

CMDB

CA Best Practices and Service model

Swedish Service Desk Manager User Group

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Agenda

CMDB – CA Best Practices and Service Model

CMDB vs. CMS

Federation

Content Pack

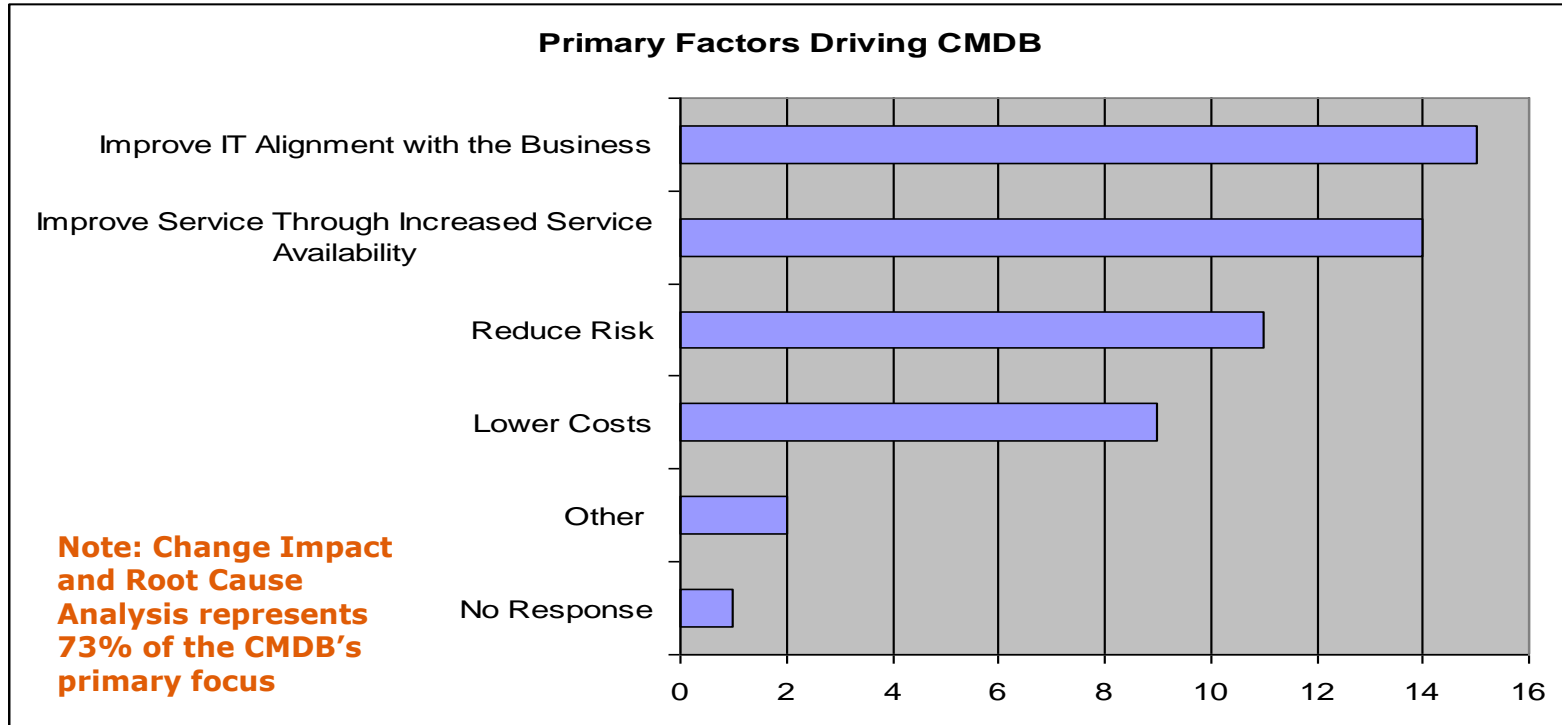
Service Model

- “Just Enough”, Top-Down vs. Bottom-Up, Federation
- Visualization, filters

Integrations and Data Population

- GRLoader, TWA, R12.7
- CA Configuration Automation integration with CMDB via Catalyst

primary CMDB use cases based on CA Technologies survey



consumers of configuration management information

- What processes are you looking to implement first using a CMDB?
 - 43%: Release, Change, and Configuration Management
 - 34%: Incident and Problem
 - 13%: Asset Management
 - 8%: Service Level Management
 - Service Modeling based on critical applications
 - 2%: Other

All are attributable to gauging impact, controlling important assets, or guidance in defining services based on CI relationships in existence...

Source: EMA

Contrast Asset and Configuration Management

Understanding the difference between the tangible value of an asset and the resource value of an asset is key to determining the business risk value of loss of that asset.

Asset Management Focus

- > Finance, ownership, and contracts
- > Lifecycle management
- > The asset as an IT corporate resource
- > The micro individual performance
- > CFO

Focus on cost and fixed risk

Configuration Management Focus

- > Operational responsibilities
- > Risk management and impact
- > The asset as a business service enabler
- > The macro aggregate performance
- > COO

Focus on value and unlimited risk

CMDB vs. CMS

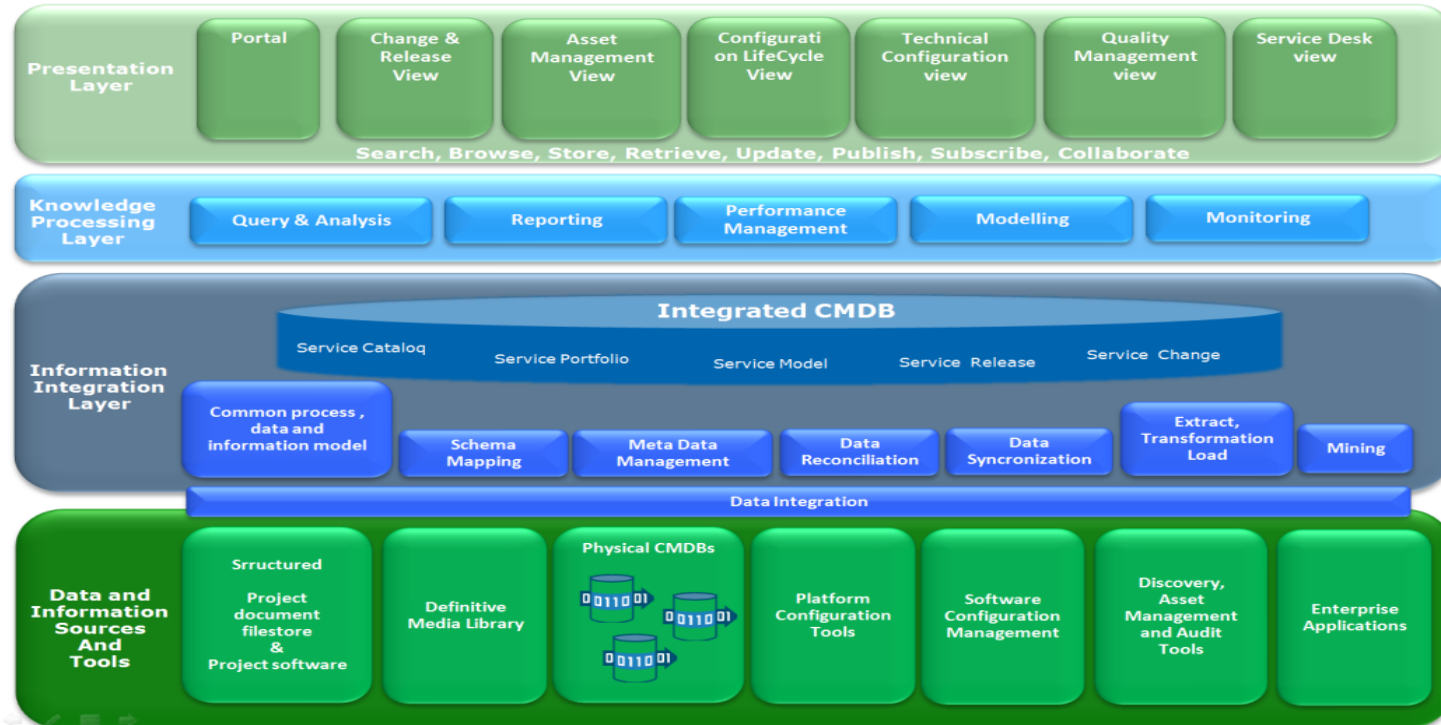
CMS – Configuration Management System

- Holds all the information for CIs within the designated scope
- Holds asset data available to external financial AM systems
- Relationships between all service components and any related incidents, problems, known errors, change and release documentation, employees, suppliers, locations, business units,...
- CMS will provide access to data in asset inventories wherever possible rather than duplicating data

Source: ITIL V3 Service Transition book (OGC)

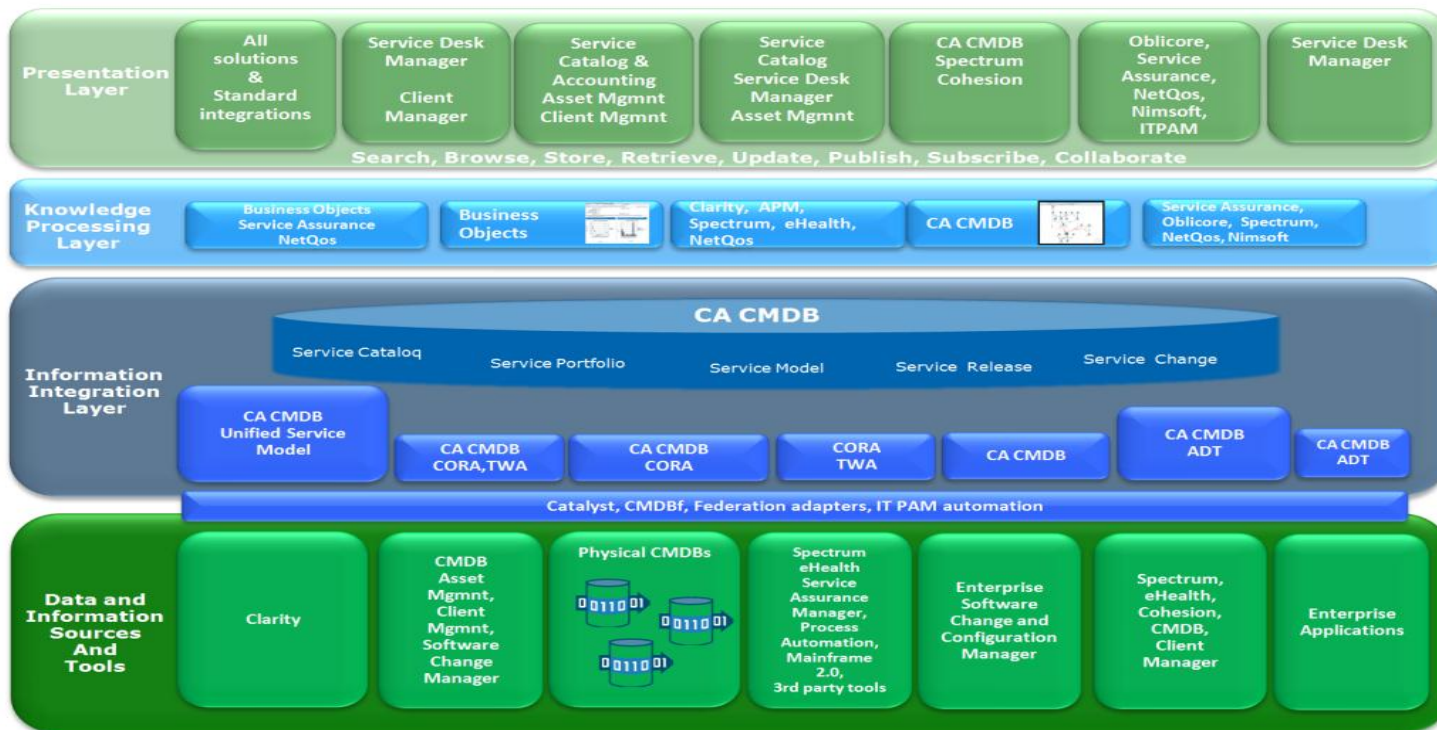
Sample CMS System as defined by ITIL and CA mappings

Sample Configuration Management System (ITIL V3)



Sample CMS System as defined by ITIL and CA mappings

Sample Configuration Management System (ITIL V3) & CA mappings



Federation

CA CMDB Native Content & Federation

CI Family

Family	
Cluster	Hardware.Printer
Cluster.Resource	Hardware.Server
Cluster.Resource.Group	Hardware.Storage
Computer	Hardware.Virtual Machine
Contact	Location.Station
Contract	
Document	
Enterprise Sr...	Enterprise Sr...
Enterprise Tr...	Enterprise Tr...
Facilities.Air C...	Facilities.Air C...
Facilities.Fire C...	Facilities.Fire C...
Facilities.Furnishings	Facilities.Furnishings
Facilities.Other	Facilities.Other
Facilities.Uninterruptible	Facilities.Uninterruptible
Power Supply	Power Supply
Hardware	Hardware

Only a small Example of CA CMDB Content...

CI Attributes

Virtual Server A : Server::VM Server
Name(m,u)
CI ID(m,u)
Role
Description
Support Team(I)
Customer(I)
Host Name
Installation Date
IP Address
Serial Number
Service Class
Service Hours
Support Provider(I)

Only a small Example of CA CMDB Content...

CI Relationship

Provider To Dependent	Dependent To Provider	Is Peer-to-peer?
administers	is administered by	No
approves	is approved by	No
authors	is authored by	No
authorizes	is authorized by	No
backs up	is backed up by	No
connects to	connects to	No
contains	contains	No
defines	defines	No
deploys	deploys	No

Only a small Example of CA CMDB Content...

CA CMDB

CMDBf
API

Federation
Adapters

Catalyst

MDRs

Mainframe

CA NSM

Spectrum SAM

Spectrum IM

Service Catalog

CA Cohesion

3rd Party MDR

MS SCCM

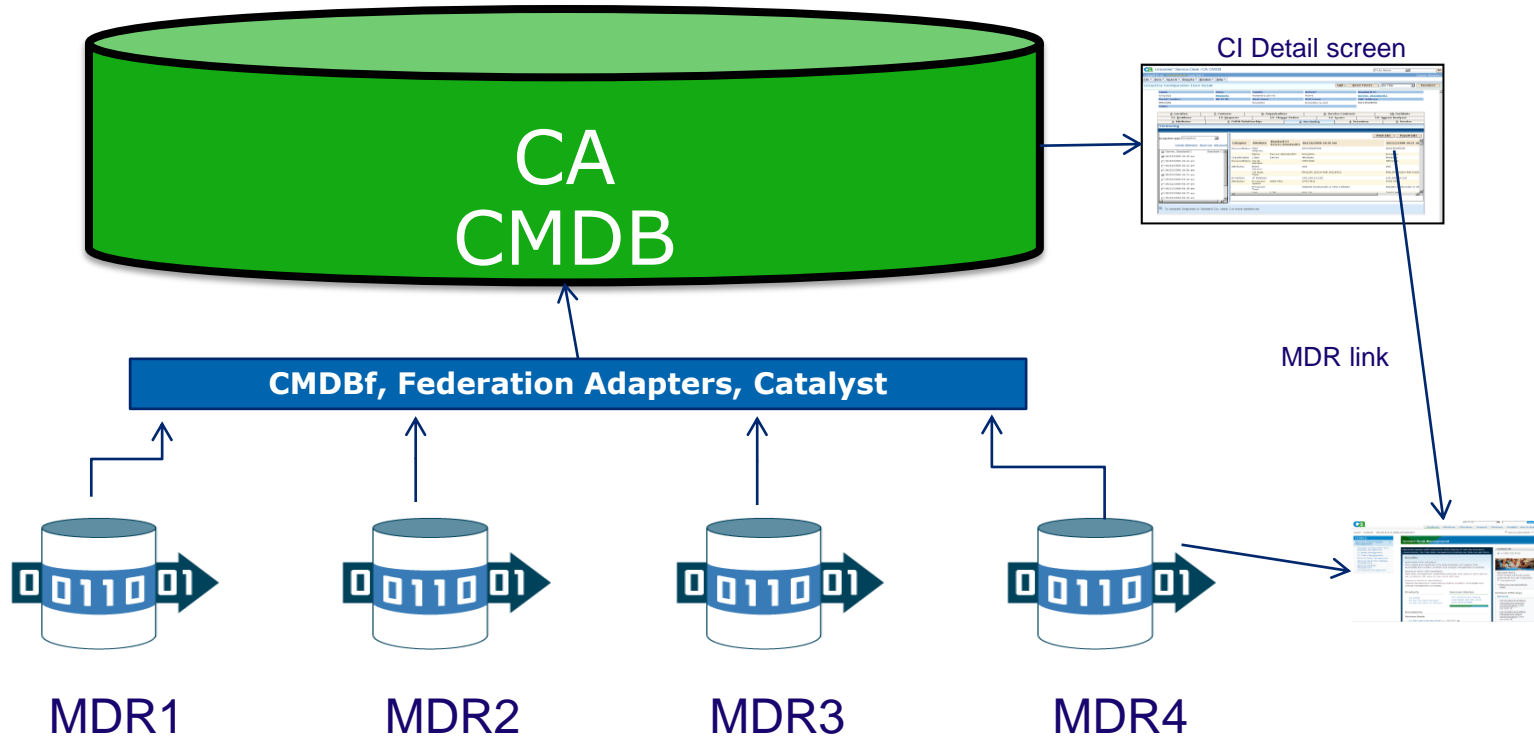
CA Wily APM

Spectrum DCA

CA ITCM (UAM)

CA ...

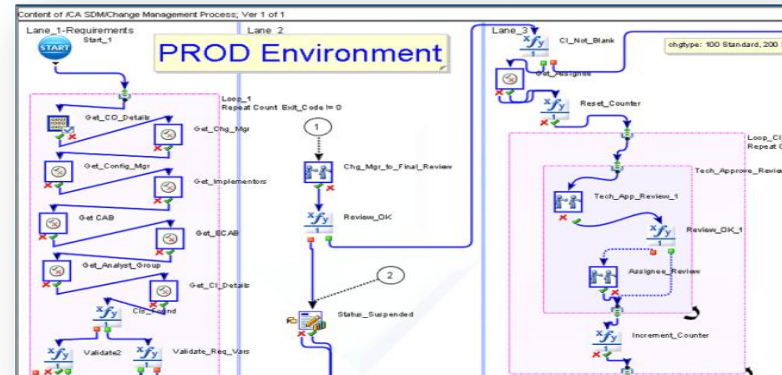
Federated Architecture



Content Pack

Content Pack for ITIL®

- The Content Pack for ITIL® consists:
 - ITIL v3 standard process collateral consisting of
 - Processes Handbook, RACI matrix, Processes, sub-processes, Procedures & Work Instructions
 - Includes; Service Catalog, Request, Incident, Asset, Change & Configuration Management Processes
 - Supporting workflows
 - CA Process Automation





CA Technologies - Reference Architecture Service Management Process Handbook Version 3.1

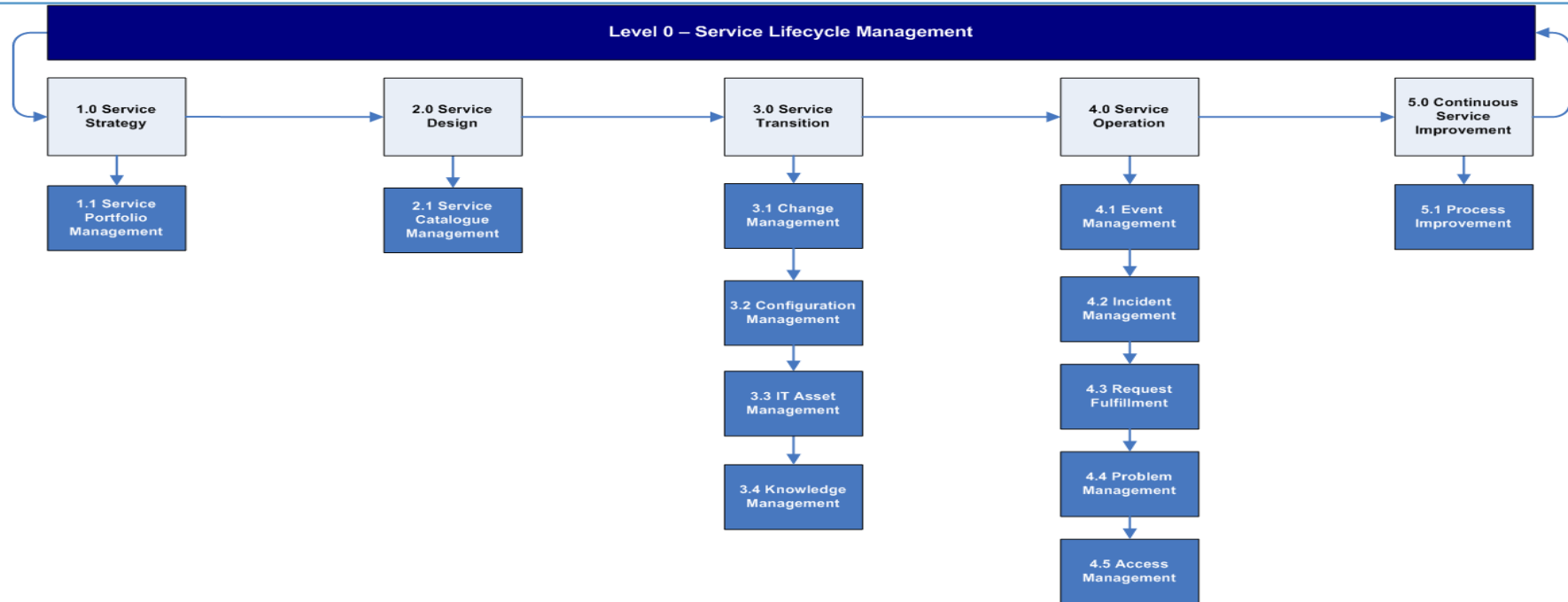
Date of Version: August 12th, 2011

Table of Contents

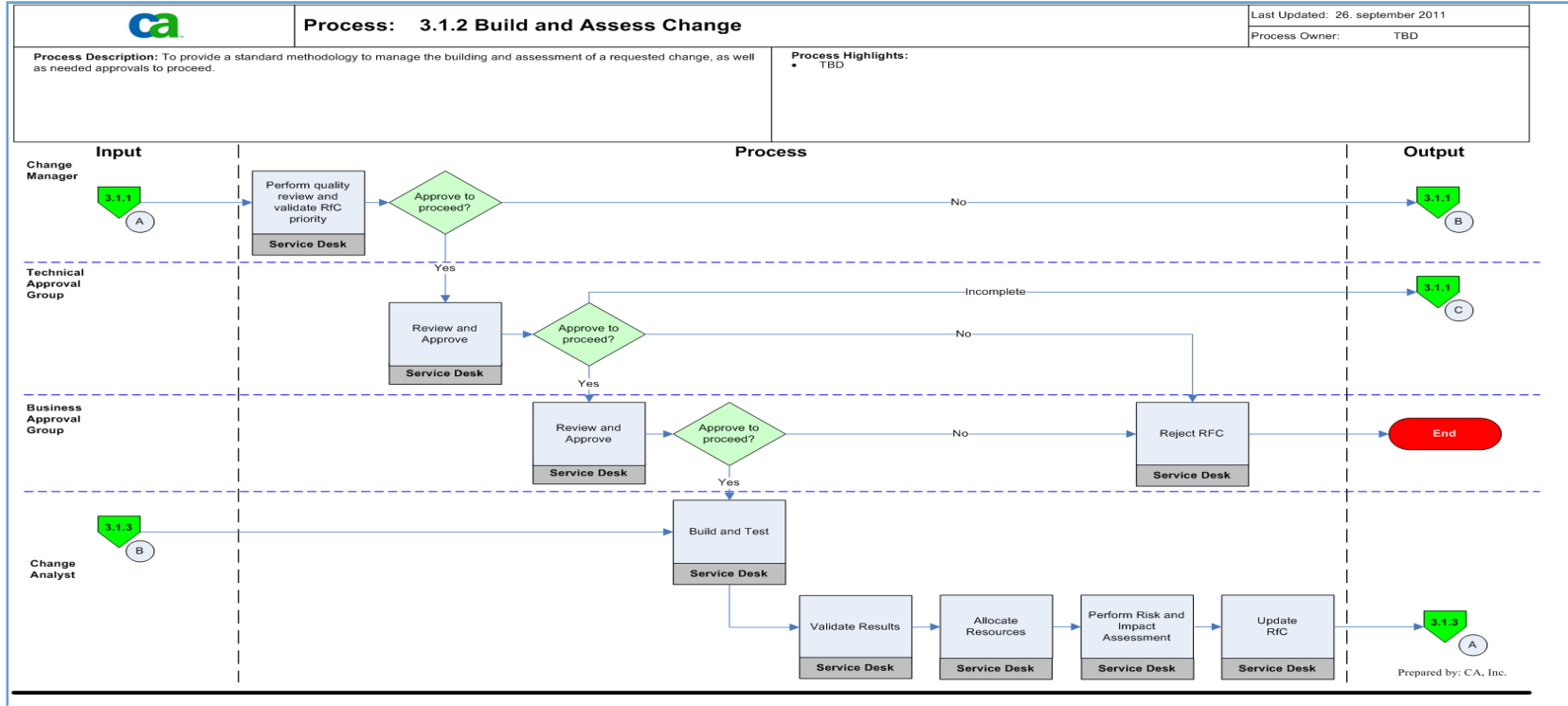
Introduction Maps	
Level 0 – Service Lifecycle Management	
1.0 Service Strategy	5.0 Continuous Service Improvement
1.1 Service Portfolio Management	5.1 Process Improvement
2.0 Service Design	Release Notes: Places notes here...
2.1 Service Catalog Management	Review / Approvers:
3.0 Service Transition	Name 1
3.1 Change Management	Name 2
3.2 Configuration Management	Name 3
3.3 IT Asset Management	Name 4
3.4 Knowledge Management	
4.0 Service Operation	
4.1 Event Management	
4.2 Incident Management	
4.3 Request Management	
4.4 Problem Management	
4.5 Access Management	

Legend	
	Flow Terminator
	Process
	Hand-off to External Process
	Decision Point
	Report
	System / Database
	On-page Connector
	Off-page Connector
	Notes
	System Process
	Activity Connector

Content Pack for ITIL®



Content Pack for ITIL®



Service Model

First - architect the right CMDB data model

- What is a “Service”?
- Step-by-step guide to building a Service Model with CA CMDB

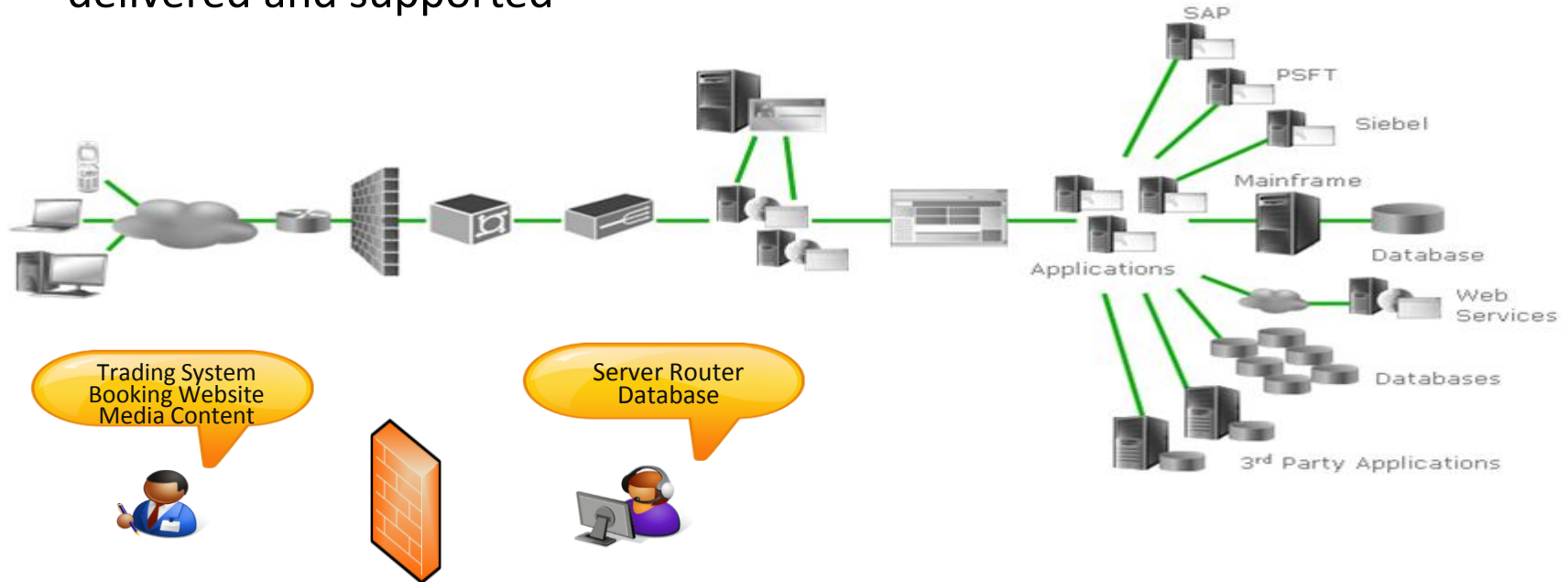
Configuration Management

- IT Service focused – items (CI's) that need to be “managed” to deliver the Service
 - Models Business Services in the CMS, providing information about Configuration Items, including their Relationships required to deliver the Business Service
 - The Configuration Management process provides the ability to consistently **identify**, **manage** and **verify** the IT infrastructure components and their Relationships within the Business Services
 - Quality is determined by the maturity level of the Configuration Management Process

It is not about sticking every bit of infrastructure in a big database!

translate IT to the business: service view

- critical to a service is understanding how it is consumed, constructed, delivered and supported



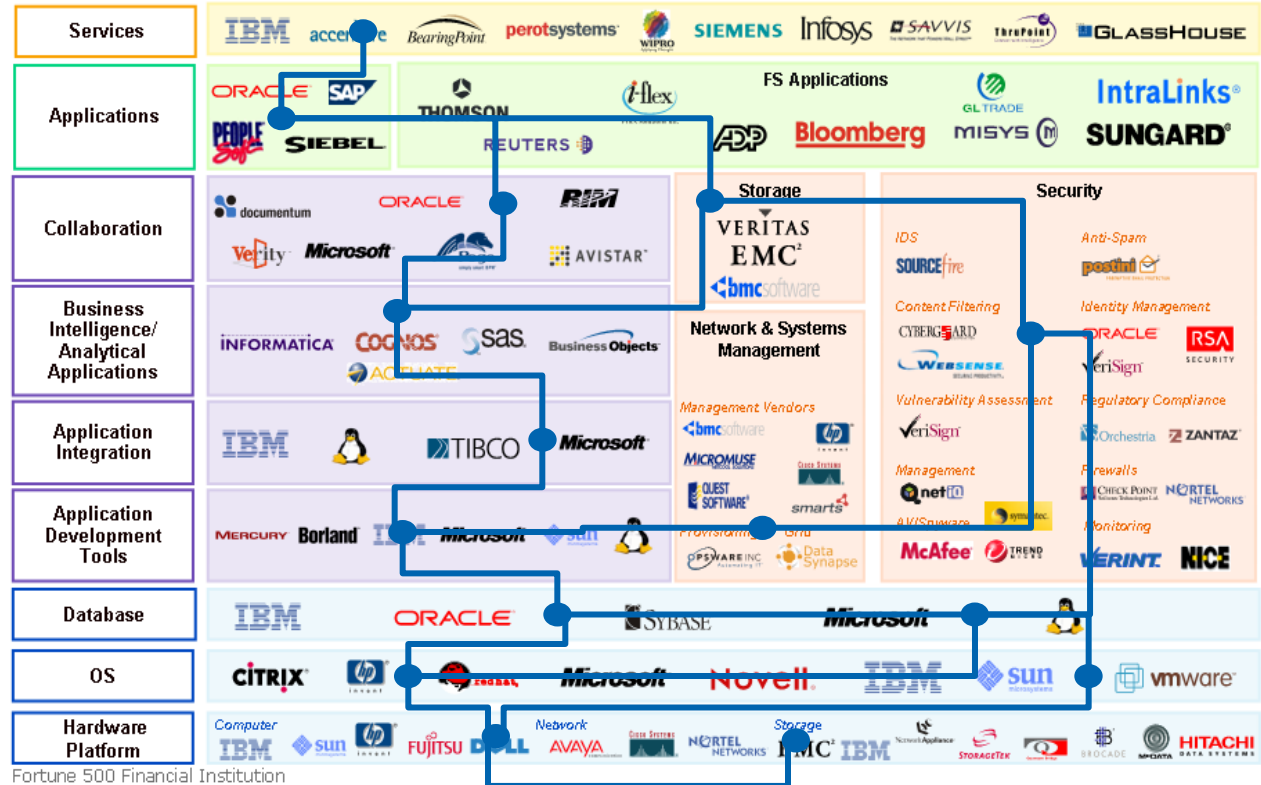
A Bird's eye view of an IT Service

Services				
Applications	 	 	FS Applications 	
Collaboration	 		Storage 	Security IDS Content Filtering Vulnerability Assessment Management AV/Spyware
Business Intelligence/ Analytical Applications	 		Network & Systems Management Management Vendors Provisioning	Anti-Spam Identity Management Regulatory Compliance Firewalls Monitoring
Application Integration				
Application Development Tools				
Database				
OS				
Hardware Platform				

Fortune 500 Financial Institution

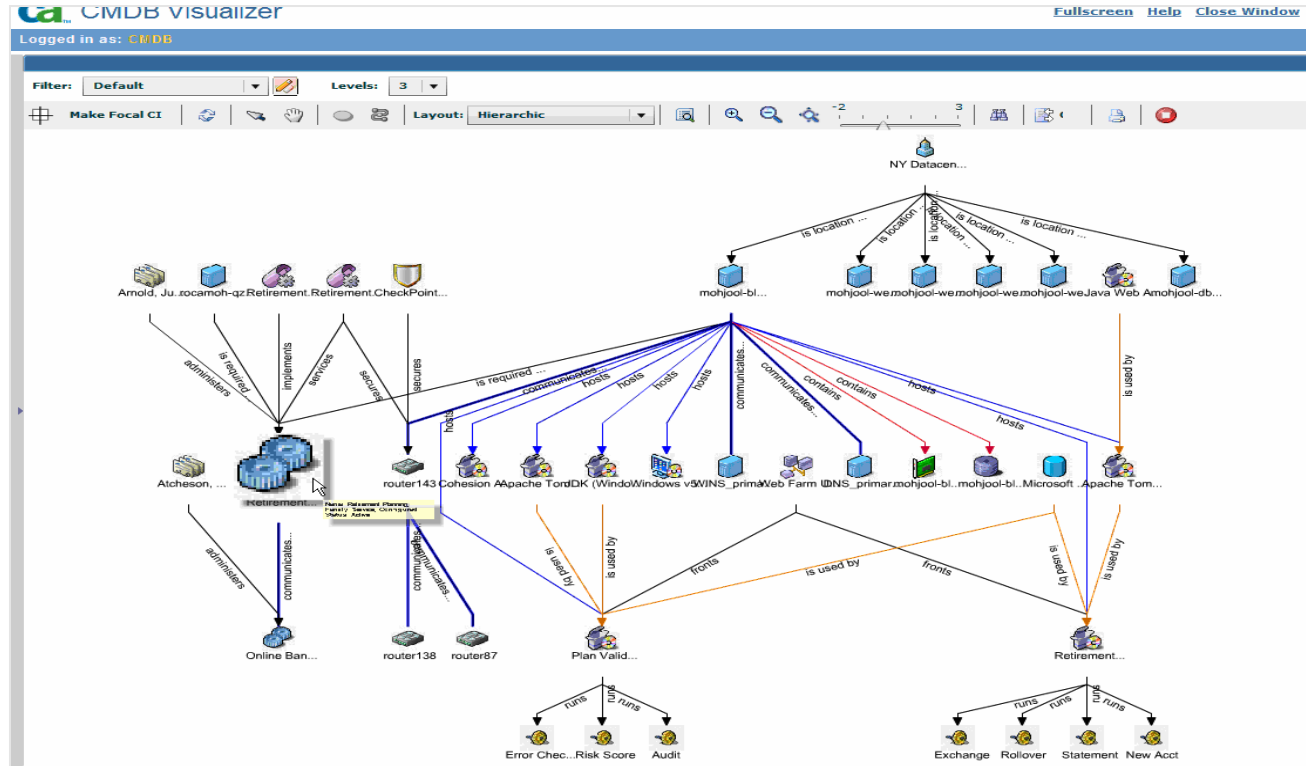
A Bird's eye view of an IT Service

- Services are made up of many layers
- Connecting layers is what makes Services robust but complicated
- We need to find the connections to “navigate” through the layers



Use Technology to Help

- Change Impact
- Root Cause



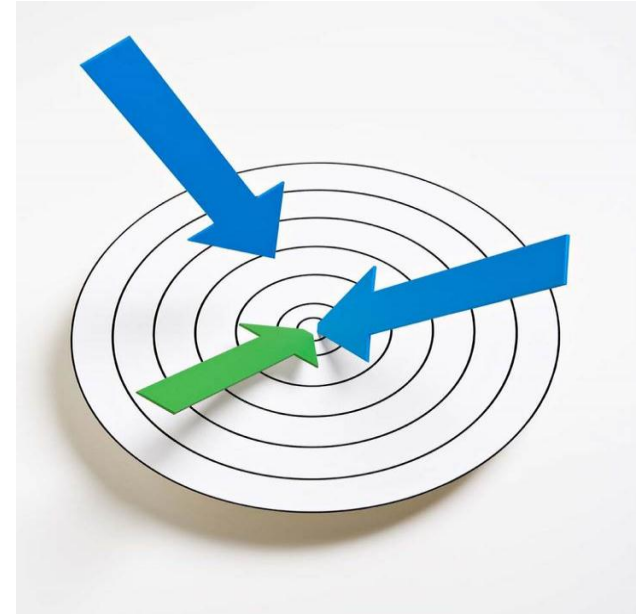
Service Model Design

- **Structure** – Underlying classification, component attributes and hierarchy of CI's
- **Object Model** – A diagram that represents all CI types within the scope of the Configuration Management process and their named relationships
- **Service Model** – An Object Model diagram that includes the key attributes meta data values that will be captured in relation to the defined CI Types

If the Infrastructure is the puzzle, and the Configuration Item (CI) is the piece, then the Configuration Management Service Model is the picture on the puzzle box

start with what you want to achieve

- > objectives for a configuration management database
- > considering:
 - who are the consumers of configuration management information?
 - what information do they require?
 - why do they need it?
 - when do they need it?
 - who owns the process?

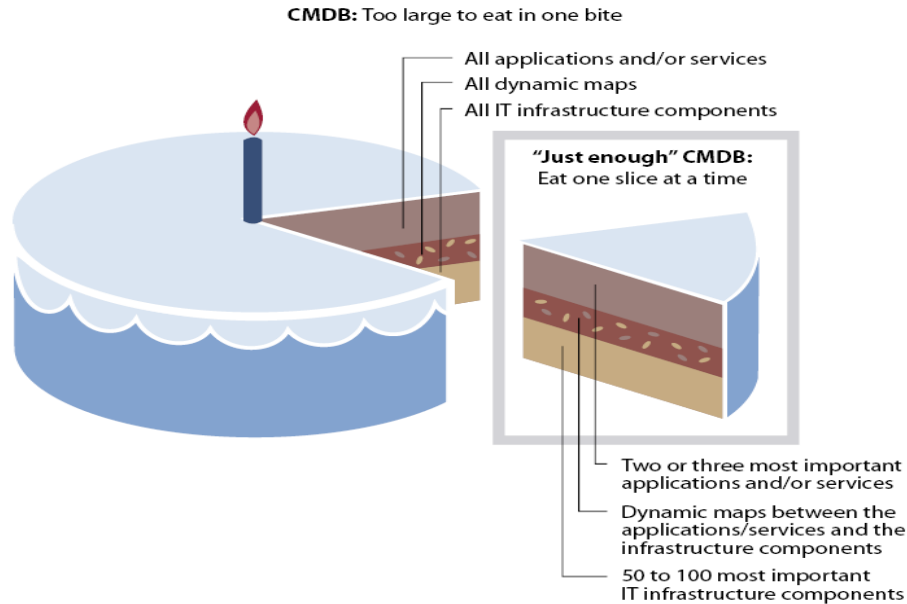


typical consumers

- configuration data:
 - change & release management – impact analysis
 - incident management – root cause analysis
 - problem management – root cause & trend analysis
 - service level management – service definitions
 - service portfolio & catalogue management – service definitions
 - availability management – service definitions, impact analysis, root cause analysis
 - capacity management – service definitions, impact analysis
 - financial management – charging

"Just Enough" CMDB

Figure 1 The "Just Enough" CMDB: Eat The Cake One Slice At A Time

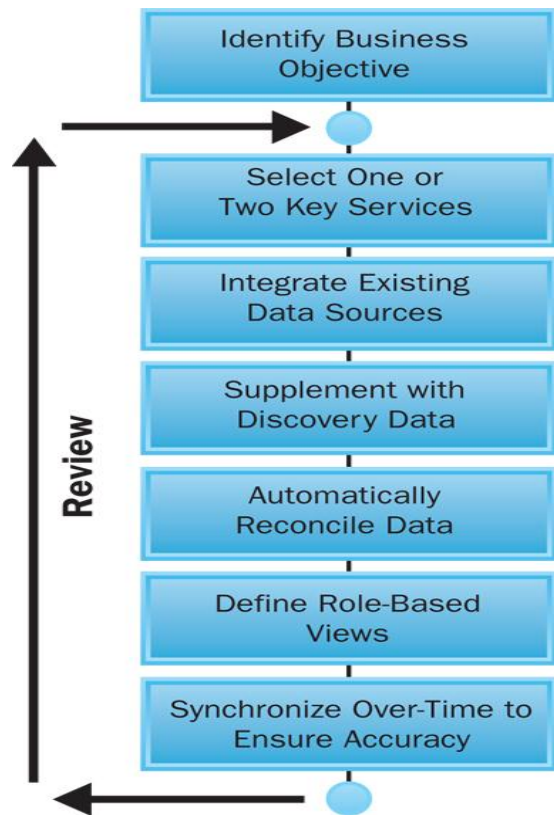


Source: Forrester Research, Inc.

Source:
Forester Research
The "Just Enough" CMDB
Implementing A CMDB Is Not A Five-
Year Project
April 12, 2006

Iterative Methodology

- Adopt an iterative lifecycle approach:
 - Start small – have a clear objective
 - Identify one or two key services
 - Work with consumers to define attributes
 - Leverage your existing tool information to populate CI attributes
 - Supplement with Discovery
 - Define role-based service views
 - Synchronise data on an ongoing basis to ensure accuracy



Identify the hierarchical layers

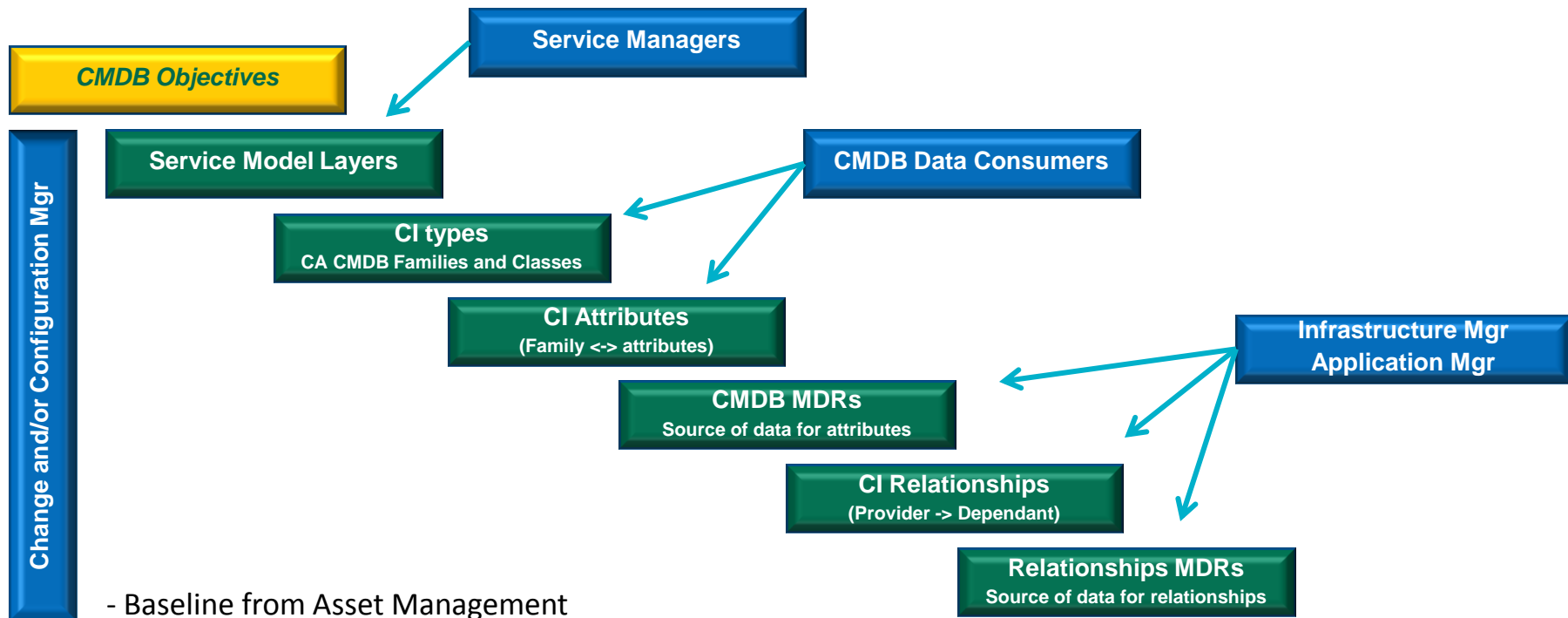
Business Service	
IT Service	
Web Presentation	
Applications	
Software	
Database	
Operating System	
Hardware	
Network/Facilities	

Additional Layers:

- Organisations
- Customers
- Locations
- SLA
- Application Development
- Virtual Environment
- High Availability
- Security
- ???

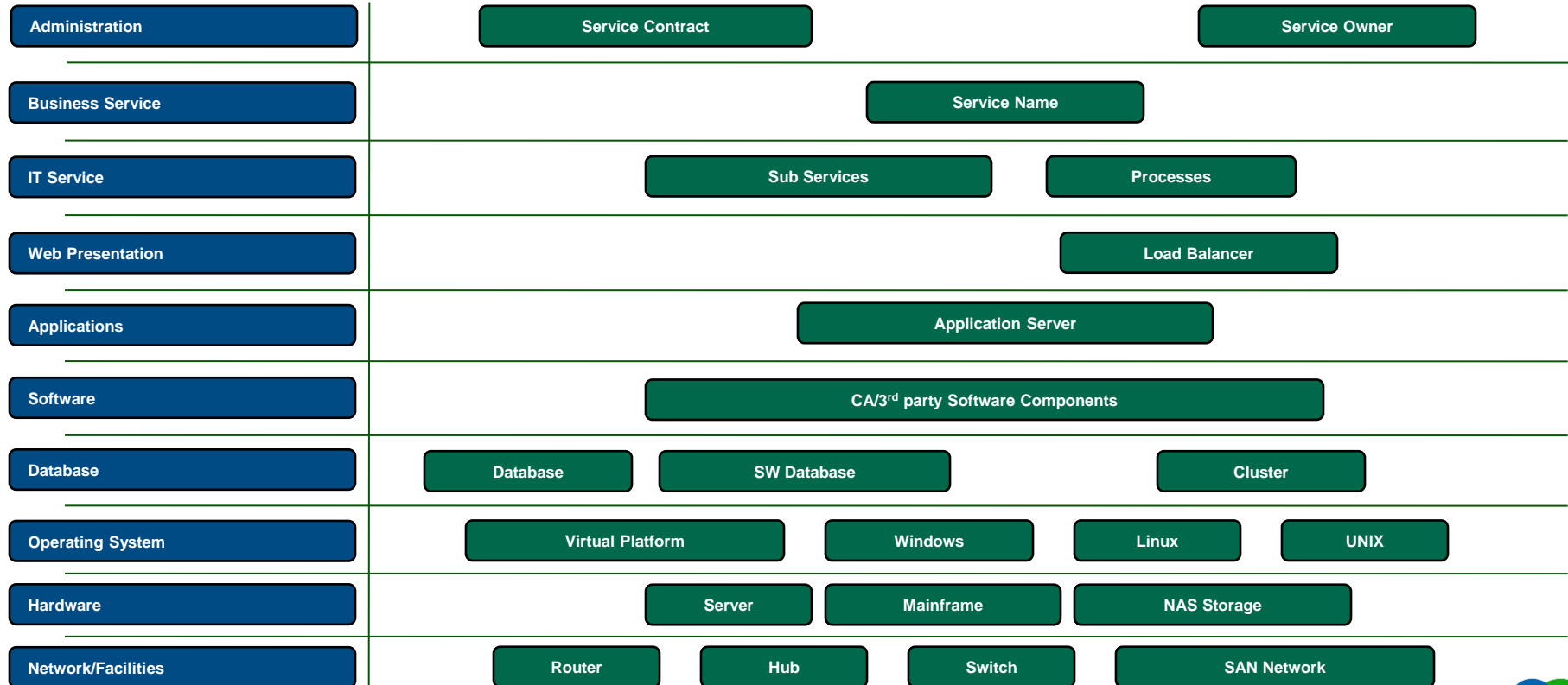
Can these layers be represented as attributes of CIs?
If you add a layer be ready to have extra CI types, attributes and relationships to manage

Build a Service Model with CA CMDB



service model

identify the high level CI types



CA CMDB r12.6 CI families

- families can be renamed
- more can be created
- each family has a set of attributes

Family	Family	Family
Cluster	Hardware.Server	Projects
Cluster.Resource	Hardware.Storage	SAN.Interface
Cluster.Resource.Group	Hardware.Virtual.Machine	SAN.Switch
Computer	Hardware.Workstation	Security
Contact	Investment.Idea	Service
Contract	Investment.Other	Service.Level.Agreement
Document	Investment.Project	Software
Enterprise.Service	Location	Software.Application
Enterprise.Transaction	Network.Bridge	Software.Application.Server
Facilities.Air.Conditioning	Network.Controller	Software.Bespoke
Facilities.Fire.Control	Network.Frontend	Software.COTS
Facilities.Furnishings	Network.Hub	Software.Database
Facilities.Other	Network.Network.Interface.Card	Software.In-House
Facilities.Uninterruptible.Power.Supply	Network.Other	Software.Operating.System
Hardware	Network.Peripheral	Telecom.Circuit
Hardware.Logical.Partition	Network.Port	Telecom.Other
Hardware.Mainframe	Network.Router	Telecom.Radio
Hardware.Monitor	Network.Switch	Telecom.Voice
Hardware.Other	Organization	Telecom.Wireless
Hardware.Printer	Other	

CA CMDB r12.6 CI classes

Class	Family	Class	Family	Class	Family	Class	Family
3270 Terminal	Network.Frontend	ESX Server	Hardware.Server	Other Document	Document	Shredder	Hardware.Other
ACD	Telecom.Other	Executive	Contact	Other Facilities	Facilities.Other	Silo	Hardware.Storage
Admin Guide	Document	External	Organization	Other Hardware	Hardware.Other	SOA Integration Bridge Project	Projects
Air Conditioning	Facilities.Air Conditioning	External Contact	Contact	Other Hardware Mainframe	Hardware.Mainframe	Solars	Hardware.Server
AIK	Hardware.Server	Fax Machine	Network.Peripheral	Other Hardware Storage	Hardware.Storage	SOL	Software.Database
AIK OS	Software.Operating System	File Cabinet	Facilities.Furnishings	Other Hardware Virtual Machine	Hardware.Virtual Machine	STC	Software.COTS
Application	Software.Application	File System	Hardware.Storage	Other Monitor	Hardware.Monitor	Storage Area Network	Hardware.Storage
Application Instance	Software.Application	Fire Control	Facilities.Fire Control	Other Network	Network.Other	Sun	Hardware.Server
Application Security	Security	Flat Screen	Hardware.Monitor	Other Operating System	Hardware.Server	Sun OS	Software.Operating System
Application Server	Software.Application Server	Floor	Location	Other Printer	Hardware.Printer	Switch	SAN.Switch
Application Server Instance	Software.Application Server	Group 80	Hardware.Mainframe	Other Security	Security	Sybase	Software.Database
Application Test Plan	Document	GSX Server	Hardware.Virtual Machine	Other Service	Enterprise.Service	System 390	Hardware.Mainframe
Barcode Reader	Hardware.Other	Hard Drive	Hardware.Storage	Other Service Level Agreement	Service.Level Agreement	System x	Hardware.Mainframe
Batch	Software.COTS	HP UX	Hardware.Server	Other Software Database	Software.Database	Tandem	Hardware.Server
Bespoke	Software.Bespoke	HP UX OS	Software.Operating System	Other Software OS	Software.Operating System	Tandem - Mainframe	Hardware.Mainframe
Bridges	Network.Bridge	Hub	SAN.Switch	Other Telecom	Telecom.Other	Tandem OS	Software.Operating System
Bubble Jet	Hardware.Printer	IMS	Software.Database	Other Telecom Circuit	Telecom.Circuit	Tape Array	Hardware.Storage
Building	Location	In-House	Software.In-House	Other Telecom Radio	Telecom.Radio	Tape Library	Hardware.Storage
Building Security	Security	Infrastructure Service	Enterprise.Service	Other Telecom Voice	Telecom.Voice	Technical	Contact
Business Continuity Plan	Document	Ingres	Software.Database	Other Telecom Wireless	Telecom.Wireless	Television	Hardware.Other
Business Service	Enterprise.Service	Ink Jet	Hardware.Printer	Pager	Telecom.Wireless	Terminal	Hardware.Monitor
Business Transaction	Enterprise.Transaction	Interface	SAN.Interface	PBX	Telecom.Voice	Training Class Collateral	Document
CA Datacom	Software.Database	Internal	Organization	PDA	Telecom.Other	TSQ	Software.COTS
CA-IDMS	Software.Database	IVR	Telecom.Other	Person	Service	Underpinning Contract	Service.Level Agreement
Campus	Location	Laptop	Hardware.Workstation	Phone Card	Telecom.Voice	Uninterruptible Power Supply	Facilities.Uninterruptible Power Supply
CD-Rom Drive	Hardware.Storage	Laser	Hardware.Printer	Plotter	Hardware.Printer	Unisys	Hardware.Server
Centrex	Telecom.Voice	License	Software	Policies and Standards	Document	Unisys - Mainframe	Hardware.Mainframe
CICS	Software.COTS	License Agreement	Contract	Port	Network.Port	Unisys OS	Software.Operating System
City	Location	Linux	Hardware.Server	Portfolio Application	Investment.Other	Unix	Hardware.Server
Cluster	Cluster	Linux OS	Software.Operating System	Portfolio Asset	Investment.Other	Unix OS	Software.Operating System
Communication Circuit	Telecom.Circuit	Logical Partition	Hardware.Logical Partition	Portfolio Idea	Investment.Idea	User Guide	Document
Component	Service	Managerial	Contact	Portfolio Product	Investment.Other	Vax	Hardware.Server
Conference Bridge Line	Telecom.Voice	Microfiche	Hardware.Printer	Portfolio Program	Investment.Project	Vax - Mainframe	Hardware.Mainframe
Controller	Network.Controller	Microsoft Virtual Server	Hardware.Virtual Machine	Portfolio Project	Investment.Project	Vax OS	Software.Operating System
Copier	Hardware.Other	Mobile Phone	Telecom.Wireless	Portfolio Service	Investment.Other	VCR/DVD	Hardware.Other
COTS	Software.COTS	MVS	Hardware.Mainframe	Portfolio Work	Investment.Other	Video Camera	Hardware.Other
Country	Location	MVS OS	Software.Operating System	Practice	Service	Video Conferencing Unit	Telecom.Other
Cray	Hardware.Mainframe	Network Attached Storage	Hardware.Storage	Process	Service	Virtual Storage Array	Hardware.Mainframe
CRT	Hardware.Monitor	Network Hub	Network.Hub	Projector	Hardware.Other	Virtual Tape System	Hardware.Storage
Data Security	Security	Network Interface Card	Network.Network Interface Card	Radio Data Modem	Telecom.Radio	VM	Hardware.Server
Datacenter	Location	Network Software	Software.COTS	Radio Handsets	Telecom.Radio	VM OS	Software.Operating System
DB2	Software.Database	Network Switch	Network.Switch	Resource	Cluster.Resource	Warranty/Maintenance Contract	Contract
Desk Phone	Telecom.Voice	Network Terminal	Network.Frontend	Resource Group	Cluster.Resource Group	WebSphere MQ	Software.COTS
Digital Camera	Hardware.Other	Operational Level Agreement	Service.Level Agreement	Role	Service	Windows	Hardware.Server
Discovered Hardware	Hardware	Optical	Hardware.Storage	Router	Network.Router	Windows OS	Software.Operating System
Disk Array	Hardware.Storage	Oracle	Software.Database	Satellite Link	Telecom.Circuit	Workstation	Hardware.Workstation
Document	Service	OS/390	Hardware.Mainframe	Security Software	Software.COTS	X Terminal	Network.Frontend
DVD	Hardware.Storage	OS/390 OS	Software.Operating System	Server	Hardware.Server	z/OS	Hardware.Mainframe
Electronic Whiteboard	Hardware.Other	Other Contract	Contact	Service	Service	z/OS OS	Software.Operating System
Equipment Rack	Facilities.Furnishings	Other Contract	Contact	Service Level Agreement	Service.Level Agreement	Zip Drive	Hardware.Storage

service model with families

CA CMDB

Administration	Service Level Agreement			Contact
Business Service	Enterprise Service			
IT Service	Service			
Web Presentation	Software.COTS		Hardware.Other	
Applications	Software.Application			
Software	Software.COTS			
Database	Database	SW Database		Cluster
Operating System	Software.Operating System			
Hardware	Hardware.Server	Hardware.Virtual Machine	Hardware.Mainframe	Hardware.Storage
Network/Facilities	Network.Router	Network.Hub	Network.Switch	SAN.Interface

start considering available MDR's

- purists will say design first based on needs, then make the tool fit
 - but COTS tools (CA CMDB) have features and “limitations”
- MDR's may have technical “restrictions” in terms of:
 - attributes & relationships automatically populated
 - what CI will require manual input
 - federation
 - reconciliation
 - synchronization

identify CI's attributes for each family

- select for each family the set of attributes needed (and available), examples:

Database Management : Service::Service
Customer
Service Manager
Service Agreement
Service Class
Service Hours

Autocad : Software.Application::Application
Name(m,u)
CI ID(m,u)
Role
Description
Support Team(l)
Customer(l)
Customer Support Company(l)
Customer Support Team(l)
Number of Users (Approx)
OS
Service Class
Service Hours
Version

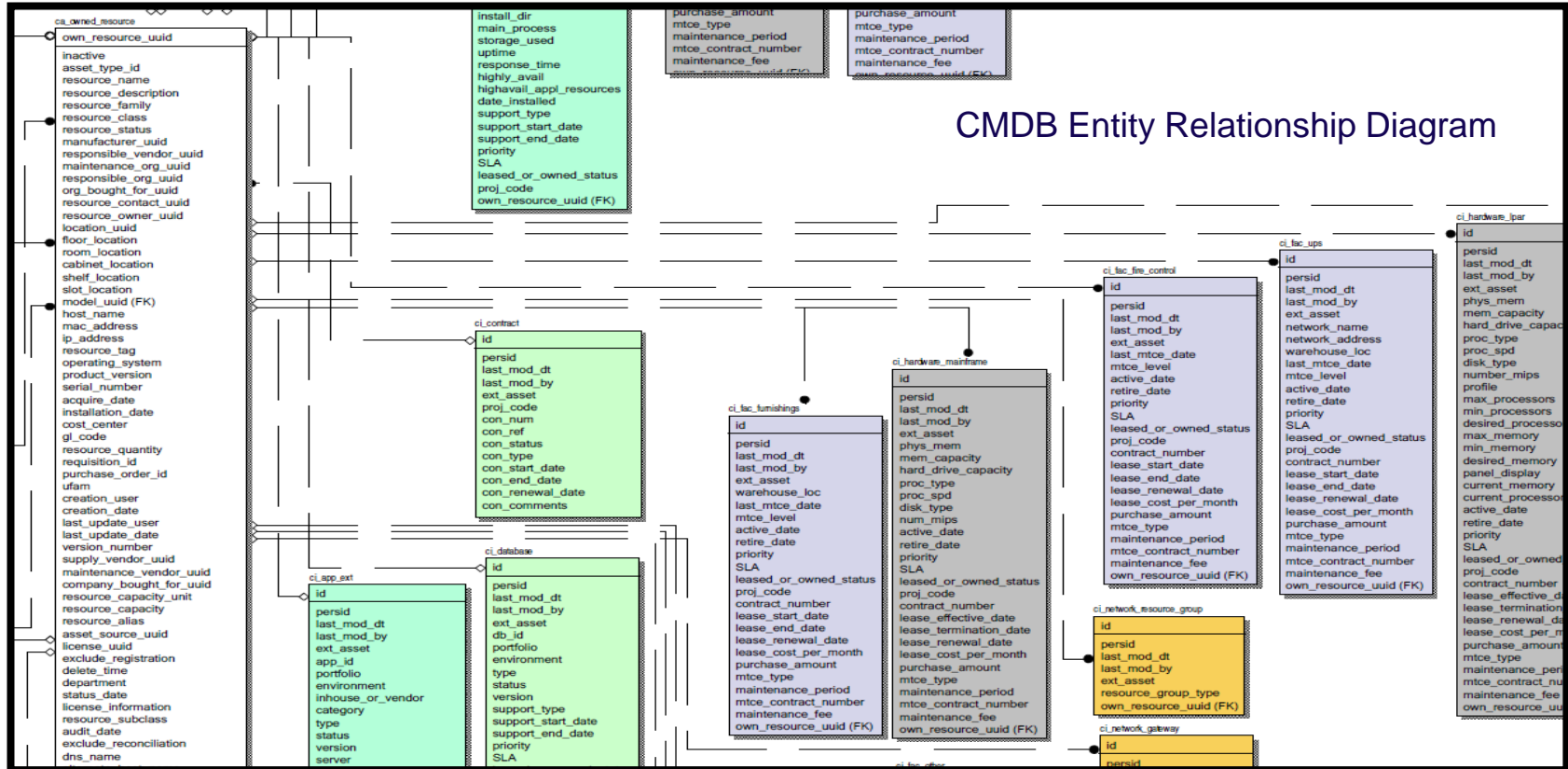
Database : Software.Database::Oracle
Name(m,u)
CI ID(m,u)
Role
Description
Support Team(l)
Customer(l)
Customer Support Company(l)
Customer Support Team(l)
OS
Service Class
Service Hours
Version

Virtual Server A : Server::VM Server
Name(m,u)
CI ID(m,u)
Role
Description
Support Team(l)
Customer(l)
Host Name
Installation Date
IP Address
Lease Effective Date
Lease Termination Date
MAC Address
OS
Serial Number
Service Class
Service Hours
Support Provider(l)

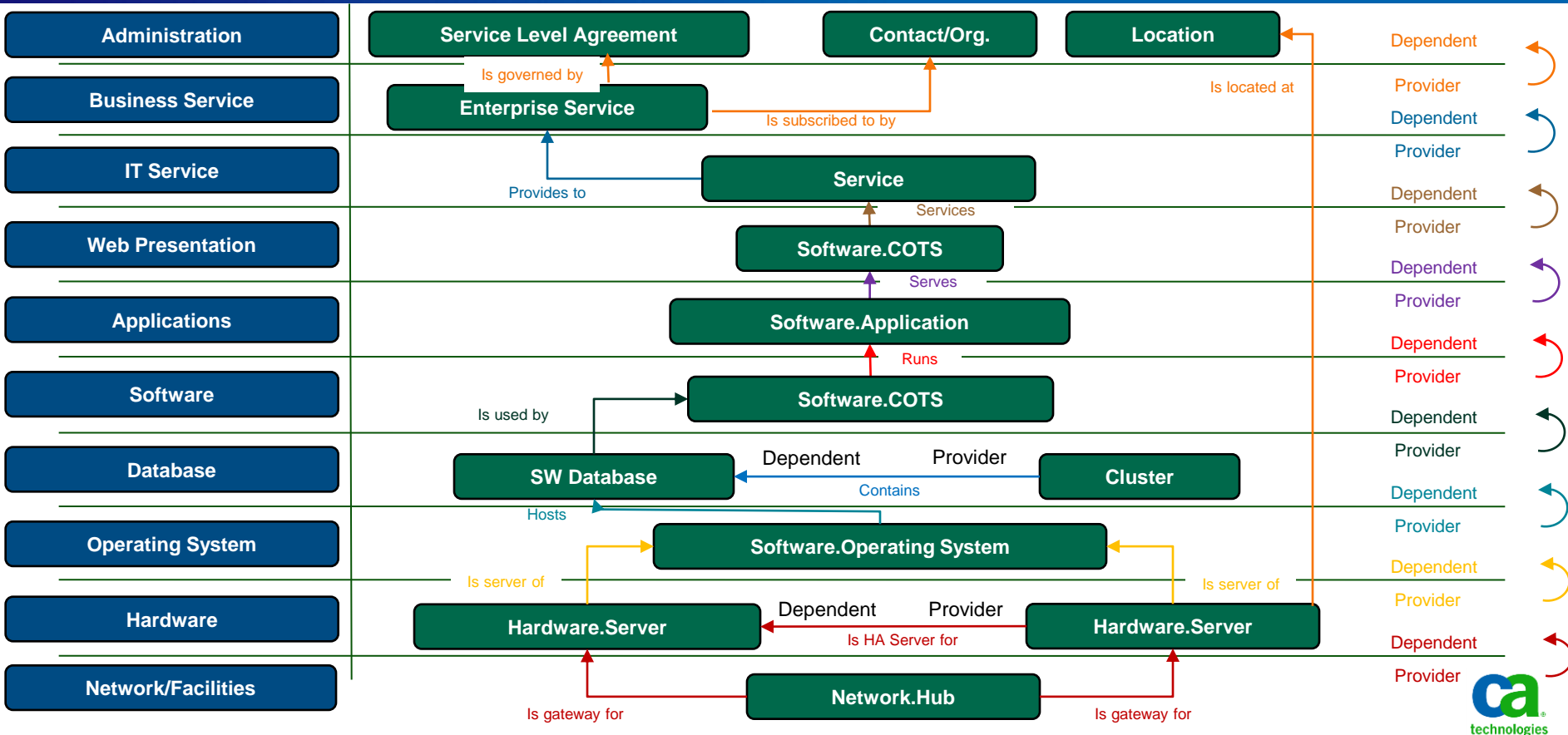
NAS 1 : Hardware.Storage::NAS
Name(m,u)
CI ID(m,u)
Role
Description
Support Team(l)
Location(l)
Cabinet
Floor
Host Name
Installation Date
IP Address
Lease Effective Date
Lease Termination Date
MAC Address
Manufacturer(l)
Model(l)
Room
Serial Number(u)
Service Class
Service Hours
Shelf
Support Provider(l)

- for each attribute document which MDR will be used to populate it
- Note: Sometimes you may need to select whether attribute should be a CI or attribute of CI - (f.ex. Operating System)

CMDB Entity Relationship Diagram



identify CI's relationships between layers



CA CMDB r12.6 relationship types

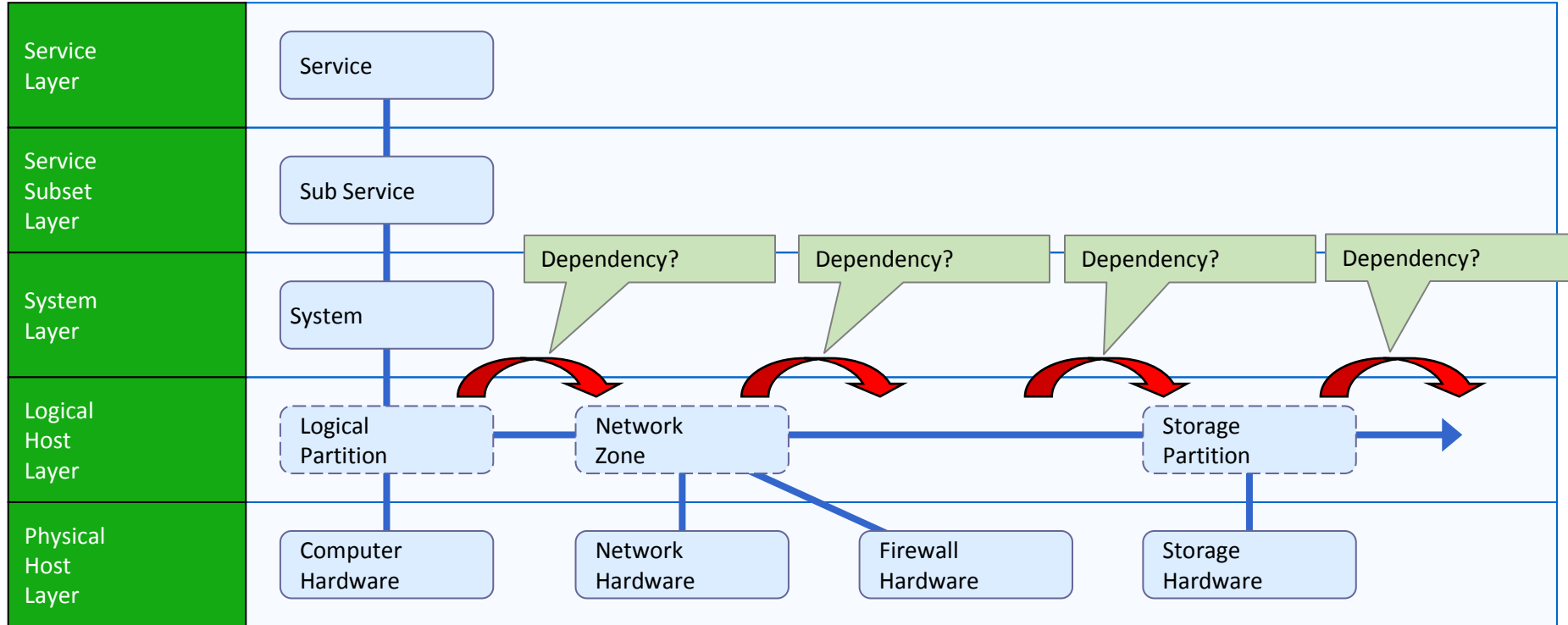
Provider To Dependent	Dependent To Provider	Is Peer-to-peer?
administers	is administered by	No
approves	is approved by	No
authors	is authored by	No
authorizes	is authorized by	No
backs up	is backed up by	No
connects to	connects to	Yes
contains	is contained by	No
defines	is defined by	No
deploys	is deployed by	No
documents	is documented by	No
governs	is governed by	No
hosts	is hosted by	No
has as assignee	is assigned to	No
is high availability server for	has for high availability server	No
is gateway for	has for gateway	No
is the child of	is the parent of	No
is recovery server of	has for recovery server	No
fails over	fails over	Yes
manages	is managed by	No
monitors	is monitored by	No
notifies	is notified by	No

Provider To Dependent	Dependent To Provider	Is Peer-to-peer?
is required by	requires	No
runs	runs on	No
secures	is secured by	No
services	is serviced by	No
is subscribed to by	subscribes to	No
supports	is supported by	No
updates	is updated by	No
is used by	uses	No
is business owner of	is owned by	No
is source code for	source code is from	No
serves	is served by	No
is server of	is client of	No
regulates	is regulated by	No
controls	is controlled by	No
complies to	is complied to by	No
communicates with	communicates with	Yes
is location for	located at	No
fronts	is fronted by	No
provides to	is provided by	No
is proxy for	is proxied by	No
is primary contact for	has primary contact of	No

they can be renamed

... or you can create new ones

Determine Peer-to-Peer Relationships

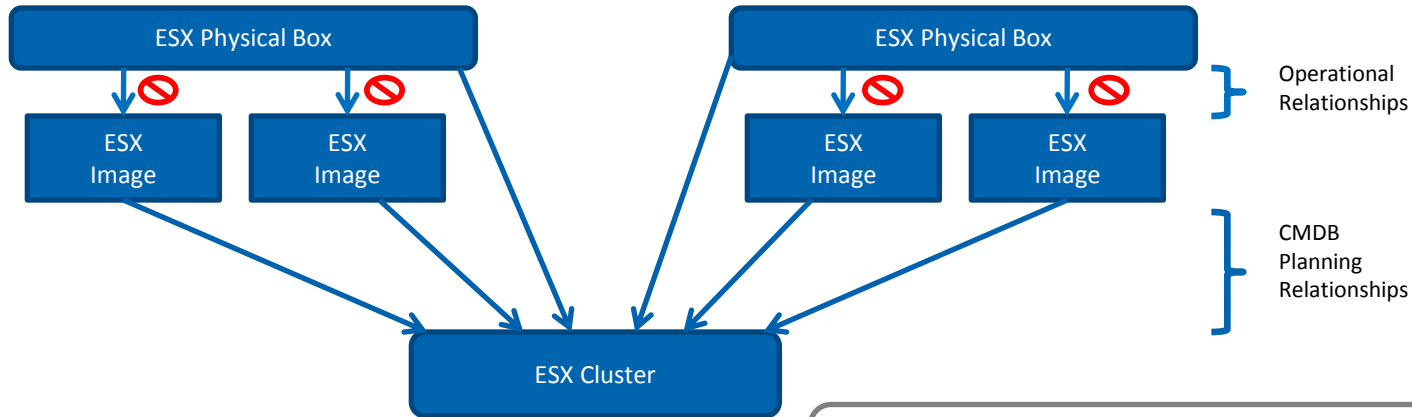


Handling Virtualization

- Virtualization requires special attention due to the manner in which certain data exists in a seemingly static state and other data is in a seemingly dynamic state.
- A CMDB is typically not the best place to store dynamic state data. Therefore, the data that is more frequently kept includes the information about the physical boxes, the clusters and how they are related, and the specific images that can be tied to the cluster.
- However, the real-time relationship information (image to physical box, for example) is usually part of an operational system, not the CMDB.
- This particular pattern is not limited to virtualization alone. The same is often true for mainframe relationships like job management. In this case, the focus would be on defining queues as being static.

Handling Virtualization

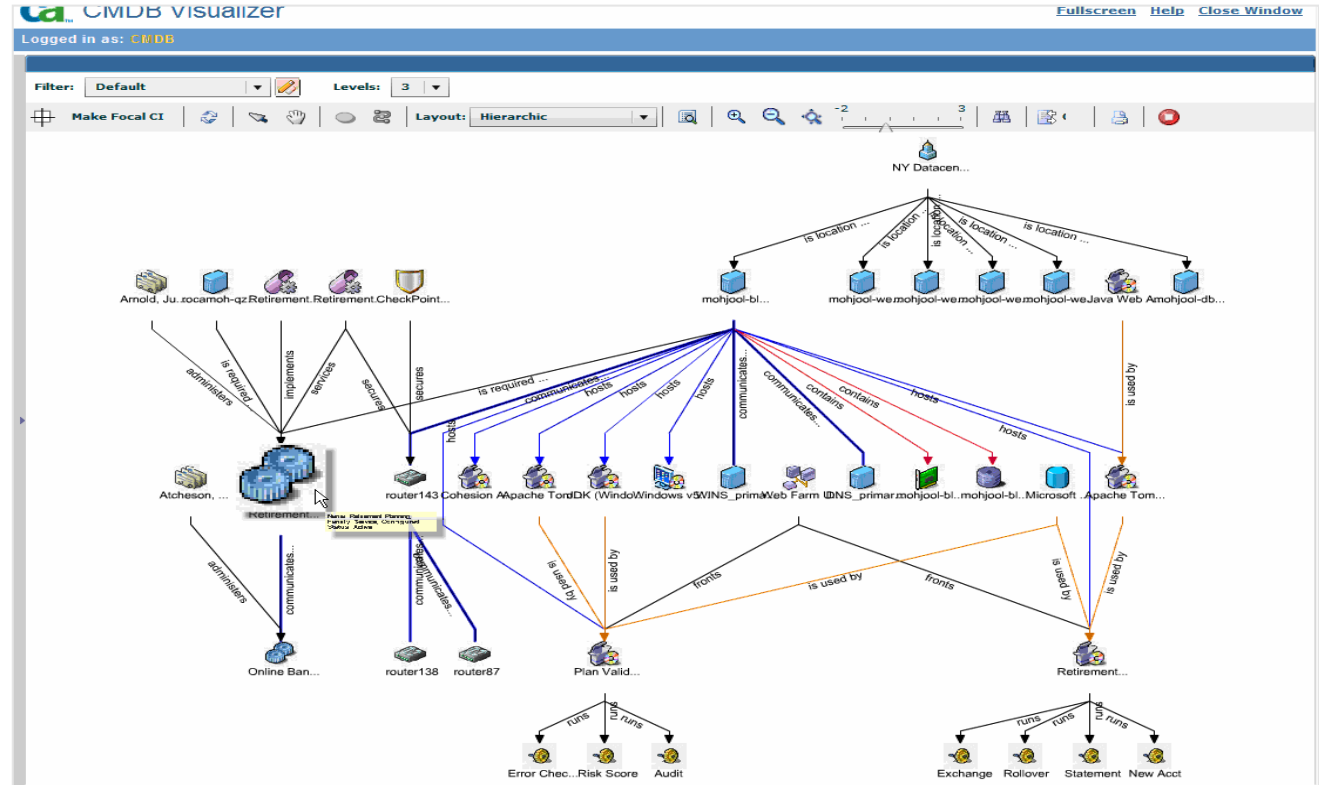
- There are various methods to handle virtualization.
- These methods depend on:
 - The processes virtualization supports
 - The ability to collect accurate information
- CMDB planning and operational views can be different.



Operational relationships for virtualization should not be defined in the CA CMDB.

leverage the technology to assist you

change impact
root cause

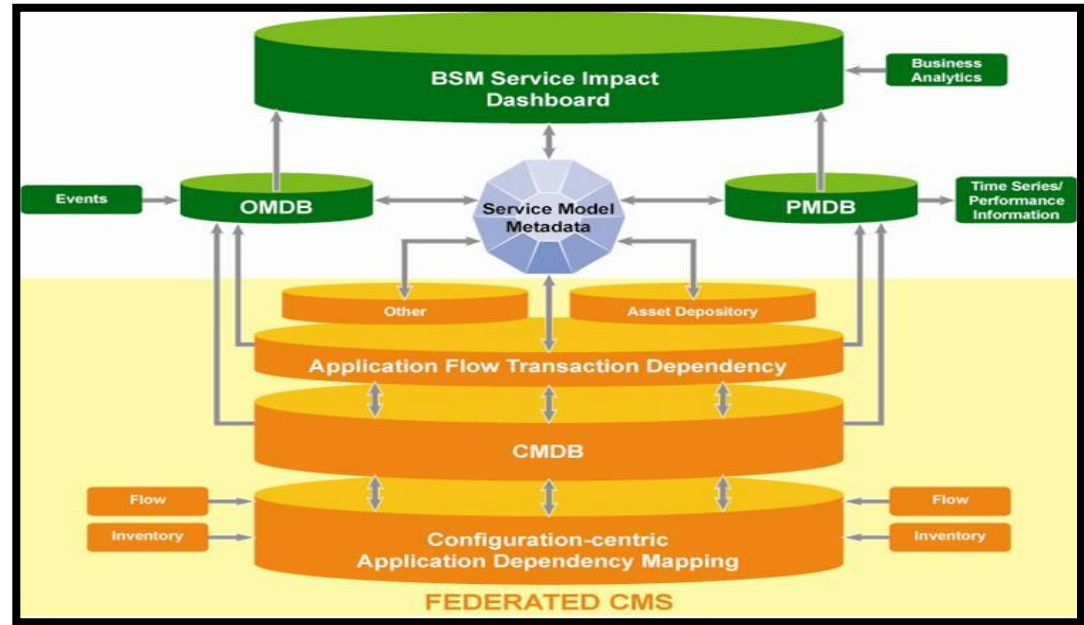


Market Need Example

Federated CMS-based BSM (per EMA)

The market need outlined in this diagram by EMA shows integration of data from many sources to a federated service model (CMS or CMDB++).

We would deliver the pieces of this, including the capabilities that would feed config data, events and metrics into it, as several discrete solution offerings for various smaller market segments with distinct buyers.

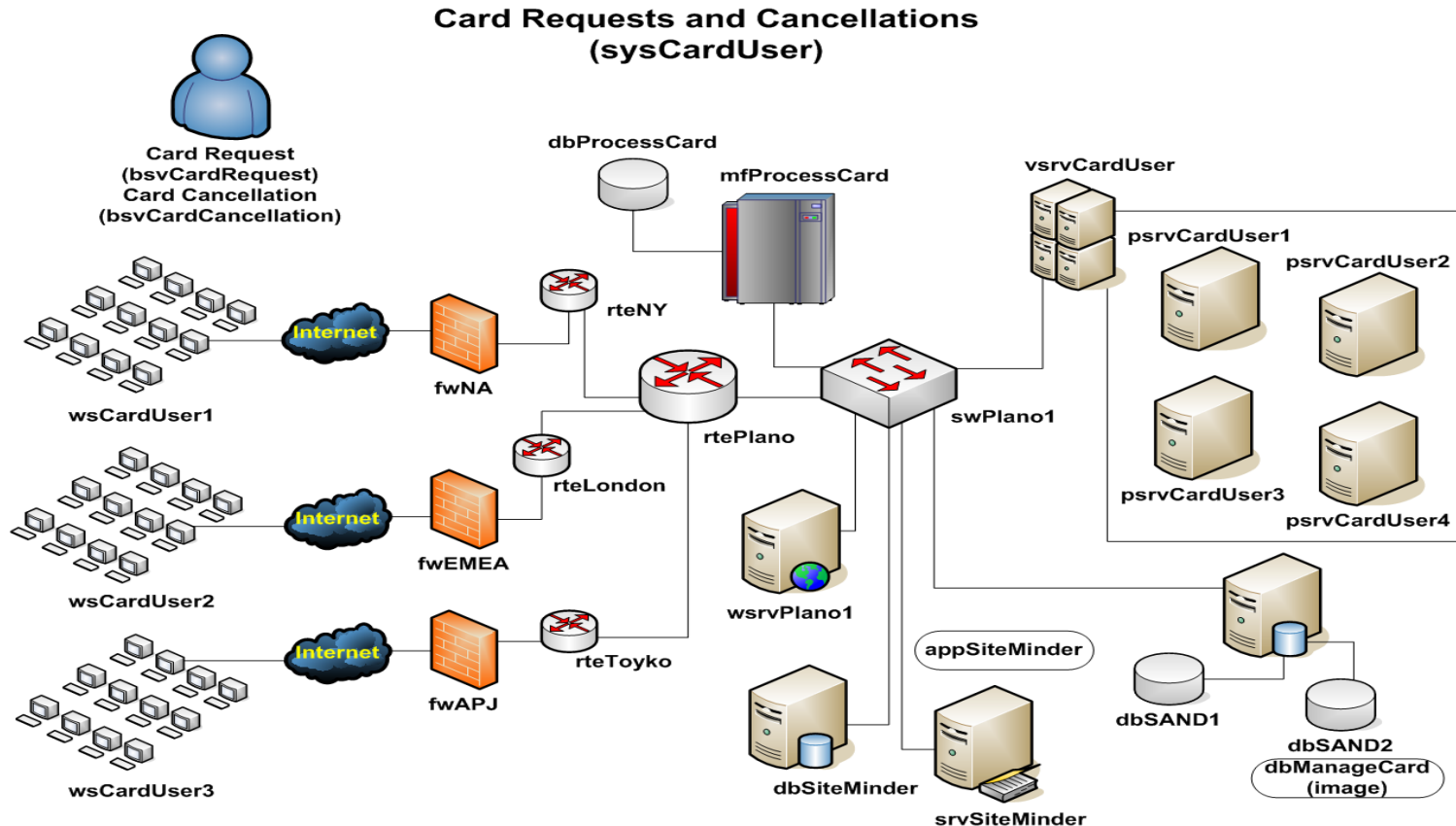


Consistent solution architecture is required to ensure discrete solutions can be further integrated in flexible ways to construct larger solutions like this.

(OMDB = Operational Management Data Base PMDB = Performance Management Data Base)

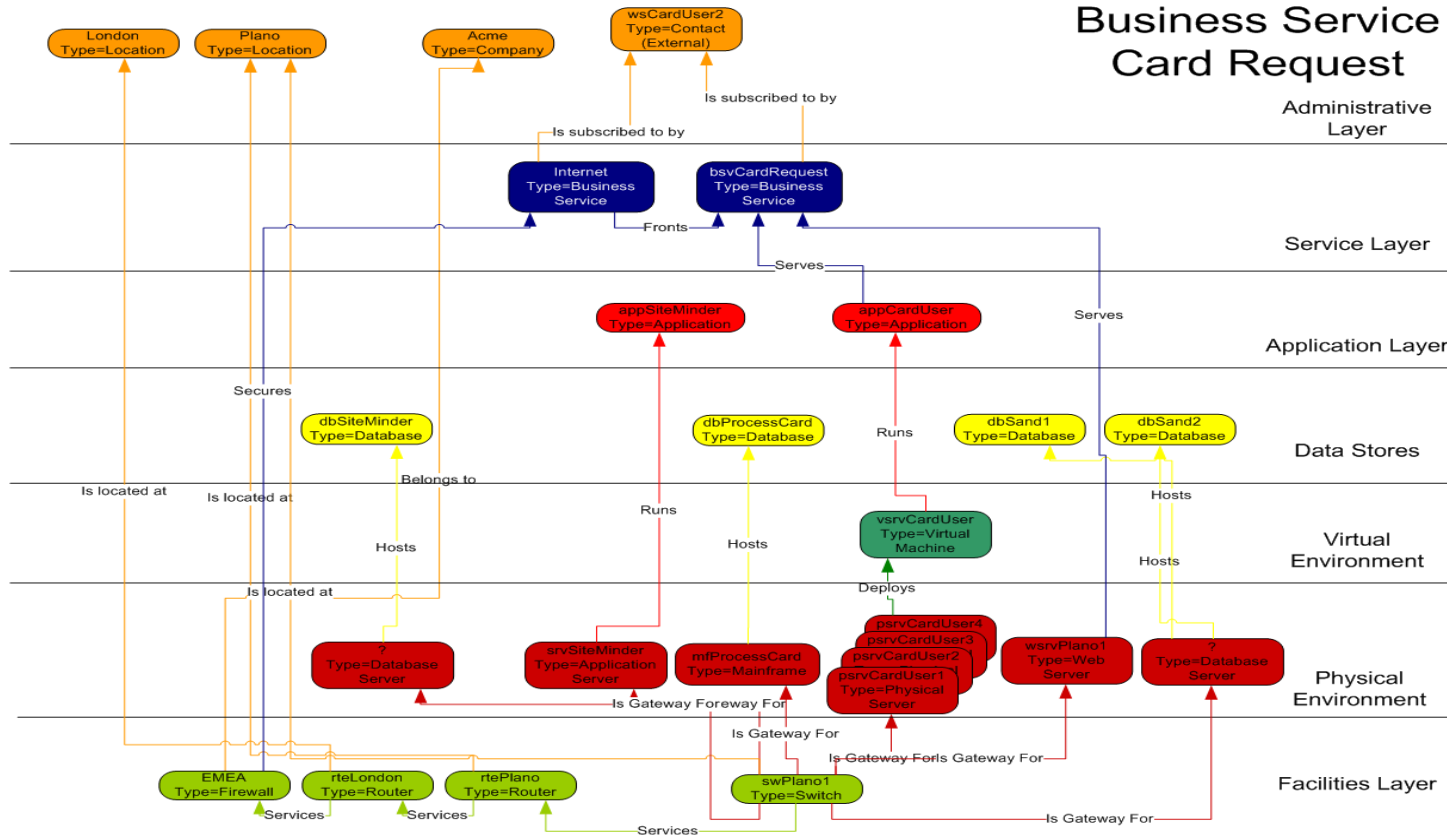
Business Process: Card Requests and Cancellations

the traditional diagram



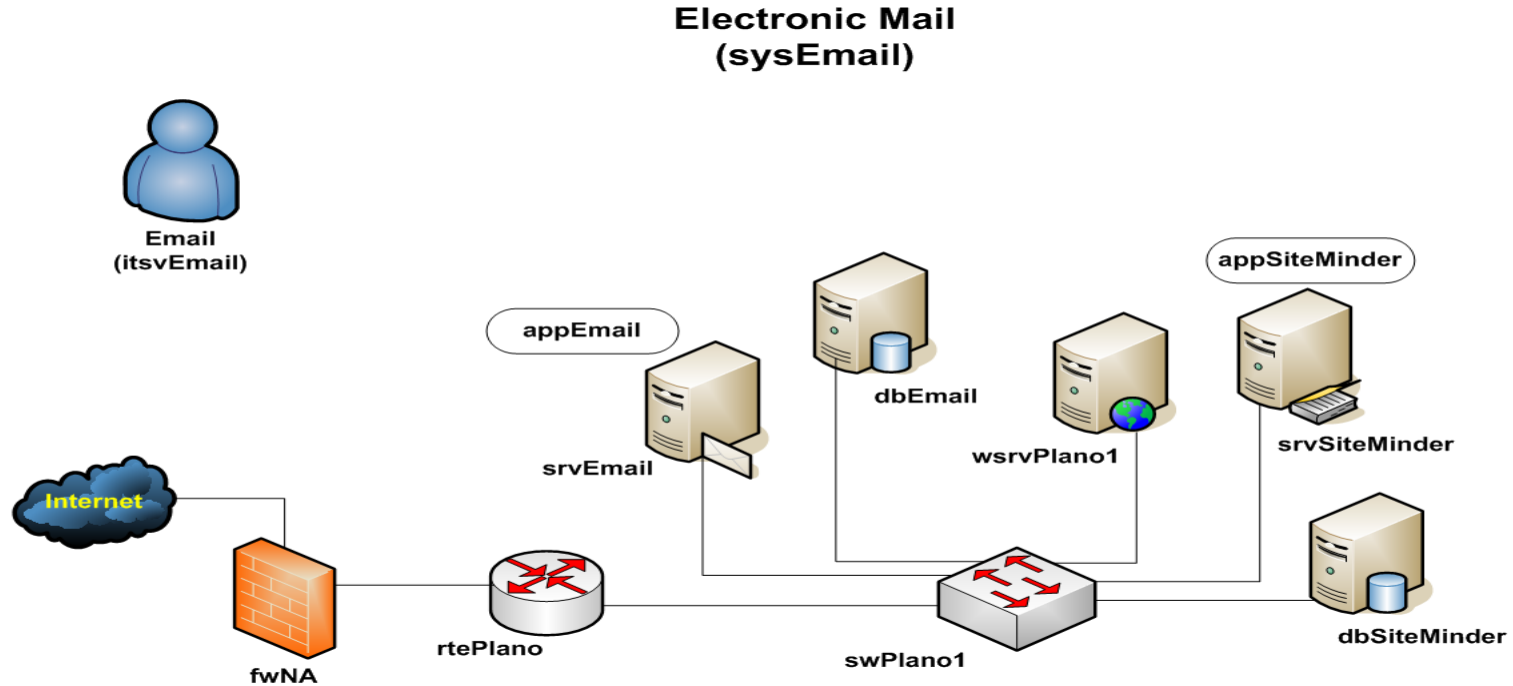
Business Process: Card Requests and Cancellations

a service model diagram



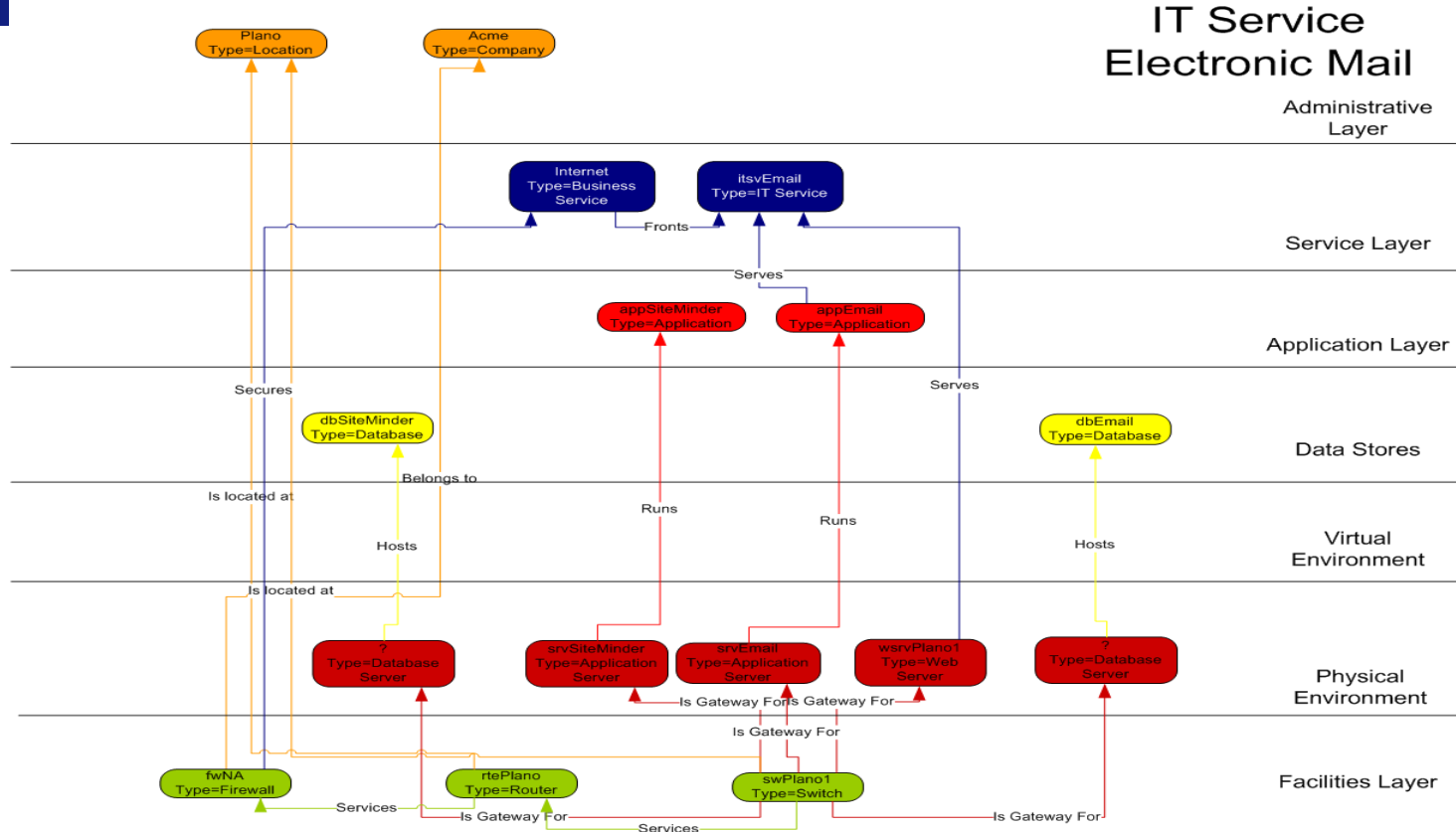
Business/IT Service: email

the traditional diagram



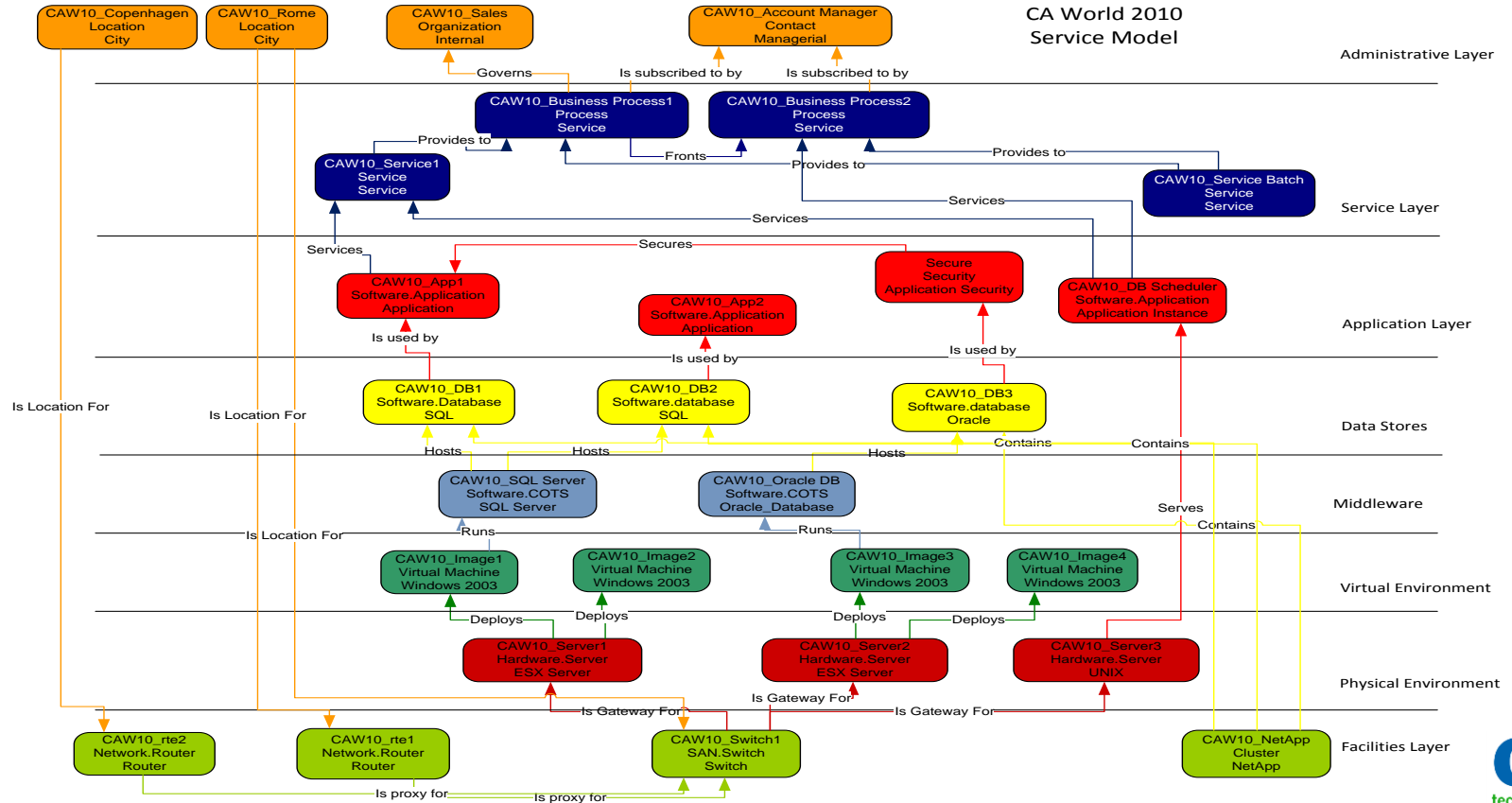
Business/IT Service: email

the traditional diagram

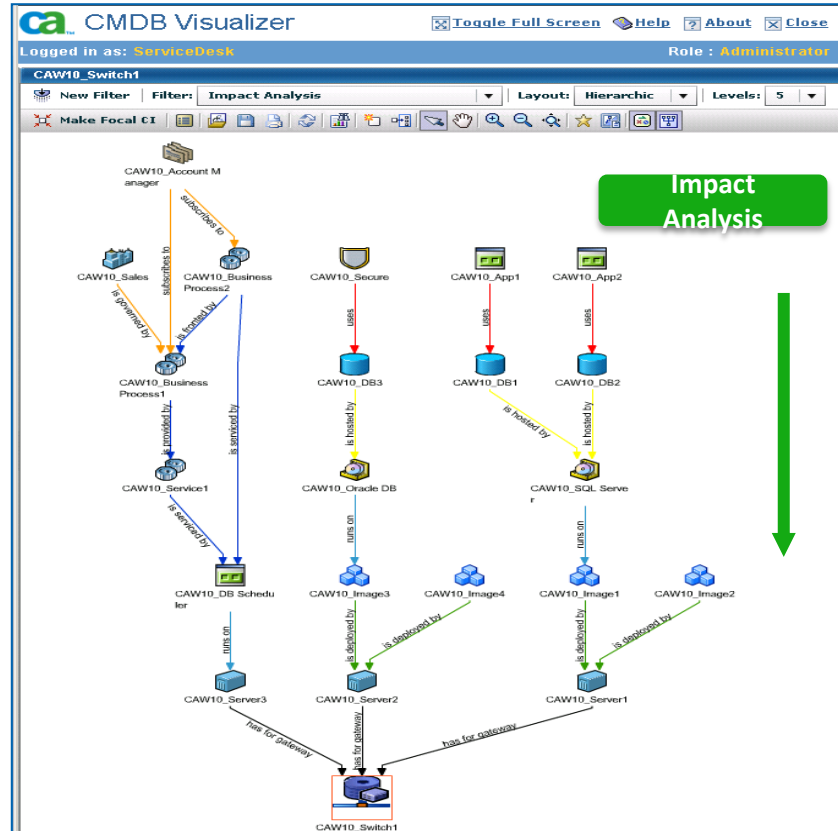
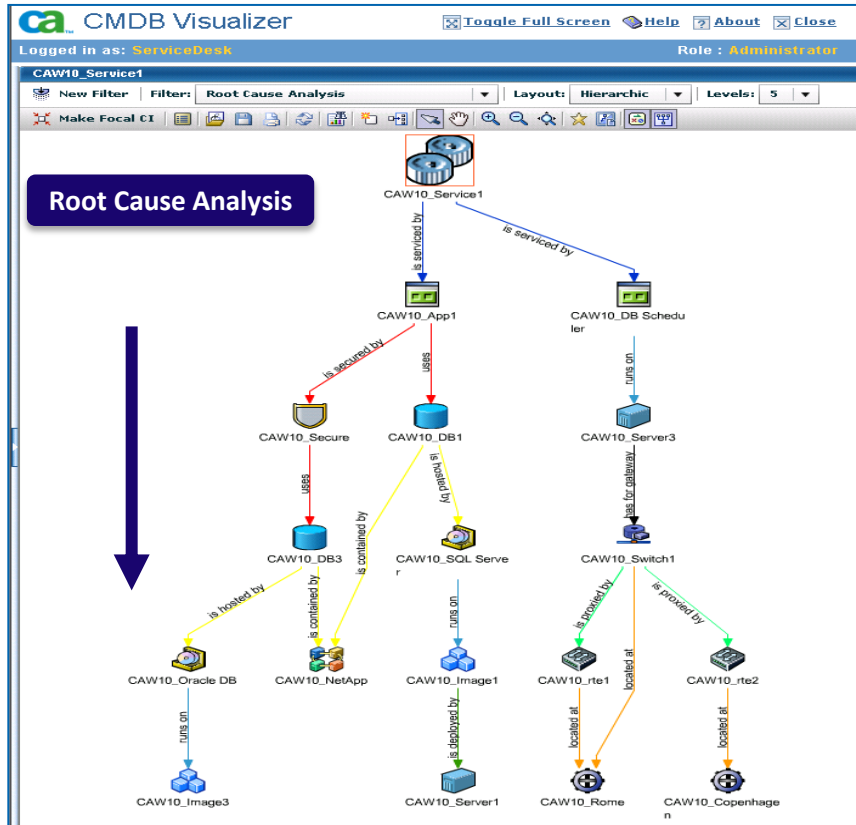


sample service model

CA World 2010

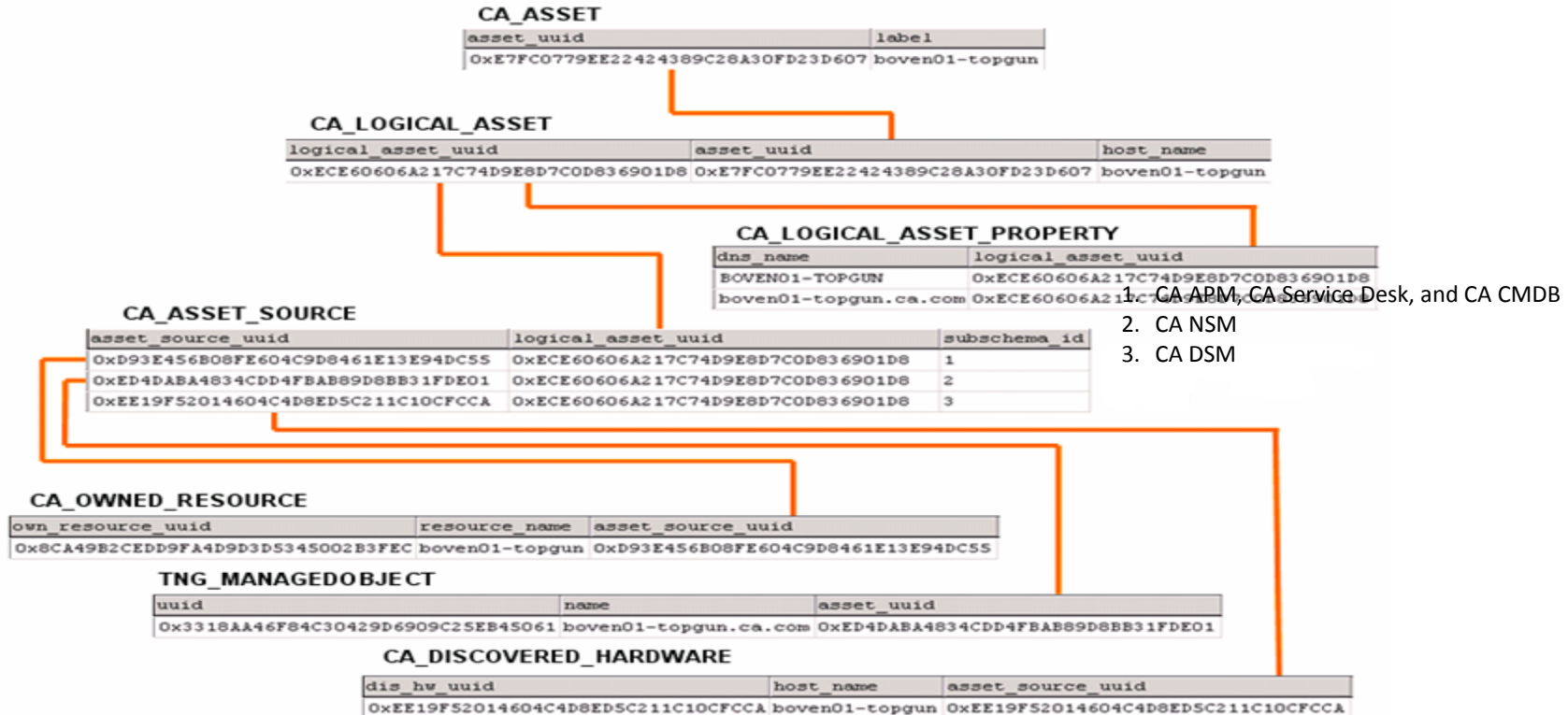


viewed from CA CMDB Visualizer



Integrations and Data Population

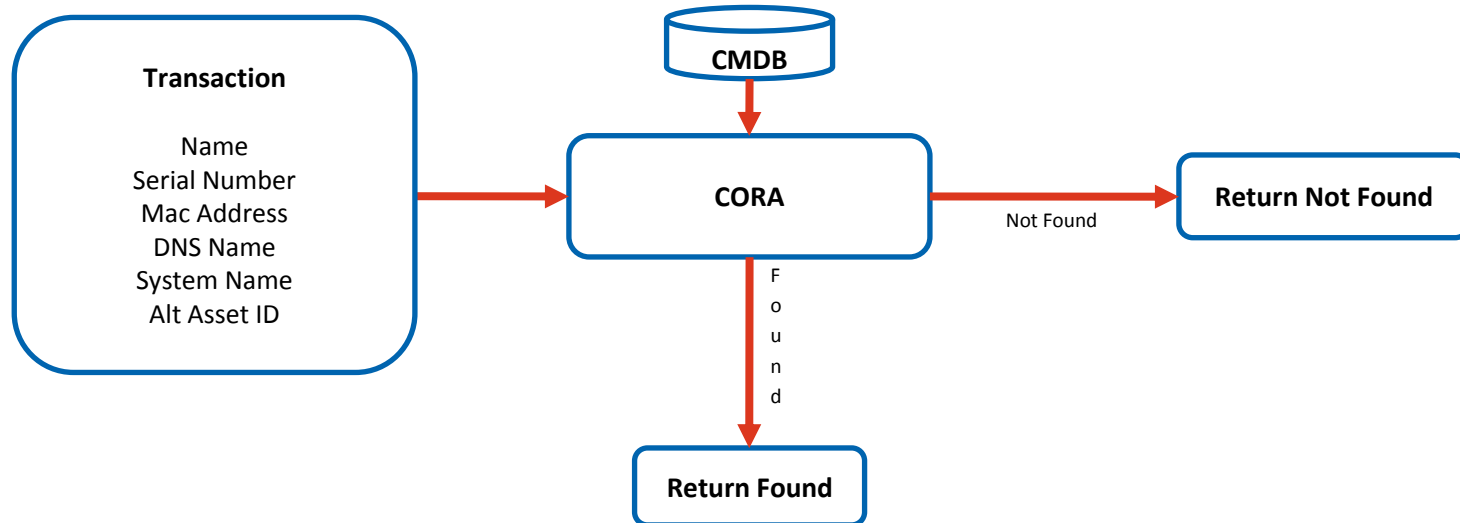
Master Data Model Table Connections



Registration

CORA

- Is the method that the CA CMDB uses to register CIs
- Is shared by multiple applications
- Helps ensure the integrity of information between applications across shared tables
- Is used for new registrations and changes to existing data contained in tables



Identification Methods

- When an asset is registered, CORA generates the asset UUID (ca_asset) by applying a black-box logic to the following six fields:
 - Serial Number
 - Asset Tag (appearing as Alt Asset ID)
 - Host Name
 - Mac Address
 - DNS Name
 - Asset Label (Name)
- When CORA has a UUID for an asset or a legitimate federated asset ID is presented, the six fields become irrelevant.

Identification Methods Continued

- The following table shows the results of applying CORA rules.

Serial Number	Asset Tag	Host Name	DNS Name	MAC Address	Asset Label	Results
Unique	Unique	Unique	Unique	Unique	Unique, Duplicate, or Null	New Asset
Unique	Null	Null	Null	Null	Unique, Duplicate, or Null	New Asset
Null	Unique	Null	Null	Null	Unique, Duplicate, or Null	New Asset
Null	Null	Unique	Null	Null	Unique, Duplicate, or Null	New Asset
Null	Null	Null	Unique	Null	Unique, Duplicate, or Null	New Asset
Null	Null	Null	Null	Unique	Unique, Duplicate, or Null	New Asset
Null	Null	Null	Null	Null	Unique	New Asset
Null	Null	Null	Null	Null	Duplicate	Duplicate
Null	Null	Null	Unique	Duplicate	Unique, Duplicate, or Null	Duplicate
Null	Null	Null	Duplicate	Unique	Unique, Duplicate, or Null	Duplicate
Null	Null	Null	Unique	Unique	Unique, Duplicate, or Null	New Asset
Unique	Duplicate	Duplicate	Duplicate	Duplicate	Unique, Duplicate, or Null	New Asset
Duplicate	Unique	Duplicate	Duplicate	Duplicate	Unique, Duplicate, or Null	New Asset
Duplicate	Duplicate	Unique	Duplicate	Duplicate	Unique, Duplicate, or Null	New Asset
Duplicate	Duplicate	Duplicate	Unique	Duplicate	Unique, Duplicate, or Null	Duplicate
Duplicate	Duplicate	Duplicate	Duplicate	Unique	Unique, Duplicate, or Null	Duplicate
Duplicate	Duplicate	Duplicate	Unique	Unique	Unique, Duplicate, or Null	Duplicate
Duplicate	Duplicate	Duplicate	Duplicate	Duplicate	Unique, Duplicate, or Null	Duplicate

General Data Population

- In CA CMDB, owned assets are registered through CORA based on how they are submitted:
 - Created manually using the CA Service Desk or CA CMDB web interface
 - Created using GRLoader with the CA CMDB transaction work area (TWA) and federation adapters
 - Shared with CA APM
 - Created and linked to discovered computers using the Discover Assets page on the CA CMDB or CA Service Desk web interface

Data Federation

Data Federation

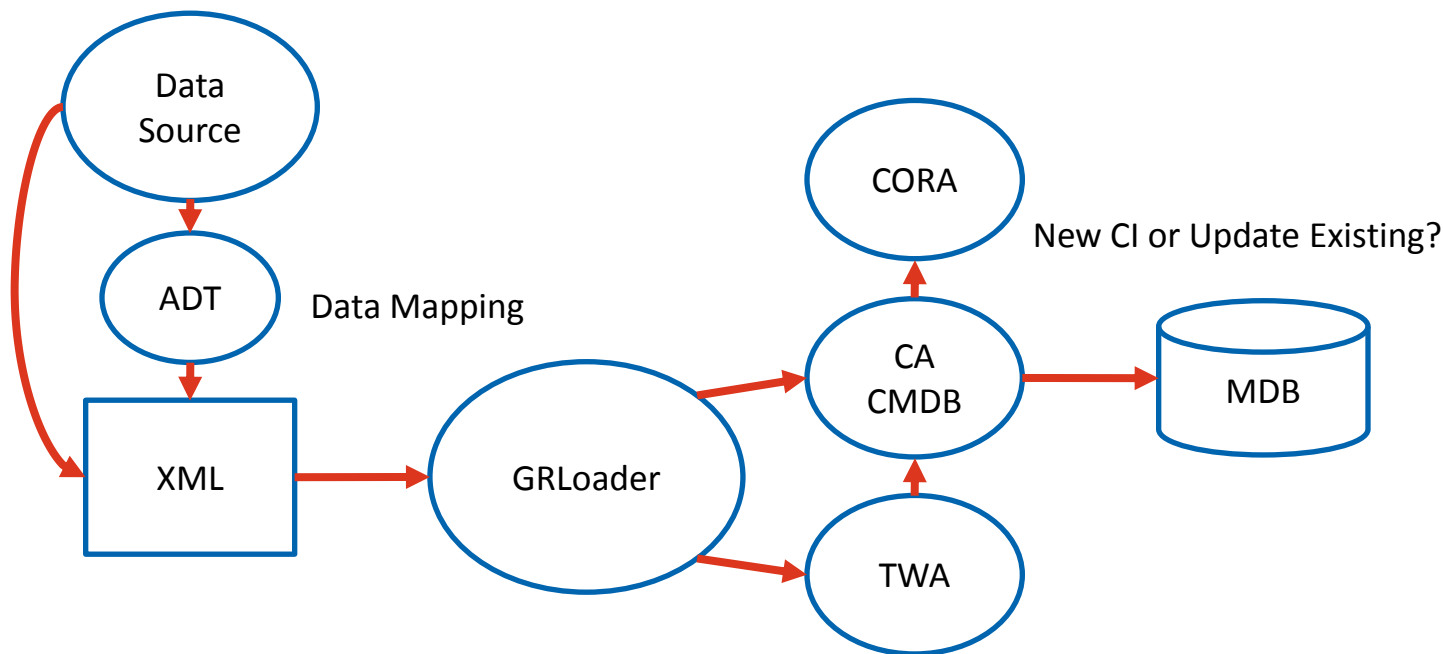
- A commonly accepted definition for data federation is a central master repository with several feeder repositories.
 - For example, one central federating CMDB and several federated data sources that are often referred to as MDRs
- It involves designing all read/write mechanisms and processes to provide accurate and timely reconciliation when required. This is absolutely critical to maintaining the integrity of the CMDB.

CORA

- To address some data maintenance challenges, several CA products, including CA CMDB, use CORA to register assets in the CA MDB shared by the products to enforce predefined rules for uniqueness and referential integrity.

Data Population - Federation

- The Universal Federation adapters are a set of utilities provided with the CA CMDB to enable a “federation” of data from multiple sources.



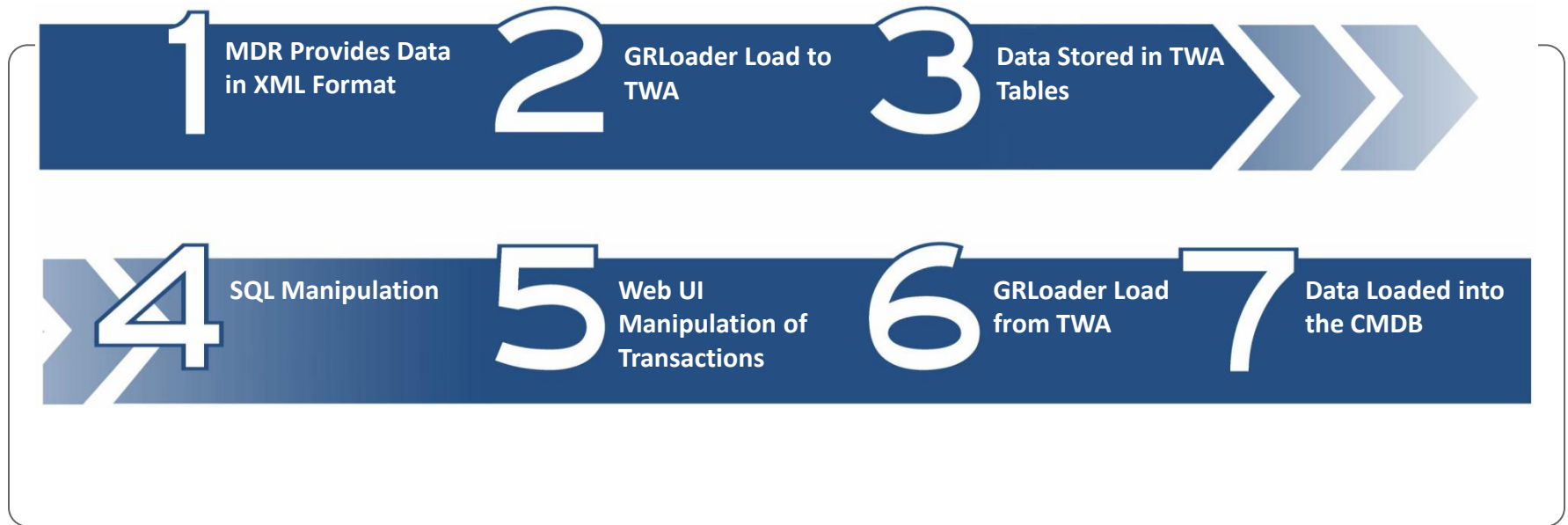
Transaction Work Area

- The TWA is used as a holding area for CMDB transactions.
- It can be manipulated using SQL instead of or in addition to XML.

Loading data without the TWA:



- Loading data with the TWA:



CMDB Import Options to Control Updates

By knowing what the risks and trade-offs are in a gold standard, you can mitigate them and help ensure that the gold standard is enforced.

Import Method	Description	Benefit
MDB	Direct database update	No control
Web service	Direct Update	Limited control
TWA with GRLoader	Staging area	Provides most control
GRLoader Direct	CA CMDB; Federated adapters	Limited control



Direct Updates are not supported externally and will affect data integrity.

Data Staging to Handle CI Exceptions

- By using the TWA, you can:

- ✓ Manage and view individual data sets from multiple sources in a single location before inserting into the CMDB.
- ✓ Consider any potential timing issues relating to updates on any overlapping fields.
- ✓ Merge attributes from multiple sources and create relationships when forming a single CI record.
- ✓ Have a greater depth of knowledge and vision of CIs and critical services.

CA SDM R12.7 CMDB Enhancements:

GRLoader - Newly Supported Input Formats

- GRLoader Additional Input Formats
- To reduce the dependency of CMDB customers on generating XML input, the GRLoader is enhanced to support the below additional input formats.
 - Data import from spreadsheets
 - Data import from csv
 - Data import from JDBC/ODBC compliant database tables

CCA-CMDB integration via Catalyst

CA Configuration Automation

Discovery and dependency mapping

- Discover applications & servers
- Identify dependencies and relationships

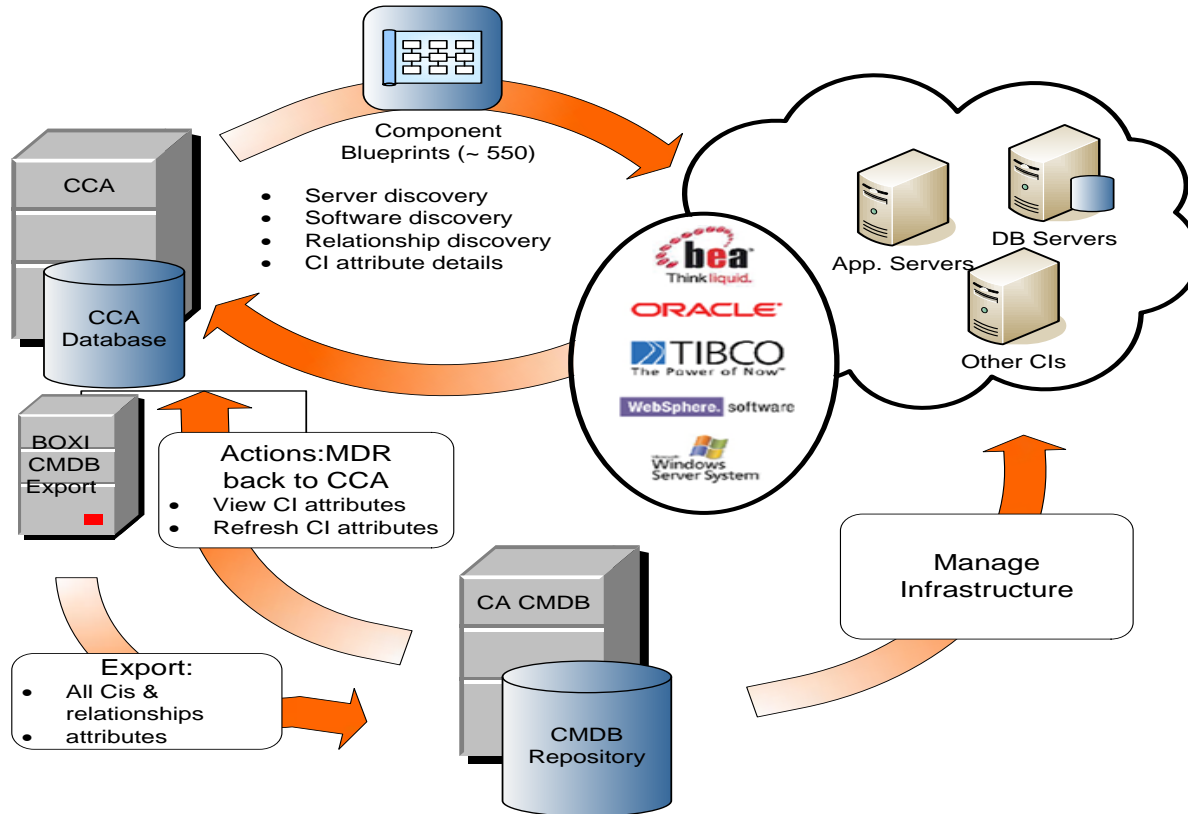
Change management

- Detect changes to applications & servers
- Prevent and correct configuration drift

Compliance and auditing

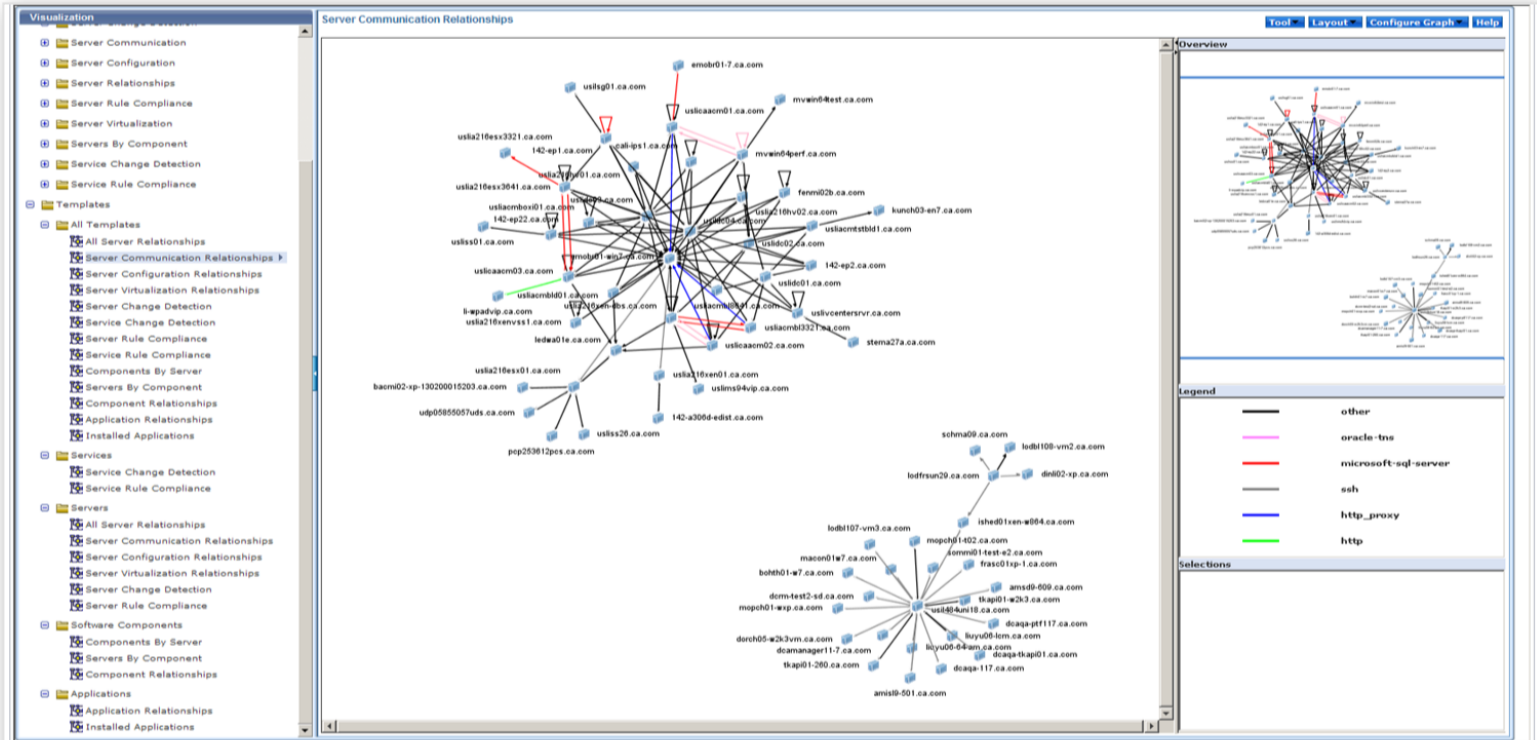
- Help enforce regulatory & security policies
- Application best practice benchmarks

CA CMDB and CA Configuration Automation



CA Configuration Automation

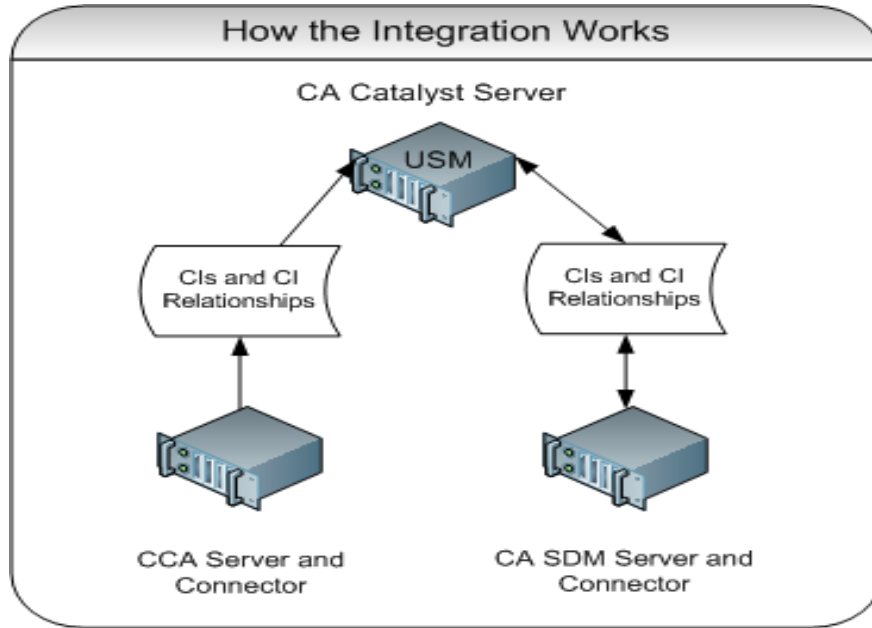
Visualize Application Relationships



CCA – CMDB integration via Catalyst

- CCA's ability to **detect changes from baseline or Gold Standard** configurations across applications and servers supports Change and Configuration Management efforts in CMDB.
- **Automatically populate and maintain the CMDB** with accurate CI attribute and relationship information – “as-is’ or “last known state”
- **Ability to launch CCA details** to view details of discovered CI attributes through the MDR Launcher
- The CCA – CMDB integration is aimed at replacing the earlier version of the integration solution between ACM and CMDB by using the Catalyst 3.1 as the integration platform

Overview of functionality



CA Catalyst integrates the CMDB module of CA SDM r12.6 with CA Configuration Automation r12.6.

Overview (SDM Connector) Cont...

- Supports **CMDB MDR Launch in Context**
 - CI Versioning
 - Launch Contributing MDR UI
 - MDR Based reconciliation
- Supports TWA (**Transaction Work Area**)
 - Staging area for unapproved changes
 - Keeps CMDB changes under control
 - Helps change verification process

Overview (CCA Connector)

- CCA has developed a new connector based on Catalyst 3.1 which provides the data available from CCA using the USM data model
- The CCA connector pulls the data from CCA using a core DB API layer of CCA which is then transformed into USM objects by the catalyst framework using a policy file that defines the mapping and transformations from CCA attributes, classes to USM
- The CCA connector is a outbound connector which just provides the data for others to consume

Catalyst Integration tab within CCA – Catalyst job

Catalyst Job wizard to create Catalyst CMDB integration job

The screenshot shows the Catalyst Job wizard within the Configuration Automation (CCA) interface. The browser window title is "Administration View - CA C x" and the URL is "harch22-vm2-w2k8:8080/CCAUI.jsp?". The navigation bar includes "Configuration", "Access Management", "Network", "Catalyst Integration", "Diagnostics", and "Data Migration". The "Catalyst Integration" tab is active, and the "Jobs" sub-tab is selected. The breadcrumb trail shows "Catalyst Jobs > Create Catalyst Job".

The wizard consists of seven steps: 1. Job, 2. Services, 3. Server Groups, 4. Servers, 5. Blueprint Groups, 6. Blueprints, and 7. Schedule. The "Job" step is currently active, indicated by a yellow house icon. The instruction for this step is: "Provide a name, description and catalyst profile for the Catalyst Job."

The "Required" section contains the following fields:

- Name:** A text input field.
- Description:** A larger text area.
- Attributes Profile:** A dropdown menu with "Use Default" selected.

Navigation buttons at the top right of the wizard include "Back", "Next", "Finish", and "Cancel". At the bottom right, there are additional "Back", "Next", "Finish", and "Cancel" buttons.

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Catalyst Integration tab within CCA – Catalyst job

- Finally you can choose to schedule the job and select the notification profile and save the job. You can schedule the job or run the job to push the data from CCA to catalyst connector

The screenshot displays the 'Create Catalyst Job' wizard within the Catalyst Integration tab of Configuration Automation (CCA). The browser address bar shows 'harch22-vm2-w2k8:8080/CCAUI.jsp?'. The navigation bar includes tabs for Configuration, Access Management, Network, Catalyst Integration (selected), Diagnostics, and Data Migration. The user is logged in as 'ccaadmin'. The wizard progress bar shows steps 1 through 7, with 'Schedule' being the current step. The 'Schedule' section includes a 'Frequency' dropdown set to 'Not Scheduled'. The 'Notify' section includes a 'Notification Profile' dropdown set to 'Use Default' and a 'Subject' text field containing 'Catalyst Job TestJob1'. Navigation buttons 'Back', 'Next', 'Finish', and 'Cancel' are visible at the top right and bottom right of the wizard.

CI's in SDM TWA In Initial status

CA Service Desk Manager - CI Transaction List - Microsoft Internet Explorer provided by CA

http://lod00009.6080/CAsd/pdmsweb.exe

File Edit View Favorites Tools Help

CA Service Desk Manager - CI Transaction List

CA Service Desk Manager

Incident Go

ServiceDesk Log Out Administrator Set Role

Service Desk Knowledge Administration Reports Change Calendar Support Automation

File View Window Help

CI Transaction List

Search Show Filter Clear Filter Create New Edit in List Export

View All Expand All (\$) Page 1 of 4 1-25 of 89

Last Modified	Name	Serial Number	MAC Address	DNS Name	Host Name	Asset Number	Status
12/07/2011 11:05 am	.NET Framework				sdm-w2k8-tm .NET Framework file:///C:/WINDOWS/Microsoft.NET/Framework64/v2.0.50727		Initial
12/07/2011 11:05 am	.NET Framework				sdm-w2k8-tm .NET Framework file:///C:/WINDOWS/Microsoft.NET/Framework64/v3.5		Initial
12/07/2011 11:04 am	.NET Framework				sdm-w2k8-tm .NET Framework file:///C:/WINDOWS/Microsoft.NET/Framework64/v3.0		Initial
12/07/2011 11:04 am	10.134.59.1			10.134.59.1	10.134.59.1		Initial
12/07/2011 11:03 am	10.134.59.137		00-1A-A0-B9-76-39		sdm-w2k8-tm 10.134.59.137		Initial
12/07/2011 11:06 am	Apache Tomcat				sdm-w2k8-tm Apache Tomcat file:///C:/Program Files (x86)/CA/SC/tomcat/5.5.25		Initial
12/07/2011 11:06 am	Apache Tomcat				sdm-w2k8-tm Apache Tomcat file:///C:/Windows.old/Program Files/CA/SC/tomcat/6.0.30		Initial
12/07/2011 11:06 am	Apache Tomcat				sdm-w2k8-tm Apache Tomcat file:///C:/Program Files/CA/CCA Server/tomcat		Initial
12/07/2011 11:03 am	Apache Tomcat				sdm-w2k8-tm Apache Tomcat file:///C:/Program Files (x86)/CA/SC/tomcat/6.0.30		Initial
12/07/2011 11:04 am	ausysg01.ca.com			ausysg01.ca.com	ausysg01.ca.com		Initial
12/07/2011 11:03 am	BO						Initial
12/07/2011 11:04 am	CA Configuration Automation Server				sdm-w2k8-tm CA Configuration Automation Server file:///C:/Program Files/CA/CCA Server		Initial
12/07/2011 11:05 am	CA Unicenter Software Delivery Agent				sdm-w2k8-tm CA Unicenter Software Delivery Agent file:///C:/Program Files (x86)/CA/DSM		Initial
12/07/2011 11:03 am	CA Unicenter Software Delivery Agent				sdm-w2k8-tm CA Unicenter Software Delivery Agent file:///C:/Windows.old/Program Files/CA/DSM		Initial
12/07/2011 11:05 am	CCA Agent				sdm-w2k8-tm CCA Agent file:///C:/Program Files/CA/CCA Agent		Initial
12/07/2011 11:03 am	DISK-0				sdm-w2k8-tm DISK-0		Initial
12/07/2011 11:03 am	Hardware Details (Windows)				sdm-w2k8-tm Hardware Details (Windows) file:///Hardware Details (Windows)		Initial
12/07/2011 11:04 am	Hyd						Initial
12/07/2011 11:04 am	inhyseg01.ca.com			inhyseg01.ca.com	inhyseg01.ca.com		Initial
12/07/2011 11:04 am	inhywin1.ca.com			inhywin1.ca.com	inhywin1.ca.com		Initial
12/07/2011 11:03 am	ITO						Initial

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Move CI's to Ready state in SDM TWA

CA Service Desk Manager - CI Transaction List - Microsoft Internet Explorer provided by CA

http://sd0009:8080/CAWeb/jsp/web_eoe

CA Service Desk Manager

Incident ServiceDesk Log Out Administrator Set Role

Service Desk Knowledge Administration Reports Change Calendar Support Automation

CI Transaction List

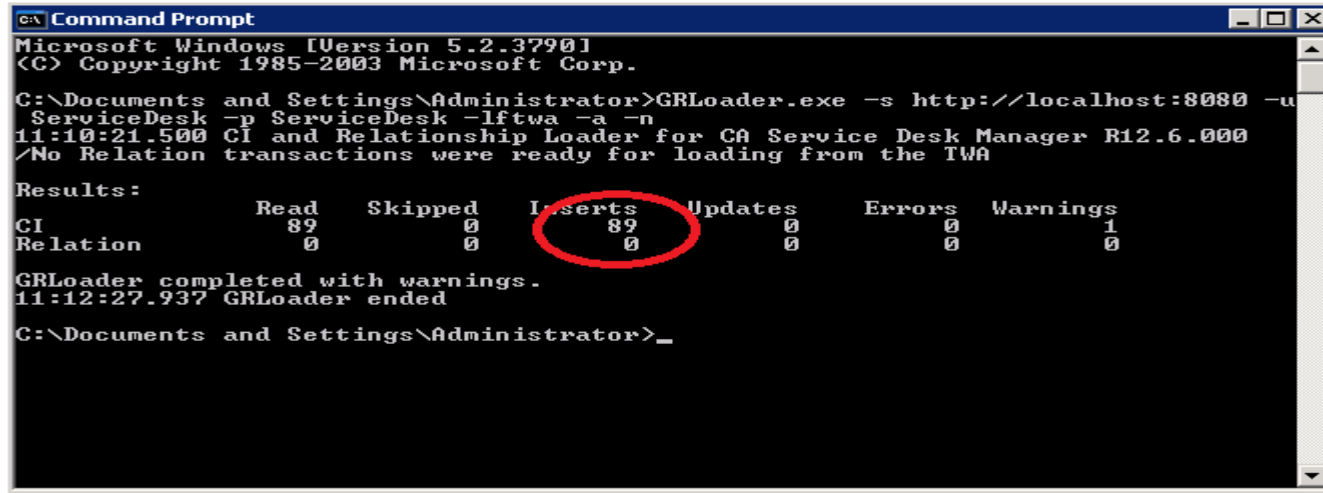
Search Show Filter Clear Filter Create New Edit in List Export

View All Expand All (\$) Page 1 of 4 1-25 of 89

Last Modified	Name	Serial Number	MAC Address	DNS Name	Host Name	Asset Number	Status
12/07/2011 11:07 am	.NET Framework				sdm-w2k8-tm[.NET Framework]file:///C:/WINDOWS/Microsoft.NET/Framework64/v2.0.50727		Ready
12/07/2011 11:07 am	.NET Framework				sdm-w2k8-tm[.NET Framework]file:///C:/WINDOWS/Microsoft.NET/Framework64/v3.5		Ready
12/07/2011 11:07 am	.NET Framework				sdm-w2k8-tm[.NET Framework]file:///C:/WINDOWS/Microsoft.NET/Framework64/v3.0		Ready
12/07/2011 11:07 am	10.134.59.1			10.134.59.1	sdm-w2k8-tm[10.134.59.1]		Ready
12/07/2011 11:07 am	10.134.59.137		00-1A-A0-B9-76-39		sdm-w2k8-tm[10.134.59.137]		Ready
12/07/2011 11:07 am	Apache Tomcat				sdm-w2k8-tm[Apache Tomcat]file:///C:/Program Files/CA/CCA Server/tomcat		Ready
12/07/2011 11:07 am	Apache Tomcat				sdm-w2k8-tm[Apache Tomcat]file:///C:/Program Files (x86)/CA/SC/tomcat/6.0.30		Ready
12/07/2011 11:07 am	Apache Tomcat				sdm-w2k8-tm[Apache Tomcat]file:///C:/Windows.old/Program Files/CA/SC/tomcat/6.0.30		Ready
12/07/2011 11:07 am	Apache Tomcat				sdm-w2k8-tm[Apache Tomcat]file:///C:/Windows.old/Program Files/CA/SC/tomcat/5.5.25		Ready
12/07/2011 11:07 am	Apache Tomcat				sdm-w2k8-tm[Apache Tomcat]file:///C:/Program Files (x86)/CA/SC/tomcat/5.5.25		Ready
12/07/2011 11:07 am	ausysg01.ca.com			ausysg01.ca.com	ausysg01.ca.com		Ready
12/07/2011 11:07 am	BO			ausysg01.ca.com	ausysg01.ca.com		Ready
12/07/2011 11:07 am	CA Configuration Automation Server				sdm-w2k8-tm[CA Configuration Automation Server]file:///C:/Program Files/CA/CCA Server		Ready
12/07/2011 11:07 am	CA Unicenter Software Delivery Agent				sdm-w2k8-tm[CA Unicenter Software Delivery Agent]file:///C:/Program Files (x86)/CA/DSM		Ready
12/07/2011 11:07 am	CA Unicenter Software Delivery Agent				sdm-w2k8-tm[CA Unicenter Software Delivery Agent]file:///C:/Windows.old/Program Files/CA/DSM		Ready
12/07/2011 11:07 am	CCA Agent				sdm-w2k8-tm[CCA Agent]file:///C:/Program Files/CA/CCA Agent		Ready
12/07/2011 11:07 am	DISK-0				sdm-w2k8-tm[DISK-0]		Ready
12/07/2011 11:07 am	Hardware Details (Windows)				sdm-w2k8-tm[Hardware Details (Windows)]file:///Hardware Details (Windows)		Ready
12/07/2011 11:07 am	Hyd						Ready
12/07/2011 11:07 am	inhyg01.ca.com			inhyg01.ca.com	inhyg01.ca.com		Ready
12/07/2011 11:07 am	inhywin1.ca.com			inhywin1.ca.com	inhywin1.ca.com		Ready
12/07/2011 11:07 am	ITO						Ready

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Execute GRLoader to Load CI to SDM



```
C:\ Command Prompt
Microsoft Windows [Version 5.2.3790]
(C) Copyright 1985-2003 Microsoft Corp.

C:\Documents and Settings\Administrator>GRLoader.exe -s http://localhost:8080 -u
ServiceDesk -p ServiceDesk -lftwa -a -n
11:10:21.500 CI and Relationship Loader for CA Service Desk Manager R12.6.000
No Relation transactions were ready for loading from the TWA

Results:
           Read    Skipped    Inserts    Updates    Errors    Warnings
CI           89         0         89         0         0         1
Relation     0         0         0         0         0         0

GRLoader completed with warnings.
11:12:27.937 GRLoader ended

C:\Documents and Settings\Administrator>_
```

After Loading Data into CMDB

The screenshot displays the CA Service Desk Manager Configuration Item List interface within a Microsoft Internet Explorer browser. The browser's address bar shows the URL <http://lod0009-0000/CAstd/pdmweb.exe>. The interface features a top navigation bar with tabs for Service Desk, Knowledge, Administration, Reports, Change Calendar, and Support Automation. The Administration tab is currently selected, and the left-hand navigation pane shows a tree structure with 'CI List' highlighted and circled in red. The main content area, titled 'Configuration Item List', contains a table with columns for Name, Class, Family, Serial Number, Contact, Last Change, Product Version, Standard CI, Asset, and CI. The table lists various configuration items, including .NET Framework, 10.134.59.1, Apache Tomcat, ausysg01.ca.com, and CA Configuration Automation Server. The table is paginated, showing 1-25 of 89 items. The bottom of the screen shows the Windows taskbar with several open applications and the system clock indicating 11:13 AM on 12/07/2011.

Name	Class	Family	Serial Number	Contact	Last Change	Product Version	Standard CI	Asset	CI
.NET Framework	COTS	Software.COTS			12/07/2011 11:10 am		NO	YES	
.NET Framework	COTS	Software.COTS			12/07/2011 11:10 am		NO	YES	
.NET Framework	COTS	Software.COTS			12/07/2011 11:10 am		NO	YES	
10.134.59.1	Server	Hardware.Server			12/07/2011 11:10 am		NO	YES	
10.134.59.137	Port	Network.Port			12/07/2011 11:10 am		NO	YES	
Apache Tomcat	COTS	Software.COTS			12/07/2011 11:10 am		NO	YES	
Apache Tomcat	COTS	Software.COTS			12/07/2011 11:10 am		NO	YES	
Apache Tomcat	COTS	Software.COTS			12/07/2011 11:10 am		NO	YES	
ausysg01.ca.com	Server	Hardware.Server			12/07/2011 11:10 am		NO	YES	
BO	Other	Contact			12/07/2011 11:10 am		NO	YES	
CA Configuration Automation Server	COTS	Software.COTS			12/07/2011 11:10 am		NO	YES	
CA Unicenter Software Delivery Agent	COTS	Software.COTS			12/07/2011 11:10 am		NO	YES	
CA Unicenter Software Delivery Agent	COTS	Software.COTS			12/07/2011 11:10 am		NO	YES	
CCA Agent	COTS	Software.COTS			12/07/2011 11:10 am		NO	YES	
DISK-0	Hard Drive	Hardware.Storage			12/07/2011 11:10 am		NO	YES	
Hardware Details (Windows)	COTS	Software.COTS			12/07/2011 11:10 am		NO	YES	
Hyd	Campus	Location			12/07/2011 11:10 am		NO	YES	
inhyg01.ca.com	Server	Hardware.Server			12/07/2011 11:10 am		NO	YES	
inhywin1.ca.com	Server	Hardware.Server			12/07/2011 11:10 am		NO	YES	

Education, webinars, ...

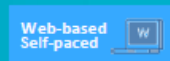
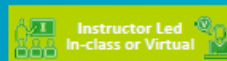
CMDB learning paths

CA Service Desk Manager r12.6 - CMDB Learning Paths

Take charge of your path to success. Select a path based on your role, follow the suggested learning in the order we recommend, and also choose from common elective courses which suit your specific role. Where applicable, take advantage of accreditation exams focused on courses, and certification exams focused on bodies of knowledge

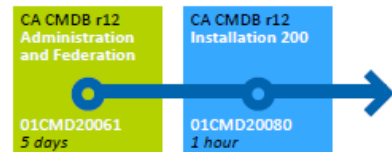
Accreditation
Exam

Certification
Exam

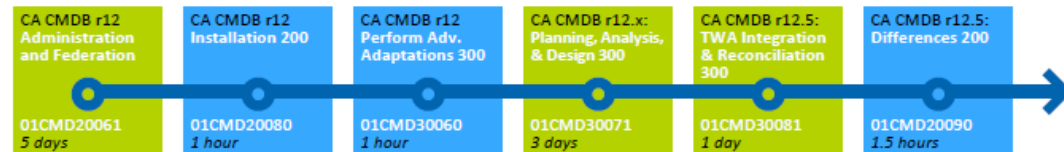


Click on the icon to see additional course/exam information in the CA Education Portal

Administrator



Implementer



CA Education – Configuration Management

- CA CMDB r12.x: Planning, Analysis and Design 300
- CA CMDB r12.5: TWA Integration and Reconciliation 300

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Channel: CA Technologies Service & Portfolio Insights
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Date: May 24 2012
Duration: 00h 58m
Tags: new normal, APM, managing, end-user experience

★★★★

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Presenting: Stephen Webster, CEO, StratITsphere & B...
Channel: CA Technologies Agile Cloud Delivery
Date: May 23 2012
Duration: 00h 53m
Tags: cloud, services, grow, business, quick, ROI

★★★★

Play ►

Enabling IT Financial Transparency



Presenting: Kulvinder S. Bhupal, Principal Consultant, ...
Channel: IT Service Management
Date: May 17 2012
Duration: 00h 43m



Presenting: Kulvinder S. Bhupal, Principal Consultant, ...
Channel: CA Technologies IT Service Management
Date: May 17 2012
Duration: 00h 43m

questions

matti.korpimaa@ca.com