

OpenContrail and Neutron

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Agenda

- Introduction to OpenContrail
- Basic architecture of OpenContrail
- Integration of OpenContrail with Neutron
- OpenContrail installation and devstack

Introduction to OpenContrail

Open source SDN solution from Juniper

<http://www.opencontrail.org/>

<http://github.com/juniper/contrail-controller.git>

Provides the SDN functionalities like

- Network virtualization
- NFV (service chaining)
- Overlay support
 - MPLS + GRE
 - MPLS + UDP
 - VxLAN

Main components

- Configuration nodes
- Control nodes
- Analytics nodes

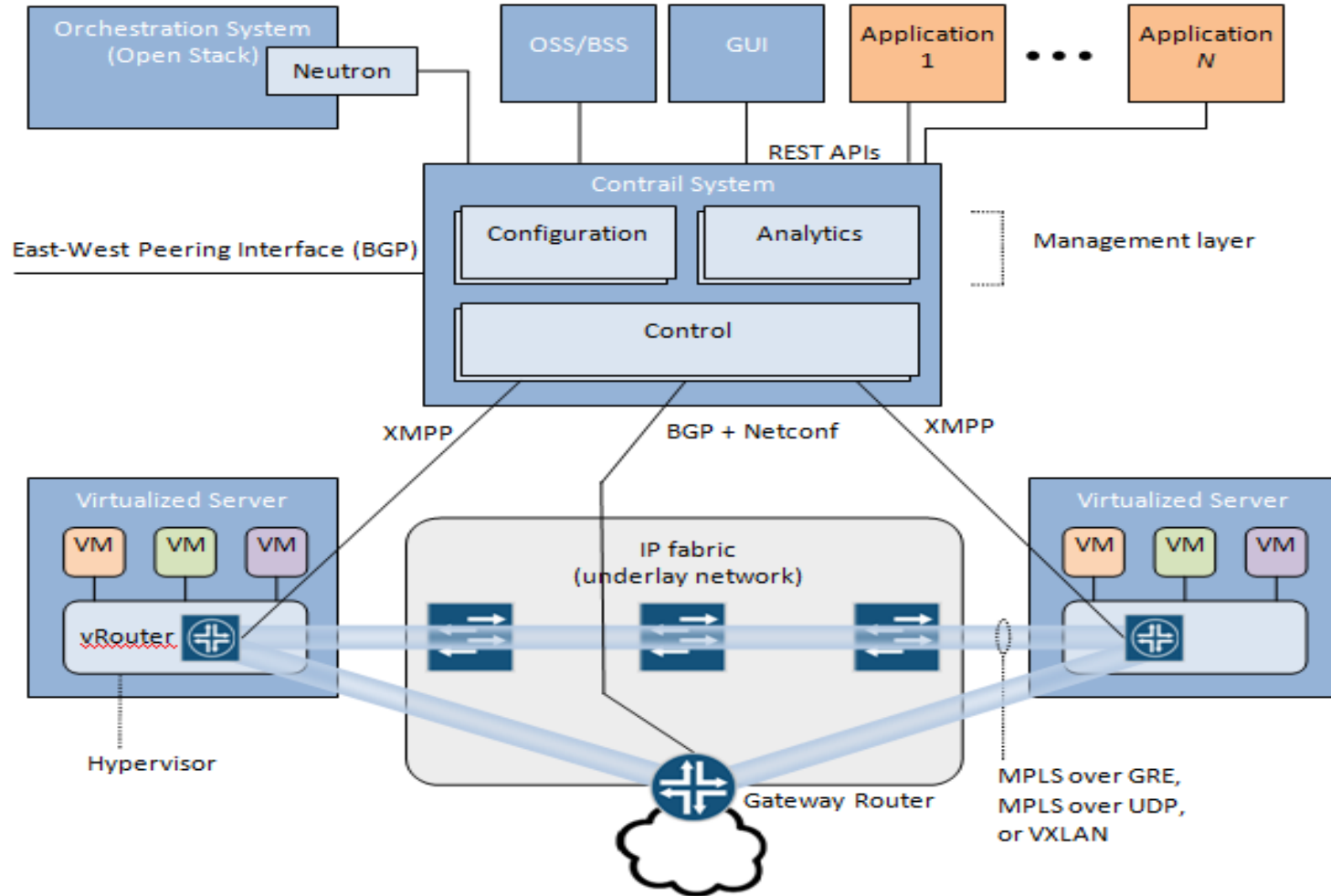
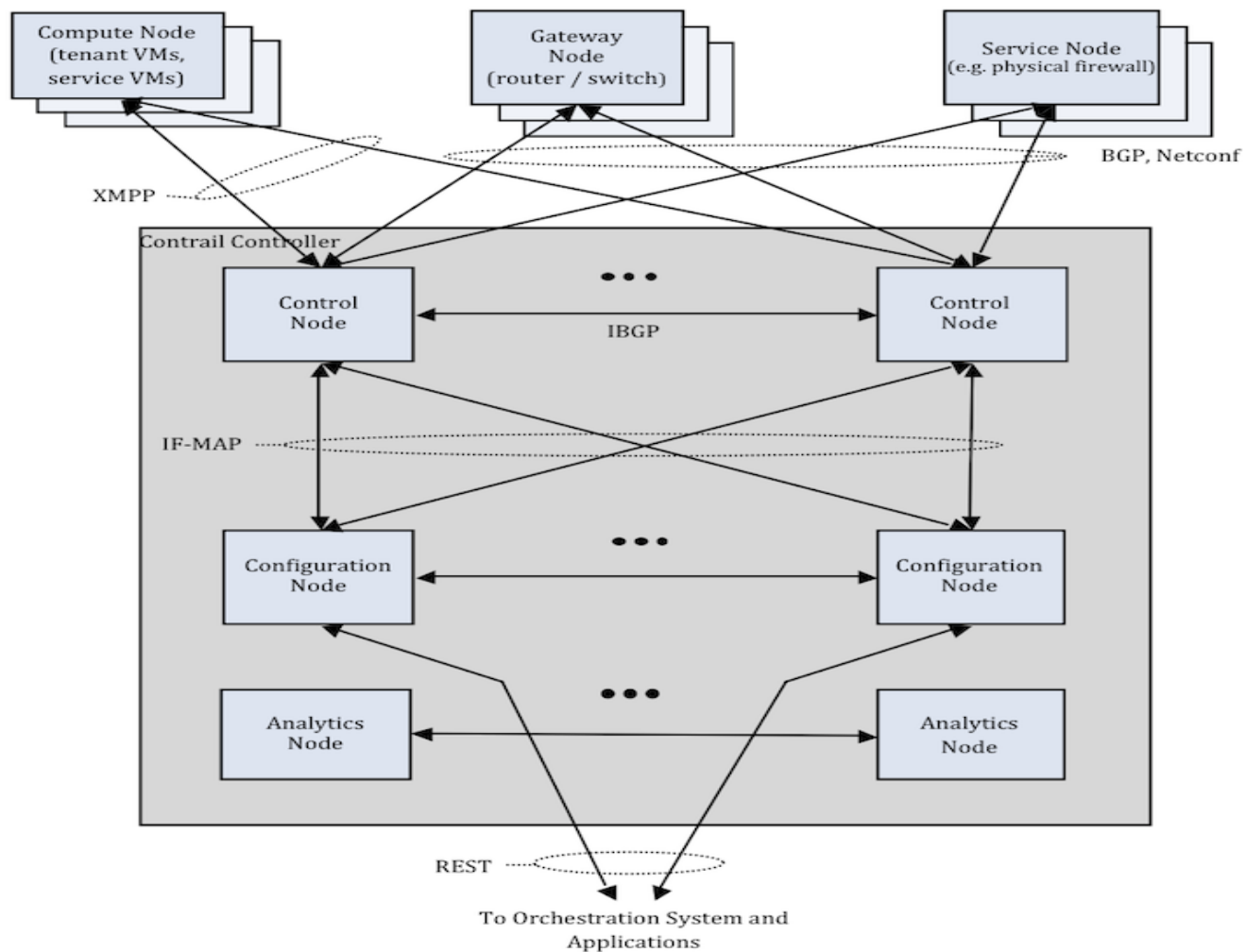


Figure 1: OpenContrail System Overview



Compute hosts

- On each compute host - contrail vrtrouter agent will be running (in user space)
- vrtrouter kernel module - takes control of the host interface (eth0).
- opencontrail control node pushes the routes to each vrtrouter agent. They communicate using XMPP protocol.
- agent configures the vrtrouter kernel module with the routes. For each tenant network, it maintains a forwarding table.

Contd

- IFMap XML schema language for high level data abstraction and for code generation (similar to YANG in ODL)
- Doesn't support Open Flow.
- Uses Cassandra for data store
- Uses Redis for caching in the analytics module.

OpenContrail Neutron plugin

- Doesn't use ML2 framework
- Implements 'neutron_plugin_base_v2. NeutronPluginBaseV2' directly
- Doesn't use neutron l3.
- Implements all the neutron functions in the plugin
 - network, subnet, port
 - router APIs
 - security group APIs
- Plugin forwards all the API calls to OpenContrail configuration APIs.

Contd

- Since neutron db is not used, advanced services like vpnaas, lbaas, fwaas etc cannot be used directly
- All the advanced services APIs needs to be implemented by the OpenContrail neutron plugin
- Presently lbaas v1 is supported.

Installing OpenContrail

- Get the OpenContrail installer from here
- <https://github.com/Juniper/contrail-installer>
- Build the OpenContrail by running `./contrail-install build`
`./contrail-install install & configure & start`
- Install devstack. Before starting devstack

Questions ?

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Thank You