

Fujitsu World Tour 2015

Connected Infrastructure

FUJITSU

shaping tomorrow with you

Human Centric Innovation

FUJITSU Integrated System PRIMEFLEX for VMware EvoRail Your fast track to a hyper-converged IT infrastructure

Danilo Salladini – Business Development Manager – Fujitsu
Massimiliano Morlacchi – Alliance Manager – VMware

Quali sono le nuove sfide degli IT manager



Il **business** richiede infrastrutture sempre più elastiche che sappiano rispondere tempestivamente al variare delle esigenze. L'agilità è quindi un fattore determinante per rendere la propria azienda sempre più competitiva

Gli **utenti** cercano soluzioni sempre più integrate, veloci ed economicamente vantaggiose da un punto di vista di gestione (TCO)

Allo stesso tempo è chiaro che non si può fare tutto in casa e che il cloud o l'utilizzo di sistemi altamente integrati è l'unico modo per realizzare progetti complessi evitando investimenti eccessivi e i rischi che ne derivano

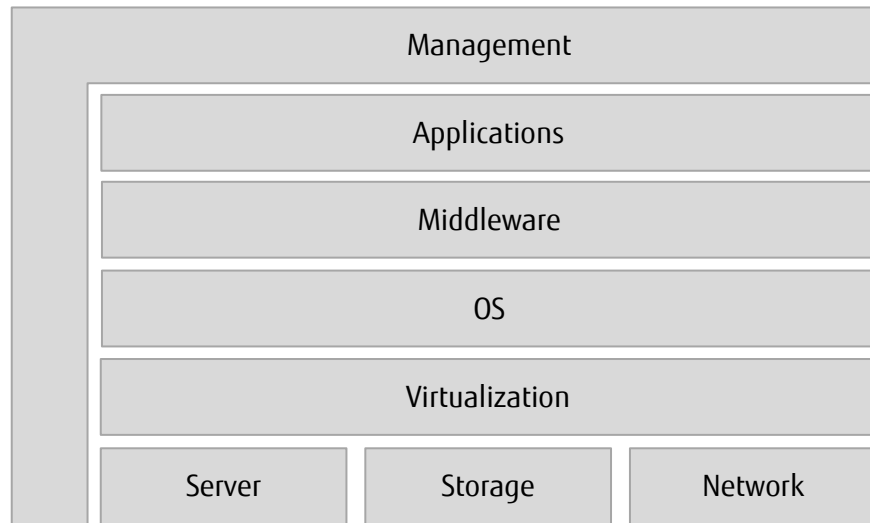
Costruire una infrastruttura DC è complesso

■ Tipiche attività correlate:

- Selezionare, acquistare, integrare componenti
- Coordinamento
- Confronto e testing
- Verifica compatibilità componenti forniti dai vari vendor
- Integrazione all'interno del proprio ambiente di produzione
- Profonda conoscenza ed esperienza
- Poca focalizzazione sul Business

■ Consistente peso economico per il service

- Ogni installazione è differente



DIY (Do-it-Yourself) può essere causa di errori, richiede tempo, rischi ed è costoso..

La nuova frontiera: I Sistemi Integrati

Definizione

- Pre-definiti, pre-integrati e pre-testati sono la combinazione dei componenti tipici dei DC
 - Servers
 - Storage
 - Network connectivity
 - Software
 - Management (mandatory)
 - Virtualization
 - Automation, orchestration, portal
 - DB and apps



Design ottimale, basato su esperienza di progetti realizzati e funzionanti.

I benefici dei Sistemi Integrati:

■ Semplicità

- Minor impegno
- Minori test
- Minori skills richiesti

■ Risparmio di tempo

- Pianificazione e progettazione
- Messa in produzione veloce

■ Minori rischi

- Compatibilità tra i componenti
- Tutto è armonizzato
- Funzionalità garantite

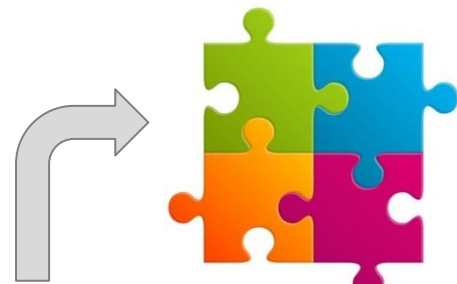
■ Efficienza

- Cavi, spazi, energia, raffreddamento
- Utilizzazione risorse
- Riduzione dei canoni service (Facile riconoscimento delle parti difettose)

■ Saving di CAPEX e OPEX

■ Focus sul business

- Migliorare la risposta alle nuove esigenze di business



Riduzione della complessità, tempo, rischi e costi.

Sistemi Integrati: le possibilità di delivery

Ready-to-run

- Costruito e testato come un unico prodotto
- Pre-integrato e pre-installato
- Configurazione semplificata grazie ad un singolo codice

■ Vantaggi

- Nessuno sforzo per la progettazione, privo di rischi
- Semplice fornitura
- Veloce inserimento nell'ambiente di produzione

Reference architectures

- Testato, design del progetto validato sulla base di PoC
- Integrazione e installazione On-site supportata da dettagliata documentazione
- Opzioni per adattare meglio la soluzione

■ Vantaggi

- Facile e veloce design con assenza di rischi
- Flessibilità nella configurazione
- Tempi di progettazione brevi



Entrambi gli approcci si traducono in un più veloce raggiungimento del ROI.

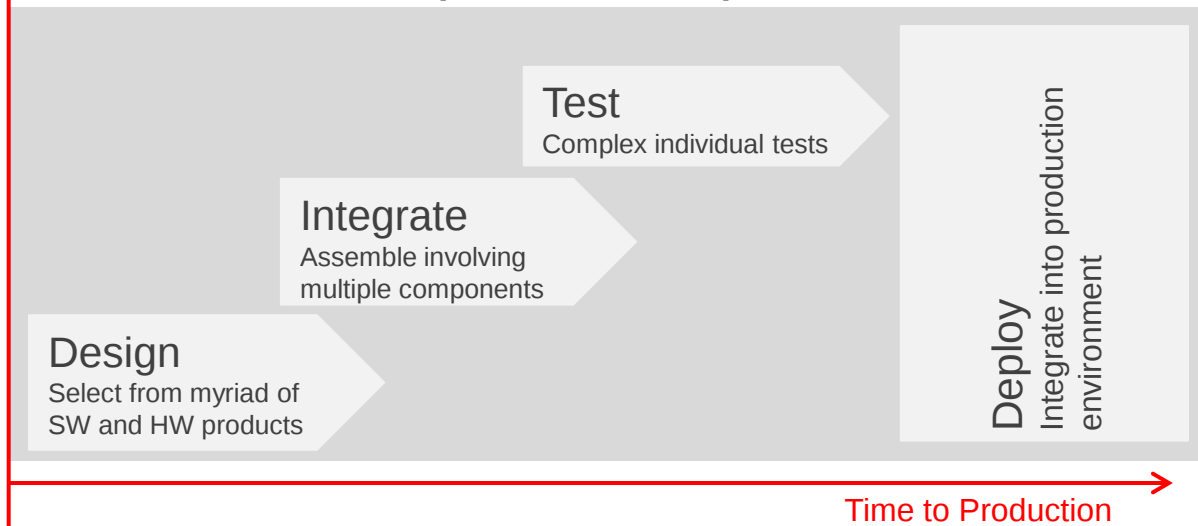
Riduzione dei tempi di implementazione: da settimane a ore

Get productive!

Tradizionale

approccio “Do-it-yourself” da parte del cliente

Responsabilità completa del cliente

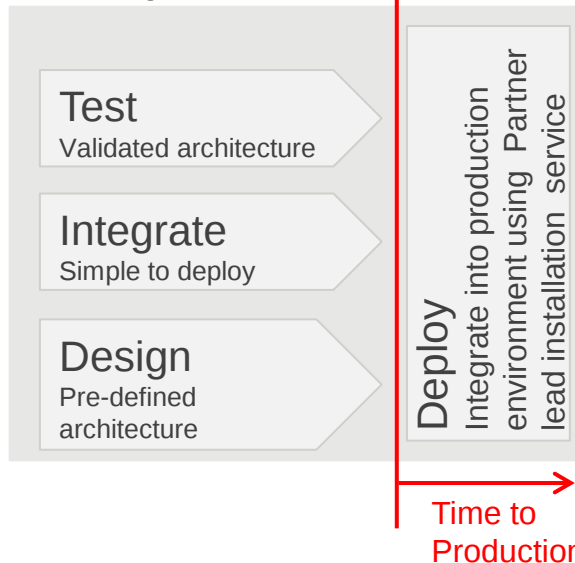


EVO:RAIL - vShape

Reference Architecture

Fujitsu Lab

Partner



Sistemi Hyper-convergenti e Software Defined Data Center

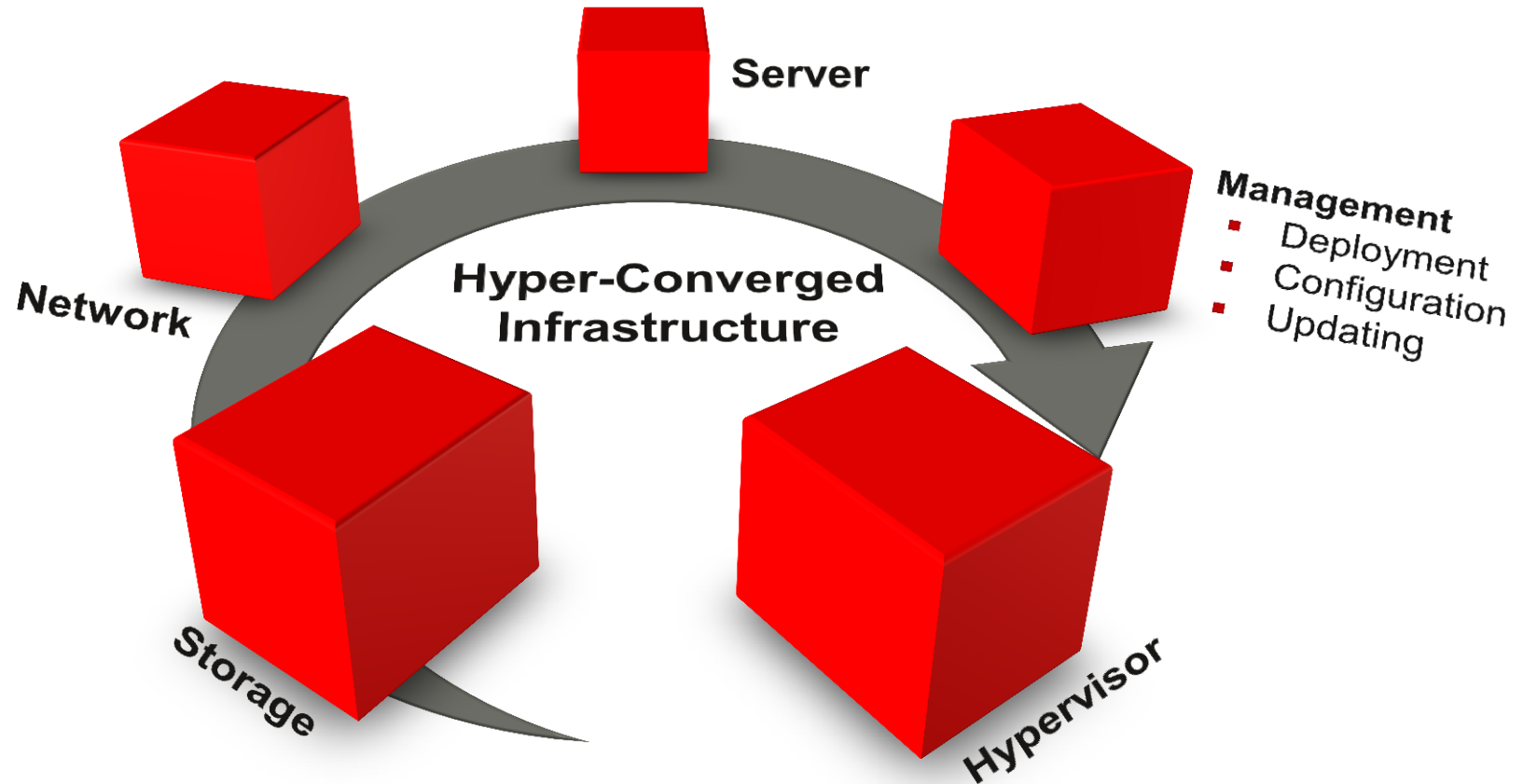


Your fast track to a hyper-converged IT infrastructure

FUJITSU Integrated System
Appliance for VMware EVO:Rail™



Vantaggi delle infrastrutture iper-convergenti



FUJITSU x86 Servers come fondamenta per VMware EVO:RAIL



PRIMERGY TX Family

- Expandable tower
 - Branch offices
 - Remote offices
 - SMB



PRIMERGY BX Family

- Datacenter optimized
 - High density
 - Energy optimized
 - Converged



PRIMERGY CX Family

- Compute density optimized
 - Cloud
 - HPC
 - Large scale-out computing



PRIMERGY RX Family

- Rack optimized
 - Versatile
 - Efficient
 - All-rounder

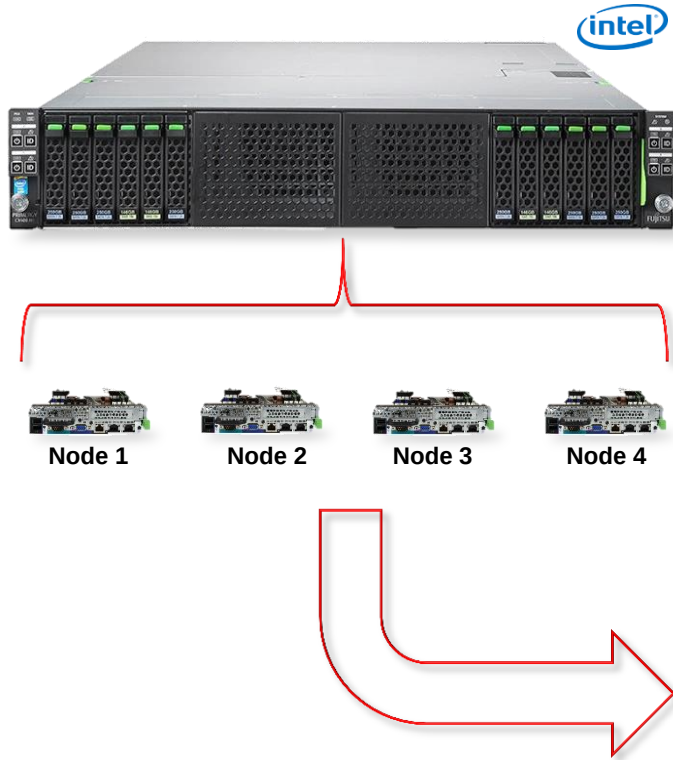


PRIMEQUEST Family

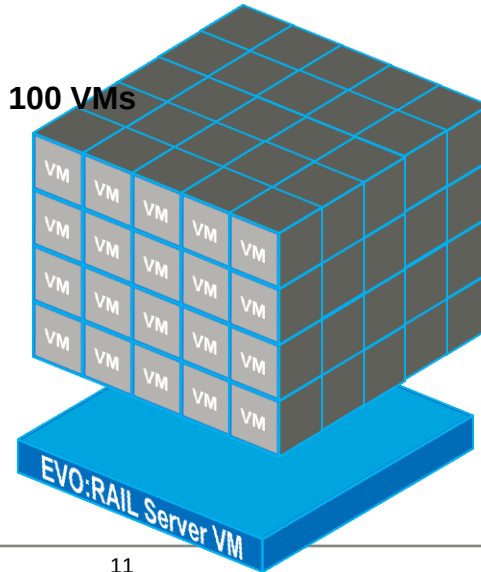
- Mission Critical
 - Mainframe like reliability
 - In-memory computing
 - Highest performance

Un impareggiabile mix di qualità, efficienza e disponibilità

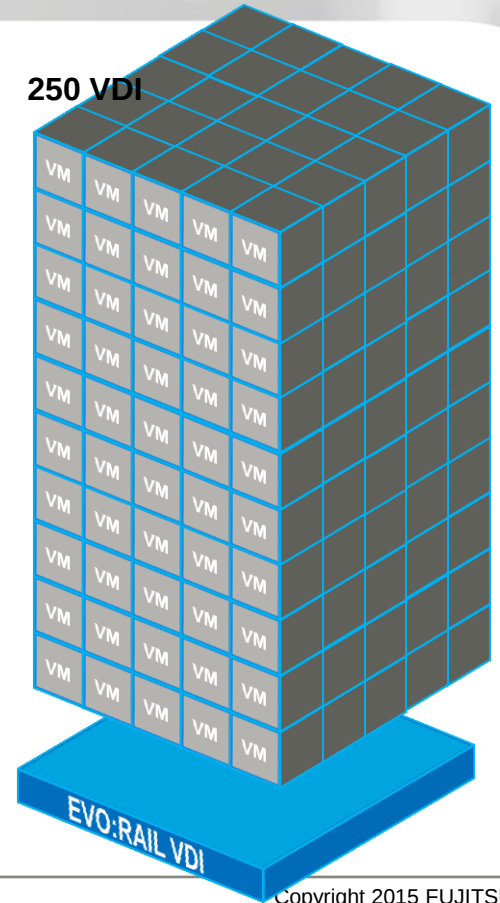
EVO:RAIL: Appliance Stack



100 VMs



250 VDI



FUJITSU Server PRIMERGY CX400



Fujitsu è in prima linea da più di 30 anni nella progettazione e realizzazione di supercomputer.
Ad oggi con il K computer detiene il record del supercomputer più veloce al mondo.



L'installazione dell'Australian National University ANU, Canberra Australia utilizza la stessa tecnologia x86 per il Software Define Data Center.



- 1.2 Petaflops - No. 38 in Top 100 SUPERCOMPUTER list 2014
- 3600 x PRIMERGY CX250 S2, installed in 900 x PRIMERGY CX400 S2
- Largest HPC Computer in the Australian/Pacific Hemisphere
- Cold-Aisle isolation - no water cooling

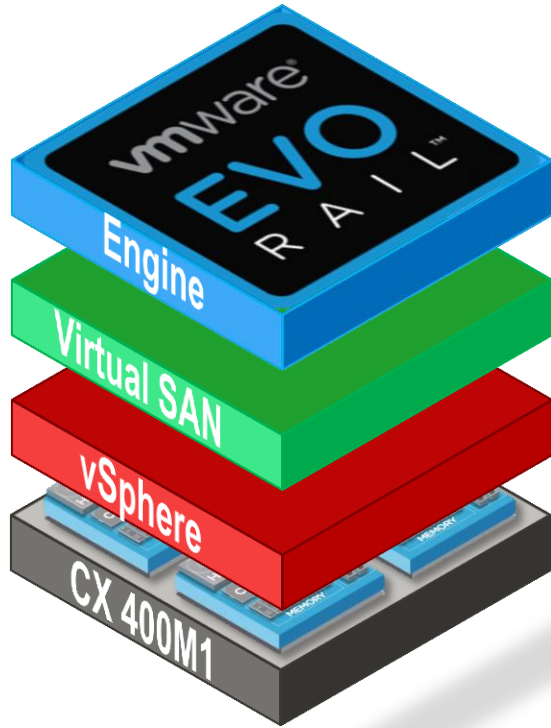


3600 x 
PRIMERGY CX250 S2

900 x 
PRIMERGY CX400 Series

La serie CX400 di Fujitsu dimostra le impressionanti capacità di calcolo e scalabilità con tecnologia Intel ed è la base per le nuove infrastrutture Iper-Convergenti.

Softwarestack: VMware EVO:RAIL



- **EVO:RAIL** Deployment, Configuration and Management
- **vSphere Enterprise Plus Edition incl. ESXi for compute**
- **VMware Virtual SAN for storage**
- **vCenter Server**
- **vCenter Log Insight** (Real Time Protocol Management and Analysis)

Componenti fondamentali di PRIMEFLEX per VMware EVO:RAIL



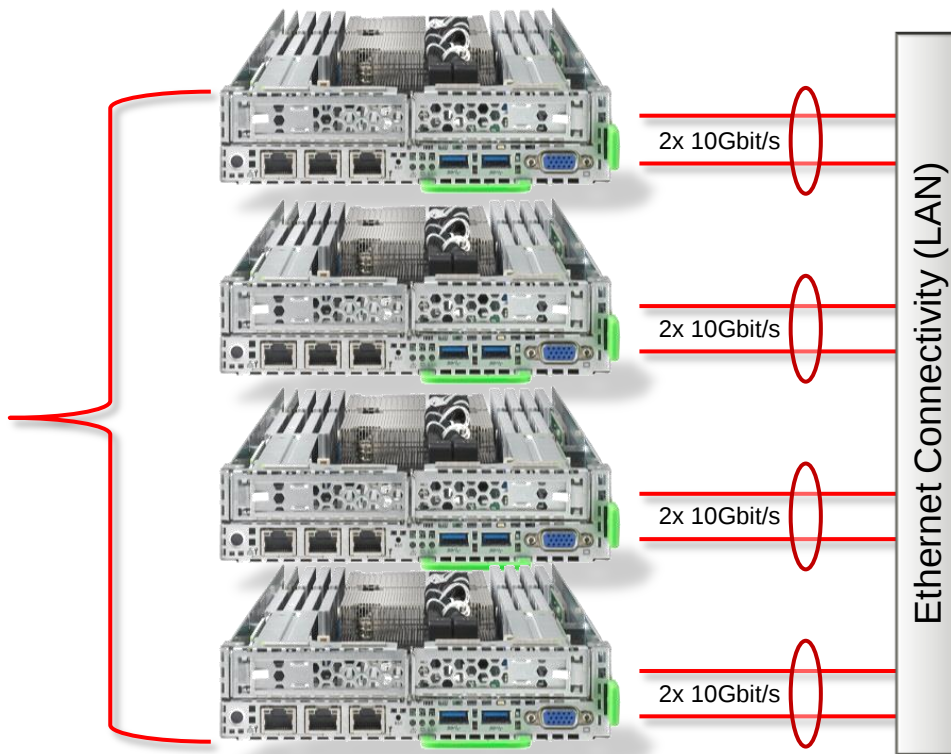
Software for the new edge

- Compute, Network and Storage virtualization with **vSphere** and **VSAN**
- Central management with **vCenter** and **vCenter Log Insight**
- Fujitsu **ServerView**

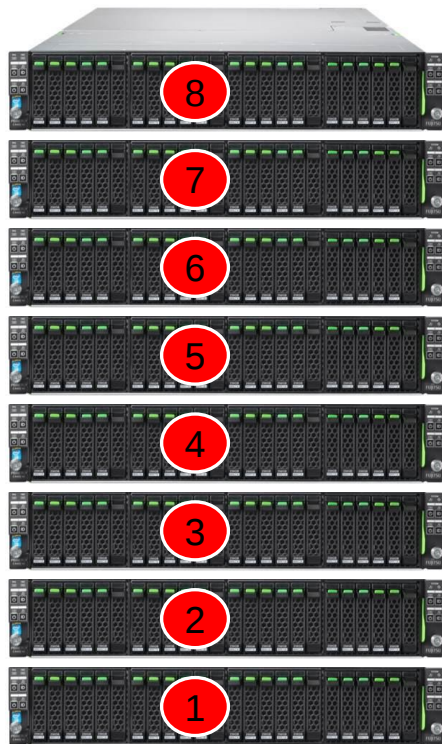
FUJITSU Server PRIMERGY CX400



- One smart enclosure with 4 nodes, each node with:
 - 2 CPUs E5-2620v3
 - 192 GB **DDR4** RAM
 - 1x 400GB SSD and 3x 1.2TB SAS Hot Plug
 - 1x 300GB SAS boot disk
 - 2x 10Gbit/s Ethernet Connectivity



Scalabilità lineare e prestazioni elevate



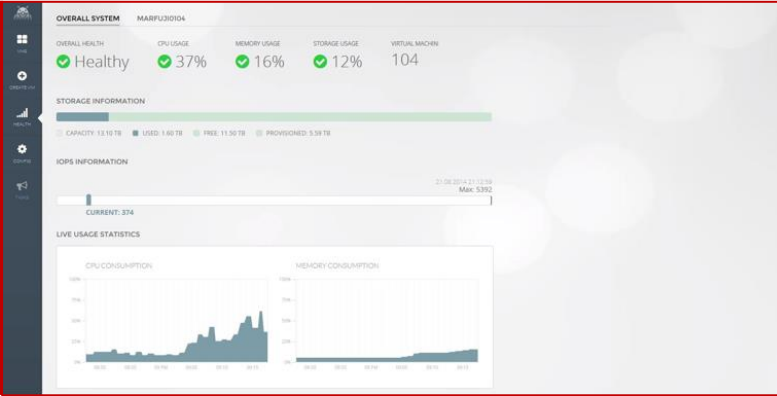
800 Server or 2000 Desktops VMs
700 Server or 1750 Desktops VMs
600 Server or 1500 Desktops VMs
500 Server or 1250 Desktops VMs
400 Server or 1000 Desktops VMs
300 Server or 750 Desktops VMs
200 Server or 500 Desktops VMs
100 Server or 250 Desktops VMs

- Fino a 32 Nodes
- Fino a 115 TB of Storage (totale)
- Fino a 6.1 TB Memory

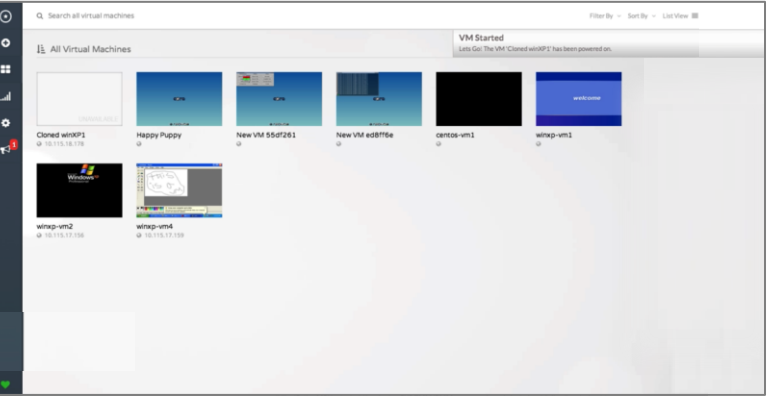
End-to-end user experience that drives simplicity....



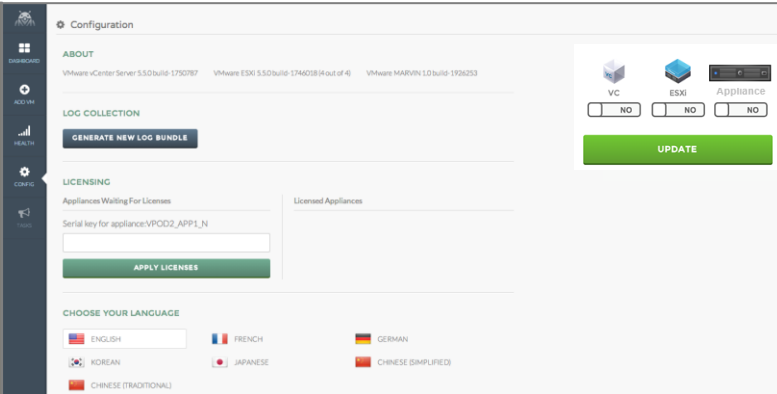
Monitoring integrated



Centralized Management



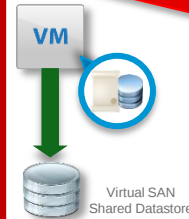
Zero Downtime Updates



Policy based Provisioning

1. Define storage policy
2. Apply policy at VM creation

Resource and data service are automatically provisioned and maintained.



- ✔ No overprovisioning
- ✔ Fewer resources, less time
- ✔ Easy to change

Technical Value

■ Riduzione delle OpEx

- Pianificazione e implementazione semplificata
- SW pre-installato e pronto all'uso in pochi minuti
- "One-click" update e patch

■ Consistent hardware experience

- Stesso hardware e l'interoperabilità garantita
- "Scale out" a moduli identici

■ Integrazione con il network e lo storage esistente o singolarmente "stand alone"

Business Value

■ Riduzione dei CapEx

- Server e storage economico
- Paghi in funzione della tua crescita

■ Va incontro alle necessità del business

- Implementazione veloce

■ Procurement semplificato

- Singolo SKU per tutto l'hardware, software e supporto

■ Building block per il futuro

- SDDC, end-user computing

VMware EVO:RAIL, la soluzione iperconvergente al servizio del business aziendale

Massimiliano Morlacchi
Alliance Manager
VMware Italy

vmware®

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vmware® | Architecture for IT

Any
Device



Business Mobility: Applications | Devices | Content

Any
Application

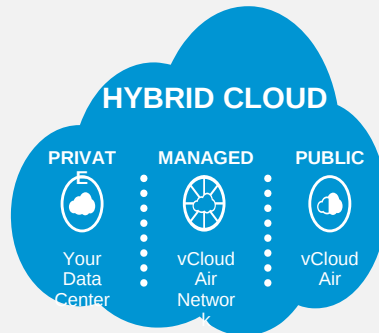
Traditional
Applications



Modern, Cloud
Applications

One
Cloud

Cloud Management



Software-Defined Data Center
Virtualized Compute, Network, Storage

Build-Your-Own



Converged
Infrastructure



Hyper-Converged
Infrastructure



Challenges in Making SDDC Happen

Setup

- Understand where to begin
- Organizational structure and process changes
- Design a reference architecture
- Procure components from different vendors
- Time investment before first VM deployment



Provisioning

- Make disparate infrastructure nodes (compute, storage and networking) work together
- Lack of automation and tools for workload provisioning and deployment
- Many points of control

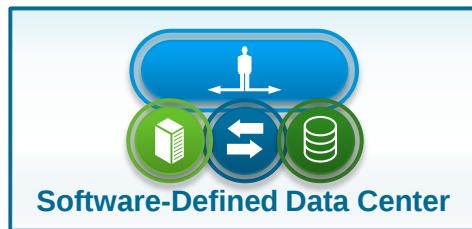


Lifecycle Management and Support

- Troubleshooting
- Support calls to multiple vendors
- Business interruption during patching and upgrades



VMware SDDC - One Destination, Three Approaches



Build Your Own

- Select Hardware Components
 - Servers
 - Storage
 - Networking
- VMware vSphere at the core
- HW, SW and Support procured separately
- Leverages reference architectures
- Multiple Support Calls

Converged Infrastructure

- Traditional data center components presented as single pre-integrated and tested offering of:
 - Servers for compute only
 - Shared Storage Infrastructure
 - Networking
 - VMware vSphere at the core
- Sold in a single rack or racks
- PSO engagement is required
- Single Support Call



Hyper-Converged Infrastructure

- 2U/4N form factor servers that include pre-integrated and tested:
 - Compute
 - Storage
 - Networking
 - VMware Software at the core
- PSO engagement is NOT required
- Single Support Call

Use Cases



- Sized for 100-800 general purpose VMs
- Easily add up to 8 appliances for increased capacity
- Application uptime ensured through HA, DRS, Virtual SAN and EVO:RAIL™ Engine



- Sized for 250-2,000 virtual desktops
- Handle peak performance requirements (boot, login, read/write storms)
- Quick and easy deployment and configuration
- New: Add-On Horizon for EVO:RAIL™ available soon to the channel



- Consistent footprint and deployment operations
- IT-in-a-box
- Simplified user experience ideal for non-VMware experts
- Quick and Easy deployment and configuration

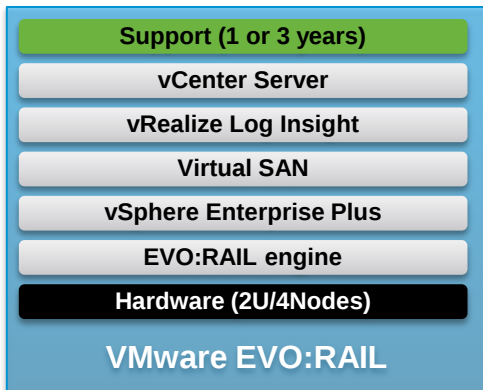


- Service Provider VPC building block for MSP and hosting
- Consistently and easily deployed on-prem and off-prem (Colo)
- Quick and Easy scale-out appliances to increase capacity

Purchasing Options

All-in-One Solution

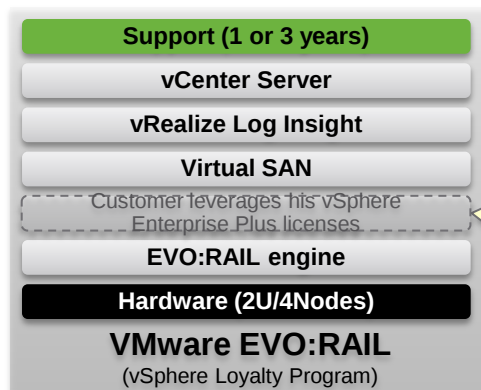
- Includes **all the hardware, VMware software and support**
- Ideal for **new VMware customers** or for existing customers implementing a new IT projects



vSphere Loyalty Program



- Preserve your existing investment in VMware software while **reducing the overall cost of an EVO:RAIL appliance purchase**
- Ideal for **existing vSphere customers**



- Leverage existing vSphere ENT+ license(s) purchased thru ELA or not
- Need to be under current support contract with either VMware or the QEP from which EVO:RAIL appliance is being purchased



EVO:RAIL Software

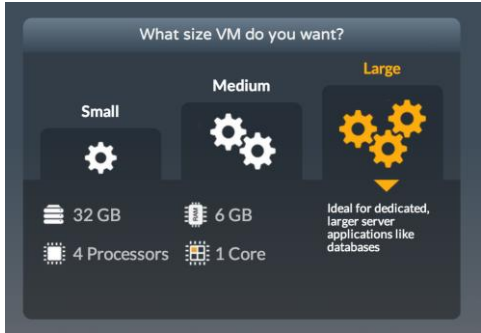
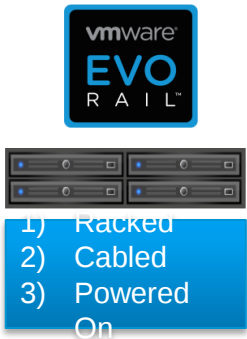
EVO:RAIL™ Simplifies Deployment, Configuration & Management

Physical EVO:RAIL™
appliance
deployment

Basic appliance configuration:
hostnames, IP address pools,
globals and passwords

EVO:RAIL™ engine
configures vCenter,
vSphere, Virtual SAN & Log
Insight

Ready
for
VMs!



Time to Value to first VM in 15 minutes
from power on, once the EVO:RAIL™
appliance is racked and cabled into a
configured TOR network switch



Configuration - Time to Value: Power on to Creating VMs in minutes

Configure EVO:RAIL

Navigate between configuration categories, make changes, then click **Validate**.

Hostnames

Networking

• Passwords

Globals

Are you finished making changes?

Validate

ESXi Hosts

vMotion

Virtual SAN

vCenter Server

VM Networks

Configure networking for ESXi hosts

Starting address for IP pool

192.168.10.1

Ending address for IP pool

192.168.10.4

Netmask

255.255.255.0

Default gateway

192.168.10.254

VLAN ID

Configuration - Time to Value: Power on to Creating VMs in minutes

Configure EVO:RAIL

Navigate between configuration categories, make changes, then click **Validate**.

Hostnames

Networking

Passwords

Globals

Are you finished making changes?

Validate

Other settings

Time zone

UTC

Your existing NTP server(s)

ntp1.eng.vmware.com

Your existing DNS server(s)

10.17.131.1,10.17.131.2

Logs

The section below is optional

Choose logging:

vCenter Log Insight

vCenter Log Insight hostname

loginsight

vCenter Log Insight IP address

10.17.65.251

Proxy settings

The section below is optional

Your existing HTTP proxy server

proxy.vmware.com

Port

3128

Username

Password

vmware®

27

Configuration - Time to Value: Power on to Creating VMs in minutes

Configure EVO:RAIL

Navigate between configuration categories, make changes, then click **Validate**.

Hostnames

Networking

Passwords

Globals

Validation

Are you finished making changes?

Validate!

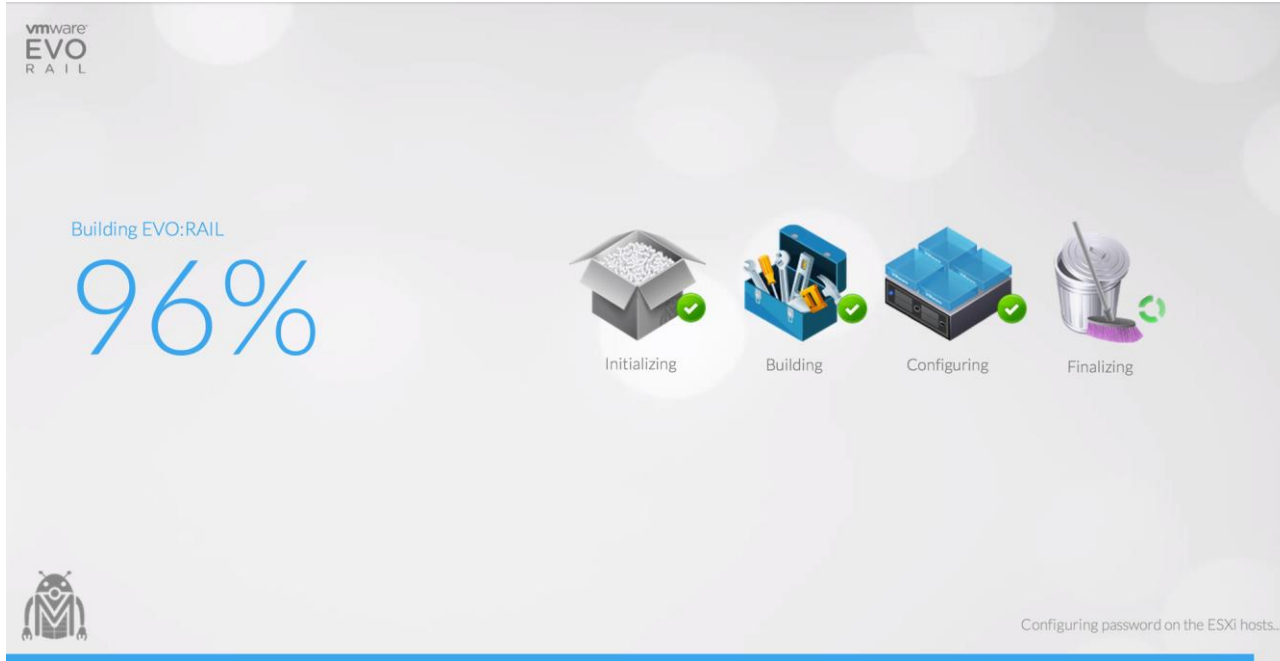


The validation process completed successfully!

I am ready to build EVO:RAIL. This process may take up to ten minutes to complete. After it starts, **the build process cannot be stopped without potential corruption**. Please make sure you are happy with your configuration, then click **Build Appliance**.

Build Appliance

Configuration - Time to Value: Power on to Creating VMs in minutes



Easy VM Creation & Management

- **Intuitive UI** with **simplified VM creation** and lifecycle management
- Grid view of all the VMs across multiple appliances

Create VM called:

Which networks?

Which VM networks should I connect to?

Network Name	VLAN ID
☒ VM Network A	110
☒ VM Network B	120

SELECT NETWORKS

What size VM do you want?

Small

32 GB

4 Processors

Medium

6 GB

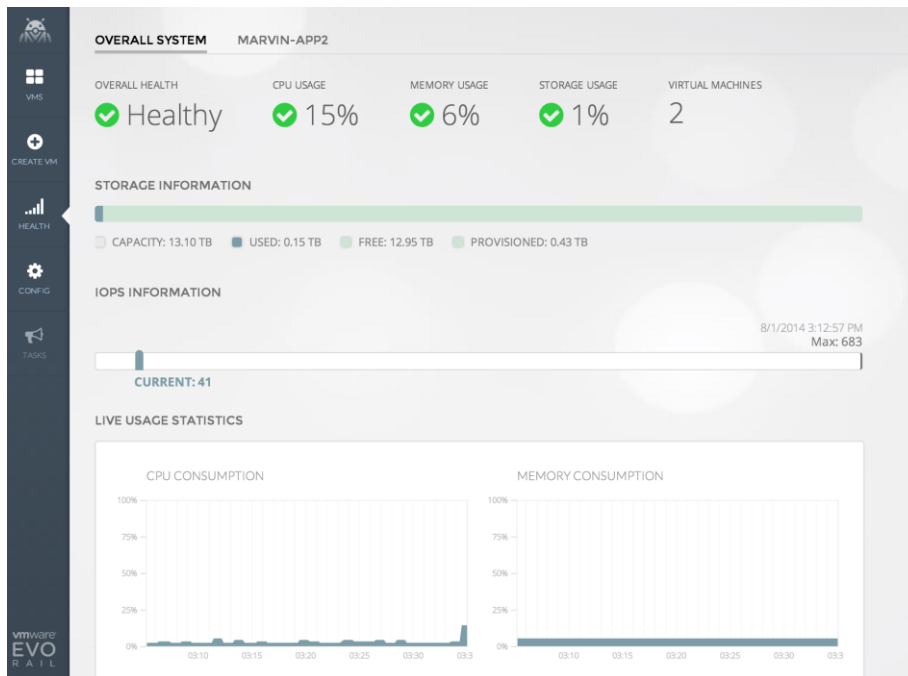
1 Core

Large

Ideal for dedicated, larger server applications like databases

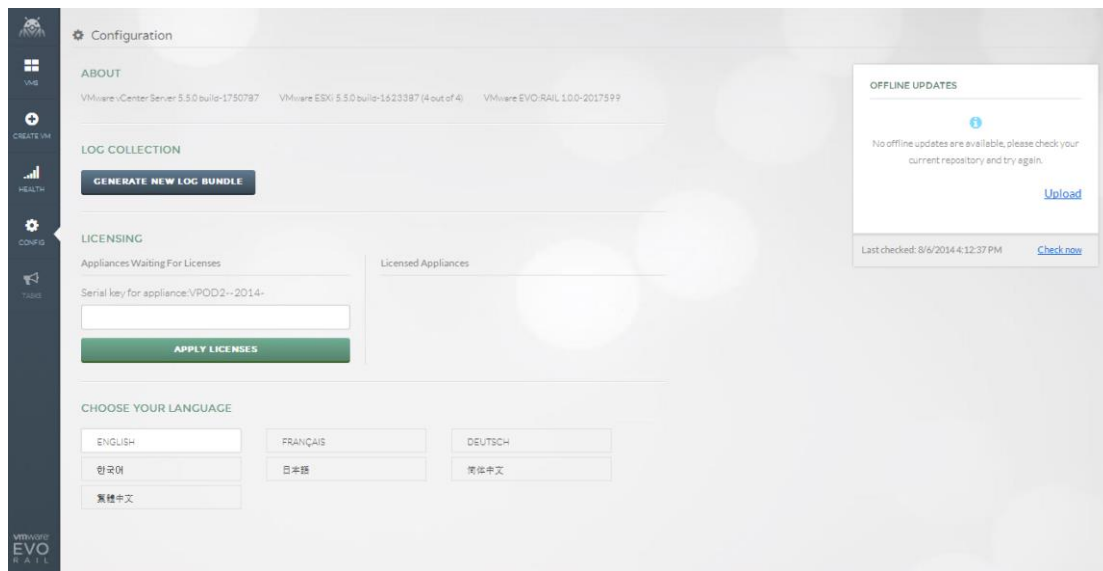
Simplified Hardware Management

- **Hardware Summary Status** of each node, appliance, or cluster
- Warning and fault notifications
- Integration with vRealize Log Insight™

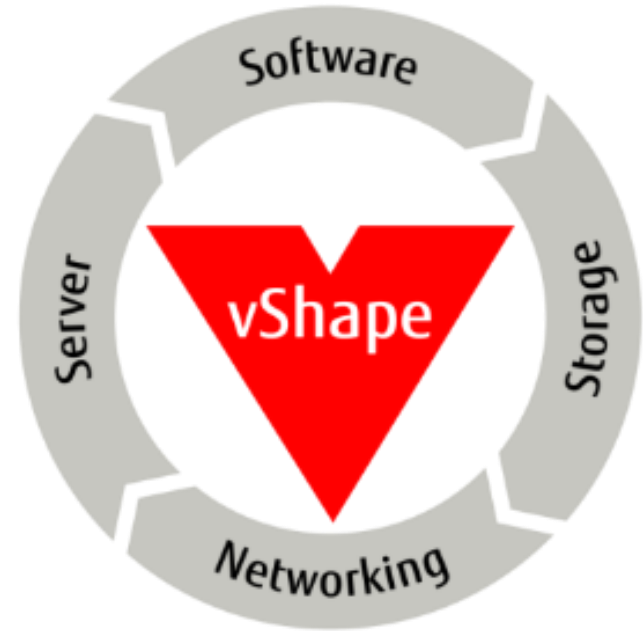


Zero-Downtime Patch and Upgrade Management

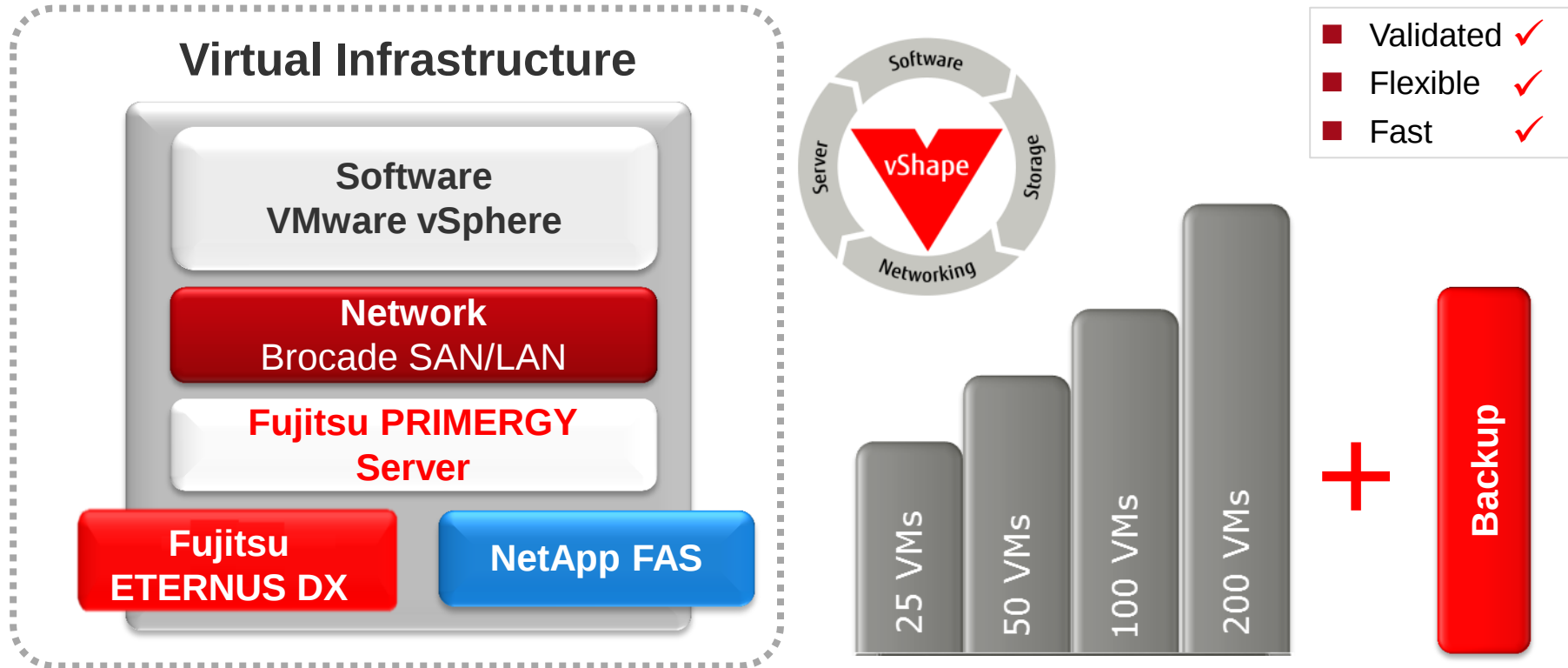
- Easy upgrade and patch with **no workload downtime**
 - Full redundancy as each appliance has 4 independent nodes
- Updates **pre-validated** for the appliance before application



Virtualization Solutions from a Single Provider



vShape è una "Reference Architecture"



Configurazione & Dimensionamento



Fujitsu PRIMERGY Server

VMware Virtualization SW

**Fujitsu Eternus o
NetApp Storage**

Brocade Switches

vShape 25 ECO

vShape 50 ECO

vShape 100 ECO

vShape 200 ECO

vShape 25 HA

vShape 50 HA

vShape 100 HA

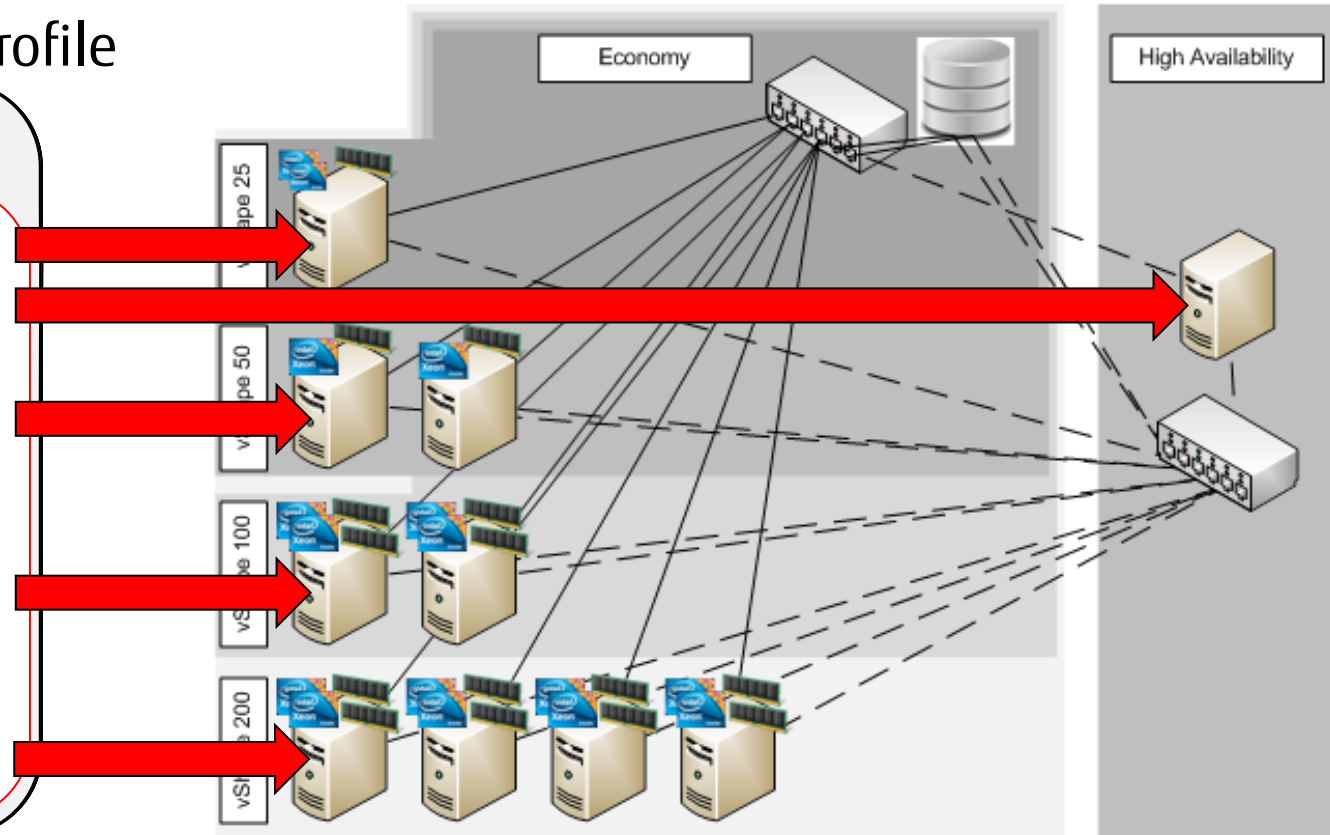
vShape 200 HA

vShape: overview della soluzione

Virtual Machine Profile

vShape 200 HA

- 5 x PRIMERGY RX2540 M1 server con 2 X 10C CPUs e 192 GB memory
- Fujitsu Eternus DX o NetApp FAS2552 con 20 TB Utili e 10000 IOPS
- 2 x Brocade VDX 10GB IP switches
- VMware vSphere e vCenter Standard
- PRIMECENTER M1 42HU Rack



Your fast and easy ramp-up to private / hybrid cloud

FUJITSU Dynamic Infrastructures for VMware vCloud Suite

The VMware logo, with "vmware" in a lowercase, sans-serif font, where the "v" and "m" are joined.

PARTNER NETWORK AWARD

2014 GLOBAL WINNER

Componenti Hardware & Software



Fujitsu Server PRIMEGRY BX900 S2 Blade System

Leader nella categoria per densità,
compattezza e performance

Fujitsu Storage ETERNUS DX200 S3
Disk storage systems soddisfa le necessità
di scalabilità e performance



VMware vCloud® Automation Center™
Accelera il deployment e la gestione
di applicazioni e servizi computazionali

**VMware vCenter™ Operations Manager™
(optional)**
Assicura i livelli di servizio, ottimizzando e
gestendo al meglio le risorse disponibili

**VMware IT Business Management Suite™
(optional)**
Abilita un'accurata misurazione e gestione di
accounting, billing, analisi e reporting delle
virtual machines



Scalabile fino a 18 blades, 1056 TB storage e 600 VMs

Semplici configurazioni raccomandate



Focus Virtualization - vShape

100 VMs

Hardware

- 1 x PRIMECENTER M1 Rack 24HE
- 2 x FC-Switch 6505 12/24P
- 2 x Brocade ICX 6430-24, 24x 1GbE
- 3 x PRIMERGY RX300 S8
- 1 x ETERNUS DX100 S3
 - 1 x DX100 S3 Base Encl 2.5"
 - 36 x HD SAS 600GB 10k2.5

Software

- 1 x VMware vSphere Embedded UFM
- 3 year support 24x7

Focus Private Cloud IaaS - Dynamic Infrastructures for VMware vCloud Suite

300 VMs

Hardware

- 1 x PRIMECENTER M1 Rack 42HE
- 1 x PRIMERGY BX900 S2
 - 2 x PY CB FC Switch 8Gb 18/8 26 (Brocade)
 - 2 x PY CB Eth Switch/IBP 10Gb 18/8
 - 10 x PRIMERGY BX924 S4
- 1 x ETERNUS DX200 S3
 - 1 x DX200 S3 Base Enclosure
 - 4 x DX1/200 S3 Drive Enclosure
 - 110 x HD SAS 600 GB 10k 2.5

Software

- 16 x VMware vCloud Suite STD
- 4 x vSphere Enterprise Plus
- 1 x VMware vCenter STD
- 3 year support 24x7

600 VMs

Hardware

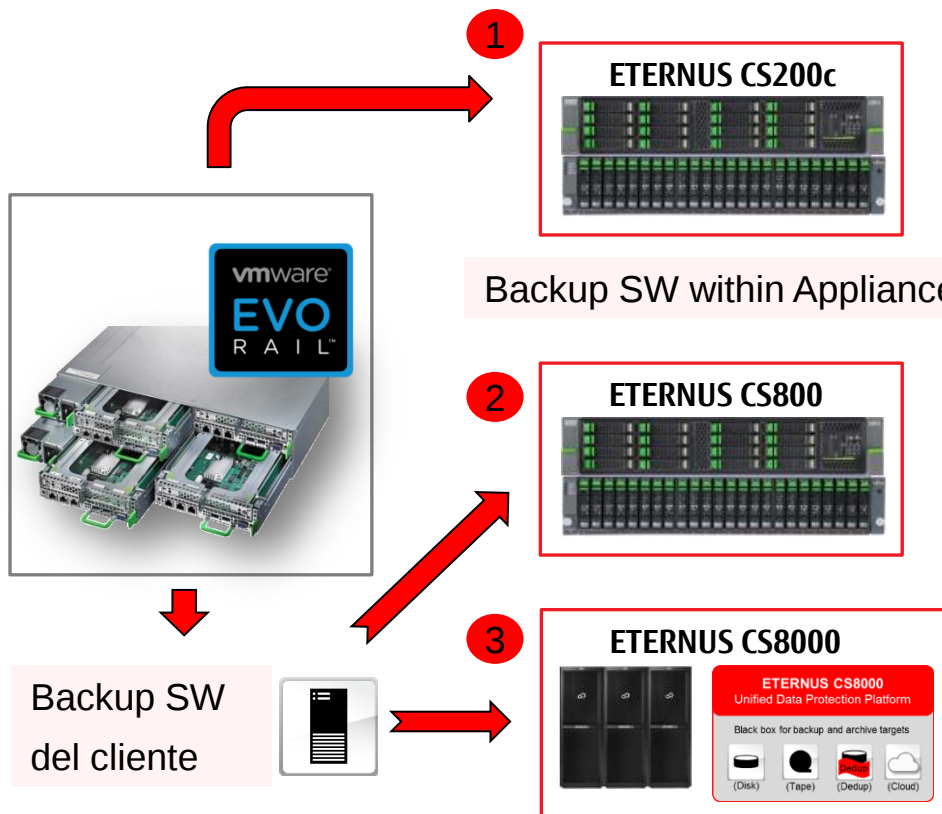
- 1 x PRIMECENTER M1 Rack 42HE
- 1 x PRIMERGY BX900 S2
 - 2 x PY CB FC Switch 8Gb 18/8 26 (Brocade)
 - 2 x PY CB Eth Switch/IBP 10Gb 18/8
 - 18 x PRIMERGY BX924 S4
- 1 x ETERNUS DX200 S3
 - 1 x DX200 S3 Base Enclosure
 - 8 x DX1/200 S3 Drive Enclosure
 - 210 x HD SAS 600 GB 10k 2.5

Software

- 32 x VMware vCloud Suite STD
- 4 x vSphere Enterprise Plus
- 1 x VMware vCenter STD
- 3 year support 24x7

*list prices including maintenance

Opzione di Data Protection: ETERNUS CS



1.) Backup Appliance Integrato

- » Include SW e licenze CommVault Simpana
- » Per il backup di dischi e file archiving fino a 96 TB
- » Funzioni di Deduplica

2.) Target Backup Appliances

- » Bassi costi di backup su disco attraverso la deduplica dei dati e funzionalità di replica

3.) Appliance unificato per la Data Protection

- » Virtualizzazione completa e consolidamento delle infrastrutture di backup e archiviazione



FUJITSU

shaping tomorrow with you

FUJITSU

shaping tomorrow with you

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Thank you for listening