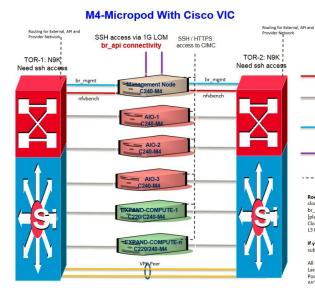


Appendix

• Cisco VIM Wiring Diagrams, on page 1

Cisco VIM Wiring Diagrams

Figure 1: M4-Micropod with Cisco VIC



Optional: for NFVBench Intel X710, 520 or XL710 on Management Node 2 ports used

- Cisco VIC on cloud hosts: carved into VNICs for: SAMX: Storage, Cloud API, management & provis PET: Provider, external and tenant VM networks ioning
- Cisco VIC on management node: br_mgmt: management network auto-configured as part of buildnode.iso install
- 2x1GE Intel NIC (build in LAN on board) on management node $b_{\rm m}$ api: CVIM api network auto-configured as part of buildnode.iso install; has Cisco VIM deployment and management APIs

---- Dedicated CIMC MGMT port 1G

Routable IPs: cloud_api (for talking to OpenStack) br_api (for talking to VIM mgmt) [plan for other IPs for Zenoss, etc as needed] Cloud external network for VMsc continuous set of min 10 lps L3 IP connectivity between Server CIMCs and br_api of Mgmt. Node

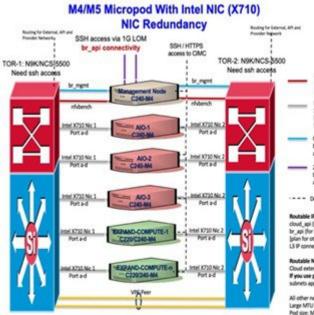
If you use provider networking, you will want to address the networks with subnets appropriate to their routing

All other networks can be private Large MTU must be configured on the TORs Pod size: Max of 16 compute nodes AIO: All in One (Control compute Cent)

M4-Full-On With Cisco VIC SSH access via 1G LOM br_api connectivity SSH/HTTPS access to CIMC Routing for External, API and Provider Network Routing for External, API and Provider Network, TOR-1: N9K Need ssh acces SSH / HTTPS access to CIMC TOR-2: N9K Need ssh access Optional: for NFVBench Intel X710, 520 or XL710 on Mar 2 ports used gement Node C240-M4 orage, Cloud API, management & pro-Controller-2 220/240-M4 _mgmt: n uto-configure 2x1GE Intel NIC (build in LAN on board) on management node br_api: CVIM api network auto-configured as part of buildnode.iso install; has Cisco VIM deployment and ma COMPUTE-1 nt API dicated CIMC MGMT port 1G Routable IPs: cloud_api (for talking to OpenStack) br_api (for talking to VIM mgmt) [plan for other IPs for Zenoss, etc as needed] L3 IP connectivity between Server CIMCs and br_api of Mgmt. Node Routable Networks: Cloud external network for VMs: continuous set of min 10 IPs If you use provider networking, you will want to address the networks with subnets appropriate to their routing All other networks can be private Large MTU must be configured on the TORs A POD size: 64 nodes (max of 20 ceph nodes)

Figure 2: M4-Full-On with Cisco VIC

Figure 3: M4/M5 Micropod with Intel NIC (X710) - NIC Redundancy



Optional: for NPVBench Intel X710, 520 or XL710 on Management Node 2 ports used

Intel NIC on Cloud Hosts; sub-interfaces for: SAMG on port A across the 2 cards: Storage, AN, management & provision PET on port 8 across the 2 cards: Provider, external and tenant networks SROU: on port C and D across the 2 cards (for Howder Network); SROU is optional SROU: on port C and D across the 2 cards (for Howder Network); SROU is optional

Cisco VIC/Intel NIC on management node: br_mgmt: management network auto-configured as part of buildhode.iso install

2dGE Intel NC (build in UAN on board) on management node br_api: CVIM api network auto-configured as part of buildnode iso install; has Cisco VIM deployment and management APIs

- Dedicated CINC MGMT port 15

Routable Ph: cloud, jud (for talking to Openflack) br_ap (for talking to VM mgm) (plan for other IPs for Zmoos, etc as needed) L1 P connectivity between Server CMCs and br_api of Mgmt. Node

Routable Networks: Cloud estemail network for VMs: continuous set of min 10 IPs If you use provider enteworking, you will want to address the networks with subnets approaches to their nauling

All other networks can be private Large MTU must be configured on the TORs Pod size: Max of 15 compute nodes AIC: All in One (Cantrol, compute, Criph) Pod is pure MK or MS based (not a mix/matt nih)

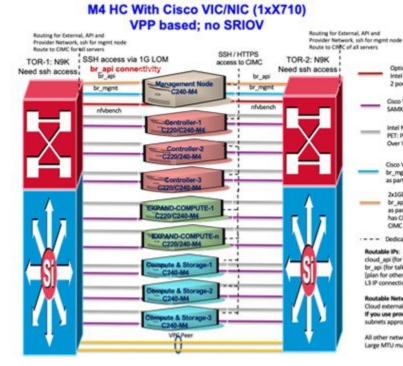
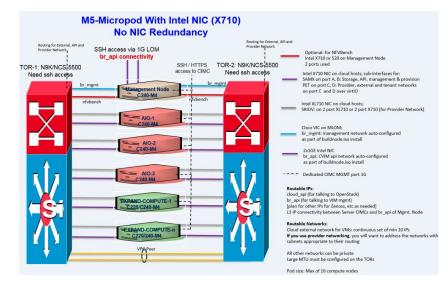


Figure 4: M4 Hyperconverged with Cisco VIC/NIC (1xX710) VPP based; no SRIOV

Figure 5: M5-Micropod with Intel NIC (X710) - No NIC Redundancy



Optional: for NFVBench Intel X710 or S20 on Management Node 2 ports used Cisco VIC on cloud hosts: carved into VNICs for: SAMX: Storage, Cloud API, management & provisioning Intel NIC: 1x 2-port 520 for PET: Provider, external and tenant VM networks Over VPP

Coop VIC on management node: br_mgmt: management network auto-configured as part of buildhode.iso install

2x1GE Intel NIC (build in LAN on board) on management node 2xxxx inter ne. (We go not so Low on board) on management in by api: CVM ap network auto-configured as part of buildnode iso install; sh connectivity has Cisco VM deployment and management APs. OMC of all servers have to be reachable from mgmt node.

--- Dedicated CIMC MGMT port 1G

Routable IP: cloud, poi (for taiking to OpenStack) br. api (for taiking to VM mgmt) [Sain for other IPs for Zenoss, etc as needed] L3 IP connectivity between Server CIMCs and br_api of Mgmt. Node

Routable Networks: Cloud external network for VMs: continuous set of min 10 IPs If you use provider networking, you will want to address the networks with subnets appropriate to their routing

All other networks can be private Large MTU must be configured on the TORs

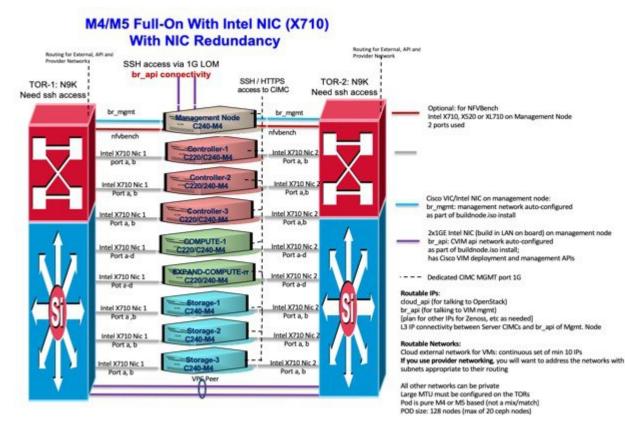
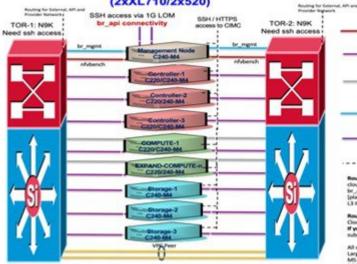


Figure 6: M4/M5 Full-On with Intel NIC (X710) and with NIC Redundancy

Figure 7: M4/M5 Full-On with Cisco VIC/NIC (2xXL710/2x520)

M4/M5 Full-On With Cisco VIC/NIC (2xXL710/2x520)



Optional: for NFVBench Intel X710, 520 or XL710 on Management Node 2 ports used

Osco VIC on cloud hosts: carved into VNICs for: SAMK: Storage, Cloud API, management & provi PET: Provider, external and tenant VM networks

Intel NIC; 2x 2-port 520 or 2x2port 7308, Provider Network over SRIOV Computes that don't wish to have SRIOV, reedn't put the NIC cards in them

Cisco VIC on management node: br_mgmt: management network auto-configured as part of buildhode.iso install

2x1GE Intel NIC (build in LAN on board) on m br_api: CVIM api network auto-configured as part of buildnode iso install; has Cisco VIM deployment and management nent APs

= = = Dedicated CIMC MGMT port 1G

Rescable IP: cloud_api (for taiking to OpenStack)) to_api (for taiking to VM mgmt) [plan for other this for Zenosis, etc as mended] [s1 or consecting between Senser OMCs and br_api of Mgmt. Node

ble Networks: Coud external network for VMs: continuous set of min 10 IPs If you use provider networking, you will want to address the networks with subnets appropriate to their routing

All other networks can be private Large MTU must be configured on the TOBs M5 is on all 40G option; M4/M5 Compute can be mixed POD size: 128 nodes (mixed 72) ceph nodes)

Figure 8: M4/M5 Micropod with Cisco VIC/NIC (2xXL710/2x520)

M4/M5 Micropod With Cisco VIC/NIC (2xXL710/2x520)

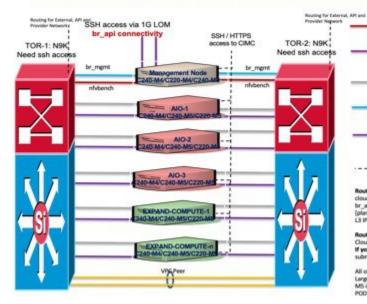
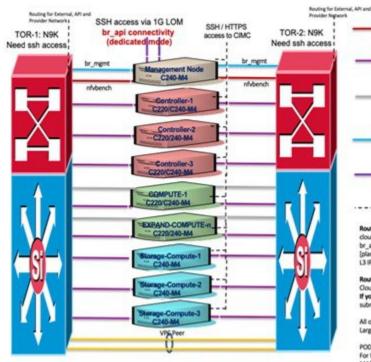


Figure 9: M4/M5-HC with Cisco VIC/NIC (2xXL710/2x520)



Optional: for NFVBench Intel X710 on Management Node 2 ports used

Osco VIC on cloud hosts: carved into VNICs for: SAMX: Storage, Cloud API, management & provisioning PET: Provider, external and tenant VM networks

intel NIC on cloud hosts; 2x 2-port 520 or 2x2port 710% Provider Network over SRICV

Cisco VIC on management node: br_mgmt: management network auto-configured as part of buildnode iso install

2x1GE Intel NIC (build in LAN on board) on management node br_api; CVIM api network auto-configured as part of buildnode.iso install; has Cisco VIM deployment and management APIs

- = = Dedicated CIMC MGMT port 1G

Routable IPs: cloud_api (for talking to OpenStack) br_api (for talking to VMM regnt) [glan for other IPs for Zenose, etc as needed] L3 IP connectivity between Server CIMCs and br_api of Mgmt. Node

utable Networks

Cloud external network for VMs: continuous set of min 10 IPs If you use provider networking, you will want to address the networks with subnets appropriate to their routing

All other networks can be private Large MTU must be configured on the TORs MS is based on 40G NIC; MS/M4 Servers cannot be mixed POD size. Max of 36 compute Nodes

Optional: for NFVBench Intel X710 or 520 on Management Node 2 ports used

Cisco VIC on cloud hosts: carved into VNICs for: SAMX: Storage, Cloud API, management & provisi PET: Provider, external and tenant VM networks oning

Intel NIC; 2x 2-port 520 or 2x2port 710XL Provider Network over SROV Computes that don't wish to have SROV, needn't put the NIC cards in them

Cisco VIC on management node br_mgmt: management network auto-configured as part of buildnode.iso install

2x1GE Intel NIC (build in LAN on board) on management node br_api: CVIM api network auto-configured as part of buildhode.iso install;

has Cisco VIM deployment and management APIs

---- Dedicated CIMC MGMT port 1G

Routable IPs:

cloud_api (for talking to OpenStack) br_api (for talking to VIM mgmt) [plan for other IPs for Zenoss, etc as needed] L3 IP connectivity between Server CIMCs and br_api of Mgmt. Node

Routable Networks:

Cloud external network for VMs: continuous set of min 10 IPs If you use provider networking, you will want to address the networks with subnets appropriate to their routing

All other networks can be private Large MTU must be configured on the TORs

POD size: 128 nodes (max of 20 ceph nodes) For MS Pod only XL710 is supported M4/MS computes can be mixed

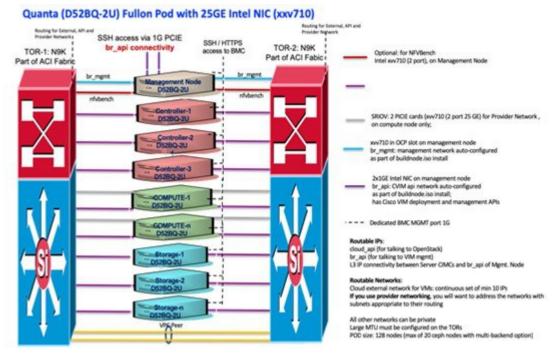


Figure 10: Quanta (D52BQ-2U) Fullon Pod with 25GE Intel NIC (xxv710)



ting for External, API and Optional: for NPVBench uting for External, API and wider Networks SSH access via 1G PCIE work --Intel xw710 (2 port), on Management Node br_api connectivity SSH / HTTPS access to BMC TOR-2: N9K TOR-1: N9K Need ssh access Need ssh access br mgmt br_mgmt nt Node D52BE-2U nhh nfvbench Control + Co as part of buildnode iso install 2x1GE Intel NIC on management node ol + Compute D528E.21 as part of buildnode.iso install; trol + Compute --- Dedicated BMC MGMT port 1G D52BE-2U Routable IPs: cloud api (for talking to OpenStack) br_api (for talking to VIM mgmt) EXPAND-COMPUTE-1 D52BE-2U **Routable Networks:** Cloud external network for VMs: continuous set of min 10 IPs EXPAND-COMPUTE-n All other networks can be private VP Large MTU must be configured on the TORs POD size: Max of 16 compute Nodes

Quanta (D52BE-2U) edge Pod with 25GE Intel NIC (xxv710))

SRIOV: 2 PICIE cards (nw710 (2 port 25 GE) for Provider Network

xvv710 in OCP slot on management node br_mgmt: management network auto-configured

br_api: CVIM api network auto-configured has Cisco VIM deployment and management APIs

L3 IP connectivity between Server CIMCs and br_api of Mgmt. Node

If you use provider networking, you will want to address the networks with subnets appropriate to their routing

Needs a Ceph pod for Glance image Service Edge cloud doesn't support persistent storage Management network of Edge and Ceph Pods are IP (v4 or v6) routable

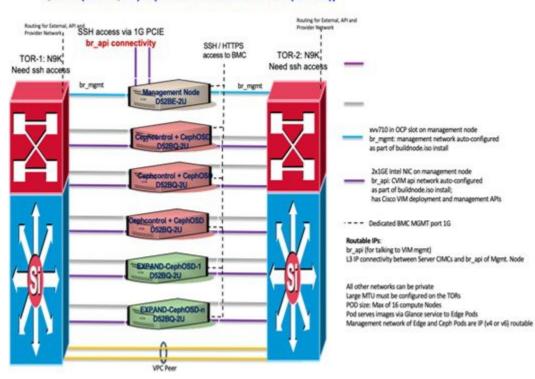


Figure 12: Quanta (D52BQ-2U) Ceph Pod with 25GE Intel NIC (xxv710)

Quanta (D52BQ-2U) ceph Pod with 25GE Intel NIC (xxv710))

Appendix

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