**NirvanaStack**

The "Nirvana Stack" is a generic NFV solution stack which was proposed by ATT in 2016 and which consists of 4 key components: OpenStack, OpenDaylight, FD.io/VPP - all of which integrated into a solution stack in OPNFV.

Among the key objectives of this solution stack were enablement of rapid innovation, highly composable architectures, and flexible solution design.

Given the great similarities of the "Nirvana Stack" and FDS, the FDS team participate in the "Nirvana Stack" effort.

**Presentations**

Presentations on Nirvana Stack:

- The "Nirvana Stack" (Liza Fung) - Nirvana Day at OpenStack Summit Boston, May 2017
  https://docs.google.com/presentation/d/1nCM0bbRa2B3yHU5R3tFumA0d2JtoxBPQUSuugNe#
- Towards the Nirvana Stack (Lightening talk, OpenStack Summit Boston, May 2017) (Srikanth Vavilapalliand, Andre Fredette)
  https://docs.google.com/presentation/d/14s3OgxQVKWHd_j8aW3mHcpcvD11xk9-EwJW1SOfC7Bk/
- Towards the Nirvana Stack (Nirvana Day at OpenStack Summit Boston, May 2017) (Francois Lemarchand, Andre Fredette, Frank Brockners)
  https://docs.google.com/presentation/d/14xQAaZnXQEIIGsH_7PoNG0rlZhkiZmm7ogYRj8aiXM/
- Realization of Nirvana Stack: (Srikanth Vavilapalliand, Frank Brockners), Nirvana Day at OpenStack Summit Boston, May 2017
  https://docs.google.com/presentation/d/1DzBWKPhH5znG0aImmsjFKNjvxAEF6xOeEwAEpZyGNE/
- Solving L3VPN use-cases with the Nirvana Stack: (Paul Carver, Thomas Morin, Frank Brockners), Nirvana Day at OpenStack Summit Boston, May 2017
  https://docs.google.com/presentation/d/1RH-jcbv49aBuzXSJAP8IOW-9OZxG0rEYcXH961_0/
- Towards Nirvana Stack: The Evolution of OpenDaylight Network Control (Phil Robb, Frank Brockners), OPNFV Summit, Beijing, June 2017
  https://docs.google.com/presentation/d/1QgQmtCavV8bwEDkU7pmZHVvad6B3s4ofl2tdxLUw/
- Towards Nirvana Stack: OpenDaylight Network Control Solution with FD.io Data plane (Srikanth Vavilapalliand, Andre Fredette, Frank Brockners), OpenDaylight Technical Workstream (TWS), August 7, 2017
  https://docs.google.com/presentation/d/16IvBFqHJTHb0A0XhA0fou844pDRQ1p8p38Mf9N1kNo8/edit#slide=id.p3

**NirvanaStack PoC**

Nirvana Stack PoC

In an initial phase of the NirvanaStack PoC the team wanted to demonstrate a modular solution for network control in OpenDaylight which allowed for:

- Flexible and single solution for network control in OpenDaylight
- Flexible set of network services supported
• Flexible set of network devices supported

As the initial service, the team implemented the L2/ELAN service. The solution was created as a combination of NetVirt (for service logic) and GroupBasedPolicy (for flexible service/policy rendering to different devices) in OpenDaylight. This resulted in an integrated solution of two components which were formerly competing with each other. For details on the integration see: “Realization of Nirvana Stack” (Srikanth Vavilapalliand, Frank Brockners: https://docs.google.com/presentation/d/1DzBWKPhNZ6nGOa-lmsjfKJNxwAEF6xOeEwAEp2yGNE/)

Key patches for the PoC

• Code for ELAN Service with ODL Integrated Solution
  • NetVirt Enhancements: https://git.opendaylight.org/gerrit/#/c/50259/
  • Genius Enhancements: https://git.opendaylight.org/gerrit/#/c/53632/
• APEX Scenario with ODL Integrated Solution
  • https://gerrit.opnfv.org/gerrit/#/c/33433
• GBP interface for remote calls on VPP
  • https://git.opendaylight.org/gerrit/#/c/48962/

PoC Meetings

• The PoC team meets each Wednesday at 7am PT:
  https://bluejeans.com/473194686

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