Day 1   **Grand F**

09:00 - 09:30   Opening &

09:30 - 09:50   OPNFV 101
(Ildiko Vancsa, Ericsson)
OPNFV is a very young community and very unique at the same time
with IT companies to work on a platform that is suitable for NFVs and
of us is not completely new to open source, but most of us is still lear
changing to adapt to a new way of working. The road is full of turns, k
presentation will guide you through the changes in the projects' struc
our current project structure in OPNFV including co-operation, our pr
further improvements.

09:50 - 10:50   Container se

10:50 - 11:05   Morning

11:05 - 12:05   Programmable Data Planes and the Role of IO Visor in NFV (Panel)
Moderator: Margaret Chiosi (AT&T)/Panelists: Chris Price (Ericsson),
(PLUMgrid)
The telecom industry is being transformed by NFV, enabling faster tir
programmability, and automation. Underpinning NFV deployments, p
provisioning, management, and scalability. As a new open source col
Linux based, in-kernel programmable data plane that is independent
on programmable data planes and hear from some of the most forwa

12:05 - 13:00   Lur

13:00 - 13:20   DPDK, User Space Data Path, Open vSwitch and OPNFV
(Thomas Herbert Red Hat SDN Group)
In this presentation, Mr. Herbert discusses the layered architecture
of Open vSwitch. Tom will discuss the OVSDB and Open Flow
control protocol and the specific mechanism and internal API's with
which OVS's layered architecture provides independence of the
data plane from the control plane. Specifically, he discusses how
user space accelerated software data paths can provide enhanced
performance over the Linux kernel in some circumstances at wire
data rates. The talk covers DPDK as an example of a user space
data plane as well as the advantages and disadvantages of DPDK
with respect to the LInux Kernel data plane in terms of configuration,
flexibility, provisioning and network interfaces. Finally, he provides a
discussion about the implications of utilizing OVS with DPDK or
another accelerated software data plane to OPNFV higher level
networking functions.

13:20 - 13:40 DPDK, Data Plane Development Kit Architecture Overview
(M Jay, Intel)
DPDK, Data Plane Development Kit, is a set of libraries and drivers for fast packet processing. With its I/O optimizing bulk mode operations and memory latency hiding s/w prefetch techniques, DPDK can receive and send packets within the minimum numbers of CPU cycles. Within DPDK tree, more than 20 different sample applications are provided for network developers to build their applications based on DPDK. DPDK is an Open Source BSD licensed project. A FreeBSD port is available for a subset of DPDK features.

13:40 - 14:00 Demo: OVS-DPDK & DPDK
(Thomas Herbert, Red Hat/M Jay, Intel/Mark Gray, Intel)

14:00 - 14:20 OpenFastPath –an open source accelerated IP fast path
Tapio Tallgren, Nokia
The exponentialgrowth in data traffic puts ever-increasing demands on the packetprocessing elements in the network, resulting in a need for highperformance IP packet handling. This drives the emergence of a newgeneration of hardware accelerated platforms as well as an emergenceof user space applications and libraries. Hardwareabstraction layers like OpenDataPlane (ODP) and Data PlaneDevelopment Kit (DPDK) provides a hardware abstraction layer and acommon API for applications and libraries. However, they do notinclude commonly required functionality such as IP forwarding orIPsec. To solve this an additional piece of technology is needed - anopen IP stack that provides needed protocols and features for highperformance environments. This framework will enable networkapplication developers to meet both performance and platform targetscreating a basis for scalable high-performance network functions.
This presentation will introduce an open source project providingthat missing piece. OpenFastPath (OFP) is the industry's firsttruly hardware agnostic open source user space IP fast path solution.Backed by major industry players ARM, Nokia and Enea, OFP is aimingat providing industry leading scalability, performance and portability.

14:20 - 14:40 OVN for OPNFV
(Vikram Dham Dell)
OVN is the open virtual networking software which complements the existing capabilities of OVS to add native support for virtual network abstractions, such as virtual L2 and L3 overlays and security groups. In this session we intend to explore the option to use OVN for OPNFV. We will discuss the network capabilities supported by OVN and see if we can match them to the networking requirements of OPNV.

14:40 - 15:00   Evolution of OPNFV CI system: what already exist and what can be introduced
(Jun Li, Huawei)
In Arno, the infrastructure of the CI system is shown in http://artifacts.opnfv.org/octopus/1026/docs/opnfv-ci-infrastructure.html, along with the growth of community development, new tools such as zuul, nodepool, etc, can be introduced, some famous storage/analysis tools, such as ELK, can be introduced to replace the existing Google Storage.

15:00 - 15:15   <mark>Afternoo</mark>

15:15 - 15:35   ONOSFW Overview and Design
(Brian OConnor, Onlab)
Open Network Operating System (ONOS) is an open source SDN network operating system built by a community of service providers, vendors, network operators, and other collaborators. The goal of the project is to provide a network control plane that delivers high performance operation and resiliency in the face of data plane and control plane failures. ONOS also delivers software-speed feature agility, helps provide a migration path from legacy to white box devices, and helps reduce network operational expense. This talk will introduce the ONOSFW project in three parts -- describe the overall system architecture and the ONOS approach to network virtualization and tenancy; provide an update on the southbound protocols and drivers available in ONOS; and, discuss the integration with OpenStack and northbound abstractions that can be made directly available to tenants and VNF managers.

15:35 - 15:55   OpenContrail Virtual Networking
Stuart Mackie, Juniper Networks
OpenContrail provides virtual networking using overlay networking between VMs in an OpenStack environment using a combination of L2 and L3 forwarding in the KVM hypervisor and distribution of routes from the Contrail Controller. In this tutorial we will describe the Contrail Controller architecture, how the route distribution and forwarding is accomplished, and how use of standard data plane and control plane protocols allow OpenContrail virtual networks to be easily connected into physical networks and how physical network functions (PNFs) can be linked with VNFs in service chains.

15:55 - 16:15 Compass - MetaData and Service Containerization
(Wei Shao, Huawei)
In this talk, we introduce Compass metadata support and how it provides extensibility of the installer's functionality without writing new code. We also introduce our experience in putting Compass service components into containers. We hope this could be useful and some technologies could be re-used in other projects in OPNFV.

16:15 - 16:35 Pinpoint - Fault localization in OPNFV
(Adi Molkho Huawei)
Fault localization (also known as Root Cause Analysis) is a process of deducing the exact reason of a failure from several fault indications. The Pinpoint project task is to explore the different information sources available for the IT/ Tenant manager and define the API needed by the fault localization functionality block
In this talk I will go through the use cases chosen for the projects, the exisiting open source projects that may provide usefull information for fault localization and the different methods that may be used inside the fault localization

16:35 - 16:55 Multisite - The Impact on the Upstream Community
(Howard Huang, Huawei)
Multisite Team has conducted successful discussions on the use cases, and produced some preliminary requirements to the upstream community. For an OPNFV project like Multisite which deals with multiple upstream projects/communities, how to conduct work in upstream is vital for our success. Since our usecases have been targeting both existing official top level OpenStack projects (Nova, Neutron, Cinder, Keystone...) as well as new projects (tricircle, kingbird), I want to use the opportunity of the design summit to discuss how to best output our requirements to the upstream projects/communities.

16:55 - 17:15 KVM4NFV - The path to meet NFV requirement
Yunhong Jiang, Intel
KVM4NFV project is to make collaborative efforts toward enabling the existing hypervisors for NFV features, so that we can provide crucial functionality in the NFV Infrastructure. In this session, we will discuss how are the community collect the NFV requirement, debugging and patch the kvm hypervisor, how to co-work with other project like CI/Yardstick to integrate kvm4nfv into opnfv infrastructure, how we setup the test environment and conduct the test to make sure we meet the requirement.

17:15 - 17:30   Day 1 V

17:30 - 19:00   Design Summit Happy Hour spo

Day 2   **Grand F**

09:00 - 09:10   Day 2 I
09:10 - 09:25   OPNFV community dashboard: Bitergia
                 Ray Paik/Aric Gardner, LF
09:25 - 09:55   Jira Overview
                 Mark Beierl, EMC
09:55 - 10:15   Orchestrator Lightening Round
                 Hui Deng, China Mobile
                 OPNFV hasn't started the MANO's work yet, but some projects like SFC
                 and functest
                 has used some opensource for VNFM like Tacker and Cloudify,
                 In this session, user of VNFM from SFC and functest will explain how
                 they use it.
                 later Deng Hui will introduce one proposal about implementation of
                 orchestrator which
                 plans to run open source and will incooperate with OPNFV.
                 The session in the end will discuss how OPNFV should work with
                 orchestrator candidates.
10:15 - 10:35   Orchestrator Lightening Round (Cont'd)
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                 orchestrator candidates.
10:35 - 10:50   Morning
10:50 - 11:10   IPv6 - Service VM as IPv6 vRouter
                 Bin Hu (AT&T) and Meenakshi Kaushik (Cisco)
                 In this tutorial, we will demonstrate how to set up a service VM as an IPv6
                 vRouter in OpenStack+ODL environment

11:10 - 11:30	Forging a clear path for collaboration with Model-driven interfaces (Peter Lee, ClearPath Networks)
	This talk will include a demo of the YangForge toolkit to showcase how it streamlines the traditional SDLC process by enabling common Model-driven tooling across the Requirements, Design, Coding, Testing, and Maintenance phases. This talk will highlight the current challenges by the development community in absorbing publication-centric outputs from the various SDOs and how YangForge directly empowers the members of the standards organizations to tackle the Design/Coding/Testing phases without any dependency on the downstream development com
	munity. In addition, this talk will illustrate how the YangForge framework fosters collaboration between users by publishing working implementations via a common repository. Various examples of best practices for leveraging YangForge by architects and developers as well as case studies on adoption across various OPNFV projects will be presented.
11:30 - 11:50	Forging a clear path for collaboration with Model-driven interfaces (cont'd)
	(Peter Lee, ClearPath Networks)
11:50 - 12:10	Framework for Virtualized and Cloud-Based Commercial Services (Mehmet Toy, Comcast)
	Topics covered: Virtualized Carrier Ethernet Services; Virtualized IP VPN and MPLS VPN Services; Cloud-Based Commercial Services
12:10 - 12:30	MEF Lifecycle Service Orchestration (LSO)
	(Rami Yaron, MEF Co-Chair)
	This session will discuss MEF's Lifecycle Service Orchestration (LSO) requirements from ordering through service activation, including supporting APIs. We will also discuss how MEF is working with open source communities including OPNFV and Open Daylight to make LSO a reality.
12:30 - 13:30	Lur
13:30 - 16:30	Unconfe

Grand G

Welcome

It consists of several Telecom vendors and service providers along
the puzzle is built from large open source projects as pieces. Many
ning how it works. OPNFV is a good example of how the mindset is
but we are learning our lessons and moving forward. The
ture, life cycle and way of working. You will get an overview about
ocesses including tools and best practices and areas that need

ssion (TBD)

YunSong Lu (Huawei), Bob Monkman (ARM), Pere Monclus

ne to market and flexible services through virtualization,
rogrammable data planes are paramount to achieving agile service
llaboration project under the Linux Foundation, IO Visor offers a
of hardware systems and silicon. In this panel, join the discussion
ard-thinking technology leaders around the world.

How to verify the reliability of OPNFV infrastructure?
(panghao, Huawei)
System reliability is one of most important features for the Network
service. With the development of visualized network functions,
system reliability and stability becomes more complex than before.
Tes
ting and verifying OPNFV infrastructure for tolerating the faults and
failures is a great challenge. To address this challenge, the
presentation presents a test framework which covers the means
and types of faults injection as well as the implement of fault
injection tools. Some test cases are shown to validate the
framework.

Test collection API & test dashboard
Morgan Richomme (Orange)

Use JavaScript to Visualize OPNFV System Performance
(Wei Shao, Huawei)
Web-based charts, graphs, maps etc are powerful tools for
information displ
ay and they empower user's understanding of operational status
and potential issues of the system. In this talk, we will introduce
some Javascript libraries for visualization of OPNFV system status
and performance. These libraries allow browser-based graph
rendering and improved user experience.

Functest in Depth: 1 hour workshop
(Jose Lausuch, Ericsson)
Functional testing is key to validate the installation and the correct behavior of the OPNFV platform. This session will cover how to prepare and execute the Functest framework over a fresh installed Arno and possibly some spoiler of the second release.
It will also walk though the different tools used in Arno: Rally, Tempest, vPing and Robot.

Project Breakouts

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