IBM Global Technology Services, Integrated Service Management (ISM) Domain

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Establishing an effective customer-focused Service Management Approach

Where to start and how to make it work

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Agenda Topics

What is the starting point of Customer-focused Service Management?

- Integrated Service Management and Hybrid IT
- How to find ROI sweet spots
- What are the key ITIL best practices and where does one start?
- Service Catalogs for Self Service

Service Request Catalog and CMDB go hand-in-hand:
High-level Execution Flow Example
MS SQL SERVER ON WINDOWS VIRTUAL SERVER

How to implement an effective Self-Service system?

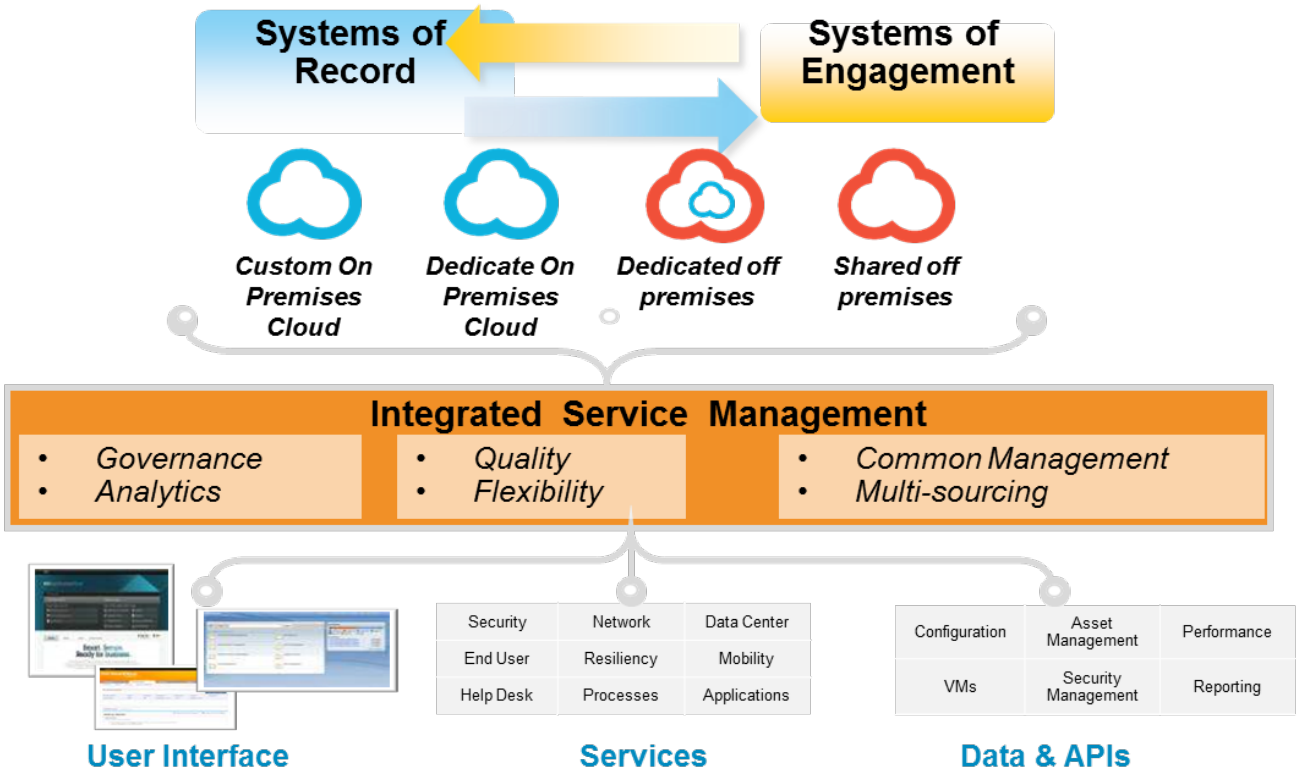
- Service Catalog and downstream Automation
- Change Management – standard vs. normal changes
- Configuration Management and Asset Management
- How the CMDB gets populated with key Information

Key Design Principles for Service Catalog and CMDB
Q&A

Integrated Service Management provides seamless interoperability across heterogeneous (Cloud/non-Cloud) environments

- One common management approach spanning multiple data sources and providers
- Flexibility of ***choice*** for "best of breed" services
- ***Access*** services across clouds and traditional IT service providers
- Ability to ***control*** consumption of capabilities, how and where needed

Cloud and non-Cloud Environments



What is the starting point of Customer-focused Service Management?

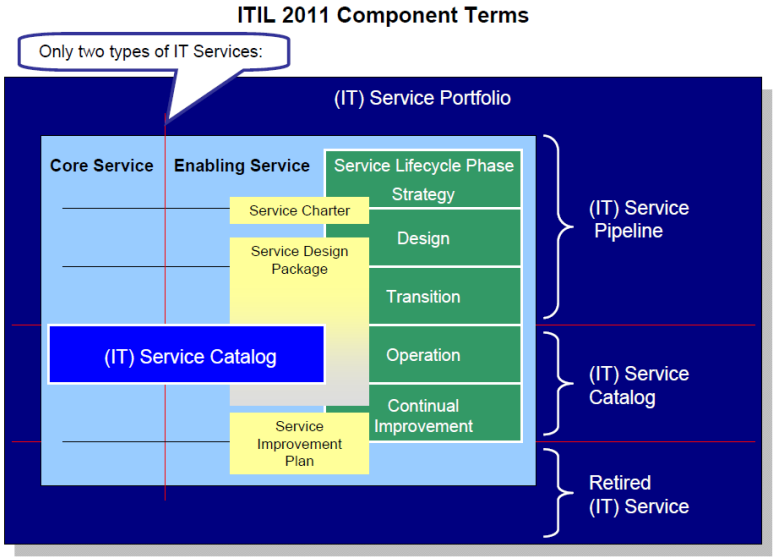
IT Process	Issue	How addressed?
Service Request Management and Service Catalog Management	Over 40% of tickets relate to password resets that require manual Service	Self-service portal for password resets
	15-20% of tickets are ticket status inquiries	automated notifications sent whenever work status changes or timeout is
Incident Management	Sev 1 Incidents sit in Queue before	Enforce Incident prioritization
	Issue is being worked before it is reported	Process enforces proper sequence of actions
	Duplicate tickets are opened	Service desk is single point of contact
	Paging notifications differ between	Streamline paging notifications
	Different tools are used for different steps in the process (phone, tool,	leverage collaboration capabilities built into the tool (chat, solutions)
	no efficiency targets are defined	collect key performance indicators to measure efficiency and process
Problem Management	no connection between Service request, Incident, and Problem	seamless integration between the processes
	re-inventing the wheel for every	Searchable solution database
	manual diagnosis checklist	define job plan and store in tool with automation opportunity
	handovers have potential for becoming bottlenecks	queues are monitored by means of KPIs and escalations

ROI sweet spots

- The above 3 IT Processes feed into **Change Management** – as standard or normal changes
- **Configuration Management** or **Asset Management** establish the Foundation

➔ Service Catalog Management is the Entry point for fully Automated Request Fulfillment

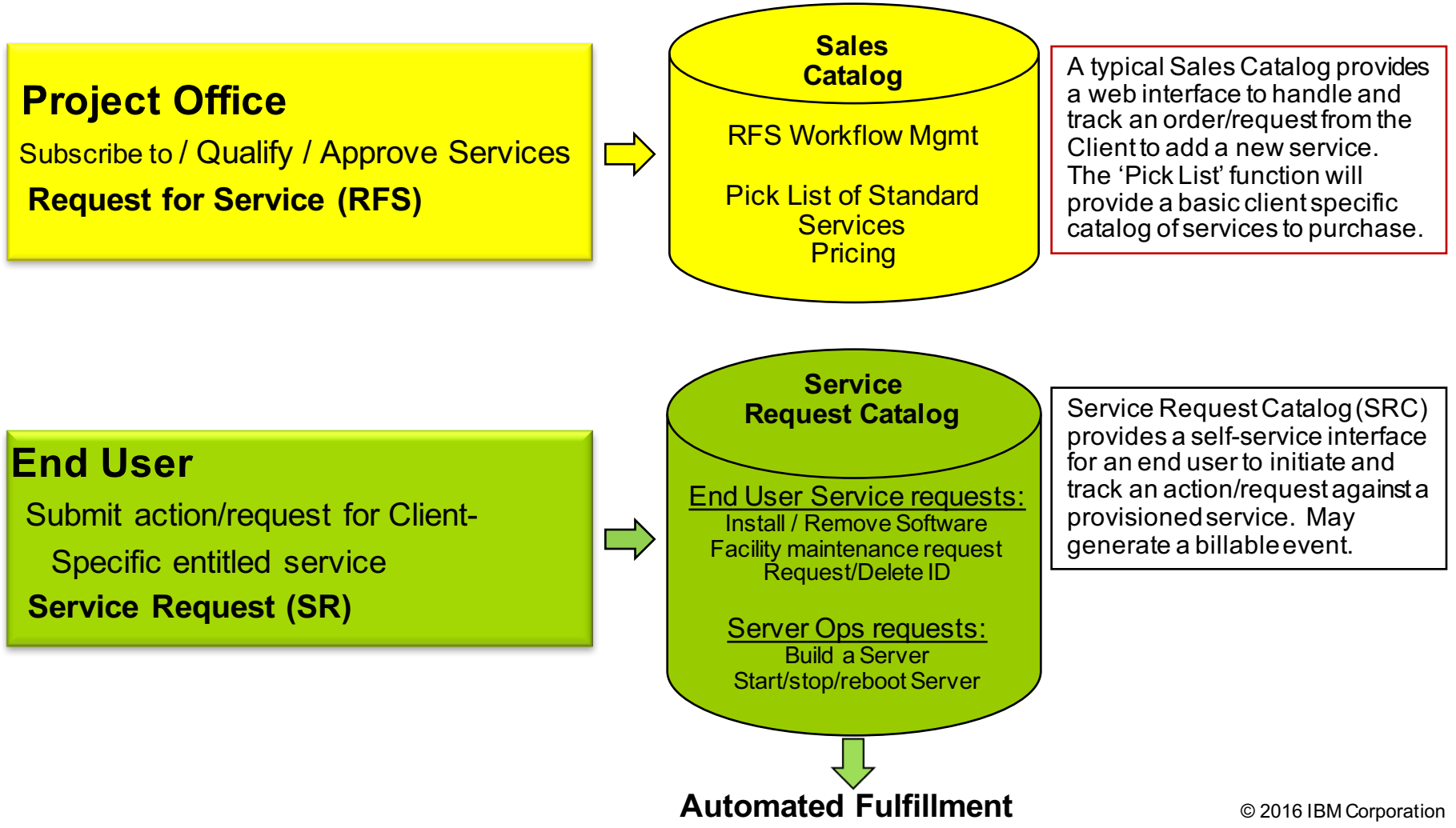
Service Catalog Management for Self-Service



- ITIL v3 will tell you there are two kinds
  - Technical and Business
- ITIL 2011 will tell you there are 'core' and 'enabling' services
- Some (vastly different) examples
  - "Request a Smartphone"
  - "Reset my Intranet password"
  - "Increase Exchange Mailbox quota by 500MB"
  - "Replace broken Neon tube above my desk"
  - "Deploy JBoss EAP on Linux Virtual Server'
- A set of 'Service Offerings' describe something that a client 'wants' and 'will pay for'. Usually these have Service Tiers, Service Options and some kind of agreement. They are usually 'subscription' based.
- A set of 'Requestable Services' may describe administrative functions that can be performed and are really automated tasks fulfilled by a standard Request Fulfillment process.
- "*Our customers are not going to buy simple services like disk space, a laptop, a server*"
  - Services have a hierarchy and may be composite or bundled
  - Services may be completely abstracted from the underlying IT
  - Services may be delivered using more than one provider (Service Integration and Management – SIAM)

Types of Services Catalogs

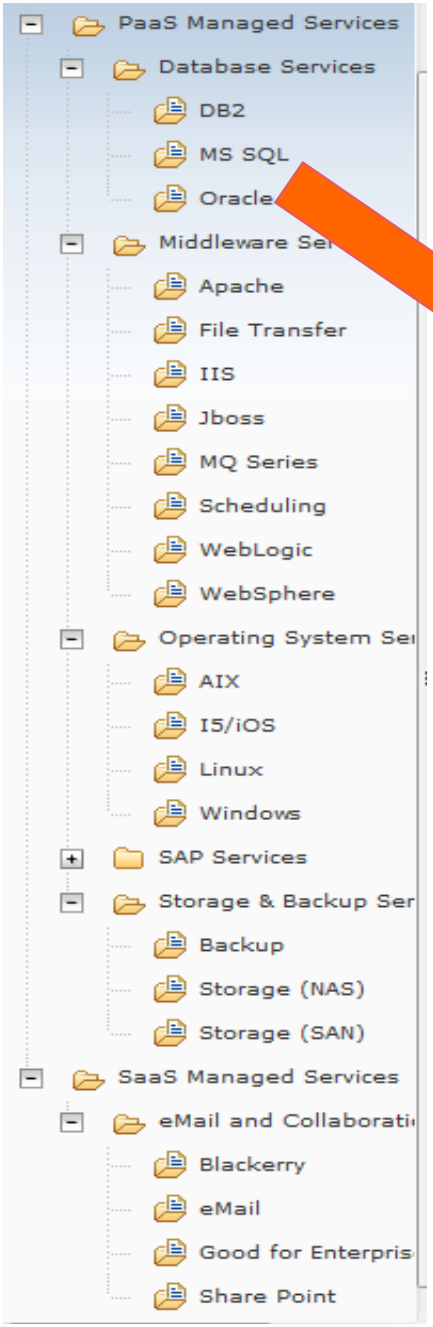
- It is important to present both Sales and Service Request Catalogs in a cohesive way
- Service Request and Request for Service have **different audiences**
  - **Request for Service** – Business and IT managers authorized to contract for additional services – often part of CIO or procurement office
  - **Service Request** – steady-state users of contracted services

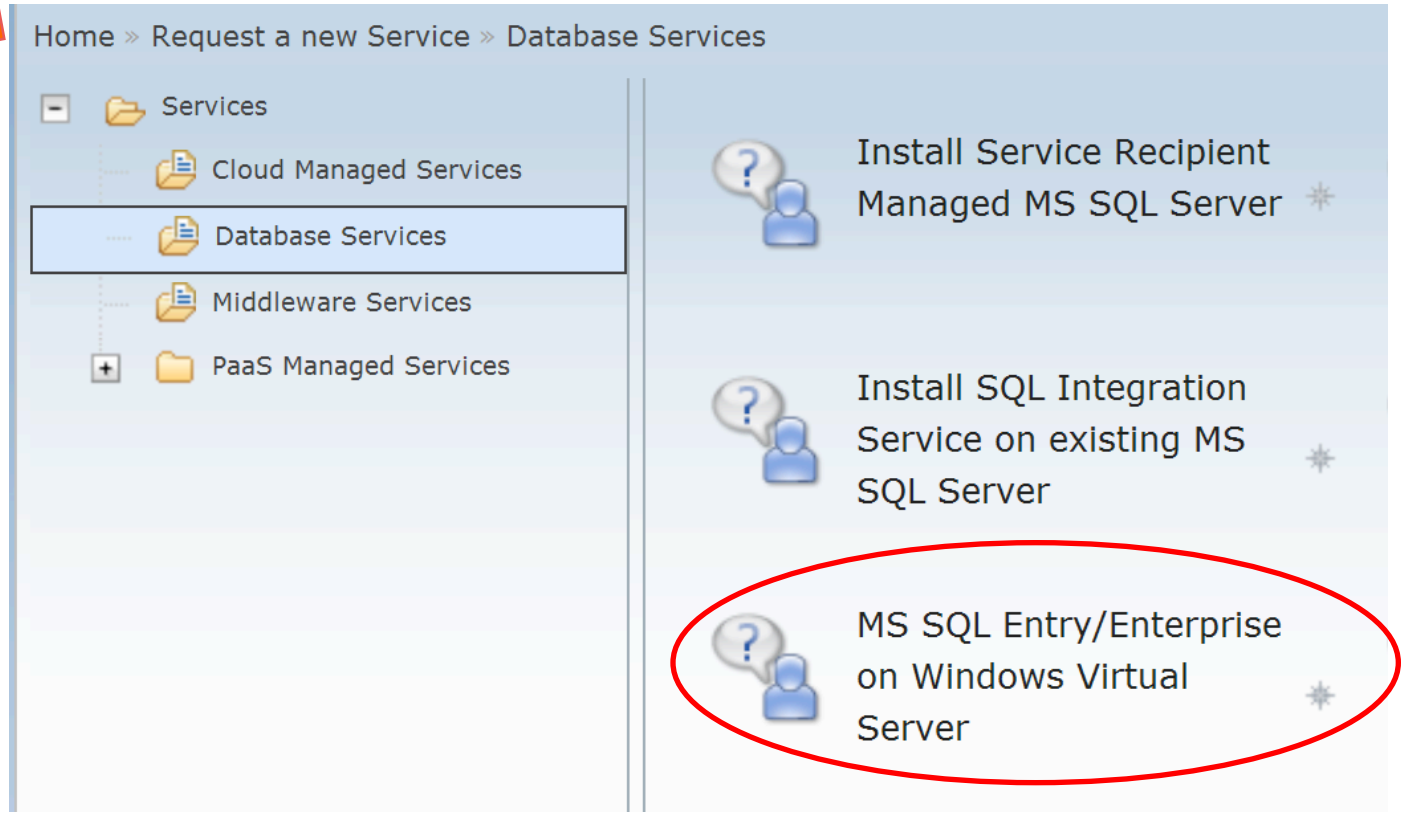


Service Catalog and CMDB Example: MS SQL SERVER ON WINDOWS VIRTUAL SERVER

Example Walkthrough
MS SQL Entry / Enterprise on Windows Virtual Server

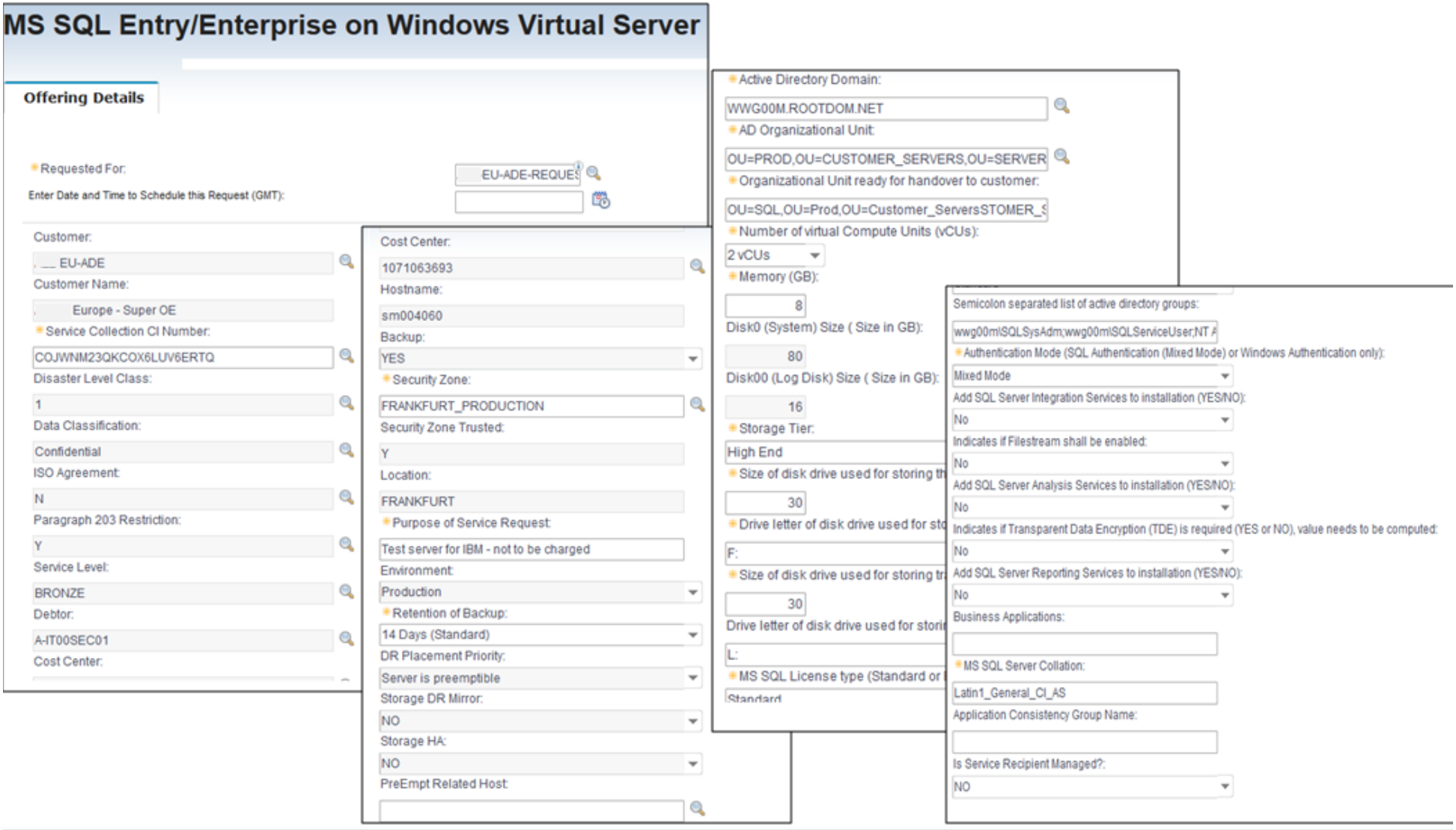
- Browse the 'Self Service Center' to find MSSQL Offerings under Platform as a Service, Database Services





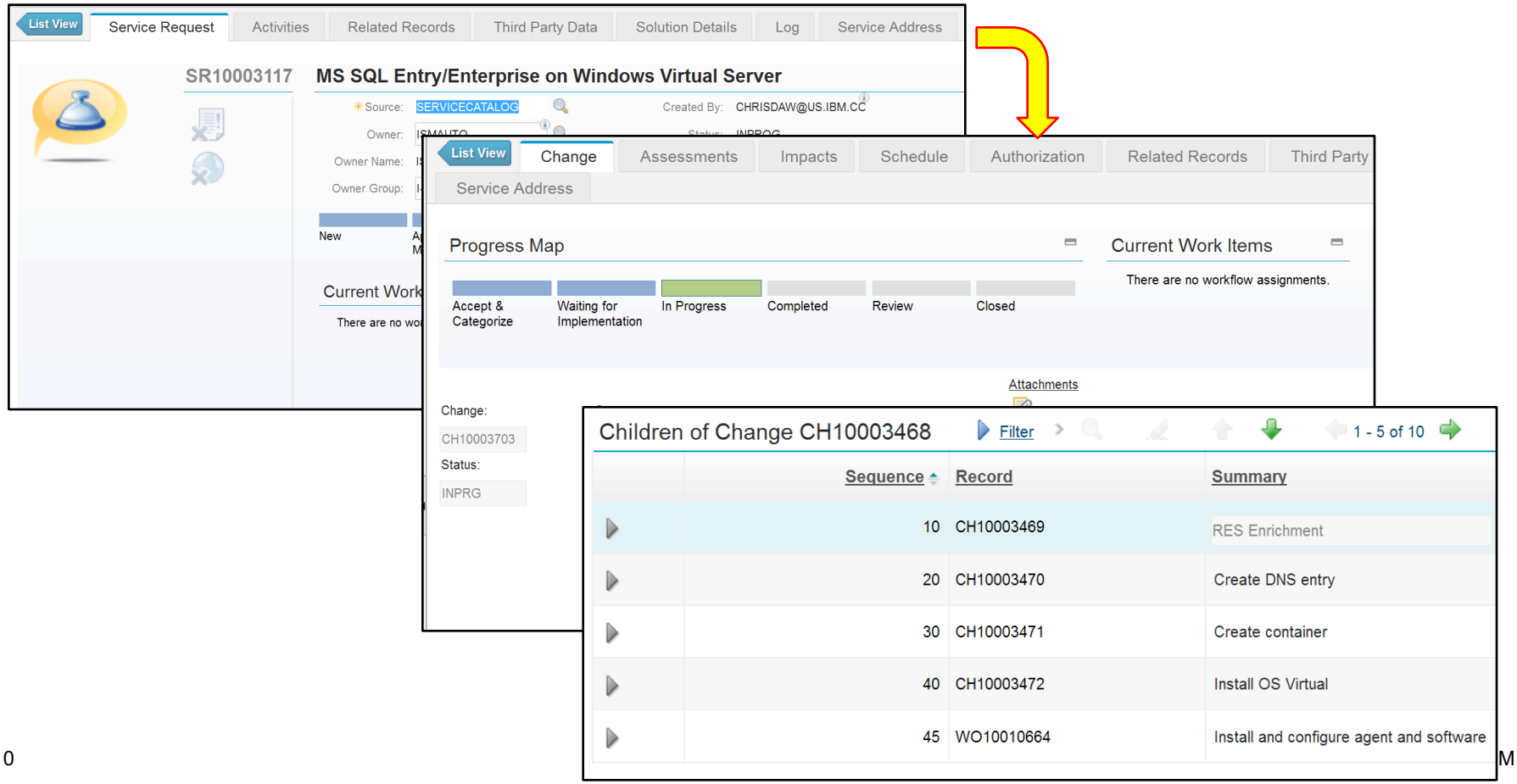
CMDB Lookups establish Context and reduce Errors in the Order Form

- Select the mandatory and optional attributes ➔ most are lookups… grey fields are read-only



ICD Walkthrough
MS SQL Entry / Enterprise on Windows Virtual Server

- From Service Request, an associated Change Request is created automatically as it is a standard change
- SR is In Progress, Change is changed to 'In Progress' if no CI conflicts detected
- Job Plans of tasks are automatically executed



Configuration Management Database (CMDB)
A normalized object oriented Database

- Configuration Items (CIs) are stored in the CMDB

Source Configuration Item	Description	Classification	Relation
GFEYJEBUSEIQ6WLVY1INQG		CI.SQLSERVER	RELATION.SUPPORTS
GFEYJEBUSEIQ6WLVY1INQG		CI.SQLSERVER	RELATION.RUNSON
GFEYJEBUSEIQ6WLVY1INQG		CI.SQLSERVER	RELATION.ACCESSEDVIA

Related Configuration Items Filter 1 - 10 of 17

Source Configuration Item	Description	Classification	Relation	Target Configuration Item
DEFR11Q991002.MWJTEST.GTS.IBM.CO		CI.WINDOWSCOMPUTERSYSTEM	RELATION.CONTAINS	DEFR11Q991002.MWJTEST.GTS.IBM.CO
DEFR11Q991002.MWJTEST.GTS.IBM.CO		CI.WINDOWSCOMPUTERSYSTEM	RELATION.SUPPORTS	DEFR11Q991002.MWJTEST.GTS.IBM.CO
DEFR11Q991002.MWJTEST.GTS.IBM.CO		CI.WINDOWSCOMPUTERSYSTEM	RELATION.CONTAINS	DEFR11Q991002.MWJTEST.GTS.IBM.CO
DEFR11Q991002.MWJTEST.GTS.IBM.CO		CI.WINDOWSCOMPUTERSYSTEM	RELATION.CONTAINS	DEFR11Q991002.MWJTEST.GTS.IBM.CO
			RELATION.CONTAINS	DEFR11Q991002.MWJTEST.GTS.IBM.CO
			RELATION.CONTAINS	DEFR11Q991002.MWJTEST.GTS.IBM.CO
			RELATION.CONTAINS	DEFR11Q991002.MWJTEST.GTS.IBM.CO
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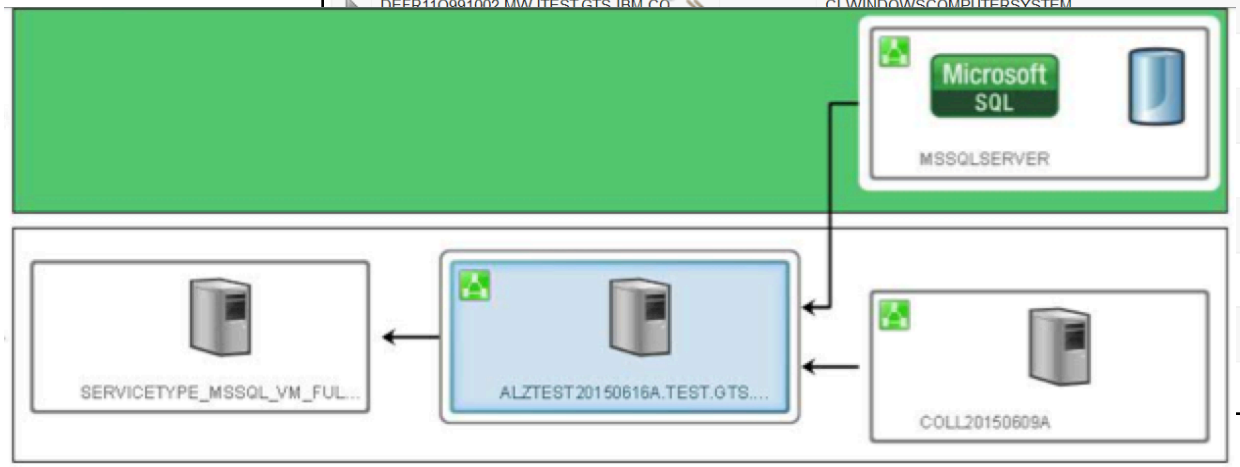
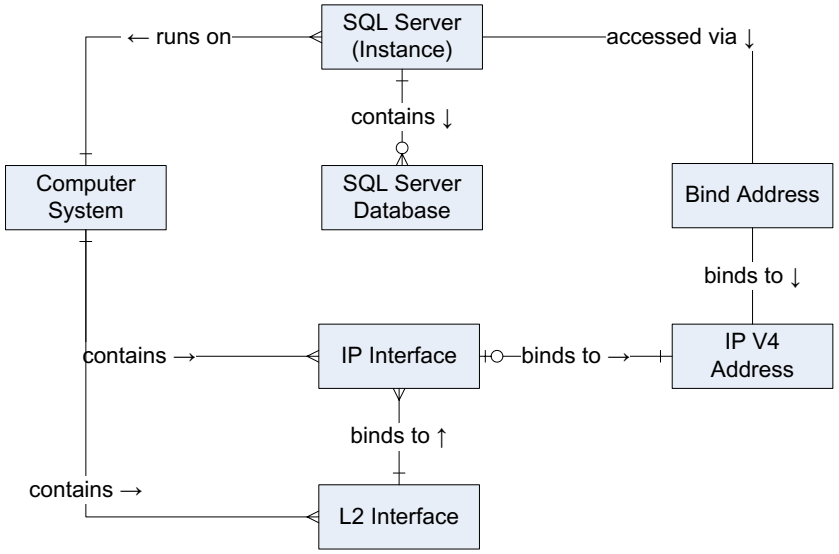


CMDB Data Model for MS SQL Server



What is a suitable Data Model for a CMDB?

- CMDB Data Model follows the Common Information Model (CIM) Standard of the Distributed Management Task Force (DMTF)
- CIM defines the CI and relationship types of HW/SW components, Operating Systems and Middleware

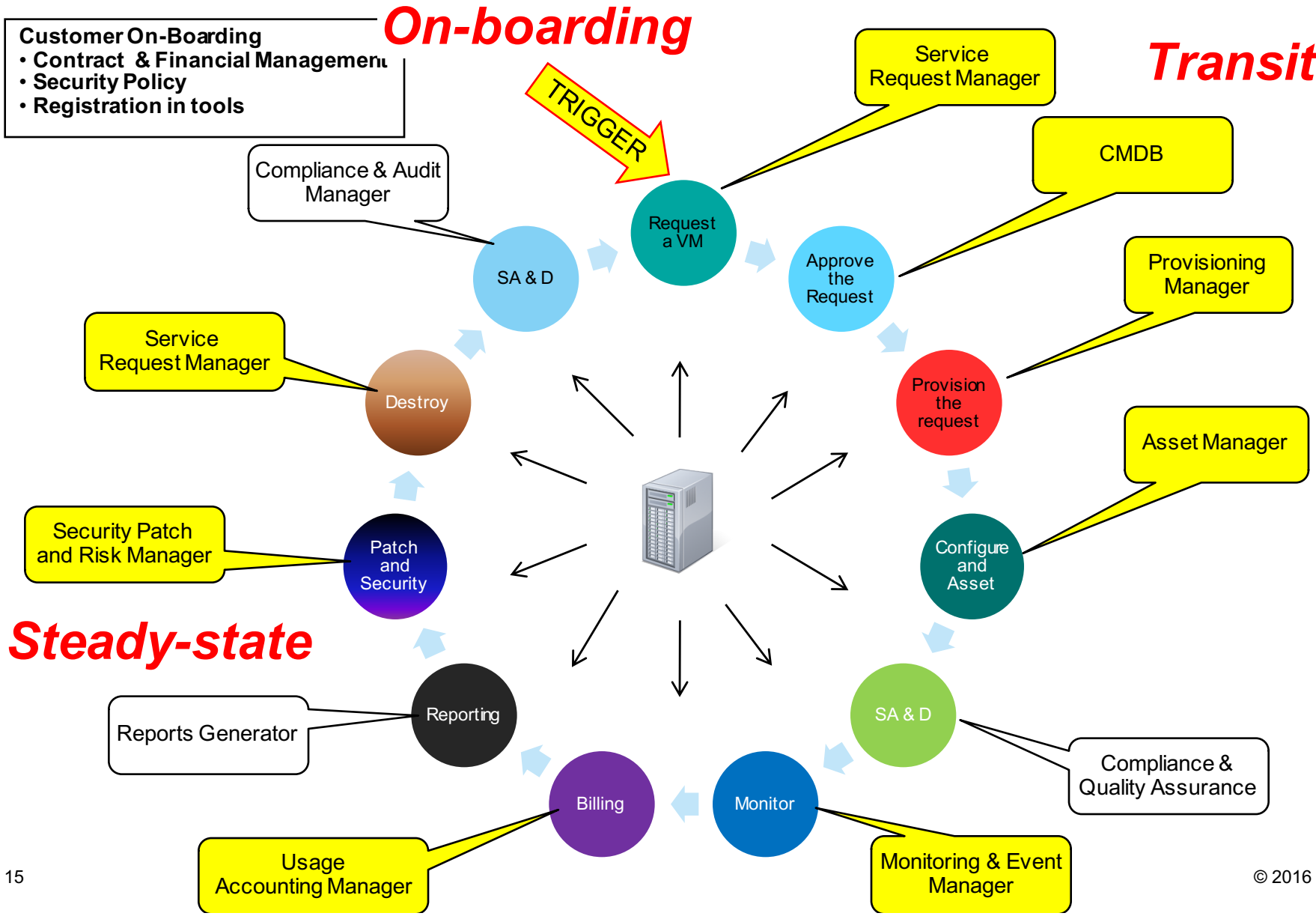
➔ This is needed in order to perform CI reconciliation between Authorized and Actual CIs

Key steps of the Walkthrough
MS SQL Entry / Enterprise on Windows Virtual Server

1. Service Management tool will generate the customer hostname
2. An Enrichment Request is made to the (Cloud) Provisioning system, which responds with:
    1. the relevant IP address(es),
    2. Provider Hostname,
    3. SAN Data Store Cluster and
    4. any other details necessary to perform the request
3. Base OS is then installed through Automation
4. Additional configurations are then made to install the data disk file systems and partitions using Automation
5. Upon success, Configuration Items are created for the OS, NICs, Disks and Service Instance
6. MS SQL is then installed through Automation
7. Upon success Configuration Items are created for the MS SQL Instance
8. In case of any errors encountered, the Automation raises an Incident in the Service Desk

SERVICE CATALOG MANAGEMENT AND DOWNSTREAM AUTOMATION

Service Catalog and downstream Automation of Server Lifecycle Management



Change Management leverages data and analytics to drive continuous improvement yielding higher success rates.

Process and Controls

- Best practices
- Training
- High risk assessments

+

Data and Analytics

- Metrics / RCAs
- Failed changes
- Expedited changes

OUTCOMES

- Improved success rates
- Operational stability
- Enhanced client experience

90,000 changes each month = 90,000 opportunities to execute flawlessly

Data and analytics help improve success rates

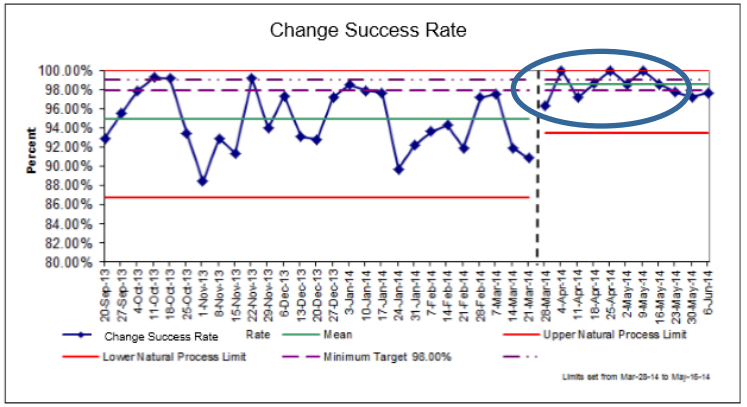
Opportunity: Metrics highlighted specific account as having a high rate of failed changes

Analytics leveraged to diagnose the root cause:

- Poor change ticket handling, planning, and execution
- Server activations and decommissions extending past their change windows

Solution: Targeted training directed at teams most in need; reinforced with consistent metrics and continued analysis.

Sustained improvement



Defect prevention process, Analytics, Data Mining

Standard vs. Normal Changes: Different Service Requests have different approval paths. Consider the Environment, too!

Pre-approved – Blue, Requires CAB/Manual: Black

- Install MS SQL Standard/Enterprise on Windows Virtual Server
- Install MS SQL Standard/Enterprise on Windows Physical Server
- MS SQL Failover on Windows Physical Cluster
- Install SQL Analysis Service on existing MS SQL Server
- Add SQL Server Instance
- Create Database on SQL Instance
- Start/ Stop/Restart MSSQL Instance
- Start/ Stop/Restart MSSQL Database
- Change Retention Period of of Database Backup
- Change Permanent Schedule of Database Backup
- Attach/Detach MS SQL Database
- Extend/Shrink MS SQL Table/Database
- Import MS SQL Database
- Export MS SQL Database
- Modify Configuration of MS SQL Database
- Copy MS SQL Database to a Different System
- Delete Database
- Decommission MS SQL Server

CONFIGURATION MANAGEMENT

Asset Management and Configuration Management are tightly coupled

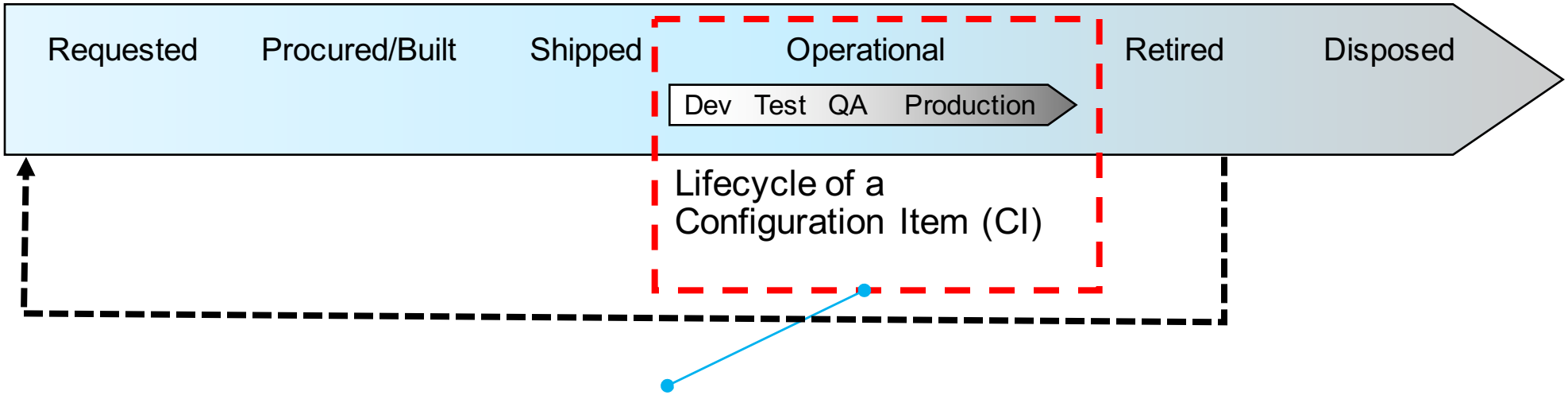
Asset Management spans the entire lifecycle of an asset, focuses on tracking assets for financial and regulatory purposes

Lifecycle of an Asset

An Asset has a related CI when it is necessary to control changes to its configuration

During this time a link between an Asset and a CI is an important element for continuity, integrated process and application value

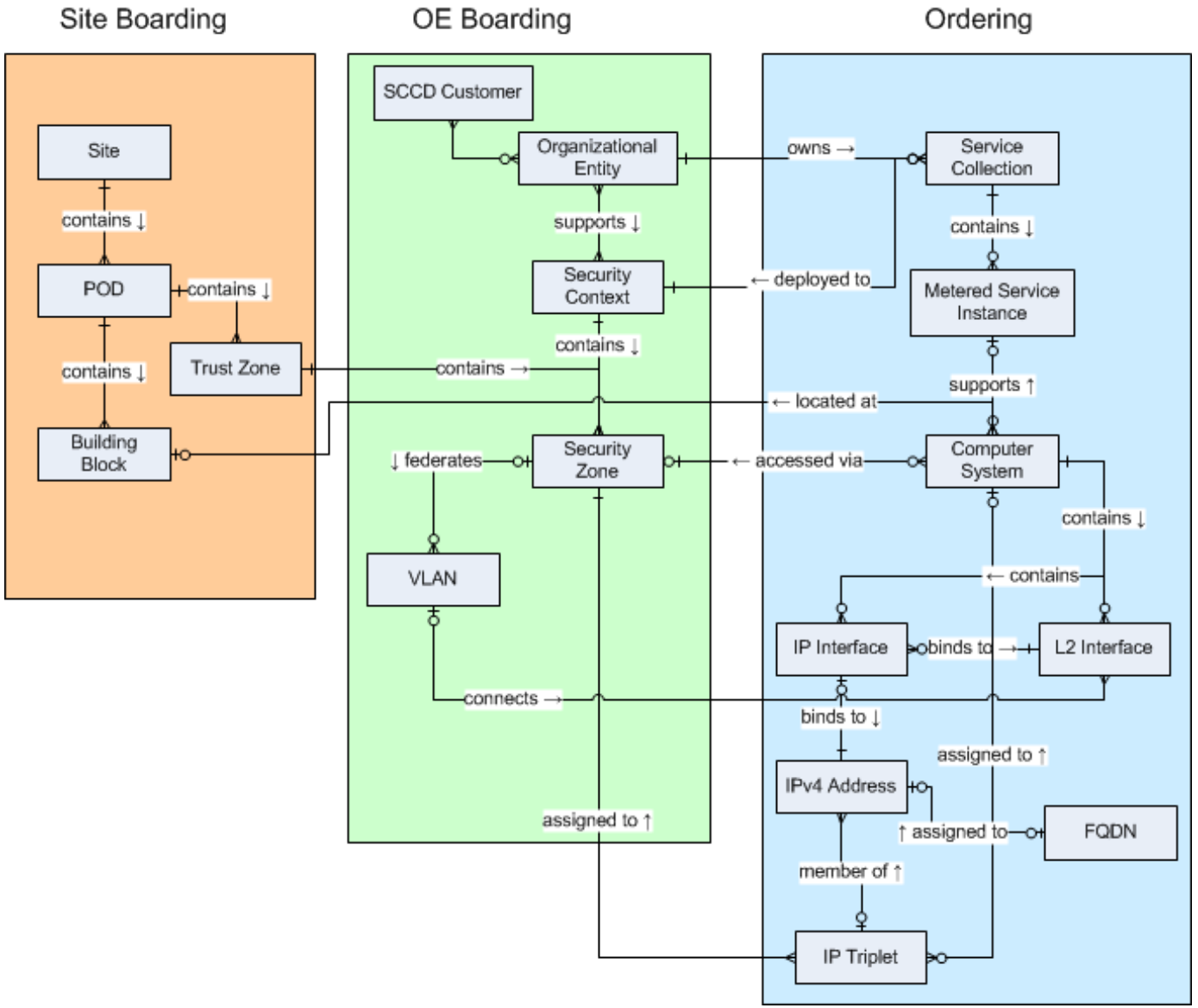
(Assets are related to configuration items)



Configuration Management spans the productive life of assets in the infrastructure, focuses on operational status and operational attributes

Key Information will be entered into the CMDB in three Phases

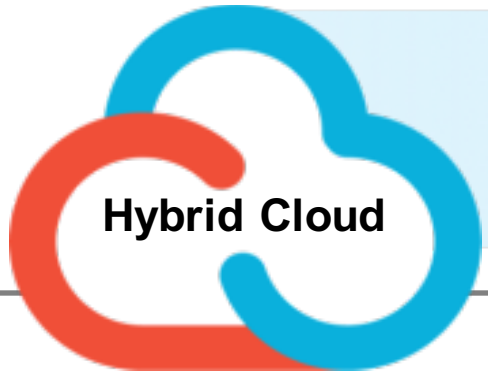
- Site Boarding
  - Once per site
    - PODs
    - Fire Compartments / Rooms
  - Changes hardly ever
- Organizational Entity Boarding:
  - OE is equivalent to Business Unit
  - Treated as separate Customers in the system
  - Whenever networking characteristics change
  - Changes rarely
- Ordering:
  - Whenever an order is placed
  - Changes frequently



Putting it all together:
Key Design Principles for Service Catalog and CMDB

1. Distinguish between standard and normal change requests (ITIL)
    1. **Standard Changes** are pre-approved and can be rapidly fulfilled, preferably automated
    2. **Normal Changes** most often require Change Advisory Board (CAB) approval and this may take days. Such Requests MAY be candidates for manual fulfillment.
2. Consider whether automation is always needed. Consider the following criteria:
    1. The complexity of the SR implementation
    2. The frequency at which managed resources will need to be provided
    3. The complexity of carrying out the Service Request
    4. The Availability of low-cost skills to carry out requests manually
3. Critically evaluate whether an SR really needs to be created from an offering in the Service Catalog (vs. simply typing the request into a text box of a BaU Service Request)
4. Follow an Agile approach for creating the minimum viable Configuration Management product
    1. Which Configuration Items are you obliged to report on?
    2. Which of the Configuration Items and which of their parameters are actually discoverable?
    3. How are you obtaining this data today, and what is the effort to obtaining it?

An optimized environment leverages a **hybrid approach based on workload characteristics and business value**



Key considerations:

- Data
- Open integration
- Common management
- Existing investments

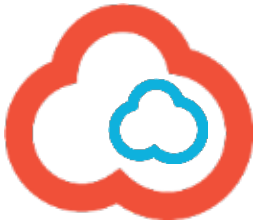
Cloud Native Apps/Services

Enterprise Applications

Cloud Enabled

Traditional IT

Dedicated On-Premises Cloud



Dedicated Off-Premises Cloud

Shared Off-Premises Cloud

Choose the right mix for your business