

# ***“A noi poverelli le matasse paion più imbrogliate, perché non sappiamo trovarne il bandolo”***

Architetture ed infrastrutture abilitanti: le esperienze di SUSE  
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# **agenda**

**Chi è SUSE e cosa c'entra con SAP**

**La matassa**

**Idee concrete per sbrogliarla**

**Conclusioni**



# Chi è SUSE e cosa c'entra con SAP



# Chi è SUSE





# Chi è SUSE



**25+**

Years of Open  
Source Engineering  
Experience

**10**

Awards in  
2016 for SUSE  
Enterprise  
Storage

**+8%**

SUSE Growth  
vs. Other Linux  
in 2015\*

**1st**

Enterprise  
Linux  
Distribution

**2/3+**

Of the Fortune  
Global 100 use  
SUSE Linux  
Enterprise

**50%+**

Development  
Engineers

**1st**

Enterprise  
OpenStack  
Distribution



## Unrivalled Relationship Making SUSE the Smart Choice for SAP Workloads

- 18 years of joint testing and development at the SAP LinuxLab
- Joint collaboration on Cloud Foundry
- SUSE Linux Enterprise is the leading platform for SAP workloads on Linux
- Seamless support from SAP and SUSE
- SUSE Linux Server for SAP Applications delivers built-in high availability, superior performance and security
- First and leading OS for SAP HANA
- The platform powering SAP HANA Enterprise Cloud
- SUSE OpenStack Cloud powers SAP's Cloud platform

# SAP SE runs SUSE



## SAP HEC & SAP Cloud Platform

6.600 server

16.000 VMs

## SAP SE internal systems

100.000 VMs

50 datacenter

System uptime: **99,999%**



# La matassa



# Le 9 tecnologie abilitanti per Industry 4.0

Secondo Boston Consulting Group

1. Advanced manufacturing solution
2. Additive manufacturing
3. Augmented reality
4. Simulation
5. Horizontal & vertical integration
6. Industrial internet
7. Cloud
8. Cyber security
9. Big data analytics

**Impatto diretto sull'IT**  
**(*smart services*)**

# SAP's strategy to address data and complexity challenges

**S/4HANA is becoming the common platform that enables transformation to a digital business for SAP customers**

- One user interface for SAP applications: **Fiori**
- One database for transactions and analytics: **SAP HANA**
- One operating system: **Linux**
- Three deployment options: **On premise, Cloud, Hybrid**



***All run on SAP HANA and Linux***



# L'impatto pratico sull'IT

Di più, più in fretta e in continuo cambiamento e in massima sicurezza

***L'IT come servizio interno non basta, l'IT è dentro a tutto Industry 4.0***

- (quasi) Zero Downtime
  - Meno finestre di manutenzione
  - Maggiore affidabilità
  - Maggiore sicurezza (qualcuno ha detto CyberSecurity?)
- Prestazioni IT  $\geq$  a quelle dell'automazione di fabbrica
  - (sembra facile, ma si parla di esperienza di decenni (IT) contro secoli (meccanica))
- Flessibilità, ovvero “nulla è per sempre”

**Solo il software può *salvare* l'infrastruttura IT**

# SUSE Software-Defined Infrastructure

An Open, Flexible Infrastructure Approach



## Management

### Operations, Monitor and Patch

- SUSE Manager
- openATTIC

### Cluster Deployment

- Crowbar
- Salt

### Orchestration

- Heat
- Kubernetes

## Application Delivery



### Custom Micro Service Applications

Kubernetes / Magnum



### Platform as a Service

Cloud Foundry



### Containers

SUSE CaaS Platform



### Private Cloud / IaaS

SUSE OpenStack Cloud



### Public Cloud

SUSE Cloud  
Service  
Provider  
Program

## Software Defined Everything



### Virtualization

KVM, Xen, VMware,  
Hyper-V, z/VM



### Storage

SUSE Enterprise  
Storage



### Networking

SDN and NFV



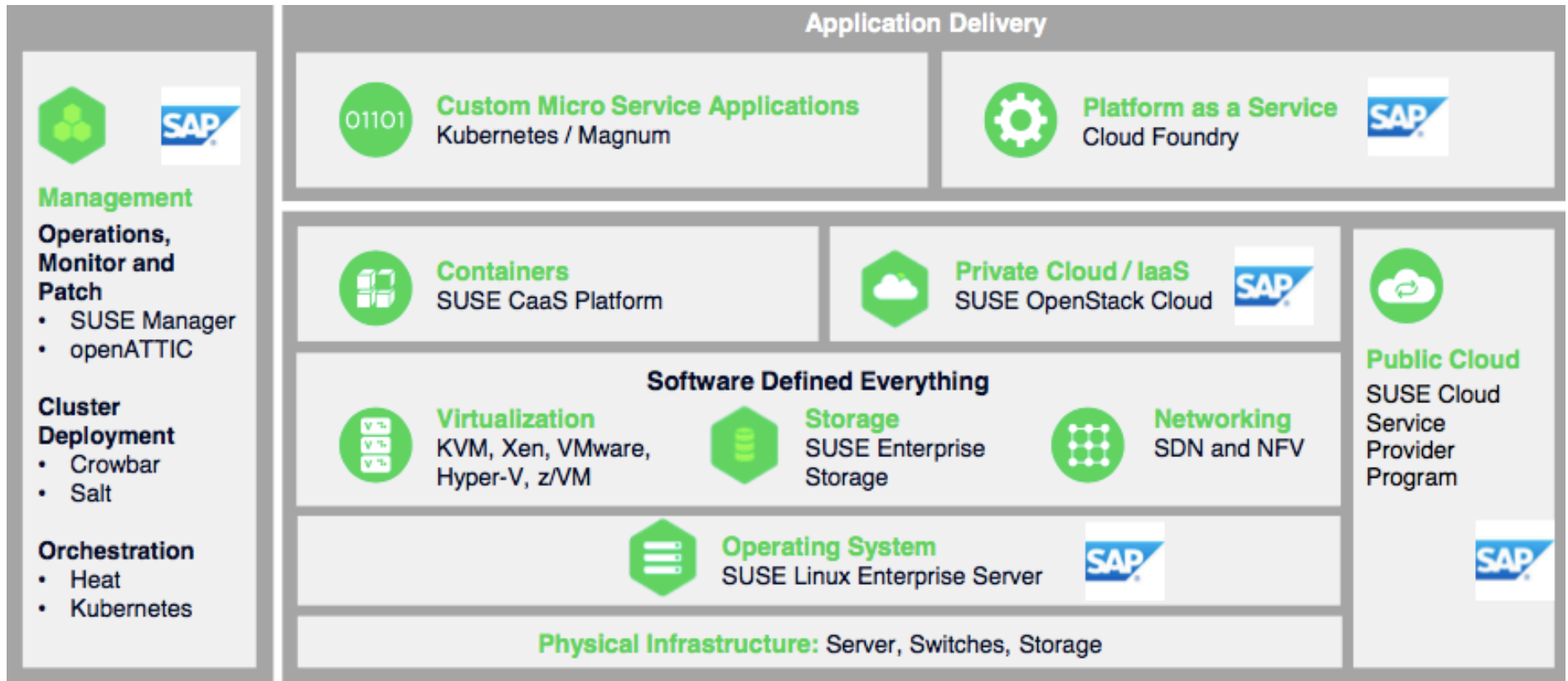
### Operating System

SUSE Linux Enterprise Server

**Physical Infrastructure:** Server, Switches, Storage

# SUSE Software-Defined Infrastructure

An Open, Flexible Infrastructure Approach, SAP included

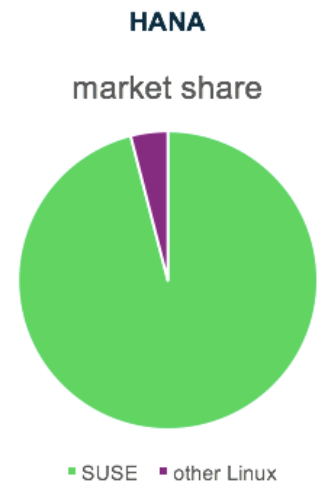
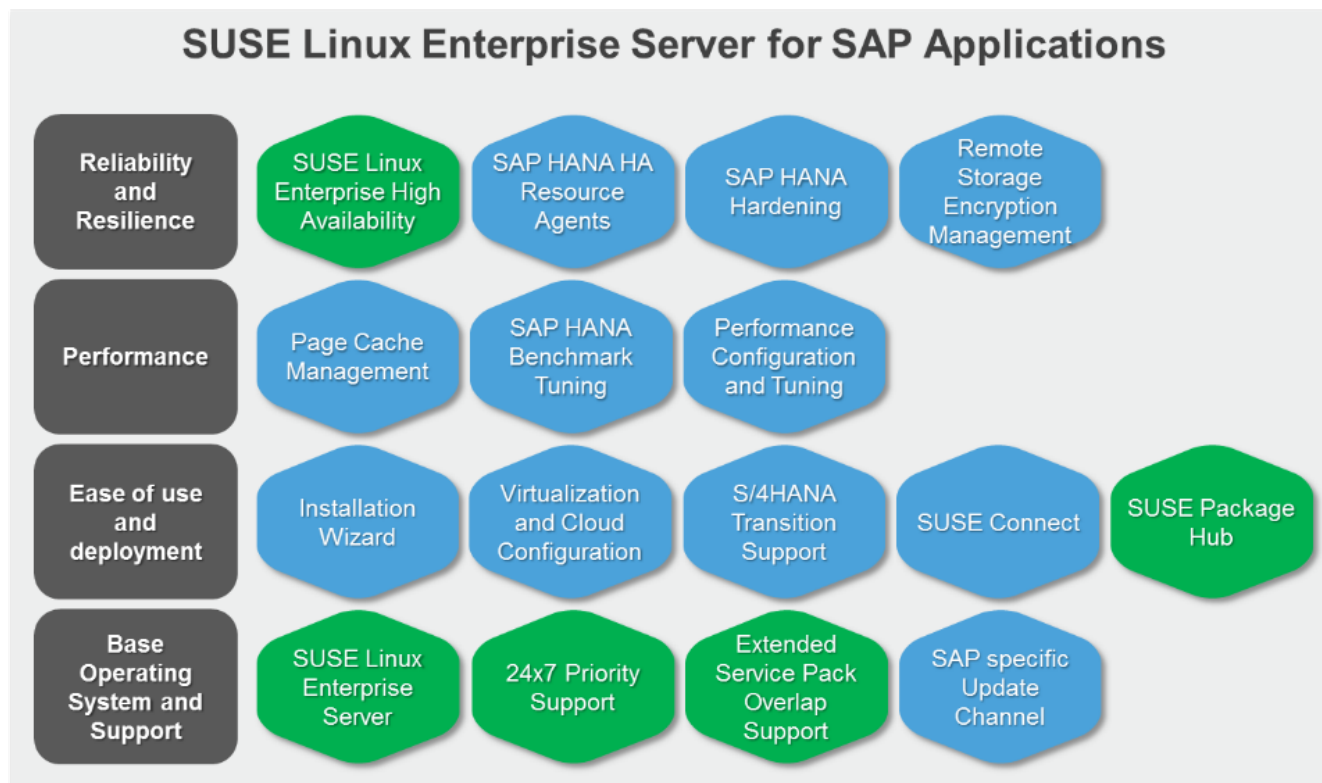




**Idee concrete per sbrogliarla**

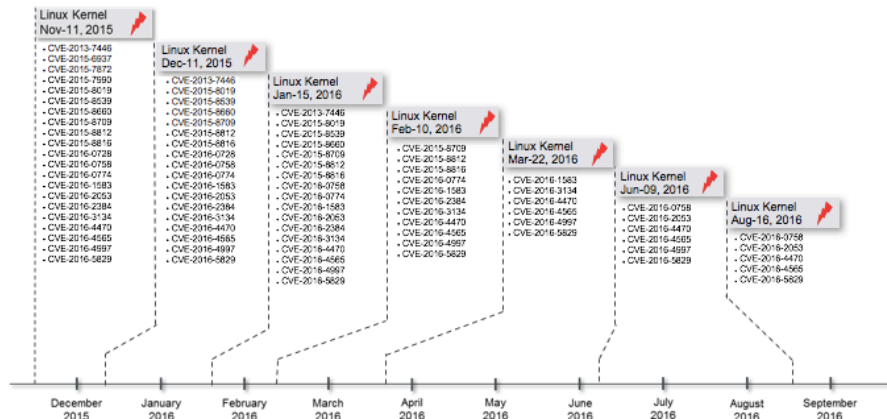
# Contributo #1: IL Linux per SAP

## SUSE Linux Enterprise Server for SAP Applications



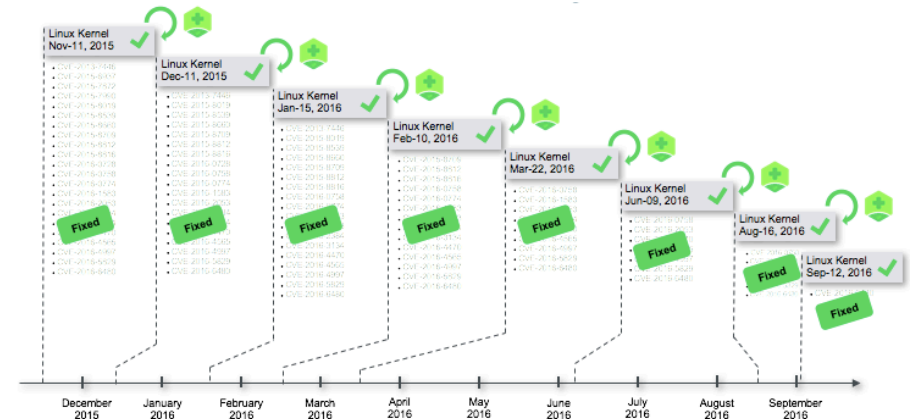
# Contributo #2: zero downtime e sicurezza

## Senza Live Patching



*Mi prendo dei rischi o chiedo un riavvio al mese?*

## Cliente SUSE con Live Patching



paradosso risolto: sicuro e senza fermi

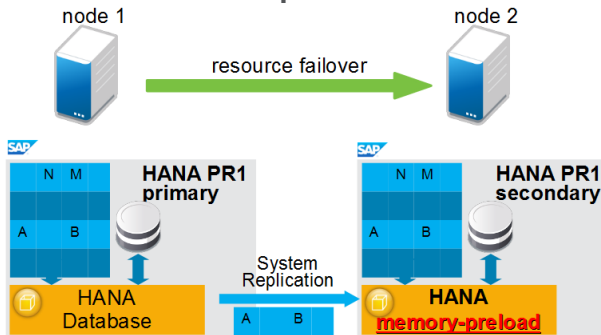
Anche per SAP HANA



# Contributo #3: alta disponibilità

Maggiore affidabilità per SAP HANA e Netweaver con SLES4SAP

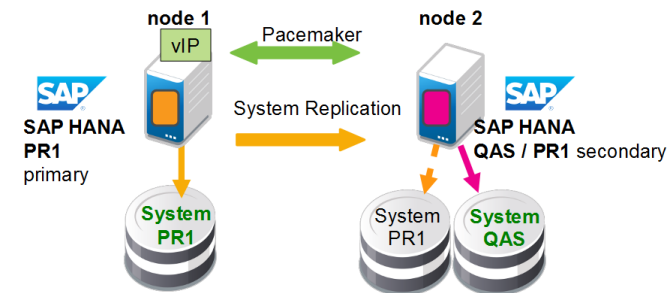
## Performance Optimized



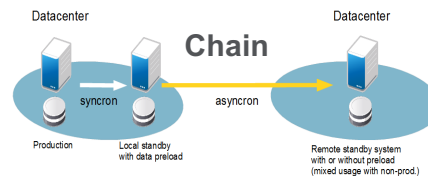
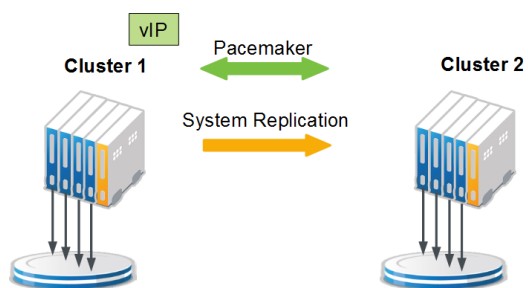
**HANA SR: protegge dati**  
**SUSE HA: failover automatico**

**99,999% uptime**

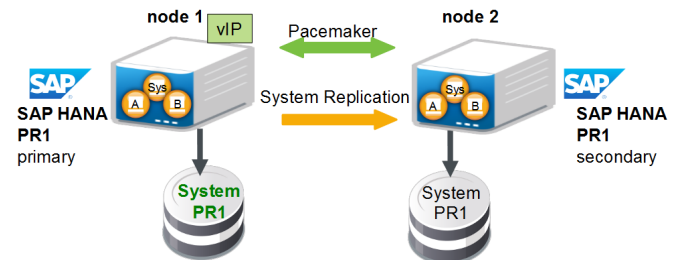
## Cost Optimized



## Scale-Out



## Multi Tenancy (MCD)

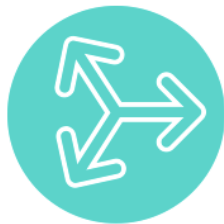


# Contributo #4: Gestione Centralizzata

Tengo tutto sotto controllo, in tempo reale, con SUSE Manager



Cost



Complexity

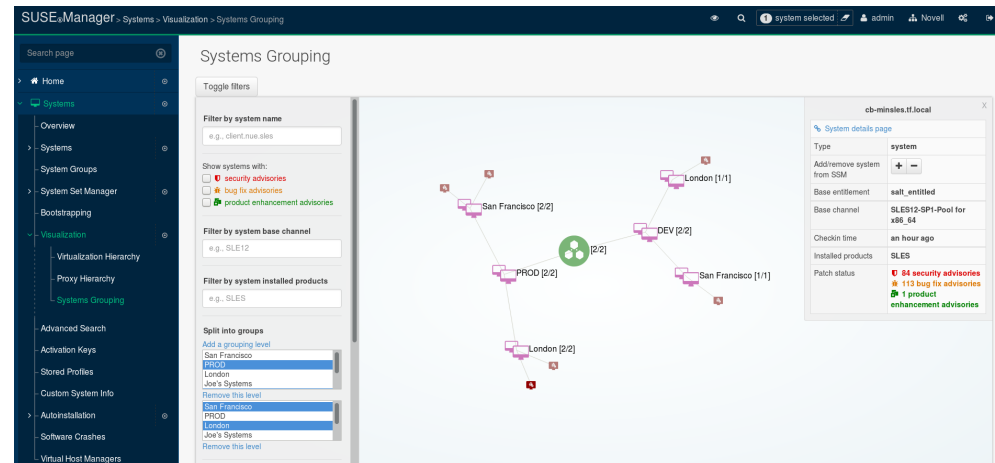


Compliance

I 3 mostri da domare

## SUSE Manager

- Patching
- Configuration mgmt
- Sicurezza
- automazione



# Contributo #5: cloud

In casa, con SAP, ibrido, con AWS, con Azure, con Google...

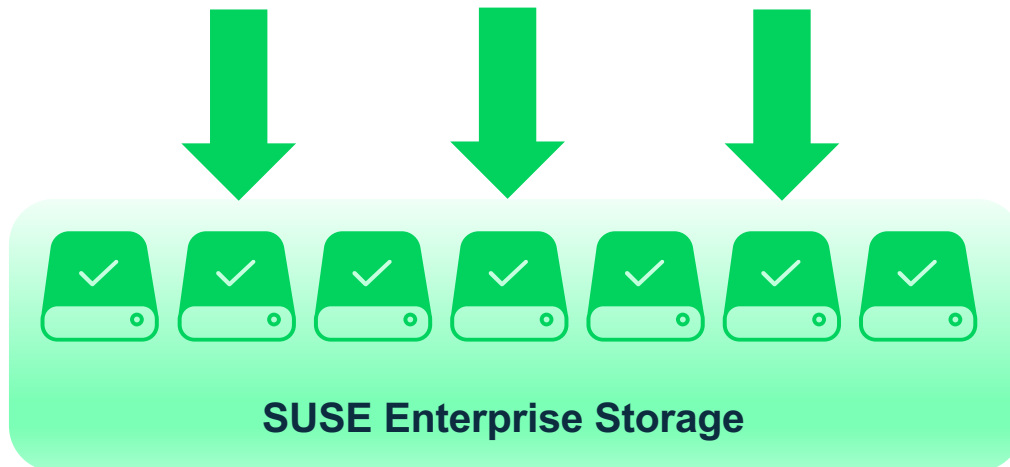




# Contributo #6: storage elastico e illimitato

Storage realizzato col software e hardware *industry standard*

*“ogni giro di collaudo di un motore per auto genera 5 TB di dati da analizzare: non possiamo tenerli su storage classico”*



Certificato anche per SAP HANA  
TDI

# Conclusioni

# Clienti SUSE che hanno già iniziato



DAIMLER



BOSCH



Consol



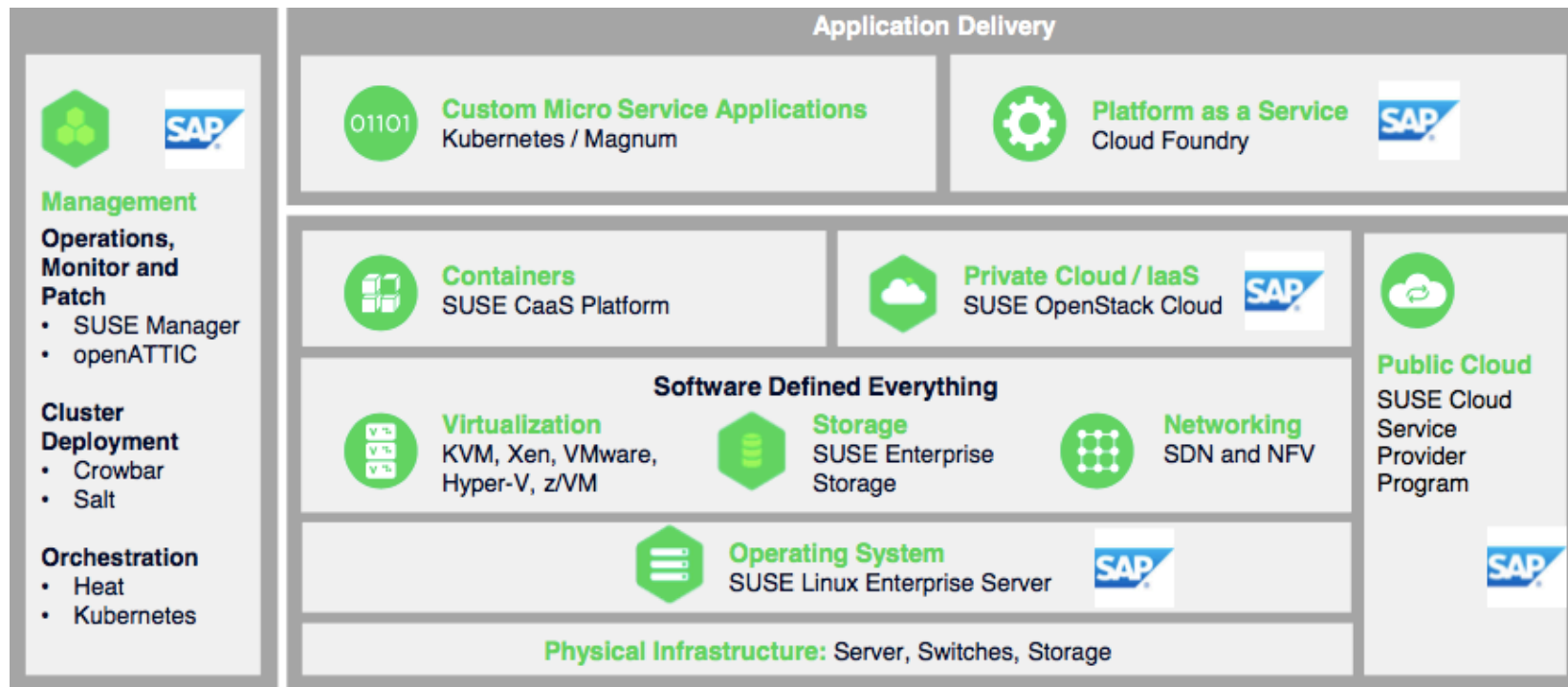
CALZEDONIA

UNITED COLORS  
OF BENETTON.

FAAC

# Il bandolo (infrastrutturale) esiste...

...e supporta SAP e Industry 4.0: si chiama software-defined infrastructure e SUSE è uno dei protagonisti.







We adapt. You succeed.

# Grazie!

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