

HANDS-ONAP Israel 2017

Experience **VNF** onboarding, ONAP hackathon



Model-driven Design

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How can we make a leaner more agile networks ?

Vendor **lock-in**
Coupling of SW with HW
Long TTM
Manually built
Passively operated
Low-to-no reusability

Open Source
De-coupling of SW and HW
Short TTM: agility
Automatically built
Built-in network intelligent
Reusability is the key.

Design with **Lego pieces** not with **snowflakes**.

Multi-dimensional design was always our mission.

Deploy *i.e., Local/geo-redundancy ? Both ? Which cloud environment ?*

Orchestrate *i.e., Can we use a generic orchestration flow ? Do we need anything specific*

Connect *i.e., Which type of networks to use ? Do we need IP addresses ? V4 ? 6 ? How many ?*

Configure *i.e., do we have VNF generic configuration ? do we have specific VNF configuration ?*

Monitor *i.e., on which standard are we going to do Monitoring ? SNMP ? Syslog ? what we would like to achieve ? an Alarm ? an automatic response ?*

Operate & Maintain *i.e., How do we handle upgrades ? Fixes, patches ? How do we handle scale in/out ? Delete ?*

Automate as much as you can.

A reusable network starts from the bottom.

Rely on standards.

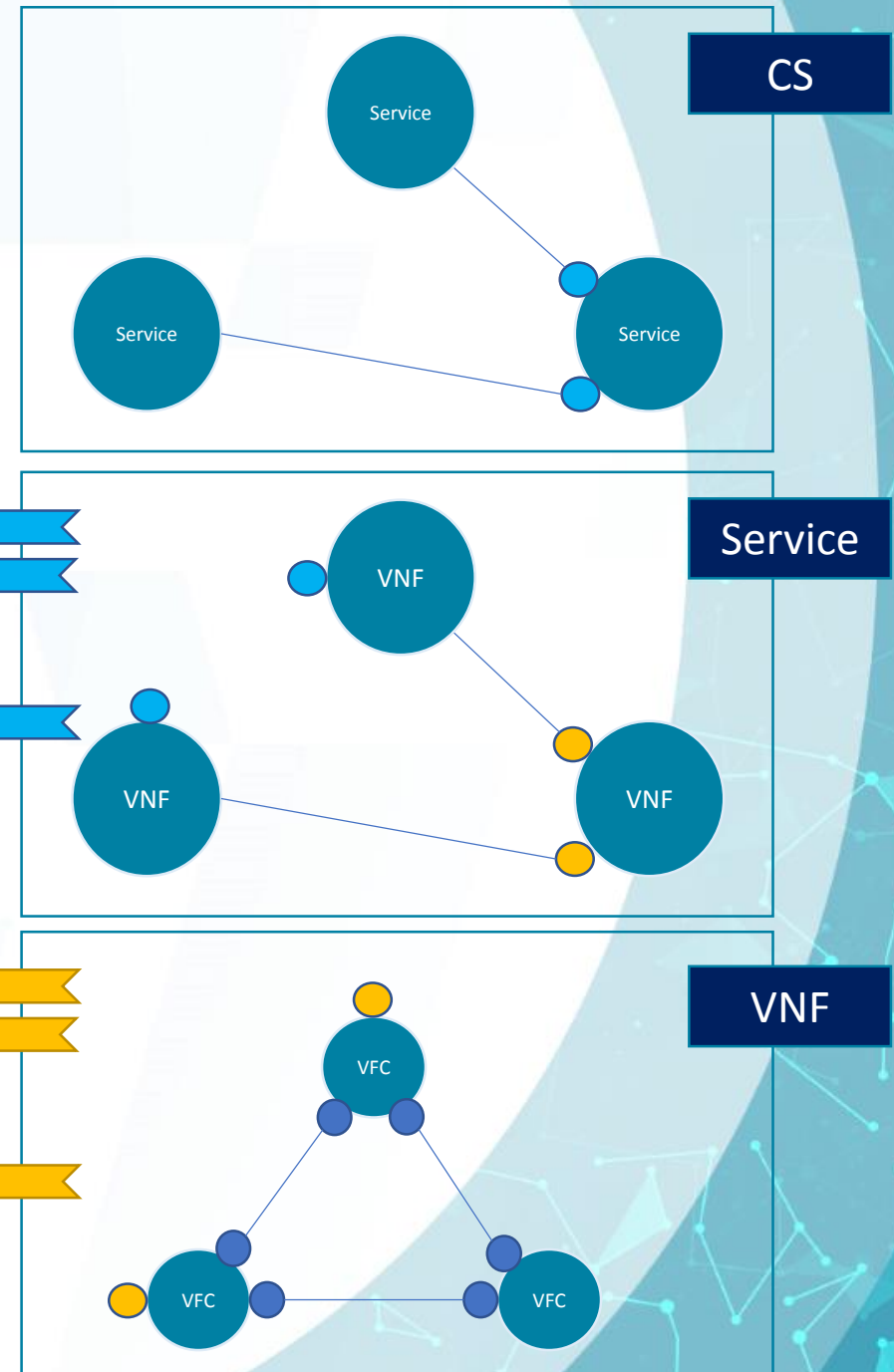
Model-driven design

- Well-defined “atoms”.
i.e., what is a port ? what is a network ?
- Atoms build molecules, molecules build even more complex molecules (organisms).

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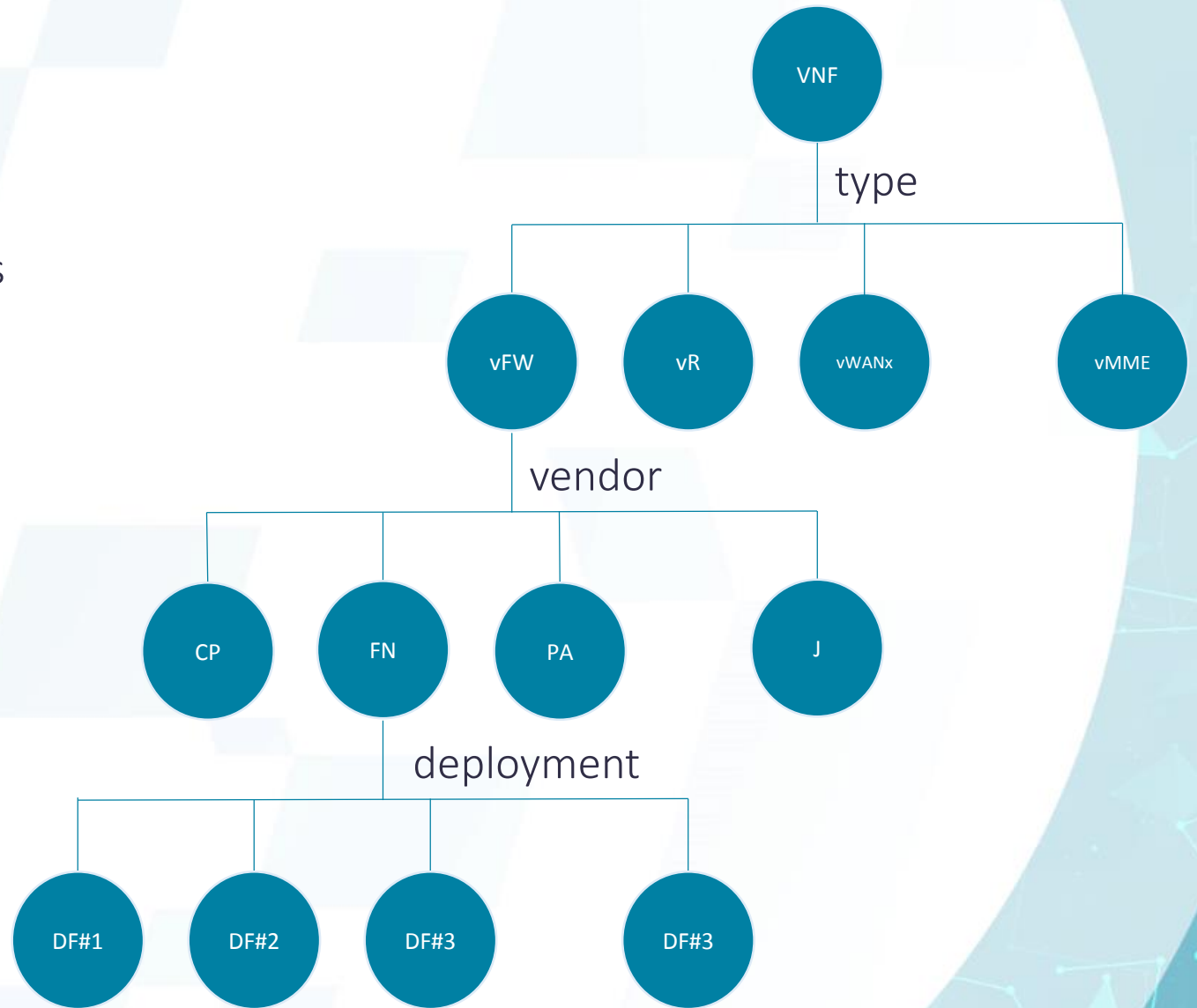
Capabilities
Requirements
Properties

Capabilities
Requirements
Properties



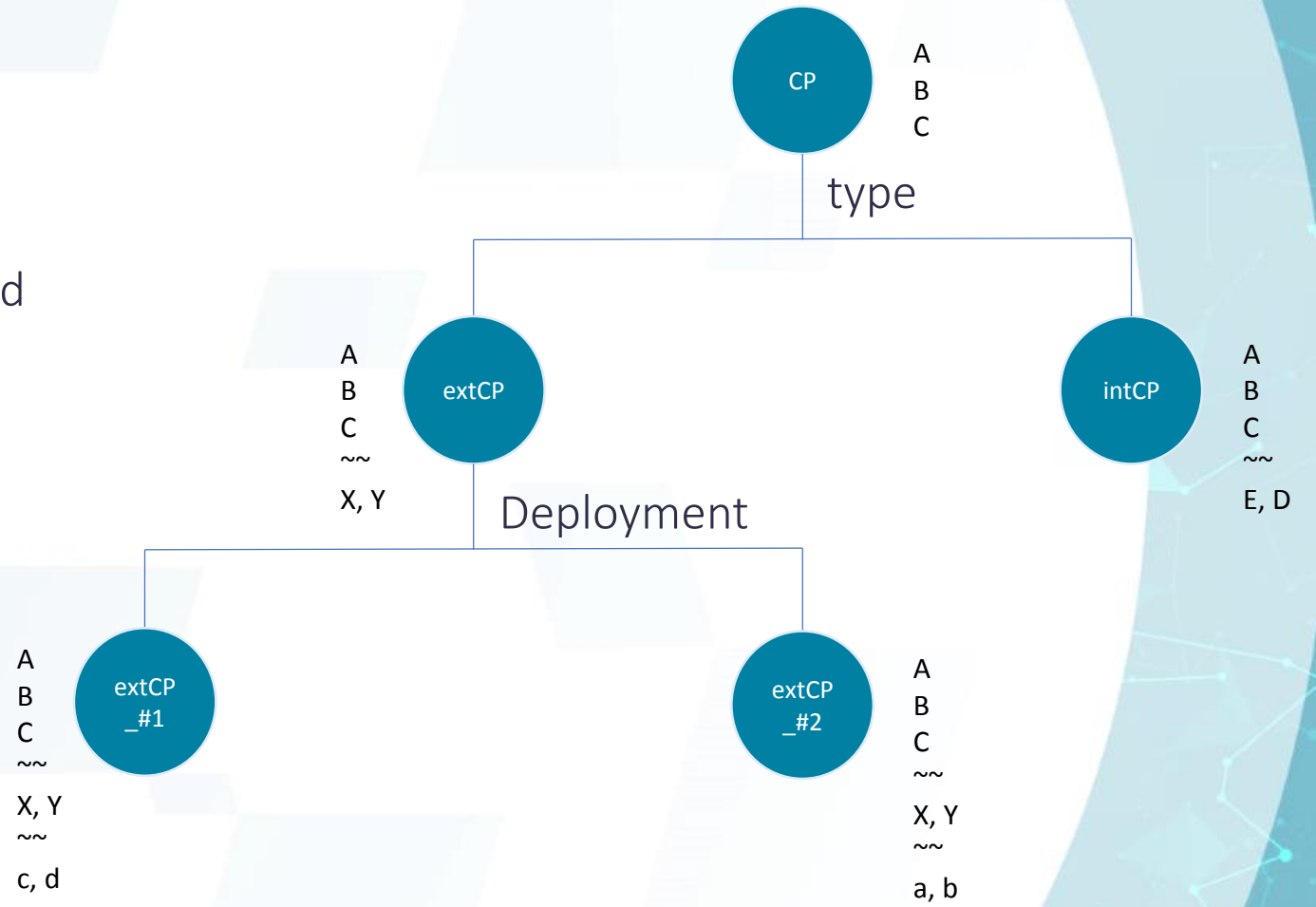
Abstract!

Use abstractions - well-defined model's "first-class citizens": VFC, VL, CP, VNF, Service, etc.



Abstract!

Unlock new ways to design the network and control runtime execution.



ONAP Service Design & Creation (SDC)

VNF Onboarding

Automate onboarding of software-based network applications functions and in large quantities and with rapid speed.

Catalog

Single master catalog, maintaining E2E Models for run-time metadata-driven execution.

Maximize model-driven and minimize code changes to the operating platform.

Design

Compose, deploy, and operationalize services with shareable and reusable functional components. Flexibility is the key.

VNF Onboarding



Create Vendor Software Product (VSP):

- Deployment artifacts, *i.e.*, *HEAT*
- License artifacts
- Images
- Monitoring artifacts, *i.e.*, *SNMP-MIB*
- Configuration artifacts
- Documentation
- ...

Validation

- Standard validation
- Syntax validation
- Security checks.
- ...

Enrichment with:

- Operational requirements
- Deployment requirements
- Dependencies
- Functional and non-functional requirements
- Build license model

Let's start.

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