



IBM Impact Awards
PureApplication Award winner 2013
Cloud Innovation Award winner 2014

PureApplication & IBM Cloud Orchestrator

Compare and Contrast

WUG: 23rd March 2015



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Complexity simplified



Icon and PureApplication

IBM Impact Awards
PureApplication Award winner 2013
Cloud Innovation Award winner 2014

Skilled PureApplication Practice

- Focused on the needs of current and prospective customers
- Includes ex IBM Hursley Lab contacts

Leader in PureApplication Patterns

- Internet Banking patterns (award winning)
- First MQ Broker plugin
- First WS Commerce & Sterling Order management pattern
- First Software AG webMethods pattern

Specialist in DevOps

- UrbanCode and PureApp integrators
- SDLC enablers
- Practical global experience

Owners of the European Pure User Group



EUROPEAN PURE USER GROUP

- An independent community for PureApplication customers to share user experiences, exchange best practices and help shape future plans



Sit Back and Enjoy...

1 Pattern Level Set

2 IBM Cloud Genealogy

3 Patterns, Patterns, Everywhere....

4 Under The Hood

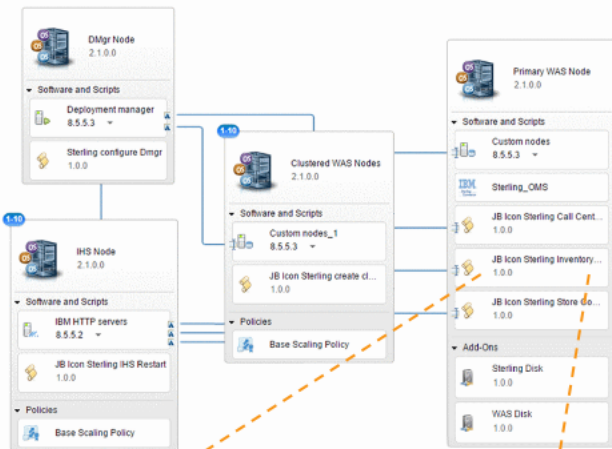


Level set

WHAT'S A PATTERN ?



What's in a Pattern



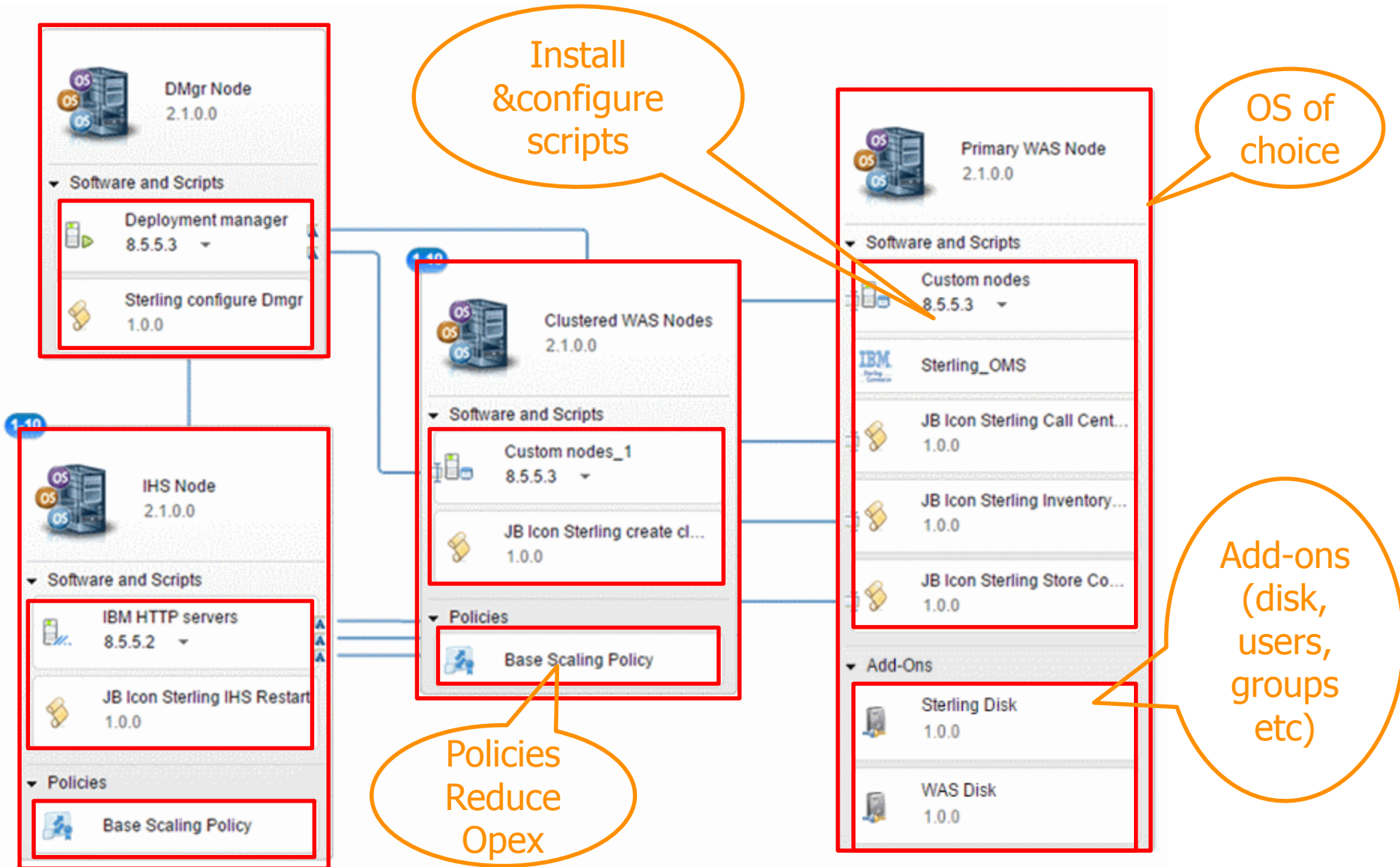
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logFile=/opt/sterling/configureSoftware.log

INSTALL_LOCATION=/opt/IBM_1/sterling
chmod 777 -Rf /opt/IBM_1/sterling/external_deployments
chmod 777 -Rf /opt/IBM_1/sterling/opt

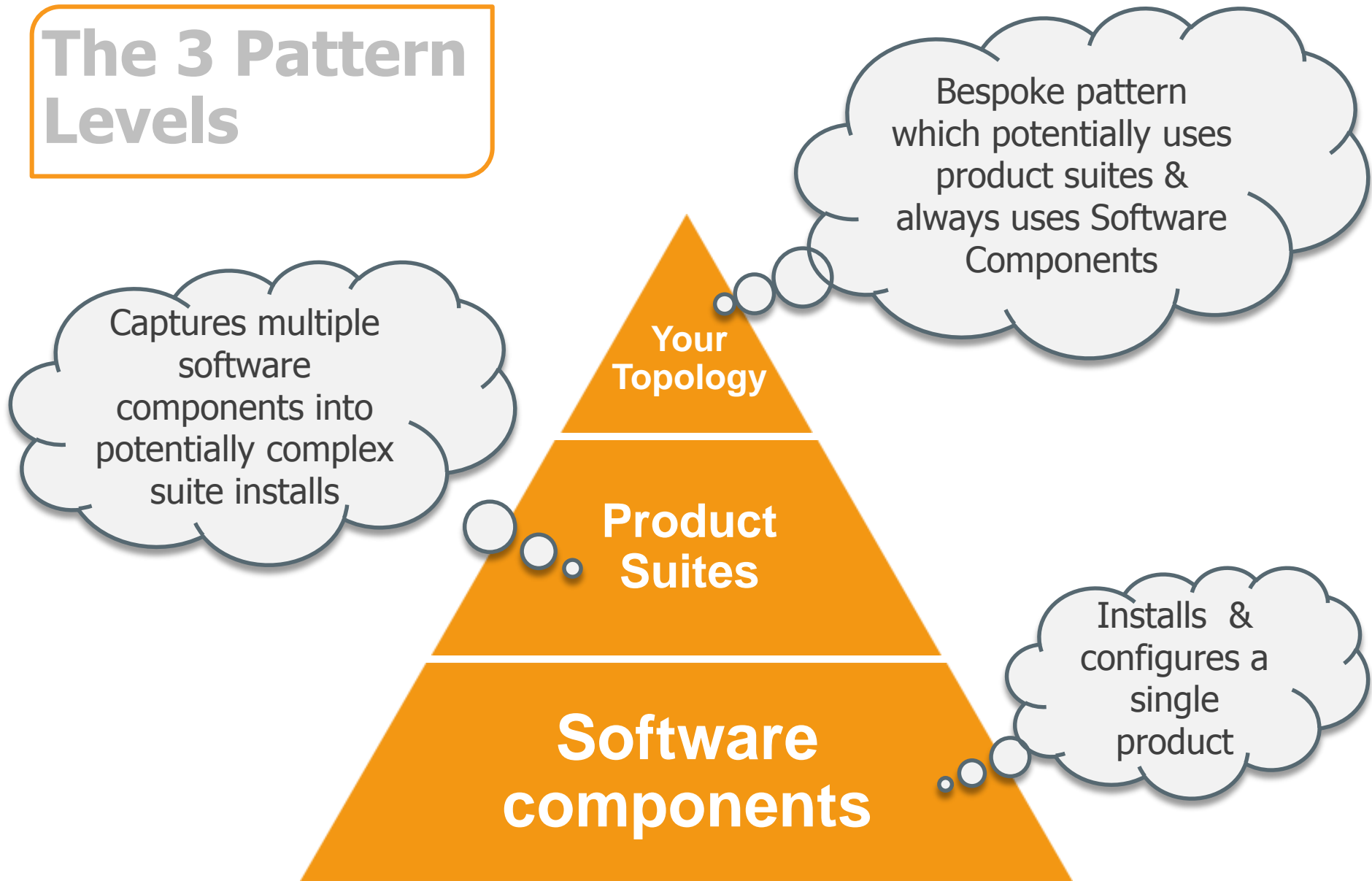
su - ${DMGR_USERID} -c "/opt/IBM_1/sterling/bin/buildear.sh -
Dnowebservice=true -Dappserver=websphere -
Dwarfiles=smcfs,sma,sbc -Dearfile=smcfs.ear create-
ear >>${logFile} 2>&1"
su - ${DMGR_USERID} -c "cd ${localDir};
${WAS_PROFILE_ROOT}/bin/wsadmin.sh -conntype SOAP -lang
jython -f /opt/sterling/websphere.py /opt/IBM_
1/sterling/external_deployments/smcfs.ear
${clusterName} >>${logFile} 2>&1"
su - ${DMGR_USERID} -c "cd ${localDir};
${WAS_PROFILE_ROOT}/bin/wsadmin.sh -conntype SOAP -lang
jython -f /opt/sterling/restartCluster.py
${clusterName} >>${logFile} 2>&1"
```

- Modelling Flexibility
- Governance
 - Clear route-to-live
- 'Cookie-cutter'
 - Deployment Repeatability
- Quick bring-up/tear-down
 - Potential for self-service
- Policies
 - Less manual runtime intervention

What's in a Pattern



The 3 Pattern Levels





A Brief History of PureApplication

IWD & BEYOND



IBM WS CloudBurst Appliance

- Released 2009
- Built on DataPower
- Focus on WebSphere deployment
- Originally had no "patterns"
- Stored Hypervisors and helped you deploy them to your infrastructure (BYO HW)





IBM Workload Deployer

- Released 2010
- Evolution of CloudBurst
- Continued focus on WebSphere deployment
- Started to get better tooling
 - Focus more on 'patterns'
 - (system patterns only)
- CloudBurst Services
 - Rack with services





And then there was

THE GOD PARTICLE....

A man with dark hair and a goatee, wearing a dark suit jacket over a blue V-neck shirt, stands in front of a server room. The server racks behind him are blue with the IBM logo on them. The text 'Jason McGee' is overlaid on the left side of the image.

Jason McGee

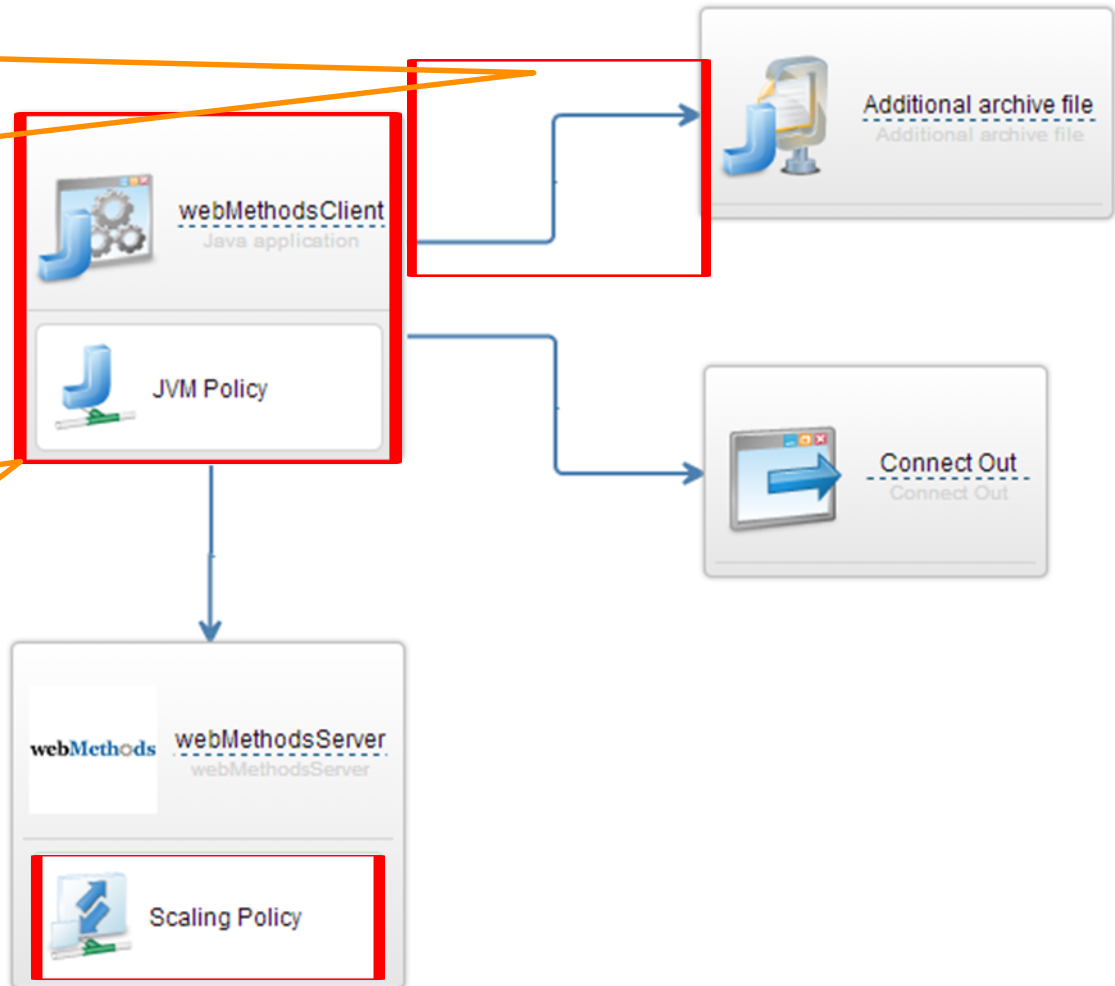
Chief Architect, Pure Application System
IBM



Virtual Application Patterns

Relationships abstract lower level problems away from modeller

Model "middleware" NOT VM's





Revolution

- 2012: Released PureApplication *System*
- Converged Infrastructure
 - Network
 - Compute Nodes
 - Storage
- System & Application Patterns
 - Never the twain shall meet !





2009



2010



2012





IWD Evolution (SCP/SCO/ICO)

SmartCloud Provisioner

- Identical Modelling Engine
- Sys and App pattern enablement
- Hypervisor only
- BYO HW/VSphere

SmartCloud Orchestrator

- SCP + "Orchestration"

Orchestration !?

- "I need to do something before or after my system (pattern) has been deployed"
 - Ask someone to allow me to deploy this pattern
 - Open firewalls....
- BPM Based

2009



2010






2012





Evolution

SOFTLAYER®

-  March 2014
-  Off-Premise capabilities
-  Marketed as “Hybrid cloud”



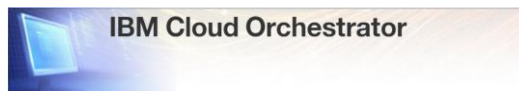
2009



2010



2012



2014



SOFTLAYER[®]
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PATTERNS, PATTERNS EVERYWHERE



New: PureApplication Software



- Announced this week!
- Deploy PureApplication patterns to your **existing** hardware
 - HW Vendor agnostic
- Identical engine to PureApplication System & PureApplication on SoftLayer

Downside?

- BYO HW = Manage Your Own HW !
- BYO HW = BYO VSphere !





PureApplication Software: Pros and Cons

Pros

- No longer have to purchase IBM specific hardware
- Enjoy the benefits of patterns without the need for new hardware investment
- You can use in smaller quantities
- Allows you to trial before full investment

Cons

- You have to Bring Your Own Vsphere:
A management overhead
- Manage your own network and storage:
A management overhead
- No “one person to call”



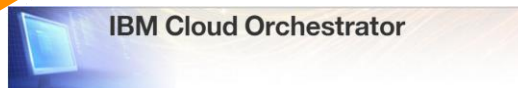
2009



2010



2012



2014



2015

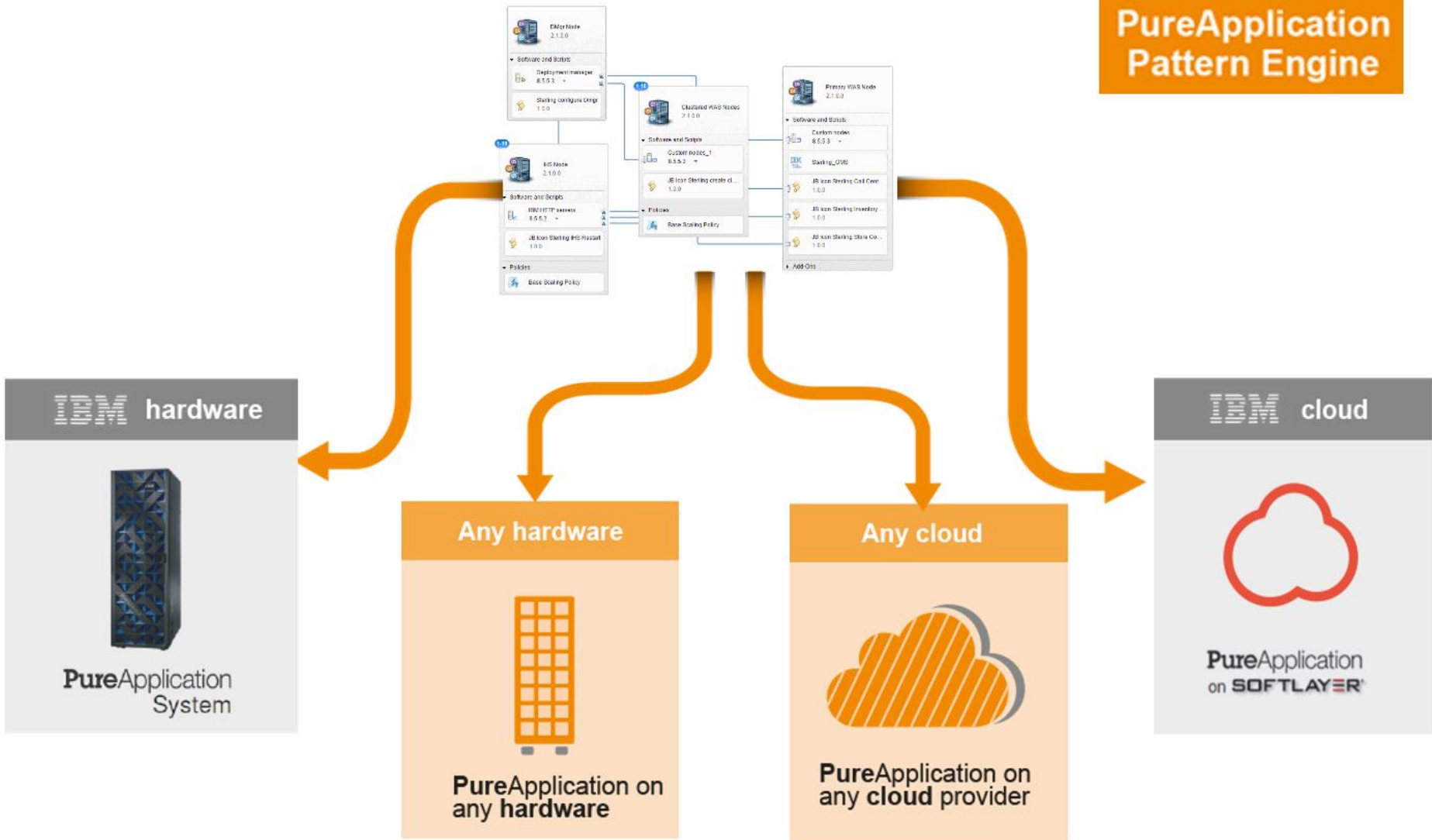
BYO
HW

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Create once, deploy anywhere!

PureApplication
Pattern Engine



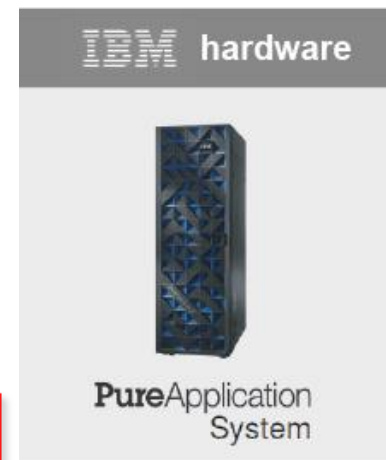
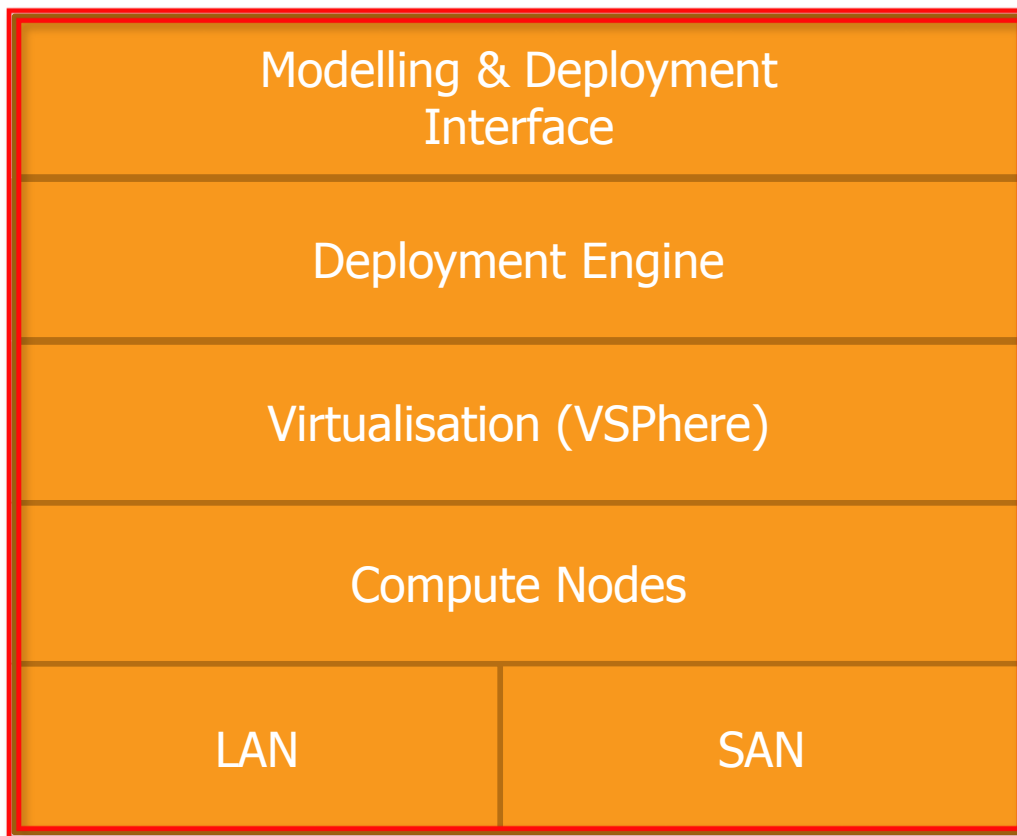
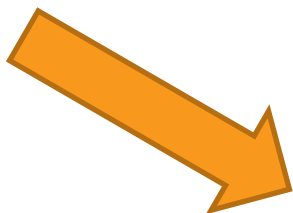


Going down

UNDER THE HOOD

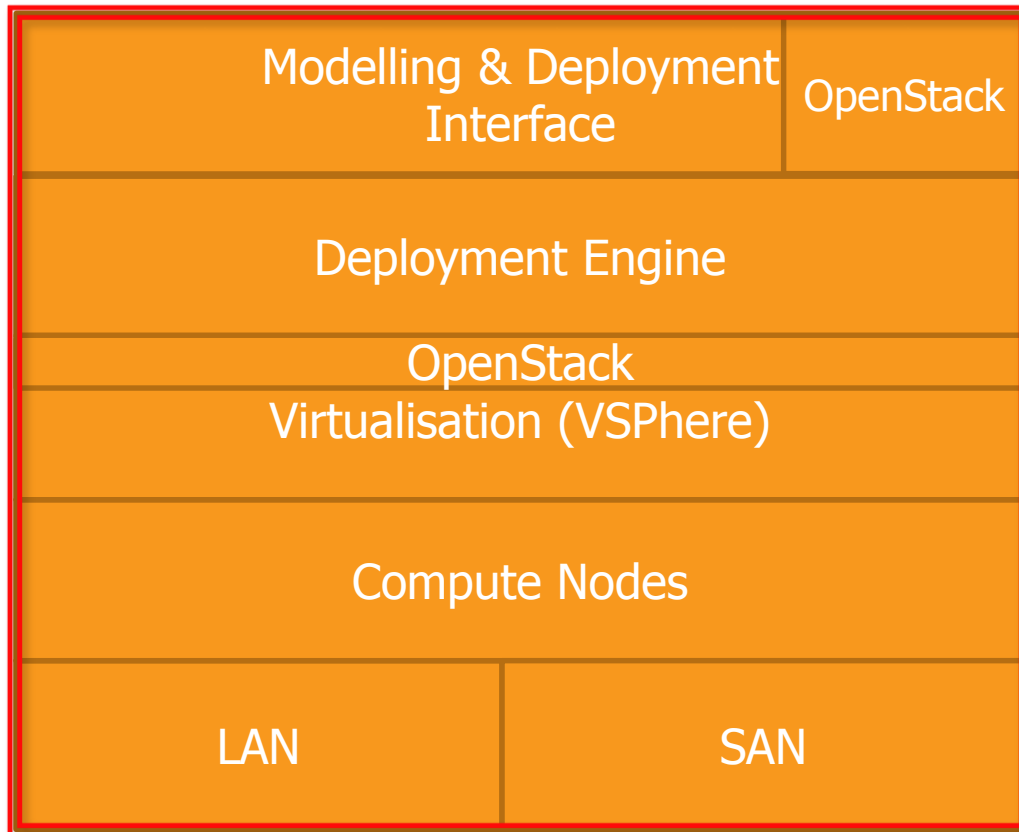


Under the Hood



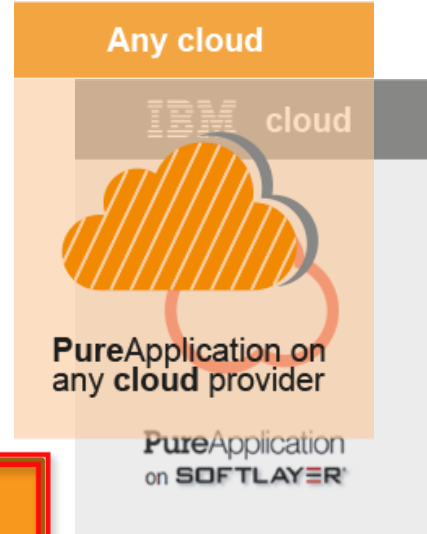
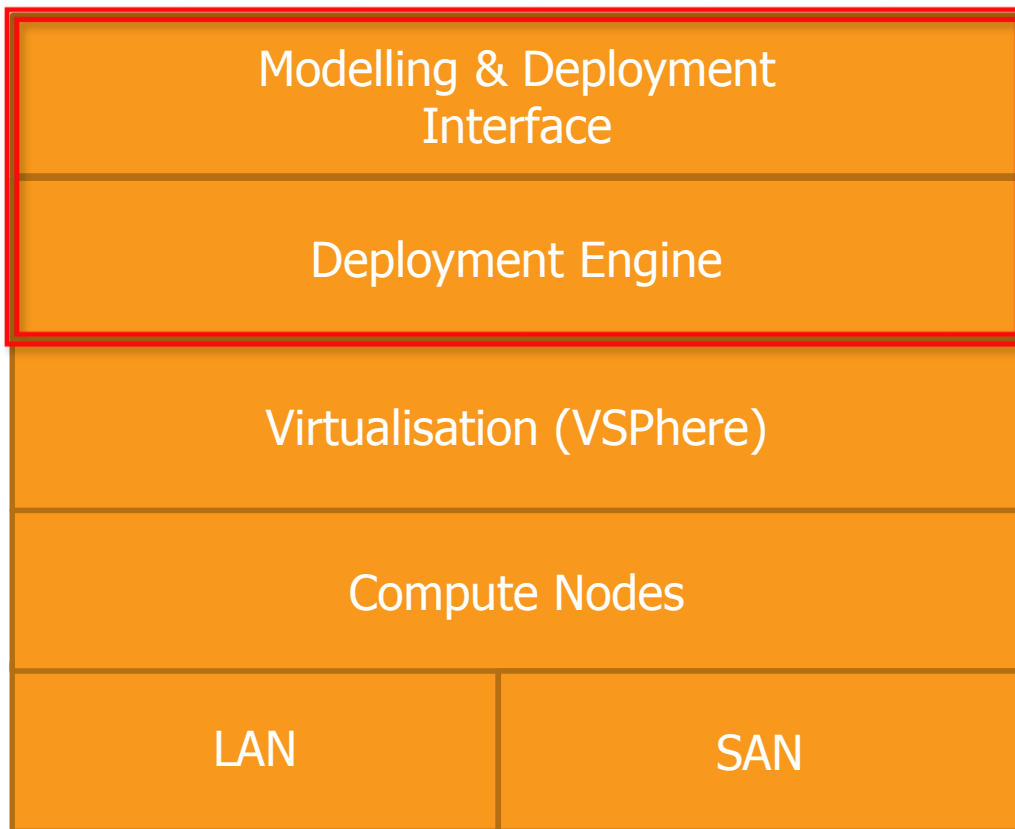


OpenStack



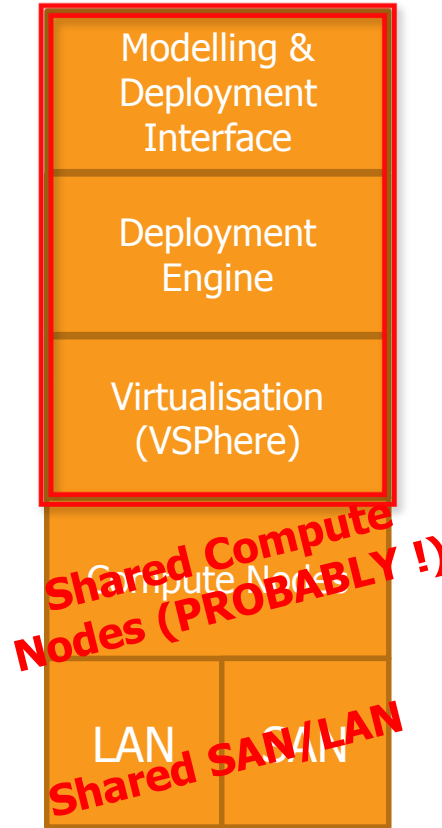
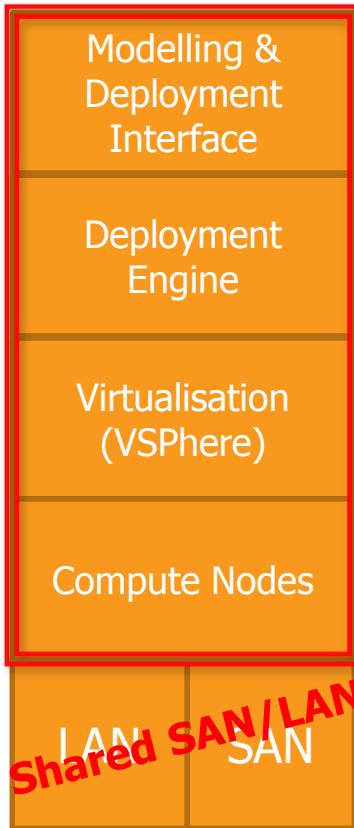
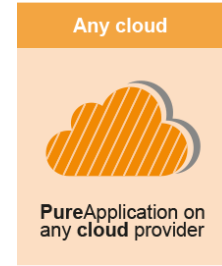
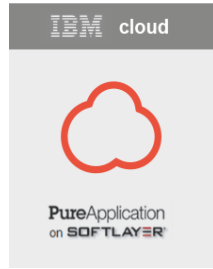


Under the Hood



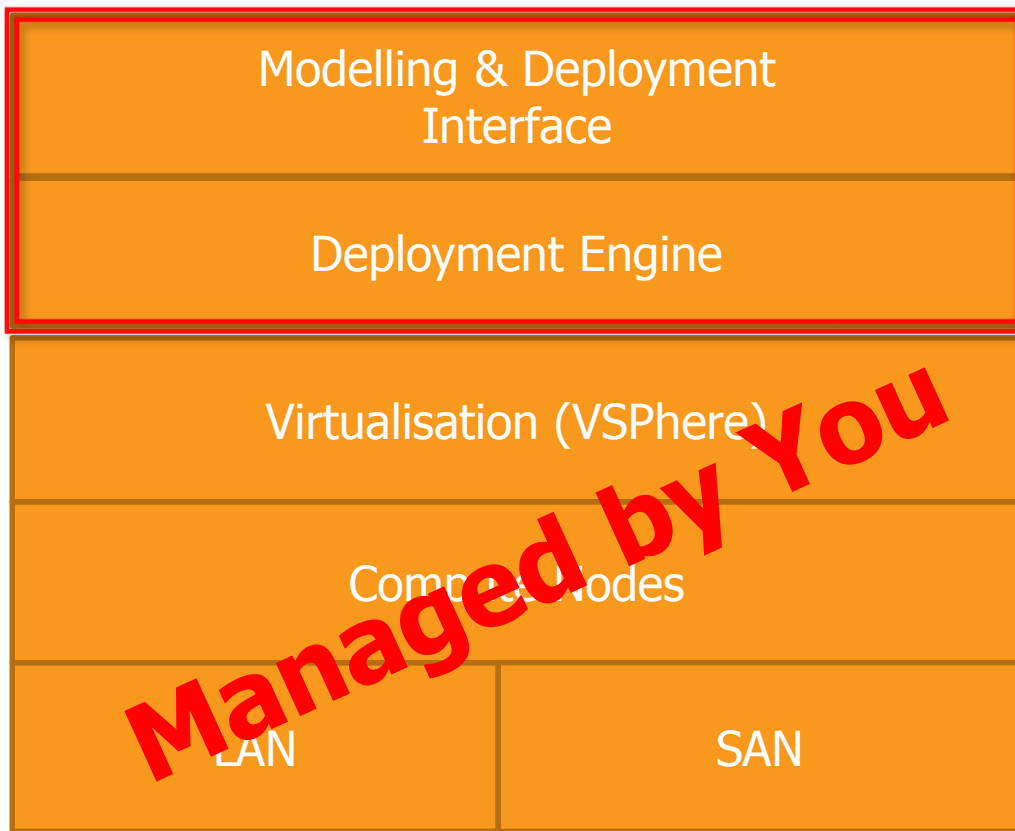


Under the Hood





Under the Hood





SCP/SCO Servers

Central Server 1

DB2

Yum

Chef

Central Server 2

IaaS Gateway

Public Cloud
Gateway

Keystone
(Authentication)

Virtual Image
Library

Central Server 3

Workload
Deployer

SmartCloud UI

Region Server n

OpenStack – Nova (Compute and Network Services), Glance (Image Services), Cinder (Block Storage)

DB2 (optional)

SmartCloud Entry Driver

Yum

Chef

VMWare HA

VCenter
Server

ESX
Hypervisor

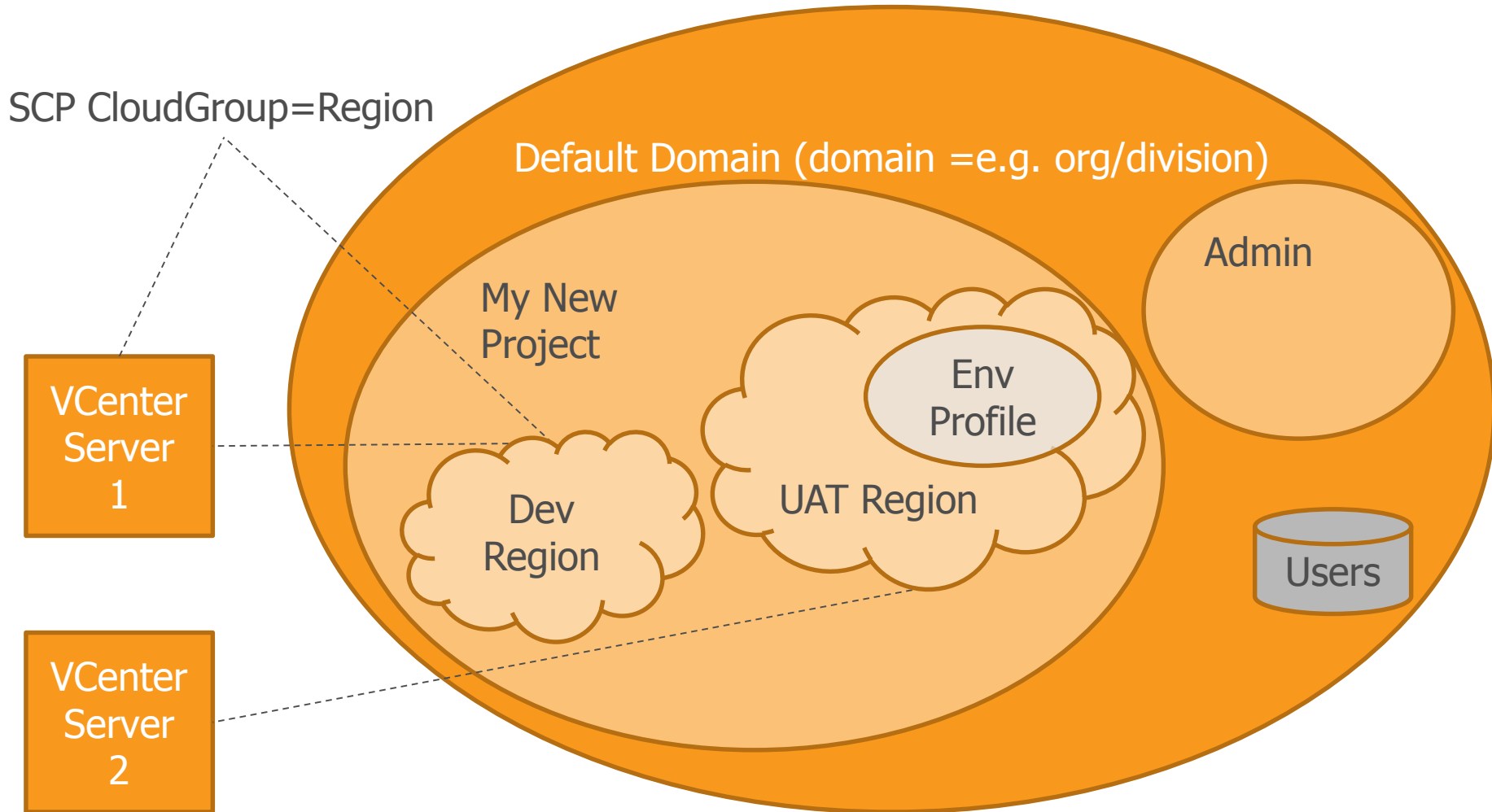
Compute
Node
KVM
Hypervisor

VMControl

PowerVM
Hypervisor

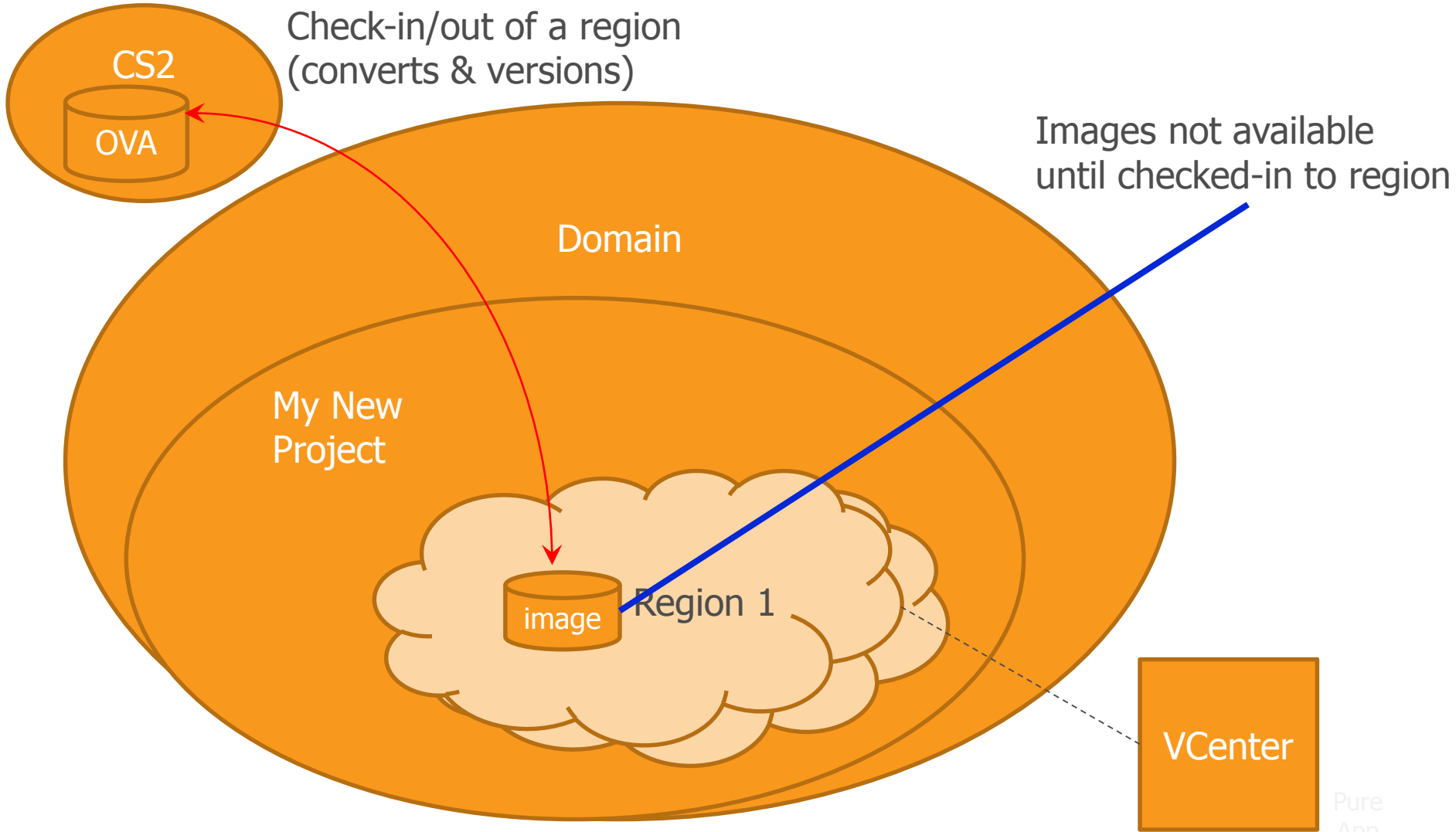


Logical architecture



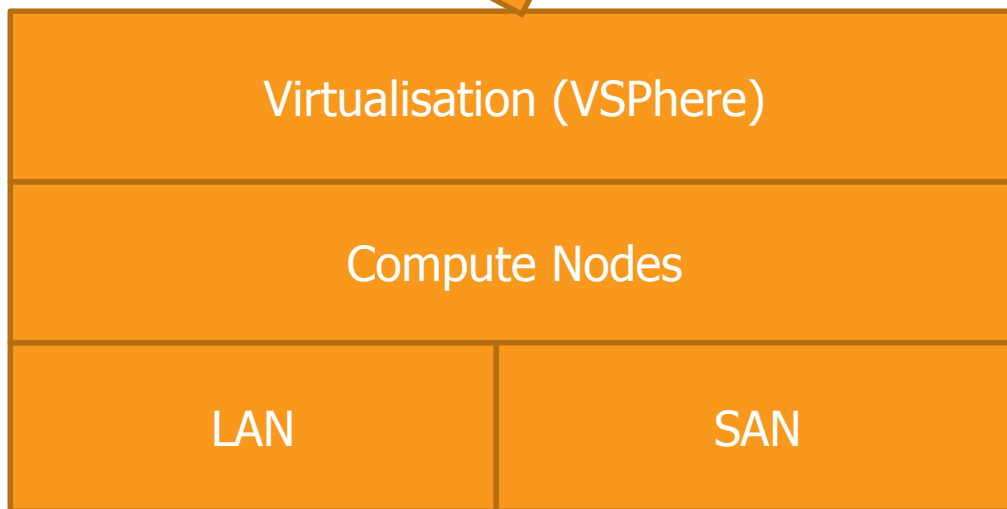


VM Storage Architecture

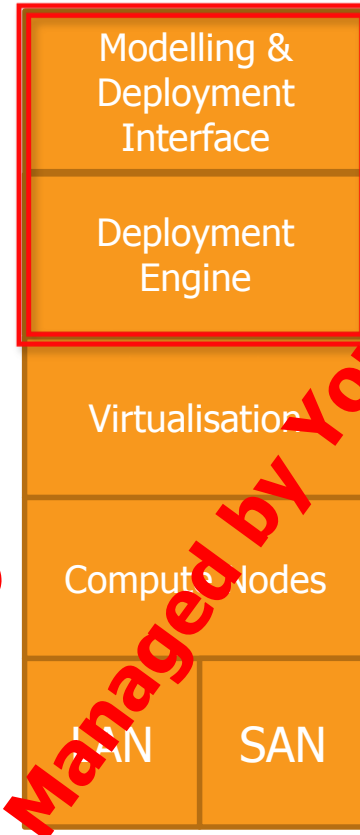
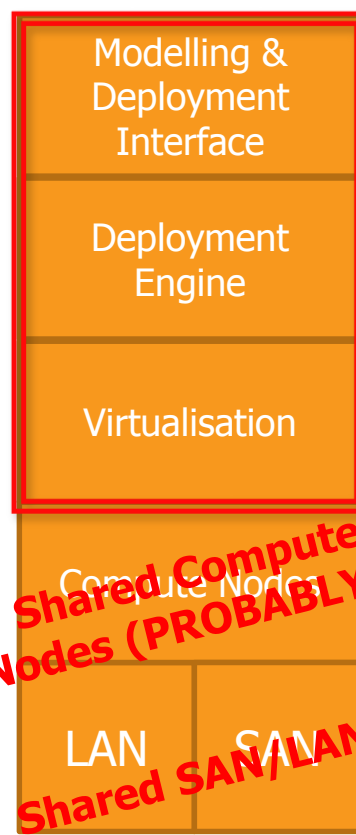
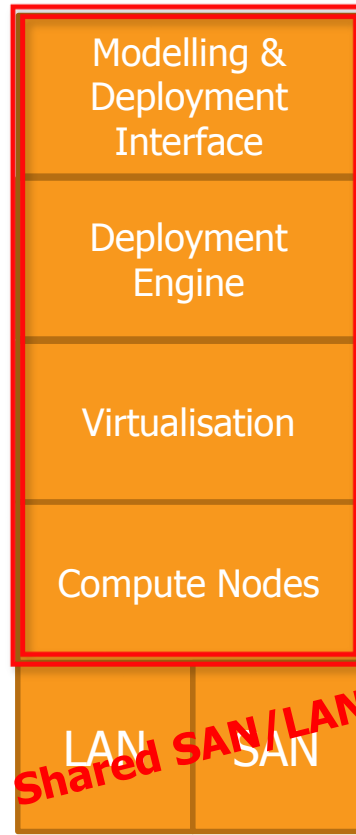
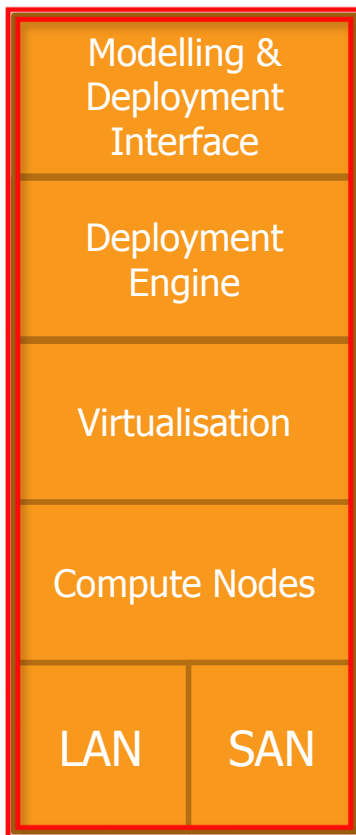
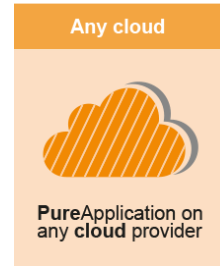
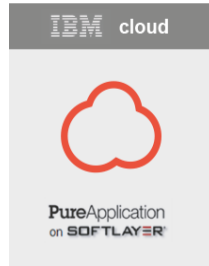




Under the Hood



Under the Hood



Shared SAN/LAN

Shared Compute Nodes (PROBABLY !)

Shared SAN/LAN

Managed by you



■ PureApp

- "Skilled in the art"

■ BlueMix = "Proper" PAAS

- Don't worry about *anything*

- Scaling,

- Performance

- Security

Questions?



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