

Vertex

Tax Solution Innovation in the Cloud



Building a Software-as-a-Service Solution to Address Market Demand

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Vertex: Embracing the Cloud

Working with SAP, Vertex enabled a cloud-based software-as-a-service (SaaS) delivery model for its tax solutions using SAP® Cloud Platform. Employing innovative approaches from development to deployment, it completed the cloud transformation in just a few months. Now, Vertex customers are taking advantage of the new approach – putting the company **on track to increased revenue** through its own SaaS offerings.

PROJECT HIGHLIGHTS



Vertex Inc.

King of Prussia, Pennsylvania

www.vertexinc.com



Products and services

End-to-end global tax solutions for midsize to global, multinational organizations



Business goals

Meet customer demand and market pressure for flexible pricing and deployment while also lowering total cost of ownership



Digital innovations

SaaS offerings and Big Data technology



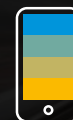
Why SAP

Strength of cloud technology, tools, and resources from SAP as well as the depth of SAP expert assistance and engagement



Outcome

Cloud-enabled SaaS that enables a new, attractive approach to serving customers, helping expand the customer base and increase revenue



SAP® solutions

SAP HANA® business data platform and SAP® Cloud Platform

Transforming Tax Management for Customers

What are the tax consequences? The answer to this question is an important factor in many business decisions. As a leading provider of comprehensive enterprise tax solutions, Vertex Inc. has been helping customers answer this and other critical tax questions for over three decades.

Keeping in step with the market is key in the tax software industry, and Vertex saw that its customers were looking for easy-to-use tools that would streamline tax calculations and help keep tax and compliance information accurate and up to date. Vertex determined that it could meet customer needs more effectively by using SAP technology to deploy an SaaS-based solution to automate the management of its global provisioning application – the first of its kind to have SAP-certified integration with the SAP Business Planning and Consolidation (SAP BPC) application. The result is a solution that can manage multiple ledgers, years, currencies, and country GAAPs while interfacing directly with data from SAP BPC.

This transformation provided a platform that lets Vertex accelerate the delivery of results to customers. At the same time, it helps those customers dramatically reduce risk and ultimately costs while letting them take advantage of one of the most advanced tax calculation and returns software platforms on the market.



SAP Partnership: Moving the Power of Vertex to the Cloud

Tax management for Vertex customers requires a large volume of transactional and tax-relevant data. During testing, a four-to-one compression algorithm using the SAP HANA® business data platform allowed Vertex to shrink its representative customer data set – a 332 GB database – to fit on a 64 GB instance of SAP HANA. This let Vertex use a smaller, more cost-effective instance to start delivering the SaaS-based solution to customers very quickly. With SAP HANA, the Vertex solution can also easily scale upward, allowing customers to support multiple terabytes. This means Vertex can “right-size” its solution for any organization – a key point for a company serving thousands of medium-to-large multinational corporations around the globe.

The SAP HANA stack addressed Vertex's technical challenges and helped ensure long-term viability for the cloud transformation strategy. By embedding SAP software into its application, the Vertex development and engineering teams could focus on the tax solution, rather than the underlying platform – reducing time to market.

“ “ ” ”

Partnering on an OEM basis took our relationship with SAP to a new level.

Brian Wilchusky, Partner Leader, SAP Solutions, Vertex Inc.

4:1

Vertex used the four-to-one compression capabilities of SAP HANA to streamline its database and accelerate delivery of its new solution.

THE POWER OF SAP® TECHNOLOGY

SAP® technology gives Vertex a solid foundation for its software-as-a-service tax offerings. The company is using:



SAP HANA® business data platform: Fast and secure with data-compression capabilities and the ability to scale with ease



SAP Cloud Platform: Open platform as a service that connects to on-premise and cloud-based systems and supports rapid deployment



Migrating to the Cloud in **Less Than Three Months**

The move to the cloud required a new approach to development and deployment for Vertex. As an SAP OEM partner participating in the SAP PartnerEdge® program, Vertex acquired the new skills and architectural knowledge it needed for the transition. This work encompassed a number of key steps:

- **Quick start to development in the cloud:**

Vertex equipped its development operations team with an assortment of tools that fit with the team's work style and preferred development environments. These included SAP HANA studio, SAP HANA smart data integration, and the Eclipse plug-in for cloud development using SAP HANA.

Test the synchronization between the cloud and the on-premise databases.

- **Testing on SAP Cloud Platform:** Vertex used SAP HANA smart data integration to test the synchronization between the cloud and the on-premise databases. The on-premise virtual machine (VM) and the SAP HANA database run on SAP Cloud Platform. Figure 1 shows the performance testing preparation that Vertex established for its cloud application.
- **Deployment in the cloud:** Initially, the Vertex team deployed SAP HANA on an Amazon Web Services (AWS) cloud platform. Using SAP SQL Data Warehousing – a solution under the SAP HANA data warehousing platform – with a command-line interface, the team created a data description language (DDL) file for SAP HANA that was compatible with the company's existing on-premise database schema. After successfully deploying and testing on AWS, Vertex moved the development environment to a Java-based cloud tax app to run a SUSE Linux container.

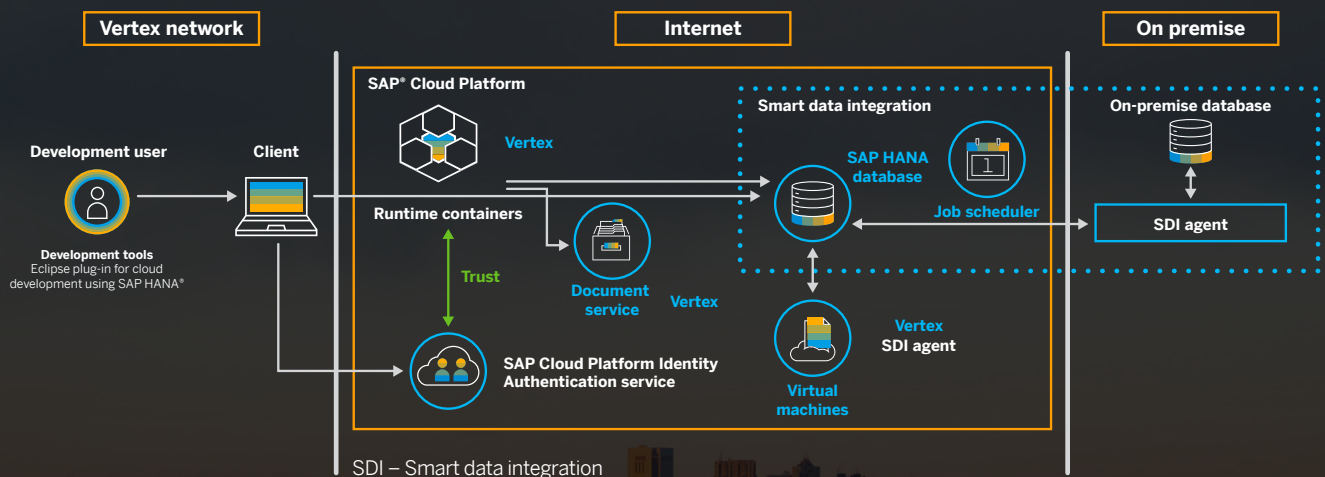


Figure 1: Vertex Architecture – Development Environment

With this approach, Vertex was up and running on SAP HANA in less than a week, and then completed the move to SAP Cloud Platform in less than three months.

Shorter Time to Value for Vertex Customers

Altogether, the move to the cloud has enabled Vertex to provide customers with cost-effective access to industry-leading tax software – with flexible pricing and customized service offerings that can fit any company's needs.

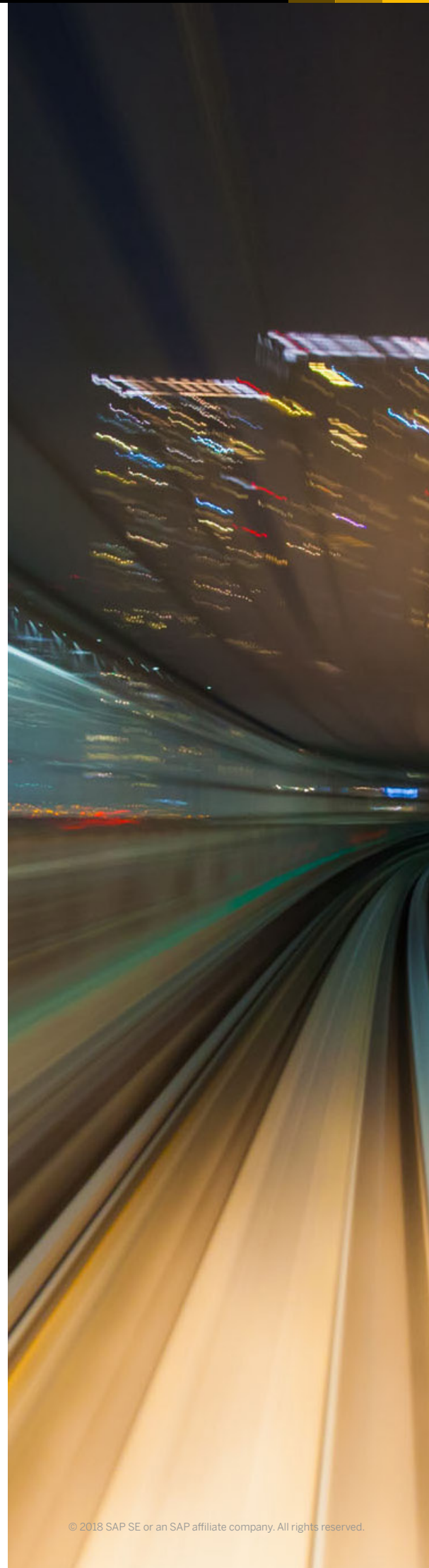
"Incorporating Vertex tax solutions with SAP HANA and SAP Cloud Platform helps our customers streamline tax calculation and compliance, which can reduce risk and improve audit defense," says Wilchusky.

Customers do not have to invest time and money into building in-house technology infrastructure.

With the cloud-based solution, Vertex can provision new customer instances far more quickly than it could with an on-premise solution, accelerating time to value for its customers. At the same time, the SaaS approach means that customers do not have to invest time and money into building in-house technology infrastructure. And, with the inherent flexibility and scalability of SAP Cloud Platform, the solution can continue to grow and adapt over time to meet changing customer needs.

Up to 50%

Reduction in total cost of ownership for customers using the Vertex solution



How It Works: The Architecture

Figure 2 shows the architecture of the Vertex solution. Vertex's Java-based cloud tax app runs in a SUSE Linux container on SAP Cloud Platform. The document repository for SAP Cloud Platform is used to store documents relevant to the tax-accounting process. The DDL for SAP HANA creates the database objects and conforms them to the table structure for the SAP HANA database. The database then holds the application and the client's tax data.

Vertex utilizes the SAP Cloud Platform Smart Data Integration service.

Vertex's architecture utilizes a database connector to synchronize any data sets needed from outside the cloud. To support future requirements, Vertex uses the SAP Cloud Platform Virtual Machine service with its third-party reporting application. Additionally, to support performance testing, Vertex utilizes the SAP Cloud Platform Smart Data Integration service to connect an on-premise Vertex database to its instances of SAP Cloud Platform. A RESTful API provides integration with third-party tools, SAP BPC, and other Vertex applications.

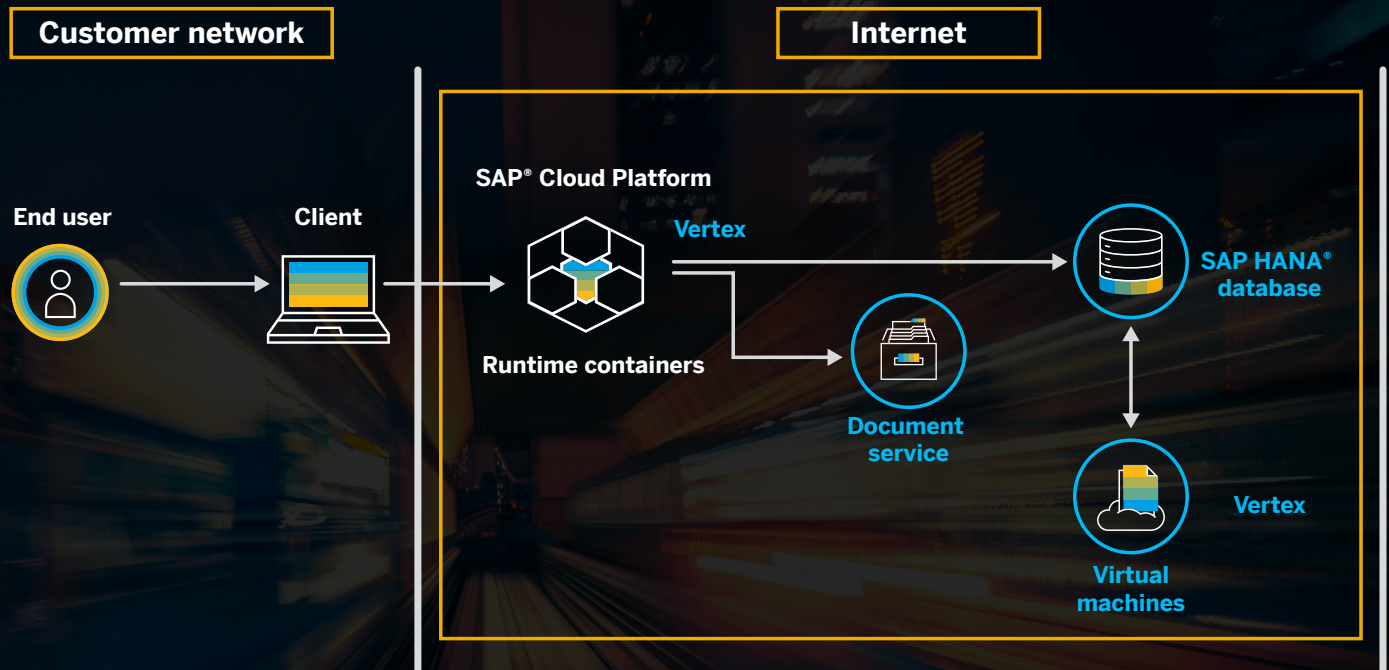


Figure 2: Vertex Architecture – Customer Experience

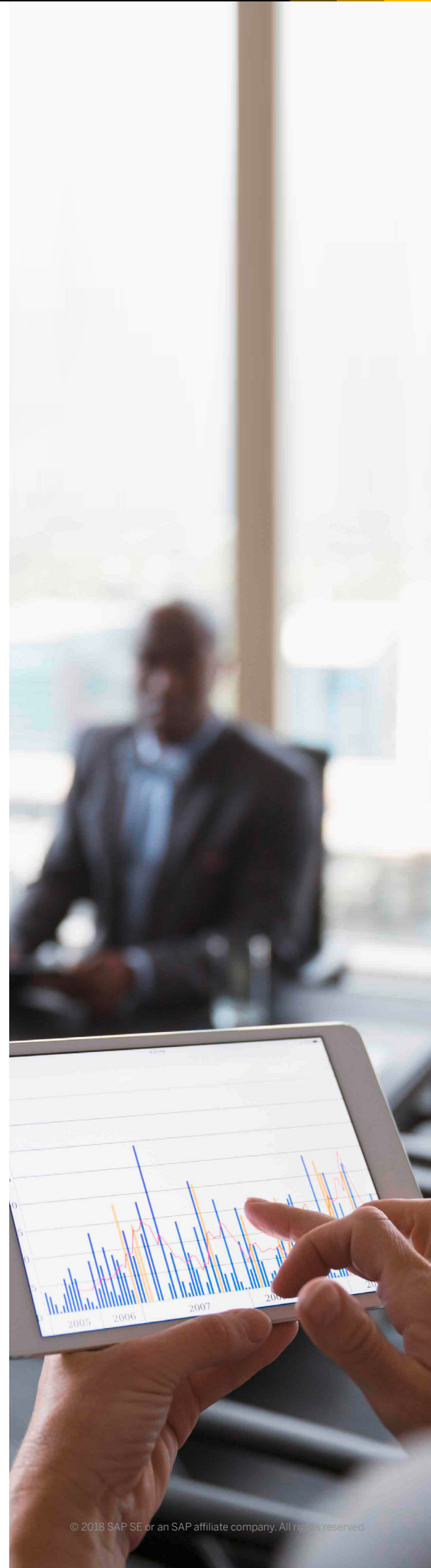
From Rapid Development to Business Growth

With the versatility and usability of SAP technology, the strength of the Vertex development and operations team, and its partnership with SAP, Vertex was able to meet several development goals that helped it move its tax software to the cloud – successfully and quickly:

- **Development** that fits within the development operations team's comfort zone and tool sets
- **Testing** suited to an application built on the cloud using DevOps practices and methodology
- **Data management** tools to efficiently build databases in the cloud and move data from the existing on-premise database to SAP HANA while ensuring data integrity
- **Integration** with SAP BPC and other SAP solutions and third-party applications
- **Application deployment** that gives the operations experts at Vertex the tools and methodology to deploy and maintain the company's tax solution in the cloud

The result is an architecture and solution flexible enough to meet the needs of a variety of Vertex customers – and to stay in step with their evolving needs. At the same time, the project gave the Vertex team the skills and capabilities to keep developing new innovations focused on delivering tax solutions in the cloud.

Vertex is monetizing its cloud transformation through new SaaS revenue. The company's sales pipeline for the new service has grown significantly since the launch of the cloud-based solution. What's more, the solution has been validated by the "Big Four" global accounting firms, which are recommending it to many large clients in a variety of industries – helping ensure that Vertex and its customer base will continue to grow.



Find Out **More**

To find out more about how SAP technology can help you enhance your products and services, please visit us [online](#) or contact your SAP representative.



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