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SDN Enabled Broadband Access (SEBA) for Network Cloud Blueprint

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Blueprint: SEBA

Case Attributes	Description
Type	New blueprint for fixed wireline access within Network Cloud Blueprint family
Blueprint Family - Name	Network Cloud
Use Case	Virtual broadband access (XGS-PON - Higher bandwidth, symmetric version of GPON)
Blueprint Name	SDN Enabled Broadband Access (SEBA)
Scale & Type	3 servers per POD / x86 and ARM (with 8-16 cores each)
Applications	Virtual broadband access – vOLT access & aggregation (5000 edge locations)
Power Restrictions	Less than 1 kW. NEBS and 48V DC
Infrastructure orchestration	OS - Ubuntu 16.x Docker 1.13.1 or above / K8 1.10.2 or above- Container Orchestration Under Cloud Orchestration - Airship v1.0 Open Network Operating System (ONOS) and XOS VOLTHA (Virtual Optical Line Terminal Hardware Abstraction – CORD project) Network Edge Mediator (NEM) ONAP and OSAM EMS/NMS Adaptor
SDN	ONOS / OF & Redfish
Workload Type	Containers
Additional Details	Akraino based community blueprint, Full Automation (Airship based + Tenant Container support) Cloud layer hardened for production Current SEBA POD contains network elements, compute nodes, and software components. Aggregation and management switches Three compute nodes required for K8 redundancy About forty containers running ONOS, XOS, VOLTHA, NEM, etc Supports up to 16 OLTs.

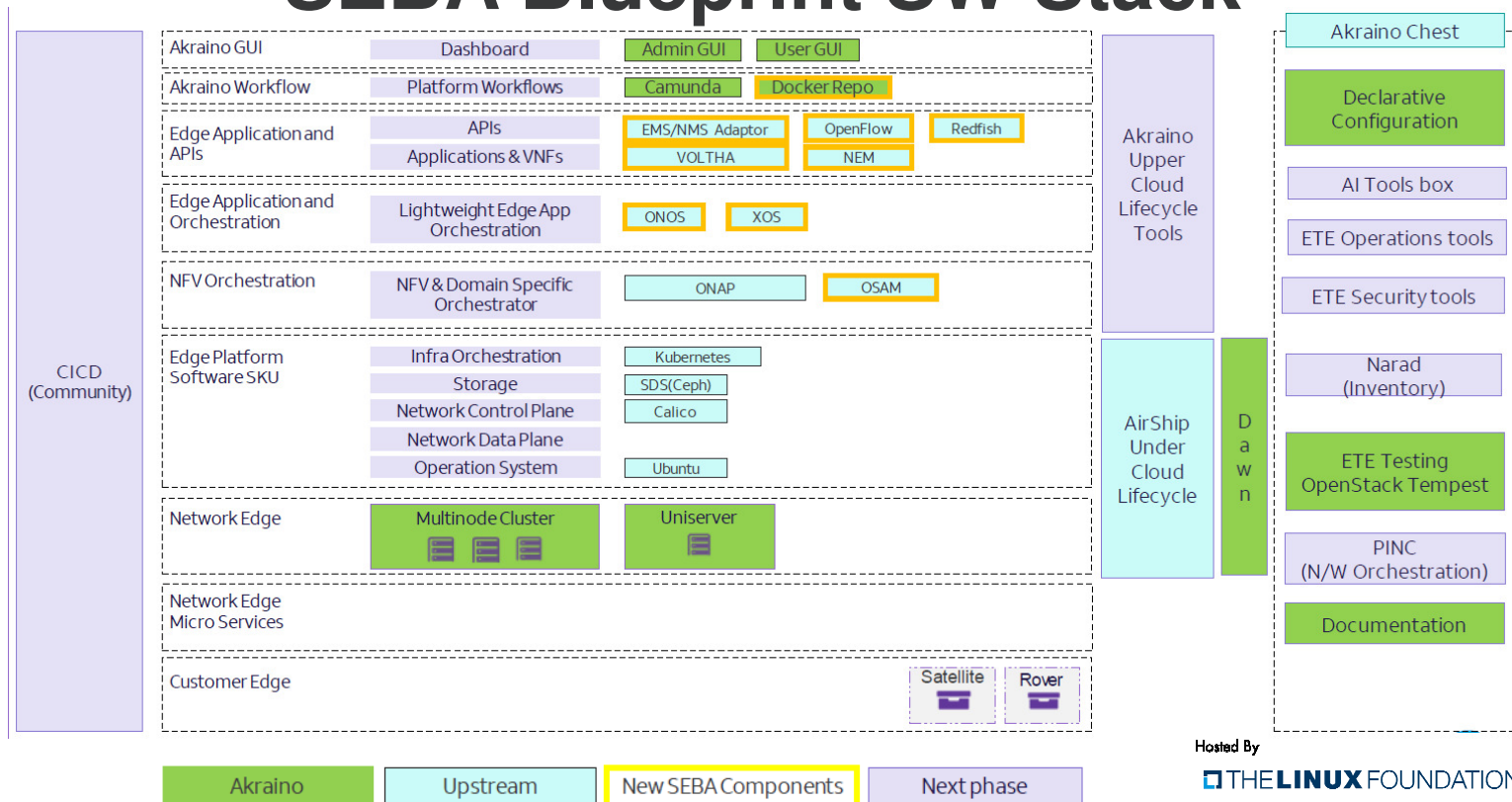
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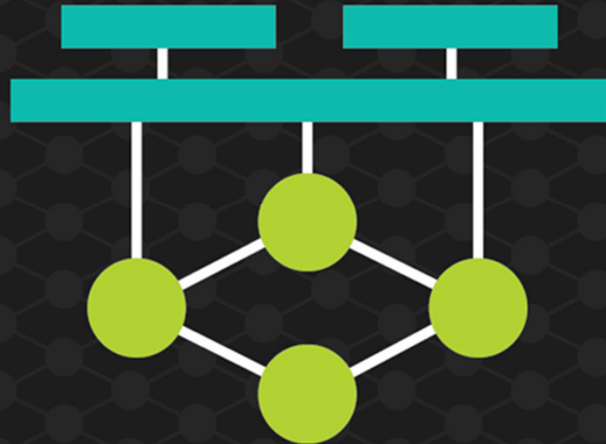
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SEBA Blueprint SW Stack



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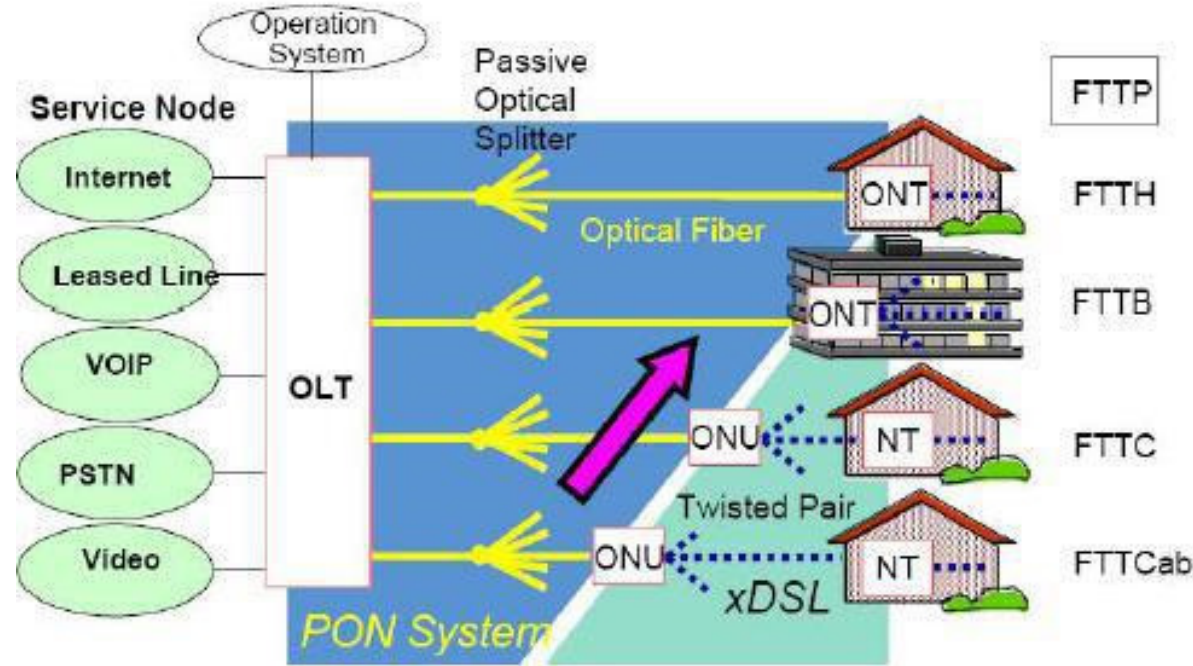
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SEBA Overview

- Utilize Open Network Foundation's developed SDN Enabled Broadband Access (SEBA) software
- Automate installation of a standardized set of hardware to expedite deployment



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SEBA Site Overview

- Deployment model has to scale to thousands of locations
- Site is a self contained, pre-integrated solution
- Site contains network elements, compute nodes, and software components
 - Aggregation and management switches
 - Three compute nodes required for Kubernetes redundancy
 - Multiple containers running VOLTHA, ONOS, NEM, etc
 - **All SEBA software runs in containers**
 - Supports up to 16 OLT and 16,384 subscribers



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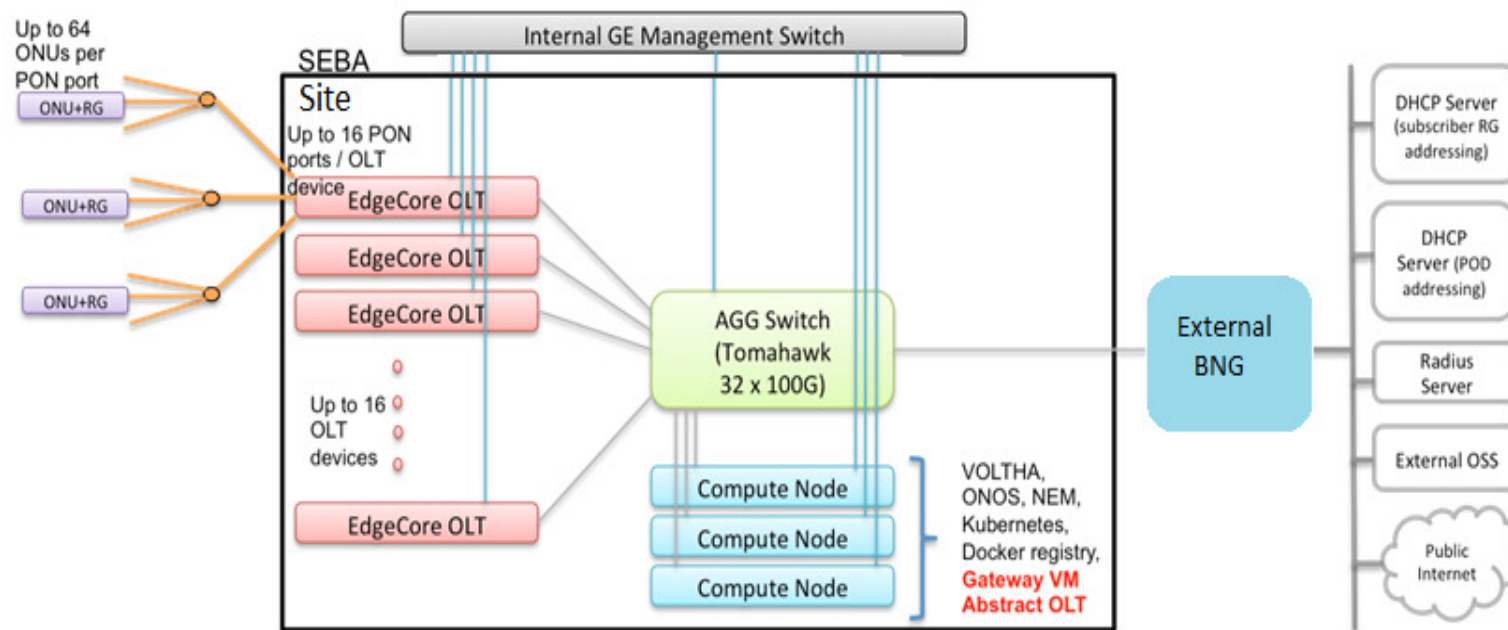


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SEBA Site Overview



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EDGE STACK

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