E-NNI registration protocol

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Agenda

• Background
• Motivation
• Problem definition
• Suggested new standard
In order for two carriers (domains) to peer, there is a need for an external NNI.

E-NNI is a reference point where two Service Providers meet in support of specified MEF Services.

The E-NNI reference point is defined to exist between control domains.
Motivation

• Inter carrier (inter Domain) service provisioning automation is gaining place in carrier packet transport

• Ethos with NSN, BT,BGU & TKK are developing a solution for inter carrier Ethernet transport under the FP7 European research programs

• MEF had defined the E-NNI as a building block for inter carrier Ethernet transport (currently static and only S-VLAN)

• E-NNI must be supported at forwarding plane in order to enable automatic /TE service provisioning
Current situation

I-sid is configured on device

I-Sid is flooded on network (PBB)
Problem definition

- PBB-TE support only one domain - No support for E-NNI
- While PBB has an I interface, I interface peering is not defined in the data plane (no registration of I-SID downstream of provisioned port)
- PBB-TE must rely on external agent to be configured. The inter-carrier case raises problems with:
  - NMS connectivity between two carriers
  - Authority over ports configurations
  - Configuration synchronization
Suggested solution

Advertise capabilities

I-sid is configured on device

Advertise new configuration with I-sid'

Confirm configuration

I-sid" is flooded on network (PBB)

Independent
PBB / PB domain
Suggested solution

• Add E-NNI interface definitions to PBB-TE

• Add to standards the following capabilities:
  – A new registration protocol (based on GVRP) for I-SID / S-VLAN registration between two adjacent E-NNIs
  – Discovery and advertizing of E-NNI functionality and configuration
  – Automatic I-sid (S-VLAN) registration / stitching / translation mechanisms within the data plane. (extend I/S interface functionality)

• Two modes:
  – Promiscuous (for I-NNI): Any I-sid information from adjacent port is automatically assumed trusted and thus registered and
  – Authorized - (for E-NNI) adjacent port is not assumed trusted. Any registration event causes an SNMP trap to request NMS authorization.