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.

Presentations

Presentations on Nirvana Stack:

- The "Nirvana Stack" (Liza Fung) - Nirvana Day at OpenStack Summit Boston, May 2017
  https://docs.google.com/presentation/d/1nCM0bbRa2B3yHUSfU3nA0dJtxtSPOJUSsuugNe4/
- Towards the Nirvana Stack (Lightening talk, OpenStack Summit Boston, May 2017) (Srikant Vavilapalli, Andre Fredette)
  https://docs.google.com/presentation/d/14s3OgxQVKWHnJ8aW93kHdCedDY11x9-EwJW1S0C7Bk/
- Towards the Nirvana Stack (Nirvana Day at OpenStack Summit Boston, May 2017) (Francois Lemarchand, Andre Fredette, Frank Brockners)
  https://docs.google.com/presentation/d/14xQAaZnXQEiElGsh77PoNGOrLzhzikZz7ogYRj8aiXM/
- Realization of Nirvana Stack: (Srikant Vavilapalli, Frank Brockners), Nirvana Day at OpenStack Summit Boston, May 2017
  https://docs.google.com/presentation/d/1DzBWPKhNZ69nGOa-1mmsjKJvxxAEF6xOeEwAEpZyGNE/
- 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-jcbv49aBuzXSJAP8IQW-90ZXGRGyXcHbX981i_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/1qPGmtCavV8bwEDk7mU7pGzHJVad6B3sqcvwts0xLWw/
- Towards Nirvana Stack: OpenDaylight Network Control Solution with FD.io Data plane (Srikant Vavilapalliand, Andre Fredette, Frank Brockners), OpenDaylight Technical Workstream (TWS), August 7, 2017
  https://docs.google.com/presentation/d/16ixBFqHJmTHbSA0XhA0fou844pDRQL8p3F8Mf9N1INo8/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 Vavilapalli and Frank Brockners: https://docs.google.com/presentation/d/1DzBWkPhNz8mGOa-lmmsjKCIJNnxwAEF6xOeEwAEpZyGNE/

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/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

PoC team members

• Srikanth Vavilapalli <srikanth.vavilapalli@ericsson.com>
• Tomas Cechvala <tcechval@cisco.com>
• Frank Brockners <fbrockne@cisco.com>
• Andre Fredette <afredette@redhat.com>
• Tim Irnich <tim.irnich@ericsson.com>
• CARVER, PAUL <pc2929@att.com>
• Sam Hague <shague@redhat.com>
• Daya Kamath <dayavanti.gopal.kamath@ericsson.com>
• Eric Multanen <eric.w.multanen@intel.com>