OWNER" replication also happens
5134        Address exceptions when SG remote_group_id has both IPv4 and IPv6 addresses
5149        Enhancement: Support LLDP on ovsdb interface
4373        Released Floating IP (on compute node1 vm) is not reaching to external network, if reuse the floating
IP to another VM (VM hosted on compute node2
4374        On Release of Floating IP doesn’t detached port on openstack external network
4280        VM Floating IP Address unable to reach the External GW when L3 routing enabled.
5107        Flow tables mentioned in goto_table actions are not created
4132        Unable to ping gateway when using L3 DVR - Lithium
5311        Hard-coded base url in Ovsdb UI
5147        Wrong logging level for ConfigProperties not found with defaults
4794        IllegalArgumentException in operational delete: unable to connect ovs to plugin
4844        GatewayMacResolverService continues to try to resolve gateway after nodes have disconnected.
4769        Security group : default ip flows fails to delete intermittently
4643        Remote Security Group - Terminating an instance fails to remove the corresponding rules
4874        distributed arp in old l3 for ovsdb is not installing rules when it should
3052        race condition between northbound and southbound events
Network delete does not remove the Vxlan tunnel entries on ovs switch
pipeline flows not programmed because controller address is not set on OVSDB node
exception when ipv6 addressed port is received
null pointer exception in SecurityServicesImpl.getDHCPServerPort()
null pointer exception in NeutronL3Adapter.getExternalNetworkSubnet()
Updates to termination point configuration for existing termination points broken
SSLv3 should be disabled for ovsdb server

Migration from Previous Releases

Migration from previous releases has not been tested.

Compatibility with Previous Releases

Yes, compatible with previous releases.

Deprecated, End of Life, and/or Retired Features/APIs

The OVSDB Plugin compatibility layer and related ADSAL dependencies were deprecated in Lithium and removed in Beryllium.