White Paper

WFT Cloud Technology
SAP Cloud Integration
Service Provider

Developing SAP Enterprise Cloud Computing Strategy

SAP Cloud Computing is a significant IT paradigm change with the potential to increase agility and lower IT costs. Today's early adoption fears along with immature technology, perceived security risks, and other business concerns prevent widespread enterprise adoption of private, public or hybrid clouds. Wharfedale Technologies (WFT Cloud), a pioneer running 'SAP on Cloud', is developing a strategy based on growing enterprise adoption for the cloud from the inside and extending out to Public cloud.

WFT takes advantage of Software as a Service (SaaS) and niche Infrastructure and a Service (IaaS) implementations whenever possible, to support building Private cloud within a customer's data center. This delivers SAP customers with benefits of Cloud and also positions these companies to readily exploit external Public Clouds for running their Non- Production SAP. As cloud service offerings mature enterprise adoption will include running SAP Production in external Public Clouds.

Ganesh Radhakrishnan, Chief Executive Officer
Wharfedale Technologies Inc. (WFT CLOUD)
www.wftcloud.com

Executive Summary

SAP Cloud computing is a significant IT paradigm change with the potential to increase agility and lower costs. Today's early adoption fears along with immature technology, perceived security risks and other business concerns prevent widespread enterprise adoption of private, public and hybrid clouds.

Wharfedale Technologies (WFTCloud), a pioneer running SAP on Cloud, is developing a strategy based on growing enterprise adoption for the cloud from the inside & extending to Public cloud.

A strategy of growing the SAP cloud from on premise private cloud out delivers many of the benefits of cloud computing and positions utilization of a hybrid cloud model.

WFT takes advantage of Software as a Service (SaaS) and niche Infrastructure as a Service (IaaS) implementations whenever possible, to support building Private cloud within a customer's data center. This delivers SAP customers many of the benefits of clouds and positions these companies to readily exploit external Public clouds for running their Non-Production SAP. As cloud service providers offerings mature enterprise adoption will include running SAP Production in external clouds.

WFT has developed a SAP cloud computing strategy based on their in-depth experience from deploying a dozen (12) SAP private and hybrid clouds for enterprise customers based on different hardware vendor technologies. WFT created SAP cloud for hybrid cloud customers, providing Platform as a Service (PAAS), for enterprises and plan to aggressively expand and support more customers as their platform to reduce TCO.

WFT's deep understanding of SAP allows them to create Hybrid clouds for their customers and move non production SAP (with its lower data sensitivity profile) there. While customers retain their SAP production on premise. WFT strategy of growing the cloud from the inside out delivers benefits for SAP applications and positions customers to utilize hybrid public clouds for non-mission critical SAP applications.

WFTCloud's certified SAP migration services helps enterprise customers to overcome early adoption barriers with increased flexibility and agility, as well as lower costs.

Background

Cloud computing represents a significant paradigm change with implications for the SAP IT community. A growing number of service providers are starting to provide cloud computing offerings, industry analysts surmise that a significant number of SAP enterprises have already progressed from virtualization onto on premise cloud technology, and a significant percentage of Cloud customers will run on hybrid cloud within the next few years.

Many SAP customers understand that cloud computing could provide significant benefits specifically from the increased flexibility. However, these customers are undertaking risk analysis of the different cloud models before developing their cloud strategy.

- What cloud model should we consider (private or public or hybrid)?

- How do we create a cloud roadmap that supports a seamless transition from our current IT?

Cloud Definitions

Cloud computing is defined as a platform where services and data reside within shared resources in scalable data centers. Those services & data are accessible over the internet or secured VPN connections. Some of the key attributes that distinguish cloud computing from traditional computing are:

- Built on a scalable infrastructure.

- Available based on subscription billing

- Abstracted and offered as a Service

- Shared and multi-tenant

- Elastic, flexible and configurable

- Accessible over internet by any device

The three main categories of cloud computing definition.

- **Software as a service (SaaS)**, Software deployed as a hosted service and accessed over the internet

- **Platform as a service (PaaS)**, Platforms that can be used to deploy applications provided by customers or partners of the PaaS provider.

- **Infrastructure as a service (IaaS)**, Computing infrastructure such as servers, storage and network, delivered as a cloud service.

It is possible to build an internal IT environment with cloud computing characteristics (Private Cloud or On-premises internal Cloud)

SAP Cloud Benefits and Risks

Today cloud computing has come a long way and is no longer as immature as in the past, and is being used successfully by some large enterprises. However some companies feel the risks of adoption outweigh the potential benefits. But the technology is evolving very fast and this risk/reward balance is expected to shift with real benefits outweighing the risks for a growing number of enterprise SAP

Cloud Benefits

Agility, Flexibility, and Scalability

SAP business groups that want to test or upgrade SAP module can do so relatively quickly using their internal Private or Public cloud services, compared with weeks or months it can take with their current traditional IT model. With WFTCloud, users can purchase SAP Modules on cloud with their credit card and begin to use them almost immediately literally within minutes!

Cloud computing is flexible. You can spin-up more virtual servers if required or shutdown when not required. So there are minimized cost implications for SAP customers. Moreover additional computing capacity can be added to handle a surge in period-end processing. This allows you to scale easily rather than building additional latent server capacity which is idle most of the time within the data center.

Cost Savings

There can be a substantial cost saving for SAP customers if they can deploy Private Cloud for their Production and burst to external Cloud for Non-Production.

SAP Customers should also consider moving their Disaster Recovery into the Cloud and pay for servers only when disaster strikes. This would allow customers to save on capital expenditure for servers and other hardware rarely used..

Risks

SAP Customers may feel there is a business risk to storing data on a public cloud. Security and privacy of data may represent a company's biggest risks to moving IT services to public clouds. Also the advantages of cloud computing – with its flexibility, ease of use and shared infrastructure also introduce the concern that misuse of cloud computing may put SAP Customers' information at risk.

Enterprises cannot rely solely on the cloud providers; in many cases these providers' controls do not provide adequate protection. With most SAP enterprise customers traditionally the use of and access to business data is heavily regulated, without adequate cloud based safeguards, this data may be at risk.

How SAP help Customers

SAP helps customers by regulating them to certified SAP Cloud Hosting & Services Providers listed on their website. Moreover SAP audit these Cloud providers who all must have implemented appropriate security levels at their data centers.

SAP also recommends Best Practices for customers to run on Virtual Private Cloud (VPC) plus SAP has direct VPN Tunneling between their Primary SAP facilities and the Public SAP Cloud Providers.

Taking SAP to the Cloud

It is important to understand the Cloud even with all its misconceptions, buzz and the lack of defined terms going around in the industry. WFT defines cloud computing as a highly scalable, elastic and technology driven services that is readily available over the internet, used as needed on a subscription basis.

SAP on Cloud

WFT sees the cloud as the next phase in the evolution of the internet. The cloud enables new services, and provides significant business value by enabling technology to be delivered as a service. This not only relates to computing capabilities but it extends to business processes and personal interactions using mobility and social media type services whenever it's needed.

Cloud computing for SAP makes it possible to scale SAP services horizontally, internal resources rapidly, and correlate processing workload to achieve predictable throughput when there is variable SAP demand.

Cloud services are additive. They can be blended into a hybrid environment when it comes to SAP. Companies running SAP Landscapes should look holistically moving forward into hosted, managed, in-house and Cloud based SAP services.

Cloud Options

The promise of running SAP on cloud is appealing to IT. When IT organizations talk about leveraging SAP on cloud, one of the main benefits they talk about is lowering costs. But SAP moving to cloud is not just about cost – that is too simplistic. There are other benefits which cloud can bring, like saving time with provisioning, enabling IT to be more responsive, providing companies with a competitive advantage and yes cost savings.

Key Questions Business Ask?

- Will cloud computing reduce SAP IT costs and deliver attractive return on investment?
- Do we need to move the entire SAP Landscape to cloud - If so what visibility will we have over the services and their impact?
- Who governs cloud delivery? Does cloud fit the governance model for SAP?
- How do cloud providers manage the security for their services?
- What are the advantages over virtualization and automation which benefits cloud users?
- How are compliance, audit and business controls requirements maintained with It services delivered on cloud?

SAP Cloud Assessment

The first and foremost is to ensure the fit of a cloud provider to your company. This will help the business and technical teams gain a common understanding of what they can expect from their cloud service. As a SAP cloud provider, WFT Cloud provides its customer with IT building blocks. These building blocks help organizations to source, deliver, transform and manage a hybrid based and technology enabled IT services for SAP.

An assessment is a good initial step when thinking of moving your SAP to cloud.

The WFT Cloud assessment process will cover 3 areas:-
- Initiation phase
  - Workshop to review completeness
- Analysis phase
  - Applications suitability to cloud
- Reporting phase
  - Review the analysis

Key SAP Architecture Consideration

A migration to external cloud computing involves significant changes to the role of IT organization and the way SAP applications are used. From the perspective of an IT organization, there are a number of key areas to consider, including applications, standards and the blended hybrid use of external (Public) and internal (Private) clouds.

SAP Applications

The Cloud computing integration architecture will need to support multiple SAP Applications such as ERP ECC, CRM, BW, SRM, EP etc.. along with external third party applications. SAP needs to be accessible from several sources

• A directly accessed internet located service
• An internet located service accessed indirectly through an address managed in an internal cloud
• A directly accessed intranet-located service

The IT organization of the future will be responsible for identifying the right location for computing on multiple available platforms - some within the enterprise and some external. IT will evaluate different global suppliers and assemble the right mix of internal and external based services.

Standards

In future there will be multiple different clouds solutions and the standards will be different. This will present a lot of future challenges. As a result, standards will be needed to enable these clouds to work as a single entity.

From an architectural standpoint, a single logical cloud service that masks the complexity of different cloud-based offerings is highly desirable in order to minimize application design complexity.

External and Internal Clouds

Many technical and legal issues prevent broader enterprise adoption of external Public clouds. These issues are largely addressed with a Private cloud, operated inside the enterprise, where there are internal controls.

Because of this, a Private cloud is the ideal place for SAP to start proving cloud related technologies and is a logical first step before attempting more wide spread migration to a Public cloud service.

A large enterprise can gain many benefits from the greater abstraction of application and infrastructure that accompanies a migration to a Private cloud.

Once standard interfaces and protocols exist and technical and legal obstacles have been overcome, IT organizations can start to make greater use of Public cloud-based capabilities, with minimal disruption to business users, while significantly reducing the data center footprint of traditional internal physical infrastructure.

This progression means that IT organizations need to balance three broad areas of computing while making the transition to the external Public cloud:

• Current legacy or conventional computing
• Internal Private cloud
• External Public cloud

SAP Cloud Computing Strategy

WFTCloud SAP cloud computing strategy is based on growing the cloud from the inside out: building an internal cloud, then migrating to an external cloud – as the market matures and security and privacy concerns are addressed. Meanwhile WFTCloud is already allowing its customer to take advantage of running SAP Non-Production applications within WFTCloud where there are clear benefits.

Suitable Applications for External Clouds

It is very clear that not all SAP applications are suitable for external clouds. SAP Non Production which is not mission-critical, is an ideal candidate for External cloud. To minimize security risks, these Non-Production SAP applications should not contain sensitive information. The set of enterprise applications deemed to have a low security risk profile will grow, over time, as more sophisticated techniques to secure cloud-based applications and its data are developed.

Infrastructure as a Service & Platform as a Service

IAAS has little or no need for re-engineering. WFT can move SAP Non Production application from a Virtual Machine within the Internal Cloud to External Cloud. However, before WFT could do this, we would need to qualify the IAAS offering and position it as the preferred target for hosting a designated class or tier of applications because of its superior cost profile or scalability. Most importantly PAAS, associated with IAAS, will be the best adoption of SAP Non Production on External Cloud. After qualification rapid adoption could proceed as WFT migrate applications from the designated class or tier to an external IAAS cloud with minimal downtime.

Transforming Existing SAP Landscape to Internal Cloud

Over the coming years WFT plans to focus on expanding our internal cloud service. We will work with businesses to migrate SAP Landscapes to Private cloud. As standards evolve and barriers such as security, manageability, and reliability are addressed, WFT will assist its customers with also moving SAP Production applications to external clouds.

Future: Moving from SAP Internal to External Cloud

WFT Cloud strategy for SAP customers will begin to operate more like a single internal cloud that can scale based on demand, and later plan to move the customers' SAP Production to external clouds.

The impetus for this transformation will be standardization. As external clouds grow in sophistication then customers will automatically migrate their internal cloud to an external cloud.

Conclusion

SAP cloud computing promises significant benefits, but today there are security, privacy, and other barriers that prevent more widespread enterprise adoption for running SAP Production externally. But enterprises are showing great interest in moving SAP Non-Production to External Cloud for true TCO benefits. WFT Cloud is helping customers grow their cloud services from the inside out. As external cloud grows in sophistication and as standards are finalized, enterprises will be more comfortable to move their SAP Production to External Cloud. WFT Cloud will be there to help them.