

Hybrid Cloud Deployment Approaches for SAP S/4HANA: *Why Hybrid Cloud is the Model of the Future*

Michael Love — December 1, 2021

THE MOST TRUSTED INDEPENDENT
INFORMATION SOURCE FOR SAP
ENTERPRISE SOFTWARE CONTENT

SAPINSIDER COMMUNITY
500,000+ STRONG



Michael Love



IBM SAP Global Alliance Technical Leader

Michael Love is a technology leader supporting IBM's alliance with SAP. In addition to having over 20 years' experience of working with SAP as a business partner, Michael also directly engages with many of the largest IBM/SAP clients globally. Technical leadership is provided across multiple technology domains surrounding SAP S/4 HANA and the Intelligent Enterprise, such as: Cloud adoption, keeping a "clean" digital core, extending SAP with agile digital innovation using Cloud DevOps platforms, Hybrid-Cloud deployment best practices, Artificial Intelligence, Blockchain, Quantum Computing, SAP integration best practices, Process improvement, Data Analytics, and Enterprise Architecture.

Mr. Love has over 30 years of experience in the IT industry, and over 20 years' experience providing architectural leadership to global organizations seeking to reduce integration costs, increase business flexibility, and to transform the I/T department into a business innovation enabler. During this period, Michael has engaged with over 300 of the largest SAP clients globally and built a reputation of being a trusted advisor to help clients achieve the greatest value and flexibility from an SAP applications investment.

What We'll Cover

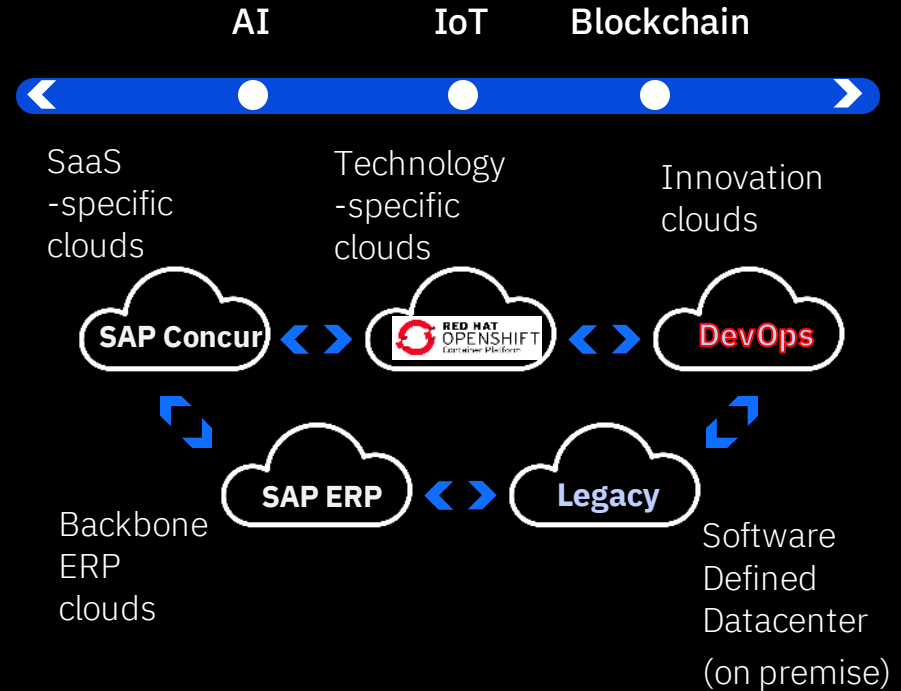
SAP ERP and SAP S/4HANA Deployment Decisions

Deployment Choices:

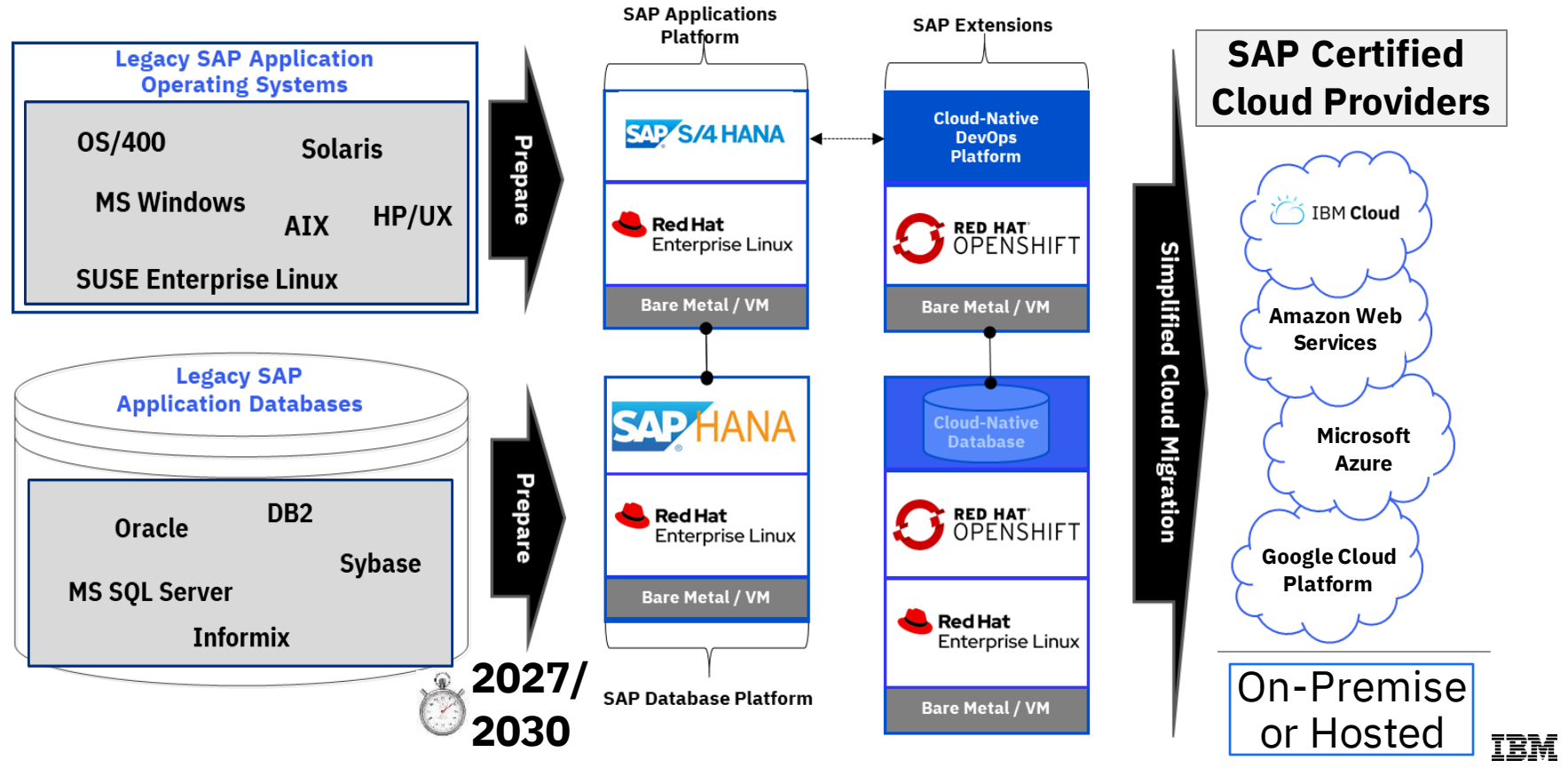
- Cloud Provider
- Cloud privacy model (Public or Private)
- Cloud virtualization model
- Cloud hardware platform & OS
- Application customization & extension model
- Cloud Application Infrastructure Management Model

The new normal is hybrid, multcloud, and open

The sooner that organizations adopt a hybrid cloud strategy, the sooner they can start moving towards success.



Deployment Choice #1: Choose Your SAP application Cloud Provider and How You Get There



Reference: SAP Certified Cloud Provider Options

SAP Certified HANA Directory – SAP Provided Online Resource

The screenshot shows the SAP Certified and Supported SAP HANA Hardware Directory. It includes filter tabs for Certified Appliances, Certified Enterprise Storage, Certified HCI Solutions, Certified IaaS Platforms (selected), Supported Intel® Systems, and Supported Power® Systems. Filter buttons for Deployment, Vendors, CPU Architecture, Memory Size, and More are present. A search bar and a 'clear' link are also visible. The results show 108 solutions, sorted by Latest Certification, with an 'Export as PDF' button. The table lists solutions with columns for Solution, Type, Vendor, CPU Architecture, Memory Size, IaaS Application Type, and a Certified Solution icon.

Solution	Type	Vendor	CPU Architecture	Memory Size	IaaS Application Type	Certified Solution
mx2-8x64	IaaS Platform	IBM Cloud	Intel Cascade Lake SP	64 GiB	SAP Business One	
ush1-4x128	IaaS Platform	IBM Cloud	IBM POWER9	128 GiB	OLTP	
ush1-4x512	IaaS Platform	IBM Cloud	IBM POWER9	512 GiB	OLTP	
mhl125x-22500	IaaS Platform	IBM Cloud	IBM POWER9	22.5 TiB	OLTP	
BL.S4.H2.768GB RAM + 1.5TB PMEM	IaaS Platform	IBM Cloud	Intel Cascade Lake SP	2268 GiB	OLTP	
BL.S4.H2.1.5TB RAM + 1.5TB PMEM	IaaS Platform	IBM Cloud	Intel Cascade Lake SP	4.5 TiB	OLTP	

- Most factual and reliable reference of SAP Certified Public Cloud IaaS
- Compare and contrast with other SAP IaaS Cloud Providers (Azure, AWS, GCP, etc)
- Filter by CPU, Memory, Operating System (RHEL/SLES), OLTP/OLAP, etc

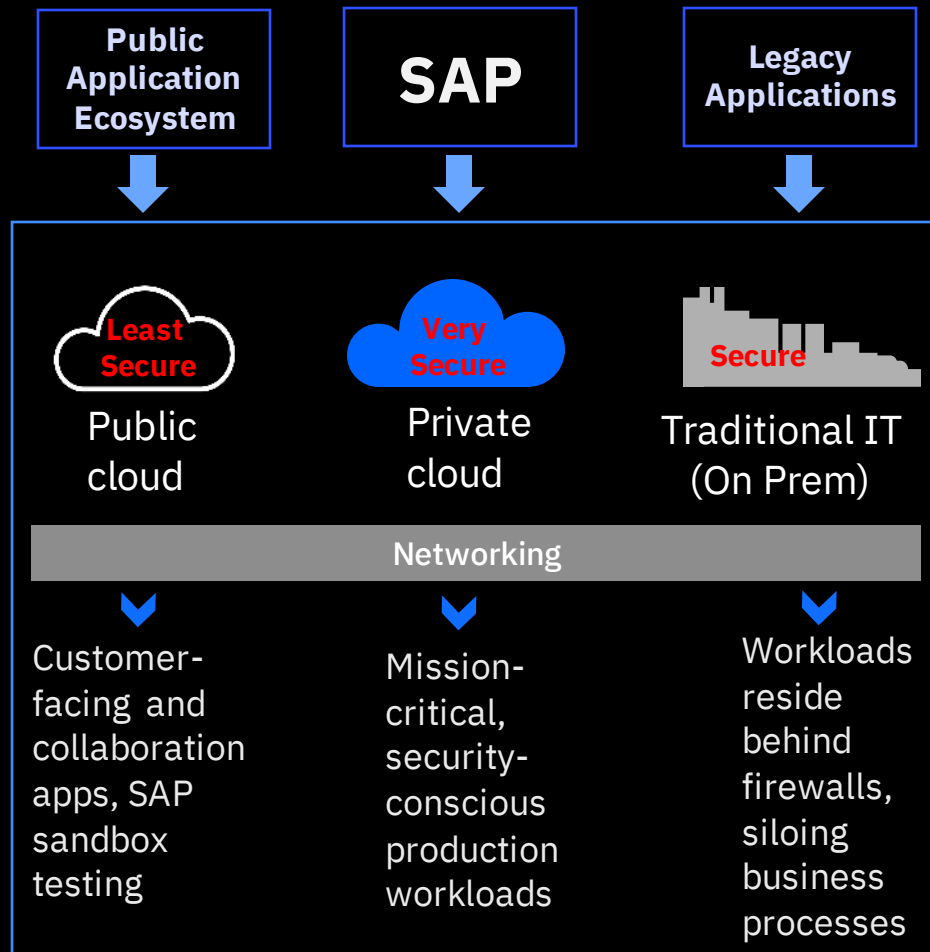
Web Link:

<https://www.sap.com/dmc/exp/2014-09-02-hana-hardware/enEN/#/solutions?filters=v:deCertified;iaas;ve:28>

Deployment Choice #2: Choose your Cloud Privacy Model

A Private Cloud model is typically chosen for SAP production workloads.

A recent ASUG study in 2020 found that only 8% of SAP customers would consider deploying their production workloads to a Public Cloud. Private Cloud solutions run within a Public Cloud, but incorporate physical isolation for each client for increased security and disruption from “noisy neighbors”.



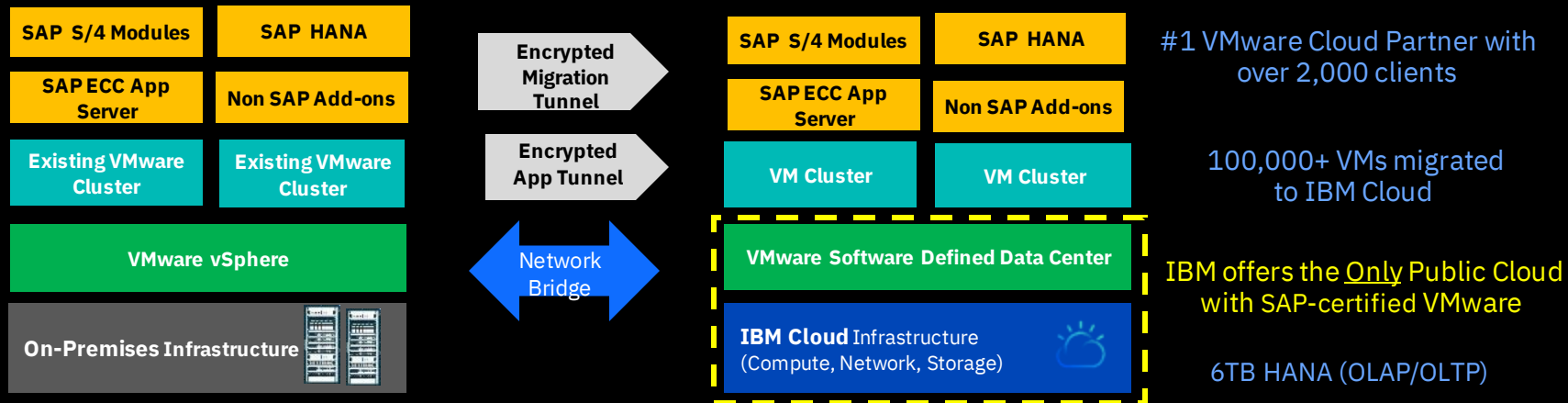
Deployment Choice #3: Choose Your Cloud Virtualization Model

Client Triggers

- Desired to move SAP workloads to the Cloud
- SAP ECC to S/4/HANA migration mandate
- Expanded Capacity Needs
- Disaster Recovery on the Cloud
- Divestitures/Carve outs

Client Values

- Frictionless migration, retain investment, no refactoring
- Reduced cost, greater flexibility, higher resiliency
- Minimal business disruption (keep your IP addresses)
- On-Demand SAP Certified Infrastructure
- Preserve portability and choice



Deployment Choice #4: Choose Your S/4HANA Hardware Platform

Intel x86 (e.g. IBM Cloud for SAP)

Hundreds of large-scale SAP Clients

More than **10K** hosts

More than **1PB** of memory

More than **20PB** of storage

Support for **Intel Optane** persistent memory for **fast** HANA shutdown and startup

IBM Power Systems (in general)

2500+ clients in **< 48 months**

Ranked # 1 for last 10 years in being the most reliable server

Support for **persistent memory** for **fast** HANA shutdown and startup

SAP uses **IBM Power** to host large HANA scale-up workloads (e.g. > 4TB)

Largest **Virtualized HANA Database System** – scale up: **32TB**

Deployment Choice #5: Choose Your S/4HANA Operating System

SAP HANA only supports SUSE and Red Hat – Why clients choose RHEL

RELIABILITY in the market:

- 90% of the Fortune 500 trust Red Hat
- Approx 70% Paid Linux market share
- Development Powerhouse
#2 Kubernetes & Linux contributor
- Completeness of portfolio
 - Virtualization
 - Management & Automation
 - Application Integration
 - OpenShift Container Platform

Realize More VALUE while Reducing Costs:

- RHEL for SAP Solutions delivers more capabilities
- Extended Update Support
 - Focuses on SAP applications lifecycle, providing a stable foundation with support for RHEL certain minor releases up to 4 years
- State-of-the-art management and automation into your SAP landscape

SUPPORT:

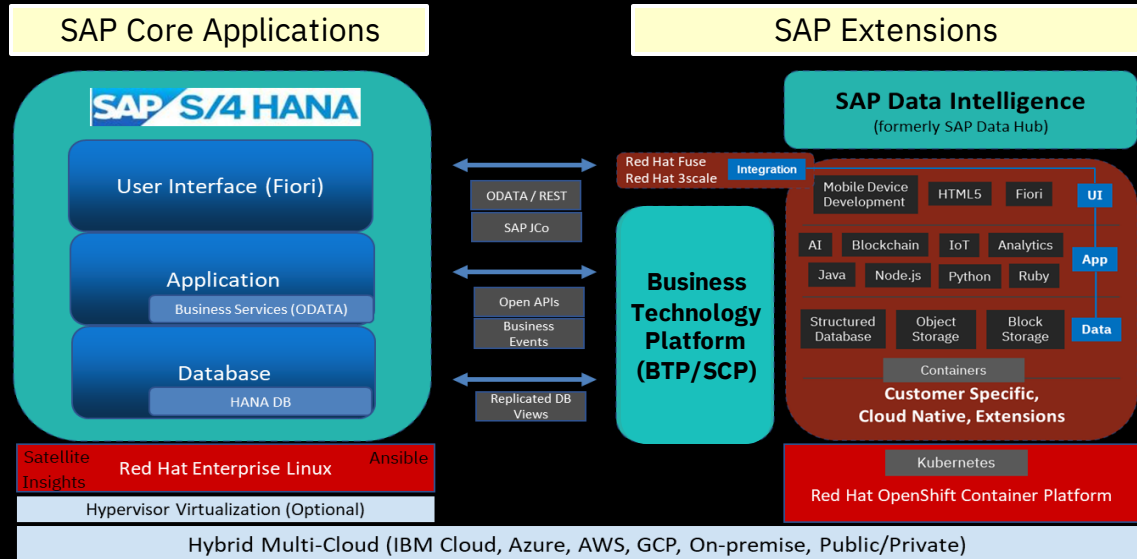
- Pre-sales & Post-sales
- Red Hat SAP Technical Account Managers
- Standard SLA for non-prod / Premium for prod
- Red Hat Global support services engaged via SAP global backbone
- Specialty Based Routing (SBR) model ensures SMEs work the issue
- Application Compatibility Guide

Deployment Choice #5: Application Customization & Extension Model

SAP Side-by-Side Extensibility with BTP/SCP and Red Hat OpenShift Provides on-premise and Cloud Independence

- The future of extending SAP is to minimize modification of the Digital Core using Cloud-native platforms, such as SAP Business Technology Platform and OpenShift
- Modification of Core application source code breaks the ability to perform functional upgrades of SAP cost effectively
- Key efficiency objective: *Develop once, deploy anywhere.*

Note: BTP does not support on-premise deployments today. OpenShift the only option for on-prem cloud-native extensions.



- OpenShift is an on-prem/Cloud, application-independent, Cloud-native development and runtime environment used by half of the Fortune 500
- Red Hat OpenShift ensures SAP extensions/customizations can be run on-premise or on any major Cloud provider, and are reliable and scalable

Reference: How can IBM help?

IBM Rapid Discovery Start with a light assessment

Deduce insight to understand your journey to SAP S/4HANA and beyond with IBM's leading-class HANA impact assessment toolset and inherent industry and SAP transformation expertise combined with SNP's CrystalBridge.

IBM's HANA Impact Assessment and CrystalBridge

Impact



Structured impact and SAP S/4HANA transformation journey

Approach



Recommended roadmap to support the needs of the organization

Effort



The effort associated with the recommended approach

Business case



The long-term value associated with the future state solution

Next Steps

Preparation



Once we understand where we are going and what it will take to get there, we can move on to preparing for the SAP S/4HANA transformation journey

Next steps address what organizations can do now to prepare for the transformation journey to come

