



SAP
REDEFINED

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REDEFINE IT for SAP with EMC Hybrid Cloud strategy

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Agenda

- EMC Hybrid Cloud model
- XtremIO is changing paradigm: "All flash persistent layer"
- HANA TDI: How to match SAP innovation and IT operations
- Wrap-up and Q&A

* [Source: CRN News](#)

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* [Source: CRN News](#)

What We Hear From Our Customers

"New x86 platforms deliver more SAPs and for less budget than my old infrastructure"

"I'm concerned about the future of the UNIX platform underpinning my SAP applications"

"I want to increase infrastructure utilization for SAP"

"I need to improve agility and accelerate deployment of new SAP environments"

"I am under pressure to reduce SAP costs"

"How to integrate HANA in our standard IT operations?"



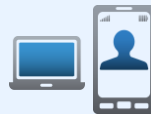
Transform Your Business into an "Innovation Factory"

EMC transforms to Federation



Business Challenges:
Today **Faster, Cheaper and @ World scale**

3rd platform IT Agenda



Provide Access To All Applications & Data Through **Mobile Devices.**



Use **Agile Development** To Build New Customer-Centric Applications.



Build A **Data Lake** To Deliver Insights And Applications On All Data.



Move To A **Software-Defined Data Center** Infrastructure And Expand It To A Hybrid Cloud.



Use **Adaptive, Data-Driven Security** To Rapidly Respond To Emerging Threats.

SAP Customers Are Transforming

EMC IT transforming through Propel project



Business Agility

Mobile

Sense & Respond

Real-time



"Let's be clear on HANA.

HANA not only represents the intellectual renewal of SAP, it is now the platform for every single thing the SAP company will do going forward."

Bill McDermott, CEO, SAP
Sapphire Conference Keynote, May 2013 *

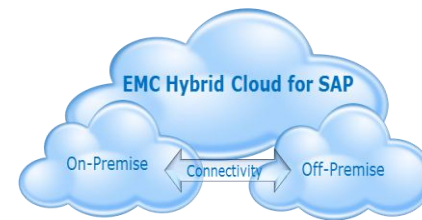
* [Source: CRN News](#)

ITaaS

Agile

Responsive

Resilient



EMC IT Propel Operational Achievements:

"maintenance spending has dropped from 80 to 58 percent, enabling an increase in innovation spending from 20 to 42 percent.

Next up: Delivering IT-as-a-Service

EMC IT Transformation

[ESG Study March 2013](#)

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Why EMC Hybrid Cloud for SAP

Simplify: Delivering ITaaS for SAP

Respond Faster to Drive New Revenue *

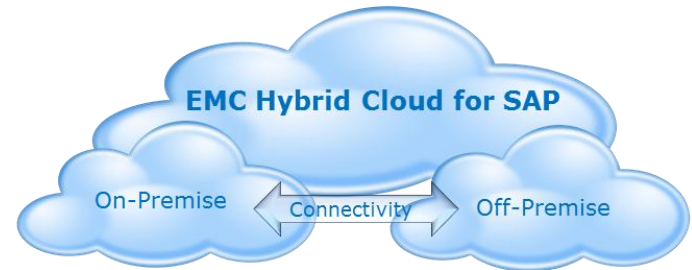
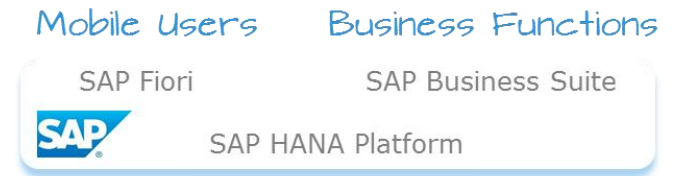
- Faster time to market for "consumer grade" applications
- Real-time analytics and reporting
- Enhancing customer experience real-time

Refocus Toward Business Value **

- Ensuring optimal performance for SAP
- Expanding IT Self-Service Portfolio
- Financial Transparency

Transform "Shadow IT" into a Business Asset

- Monitor and manage hybrid SAP workloads
- Maintain enterprise security and control
- Reduce risk/complexity for SAP projects and data



Developers - Administrators - Operators

* SAP HANA Customer: increased data reporting speeds by as much as 420 times, making granular data available in minutes rather than days ([Source SAP](#))

** 2013 Forrester Study: IT spend 72% of budget keeping the lights on.

Rethinking IT Services for SAP

Moving towards a Service Broker Model

Business-centric Services

Applications as-a-Service

SAP Users: self-service provisioning of an application ready for use

DB as-a-Service (SAP Business Suite and HANA)

SAP Functional Basis Developers: For analytical workloads & applications

Platform as-a-Service

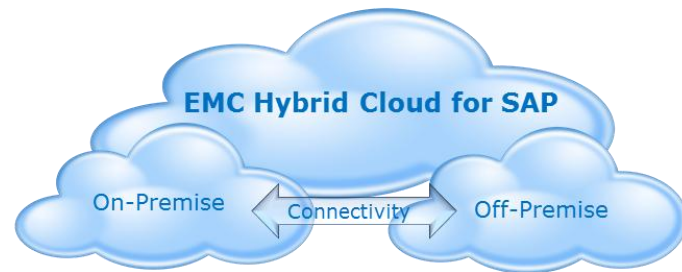
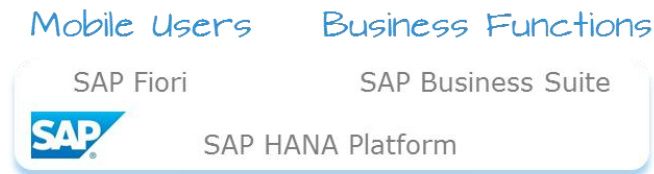
SAP App Developers: SAP HANA for “consumer-grade” apps

Infrastructure as-a-Service

SAP Admins: provisioning compute/network/ storage resources for application installation and configuration

Shared Services

Backup and Restore
Disaster Recovery



Developers - Administrators - Operators

Building Block Approach

Enabling consumption and scale

Foundation

Paths to deployment

- Converged Infrastructure
- Build your own
- VSPEX

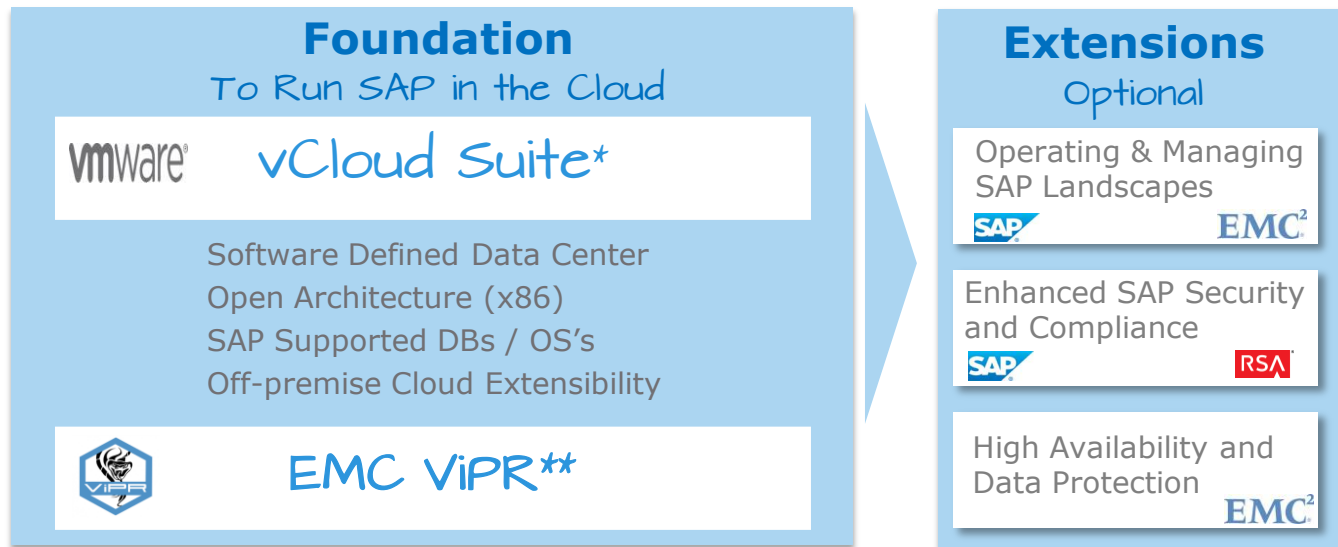
Extensions:

Managing SAP Landscapes
SAP and RSA GRC
Business Continuity

Deep

Integration:

SAP / EMC / VMware



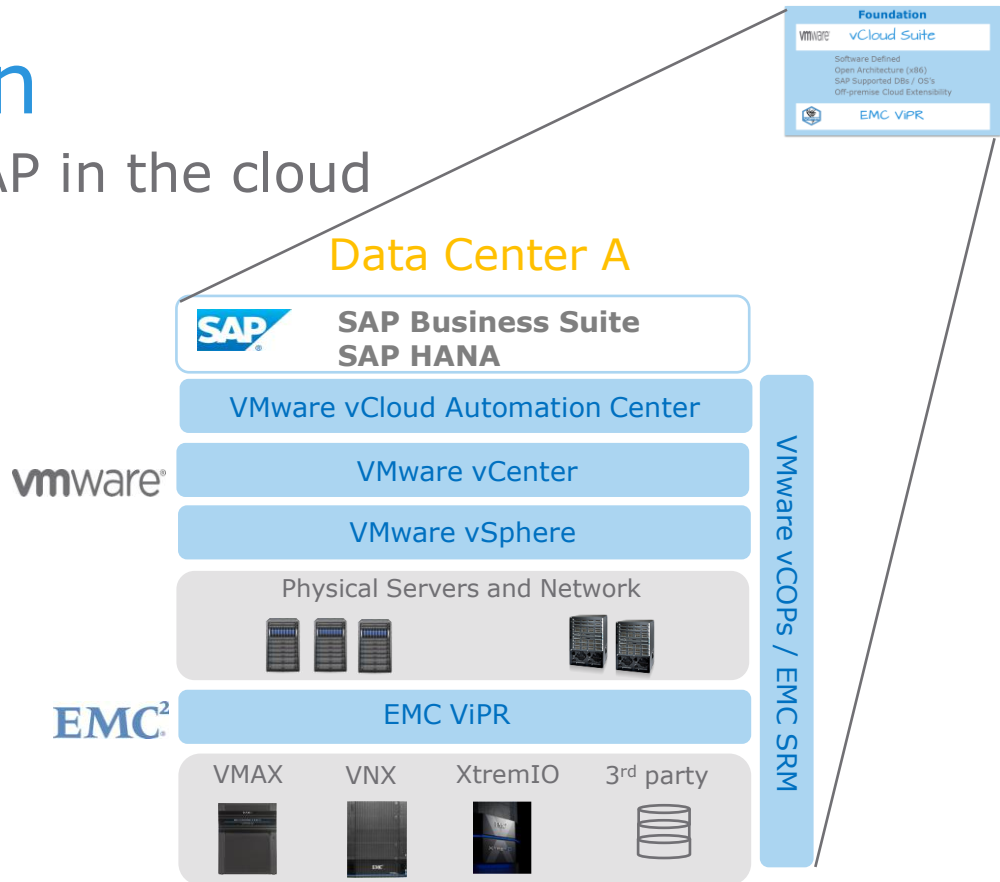
* vCloud Suite & SSDC: reduces infrastructure CAPEX by 70% (Source Taneja Group-2014)

** ESG Solution Impact Analysis 2013: "With ViPR, we can bring new applications online in near real time instead of hours or days." - Eric Mowry, Director of Automation and Tools, Secure-24

Foundation Solution

Key capabilities for running SAP in the cloud

-  **Self-Service**
VMware vCloud Automation Center Self-service Portal
-  **Automated Provisioning** (infrastructure)
Integrations between VMware vCloud Automation Center / vCenter Orchestrator / vCenter / EMC ViPR
-  **Monitoring**
Integrations between EMC SRM, VMware vCenter Operations Manager & SAP plugin
-  **Metering & Chargeback**
VMware vCloud Automation Center & IT Business Management Suite
-  **Secure Multi-Tenancy**
VMWare vCloud Automation Center



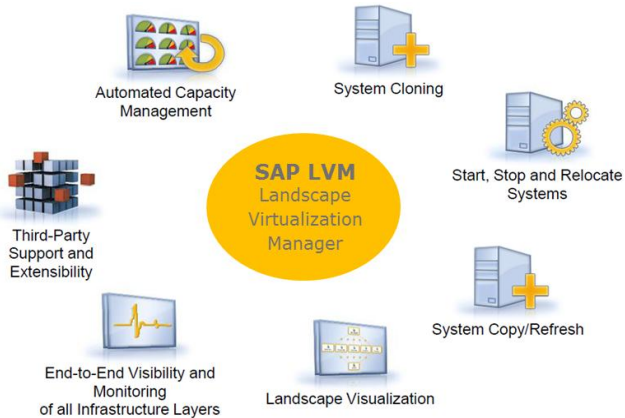
Deployed On-Premise or Off-premise

Extending the Foundation

Operating & Managing SAP

SAP Automation & Operations

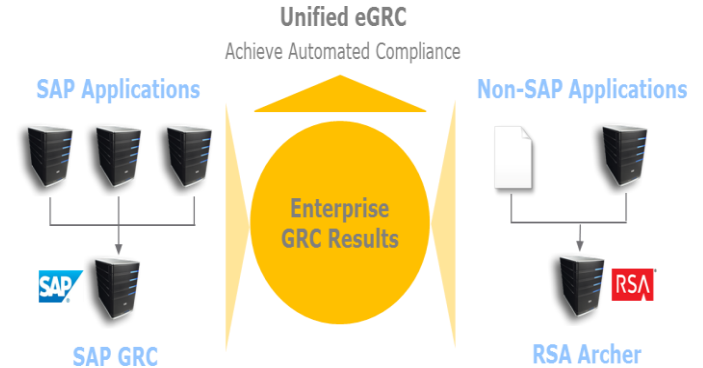
Integration with SAP LVM
System refresh/ copy/ clone



Enhanced Security

Security & Compliance

Unified GRC
SAP GRC/ RSA Archer integration

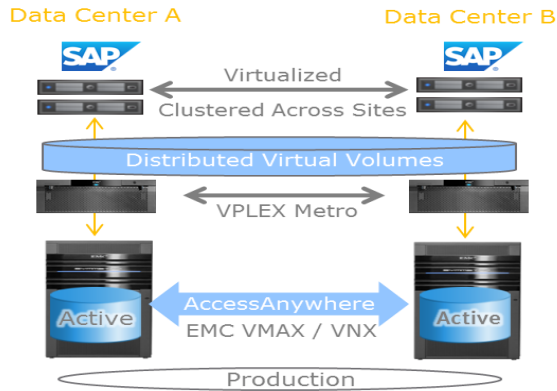


Solutions for SAP

High Availability and Data Protection

High Availability

Application mobility: Local - Metro



Extensions

Operating & Managing SAP Landscapes



Enhanced SAP Security and Compliance



High Availability and Data Protection

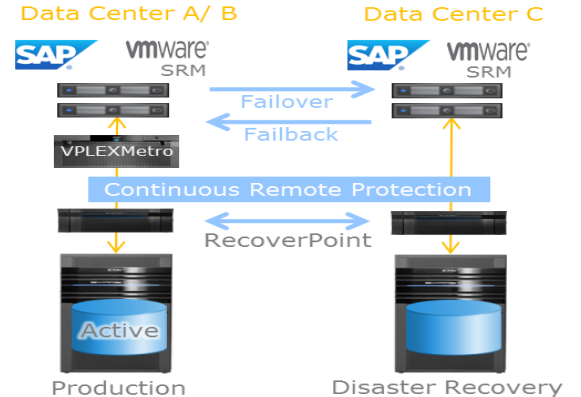


Data Protection

More full backups / longer retention
Reduced footprint

Disaster Recovery

Application consistency - Fully automated



SAP Users

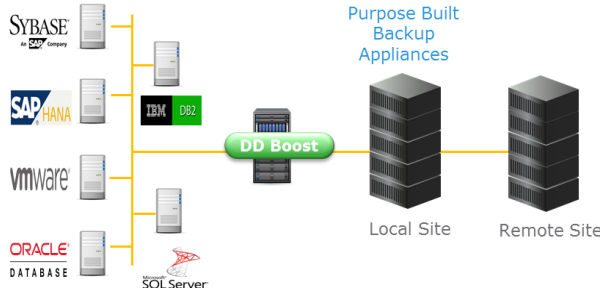


Basis Admin
Developers
Business Functions

IT Operations



Backup Admin



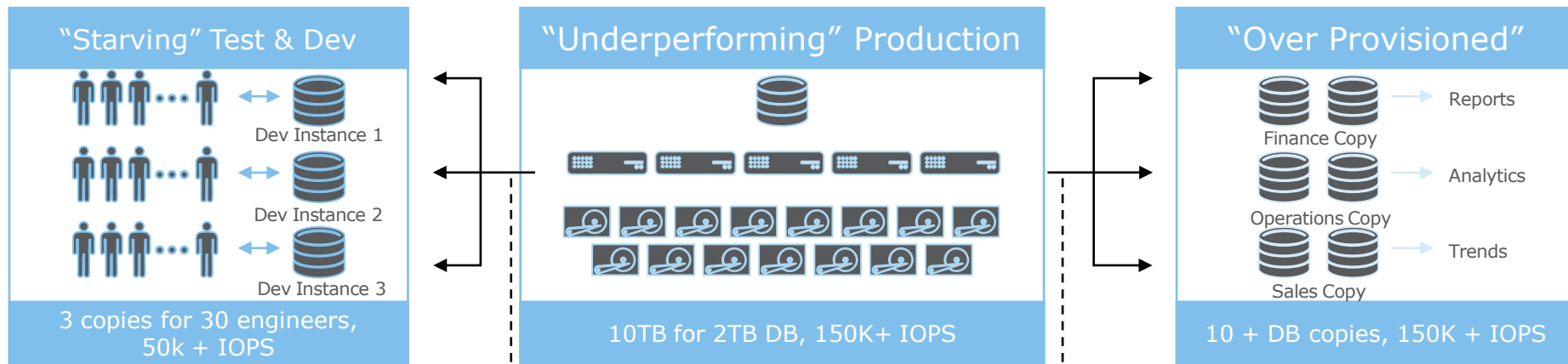
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Traditional Data Services for SAP

Complex – Costly – Siloes



14+ DB copies to manage 36TB of storage to support 2TB of application data

Non-production Copies

Production Support
QAS/ Dev / Test Training

SAP Business Suite

(ERP / SCM / CRM / HR)

SAP BW/ Business Objects

(Reporting / Planning / Analysis)

Application Siloes to Manage "Hotspots"

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Time to Redefine SAP Infrastructure

XtremIO "All Flash" Array

1

Performance

Breakthrough
Consistent
Low-Latency
Performance



2

Consolidation

Dev/Test
BI/Analytics
SAP Landscapes



3

Lowest TCO

Storage
Servers & Licensing
OPEX



4

Simplicity

No Complex Setup
No Tuning



Consolidating SAP Data Footprint

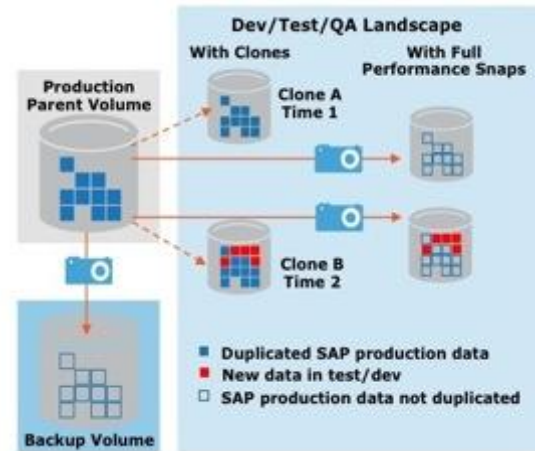
Space savings of a snap with performance of a clone

Large Enterprise SAP Landscapes

- SAP Best Practice recommendation:
 - full copy to support their integration, regression, stress, day-in-the-life, and production-support testing efforts

With XtremIO Snapshots

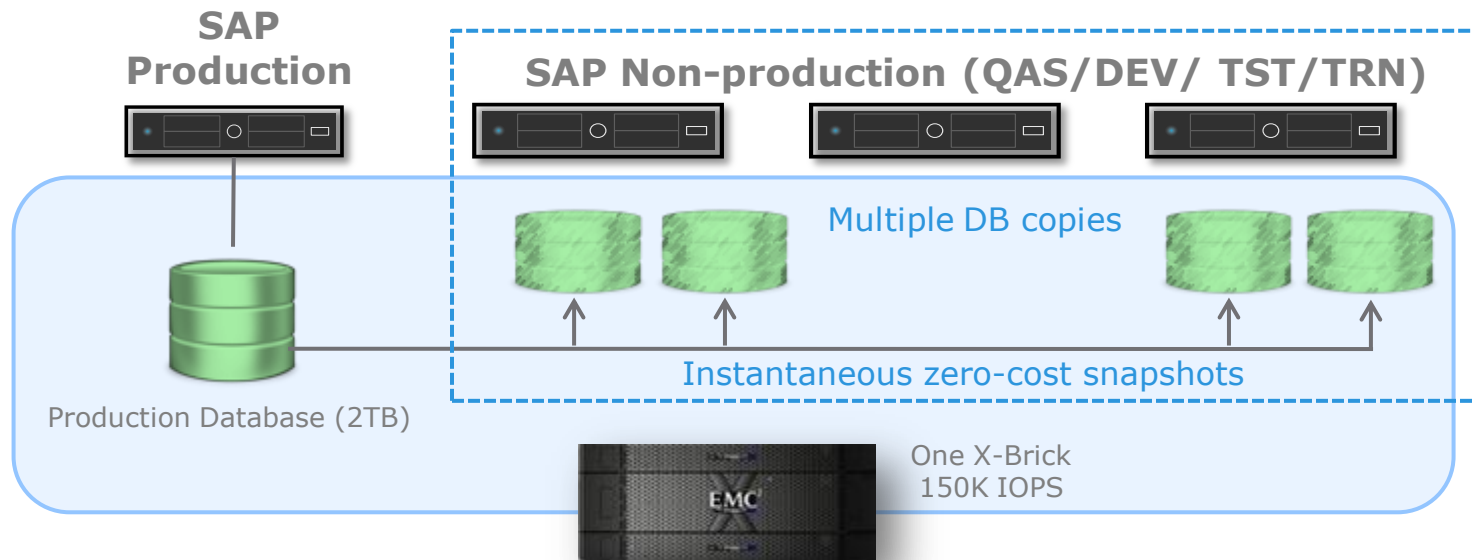
- Test on low space-consuming copies
 - with no fear of performance impact associated with traditional storage snaps



*SNAPSHOTS WITH SPACE
EFFICIENCY AND PERFORMANCE!*

SAP Landscapes: Non-Production Copies

Improved flexibility / enable faster application deployment



*Unlimited SAP non-Production copies anytime!
Same storage class as production*

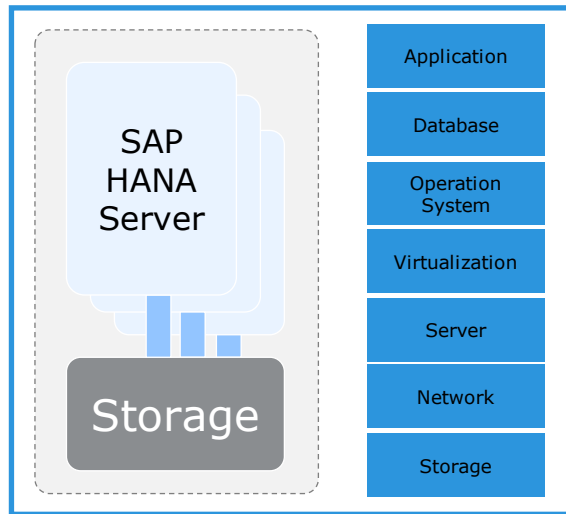
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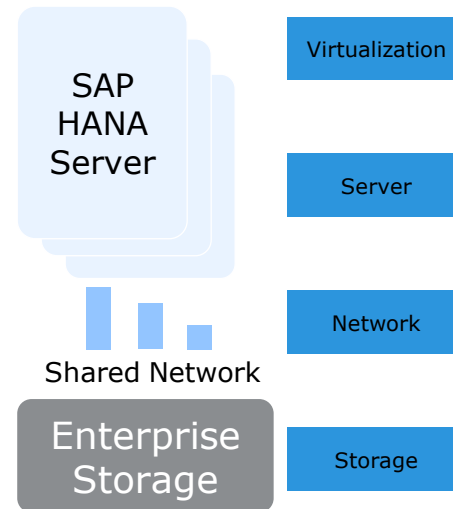
[* Source: CRN News](#)

Hardware and Deployment Options

Introducing SAP HANA Tailored Data Center Integration



Appliance delivery approach



SAP HANA tailored data center integration

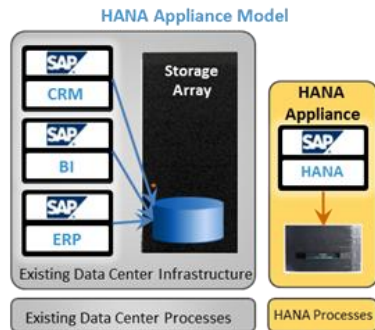
Compared to the appliance delivery approach, SAP HANA tailored data center integration is an additional more open and flexible approach to serve your needs regarding the integration of SAP HANA in the data center.

SAP HANA Tailored Datacenter Integration

Leveraging your existing investments and datacenter practices

SAP Certified HANA Appliance Model

- Server, network and storage are SAP-certified together with scalability chosen by the server vendor
- SAP HANA software is installed by server vendor
- The appliance is installed and supported by server vendor
- **All infrastructure is dedicated to a single HANA system**



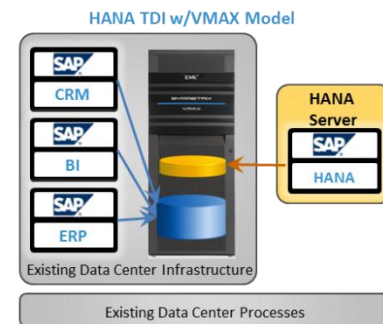
Advantages:

- Simple: Fast deployment of defined configurations
- Single contact for support
- SAP certified out-of-box

vs.

New Tailored Datacenter Integration Model

- Storage is certified separately
- Choice in terms of server vendor
- Integration and installation done on customer site
- Customer retains responsibility for support of the configuration
- **Infrastructure can be shared with non-HANA workloads**

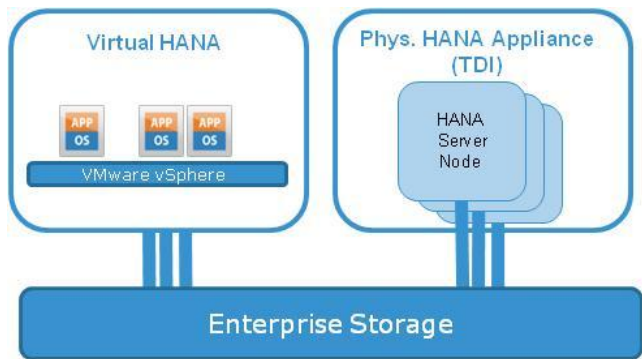


Advantages:

- ROI: use existing storage investment
- Low IT Impact: Use existing procedures
- Greater scalability

EMC Symmetrix VMAX for SAP HANA

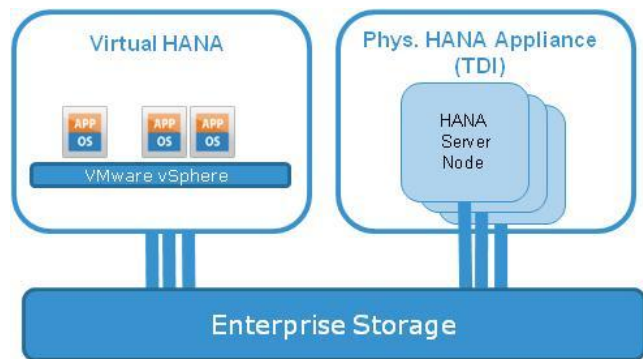
Certified for SAP HANA Tailored Datacenter Integration



- Highest Scalability in a single array
- Integrates HANA proven synchronous Replication with SRDF/S
- HANA asynchronous replication with SRDF/A and SRDF/Star also available!
- TimeFinder can be used for backup, system clone/refresh
- For Physical and Virtual configs

EMC VNX for SAP HANA

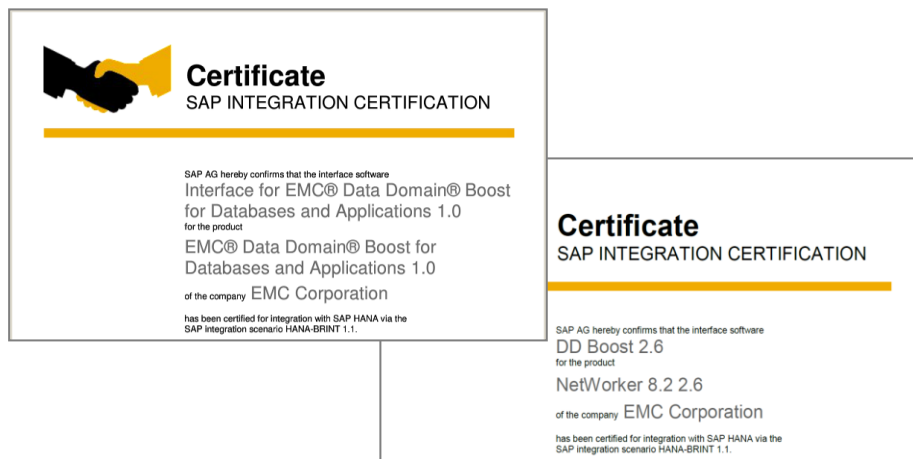
Certified for SAP HANA Tailored Datacenter Integration



- Best Price / Performance in the market
- Unified block/file
- HANA storage connector: block only
- Replication addressed indirectly
- Usage for Physical or virtualized HANA Systems
- First 3TB SoH HA appliance speed

DD Boost & NetWorker for Databases

Empower the SAP HANA System Administrator



- Source deduplication available straight from the SAP HANA Studio
- Certified for SAP „HANA Backint Interface“
- Generally Available
- SAP Partner info [here](#)

Administration Guide can be downloaded here:

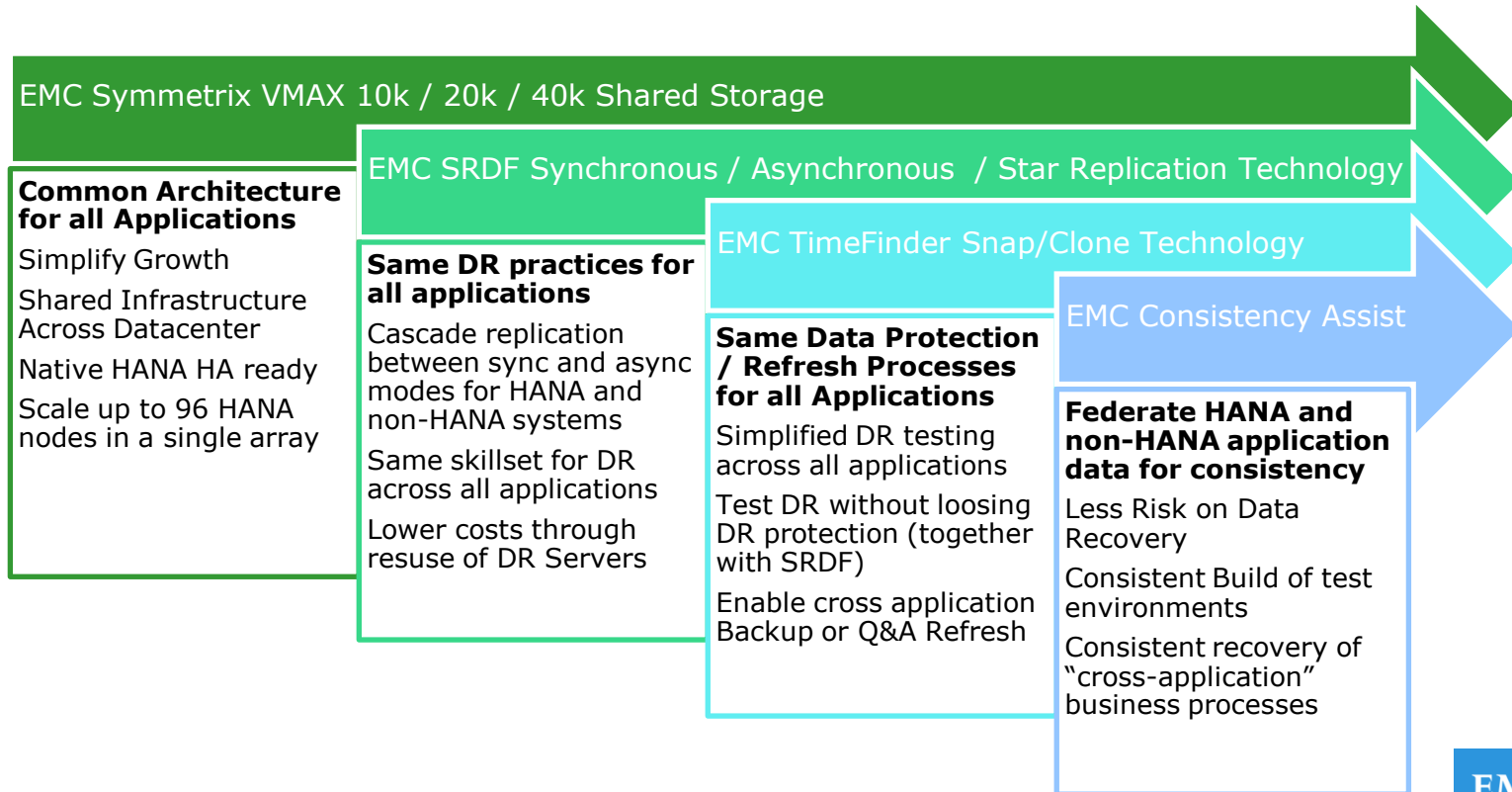
https://support.emc.com/docu52462_Data-Domain-Boost--for-Databases-and-Applications-Release-1.0-Administration-Guide.pdf

Look out for updates at the SAP HANA Backup landing page on ECN:

<https://community.emc.com/docs/DOC-31785>

Why EMC Symmetrix VMAX for SAP HANA

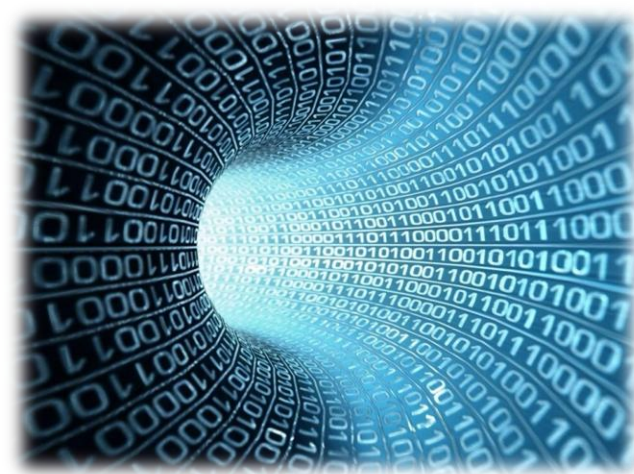
Balancing Operational Cost and Risk while meeting Business Needs



EMC's Big Data Platform

Customer Value Proposition

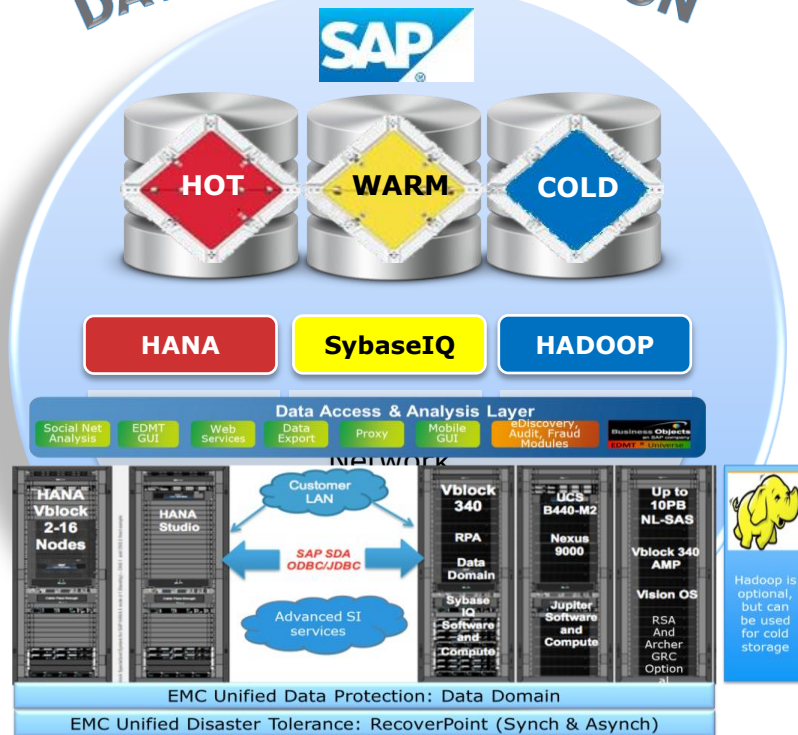
- **Variety:** An elegant solution with the ability to load, store, and analyze any data type with one system
- **Velocity:** Extreme query and loading speed, with tested scenarios of more than 100TB per hour.
- **Volume:** Modular scalability from less than 100 TB to greater than 30,000 TB
- **Value:** Manage extreme data sets at best TCO. Including simplified deployment and skill set requirement to support big data use cases.



Big Data Platform For SAP

- Super Scale
- Extreme Speed
- Big Data Solution For SAP
HOT/WARM/COLD Data
- Structured & Unstructured Data
- Packaged System HW,SW, Services
- Simplified Access To Multiple Data Sources And Types At Optimized TCO

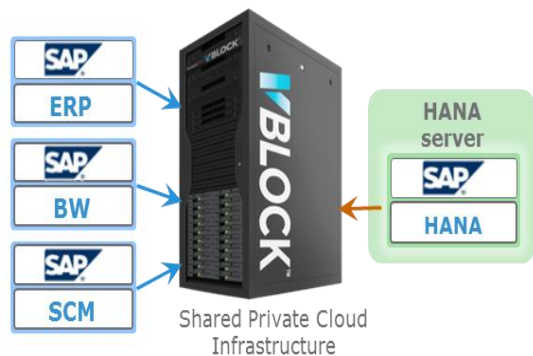
FEDERATED QUERY ACCESS
DATA VIRTUALIZATION



EMC IT: SAP HANA Running In Cloud

Virtualized with VMware

SAP HANA virtualized:
TDI w/VBlock 700

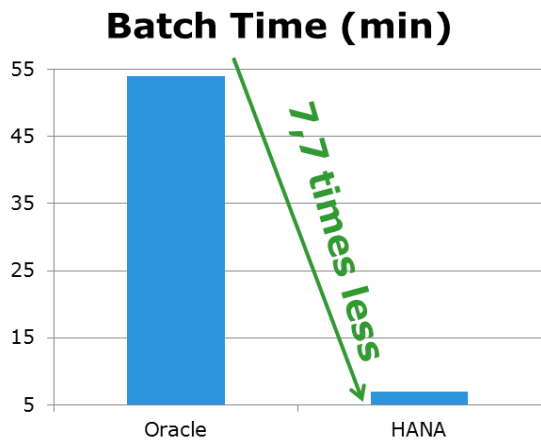


- Enabling scalability, agility, and cost efficiency
- Providing flexibility to migrate computing resource to alternate servers
- Simplifying deployment of new systems from templates through an automated process
- Production DR with no data loss

**Benefit of SAP HANA
in a shared infrastructure**

EMC IT: SAP HANA Running In Cloud

Performance Benefits with BPC: 7+ times baseline improvement in batch and 400% after code tuning



Source: EMC IT BPC in HANA Project

- Batch process runtime reduction and user dialog response time decreased
- 7.7x improvement in batch
 - achieved with no tuning of:
 - infrastructure, VMware, HANA Database, the BPC ABAP code.
- Reduced OPEX and CAPEX
- Delivered 99.9% availability utilizing VMware HA

SAP HANA Delivery Options from EMC

Fully Integrated Infrastructure

Cisco Scale-Out Enterprise IvyBridge

- DR through HANA System Replication
- Based on VNX5400 (up to 10 nodes per VNX)
- Scalable up to 16 nodes (16 TB)

VCE Specialized VBlock System *

- DR through MirrorView (with VNX5300)
- Scalable up to 16 nodes (8 TB)

Cisco Starter Scale-Out Westmere

- DR through HANA System Replication
- Based on VNX5300
- Scalable up to 4 nodes (2 TB)

Cisco Scale-Up Ivy Bridge

- Scale up to 3TB/4 CPUs for OLTP (Suite on HANA)
- Based on VNX5400

Cisco Scale-Up Ivy Bridge

- Scale up to 2TB/4 CPUs for OLTP (Suite on HANA)
- Scale up to 1TB/4 CPUs for OLAP (BW)
- No HA, DR only through HANA System Replication

Backup optional for all systems through Networker or DataDomain

* Only with Intel Westmere CPUs (Status as of August 2014)

Scale-Out

TDI on VBlock Systems (Ivy Bridge)

- The best of an appliance in a shared infrastructure
- Available for all the TDI option in this chart

TDI with VMAX

- Most Scalable SAP HANA platform; up to 96 HANA nodes
- Can leverage customer's existing VMAX platform
- Disaster Tolerance: with SRDF/A/S/Star
- Disk based Clone/Copy/Refresh/Backup: with Timefinder
- Crash consistent backups: with Timefinder + Enginuity Consistency
- Can be shared with non HANA workloads: YES
- Can be used with all Westmere and IvyBridge SAP Certified Servers

TDI with VNX2 models

- From up to 10 nodes on VNX5400 to 16 nodes on VNX8000
- Can be shared with non HANA workloads: YES
- Can be used with all Westmere and IvyBridge SAP Certified Servers

Single Node TDI with VMAX

- HA available through HANA Auto Host Failover
- Leverages all VMAX TDI capabilities for Backup and DR
- Available both for Business Suite (up to 6 TB) and BW (up to 2 TB)

Single Node TDI with VNX2 models

- HA available through HANA Auto Host Failover
- Available both for Business Suite (up to 6 TB) and BW (up to 2 TB)

Virtualized SAP HANA

- Up to 1 TB of RAM
- Available both for Business Suite and BW

Scale-up

Flexible Custom Integration

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Agenda

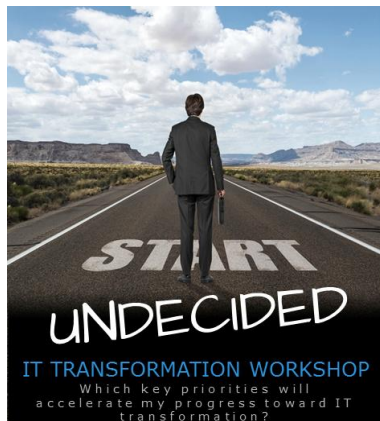
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Getting Started

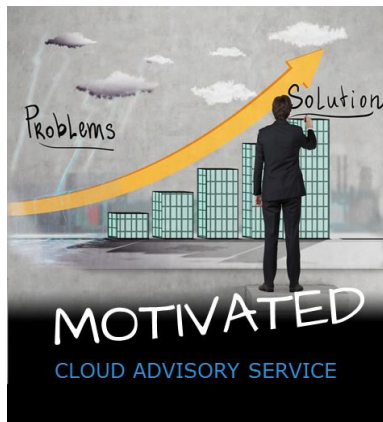
Three-Way Preferred Strategic Collaboration with SAP and VMware

IT Transformation Workshop



Establish Priorities
Infrastructure
Applications
Operating Models

Cloud Advisory Service



Evaluation of Workloads
Suitability Evaluation
Placement Recommendation

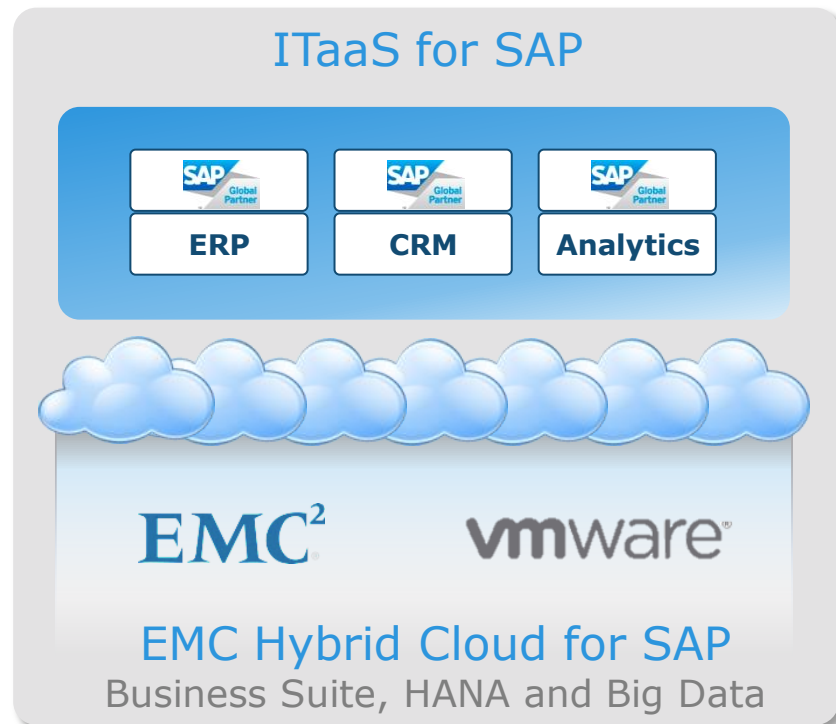
Planning & Deploying EMC Hybrid Cloud



Accelerate Transformation
Infrastructure
Operational Models

EMC's Commitment To SAP Customers

- 1 Simplification: Hybrid Cloud for SAP
 - Enable business innovation and services with highly responsive ITaaS for SAP
- 2 Accelerate Time To Value Of SAP Cloud, SAP HANA and Big Data
 - Store, Manage, Protect, Secure varying data temperatures
- 3 Optimize performance and reduce cost of maintaining SAP landscapes
 - Performance, automation, data protection and business continuity



EMC Community For SAP

Explore and Collaborate



- Engage EMC's SAP Specialists
- Catalog Of Proven Solutions
- Technical Webcast Archives
- Interactive Blogs
- Events Calendar

[Everything SAP@EMC](#)



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