Sizing and Deployment of the SAP Business One Cloud Landscape

SAP Business One Cloud Landscape Workshop
Section Objectives

This section of the course will enable you to:

- Understand the sizing metrics that can be used to help you estimate the size of the required SAP Business One Cloud Landscape
- Use the sizing tools that are available
- Explore the different deployment configurations that could be used in the SAP Business One Cloud Landscape
The sizing and design of a SAP Business One Cloud Landscape is influenced by:

- Microsoft technical sizing guidelines
- SAP Business One specific sizing guidelines

Sizing a SAP Business One Cloud Landscape is not an EXACT science! It is influenced by:

- Number of customers
- Number of users per customer
- User concurrency
- SAP Business One Cloud Extensions
- Transaction volumes,
- Etc.
Sizing the hardware required for the Microsoft components

**Microsoft Windows Server 2008 R2**
- Active Directory Services
  - RAM required per concurrent user – 1MB
  - 1000 concurrent users per CPU core

**Microsoft Remote Desktop Services:**
- Remote Desktop Gateway
  - RAM required per concurrent user – 0.7MB
  - ~300 (or better) concurrent users per CPU core
- Remote Desktop Connection Broker
- Remote Desktop Session Host(s)
  - RAM required by OS – 2GB

**Microsoft SQL Server**
- Microsoft SQL Server Instance
  - RAM required by OS – 2GB
Sizing the hardware required for the SAP Business One components

**SAP Business One SQL Instance for a Service Unit**

- Contains both Common and Tenant databases
- Typically a SQL instance is limited by CPU processing power rather than RAM when it comes to SAP Business One, CPU cores could be estimated to around 20-25 users per core but monitor in your active environments
- RAM required per concurrent tenant database – 2GB
- RAM required per concurrent tenant database for reporting – 0.5GB (this figure can vary, and can be adapted according to experience)
- SAP Business One extensions could impact on SQL Server CPU and memory requirements and should be considered in sizing

**SAP Business One SQL Instance for System Landscape Directory**

- Lightweight access, low requirement for processing power/RAM beyond standard SQL recommendations

If you have multiple SQL instances on a server ensure you consider the combined requirements!
Sizing the hardware required for the SAP Business One components

**SAP Business One Client**
- 8 concurrent SAP Business One users per CPU core
- RAM required per concurrent SAP Business one user – 300MB

**SAP Business One Extensions (Add-ons)**
- SAP Business One Cloud extensions could impact on SQL and Presentation Server CPU and memory requirements and should be considered in sizing
- Each one will be different and should be checked with the developer

**SAP Business One Integration Framework**
- If standard scenarios (e.g. Mobile and Dashboards) are being used monitor the server that the B1i is installed on to check any performance impact
- If additional developed scenarios are used that are higher in intensity the recommended approach is to install the B1i on a separate server (per Service Unit)
Sizing the hardware required for the SAP Business One components

**SAP Business One Cloud Storage**
- Storage will vary greatly by customer and their line of business
- Average tenant database (on-premise/cloud) size reported by SAP is 5GB
- Need to consider any space used in shared folders
- Need to consider space required for backups

**SAP Business One Central Management Server (Cloud Control Center)**
- No user concurrency considerations
- Lightweight in use
- SLD Agent used to process tasks (e.g. upgrades) this is when the consumption of processing power/RAM will increase
- Consider an average specified server to begin with, monitor and adapt accordingly (especially during maintenance timeframes)
Introducing the SAP Business One Cloud Sizing Spreadsheet

The sizing spreadsheet provides an indication of the size of the landscape you will need to provision based on key input parameters:

- It should not be viewed as a definitive design for your landscape but rather a *suggested* landscape based on the best information we have today.
- Not all factors have been considered in this spreadsheet, e.g. individual tenant requirements.
- Option for customization of some of the sizing metrics in the *Variables* tab (hidden by default).
Proof of Concept Deployment example

Public Environment

SAP Business One Users

- Web Access Portal
- RDS Gateway

External Server

Private Virtual Cloud

Central Management Server

- Domain Controller
- System Landscape Directory

Cloud Control Center

Licensing

Software Repository & Shared Folders

Presentation Server

SAP Business One Client

Service Unit Server

Common Database

Integration Component

Company Databases

Mailer

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Cost Effective Productive Deployment

Public Environment

External Server
- Web Access Portal
- RDS Gateway

Private Virtual Cloud

Central Management Server
- Cloud Control Center
- Licensing
- System Landscape Directory
- Software Repository & Shared Folders

Presentation Server
- SAP Business One Client

Domain Controller Server
- Domain Controller

Service Unit Server
- Common Database
- Integration Component
- Company Databases
- Mailer
- Storage Area Network (SAN)
**Starting Point Deployment**

**Key Information**
- All servers in the SAP Business One Cloud Landscape are virtualized
- The Domain Controller role is isolated on a dedicated server
- Data files for database, files and backups are located in network storage

**Benefits**
- **TCO** - No failover servers reduce the cost of licensing and infrastructure
- **Monitoring** - Virtualization provides day to day server monitoring
- **Availability** - Domain Controller is isolated to avoid impact of system downtime
- **Failover** - Hardware failure can be handled via virtualization technology
- **Flexibility** - Provisioning of additional server instances to extend landscape can be achieved easily

**Potential Issues**
- **Dependency** – Tolerance of failover depends on recovery of snapshot
- **Database** – Recovery relies on using SQL Server engine
- **Virtualization** – TCO is increased through the use of virtualization technology
- **Storage** – No failover storage facilities in case of disaster
Productive Deployment – Improved Availability and Scalable

Public Environment

Private Virtual Cloud

Presentation Server Farm

SQL Failover Cluster

Active Directory

Central Management Server

System Landscape Directory

RDS License Server

RDS Connection Broker

Cloud Control Center

License Server

Domain Controller

Backup Domain Controller

Domain Controller Server

Presentation Server

Service Unit Server

RDS Components

SAP Business One Users

Web Access Portal

RDS Gateway

External Server

SAP Business One

Client

Common Database

Integration Component

Mailer

Company Databases

Storage Area Network (SAN)

Storage Area Network (SAN)
Improved Availability and Scalable Deployment

Key Information

- No local disk but network storage with backup routines for database and virtual machines
- SQL Server is deployed in a failover cluster
- New server instances introduced to provide load balancing and stabilization

Benefits

- **Stability** – Presentation Server Farm provides increased stability and load-balancing for remote access
- **Scalability** – Increase in SQL Server specification to allow support of more tenants
- **Availability** – Backup Domain Controller and SQL Server Cluster provide services 24*7 with minimum disruption
- **Storage** – Isolated storage for data files and virtual machine images

Potential Issues

- **TCO** – Increased cost through the introduction of failover instances
- **Maintenance** – Backup of virtual machine images and data files have to be done at VM and storage level
Productive Deployment – High Availability

Public Environment

Web Access Portal
External Server

RDS Gateway
External Server

Private Virtual Cloud

RDS License Server
RDS Connection Broker
RDS Components

Cloud Control Center
License Server
System Landscape Directory
Central Management Server

Presentation Server Farm

SAP Business One Client
Presentation Server
Backup Domain Controller
Domain Controller Server

SQL Failover Cluster

Common Database
Integration Component
Mailer
Service Unit Server

Company Databases
Storage Area Network (SAN)
Storage Area Network (SAN)
High Availability Deployment

Key Information
- Load balancing on IIS and RDS Gateway servers to achieve high availability of remote access
- More Presentation Servers in server farm built for load balancing when single point failure.
- Redundant network devices provide fault-tolerance.

Benefits
- **Stability** – IIS Web Server Farm provides increased stability and load-balancing for web access
- **Clustering** – Ensure deployment of virtual machines over multiple physical machines to build on failover clustering at virtualization level
- **Availability** – Redundancy of servers and devices installed with high availability provides fault tolerance
- **Storage** – Isolated storage for data files and virtual machine images

Potential Issues
- **TCO** – Much higher cost of infrastructure
- **Management** – Landscape becomes more complex which increases the amount of data center management
Summary

In this section we have:

- Understood the sizing metrics that can be used to help you estimate the size of the required SAP Business One Cloud Landscape
- Used the sizing tools that are available
- Explored the different deployment configurations that could be used in the SAP Business One Cloud Landscape
Appendix

Infrastructure Topology Diagrams
Infrastructure Topology – Starting Point Deployment

Connectivity Legend
- Internet
- Intranet
- Storage

SAP Business One Users

Internet

Switch

Host Server – 1

Host Server – 2

VMware – HA Cluster

Storage Switch

Intranet Switch

SAN
Infrastructure Topology – Improved Availability and Scalable

Connectivity Legend
- Internet
- Intranet
- Storage

- SAP Business One Users
- Host Server – 1
- Host Server – 2
- VMware – HA Cluster
- Database Server
- Switch
- Storage Switch
- Intranet Switch
- SAN
- SAN

SAN
SAN

SAN
SAN
Infrastructure Topology – High Availability

Connectivity Legend
- Internet
- Intranet
- Storage – 1
- Storage – 2