FUTUREWEI Whitepaper

SAP Ecosystem and Partnership Survey

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INTRODUCTION

SAP is the world's leading business software company, with 300,000 plus customers worldwide and more than 80% of the world's transaction revenue touches an SAP system, one can say, SAP is running the world's mission-critical business processes. SAP continues to drive business value through innovations via cloud computing, In-memory database, Hyper-connectivity trends which are affecting all businesses in all industries. Working closely with ecosystem partners, SAP provides SaaS, PasS and IaaS solutions in cloud computing, Big data analytics, AI and ML solutions for In-memory database, IoT, Network marketplaces, online platforms to improve business processes and enable new business models for demanding customers.
This survey is intended to explore SAP's partner ecosystem landscape and offer strategic vision for existing or new SAP partners that are seeking ways to benefit more from partnership with SAP.

1 SAP COMPANY OVERVIEW

SAP SE is a German multinational software development company that develops Enterprise Resource Planning software used worldwide by companies to run their specific business processes. Founded in 1972 and headquartered in Walldorf, Germany, It began as a 5-person startup company and has grown into a global organization with over 100,000 employees, 300,000+ customers in 180 countries.
SAP also offers effective business management solutions, integrating a company's essential business functions, including SAP systems such as CRM (Customer Relationship Management), SRM (Supplier Relationship Management), BI (Business Intelligence), and many more. It can consolidate all of your company's tasks into a cohesive system that works 24/7 and keeps the business running.
Most SAP customers are currently using the ERP system to manage their financial accounting, supply chain management, materials management, production planning, and many other SAP business functions. The earliest release of the ERP system was called SAP R/3, but most companies are now on release ECC 6 and the newest release SAP S/4HANA®.
According to a recent report, 87% Fortune 1000 companies run SAP software, 300,000 companies in 180 countries.

2 CURRENT PRODUCTS AND STRATEGIES

SAP's main product line includes business software, Industry software, software for small and midsize enterprises and platform and framework (business technology).

Some of the well-known business software includes:

- SAP S/4HANA® (Enterprise Resource Planning on-premise and cloud)
- SAP Business ByDesign® (SME Cloud Enterprise Resource Planning)
- SAP Business One® (Small enterprise Enterprise Resource Planning)
- SAP CRM (Customer Relationship Management)
- SAP ERP (Enterprise Resource Planning)
- SAP PLM (Product Lifecycle Management)
- SAP SCM (Supply Chain Management)
- SAP SRM (Supplier Relationship Management)

Business Technology Platform provides foundational services via open runtime, API and development environment. Key components of the platform include Database and Data management, analytics and app development and integration and intelligent technologies.

SAP HANA®

One of the key products under Database and Data Management product catalog is SAP HANA®. SAP HANA® (High-Performance Analytic Appliance) is an in-memory, column-oriented, relational database management system developed and marketed by SAP.. Its primary function as the software running a database server is to store and retrieve data as requested by the applications. In addition, it performs advanced analytics (predictive analytics, spatial data processing, text analytics, text search, streaming analytics, graph data processing) and includes extract, transform, load (ETL) capabilities as well as an application server.

HANA® can be deployed on-premises or in the cloud from several cloud service providers. HANA® can be deployed on-premises as a new appliance from a certified hardware vendor. Alternatively, existing hardware components such as storage and network can be used as part of the implementation, an approach which SAP calls "Tailored Data Center Integration (TDI)". HANA® is certified to run on multiple operating systems including SUSE® Linux Enterprise Server and Red Hat® Enterprise Linux. Supported hardware platforms for on-premise deployment include Intel 64 and POWER Systems. The system is designed to support both horizontal and vertical scaling.

Multiple cloud providers offer SAP HANA® on an Infrastructure as a Service basis, including Amazon Web Services, Microsoft Azure, Google Cloud Platform, Huawei FusionSphere®, HP Helion®

SAP also offer their own cloud services in the form of:
SAP HANA® Enterprise Cloud which is a private managed cloud
SAP Business Technology Platform (previously known as SAP Cloud Platform and HANA® Cloud Platform), Platform as a service

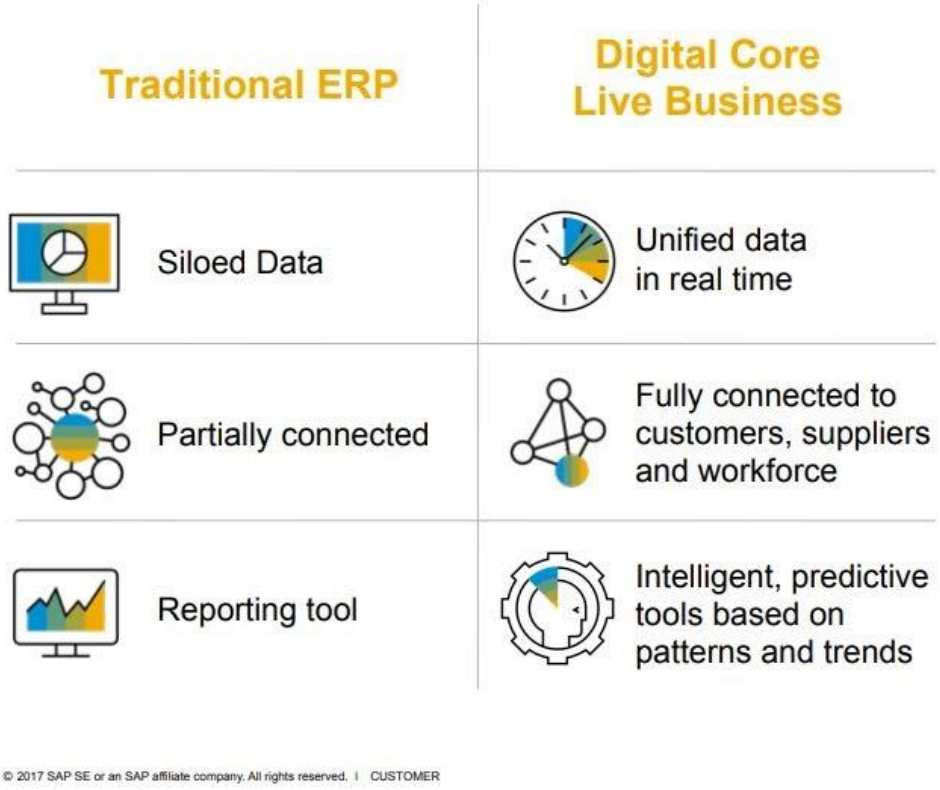
Since 2012, SAP has acquired several companies that sell cloud-based products, with several multibillion-dollar acquisitions seen by analysts as an attempt to challenge competitor Oracle. In 2014 SAP bought Concur® Technologies, a provider of cloud-based travel and expense management software, for $8.3 billion.

In 2014, IBM and SAP began a partnership to sell cloud-based services. Likewise, in 2015, SAP also partnered with HPE to provide secure hybrid cloud-based services running the SAP platform. Both HPE and IBM provide infrastructure services to SAP, and SAP runs its SAP HANA® cloud solution on top. SAP exceeded its revenue projections due to the expansion in its cloud business and the success of SAP HANA®. The growth can also be partially attributed to the acquisitions of Concur® and Fieldglass®.

The company announced plans in 2016 to invest heavily into technology relating to Internet of Things (IoT) as part of a strategy to capitalize on the growth in that market. For that purpose, €2 billion is planned for investment in relevant sectors by the end of 2020. SAP will also launch a new product line called SAP IoT, which "will combine large amounts of data from things connected to the Internet with machine learning and SAP's real-time database S/4 HANA®."

SAP S/4HANA® is SAP's ERP for large enterprises. It is the successor of SAP R/3 and SAP ERP and is optimized for SAP's in-memory database SAP HANA®.
2025 is the deadline set by SAP for businesses to migrate to their new and improved system S/4HANA®, after which supposedly they will no longer provide support for older systems (SAP ECC 6.0). Whilst this may seem a generous deadline, transitioning to S/4HANA® is by no means a simple process. In addition to the time-consuming exercise of migration itself, for those considering the move to S/4HANA® the next few years offers a unique opportunity to refresh and update other key business processes, such as electronic data interchange (EDI), to ensure their businesses are in the best possible position when 2025 comes around.

SAP is working with partners to offer multiple options for enterprise customers to migrate from legacy ERP systems to modern and more intelligent ERP.



3 PARTNERSHIP AND ECOSYSTEM

SAP partners include Global Services Partners with cross-industry multinational consulting capabilities, Global Software Partners providing integrated products that complement SAP Business Suite solutions, and Global Technology Partners providing user companies with a wide range of products to support SAP technology, including vendors of hardware, database, storage systems, networks, and mobile computing technology.

Extension partners are companies which provide functionality that complements SAP product capabilities. Their products are certified, sold, and supported by SAP. These partner companies include Adobe, CA Technologies, GK Software, Tricentis, Hewlett-Packard, IDS Scheer, Mendix, OpenText, Knoa Software, and BackOffice Associates.

SAP products for small businesses and midsize companies are delivered through its global partner network. The SAP PartnerEdge®, SAP's partner program, offers a set of business enablement resources and program benefits to help partners including value-added resellers (VARs) and independent software vendors (ISVs) be profitable and

successful in implementing, selling, marketing, developing, and delivering SAP products to a broad range of customers.

SAP HANA® Infrastructure Partners

SAP IT equipment partners focus on providing ready and reliable storage and server solutions for SAP HANA® and other products. To set themselves apart from competitors, some vendors also offer solutions that provide data protection, converged and hyperconverged infrastructure to address the need for greater business agility, improved data center efficiency and operational simplicity for SAP with SAP HANA®-certified and fully integrated compute, network, storage, and data protection solutions.

For example, Dell claimed to support all HANA® infra migration paths by providing solutions that are:

1. Designed for SAP landscape consolidation.
2. Designed for SAP landscape Management (SAP LaMa)
3. Designed for HANA®
4. Designed for HANA® data tiering

Dell provides integrated protection and restoring application integration since the mission-critical SAP S/4HANA® will require 24/7 availability so customers can recover from any planned or unplanned events.

Professional services are also offered for SAP HANA® deployment, migration, and re-platforming projects.

HPE has been leveraging their long-time partnership with SAP, trying to win over customers over expertise, service, product portfolio, scalability, and flexibility.

HPE and SAP partner to deliver SAP HANA® Enterprise Cloud with HPE GreenLake cloud services as a fully managed service at the edge, in the customer's data center or colocation facility of their choice. Customers will be able to keep their SAP software landscape and data on-premises while gaining the benefits of a subscription-based, agile, elastic, and consistent cloud experience from SAP with HPE GreenLake.

HPE's server and storage technologies have been integrated with VMware Virtual Volumes™ (vVols) to develop a flexible solution for SAP HANA®. The solution demonstrates multiple production instances of SAP HANA® configurations that can be deployed on VMware® virtualized infrastructure.

This HPE solution addresses concerns of the complexity of infrastructure provisioning and management when deploying SAP HANA® in a virtualized environment. It also helps to manage SAP HANA® database sizes with minimal wastage of compute and storage resources.

4 FINAL THOUGHTS

What should a storage vendor do to leverage SAP product and partnership strategy?

Given SAP's large enterprise customer reach and product solution portfolio, SAP will remain as the leading enterprise software vendor. Aiming to provide infrastructure that is tightly Integrated with SAP solution, many vendors are realizing that maintaining strong partnership with SAP should be critical part of their partnership strategy.

Based on SAP's current product and solution strategy, the following direction that storage vendors take may help to accelerate customers' HANA® S/4 migration and optimize customers' SAP investments:

SAP S/4 HANA® Migration

SAP S/4HANA® is being called SAP's biggest update to its ERP application suite and platform in over two decades. SAP has invested hundreds of millions of dollars in R&D and marketing, hoping to migrate all the existing ERP customers to the new product and attracting new customers.

SAP S/4HANA® can be deployed on-premises, in the cloud, or through a hybrid model. The S/4HANA® product offering consists of two editions: SAP S/4HANA® On-Premises and SAP S/4HANA® Cloud.

As an Infrastructure vendor for HANA®, it is essential to do the following:

- Fully understand customers migration paths, provide easy, capable, expandable infrastructure solution as well as professional service will be key for success.

- Provide fully certified, ready solution including server, storage, data protection solution, dedicated appliance, or shared IT infrastructure.

Traditional SAP HANA® runs on highly optimized, dedicated appliances. While the appliance delivery is easy and comfortable, it might introduce some limitations regarding hardware flexibility. Therefore, SAP now offers an additional on-premises delivery approach for SAP HANA®, HANA® Tailored Datacenter Integration (TDI) that provides more flexibility of selecting the hardware components for compute servers, storage, and networking. In turn, the vendor's product portfolio should be expanded to support TDI, converged infrastructure and hyperconverged infrastructure (HCI) models so customers can run SAP HANA® like any other database on shared infrastructure.

SAP has emphasized the product as pivotal to its cloud shift. Besides supporting running HANA® on-premises, supporting S/4 HANA® Cloud is also important.

Data Tiering for SAP HANA®

As organizations scale the adoption of the SAP HANA® database for “data driven” enterprise applications, IT must have a strategy for managing TCO and SAP HANA® licensing costs. By reducing the amount of data that must be maintained in expensive DRAM, IT can safeguard maximum data value at the minimum cost.

With the introduction of SAP HANA® data tiering, SAP gives IT a framework for managing data placement based on the data value and SLA over time.

SAP Data Tiering Options

Hot Store is used to store mission-critical data for real-time processing and real-time analytics. Persistent memory (PMEM) extends the in-memory storage capacity for hot data in SAP HANA®.

Warm Store is for less critical data with reduced performance and SLAs that can be stored on lower cost storage but still managed as part of the SAP HANA® database.

Cold Store: SAP HANA® cold data tiering provides persistence capabilities for HANA® cold data in external data stores, like HDFS, Azure Data Lake and SAP Big Data Services.

A data tiering strategy needs to be aligned with your SAP HANA® deployment – the data processing tier, cost and performance characteristics must be suited to the application profile. As an infrastructure vendor, providing suitable equipment to meet the operation requirement for the management of hot store, warm store and cold store data is critical.

In summary, the goal of data tiering should be the optimization of SAP with native application data management and placement.

• Lower TCO and SAP licensing costs by reducing the amount of data in expensive DRAM.

• Apply SAP data archiving to reduce the size of the SAP ERP database prior to SAP S/4HANA® migration.

• Set an IT foundation ready to support your SAP data temperatures (hot, warm, cold) and data placement strategy.

Virtualize SAP with VMware VSphere®

Many enterprises are also using VMware solutions for their own private data centers. One of the benefits for these enterprise customers will be the ability to run virtualized traditional SAP software and optimize SAP HANA® when you run your SAP solutions on Storage.

Storage vendors should consider developing the ability to offer full VMware integration, that is to support all VMware data-management and data-protection features — at no added cost — including:

• VMware vSphere® HA
• VMware vSphere® Distributed Resource Scheduler (vSphere® DRS)
• Certified support for VMware vCenter Site Recovery Manager ™
• VMware vSphere® vMotion ®
• VMware vSphere® Fault Tolerance (vSphere® FT)

Such converged infrastructure for VMware vSphere® should be designed for virtualization and be fully tested, certified, fully supported, and fully customizable.

5. REFERENCES

1. SAP SE 10K report 2020
2. Recommended Data Tiering Approaches for SAP and Native Applications
3. SAP HANA® TDI
4. SAP Products
5. DELL Solutions for SAP