

IETF 88 SDNRG Minutes

Tuesday, November 05, 2013 0900-1130 PST Tuesday Morning Session I

o An IETF Definition of SDN minutes

20

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The Design Space "SDN continuum"

- Separation of control and data planes - how much
- Centralized vs. Distributed Control - how much?
- Open/Standardized interfaces: data plane v.s. control planes vs. Mgmt, plane
- Other dimensions?
- A simplified view of the SDN continuum:
Service layers

Apps ... Appa
Control and orchestration

Linda Dunbar:

The current proposed architecture is still from network vendor perspective. Should present SDN from application perspective. E.g. AntiDos applications driving network to direct traffic to

Charlie Perkins:

Not too much OF focused SDN

Yaakov Stein:

Doesn't have to do it virtualized.

?: don't think it is productive to separate research work from other work. Maybe it is better to split based on topic.

Jamal Hadi Salim: the Hype is high. Everyone is doing SDN. We've been doing separation for years.

Erik:

maybe look at Linda's suggestion on looking from application perspective.

o SDN Layers and Architecture Terminology minutes

25

draft-haleplidis-sdnrg-layer-terminology-00.txt
Evangelos Haleplidis ehalep@gmail.com

Motivation:

- Each draft has its own view of SDN

Draft goal:

- Create a reference document for SDNRG discussions;
 - o Address "survey of SDN approaches and Taxonomies" in the RG charter for potential work items.
 - o In contrast with an academic survey which expresses ons pov.
- Agreement

SDN : functionality separation

- Model
- Separate via interface
- Service APIs northbound

Reference Layer Model

David Myer:

there is already a conflict here. The OpenDayLight has different definition for Service Abstraction Layer (SAL). May be it is DAL.

Russ White:

It is Management vs. control plane problem. I don't think that timing is big deal. Maybe the metadata is the issue. Crucial point to

Yaakov:

Control plane is driven by software vs. management is controlled by human being.

Scott Brim:

Maybe it is too early to differentiate control plane and management plane.

Linda:

It is good intension to come out with a common reference model for SDN. However, due to everything can claim itself as SDN, it will be meaningless to define a model to separate control plane out of forwarding plane. Look at ONF SDN framework document and architecture document, a lot wording doesn't have any impact to the bottom line.

LuYuan Fang: disagree with Yaakov's comment on the definition between control plane and management plane. Today's Data center is pretty much automated.

Ralph Droms: management plane should be above control plane.

Moving forward:

David Myer: I should merge mine with this one. There is no point of having two separate one.

o A Software Defined Approach to Unified IPv6 Transition
minutes

25

Tina TSOU <Tina.Tsou.Zouting@huawei.com>

Diego R. Lopez diego@tid.es

Status Quo in IPv6 transition: very complicated

The Goals:

- Applying SDN : decouple network equipment and the eoperation of specific IPv6 transition schemes
- Decouple network equipment and the implementation of specific IPv6 transition schemes.

As a result, support a flexible and adapt the framework for IPv6 transition.

The data and control flows:

The first live experiment: Internet access for 20+ participants at the ETSI networking and SDN conference 2013 in Beijing.

An OSS-like mobile App:

- Demonstration of the NBP concepts
- Controls the deployment and configuration of several IPv6 transition mechanisms
-

Linda: this is what I say as using SDN for network to provide the needed services. Many people may say this is just a use case to start SDN. I say SDN is only a framework, WG should define the standard interfaces to allow network to make it happen.

Are there any standard protocols to be developed for this work?

Diego: more protocol work is needed for IP in IP encapsulation, NBI, MTU cases, etc.

Tina Tsou: barBof Wed 7pm~8pm with venue at the T-Shirt desk.

o Use Cases and Architecture of Central Controlled IP RAN **25 minutes**

draft-khy-rtgwg-central-controlled-ipran-00.txt

Katherine Zhao Katherine.Zhao@huawei.com

- IP RAN is another area for SDN
- CC IP Ran network architecture
- Show example how to use SDN framework to solve issues in the IP RAN.

Controller Deployment options:

- Free service planning, plug and play

SDN-based mobile backhaul:

Ning So (Tata): it is very interesting use case. Is it already deployed?

Katherine: it is in the China Telecom lab.

o Network Control Function Virtualization for Transport SDN 25
minutes

draft-lee-network-control-function-virtualization-01.txt
Young Lee <leeyoung@huawei.com>
Greg Bernstein <gregb@grotto-networking.com>

Transport network control:

- Transport SDN has started from day one of GMPLS, RSVP-TE, OSPF-TE

Logically centralized control:

Use-case B1; dynamic DCI in multi-domain network (topology request).

Use-case B2: Connection Request

Work Items:

- Modeling between logical resources and physical resources. There is a lot of math model required. That is why we bring the work to here.
- How to represent abstract topology. ALTO already has it.
- Who owns the virtualized control.

Questions:

Cisco:

o A PCE-based Architecture for Application-based Network Operations 25
minutes

draft-farrkingel-pce-abno-architecture-06.txt
Daniel King <daniel@olddog.co.uk>
Adrian Farrel <adrian@olddog.co.uk>

Network operation requirements: the need to automate across different layers.

Application based network operation (ABNO):

Multi-layer path provisioning (path)

- OSS requests for a path between two L3 nodes
- Controller verifies OSS user rights using the policy manager
- Controller requests to L3-PCE (active) for a path between both locations
- As L3 PCE finds a path, it configures L3 nodes using provisioning manager

Multi-layer restoration: