

Open Network Management & Security

Open NMS

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2013

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Open NMS
Virtualisation Key

- 1 Introduction
- 2 Open Network Management & Security: Open NMS
- 3 Demonstration of 17 July 2013



Introduction

Context, Problematic ...

What? ...SDN, Open daylight, OpenStack Context

- **Software-Defined Networking** introduces a split between the Data Plane and the Control Plane.
- **Open Daylight** aims to innovate and create an open and transparent approach to SDN.
- **OpenStack** delivers a massively scalable cloud operating system and controls large pools of compute, storage (Swift), and networking (Quantum) resources.

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Introduction

Context, Problematic ...

Why? ... The need for CCloud Elasticity, Isolation and Transparency in Data Center (DC)

- **CCloud Elasticity** : VM Migration, Slice or customer zone Migration, Open vSwitch Migration ...
- Enforcement of customer **Isolation** as specified by high level security policies across all resources.
- Provide **Transparency** to Multi-tenants DCNs.
- ... How to maintain the **System Consistency while VM and Network Migration?**

Keywords: Virtualization, Isolation, Cloud Computing, SDN, OpenFlow...

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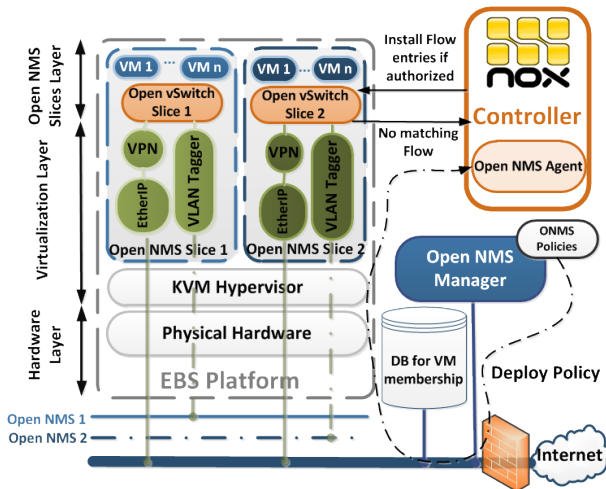
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Open Network Management & Security: Open NMS

Open NMS Detailed Architecture



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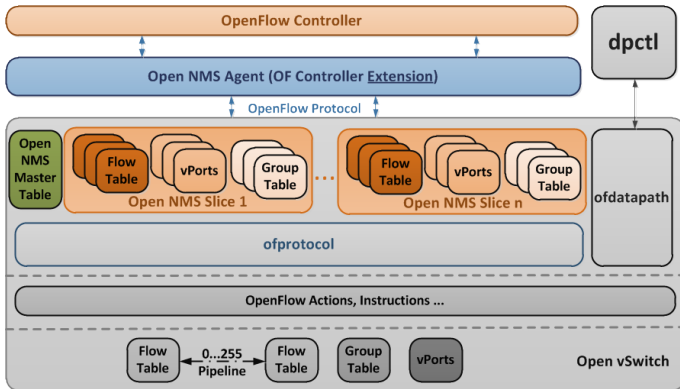
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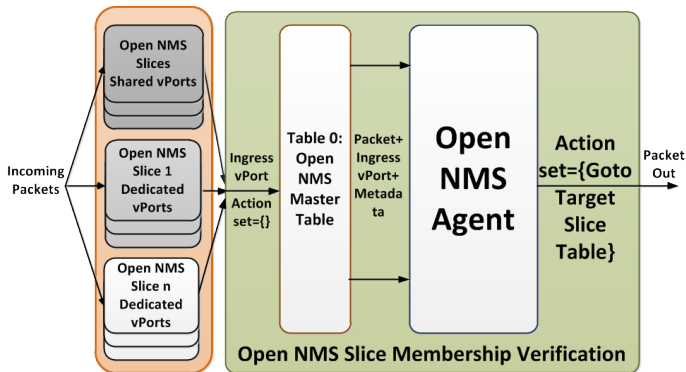
Open Network Management & Security: Open NMS

Open NMS Agent (Slice Watcher)



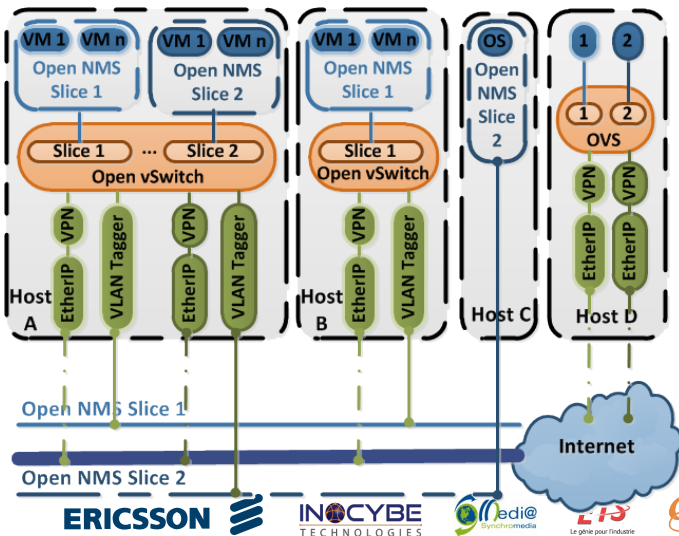
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Open NMS Shared and Dedicated vSwitchs ports



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Open NMS Global Switching and Private Networking



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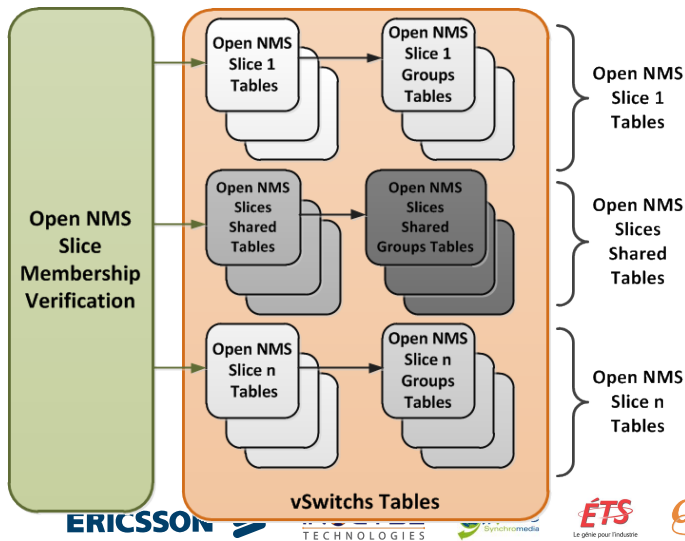
Open NMS Slicing Types

Table : *Open NMS Slicing Types*

Slicing Types	Isolated OVS Tables	Isolated OVS Ports
Open NMS $S/0$	No	No
Open NMS $S/1$	No	Yes
Open NMS $S/2$	Yes	No
Open NMS $S/3$	Yes	Yes

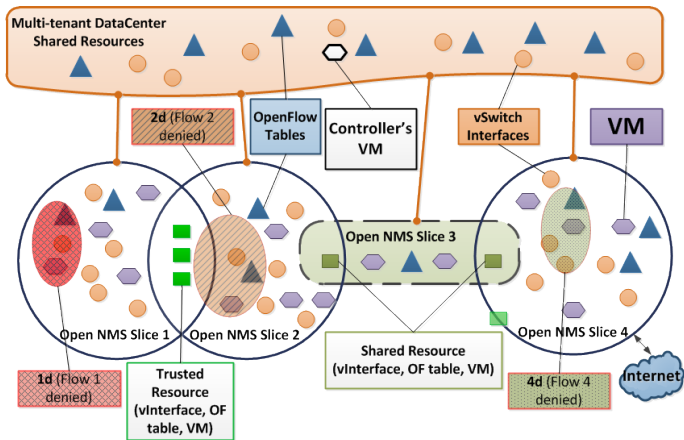
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Open NMS Shared and Dedicated vSwitchs tables



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Open NMS Usage Control for Shared/Trusted resource



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Demonstration of 17 July 2013

Demonstration Scenario

