2015

SAP Cloud Comparator

Infrastructure Migration to Cloud Cost Comparison

This document provides sample cost comparison of different public & private cloud cost comparison for customers to make right decision

Prepared For

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Center of Excellence (COE Team)
WFTCloud

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1 EXECUTIVE SUMMARY

This document helps customers understand the intricacies involved with SAP migration to Cloud and better understand different options available from industry leading Public Cloud providers or migration to Private Cloud.

To realize the full value of cloud computing, companies need to create a holistic strategy that addresses the entire cloud stack. Companies need to create a detailed plan to realize their vision for cloud computing. This strategic approach can give companies the support they need to streamline their IT architecture, reduce the total cost of IT operations, and shift their focus from operations to innovation and value creation.

The objective of moving to cloud is to control the following:-

- Convert sprawling IT resources into a set of agile, flexible, and efficient business assets
- Simplify the adoption of innovation
- Reduce IT costs and effort

To enhance business innovation while reducing the cost of IT operations, many companies want to move their business into the cloud. Yet these organizations need help developing a complete cloud-computing approach – one that incorporates both on-premise and on-demand solutions.

That is what brings WFTCloud to offer a free cloud comparison service that gives companies the expertise needed to develop a holistic cloud strategy with leading Public Cloud providers. This offering helps companies make the transition from traditional IT landscapes to a hybrid cloud model using industry leading Cloud providers that integrate on-premise and on-demand solutions in a private or public cloud environment.

Provided by WFTCloud Services, the service begins with an assessment of customer requirements and readiness, analysis workshops, and a draft business case. WFT consultants help the organization migrate selected on-premise systems and execute a proof of concept implementation. In the final step, WFTCloud Services works with the company to evaluate migration results, design a target architecture and organizational model, and create a cloud transition road map.

By consolidating sprawling computing resources, this service helps firms reduce costs. Automation technologies help accelerate processes, increasing IT speed and agility. With IT serving as a true business enabler, companies are better able to innovate.

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2 INTRODUCTION

WFTCloud is the leading virtual private SAP cloud services provider for Intel-based IT infrastructure. It uses a combination of proprietary and off-the-shelf technologies to achieve the operational and economic efficiencies of tenfold the service levels at a fraction of the legacy cost. WFTCloud technology and service offerings combine enterprise-class virtualization, servers and storage systems with top-tier data center facilities to deliver secure, scalable next generation virtual hosting and recovery services. WFTCloud pay-as-you-grow model saves on capital expense, improves service levels over the legacy solutions and drives end-to-end cost and convenience benefits on behalf of mid-market organizations or self-directed divisions of global companies.

WFTCloud is uniquely positioned as first certified partner in the world to enjoy the prestigious "SAP Certified Cloud Services Partner" designation and discipline from SAP and has used its operational expertise to deliver the largest virtual private cloud SAP landscape in the market.

3 OVERVIEW – WFT MANAGED CLOUD AS A SERVICES (MCAAS)

3.1 MCaaS enables savings of 30% over a 5-year TCO lifecycle

Subscription delivery of traditional SAP solutions

Primary drivers for the TCO reduction are the combined result of key MCaaS components:

3.1.1 Economies of scale from Cloud-based infrastructure

• **Scalability** – increase/decrease system usage on demand *without wasted or underutilized systems* for backup, Dev, and QA

• **Flexibility** –business process *changes can quickly be reflected in IT infrastructure*

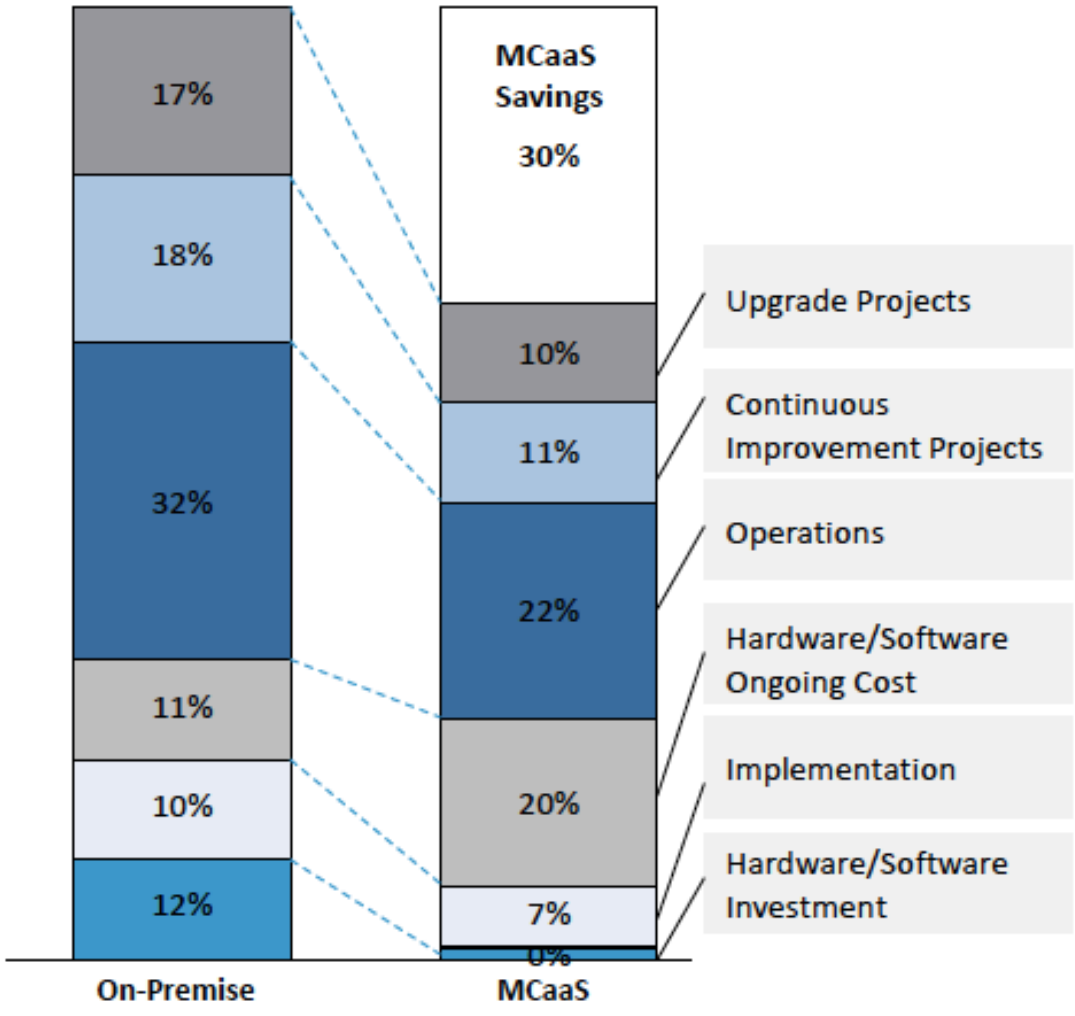
• **Speed** – Fast deployment and provisioning *speeds time to value and lowers wait time, improving productivity*

3.1.2 Lower costs from application management services

• **Pooled Resources** – Expertise is spread across multiple customers, thereby making it cheaper on a per customer basis than if customers staffed dedicated SAP resources

• **Automation / Standardization** – Combines automated processes for provisioning, management and monitoring with virtualization across customers, along with standardized packages for implementation, upgrades, and patches

3.2 SAP TCO Stack elements from bottom to top in chronological order of the TCO lifecycle

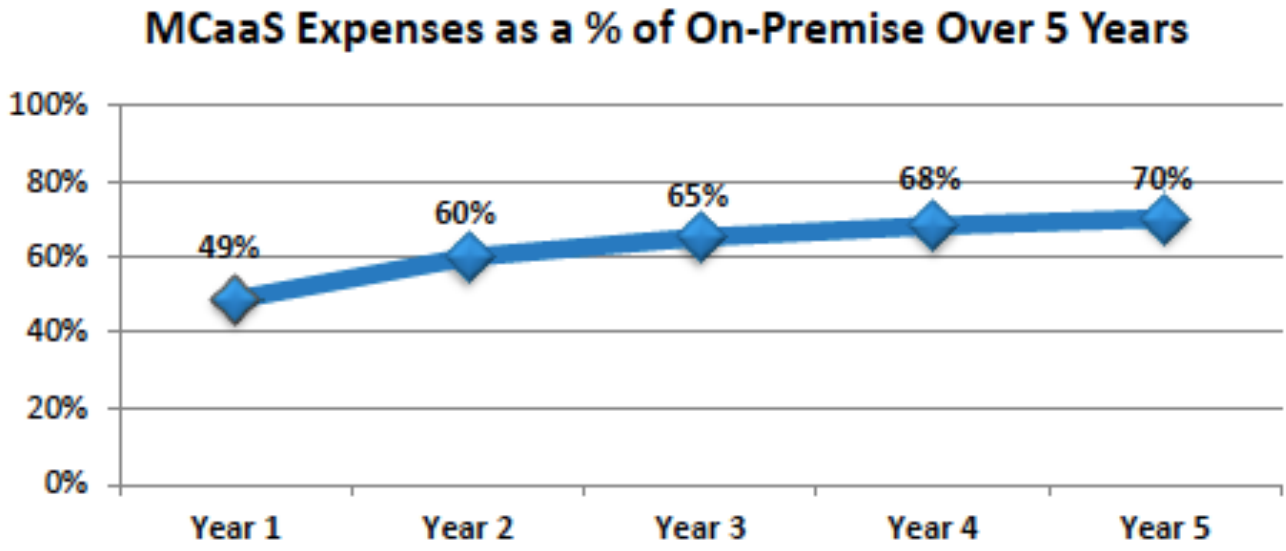


4 TIMING OF MCAAS FINANCIAL IMPACTS

4.1 Cost Impact Timing & Cash Flow Optimization with McaaS

4.1.1 The 30% savings in TCO accumulates over the course of 5 years

- Since MCaaS extends the benefit of infrastructure hosting to software licenses as well, the upfront capital costs are nearly eliminated
- When compared to traditional on-premise deployment options, MCaaS cost savings are mostly front-loaded, with 51% of the savings realized in the first year, and the remaining savings realized over the remaining years

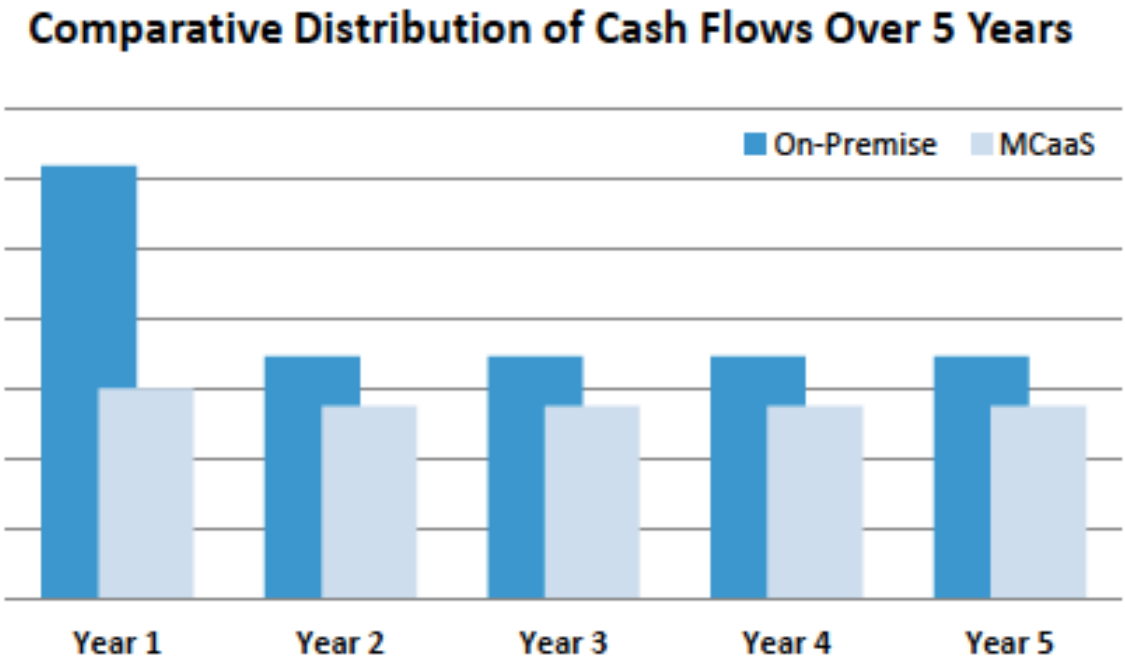


4.1.2 On top of the overall 30% TCO reduction, a more even distribution of payments

MCaaS helps to optimize overall cash flow

- On-premise deployments require more up-front cash outlay (31% of total) while MCaaS has a more evenly distributed cash flow impact of (approximately 20% per year)

- The impact from MCaaS on cash flow optimization is also greater than on-premise since the large initial outlays associated with on-premise deployments are less "discounted" from a time-value of money perspective, and are therefore more expensive, dollar for dollar



5 HIGH LEVEL OVERVIEW OF KEY BENEFIT AREAS

5.1 30% Cost Reduction along with optimization of Cash Flow

The MCaaS TCO impacts are greatest in the following areas:

- **Upfront hardware & software investment** is almost completely eliminated, going from 12% of TCO down to 0.1%. MCaaS extends OpEx subscription for hardware – inherent in outsourced infrastructure hosting – by adding in OpEx subscription pricing for SAP software as well.

  In contrast, **ongoing cost for hardware and software** (where the license payments have been moved to as operation cost) increases from an 11% to a 20% share. This is below 100% increase (72% cost increase) due to better allocation and provisioning of hardware and licenses.

- **Implementation as well as later continuous improvement projects and upgrades** benefit from the cloud operation model with savings in the range of 37-39%.

  In both private and public, the cloud operation model provides flexibility and speed in resource provisioning which is needed to enable application implementation or change processes.
  Whether it's the initial technical implementation, a test system needed to check out an application change, fast replication of test data, or additional machines needed during an upgrade process, in all these cases, the rapid deployment of resources speeds up project execution, enables early testing, and saves costs in FTE time waiting for systems to be available.

  Spending in **Operations** (especially application management and support) is reduced by 29%. Not only does the cloud computing model provide resources faster, it makes provisioning easier via automation of IT processes. Virtualization is a large part of this saving effect as well as centralized management resources and talent pooling. The key to success are automation and software defined landscape management.

SAP TCO model		MCaaS triggered savings
Level 1	Weight*	
Hardware/Software Investment	12%	99%
Implementation	10%	34%
Hardware/Software Ongoing Cost	11%	-72%
Operations	32%	29%
Continuous Improvement Projects	18%	37%
Upgrade Projects	17%	39%
Consolidated (Overall savings)		**30%**

* Weight = Share of cost for operation On-Premise

6 DETAILED SAVINGS IN SAP MCAAS DEPLOYMENTS

6.1 Initial investments & implementation costs savings

SAP TCO model Level 1	SAP TCO Model Level 2	MCaaS savings	MCaaS Effects Explained
Hardware/Software Investment	Technical Infrastructure	95%	Small amount of infrastructure and deployment still needed, but the largest part of a typical on-premise deployment investment is eliminated.
	System Software	100%	No upfront investment needed for applications, only for some infrastructure and implementation.
	Application Software	100%	
Implementation	Technical Setup & Process Design	90%	Technical implementation of hardware and software is virtually eliminated as cloud deployment uses pre-defined infrastructure and pre-installed software.
	Organizational Change	0%	No effect, organizational change management is still needed.
	Business Setup	0%	No effect, business process design is also still needed.
	Project Management	20%	• More flexibility when additional resources are needed, and lower project overhead (technical implementation, etc.), can help projects stay on-time and on-budget and reduce effort needed. • Having one provider that knows the customer's business and offers long term consulting rates which are better than the market.
	Testing	35%	Provisioning of test systems and test data is easier to accomplish with additional resources and on-demand infrastructure that scales up and down as needed.
	Training	35%	Training systems are cheaper to provide. Refreshes can be done easier, faster, more often in the cloud operating model.

7 DETAILED SAVINGS IN SAP MCAAS DEPLOYMENTS

7.1 Ongoing investments, operations, and upgrade projects costs savings

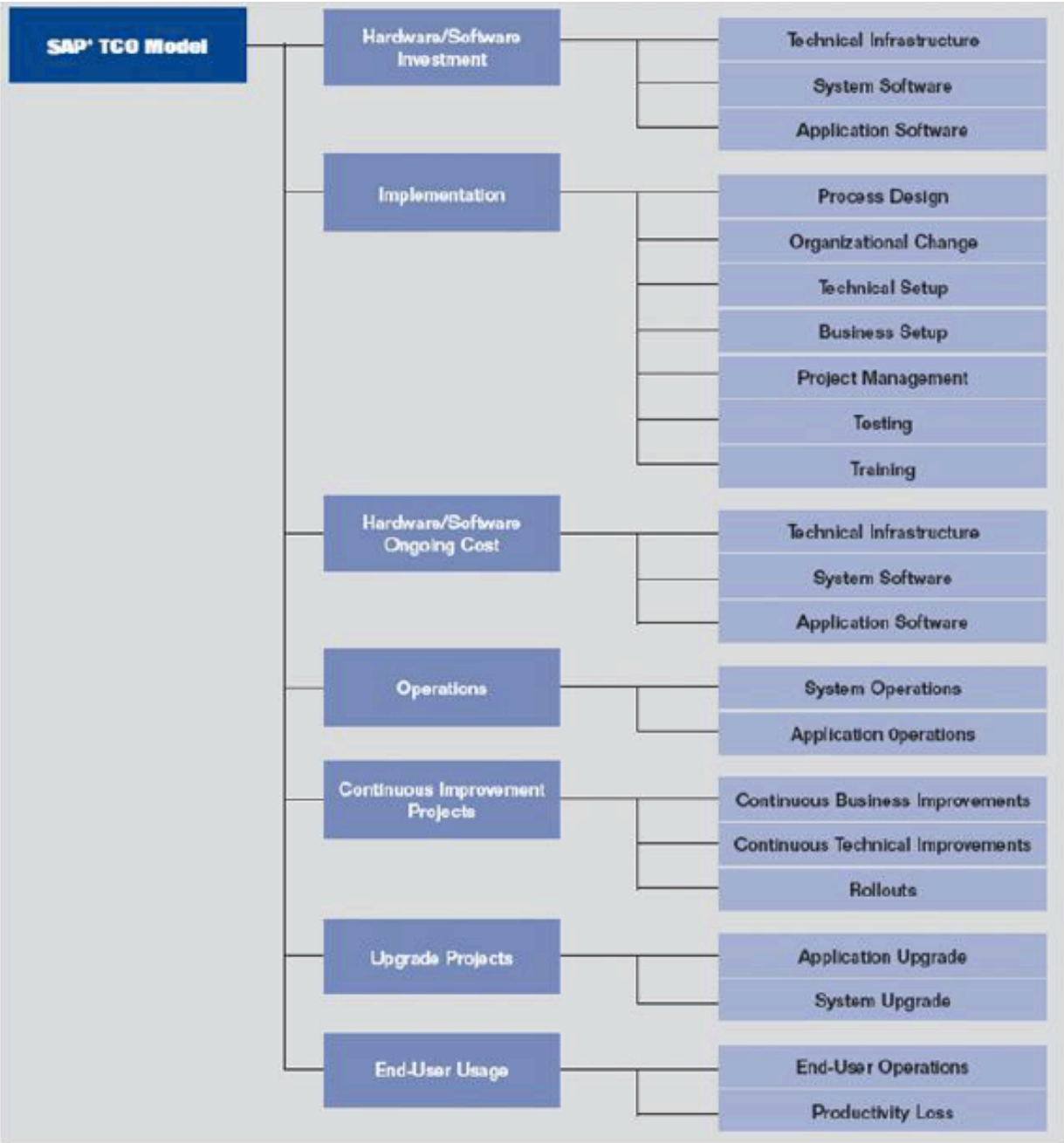
SAP TCO model Level 1	SAP TCO Model Level 2	MCaaS savings	MCaaS Effects Explained
Hardware/Software Ongoing Cost	Technical Infrastructure	35%	Changes in the infrastructure are much easier to provide. Increases and decreases in infrastructure needs can be managed more effectively; over-provisioning of resources to meet max capacity vs. low utilization of overall capacity during times of normal demand is no longer an issue.
	System Software	-123%	System software (database) and application software ongoing costs increase since there are continuous payments made in a subscription model. These increases in ongoing costs can largely offset the upfront investment savings but the positive cash flow implications are an added benefit.
	Application Software	-95%	
Operations	System Operations	53%	• The huge impact on operations is caused by the efficiency of the cloud computing operations model. Virtualized environments, automated processes, and centralized resources enable high level of costs savings. • Talent pooling and SAP expertise availability enable more customers to be supported by less FTEs, resulting in a net savings across customer implementations.
	Application Operations	22%	
Continuous Improvement Projects	Continuous Business Improvement	34%	• When MCaaS is used, you are able to quickly add another resource that you need. The simple expansion and scaling of SAP instances, in the case of higher demand due to an increasing number of users or new functions, is based on the ability to expand the capacity of cloud infrastructure. • The provisioning and management of SAP training and test systems can be simplified and accelerated using cloning and recovery functions. Also, the lead time for setting up new SAP systems decreases. • Consolidation of services from one service provider will enable larger volumes of consulting utilization and therefore the ability to negotiate lower overall consulting rates.
	Continuous Technical Improvement	90%	
	Rollouts	40%	
Upgrade Projects	Application Upgrade	36%	
	System Upgrade	55%	

8 SAP TCO MODEL OVERVIEW

8.1 The SAP TCO model covers the whole SAP lifecycle

Important components of the SAP TCO model:

- The basis of this study is the SAP TCO model. This model covers the total cost of the entire lifecycle of SAP software. The study covers CAPEX (investment cost) as well as OPEX (operational cost) elements.
    - **Hardware/Software Investment** covers all costs to set up a technical environment to run SAP on.
    - **Implementation** covers the initial application customization and setup.
    - **Hardware/Software Ongoing Cost** covers all HW/SW related cost, which occur continuously over time. In the MCaaS model this is the continuous payments for licenses. In the case of on-premise, the maintenance payments for HW and SW.
    - **Operations** covers the usual day-to-day work to keep things running. It includes job management, system surveillance, etc.
    - **Continuous Improvement Projects** cover all kind of changes, triggered by changing needs of users or the business.
    - **Upgrade Projects** cover all SAP triggered changes by new software releases but also similar activities by database vendors, OS vendors, etc.



Notes

- This study does not include end user operations, WAN or workplace-PC related cost.
- The study is based on an installation lifecycle calculation of 5 years.
- The model is detailed hierarchically by a total of 3 levels, each enabling a more detailed view on the subject.

9 SAP CLOUD MIGRATION AND SCOPE

9.1 Scope

The following high-level activities will be addressed in this document , specific to SAP Cloud Migration:

- Overall program management and architecture
- Proof of Concept
- Activities to setup and configuration
- Decision for Hybrid Cloud (Move Non-Production to Cloud and Production On-Premise)
- Minimal downtime during SAP migration to cloud
- Pricing
- Knowledge Transfer

9.2 Key Dates

Milestone/Event	Expected Date
Fiscal Year	January thru December
Financial Year End	
Month End Closing	~30th of month for 10 business days
Quarter End Closing	20 days after the quarter month end
Migration Go Live	<Month> XXXX
Customer Decision	<Month> 2015

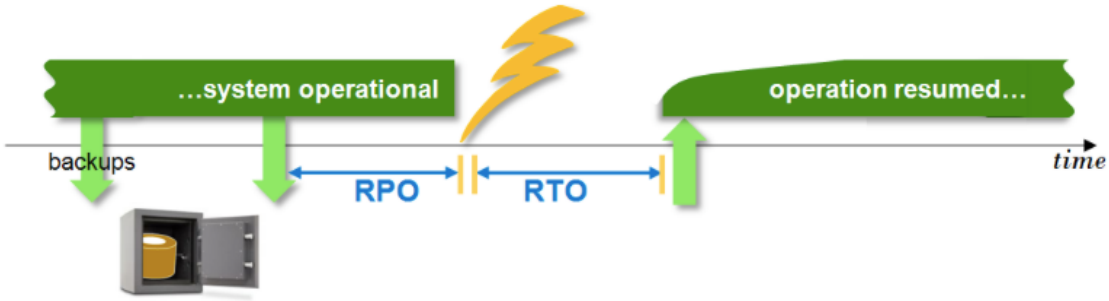
9.3 Key Performance Indicators (KPI's)

KPI	Value
RPO	0 minutes *** Tier 1 in Customer Matrix
RTO	4 hours *** Tier 1 in Customer Matrix
Availability	99.999% *** Tier 1 in Customer Matrix
Response Time at Peak	< 300ms (dialog) < 300ms (RFC)
Planned Downtime	Defined, no monthly outages
Maximum Migration Downtime	TBD

9.4 Disaster Recovery (DR) RPO/RTO Tiering Table

Customers commonly use two key measures to specify the recovery parameters of a system following an outage: the Recovery Period Objective (RPO) and the Recovery Time Objective (RTO).

The RPO and RTO of a system are illustrated below:



Recovery Point Objective (RPO) / Recovery Time Objective (RTO) Classification Table

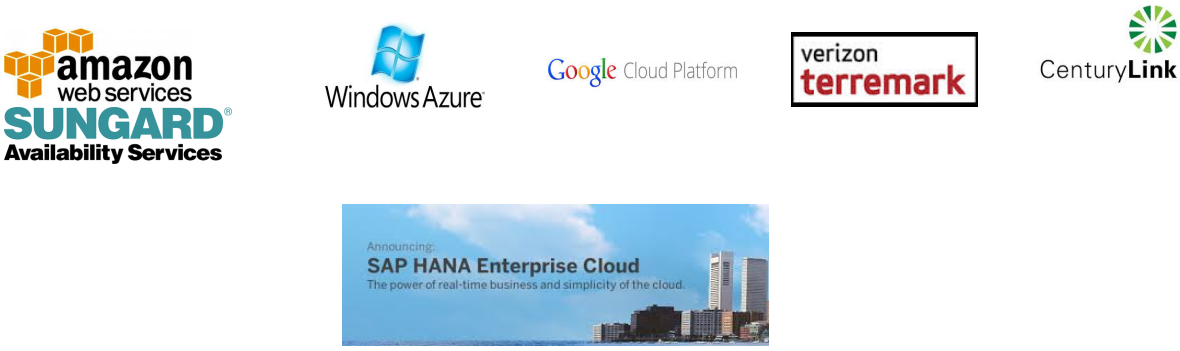
	Tier 0	Tier 1	Tier 2
Category	**Foundational**	**Mission Critical / Business Critical**	**Operational Critical / Supporting Services**
Business Scope	Technical Infrastructure	Mission Critical Business Processes tied to core competencies and strategy	Business supporting process / Non-Critical business applications
Impact to Critical Business Functions: Finance, Customer Service, Distribution, Quality, tracking, Planning, Production, Demand and Supply	Disaster Recovery Event, Immediate and significant (material) financial impact	Significant to high financial impact, Immediate and significant customer service impact, immediate non-compliance to key regulations	Moderate to Low financial impact, Necessary for tactical and operation decision support, Required to support necessary back-office operations and compliance
Recovery Point Objective (RPO)	0 minutes	0 minutes (Bunker)	Up to 4 Hours
Recovery Time Objective (RTO)	Up to 10 minutes	Up to 4 Hours	Up to 12 Hours
Minimum Operating Level (MOL)	100%	85% - 100%	25% - 50%
Standard Service Hours	24 x 7 x 365	24 x 7 x 365	16 x 7 x 365
Technical Availability	99.99%	99.95%	98%
Unscheduled Down Time (Annual)	52.56 Minutes	22 hours	7.4 days

***** Tier 1 reflects Customer Production**

10 WFTCLOUD KEY DIFFERENTIATOR - SUMMARY

WFT's uniquely flexible "**SAP architect and delegate**" methodology offers a proven, high impact, two-step process to leverage the emerging IT trends:

- Step 1: We ***design*** infrastructure and application architecture using distributed virtual private & leading public cloud services providers (IaaS)
  - User deployment
  - Feature/function topology
  - Geographic reach



- Step 2: Customer ***delegate*** WFT for the design execution and maintenance while having control on technology roadmap and total cost of ownership
  - Just-in-time SAP resource provisioning
  - Infrastructure-as-a-Service (subscription)
  - SLA-driven strategic relationship

10.1 Leveraging SAP Private Cloud Investments

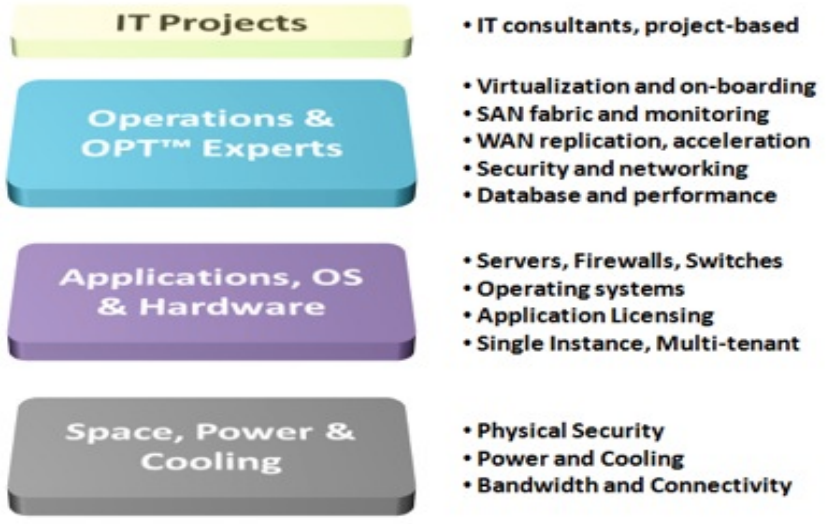
WFTCloud's pioneering record in enterprise-class virtualization & cloud, coupled with our status as a certified SAP Cloud Services Partner, make us a uniquely qualified provider to help customer host their SAP Landscape on Cloud.

- WFTCloud's proprietary advantage and IP using distributed virtual resource cluster technology, operationally supported by the proven expertise of former SAP talent (180+ production systems)

- 325x advantage on data center productivity vs. legacy/co-lo hosting migration & maintenance, enabling next generation benefits to deliver SAP application as a service, maintaining technology roadmap control

- Hassle-free "limo-ride" to SAP Application in virtual private cloud, including automated on-boarding and WAN/MPLS acceleration, with business focus on easy end-user experience, retaining SAP advantages of transparent integration, robust functionality and flexible configuration

- 100% success in high availability and system recovery and 100% customer retention, with just-in-time resource provisioning using infrastructure-as-a-Service (IaaS, subscription-based) and SLA-driven strategic relationship



At a high level, WFTCloud envisions the following Roles and Responsibilities to help customer move their SAP Landscape (Production or Non-Production) to cloud.

- <Customer> to focus on core business value, user experience and application roadmap, including application performance objectives and operational efficiencies

- WFTCloud to deliver SAP Applications in virtual private cloud, with flexibility to align unified support discipline across IaaS + PaaS delivery, BASIS and a fully managed AMS, as needed, with predictable economics.

- Rapidly available DEV and QUALITY environments ready for on-boarding with SAP Application baseline sets to accelerate deployment times, leveraging SAP Basis lead and a proven strategic relationship to deliver manifold value

Some of WFTCloud's additional operational advantages include:

- Flexibility to fine-tune SAP production and ancillary compute resources with minimal downtime
- Rapid provisioning with no delay for hardware procurement
- Ability to clone and copy SAP systems quickly and affordably; this is particularly useful for:
    - Diagnosing problems that can only be reproduced in Production or copies of Production
    - Creating and refreshing training systems
- No buy-back/termination fees for temporary systems
- Ability to inexpensively provision small systems for secure network endpoints such as
    - Secure web dispatchers
    - Proxy servers
    - Mail gateways
    - SAP Routers
- Disaster recovery solution built into virtualized, geographically dispersed infrastructure (Optional for customers based on requirement)
- Integrated Total Quality Commitment for service delivery across IaaS, PaaS, BASIS and AMS

11 WFT UNIQUENESS

11.1 Transform SAP customer landscape to Cloud

WFT can help choose the right cloud solution to transform your IT environments, as that's what we do best. We can help you better align IT costs with strategic cloud solutions that allow your business to:

- Do more with less
- Have greater flexibility/agility
- Increase speed to market
- Leverage mature technology

It starts with where to begin, helping customer understand what model is appropriate for their organization. It moves to defining the end state-mapping applications to the cloud, ensuring security and compliance have been extended and maintaining service management processes. Next is getting there. What component of which application should move into what type of cloud? And, ends with the business case - ensuring that a cloud solution truly benefits your bottom line.

We provide SAP-centric cloud solutions that demystify cloud adoption and help clients transition to the cloud with a 95% adoption rate.

- **Cloud Acceleration Program** A proven methodology, which maps the right kind of SAP application workload to the appropriate secure cloud solution - for a migration that maximizes speed while minimizing exposure.

- **Enterprise Cloud Readiness Assessment** Identifies your business drivers, requirements and constraints around cloud adoption; provides conceptual target state architecture, cloud placement guidelines, a migration roadmap and a financial model to facilitate your move to the cloud.

- **Cloud Workload Planner** An application by application analysis to determine the optimal cloud solution for your IT workloads: virtualized infrastructure, public cloud, private cloud or hybrid. (We can provide comparison of leading Cloud players like Amazon, Azure, GCE, vCloudair etc…)

- **Advanced Cloud On-boarding Service** Knowledge, Experience & Training that accelerates the deployment and configuration of your cloud infrastructure to navigate your cloud environment.

- **Proof of Concept** Complimentary service to test an application in the preferred Public Cloud environment that serves as a baseline for a deployment/migration playbook.

11.2 Delivering Customized Cloud So Customer Can Focus On Growing Their Business

Our Cloud Acceleration experts have extensive experience designing and implementing cloud environments for our global client base. We are a pioneer in establishing industry best practices and fully understand the people, processes and technologies need to fully benefit from cloud. We deliver a SAP cloud architecture optimized to: lower your capital expenditures, support your existing applications, scale effectively for long-term growth, and reduce your data center needs for space, cooling, heating and energy.

- **Cloud Assessment** Design a virtual environment based on analysis of your existing physical servers and/or network environment

- **Cloud Optimization** Provides an application oriented infrastructure solution that fits your needs, including a thorough analysis of your technology portfolio, utilization levels, architecture, inter-dependencies, supportability, security and compliance requirements.

- **Cloud Acceleration Program** Analyze your applications and infrastructure to enable a fact-based, holistic approach to cloud, customized for your business.

- **Cloud Health Check** Address performance bottlenecks, security, platform instability and cost savings with a prioritized cloud improvement plan.

- **Cloud Migration** Execute and manage the transition from your physical environment to a cloud .

12 PROVEN CLOUD MIGRATION METHODOLOGIES

WFTCloud's SAP Migration and Consolidation services provide an application-based, complete solution that guides customer through the transformation process; navigating business dynamics, new technology capabilities and the need to leverage managed cloud hosting. From assessment and planning to migration and steady state - manage risk, control business disruptions and go from planning to "live"—on time and within budget.

Our team has years of experience in performing migrations for hundreds of clients. Our proven end-to-end methodology will keep your systems running smoothly:

- **Cloud Migration Assessment:** Define appropriate migration strategy and establish the financial base and cost efficiencies to justify customer transformation.

- **Cloud Migration Consulting:** Understand the implications of customer datacenter transformation for focused area—governance, solution architecture, migration orchestration and engineering support—to help ensure a smooth transformation.

- **Cloud Migration Gap Analysis:** Benchmark and understand possible risks and gaps by comparing customer plans against our time-tested, thoroughly researched planning models.

- **Cloud DataCenter Migration Program:** Transition to new datacenter with an application-based migration approach, including robust process and governance frameworks that meet customer migration requirements.

12.1 Heterogeneous Migration

Heterogeneous SAP system copies of SAP systems to other database platforms or operating systems, always result in a huge effort for large databases. Migration procedures of SAP NetWeaver systems are usually the most complex ones. Customers running non-Intel based landscapes need to perform OSDB Migrations before migrating to cloud. It is important to follow the best practice to achieve an optimal performance in cloud.

12.1.1 OSDB Migration Check

SAP OS/DB Migration Check minimizes technical risk involved in an operating system and/or database migration and avoids unforeseen costs that can occur during the migration. WFT Center of Excellence Team are certified OSDB Migration Consultants

The benefits of this service are as follows:

- Efficient, technically robust operation of your new operating system and/or database is achieved with minimum cost
- Your migration project is accelerated to get a faster return on your investment
- Expensive system downtimes during the migration are minimized
- System resource usage is optimized to make the most of your IT investment

- Infrequently required migration expertise is outsourced

A well laid-out, easy to follow plan based on experience with thousands of migrations successfully leads you through a migration. It prepares customer SAP landscape so it runs with optimal performance, availability and maintainability after the migration in cloud.

13 SAP SYSTEMS REFRESH

Customers conduct SAP System Copy and System Refresh to coincide with release schedules. Prior to a new release rollout or Upgrade to the SAP® production system, System Refresh is conducted to refresh the QA system from the production system, which helps enforce data consistency and facilitates comprehensive testing before the release is rolled out to production. Completing a System copy or full System Refresh is challenging. Many different procedures must be coordinated and significant problems can occur if any part of the process is not completed properly, especially since the SAP production system is involved.

WFT specializes Systems Refresh with multiple cloud provider's technology by adding automation to provide consistent best practice-based execution of SAP System Copy and System Refresh procedures. Automated and guided procedures provide clarity and coordination of all activities, which has several benefits, including:

- **Time savings and reduced off-hours work** Reduced dependence on manual coordination of activities
- **Reduced operational complexity and potential for errors** Consistent, correct execution of steps and a documented, clear, repeatable workflow
- **Easier auditing** Detailed audit report to simplify auditing

14 HIGH AVAILABILITY

Availability, the measure of a system's operational continuity, is expressed as a percentage of time, inversely proportional to downtime. For example, if a given system is designed to be available for 99.9% of the time (sometimes called "three nines"), its downtime per year must be less than 0.1%, or 9 hours.

Downtime is the consequence of outages, which may be intentional (e.g. for system upgrades) or caused by unplanned faults. A fault can be due to equipment malfunction, software or network failures, or due to a major disaster such as a fire, a regional power loss or a construction accident, which may decommission the entire data-center.

High Availability is a set of techniques, engineering practices and design principles for Business Continuity. This is achieved by eliminating single points of failure (fault tolerance), and providing the ability to rapidly resume operations after a system outage with minimal business loss (fault resilience).

Fault Recovery is the process of recovering and resuming operations after an outage due to a fault.

Disaster Recovery is the process of recovering operations after an outage due to a prolonged datacenter or site failure. Preparing for disasters may require backing up data across longer distances, and may thus be more complex and costly.

14.1 Eliminating Single Points of Failure

The key to achieving fault tolerance is to eliminate single points of failure by introducing redundancy. SAP Application requires hardware redundancy to avoid outage due to component failure. WFT's expertise can help customers within cloud to have a crucial line of defense against avoidable system outage, and therefore greatly contribute to Business Continuity.

14.2 Hardware Redundancy

WFT ensures that the Cloud provider design multiple layers of redundant hardware components and sub-systems. These include redundant and hot-swappable power supply units (PSUs), fans, network interface cards and enterprise-grade error-correcting protected memories. These subsystems are designed such that the redundant component can sustain the operation of the system if the other component fails.

14.3 Network Redundancy

Cloud having redundant networks, network equipment and network connectivity is required to avoid network failures from affecting system availability.

14.4 Data Center Redundancy

Cloud Data centers that host SAP solutions are equipped with Uninterrupted Power Supply (UPS) and backup power generators, redundant cooling systems and multi-sourced providers of network connectivity and electricity, achieving operational availability in the presence of individual failures, and significantly reducing the probability of a business-impacting outage.

15 DISASTER RECOVERY AS A SERVICE (DRAAS)

15.1 Secure and Cost-Effective Protection for Your SAP Data Center in the Cloud

In an era when most organizations simply cannot function without access to their core IT systems, virtually all CIOs recognize the need for off-site data center protection. Yet the challenges and costs of conventional disaster recovery can be staggering. They can include:

- Provisioning and operating a remote data center
- Maintaining dedicated remote physical and virtual infrastructure at the protection site
- Maintaining redundant OS and application licenses
- Provisioning dedicated high-speed data links to the protection site
- Architecting and managing inter-site security

Ultimately, the problem is that a single organization must bear the entire capital and operating costs of dedicated IT systems in a remote location. Worse, these systems remain unused except in cases of disaster.

Conventional disaster recovery systems protect either at the level of IT infrastructure (e.g., servers and storage) or at the level of individual software applications. Both approaches have key shortcomings.

Systems that protect at the level of IT infrastructure do so by replicating disk changes to a remote site - they have little or no ability to protect active business processes. Often they require manual intervention and can have long delays to re-configure and restart these processes after failure. They also have considerable difficulty restoring operations to the original production site after failure conditions are resolved.

Meanwhile, DR schemes that protect at the level of individual software applications (e.g., Web Servers or low IO databases) do not scale well to protect an entire enterprise data center, or, for that matter, multiple enterprise data centers. These application-level disaster recovery solutions are sensitive to the operating systems of protected VMs and usually require peered live applications running in the recovery site. These inherent limitations of scope, make these solutions ill-suited to general recovery services.

Disaster Recovery-as-a-Service (DRaaS) solution provides simple, cost-effective and comprehensive disaster protection of both the physical and virtual servers residing in your customer data centers.

The costs of the DRaaS infrastructure provided by Public cloud providers are much lower than a production environment since you do not pay for CPU and RAM when in a non-DR (dormant) state. And since the replica servers in the Cloud are activated only when disaster strikes, there is no need to provision duplicate OS and application licenses; which lowers your operating costs even further.

- Lower RTO/RPOs than traditional DR solutions
- Near instantaneous failover and failback-limited only by boot-up times for protected

VMs
- Lossless VM migration between production and DR environments
- Continuous data protection with up to 64 checkpoints
- Capability to perform non-disruptive failover tests as needed
- Multi-OS support for both physical and virtual servers
- Failover/rollback/failback capabilities ranging from individual servers to entire sites with full group ordering for uninterrupted application availability and functionality
- Full-featured security of Cloud

16 BACKUP AND RECOVERY

SAP data is experiencing tremendous growth even on Cloud or On-Premise. This growth is just one of the difficulties facing SAP Admins. When coupled with shrinking backup windows due to a worldwide user base expecting a 24x7 highly available database and more stringent SLAs, finding the time that is dedicated solely for backup and recovery operations seems nearly impossible.

WFT has tremendous experience with SAP backup and recovery where they optimize Cloud backup using de-duplication backup using third party cloud backup. In the enterprise, cloud backup services are primarily being used for archiving non-critical data only. Traditional backup is a better solution for critical data that requires a short recovery time objective (RTO) because there are physical limits for how much data can be moved in a given amount of time over a network. When a large amount of data needs to be recovered, it may need to be shipped on tape or some other portable storage media to avoid high network bandwidth cost.

Online cloud storage and data backup services allow you to execute backups automatically and continuously, either via the Internet or customer own network. SAP data backups will be safely stored in our remote, mirrored data centers and available for ready retrieval should the need arise.

You'll have the proven technology and expertise you need to ensure you can get back up and running should the unexpected happen. You'll know you're protected because you'll have access to rigorous, industry-leading protocols for protecting information. And, because your data backups are managed following proven procedures and best practices, you'll be confident in your ability to find what you need when you need it, any time an internal or external source requests data.

17 WFT ROLES AND RESPONSIBILITIES

A proposed **Roles and Responsibilities** matrix is provided below at the foot of this section.

WFT Cloud Support Services are available in the following levels:

SAP Basis Support Level	Service Hours
Silver	Monday – Friday 09:00 - 17:00
Gold	7 days a week 08:00 - 20:00
Platinum	24X7X365
Project-base engagement	N/A

Responsibility Codes

Code	Meaning
R	Responsible
A	Accountable
I	Informed
C	Consulted
$	Optional or available on a Project $ or T&M basis

Responsibility Matrix

System	Activity	Client	WFT Cloud	Silver	Gold	Platinum	Project $
Application	Implement application functionality	R	I	N/A		N/A	N/A
Application	Schedule application job stream	R	I	N/A		N/A	N/A
Application	Configure ALE and other interfaces	R	I	N/A		N/A	N/A
Application	Performance tuning of application	R	I	N/A		N/A	N/A
Application	Configure customer namespaces		R		✓	✓	
Application	Develop custom ABAP code/reports		$				✓
Application	Performance tuning of custom code		$				✓
				Silver	Gold	Platinum	Project $
Backup	Configure OS backups (Storage is not included)		R	✓	✓	✓	
Backup	Configure database backups (Storage is not included)		R	✓	✓	✓	
Backup	Diagnose backup errors	I	R	✓	✓	✓	
Backup	Monitor OS backup schedule		R	✓	✓	✓	
Backup	Monitor DB backup schedule		R	✓	✓	✓	
				Silver	Gold	Platinum	Project $
Basis	Register SSL certificates and DNS entries	R		N/A		N/A	N/A
Basis	Create S-users in Service Marketplace		R	✓	✓	✓	
Basis	SAP Notes application (via SNOTE)		R	✓	✓	✓	
Basis	Validate installation		R	✓	✓	✓	
Basis	Start/Stop the SAP application		R	✓	✓	✓	
Basis	Configure RFC destinations		R	✓	✓	✓	

Basis	Maintain ABAP and J2EE profile parameters		R	✓	✓	✓	
Basis	Configure SSL certificates		R	✓	✓	✓	
Basis	Import transports into QA and Production	C	R	✓	✓	✓	
Basis	Patch database (max. 2 per year)		R		✓	✓	
Basis	Patch SAP software - Minor Patches (max. 2 per year)		R		✓	✓	
Basis	Patch SAP Kernels (ABAP and JAVA) (max. 1 per month)		R		✓	✓	
Basis	Diagnose SAP errors	C	R		✓	✓	
Basis	Diagnose database errors		R		✓	✓	
Basis	Configure TMS		R		✓	✓	
Basis	Performance tuning of DB and Basis layer		R		✓	✓	
Basis	Install database		R			✓	
Basis	Initial SAP Netweaver software installs		R			✓	
Basis	Execute Local client copies		R			✓	
Basis	Execute Prod Copyback/System refreshes Project (max 3 systems, i.e. 1x Group of 3 SAP Production systems per year)		R			✓	
Basis	Implement EarlyWatch Monitoring/Reporting	I	R			✓	
Basis	React to EarlyWatch Reporting recommendations	I	R			✓	
Basis	Database version upgrade		$				✓
Basis	Patch SAP Software - Service Packs/EHP Technical Project		$				✓
Basis	Perform Technical Upgrade projects to SAP NW software versions		$				✓
				Silver	**Gold**	**Platinum**	**Project $**
Continuity	Manage business continuity strategy	R		N/A		N/A	N/A
Continuity	Define technical disaster recovery architecture	A	$				✓
Continuity	Develop high availability strategy	A	$				✓
Continuity	Define high availability architecture		$				✓
Continuity	Implement disaster recovery architecture	A	$				✓
Continuity	Implement high availability architecture		$				✓
				Silver	**Gold**	**Platinum**	**Project $**
Incidents	Diagnose errors in overlapping areas	C	R		✓	✓	
Incidents	Escalate functional issues to SAP		R		✓	✓	
Incidents	Escalate technical issues to SAP		R		✓	✓	
				Silver	**Gold**	**Platinum**	**Project $**
Misc	Document technical landscape	I	R		✓	✓	
				Silver	**Gold**	**Platinum**	**Project $**
Monitoring	React to Application short dumps	R		N/A		N/A	N/A
Monitoring	React to failed functional batch jobs	R		N/A		N/A	N/A
Monitoring	React to Business Process Monitoring errors (note., Requires SolMan's BPM feature)	R		N/A		N/A	N/A
Monitoring	Configure OS monitoring		R	✓	✓	✓	

Monitoring	Configure CCMS monitoring for Basis		R		✓	✓	
Monitoring	Maintain CCMS and Diagnostics agents		R		✓	✓	
Monitoring	React to system outage alerts		R		✓	✓	
Monitoring	React to database health alerts		R		✓	✓	
Monitoring	React to database space alerts		R		✓	✓	
Monitoring	React to Basis health alerts		R		✓	✓	
Monitoring	React to failed Basis jobs		R		✓	✓	
Monitoring	React to Basis short dumps		R		✓	✓	
Monitoring	Inform Client to Application short dumps		R		✓	✓	
Monitoring	React to file system alerts		R		✓	✓	
Monitoring	React to host outage alerts		R		✓	✓	
Monitoring	React to network outage alerts		R		✓	✓	
Monitoring	Configure Business Process Monitoring (Note. Requires SolMan's BPM feature)	R	$				✓
				Silver	**Gold**	**Platinum**	**Project $**
Network	Configure network for system access		R	✓	✓		
Network	Configure network for inter-system communication		R	✓	✓		
Network	Configure OSS VPN Connection to SAP Waldorf	C	R	✓	✓		
Network	Maintain DNS or hosts file		R	✓	✓		
Network	Monitor network availability		R	✓	✓		
Network	Diagnose network errors		R		✓		
Network	Install SAProuter		R			✓	
Network	Configure SAProuter		R			✓	
Network	Install Web Dispatcher		R			✓	
Network	Configure Web Dispatcher		R			✓	
				Silver	**Gold**	**Platinum**	**Project $**
OS	Create named users at OS level of relevant systems		R	✓	✓	✓	
OS	Create system users during SAP installation		R	✓	✓	✓	
OS	Create domain users		R	✓	✓	✓	
OS	Manage OS privileges		R	✓	✓	✓	
OS	Create virtual machines		R	✓	✓	✓	
OS	Install operating system		R	✓	✓	✓	
OS	Configure operating system		R	✓	✓	✓	
OS	Configure OS disks		R	✓	✓	✓	
OS	Diagnose OS errors		R	✓	✓	✓	
OS	Start/Stop the virtual machine		R	✓	✓	✓	
				Silver	**Gold**	**Platinum**	**Project $**
Project Status	Provide a Dedicated Senior Delivery Manager	I	$				✓
Project Status	Provide key contact for Client's IT Department	R	I	N/A		N/A	N/A
Project Status	Provide a Dedicated Technical Basis Lead for SAP System management	I	$				✓

Project Status	Detailed/Coordinated Planning around scheduled outages and maintenance	I	$				✓
				Silver	**Gold**	**Platinum**	**Project $**
Security	Create SAP Client end-users in other clients	R		N/A		N/A	N/A
Security	Adjust SAP security roles in client 000	R		N/A		N/A	N/A
Security	Assign SAP roles in relevant clients	R		N/A		N/A	N/A
Security	Create SAP users in client 000		R	✓	✓	✓	
Security	Configure LDAP conduit		R	✓	✓	✓	
				Silver	**Gold**	**Platinum**	**Project $**
SolMan	Configure Implementation Projects	R		N/A		N/A	N/A
SolMan	Initial Configuration	R			✓	✓	
SolMan	Basic Configuration	R			✓	✓	
SolMan	Connect WFTCloud systems to SolMan		R		✓	✓	
SolMan	Configure Charm/Q-Gate Management	A	$				✓
SolMan	Configure Other ALM features	A	$				✓
				Silver	**Gold**	**Platinum**	**Project $**
Storage	Maintain SAN network		R	✓	✓	✓	

18 HOSTED VS ON-PREMISE SAP HANA

18.1 Why Hosting is FAST becoming the preferred model for SAP HANA Deployment

The most recent evolution, hosting, has provided an alternative to the high costs of purchasing, supporting, and maintaining SAP systems. Hosting provides access to hardware as a service, while assuming all the costs and complications of owning, managing, and upgrading the hardware. This arrangement virtually eliminates capital expenses associated with running SAP HANA, and converts costs to operating expenses.

According to the Forrester Group, managed hosting in particular, "remains a viable and growing market, serving an expanding range of solutions, while also representing a fully managed, IT-provisioned alternative to self-managed and provisioned cloud services. As such, it remains attractive and suitable for customers seeking to retain control over their IT environments." Forrester goes onto explain, "Sourcing and vendor management (SVM) professionals charged with charting a path of transition to the cloud can assume that managed hosting will remain a viable delivery vehicle for applications workloads.

18.2 The Benefits of Hosted SAP HANA

Going a bit deeper, hosting for SAP HANA yields exceptional benefits in comparison to on-site SAP HANA installations. The most important among these include:

Faster time-to-production: Obtaining services from an existing hosting provider eliminates the delays inherent in purchasing, installing, and debugging on-premise hardware. With SAP HANA, hosted deployments can take place 3 to 4 times faster than on-site implementations, resulting in a faster time-to-ROI.

Less overhead: Because hosting avoids increased IT complexity within your organization, you don't need more people or processes to support it. That allows you to focus your existing staff and resources on work that drives business growth, rather than maintaining infrastructure.

Cash conservation: Managed host services avoid up-front costs for hardware, facility upgrades, and manpower, replacing these expenses with a flexible pay-as-you-go model based on service consumption. On average, this reduces 3-year infrastructure total cost of ownership (TCO) by 18% or more.

Reliability: Managed hosting offers greater infrastructure reliability due to the service provider's sole focus on providing a well-equipped, secure data center location. Typical features include redundant power supplies, network connectivity, and disaster readiness.

Flexibility: Hosted service providers invest in large hardware platforms with ample room for expansion. This allows clients to grow their databases, add new applications, and expand their footprint with greater speed and less disruption than in-house solutions.

19 AWS & AZURE SAPS & MEMORY REFERENCE FOR PUBLIC CLOUD

19.1 AWS SAP SAPS and Memory Reference

Instance Type	vCPUs	RAM GB	SAPS
c3.8xlarge	32	60	31,830
c3.4xlarge	16	30	15,915
c3.2xlarge	8	15	7,957
c3.xlarge	4	7.5	3,978
c3.large	2	3.75	1,989
r3.8xlarge	32	244	31,920
r3.4xlarge	16	122	15,960
r3.2xlarge	8	61	7,980
r3.xlarge	4	30.5	3,990
r3.large	2	15	1,995
cr1.8xlarge	32	244	30,430
m2.4xlarge	8	68.4	7,400
m2.2xlarge	4	32.2	3,700

19.2 AZURE SAPS and Memory Reference

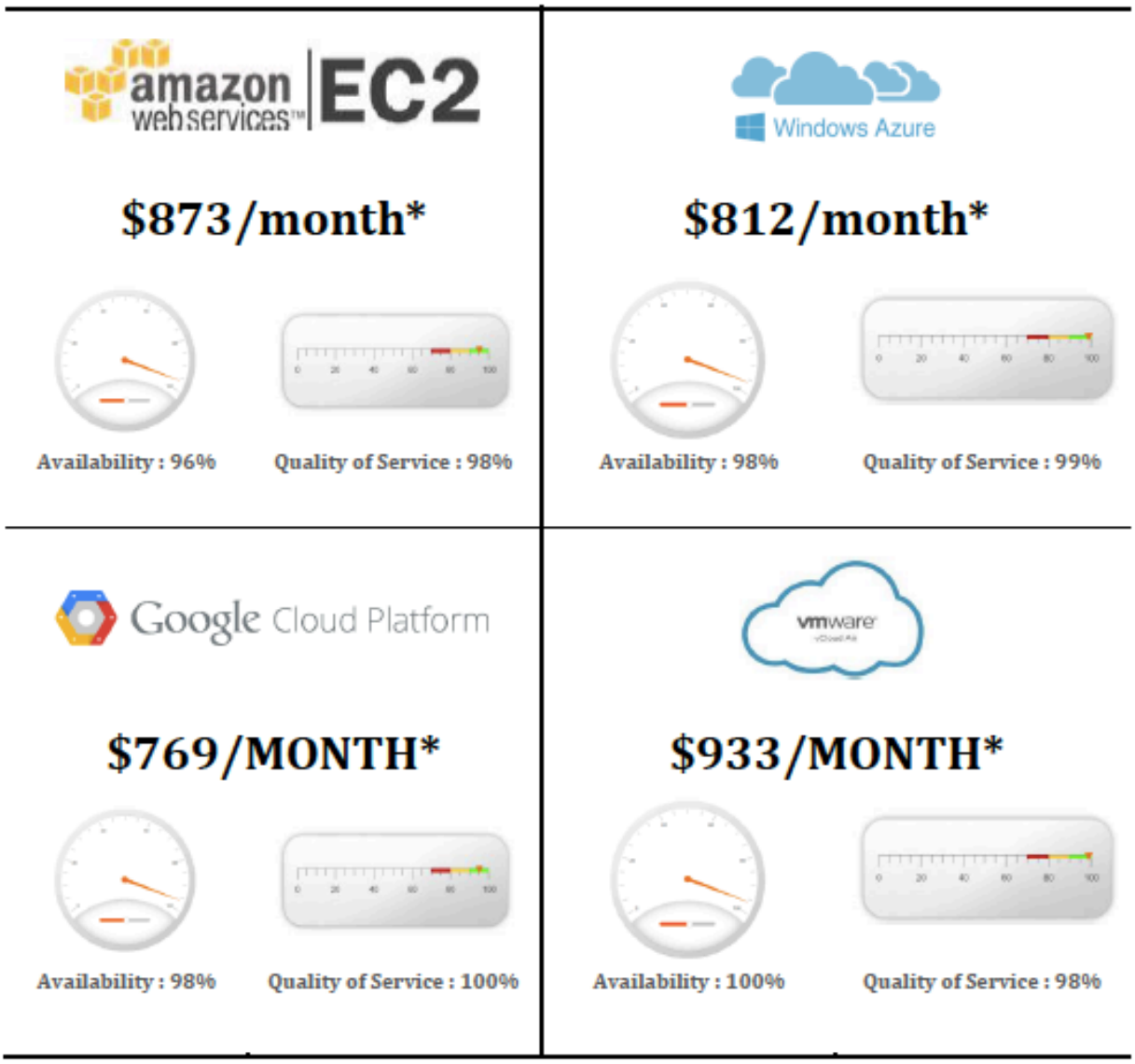
VM Type	VM Size	SAPS	Basic/Standard
A5	2 CPU, 14 GB	1,500	Standard
A6	4 CPU, 28 GB	3,000	Standard
A7	8 CPU, 56 GB	6,000	Standard
A8	8 CPU, 56 GB	11,000	Standard
A9	16 CPU, 112 GB	22,000	Standard
D11	2 CPU, 14 GB	2,325	Standard
D12	4 CPU, 28 GB	4,650	Standard
D13	8 CPU, 56 GB	9,300	Standard
D14	16 CPU, 112 GB	18,600	Standard

20 SAP SAMPLE PRODUCTION / NON-PRODUCTION LANDSCAPE

1		Server name: CPU: Memory: Operating System: Persistent Storage: SNAPSHOT STORAGE: Database: SAPS:	SAP ECC 6.0 CI with DB 4 cores 16 GB Microsoft Windows 2008 R2 Total 500GB with 120GB SSD 600GB SQL Server 8500
2		Server name: CPU: Memory: Operating System: Persistent Storage: SNAPSHOT STORAGE: SAPS:	S SAP ECC 6.0 APP SVR 1 4 cores 8 GB Microsoft Windows 2008 R2 Total 350GB with 120GB SSD 500GB 3500
3		Server name: CPU: Memory: Operating System: Persistent Storage: SNAPSHOT STORAGE: Database: SAPS:	SAP CRM 7.0 6 cores 24 GB Microsoft Windows 2008 R2 Total 300GB Not Required SQL Server N/A
4		Server name: CPU: Memory: Operating System: Persistent Storage: SNAPSHOT STORAGE: Database: SAPS:	SAP BW 7.31 8 cores 24 GB Microsoft Windows 2008 R2 Total 550GB with 250GB SSD 750GB SQL Server 12000

20.1 Economic Considerations & Costs Comparison

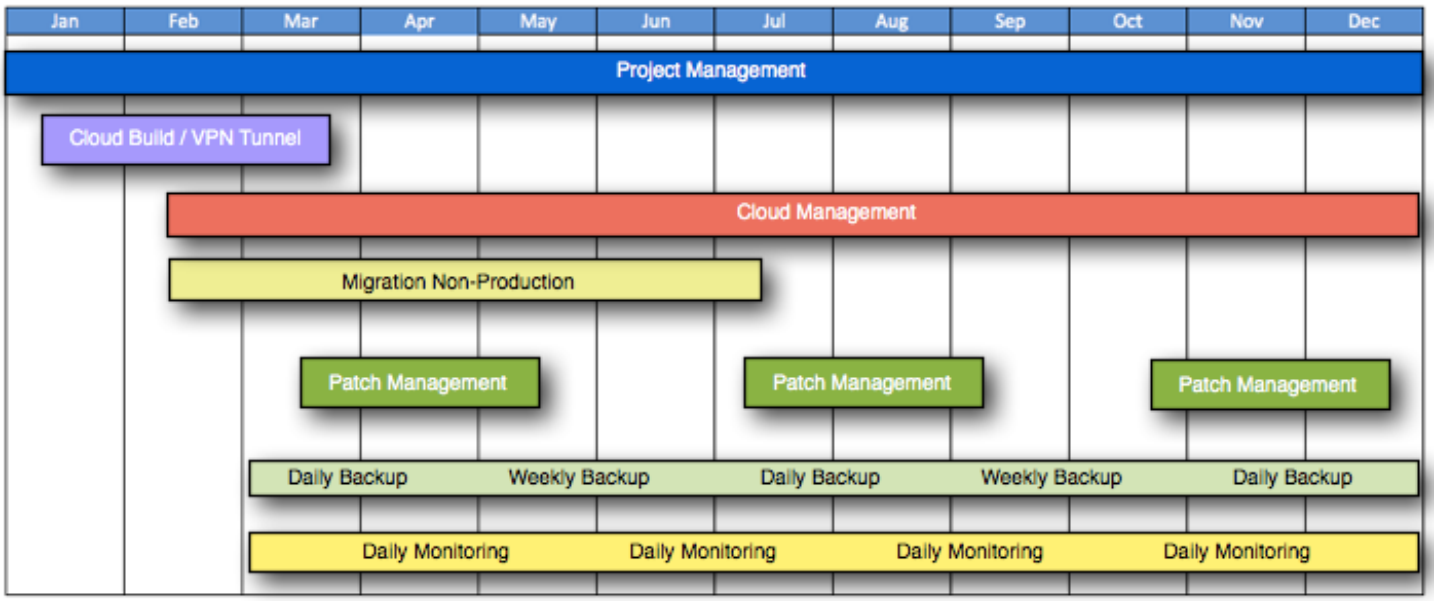
At WFT Cloud, we are strive towards providing our customers, the most competitive pricing based on current market standards. The prices quoted below are indicative of the current trending rates and may be subject to change depending on additional factors which may be out of the scope of this quote.



CONFIGURATION*	FOOTPRINT	START	TERM	NRC*
SAP Landscape Cloud Hosting	SAP Landscape (Refer Annexure)	11-09-2014	3 Years	$734

Notes: * – One time – Non-recurring

20.2 High Level Timeline – Managed Private Cloud (MPC)



20.3 On-Premise – Pros & Cons

PROS	CONS
Flexible Customization. Minimal Vendor involvement.	Takes time, personnel & equipment to set up a new environment.
Utilize the existing hardware & software & maximize TCO.	Additional hardware & software purchases may be required.
Offers control over data and provides greater sense of ownership.	Responsible for maintaining the HA & DR Infrastructure & solution.
Complete ownership of hardware and software supporting Cloud.	CAPEx required every refresh cycle i.e. 5 years for upgrades.
Low ongoing maintenance fees.	High entry and Operations cost.
Highly secured for mission critical data. Leverage existing policies.	Additional time and software required for security.
Enforcing regulatory requirements is easier due to full control.	Responsible for full validation effort.
Data transfer between systems will be faster.	Need long term commitment & planning for resources for scaling.

Easier integration with other corporate systems.	Upgrades are often expensive and time consuming.

20.4 AWS Cloud – Pros & Cons

PROS	CONS
Relatively faster to implement. Spinning new hardware is fast & flexible.	Proprietary hardware delivered by the Vendor.
Scale up in response to load events is easy to perform.	Due to different hardware, SAP Kernel levels, patch levels etc. differ than production landscape.
Strong financial business case to move to AWS.	System refreshes can be complicated requiring multi step processes.
Minimal IT dependency for Application maintenance. DR provided by AWS.	Multicasting not supported. May not be possible to implement HA for critical SAP systems.
IT involvement minimal during validation review.	Control is relinquished to AWS. Entrust valuable data to AWS.
Low entry cost and flexible pricing.	Relatively higher maintenance costs year over year.
Low upgrade costs.	Data center is not Certified. AWS will provide minimal validation.
Highly secure with expert supervision of network & security.	Sensitive data will have to be sent remotely to systems in AWS.
Solutions can be easily scaled up or down without wasting resources.	Integration with other corporate systems will be complicated.

20.5 AZURE Cloud – Pros & Cons

PROS	CONS
Relatively faster to implement. Spinning new hardware is fast & flexible.	Administer Servers, OS, patches etc.
Scale up in response to load events is easy to perform.	Infrastructure customization is not easy and time consuming.
Strong financial business case to move to Azure.	Maintain/invest in networking hardware & connections.
Minimal IT dependency for Application maintenance. DR provided by Azure.	Customer is responsible to architect scale & High Availability.
IT involvement minimal during validation review.	Control is relinquished to Azure. Entrust valuable data to Azure.
Low entry cost and flexible pricing.	Relatively higher maintenance costs year over year.
Portability between On-Premise and Azure Cloud data centers.	Upgrades can be expensive.
Highly secure with expert supervision of network & security.	Sensitive data will have to be sent remotely to systems in Azure.
Similar platform as used in customer's Production environment.	Moving large amount of data over WAN can be slow/sub-optimal.

21 APPENDIX A – PROPOSED COMMERCIAL, SLA AND LEGAL TERMS

PART A. NOW THEREFORE, in consideration of the mutual promises and other valuable consideration the parties, intending to be legally bound hereunder, hereby agree as follows:

1. Delivery of CLOUD Solution. WFTCloud shall deliver the CLOUD Solution to Customer as specified in Schedule A. Subject to the terms and conditions of this Agreement, WFTCloud hereby grants to Customer a limited, non-exclusive, personal, non-transferable right and license to use the CLOUD Solution, including the WFTCloud Technology included therein.
2. Fees; Initial Payment. Customer shall pay WFTCloud the monthly base service fee (the "Base Service Fee") specified in Schedule A for each month of this Agreement. Concurrent with the execution and delivery of this Agreement, Customer shall pay the Startup Fee specified in Schedule A of this Agreement. Customer may purchase additional services according to the pricing schedule designated in Schedule A or as specified through a statement of work ("SOW") by completing purchase orders in a form provided by WFTCloud for this purpose.
3. Payment Terms. Customer shall make all future payments required under this Agreement within thirty (30) days of receipt of WFTCloud invoice therefore, without setoff, deduction, or counterclaim. Any and all billing disputes shall be resolved within thirty (30) days. WFTCloud may charge and Customer shall pay interest on amounts not paid by Customer when due at a rate of 2.5% per month or the highest rate permitted by applicable law, whichever is lower.
4. Term. The term of this Agreement shall commence on the Effective Date and continue as specified in Schedule A. Thereafter, this Agreement shall automatically renew for successive one-year periods unless written notice is given by either party not less than 90 days prior to the expiration of the initial term or the then-current renewal term. Either party may terminate this Agreement upon written notice to the other party in the event of a material breach of this Agreement by such other party that remains uncured for 60 days following written notice thereof by the terminating party. Upon the expiration or earlier termination of this Agreement (i) all licenses granted hereunder shall be immediately terminated, and (ii) any amounts owed to WFTCloud by Customer hereunder shall be immediately due and owning. The provisions of this Part I Section 4 and all of Part II shall survive any expiration or termination of this Agreement.
5. Service Level Agreement. This SLA Section provides the rights and remedies regarding the performance of the WFTCloud and related Facilities:
    - *Uptime*. WFTCloud shall provide and maintain a PLATINUM-LEVEL (as defined in Schedule A) network and server uptime service level. This uptime percentage is calculated monthly, using solely the WFTCloud monitoring systems or the WFTCloud authorized monitoring services. If WFTCloud fails to meet its PLATINUM-LEVEL uptime service level due to the circumstances not listed within one of the exceptions below, Credit will be made available to Customer on a case by case basis upon written request by Customer as a result of a mutually agreed review of the monthly performance data.
    - *Exceptions*. Customer shall receive no Credit under this SLA in connection with any failure or deficiency of the WFTCloud network caused by or associated with any one or more of the following events, be managed in accordance with this SLA:
    - *Circumstances* beyond WFTCloud reasonable control, including the Force Majeure provisions of this agreement, or delay in telecommunications or third party services, failure of third party software or inability to obtain equipment and supplies needed for provision of the SLA;
    - Telco Failure (i.e., Tier-1 Provider cutting a fiber line somewhere);
    - Backbone peering point issues (e.g., Tier-1 Provider having a router go down in Virginia that wipes out internet service for the entire East Coast);
    - Scheduled maintenance for hardware or software upgrades within the WFTCloud, as published according to scheduled windows which shall be mutually agreed upon in

advance between WFTCloud and Customer. Said schedules shall be provided by WFTCloud on a monthly basis;

- Hardware failure, while rare, cannot be predicted or avoided;
- Software defects causing security issues or downtime;
- DNS issues not within the direct control of WFTCloud;
- Network floods, hacks, attacks from outside parties or individuals. Notwithstanding this, WFTCloud shall use the best common industry standards and practices in protecting its Facilities.
- Failure of any WFTCloud monitoring or measurement system to report accurately;
- Customer's acts or omissions, including without limitation, any negligence, willful misconduct, or use of WFTCloud service(s) in breach of WFTCloud Service Guidelines ("WSG"), by Customer or others authorized by Customer.

6. *Connectivity*. WFTCloud shall make available the WFTCloud network to Customer free of outages under the PLATINUM-LEVEL service level. An "Outage" is defined as an instance in which Customer is unable to transmit and receive IP packets due to a WFTCloud service failure for more than 15 consecutive minutes, excluding service failures relating to WFTCloud scheduled maintenance and upgrades. The WFTCloud network does not include Customer premises equipment or any Telco access facilities connecting Customer's premises to such infrastructure. WFTCloud shall keep Average Round-Trip Latency on the WFTCloud network to 85 milliseconds or less. The "Average Round-Trip Latency" means with respect to a given month, the average time required for round-trip packet transfers between the WFTCloud network and major US backbone peering points during such month, as measured by WFTCloud. WFTCloud shall keep the Average Packet Loss on the WFTCloud network to 1% or less. The "Average Packet Loss" means with respect to a given month, the average percentage of IP packets transmitted on the WFTCloud network during such month that are not successfully delivered, as measured by WFTCloud.
7. *Measurement*. WFTCloud will periodically, on average every five (5) minutes monitor WFTCloud network and server availability using software and hardware components capable of measuring application traffic and responses. Customer acknowledges that such measurements may not measure the exact path traversed by Customer's internet connection, and that such measurements constitute measurements across the WFTCloud network but not other networks to which Customer may connect. WFTCloud reserves the right to periodically change its measurement points and methodologies without any notice.
8. *Hardware Failure*. While faulty hardware is rare, its failure cannot be predicted or avoided. In the event of an WFTCloud hardware failure, WFTCloud will ensure to replace all faulty hardware affecting performance levels of equipment within forty-eight (48) hours, which includes hardware issues causing server crashes or speed bottlenecks. Hardware failure resulting in complete network/server outage/downtime will be corrected within two (2) hours of problem identification; WFTCloud shall use reasonable commercial efforts to resolve the outage during this time. Router failures are not covered under this SLA and may require on-site 3rd party engineers or backbone provider emergency personnel to correct the problem.
9. *Credits*. Credit requests must be made via email to support@WFTCloud.com, when practical. Each request in connection with network or server Downtime must be received by WFTCloud within thirty (30) days of the occurrence, when practical. Each request in connection with Average Round-Trip Latency or Average Packet Loss events in a calendar month must be received by WFTCloud within five (5) days after the end of such month. The total amount credited to a Customer for WFTCloud not meeting SLA service levels will not exceed the service fees paid by Customer to WFTCloud for such services for the period in question. Each validly requested credit would be applied to a Customer invoice within 30 days after WFTCloud receipt of such request. Credits are exclusive of any applicable taxes charged to Customer or collected by WFTCloud. Upon Customer's request (in accordance with the procedure set forth below), WFTCloud will issue a credit to Customer for network/server outages/downtime occurring during any calendar month that are reported by Customer to WFTCloud and confirmed by WFTCloud's measurement reporting. Such credit will be equal to one day's worth (1/30th) of the monthly fees

paid by Customer, (for all service fees paid if network outage, or specific affected service fees paid if individual server downtime) multiplied by each hour (or portion thereof rounded to nearest next hour) of the cumulative duration of such outage/downtime.

10. *General*. WFTCloud reserves the right to amend this SLA, subject to Customer's approval which shall not be unreasonably withheld. Except as set forth in this SLA, WFTCloud makes no representations regarding the availability or performance of the WFTCloud network or servers. Specific terms of this SLA may be adjusted on a case by case basis by the specific Service Agreement signed and agreed by Customer. In the event of an inconsistency between the terms in this SLA and the Service Agreement, the Service Agreement terms shall prevail. The Service Agreement agreed by Customer supersedes this SLA and Service Agreement terms are so in effect, including, but not limited to, the limitations of liability.
11. *WFTCloud Support Center.* WFTCloud shall provide support via its central support organization, WFTCloud. Problem reports and requests for service shall be logged and tracked by WFTCloud SC™ portal and people, with the following Service Availability: All problem reports and requests for service must be submitted via the WFTCloud support center and must be accompanied by documentation via e-mail (when practical) sufficient to replicate the problem to comply with the committed response and escalation guidelines (Service Level Guidelines). Failure to comply with this support submission process shall be a material breach hereunder. Customer agrees to use commercially reasonable efforts to assist WFTCloud with its diagnosis of any reported problem.

Service Level Guidelines:

Priority	Production Impact	Response Time	Target Resolution
1 - Fatal	Stopped No known work around	30 minutes	4 hours
2 - Critical	Significantly impaired, but operational. No reasonable work around	1 hour	8 hours
3 - Serious	Impaired. Reasonable work around. Moderate customer impact.	4 hours	24 hours
4 - Minor	Impaired. Reasonable work around Low customer impact	24 hours	48 hours
5 - Request	Enhancement. Out of Scope	as needed	case by case

Escalation Guidelines:

For WFTCloud
Level 1 – Response time not met, contact Account Lead
Level 2 – No response 1 hour after Level 1, contact COO
Level 3 – No response 1 hour after Level 2, contact CTO

For <Customer Name>
Level 1 – IT team member or manager
Level 2 – Solution Director
Level 3 – Senior Vice President, CTO

Part B – General Legal Terms

Joint Representations and Warranties. WFTCloud and Customer each hereby represents and warrants to the other that (i) it has the requisite right, power, and authority to enter into this Agreement and to perform its obligations hereunder, (ii) it knows of no law or regulation that would prohibit it from entering into and performing this Agreement, or that would conflict with this Agreement, and (iii) this Agreement has been executed by its duly authorized representative.

Indemnification. Each party shall indemnify, defend and hold harmless the other party and its affiliates, employees, agents, and representatives from and against any and all costs, liabilities, losses, and expenses (including, without limitation, attorneys' fees) resulting from any claim, suit, action, or proceeding brought by a third party against such other party and its affiliates, employees, agents, or representatives, arising out of any breach of any of its representations, warranties, covenants, or agreements set forth in this Agreement. The failure of a party to provide to the other party notice of any such claim, suit, action, or proceeding shall not relieve it of its obligations hereunder, except to the extent that it shall have been materially prejudiced by such failure.

Disclaimer of Warranties. The CLOUD Solution and the WFTCloud Technology employed therein are provided to Customer on an "as is," "with all faults" basis. Except for the express SLA warranties contained in this agreement, no party makes any representations or warranties, express or implied, with respect to the CLOUD Solution or the WFTCloud Technology or any other matter covered by this Agreement. All other warranties, including, without limitation, the implied warranties of title, non-infringement, merchantability, fitness for a particular purpose, as well as any warranties, express or implied, relating to accuracy, freedom from interference with enjoyment, or fitness of resulting work product, are hereby expressly disclaimed.

Limitation of Liability. Neither party shall be liable to the other for any consequential, special, indirect, incidental, punitive, or exemplary damages (including, without limitation, lost profits, lost savings or loss of goodwill) suffered or incurred in connection with the exercise of any rights or licenses granted hereunder, or the performance or non-performance of any obligations imposed hereunder, even if the parties have been advised of the possibility of such damages. The foregoing limitation of liability reflects deliberate and bargained for allocation of risks and is intended to be independent of any exclusive remedies. In no event shall WFTCloud liability to Customer exceed the total fees paid by Customer hereunder, during the four month period immediately preceding the first event giving rise to any such liability.
No Agency. Each party is an independent contractor. Nothing herein shall be construed as creating any agency, partnership, or other form of joint enterprise between WFTCloud and Customer.

Non-Disclosure; Use of Names. Neither party shall disclose any of the terms, conditions, or provisions of this Agreement (including any pricing or other information contained in any Exhibit hereto) without the prior written consent of the other party.

Governing Law; Arbitration. This Agreement shall be governed by, and construed in accordance with the laws of the State of Delaware, without regard to choice of law principles. Any dispute, controversy or claim arising out of or relating to this Agreement, or the breach, termination, or invalidity thereof (each, a "Dispute") shall first be referred by the parties to their respective senior-level executives, or their designees, for attempted resolution through good faith negotiations. Any Disputes that cannot be settled by negotiation between the parties or mediation shall be finally settled by arbitration under the then-current Commercial Arbitration Rules of the American Arbitration Association ("AAA Rules"). In the event of any conflict between the AAA Rules and this Agreement, the provisions of this Agreement shall govern. The arbitral tribunal shall consist of three arbitrators; one arbitrator being appointed by each party, and the third arbitrator being selected, within 15 days of the date of appointment of the second arbitrator, by agreement of such two

arbitrators selected by the parties. If any of the arbitrators shall not be appointed within the time limits specified above, the American Arbitration Association at the written request of either party shall appoint such arbitrator. Any arbitration proceedings will take place in New Jersey, NJ. The award of the arbitrators shall be by majority vote, shall be in writing and shall set forth the facts found by the arbitrators to exist. The arbitrators are authorized to grant pre-award and post-award interest at commercial rates. NOTWITHSTANDING OTHER PROVISIONS OF THIS AGREEMENT WHICH MAY BE INTERPRETED TO THE CONTRARY, THE ARBITRATORS APPOINTED HEREIN SHALL NOT HAVE THE AUTHORITY TO GRANT DAMAGES TO EITHER PARTY THAT ARE DISCLAIMED OR LIMITED UNDER THIS AGREEMENT. Aside from the arbitrators' fees and costs, which shall be shared equally by the parties unless the arbitrators for good cause determine otherwise, each party will be responsible for paying its own fees and costs (including attorney's fees) incurred in connection with such arbitration. The award of any such arbitral tribunal shall be final and binding upon the parties, and judgment upon the award may be entered in any court of competent jurisdiction or application may be made to any court of competent jurisdiction for judicial acceptance or confirmation of the award. Neither party shall seek recourse to a court of law to appeal for revision of the award.

Assignment; Binding Effect; Parties in Interest. This Agreement may not be assigned by either party without the prior written consent of the other party and any such purported assignment shall be null and void, provided, however, that either party may assign this Agreement in connection with a consolidation, merger, or sale of substantially all of its assets to which this Agreement relates, without the consent of the other party. Assignment of this agreement by either party to an affiliate must require prior written approval. This Agreement shall be binding upon and inure to the benefit of the parties hereto and their respective permitted successors and assigns.

Force Majeure. Neither party shall be responsible for any failure to perform its obligations hereunder to the extent such failure is due to causes beyond its reasonable control (each a "Force Majeure"), including, without limitation, acts of God, terrorism, war, riot, embargoes, acts of civil or military authorities, denial of or delays in processing of export license applications, fire, floods, earthquakes, accidents, strikes, or fuel crises, provided that such party gives prompt written notice thereof to the other party. The time for performance shall be extended for a period equal to the duration of the Force Majeure.

Severability; Enforcement. If any provision of this Agreement is held by a tribunal of competent jurisdiction to be illegal, invalid, or otherwise unenforceable in any jurisdiction, then to the fullest extent permitted by law (i) the same shall not affect the other provisions of this Agreement, (ii) such provision shall be deemed modified to the extent necessary in the tribunal's opinion to render such provision enforceable, and the rights and obligations of the parties shall be construed and enforced accordingly, preserving to the fullest extent the intent of the parties as set forth herein, and (iii) such finding of invalidity, illegality, or unenforceability shall not affect the validity, legality, or enforceability of such provision in any other jurisdiction. Notwithstanding the foregoing, the disclaimers of warranties and the limitations of liability in Sections 3 and 5 of this Part II are considered by the parties to be integral to this Agreement and shall not be modified or severed from this Agreement.

Entire Agreement; Amendment. This Agreement contains the entire understanding of the parties with respect to the subject matter hereof and supersedes all prior agreements, oral or written, and all other prior or contemporaneous communications between the parties. Except as expressly set forth herein, this Agreement may not be amended, modified, or supplemented except under the execution and delivery of a written agreement executed by the parties hereto. No term or provision of this Agreement shall be deemed waived and no breach excused unless such waiver or consent is in writing and signed by the party claimed to have waived or consented.

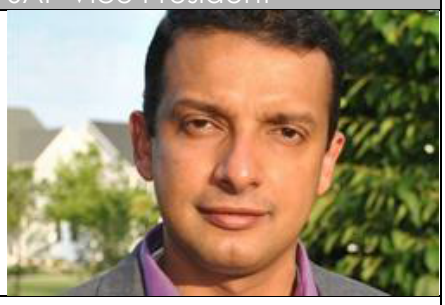
Headings. The section and paragraph headings contained in this Agreement are for reference purposes only and shall not affect in any way the meaning or interpretation of this Agreement.

Counterparts. This Agreement may be executed in two or more counterparts, each of which shall be deemed an original and all of which together shall constitute one instrument.

IN WITNESS WHEREOF, and intending to be legally bound hereby, the parties have caused this Agreement to be executed by their duly authorized representatives set forth below as of the Effective Date.

<Customer Name>	**Wharfedale Technologies Inc.**
By: _____	By: _____
Name: <Customer Name>	Name: <WFT Vice President>
Date: _____	Date: _____

22 CONTACT INFORMATION

Ganesh Radhakrishnan CEO	Mahesh Reddy CTO	Rajeev Menon SAP Vice President
		
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