Integration / Open Labs

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Content

- What's the purpose for building Open Labs?(we need to get in sync on this one)
- ONAP Use Cases Integration Test Process in Open Labs
- Requirements for each lab
- Some action items
- Identified Labs for ONAP release 1 (in progress)
- Align with ONAP release plan (from release 1 draft)
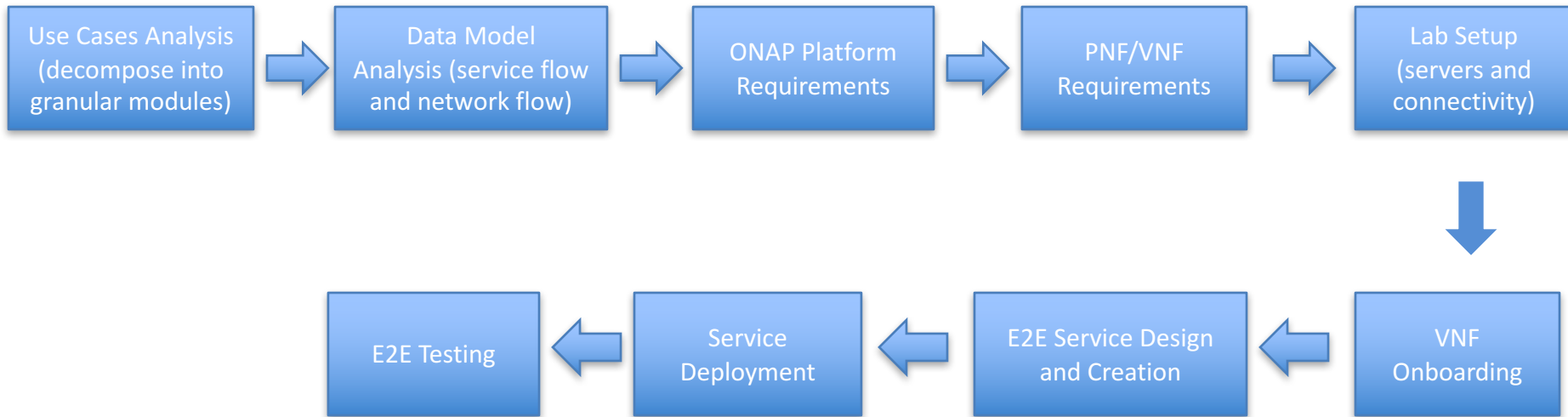- And I put Catherine's comments and OPEN-O practice in backup

Open Labs complements with Integration's other CSIT process to provide an End to End testing on real env, focusing on:

- The lab will help promote the industry adoption through demonstrating ONAP capabilities:
  - Show case at conference
  - Users, (as suggested by Catherine, maybe ONAP members only initially), could try out its capabilities without really deploy one themselves.
- Easy interoperability testing with multi-vendor's hardware and software in "real" environment (without IT constraint).
- Continuous Integration and Conscious distribution testing on with all components, such as OpenStack, etc.

ONAP

Open Labs

Category	Description	Problem Being Solved
Open Labs	• Scripts and definitions for setting up a POC sample deployment of use cases in lab settings • Provisioning, installation, and setup of all the telco equipment such as switches, routers, and gateways to enable end to end testing • Allow remote access to the lab environment for interoperability testing • Automatic updates of code in lab environment from future releases	• Support the needs of consistent, reproducible lab setup for demo and POC purposes • Promote easy interoperability testing with different hardware devices, SDN controllers, etc. • Automate the process of keeping the lab code up to date with the latest changes

ONAP

ONAP Use Cases Integration Test Process in Open Labs

Use Cases Analysis (decompose into granular modules) → Data Model Analysis (service flow and network flow) → ONAP Platform Requirements → PNF/VNF Requirements → Lab Setup (servers and connectivity)

↓

VNF Onboarding → E2E Service Design and Creation → Service Deployment → E2E Testing

Requirements for each lab (in progress)

- 32 servers to run 4 OpenStack instances
- Each server should have at least 2x10G and 4x1G ports
- Each server should have at least 240G memory
- Each server should have at least 16TB disk
- 2 racks for servers
- 2 ToR switches with 32x10G ports each
- 2 ToR switches with 64x1G ports each

Action Items: Lab Requirements for CI/CD

- Jenkins should be run in each lab
  - Deployment strategy TBD; possible options:
    - Separate master Jenkins instance per lab
    - Jenkins slave to LF central Jenkins instance

- Jenkins should run, in each lab:
  - ETE or other test suites using lab environment
  - (Optional) Automatic deployment/spin-up of ONAP platform

- Jenkins access provided to Integration team
  - Allow visibility to see active CI/CD processes and results
  - Allow setup/configuration of CI/CD Jenkins jobs

Action items: commitments from vendors

- Hardware equipment: a vendor should propose the type and quantity of equipment it plan to donate and the target lab(s).

- VNF/Software: a vendor must clarify the license regulating the usage of the VNF in the community.

- Support: each vendor must commit technical support for the equipment/VNF/software to be donated.

- TSC approval: each hardware/software donation must be approved by the ONAP TSC.

Action items: commitments from each lab

- Man power: A lab manager and supporting IT admin people
- Facility: rack space, power & cooling, Internet access, secure remote access, isolation from the rest of the hosting company's IT environment for security purpose.
- Support: account management, hardware/software configuration and maintenance, interactions with vendors, support the integration project.
- Expected hardware equipment, including types and quantities.
- Expected ONAP use case(s) to be tested in the lab.

Open Lab for Release 1 (in progress)

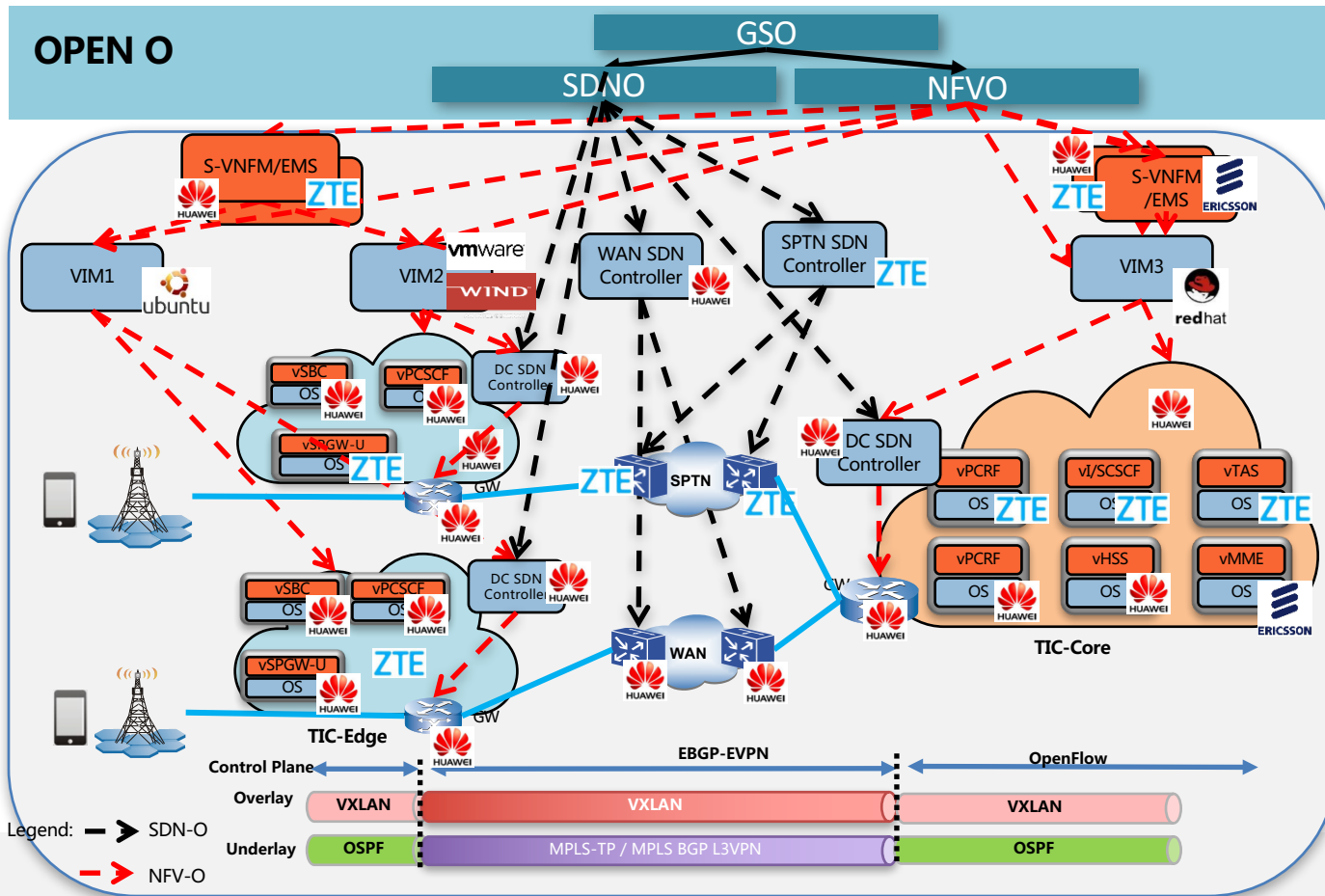|	Contact Person	Status	Notes
CMCC	Chengli Wang	With a lot of PNFs/VNFs	It is inheritance from OPEN-O, and has VoLTE and vCPE for both residential and enterprise.
China Telecom	Yi Yang	With a lot of PNFs/VNFs	It is inheritance from OPEN-O, and has enhanced vCPE implemented.
Orange	Roberto Kung	New	
University Lab (WINLAB)	Tracy Van Brakle (???)	New	

ONAP

ONAP Release Planning DRAFT Proposal
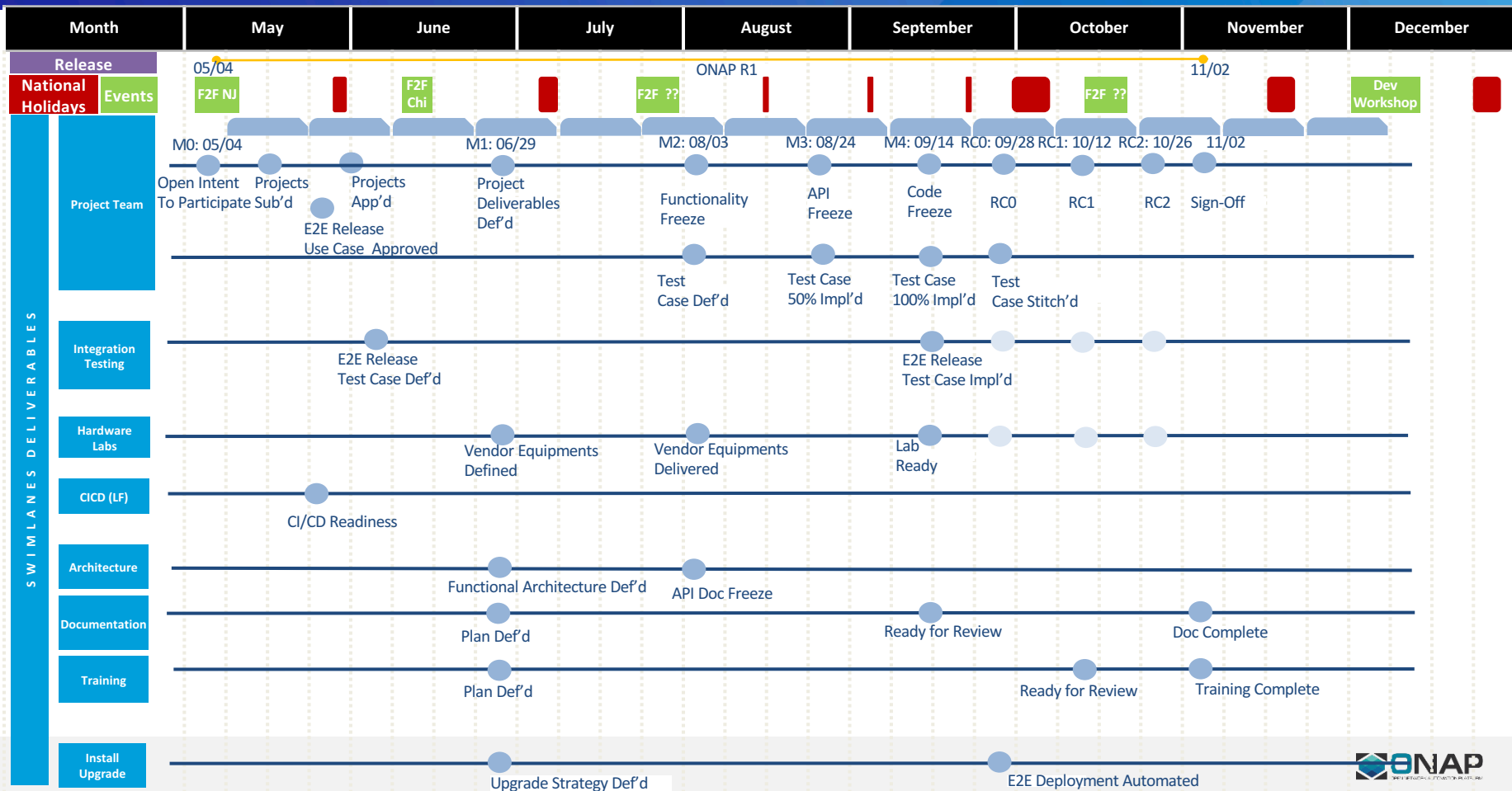
BACKUP

> 1) LAB
> - 4 ONAP Lab centers have been identified
> Strategy is to have 2 lab centers to cover EMEA/APAC timezone and 2 labs covering NAR/CALA timezone -The 2 EMEA/APAC Lab centers will perform the same activity than NAR/CALA centers
> We also need to define an access strategy to ensure that we are not causing trouble to running test cases.
> Clear notifications including schedule time when running E2E/Performance/CIST testing are running.
> These 3 labs should have limited access to the concerned people and will give a temporary access to impacted dev team for troubleshooting purpose (at least read only)
> I believe the development lab will have not a lot of access restrictions
>
> - From a security access, we need to think what will be required in order to avoid unnecessary hacks.
> Only ONAP registered members should have an access so we can put in place a tracking system.
> The Lab centers should be isolated to avoid that anybody have an access to the other VMs from China Telecom (i.e. DMZ, private networks) etc.
>
> -Need to be sure that a Lab Manager is identified for each Lab Center in order to ensure a constant monitoring of the Lab Center including helpdesk Helpdesk support should be provided within 4-8 hours to avoid any impact on ONAP Release Plan
>
> - Configuration management will be posted on the onap wiki per Labs and per Lab Center.
> These labs should be as much as possible in sync. except if there is a need to have n+1 (what it is officially released and what it is under development/testing)
> Possibility that 2 lab centers to cover EMEA/APAC timezone (1 is N and the other is n+1) - Same strategy for the 2 labs located in NAR/CALA
>
> - Per Lab Center, several labs will be setup
>   - 1 Lab non-resilient for Development Team
>   - 1 lab resilient for CIST Team
>   -1 lab resilient for E2E Team
>   -1 lab resilient for S3P Team
> See Testing Roles/Responsibilities section to further information about testing type performed by each team https://wiki.onap.org/display/DW/Integration
>
> - Non-Resilient lab should consider a minimum of 20-25 VMs (including VMs to host tools) while resilient lab should consider the double size
> Currently 14 VMs are required to host ONAP.
> Here are currently the ONAP VM Sizing
> https://wiki.onap.org/display/DW/Tutorial%3A+Configuring+and+Starting+Up+the+Base+ONAP+Stack?preview=%2F1015882%2F3245312%2FONAP+DEMO+SIZING.pdf
> Nevertheless the Sizing of VMs used by the S3P lab should be reviewed based on

Performance KPIs for Release 1
> Limited Performance testing will be performed as part of Release 1 scope.
> Priority is currently given to the 2 use cases certification
> Technical assessment will be performed in order to consider any potential new project and their needs in terms of memory, CPU, disk storage
>
> -Although ONAP is currently OS agnostic, the OS baseline will be Ubuntu 16.04.
> It is important that a complete lab supports the same OS version
> If there is a need to support CentOS then one of the two Lab Center could be built accordingly considering CentOS-7 (1611) or above
>
> - Openstack flavor:
> 1 Lab Center could certify considering Ocata (latest version) and/or Newton (EOL: 2017-10-11)
>
> - Need to identify the VNF vendors that will provide VNF to support vVolte and VCPE
> How do we proceed for that?
>
> -Shall we consider an open sourced version of ICE or do we need to consider something similar to be consumed by our Lab Centers?
> Or is it outside of our Integration ONAP scope?
>
> -Web Browsers supported: ONAP will be certified based on the latest version of Mozilla
> It is up to the community to contribute if there is a need to test with other web browsers
>
> -Need to define Network Topology to identify all the connectivity between all the VMs/Containers.
> We can re-use what we did for the ONAP Demo setup. To be extended based on the additional project needs
>
> -Is there any license that we will need to buy (although we should limit this and find an open source alternative)?
>
> -Need to identify traffic generator tools
>
> -CI/CD environment linked to each ONAP labs
> Local Maven/Jenkins/Nexus is required to reduce the traffic with the LF CI/CD foundation
> Sonar and Gerrit will be the master on the Linux Foundation and we do not expect to create any copy on any Lab Center
>
> - IP addresses? Other network considerations?
>
> - Concerning GPL Opensources (i.e. MariaDB, etc) should be downloaded directly from the original open source containers (i.e. Docker.io)

OEPN-O Mercury VoLTE Deployment: : End to end MVs Real Devices