

American “ITIL” Winning The Metadata Contest

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American “ITIL”

Winning The Metadata Contest

- Agenda
 - What is “ITIL” and the “CMDB” ?
 - Three Critical Issues for ITIL Metadata Architects:
 - CMDB Meta-model
 - ITIL Process ROI
 - Crafting the IT “Tool” Ecosystem
 - Call To Action...
- John Singer – Enterprise Architect
 - 27 years in Data Architecture
 - DAMA 2006 – Adding Semantic Value to Application Systems
 - DAMA 2007 – Do You Need A Data Development Methodology?
 - DAMA 2008 – American “ITIL” Winning The Metadata Contest
 - See WWW.TDAN.COM for series of articles on CMDB

ITIL V2 Service Support

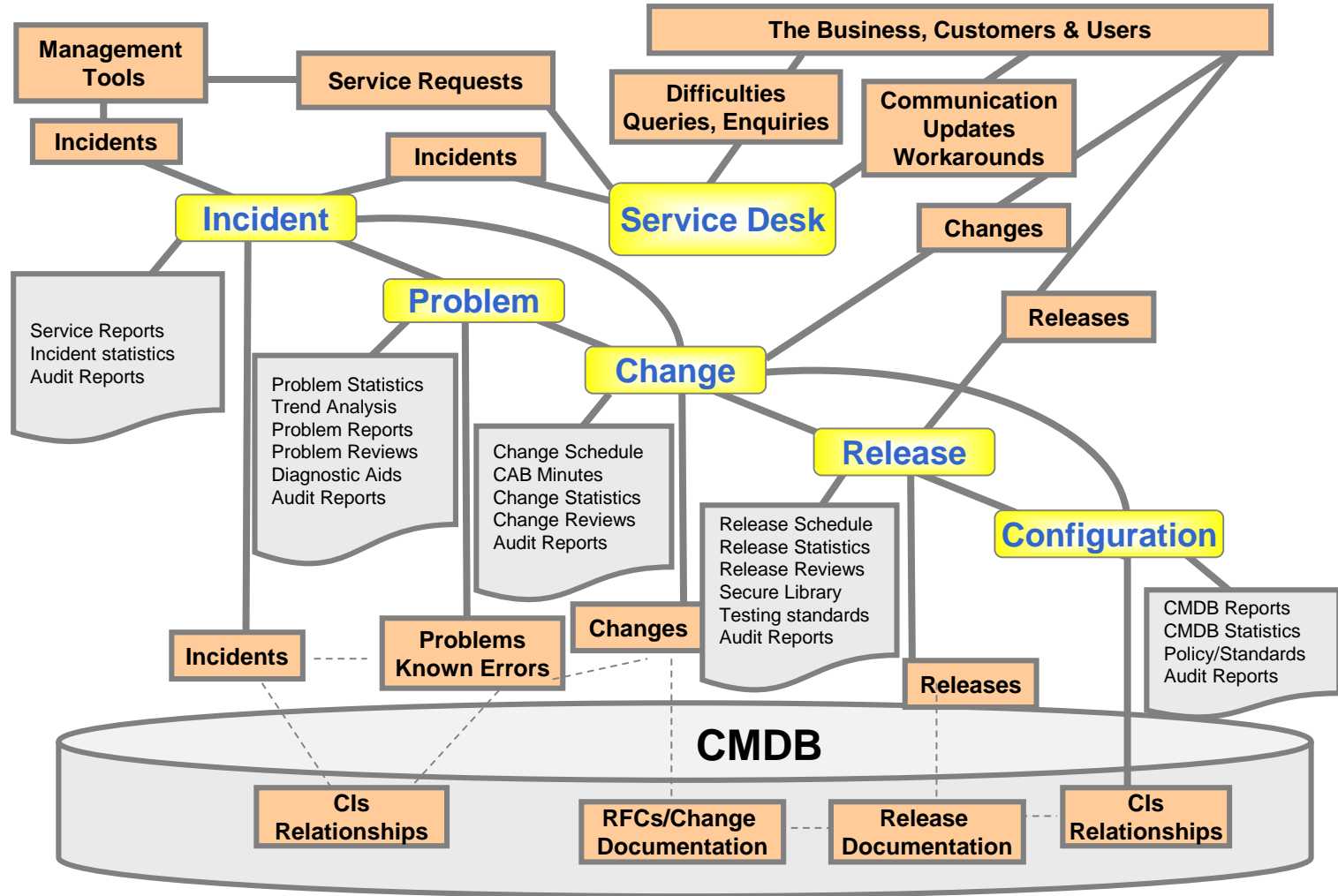


Diagram re-created from the ITIL Service Support Book

Configuration Management Database (CMDB) Meta-model

Configuration Item

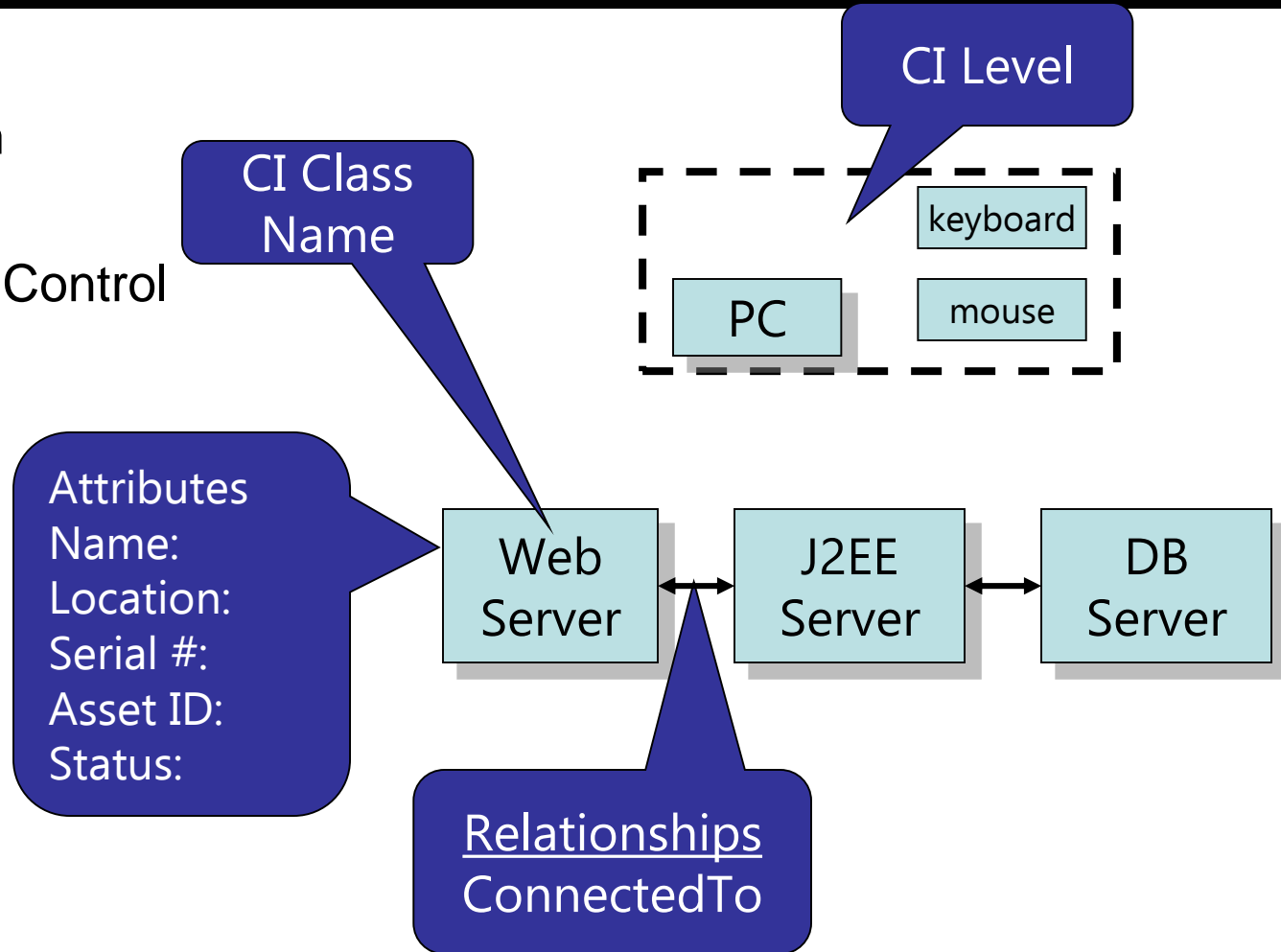
- AKA – CI
- Under Change Control
- How granular?

Attributes

- Unique Name
- Descriptive
- Financial
- Legal
- Life Cycle

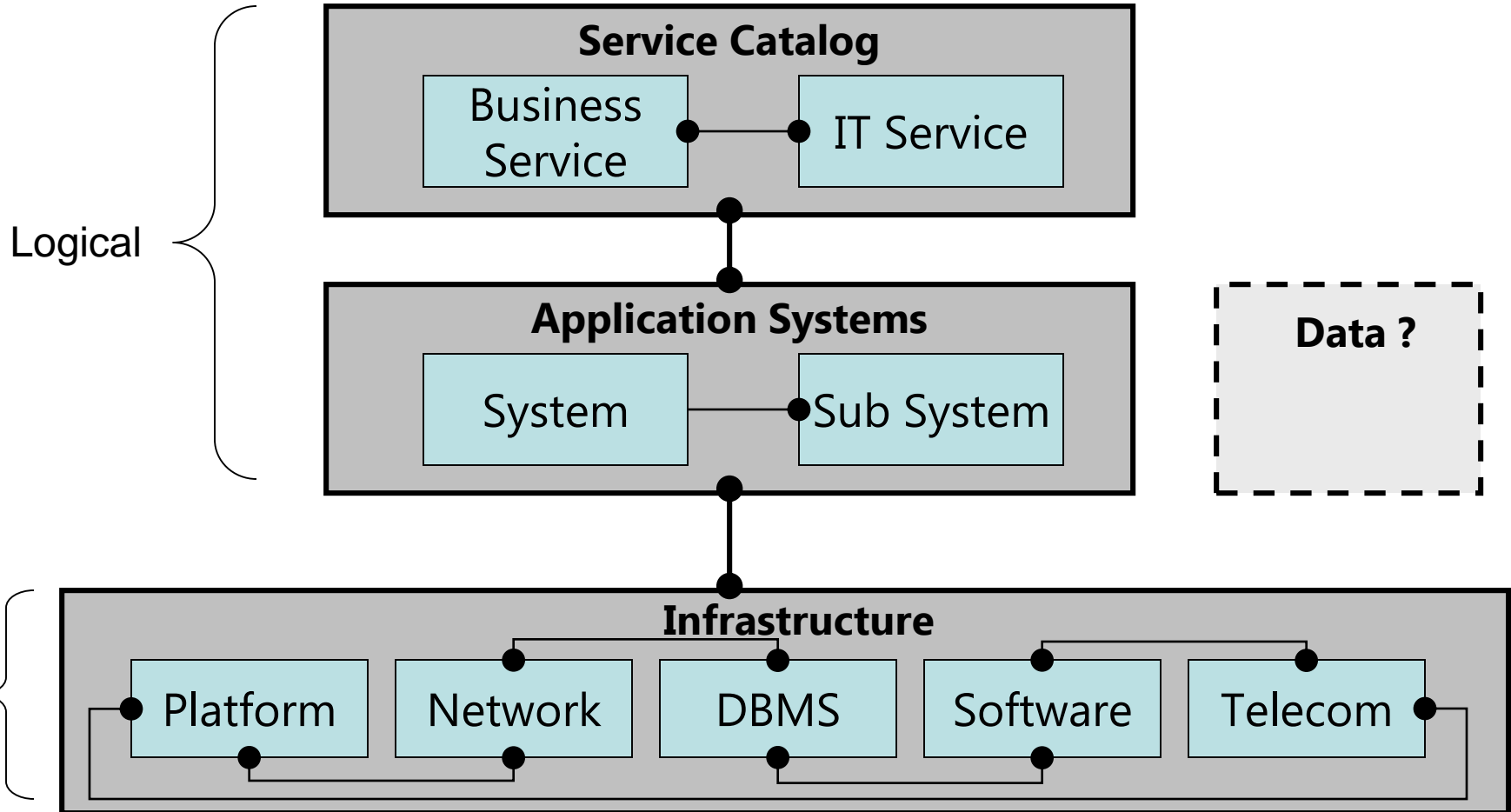
Relationships

- Connected to



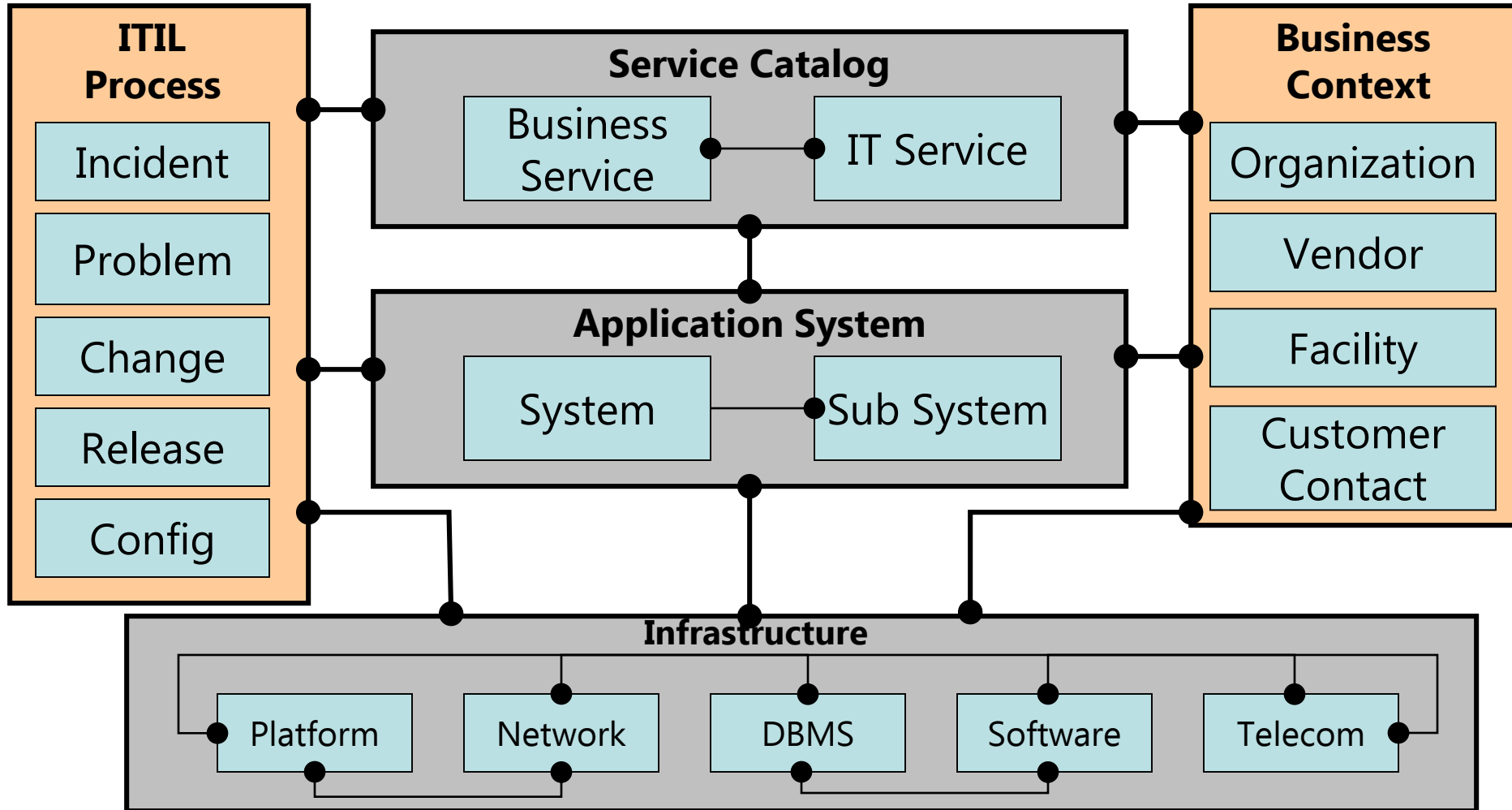
ITIL literature does not mention metadata – but clearly this is a metadata repository

CMDB “Logical and Physical” Layers



ITIL CMDB proposes a layered approach much like the Zachman Framework

Adding Business Context To the CMDB Model



Relating configuration data to the business strains the CMDB architecture

- CMDB extends well beyond “configuration” data
- CMDB divided into “Logical” and “Physical” layers
 - (Logical) Business and IT Services
 - (Logical) Application Systems
 - (Physical) Infrastructure Components
- CMDB enhanced with Business Context Data
 - Customer/Site/Location
 - Financial
 - Organization
- CMDB related to ITIL Processes
 - Single pane of glass – see configuration items in the context of incidents/problems/changes
- Configuration Items and process records are classified according to a standard taxonomy
- Content Management
 - CI’s are linked to documents needed to support them
 - Known Error Work-Around documents stored in a Knowledge base for Tier 1 support and end users.

ITIL CMDB borrows heavily from metadata and enterprise architecture frameworks

ROI Justifies Building The CMDB

ITIL Process

- Delivers the ROI value
- Process success requires CMDB data



CMDB Data

- Gathering data is all cost just like:
 - Data Warehouse
 - Content Management
- CMDB data enables ITIL process ROI

- ITIL Configuration Management
 - The process that builds and validates the CMDB
- ITIL Change Management
 - The process that keeps configuration data up to date
 - Eliminates the primary cause of Metadata Repository project failure – out of date data

**CMDB and Process are the Ying and Yang of ITIL.
You have to do both.**

Configuration Management Activities

Planning

Identification

Control

Status Accounting

Verification

CMDB

Goal:

Configuration Management provides a **reference model** of the infrastructure and services by identifying, controlling, maintaining and verifying the versions of Configuration Items (CIs) in existence.

Diagram re-created from the ITIL Service Support Book

Configuration Management Activities

- **Planning** – Planning and defining the purpose, scope, objectives, policies and procedures, and the organizational and technical context, for Configuration Management.
- **Identification of CI's** – Selecting and identifying the configuration structures for all the Configuration Items (CIs), their owners, their interrelationships and configuration documentation. It includes allocating identifiers and version numbers for CIs, labeling each item, and entering them into the Configuration Management Database (CMDB).
- **Control** – Ensuring only authorized and identifiable CIs are accepted and recorded from receipt to disposal. It ensures that no CI is added, modified, replaced or removed without appropriate controlling documentation.
- **Status Accounting** – The reporting of all current and historical data concerned with each CI throughout its lifecycle. It enables change to CIs and their records to be traceable by tracking the status of a CI from one state to another state (i.e. development, test, production, withdrawn).
- **Verification** – A series of reviews and audits that verify the physical existence of CIs and checks that they are correctly recorded in the CMDB.

ITAM (IT Asset Management) discipline is a part of ITIL Configuration Management

Text paraphrased from the ITIL Service Support Book

ROI Process and CMDB Enablers

ROI Categories

Incident/Problem/Change

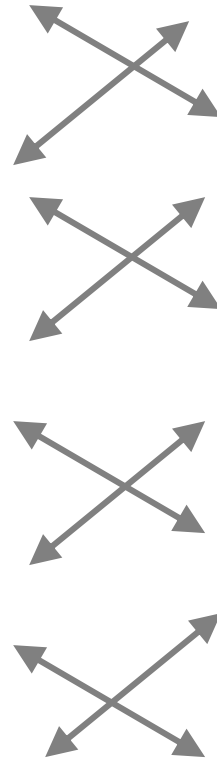
- Reduce time spent on I/P/C
- Eliminate I/P/C
- Reduced application downtime
- Move work to lowest cost staff

Asset & Configuration Mgt

- Reduce manual inventory
- Reduce software license costs
- Reduce hardware maintenance costs

General Process Improvement

- Reduce Compliance Audit time
- Lower training costs



CMDB Data

- CI class hierarchy
- Common Taxonomies
- Asset Inventory
- Configuration Detail
- Configuration Relationships
- Service & Application Mapping
- CI's linked to Staff
- CI's linked to Known Error Workarounds
- CI's cross linked to I/P/C
- CI's linked to maintenance windows/calendars
- CI's linked to contracts
- Historical view of I/P/C
- Historical view of config. data

Map CMDB data to process ROI to build CMDB business case

ROI - Eliminate incidents by pro-actively fixing problems

- Problem Management performs pro-active analysis of past incidents to detect recurring events. The root cause of the recurring incident is determined and a permanent fix is implemented.
- 10% of Incidents eliminated (x number of incidents) times average incident duration of 30 minutes times \$60 / hour charge rate = y dollars saved

CMDB data required

- Incident records related to CI's
- Incident records classified by incident type (standard taxonomy)

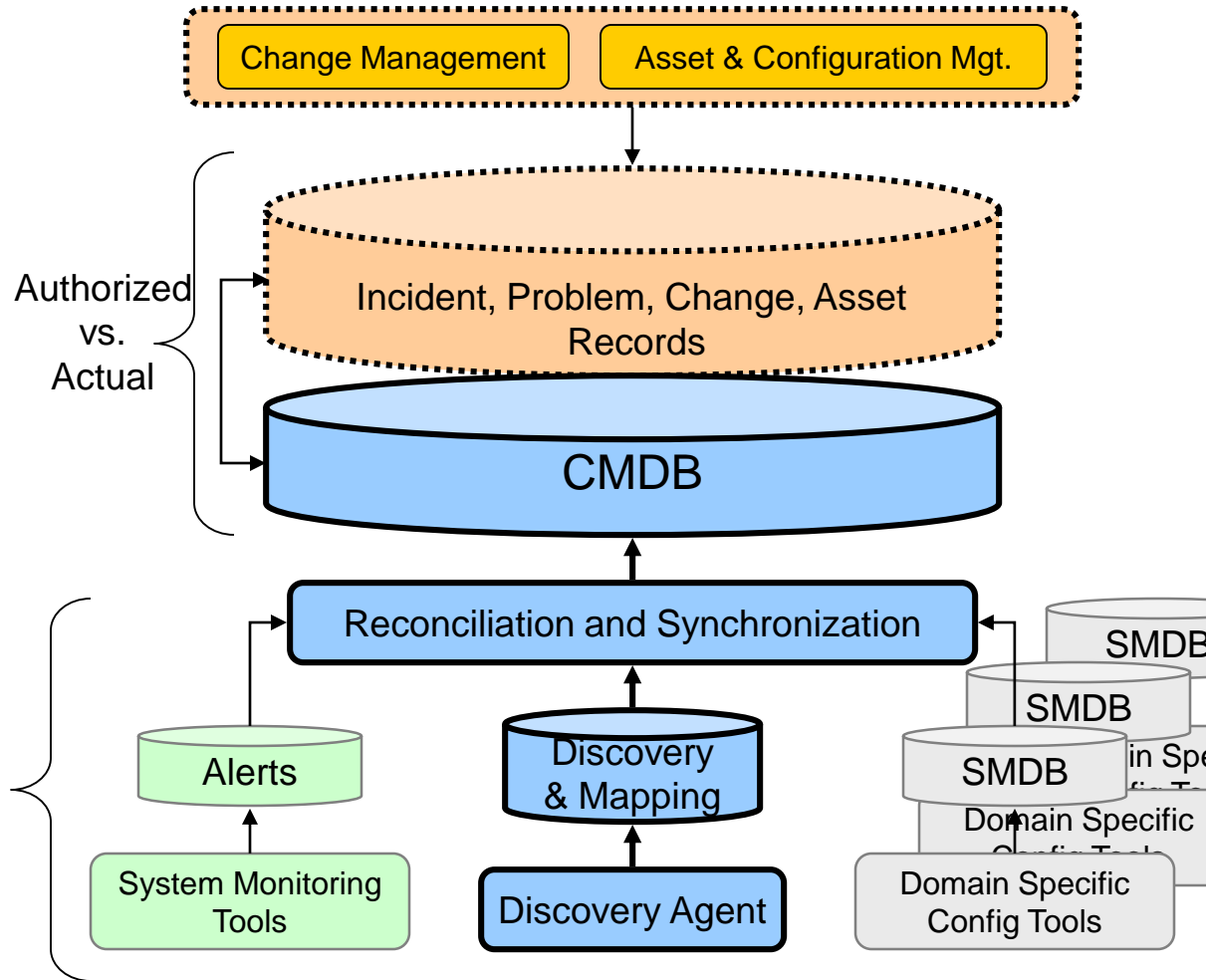
Where does the CMDB start and stop?

“Federated CMDB”

- Link process records to CI’s
- Sync Discovery Data to CMDB
- Distributed query to SMDB’s
- ETL System Mgt. Tool data into CMDB

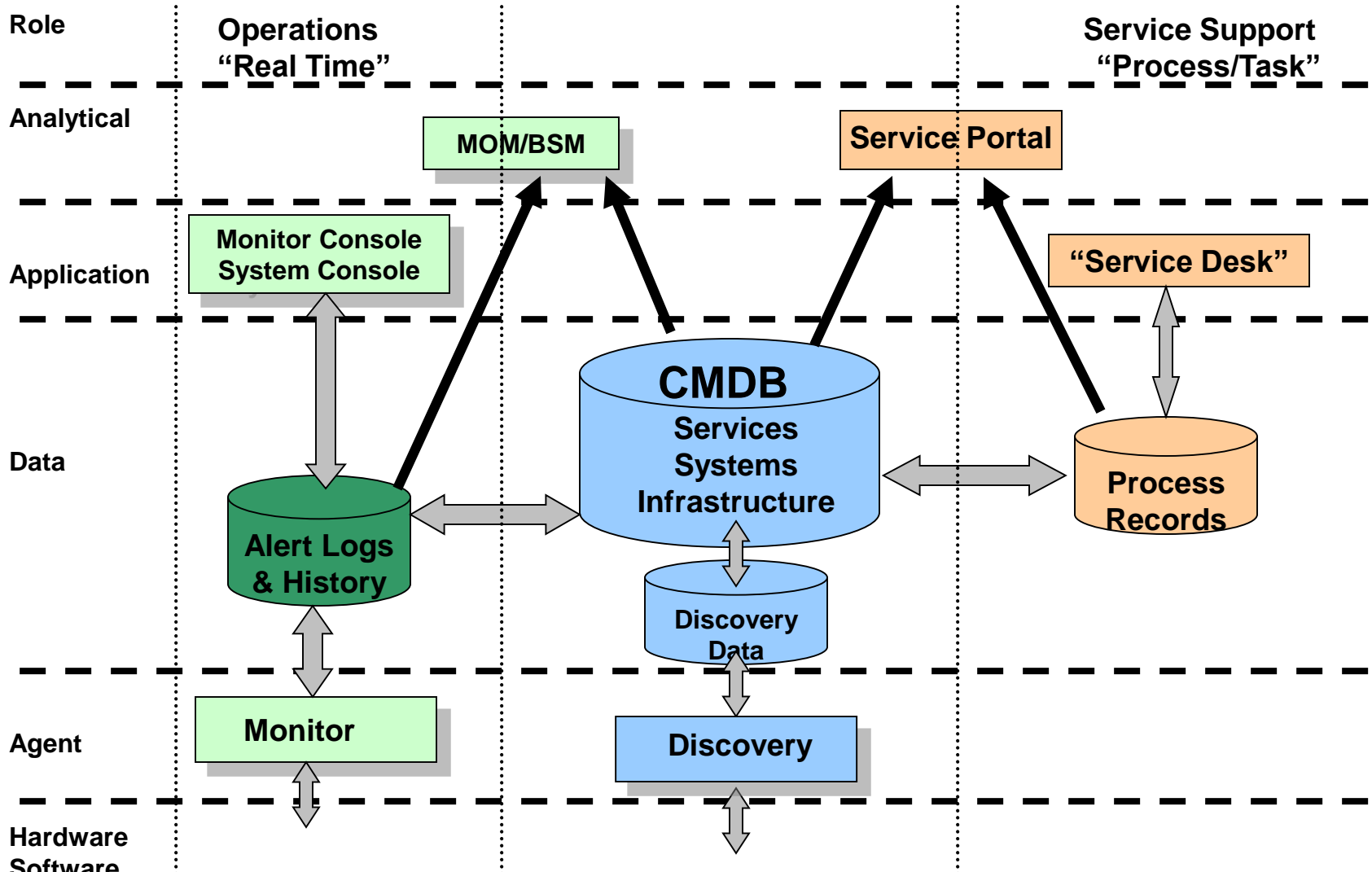
Four product sets

- **Service Desk**
- **CMDB/Discovery**
- **Monitoring**
- **Technology Domain Specific Config Mtg.**



“Federation” is a buzzword - Building the CMDB is an exercise in data integration

BSM vs. ITIL Service Support



- Three dimensions of CMDB data
 - **Granular** – How much detail is maintained in the CMDB
 - **Conceptual** – Services – Systems – Infrastructure: mapping abstract to concrete concepts
 - **Speed** – how fast does the data move
- The ITIL Service Management CMDB balances all three
 - Granular – enough to support the ITIL processes and no more
 - Conceptual – enough to enable service management, but not an Enterprise Architecture model
 - Speed – fast enough to maintain “trusted source” status – but not real time
- Some vendors want to “own the stack” along one primary dimension
 - Business Service Management – Speed
 - EA, Application Mapping – Conceptual
 - System Management tools – Granularity

The challenge is to balance diverse needs and minimize toolsets and redundancy of data

ITIL Version 3

Announced in May of 2007, ITIL Version 3 introduces new terminology that creates distinctions between the overall knowledge management vision and the basic CMDB.

Service Knowledge Management System (SKMS). A set of tools and databases that are used to manage knowledge and information. The SKMS includes the Configuration Management System (CMS), as well as other tools and databases.

Configuration Management System (CMS). A set of tools and databases that are used to manage an IT Service Provider's Configuration data. The CMS also includes information about Incidents, Problems, Known Errors, Changes, and Releases; and may contain data about employees, suppliers, locations, business units, Customers, and Users.

Configuration Management Database (CMDB). A database used to store Configuration Records throughout their lifecycle. The Configuration Management System (CMS) maintains one or more CMDBs, and each CMDB stores attributes of Configuration Items (CIs), and relationships with other CIs.

The preceding definitions were paraphrased from the ITIL Service Transition Glossary (ISBN 978 0 11 331048 7).

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Final Thoughts

- ITIL validates the concept of building an IT Knowledge Management System which is part metadata repository and part enterprise architecture model
- ITIL ROI is dependant on the creation of a knowledge management system that captures the Services-Systems-Infrastructure model
- ITIL processes insure the ongoing quality of the data
- Vendor's are supplying the beginnings of a solution
 - Weak integration capabilities
 - Weak service and system modeling capabilities (i.e. the ITIL “logical” level)
 - Merging data from multiple systems will always be a reality
 - Use point solutions when business value justify it (i.e. BSM point tool for high value system)