



**Cisco Powered  
Cloud Solutions**

**Vladimir Joshevski**

**October 2016**



## Who are we?

Established in

**1991**

Focused on  
proprietary

**software**

and services

The  
**largest  
IT company**  
in CEE

**Traded  
on Warsaw  
Stock Exchange,  
included  
in WIG300 Blue  
Chip Index**

**6<sup>th</sup>**  
largest software  
vendor in  
Europe

**20 900**

highly committed  
employees

**1 730**

mEUR sales  
revenue in 2014

**178**

mEUR operating  
profit in 2014

**1 245**

mEUR market  
capitalization



# Asseco Group

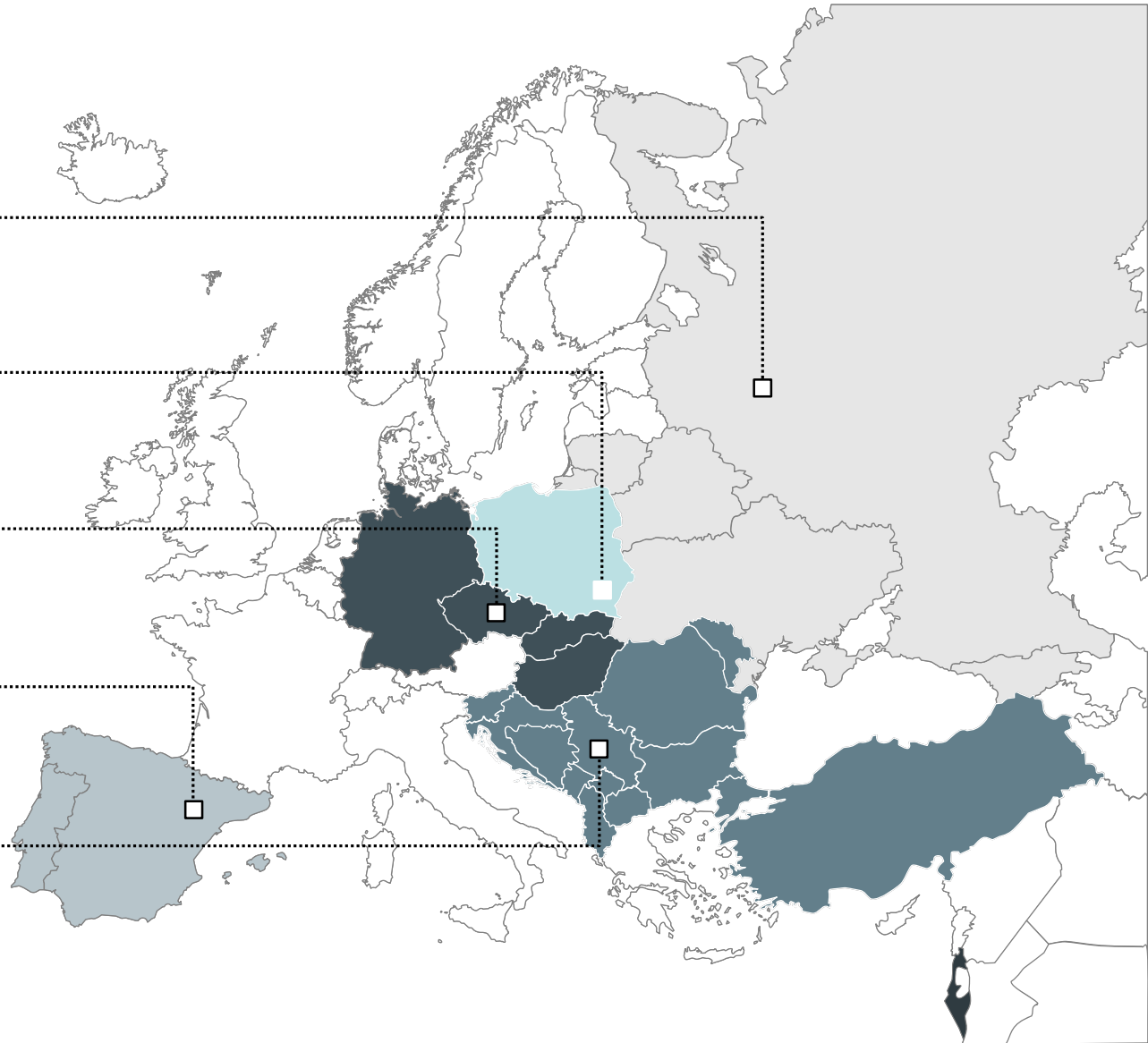
**assecO**  
EASTERN EUROPE

**assecO**  
POLAND

**assecO**  
CENTRAL EUROPE

**assecO**  
WESTERN EUROPE

**assecO**  
SOUTH EASTERN EUROPE





# Agenda

- **Overview of the typical system environment**
- **Cisco Powered Cloud Overview**
- **Cisco's ACI Fabric**
- **Cisco UCS Director**
- **Asseco Cisco Powered Cloud**
- **Q&A**



# Overview of the typical customer system environment



## Typical customer

### - “classical silo based datacenter model” -

- Large DataCenter with under-utilized resources
- Silo approach of separate compute and sometime resources per application
- Slow to react to business demands
  - 6-9 months to implement new application environment
  - Slow procurement procedure
- High capEx and opEx costs associated with the datacenter infrastructure
- Most of the IT human resources engaged in maintenance and management activities



# Cisco Powered Cloud Overview



# Key Customer Requirements for Server Infrastructure

Scalable Infrastructure

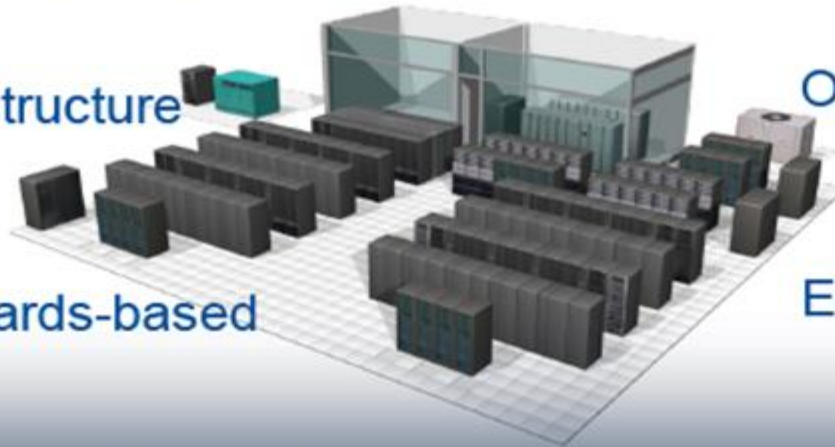
Energy Efficient

Consolidated Infrastructure

Optimized for Virtualization

Open / Standards-based

Easy to Manage



***Cisco Unified Computing System***





# Virtualization Today: Data Center Platform “Islands”



Compute  
Platform



Virtualization  
Platform



Network  
Platform



# Unified Computing: Federating the Data Center Islands

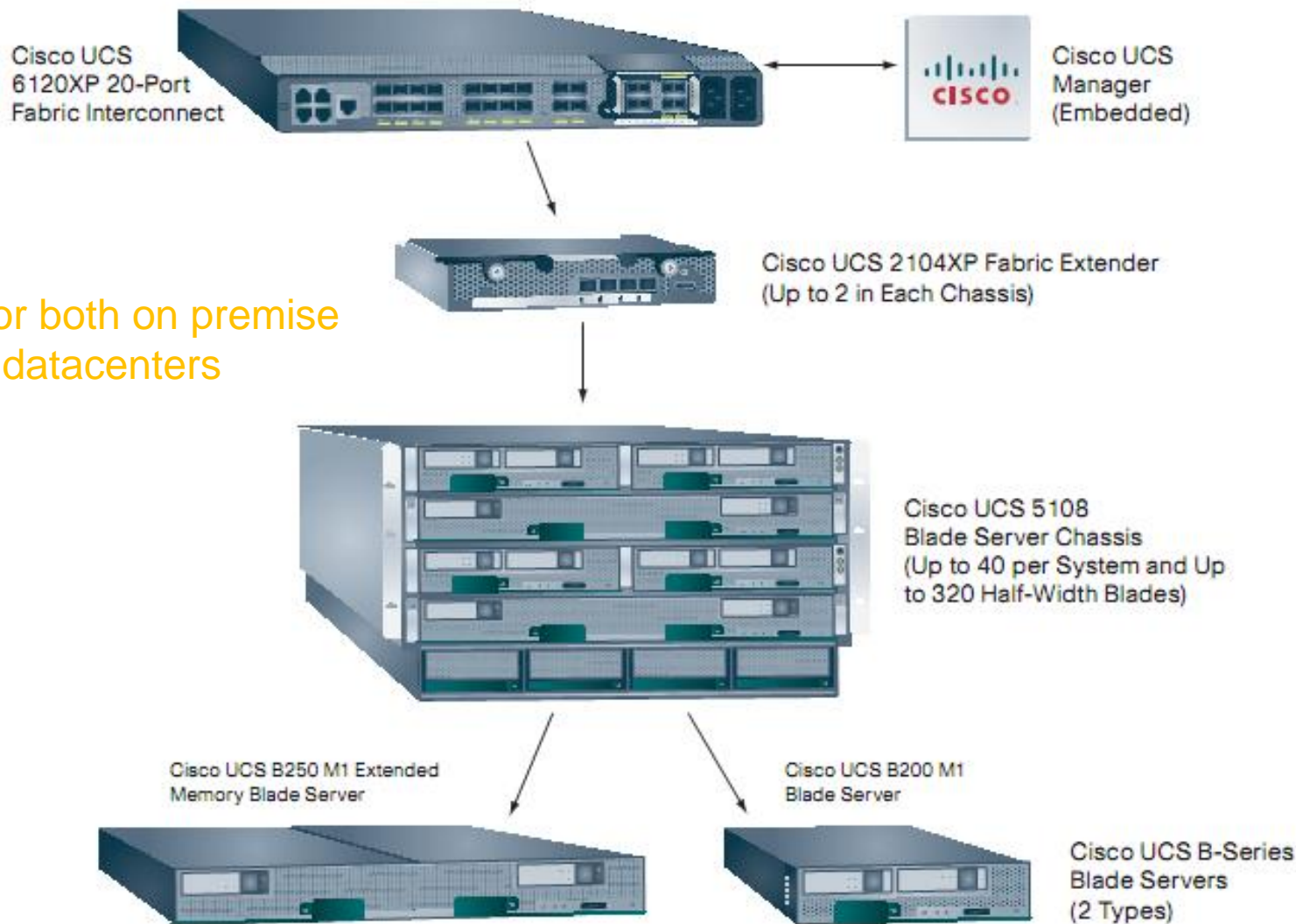


Integrated architecture simplifies set-up, improves business metrics, and enables dynamic provisioning



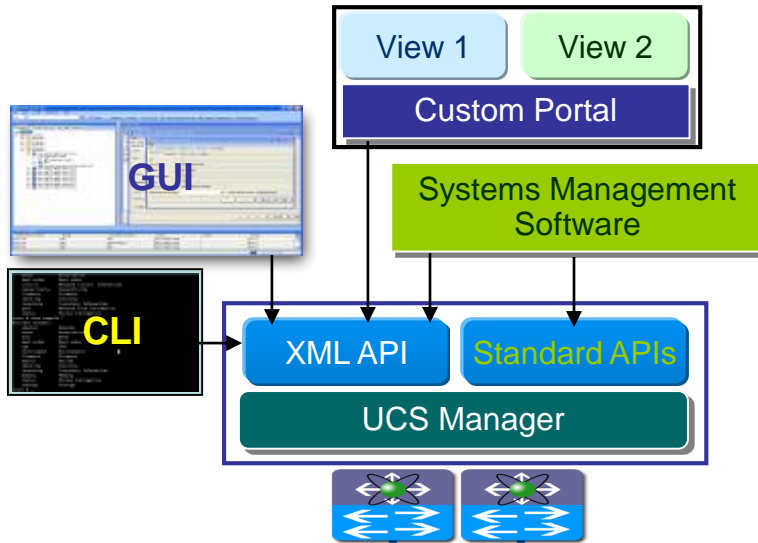
# Cisco Unified Computing platform - Physical overview

Solution for both on premise  
& hosting datacenters





# Unified Management



## Single point of device management

Adapters, blades, chassis, LAN & SAN connectivity

Embedded manager

GUI & CLI

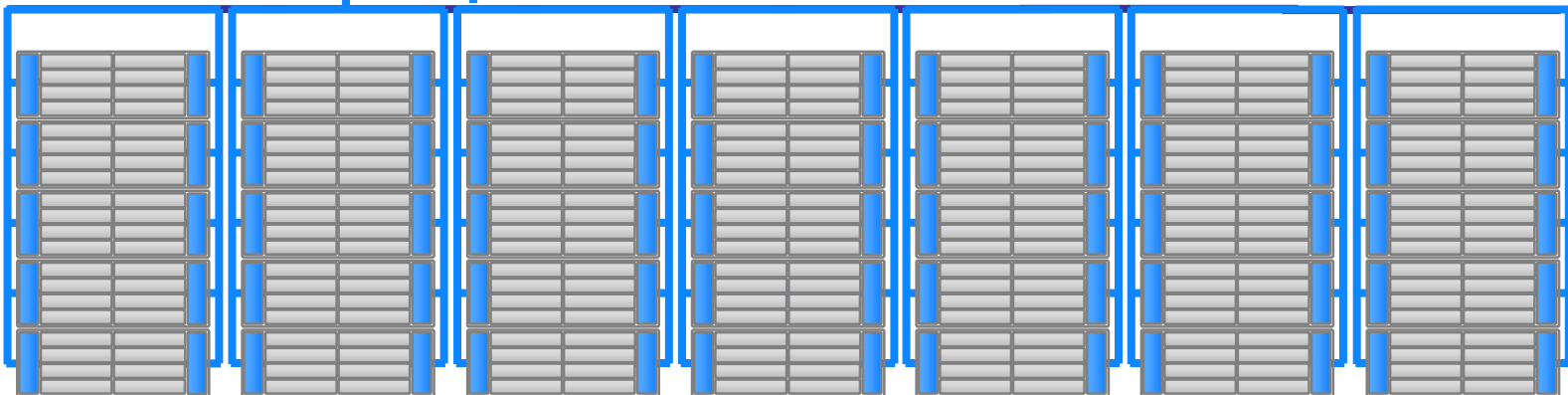
## Standard APIs for systems management

XML, SMASH-CLP, WSMAN, IPMI, SNMP

SDK for commercial & custom implementations

## Designed for multi-tenancy

RBAC, organizations, pools & policies





# Cisco UCS solution

## A single system that encompasses:

Network: Unified fabric

Compute: Industry standard x86

Virtualization optimized

## Unified management model

Dynamic resource provisioning

## Efficient Scale

Cisco network scale & services

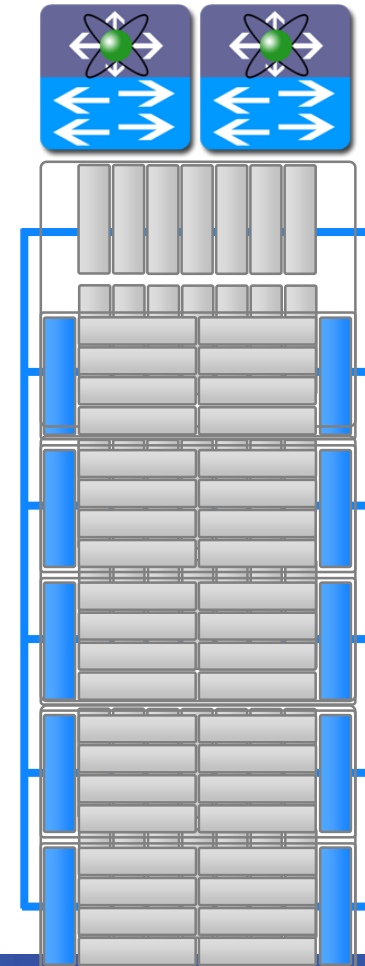
Fewer servers with more memory

## Lower cost

Fewer servers, switches, adapters, cables

Lower power consumption

Fewer points of management





# Moving to the cloud – Organizations are moving to the cloud to ...



Reduce Costs



Accelerate  
Time-To-Market



Increase  
Business Agility



# Cisco's ACI Fabric Centralized SDN solution



# Application policy infrastructure controller (APIC)



## Centralized Policy-Defined Automation Management

- Holistic application-based solution that delivers flexibility and automation for agile IT
- Automatic fabric deployment and configuration with single point of management
- Automation of repetitive tasks, reducing configuration errors



## Open and Comprehensive End-to-End Security

- Open APIs, flexibility for DevOps teams,
- Automatic capture of all configuration changes integrated with existing audit and compliance tracking solutions
- Detailed role-based access control (RBAC)



## Real-Time Visibility and Application Health Score

- Centralized real-time health monitoring of physical and virtual networks
- Instant visibility into application performance combined with intelligent placement decisions
- Faster troubleshooting for day-2 operation



## Application Agility

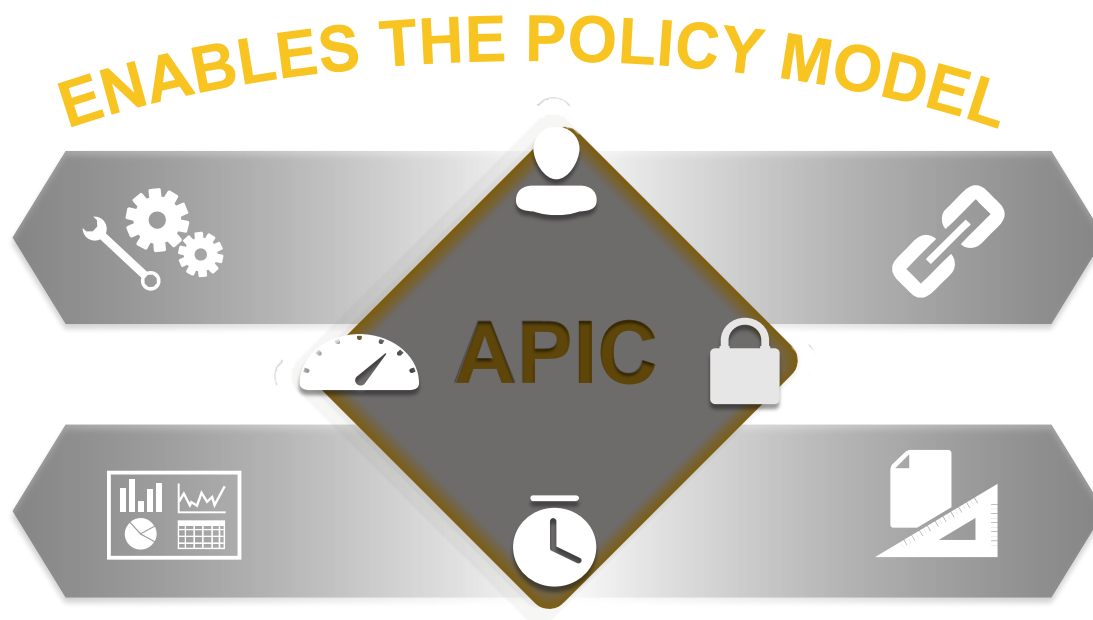
- Management of application lifecycle from development, to deployment, to decommissioning—in minutes
- Automatic application deployment and faster provisioning based on predefined profiles
- Continuous and rapid delivery of virtualized and distributed applications





# Application policy infrastructure controller (apic)

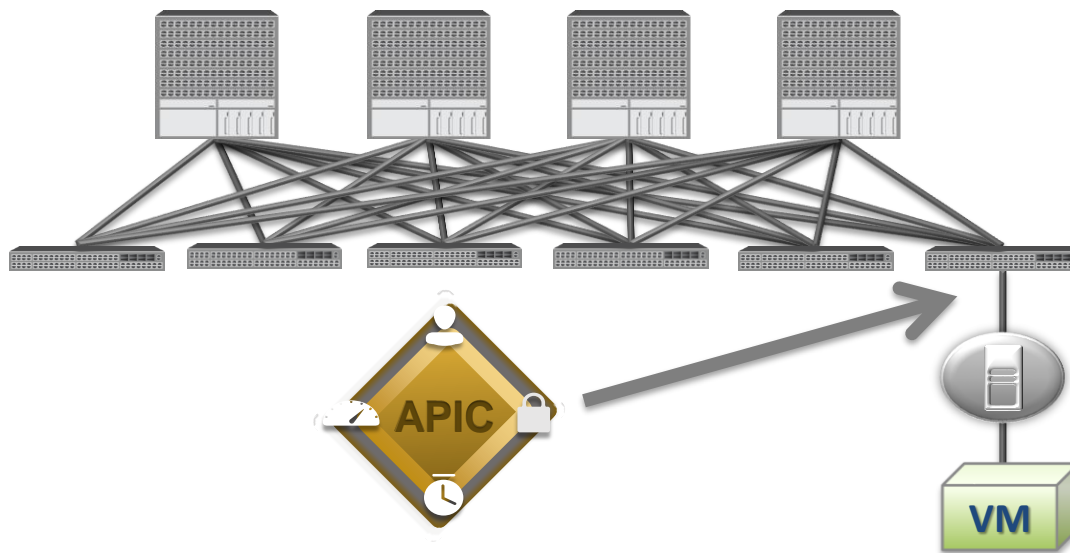
Single API that  
Allows for  
Centralized  
Comprehensive  
Network Policy  
Management



Visibility Into  
All Network /  
Policy

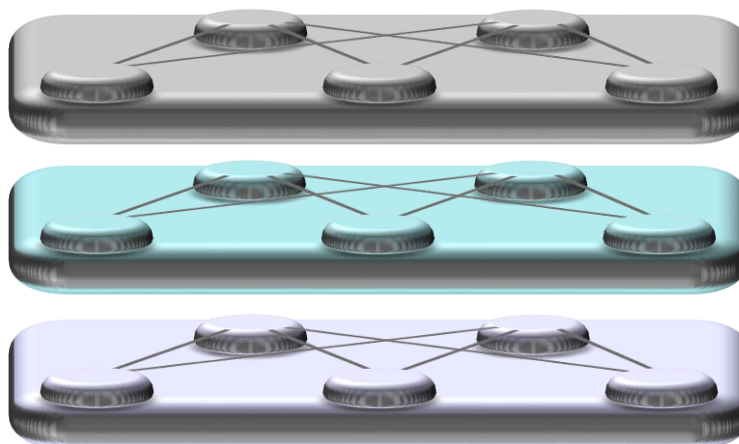


# ACI Fabric Architecture



- 40Gbps Backplane
- Non-Blocking Penalty Free Overlay

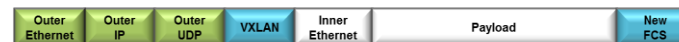
Virtual Network  
1  
Virtual Network  
2  
Virtual Network  
3



**NVGRE**



**VxLAN**





# Cisco UCS Director

## Multi-tenant Infrastructure Management Platform



# Asseco Cisco UCS Director

- **Superior IaaS Management Capabilities**

- Out-of-box task library that spans Cisco and third-party hardware solutions to build your infrastructure in minutes
- Reduction of data center complexity by replacing manual provisioning and de-provisioning tasks with workflows that span computing, network, storage, and virtualization functions
- Lowering of capital expenses with real-time monitoring, dynamic load balancing, and optimum resource usage

- **Multihypervisor Solution**

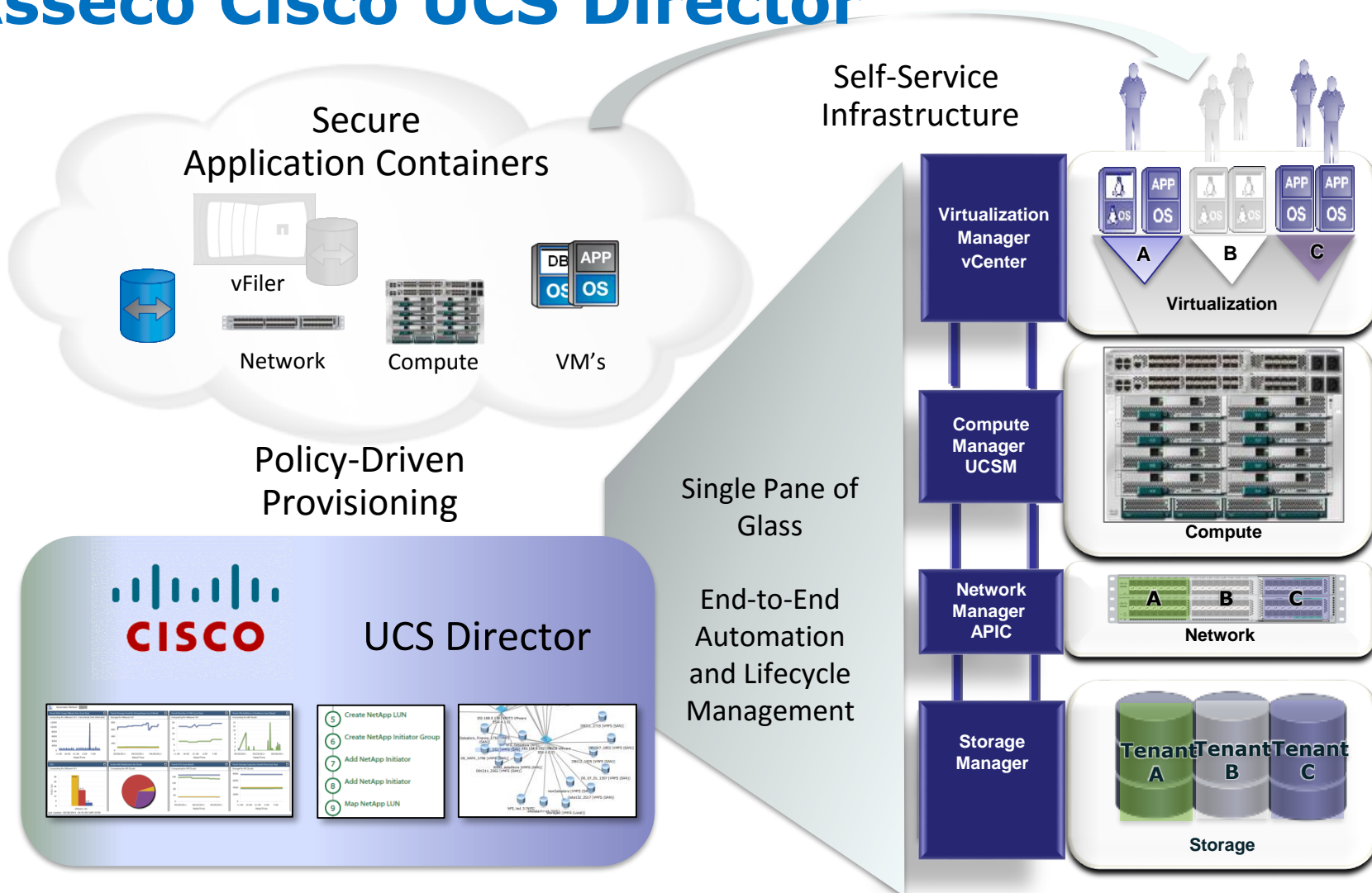
- VMware, Microsoft Hyper-V, and Red Hat KVM hypervisors
- creation, manipulation, and editing of virtual machines, hosts, and virtual networks APIC
- Windows and Linux guest OS

- **Multivendor Solution**





# Asseco Cisco UCS Director





# The Veeam Cloud Connect platform best fit for both worlds



# Asseco Veeam solution

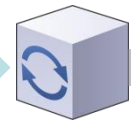
## Replication Architecture

- Replicates actual VM files, not backup images
- VMs are registered with Host at DR site and powered off

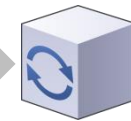
## Production Site



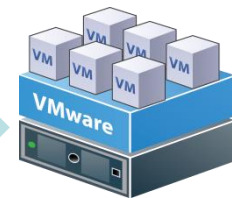
Source host



Backup proxy



Backup proxy



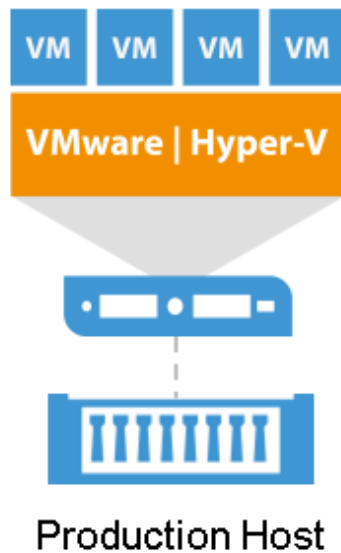
Target host

## DR Site



# Asseco Veeam solution

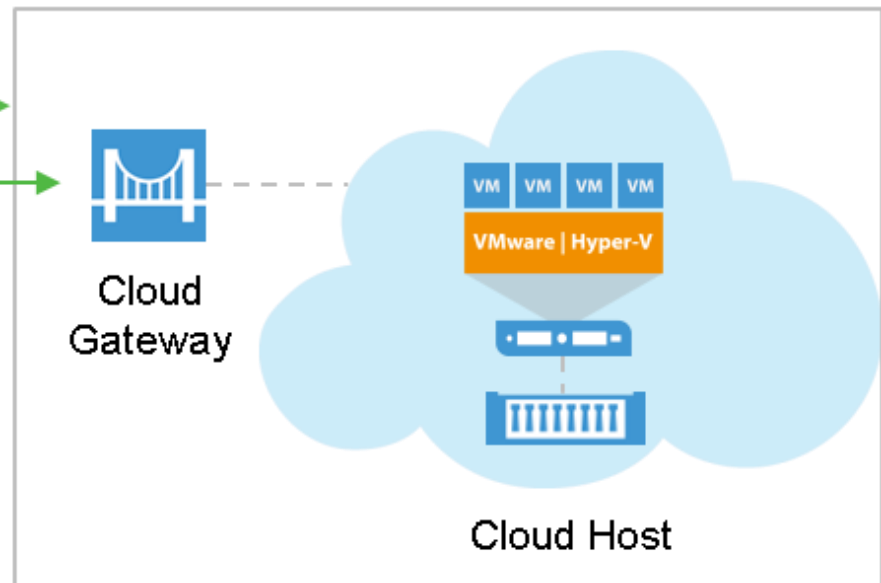
Customer On-Premises  
Infrastructure



SSL  
Replication **NEW!**

WAN Acceleration  
(optional for Enterprise  
Plus customers)

Asseco SEE  
Infrastructure







# Asseco Cisco IaaS & DRaaS Overview



# Asseco Cisco IaaS & DRaaS Overview

- **Validated designed**
- **High availability solution**
- **Easy deployment or expansion of new service**
- **Highly professional and certified team for deployment, operation and maintenance of all IaaS & DRaaS components (network, server, storage, virtualization, security ...)**



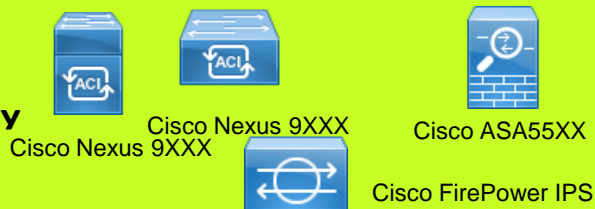
# Asseco Cisco IaaS & DRaaS HLD

## Wan EDGE



Cisco ASR

## Core/Aggregation/Security



Cisco Nexus 9XXX

Cisco Nexus 9XXX

Cisco ASA55XX

Cisco FirePower IPS

## Access



VMware VDS

Cisco Nexus 62XX

## Computer & Services



UCS 5100

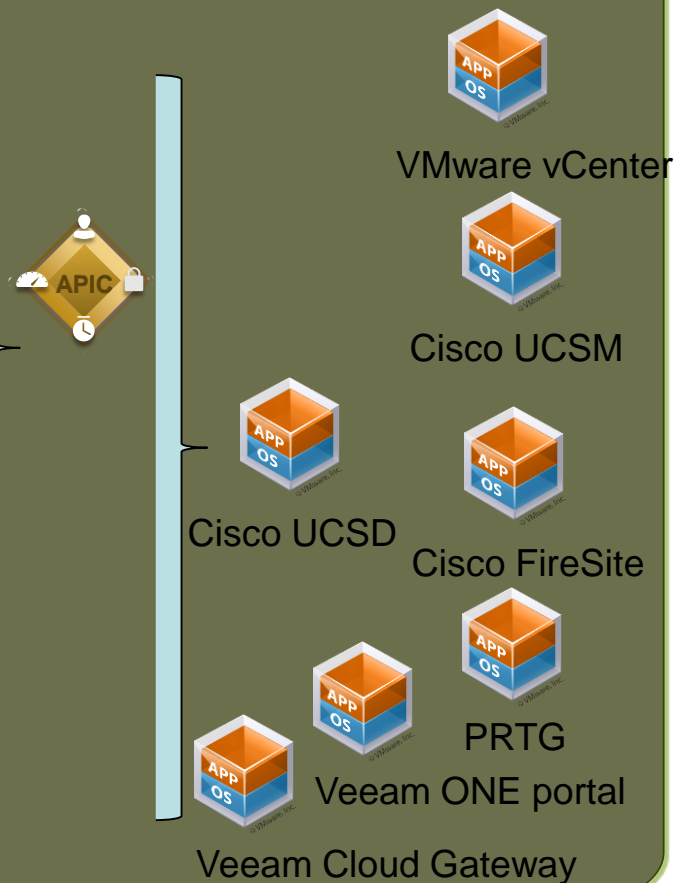
## Storage



MDS 9XXX

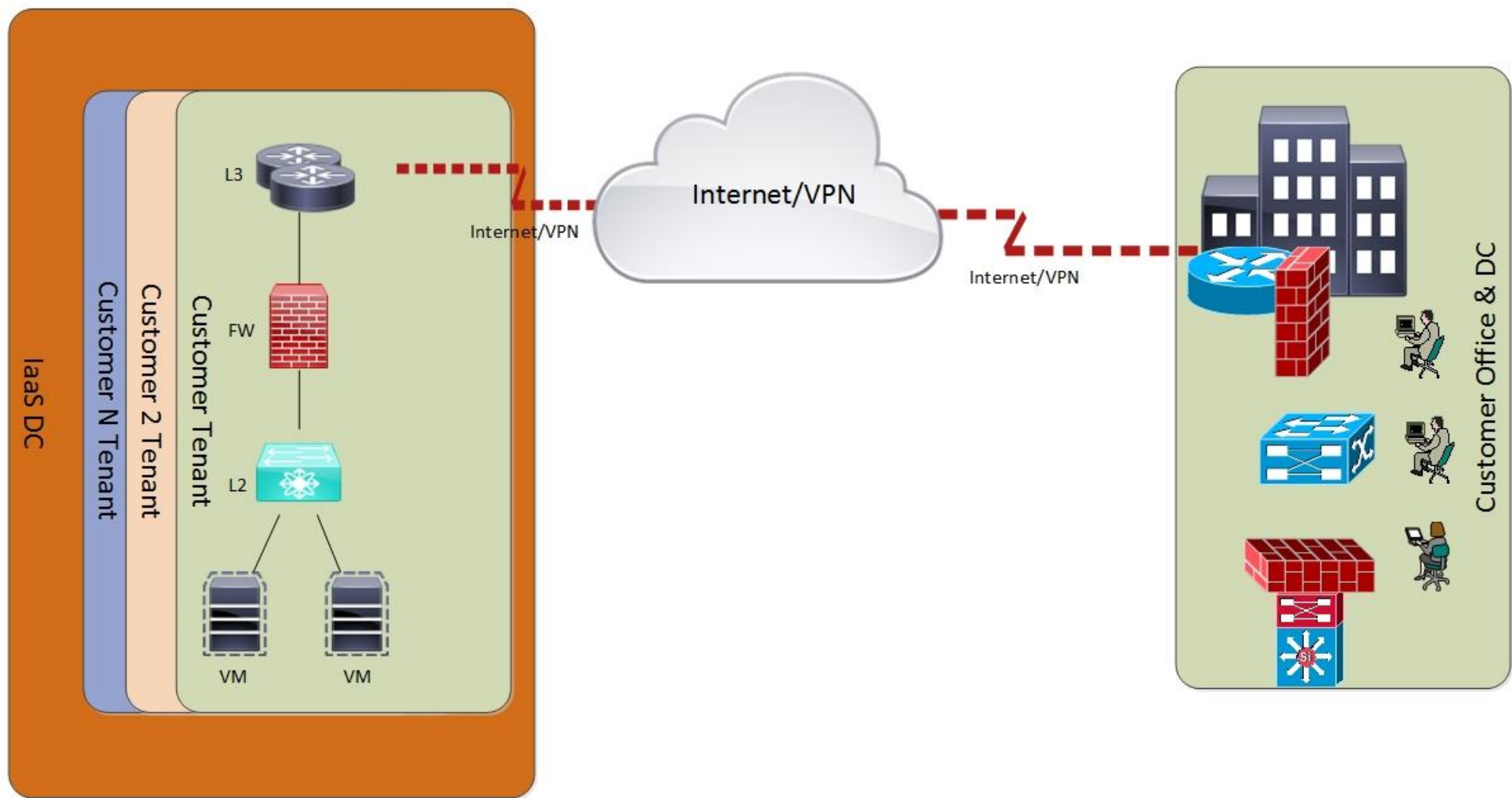
IBM Storewize

## Management





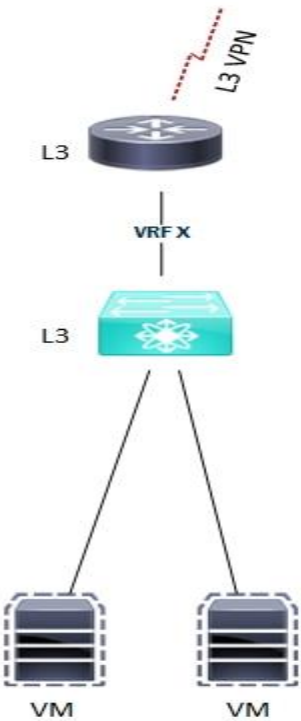
# Asseco IaaS & DRaaS multitenancy



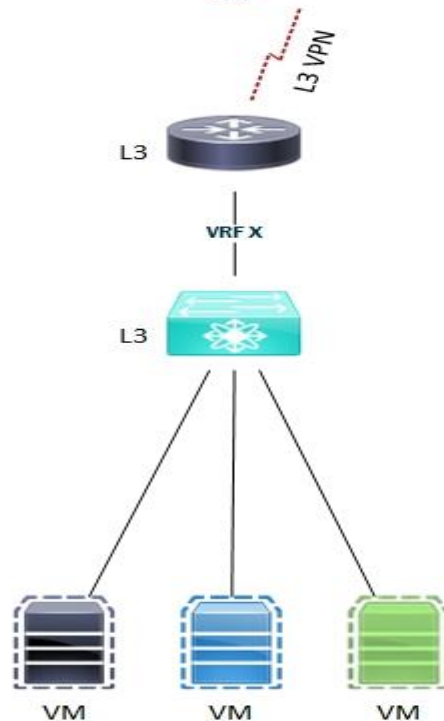


# Our Solution: ASEE IaaS services

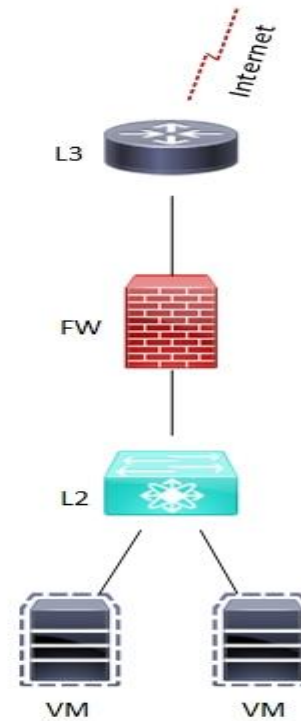
**ASEE PrivateCloud**



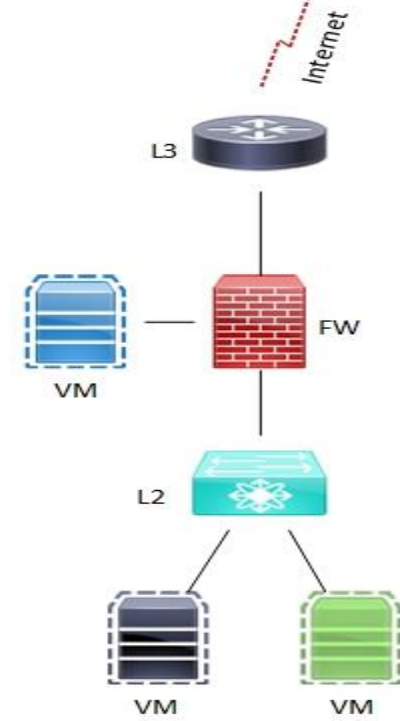
**ASEE PrivateCloud-3d**



**ASEE OpenCloud**



**ASEE OpenCloud-3d**





# Our Solution: ASEE IaaS services

Main features of the Services	ASEE PrivateCloud	ASEE PrivateCloud -3d	ASEE OpenCloud	ASEE OpenCloud -3d
Private cloud – no public access via internet is available to Customer’s services, VPN-only	✓	✓		
Public cloud – Customer’s services are available publicly via Internet and firewall			✓	✓
1 bridge domain for the virtual machines	✓		✓	
3 bridge domains for the virtual machines (web-application-database)		✓		✓
Customizable VM resources (vCPU/RAM/storage)	✓	✓	✓	✓

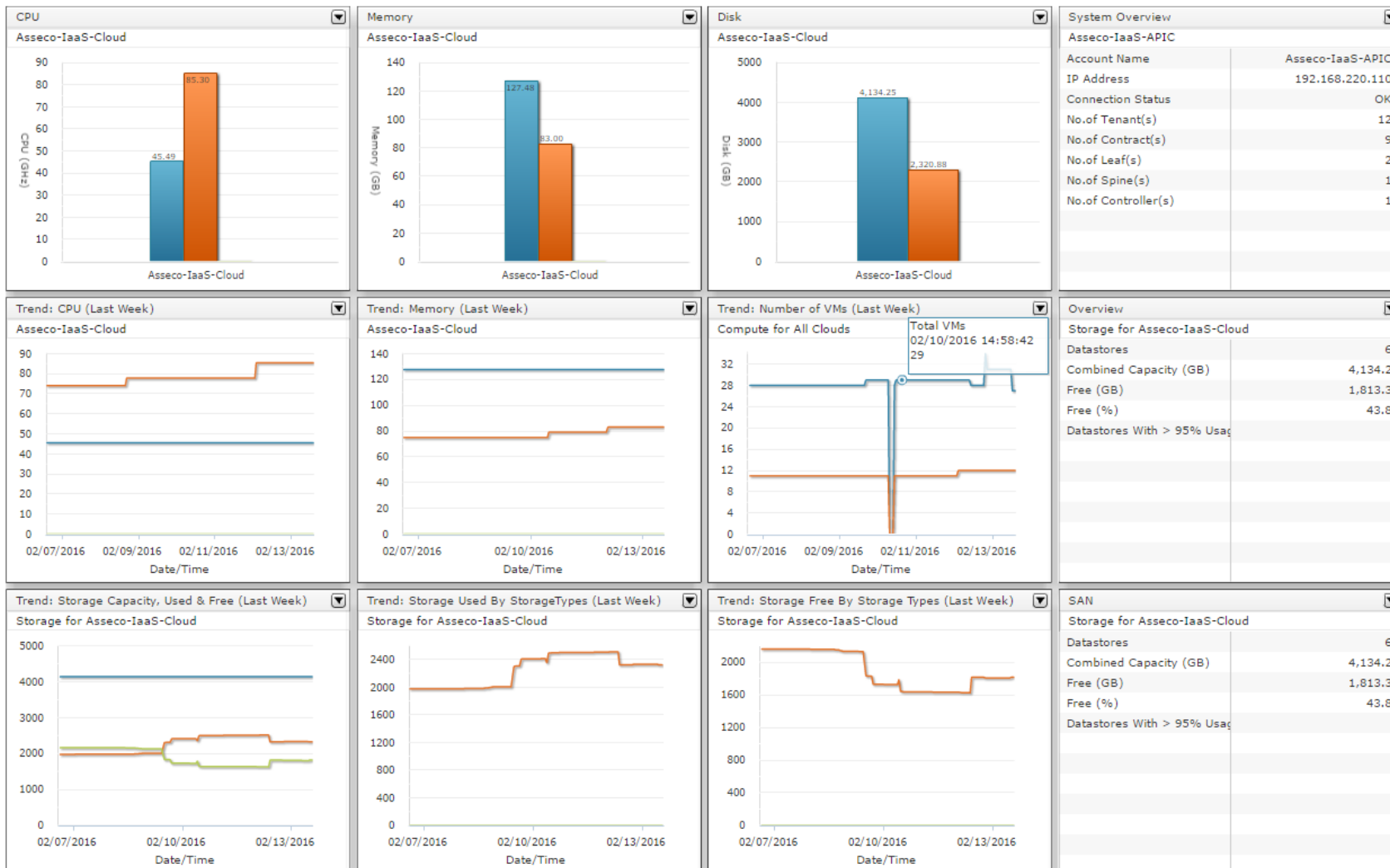


# Our Solution: ASEE DRaaS services

Main features of the Services	ASEE DRaaS Bronze VM	ASEE DRaaS Silver VM	ASEE DRaaS Gold VM
Private cloud option (secure VPN or L2 extension access)			✓
Public cloud – Customer’s services are available publicly via Internet and firewall	✓	✓	✓
Veeam WAN acceleration option			
Per VM storage capacity/type	100GB NL-SAS	160GB / SAS 10k	200GB / SAS 15k+SSD Accelerated
Per VM min. replication bandwidth	1 Mbit/sec	3 Mbit/sec	6 Mbit/sec
24x7 phone and email support with certified engineers	✓	✓	✓
Asseco SEE assisted Full DR testing	none	1 per year	2 per year
ASEE Initial Veeam Cloud Connect configuration assistance		Included	Included



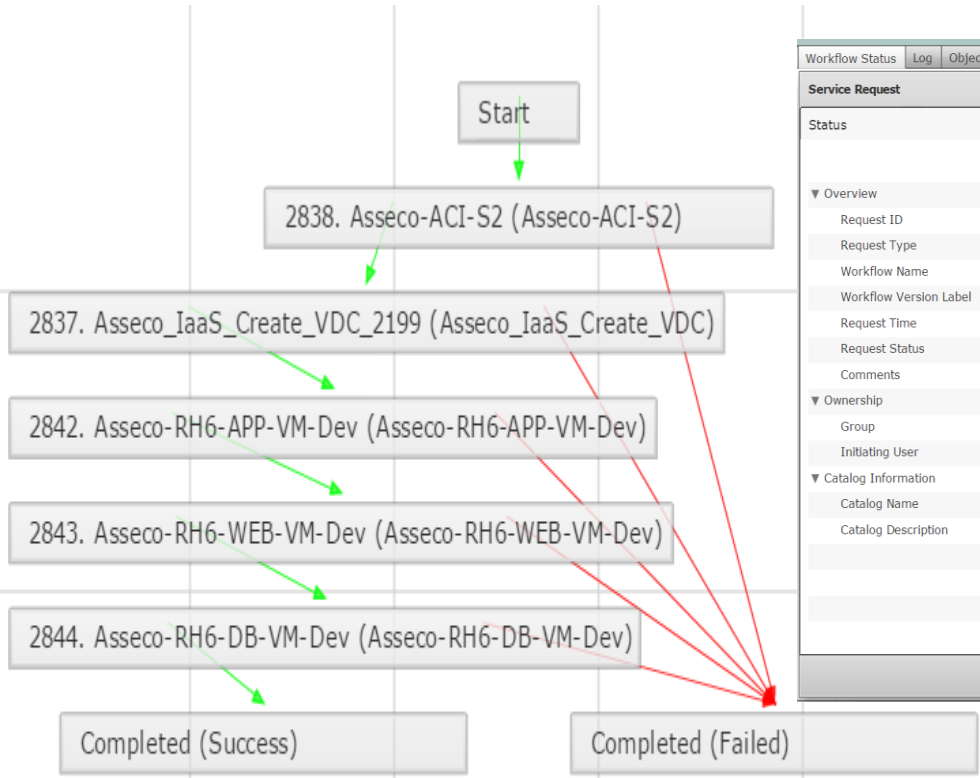
# UCSD resources monitoring







# UCSD services creation



Workflow Status | Log | Objects Created and Modified | Input/Output

**Service Request**

Status Refresh

▼ Overview

Request ID	209	1	Initiated by Dev-Bank-CRM2	02/15/2016 11:47:46
Request Type	Advanced	2	Child workflow (Asseco-ACI-S2)	02/15/2016 11:54:04
Workflow Name	IaaS-3Tire-EPG-S2-Dev	3	Child workflow (Asseco_IaaS_Create_VDC)	02/15/2016 11:54:40
Workflow Version Label	0	4	Child workflow (Asseco-RH6-APP-VM-Dev)	02/15/2016 11:56:54
Request Time	02/15/2016 11:47:41 GMT+0100	5	Child workflow (Asseco-RH6-WEB-VM-Dev)	02/15/2016 11:59:00
Request Status	Complete	6	Child workflow (Asseco-RH6-DB-VM-Dev)	02/15/2016 12:01:27
Comments		7	Complete	02/15/2016 12:01:33
			Completed successfully.	

▼ Ownership

Group	Dev-Bank
Initiating User	Dev-Bank-CRM2

▼ Catalog Information

Catalog Name	Dev-Bank-CRM2
Catalog Description	Dev-Bank-CRM2

Current status for the service request.

1 Initiated by Dev-Bank-CRM2 02/15/2016 11:47:46

2 Child workflow (Asseco-ACI-S2) 02/15/2016 11:54:04

3 Child workflow (Asseco\_IaaS\_Create\_VDC) 02/15/2016 11:54:40

4 Child workflow (Asseco-RH6-APP-VM-Dev) 02/15/2016 11:56:54

5 Child workflow (Asseco-RH6-WEB-VM-Dev) 02/15/2016 11:59:00

6 Child workflow (Asseco-RH6-DB-VM-Dev) 02/15/2016 12:01:27

7 Complete 02/15/2016 12:01:33

Completed action

Completed successfully.

Close



# ACI & VMware Tenant services

ALL TENANTS | ADD TENANT | Search: enter name | common | FZO-TDK-APP | HETA-APP | Tenant\_s3 | Tenant\_S2

**Tenant Tenant\_S2** Application EPGs

- Quick Start
- Tenant Tenant\_S2
  - Application Profiles
    - AP\_S2\_1
      - Application EPGs
        - EPG EPG\_S2\_App
        - EPG EPG\_S2\_DB
        - EPG EPG\_S2\_Web
        - L4-L7 Service Parameters
  - Networking
    - Bridge Domains
      - BD\_S2\_1
      - BD\_S2\_2
      - BD\_S2\_3
    - Private Networks
    - External Bridged Networks
    - External Routed Networks
    - Router Configuration
    - Protocol Policies
    - L4-L7 Service Parameters
    - Security Policies
    - Troubleshoot Policies
    - Monitoring Policies
    - L4-L7 Services

**Diagram: Application EPGs**

**ACTIONS**

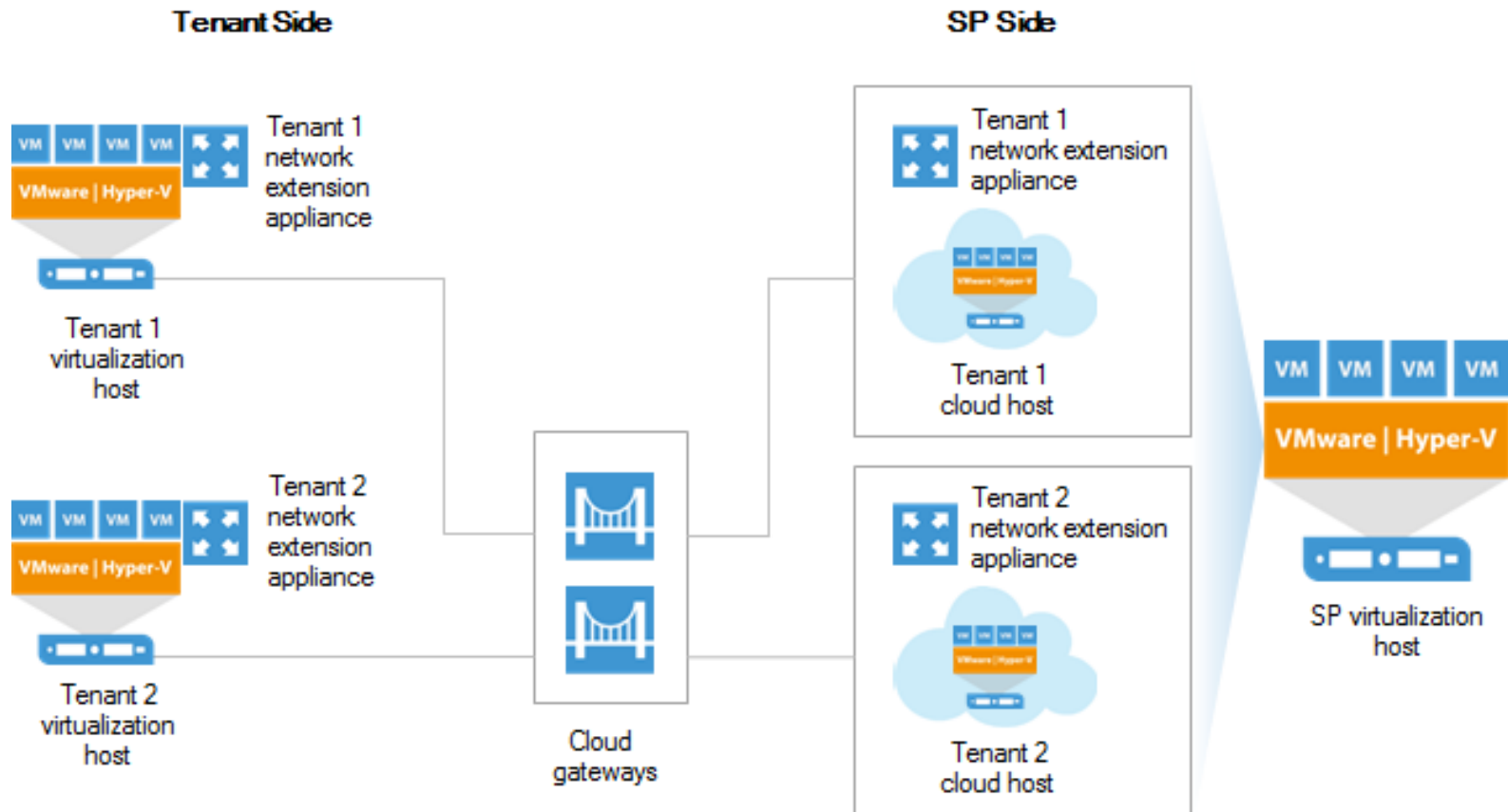
- Tenant\_S2|AP\_S2\_1|EPG\_S2\_App
- Tenant\_S2|AP\_S2\_1|EPG\_S2\_DB
- Tenant\_S2|AP\_S2\_1|EPG\_S2\_Web
- Tenant\_s3|T3\_AppProfile|APP\_Servers
- Tenant\_s3|T3\_AppProfile|Web\_Servers
- Tenant\_S4|S4\_App\_Profile|App\_Servers
- Tenant\_S4|S4\_App\_Profile|DB\_Servers
- Tenant\_S4|S4\_App\_Profile|Web\_Servers

**S2**

- Aseba-APP
- Aseba-WEB
- Asseba-DB



# Veeam tenant services





# Customer service monitoring

GAMA ERP-Gama-DB \*\*\*\*\*

**gseco**  
SOUTH EASTERN EUROPE

PRTG NETWORK MONITOR  
New Log Entries: 14 W 2 ✓ 93

---

GAMA 'ACI-DMZ\_ERI' x

192.168.223.4/sensor.htm?id=2201&tabid=2

PRTG NETWORK MONITOR  
New Log Entries: 14 W 2 ✓ 93

Sensor GAMA 'ACI-DMZ\_ERP-GAMA-App' interface Traffic \*\*\*\*\*

**gseco**  
SOUTH EASTERN EUROPE

Overview Live Data 2 days 30 days 365 days Historic Data Log Settings Notifications Channels

Last Message: OK

CPU usage: 0.99 %

Disk read: 0 Mbit/s

Memory active: 164 MByte

Network received: 0 kbit/s

Network sent: 0 kbit/s

Last Scans: 20 s Last Up: 20 s Last Down: 2 d 15 h 7 m Uptime: 100.0000% Downtime: 0.0000% Coverage: 46%

Sensor Type: SNMP Traffic 64bit Dependency: Parent Interval: every 60 s ID: #2201

PRTG Network Monitor 6.1.21.1891

2/20/2016 6:32:22 PM - ID: 2201

Downtime (%)  Traffic Total (kbit/s)  Traffic In (kbit/s)  Traffic Out (kbit/s)

Date Time	Traffic Total (volume)	Traffic Total (speed)	Traffic In (volume)	Traffic In (speed)	Traffic Out (volume)	Traffic Out (speed)	Downtime	Coverage
<b>Sums (of 121 values)</b>		8,134 KByte		5,249 KByte	2,885 KByte			
<b>Averages (of 121 values)</b>		67 KByte	9 kbit/s	43 KByte	6 kbit/s	24 KByte	3 kbit/s	0 % 100 %

Q&A  
Thank you