

Common NFVI Telco Taskforce

Reference Model Key Updates

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 THE **LINUX** FOUNDATION

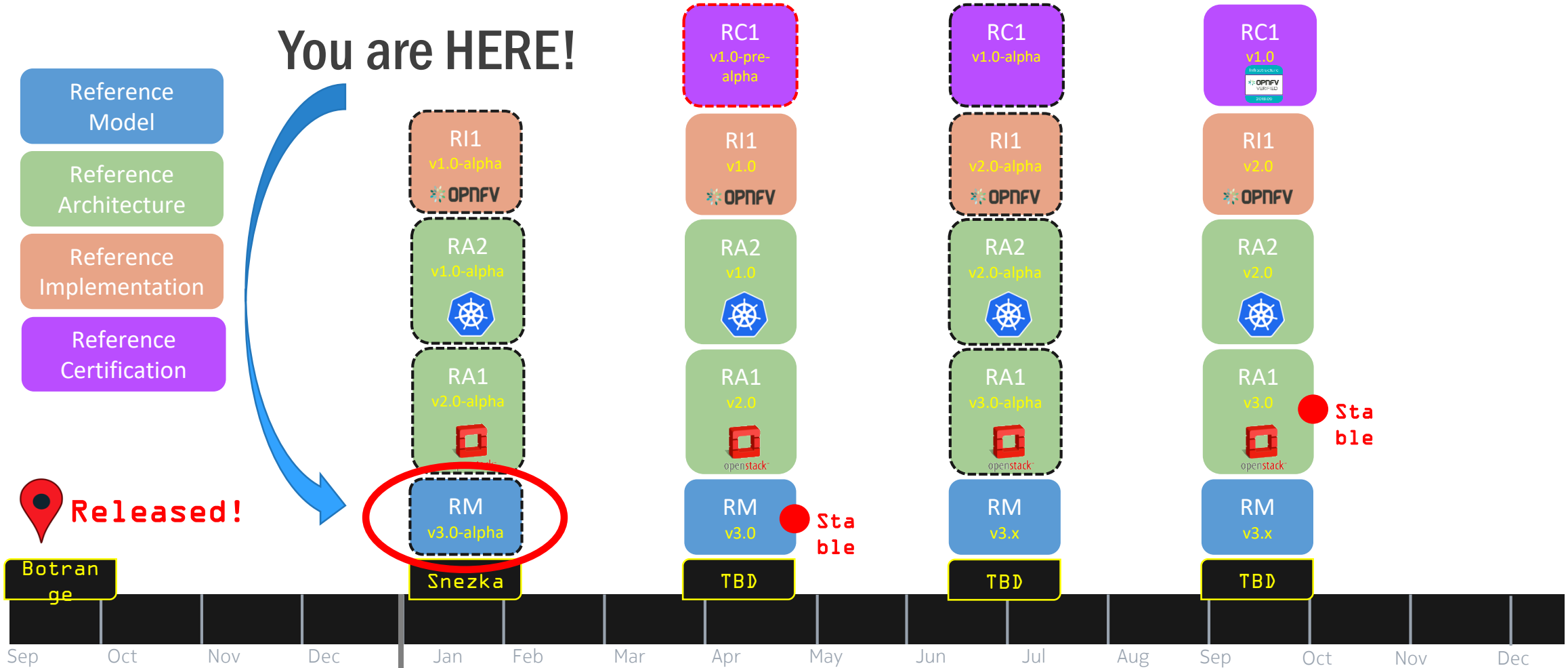


CNTT | Roadmap

You are **HERE!**

- Reference Model
- Reference Architecture
- Reference Implementation
- Reference Certification

 **Released!**



Setting Expectations

- › This session covers Snezka highlights
- › This is Not the Deep-Dive (that's Wednesday)

Achievements in Snezka Release

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- › Shout-out to the many contributors!
- › Joint effort from multiple authors
- › All driving to enhance RM

THANK YOU!

Achievements in Snezka release

- › Initial support for containers
- › Reorganization of Capabilities and PMs
- › Simplified measurement naming (schema)

PM and Capability Schema

The Capability and PM identifiers conform to the following schema:

a.b.c.d (Ex. "e.nfvi.pm.001")

a = Scope <(e)xternal | (i)nternal | (t)hird_party_instrumentation>

b = Functional Area <nfvi | vim>

c = Type <(cap)ability | (pm)>

d = Serial Number

Ref	NFVI Capability	Unit	Definition/Notes
e.nfvi.cap.006	CPU core pinning support	Yes/No	Indicates if NFVI supports CPU core pinning
e.nfvi.cap.007	NUMA support	Yes/No	Indicates if NFVI supports NUMA
e.nfvi.cap.008	IPSec Acceleration	Yes/No	IPSec Acceleration
e.nfvi.cap.009	Crypto Acceleration	Yes/No	Crypto Acceleration
e.nfvi.cap.010	Transcoding Acceleration	Yes/No	Transcoding Acceleration

Achievements in Snezka release

- › Initial support for containers
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- › Storage extension simplification

Storage Simplification

Before

.conf	capacity	Read IOPS	Write IOPS	Read Throughput (MB/s)	Write Throughput (MB/s)
.bronze1	100GB	Up to 3K	Up to 15K	Up to 180	Up to 120
.bronze2	200GB	Up to 3K	Up to 15K	Up to 180	Up to 120
.bronze3	300GB	Up to 3K	Up to 15K	Up to 180	Up to 120
.silver1	100GB	Up to 60K	Up to 30K	Up to 1200	Up to 400
.silver2	200GB	Up to 60K	Up to 30K	Up to 1200	Up to 400
.silver3	300GB	Up to 60K	Up to 30K	Up to 1200	Up to 400
.gold1	100GB	Up to 680K	Up to 360K	Up to 2650	Up to 1400
.gold2	200GB	Up to 680K			
.gold3	300GB	Up to 680K			



.conf	Read IO/s	Write IO/s	Read Throughput (MB/s)	Write Throughput (MB/s)	Max Ext Size
.bronze	Up to 3K	Up to 15K	Up to 180	Up to 120	16TB
.silver	Up to 60K	Up to 30K	Up to 1200	Up to 400	1TB
.gold	Up to 680K	Up to 360K	Up to 2650	Up to 1400	1TB

Table 4-19: Storage Performance Profiles

After

Achievements in Snezka release

- › Initial support for containers
- › Reorganization of Capabilities and PMs
- › Simplified measurement naming (schema)
- › Storage extension simplification
- › UNH H/W profile aligned across CNTT
(worked through RM team)

UNH Hardware Profile (Approved)

UNH-Specific

4.2.1 Physical Server Requirements

Each server shall meet the following minimum specifications:

- **CPU**
 - 2x x86_64 CPU sockets (both populated), providing 24 cores each, 48 simultaneous multi-threads (SMT), at 2.2 GHz
- **Memory**
 - 512 GB RAM
- **Storage**
 - 3.2 TB SSD via SATA 6 Gbps
 - Storage should present as at least 3 or more disks to the OS, allowing for usage as CEPH storage nodes, or similar.
- **Network Interfaces (note 1)**
 - 4x 25 Gbps Ethernet Ports, implemented as two separate dual port NICs
 - Out-of-band Management Port

Note 1: At least 1 network interface must be capable of performing PXE boot and that network must be available to both the Jump / Test Host and each physical server.

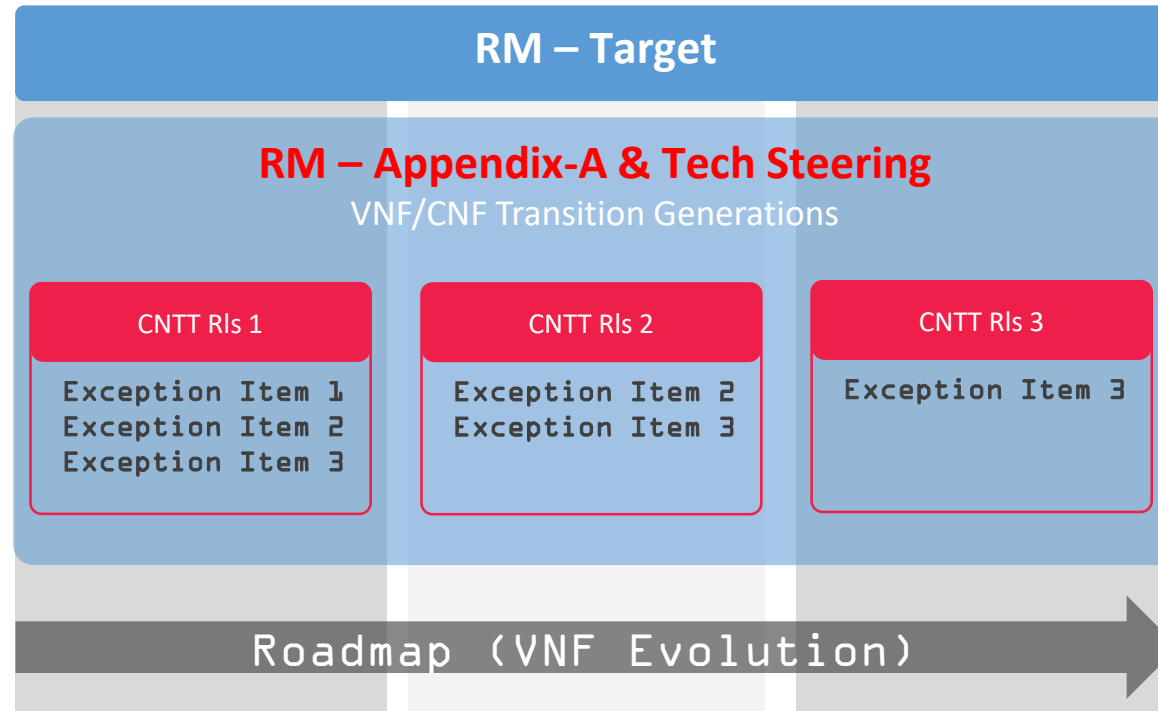
Achievements in Snezka release

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- › Content migration to RC

Achievements in Snezka release cont'd

- › Initial Non-Conforming Technology Framework
 - › Creating consistent, objective policy
 - › NIC/FPGA/Co-Proc/Crypto/etc.
 - › Software feature/function/service
- › Initial Exception/Transition Framework
 - › Creating consistent transition plans
 - › Initial SR-IOV transition policy
- › Initial VNF Evolution

Exception / VNF Evolution Relationship



WIP in Snezka Release

- › Network Extension Simplification
- › Initial VNF Guidelines (WIP)
- › Initial h/w profiles and performance
 - › Need deterministic performance from models
 - › Guidelines vs. Requirements
 - › Straw-man methodology for meeting the goal
 - › White paper / proposal(s) under development

Reference Model Next Steps

RM WS Next Steps

- › VNF Evolution Framework
 - › How to document interim acceptance of technologies that require hardware-dependent code or libraries in the VNF?
- › VNF Profile Generations
 - › How to document generations of hardware deployed in a NFVI?
- › Simplify VNF profile naming
 - › Simplifying VNF profile naming and simplifying profile extensions
- › CNTT-specific data modeling and meta data vs. existing records (Ex. VNFD/Heat/Tosca vs. CNTT-specific records (T-Shirts, Extensions, Flavors, ITs, etc.))

RM WS Next Steps - cont'd

- › Policies for various Non-Conforming Technologies
- › Storage performance fidelity enhancement (IOPS/GB vs. IOPS & GB)
- › H/W Guidelines
- › CNTT Platform Primary Use-Cases and Priority (xNF vs. IT) for weighting public cloud baselines and comparisons
- › Generic Fabric Model
- › Ops: Generic Installer Model (manifest format?)
- › Com: Certification and Badging Requirements

THANK YOU

See you in the RM Deep-Dive!