



Configuration Management, 17.04.2013

# CONFIGURATION MANAGEMENT

## PROCESS BASIC

**BMW  
GROUP**



Rolls-Royce  
Motor Cars Limited

# Configuration Management.

**0** **Timeline / quantity**

**1** **Process Policy**

**2** **Process Activities and Roles**

**3** **Data Structures**

**4** **ITSM Interfaces**

**5** **Where to get information**

# CONFIGURATION MANAGEMENT

## Timeline

1999 ▲

C6000  
Remedy

2004 ▲

**CMDB  
Command**  
  
Start CMDB

2010 ▲

**Optimization**  
Consolidation  
Best in Class  
High Quality  
nSeMo

2013 ▲

**ITSM  
Service**  
BMC Atrium  
&  
CMDB  
Command

2014 ▲

**Privat Cloud  
Orchestration  
Automation  
IPV6**

# CONFIGURATION MANAGEMENT

## quantity

- 341523 IP Adresses
- 267058 Network Components
- 464597 Clients
- 23130 SERVER
- 29477 LOGICAL SERVE R OS
- 11651 Virtual Server
- 9880 Application instances
- 36989 Software instance:
- 4305 ITSM Services
- 1 243 181 Links between ITSM Services and CI's

# CONFIGURATION MANAGEMENT

## quantity

- 24546 User Accounts
- 524 Concurrent-User
- 1 Oracle Data base Data Guard
- 2 Application Server

Produktion

CMDB Prod  
APP-040528  
APPD-06154  
ICTO-969  
gRID =CIT-ICTO-969  
SWI-870812  
SWK-46269  
<https://cmdbp.bmwgroup.net>

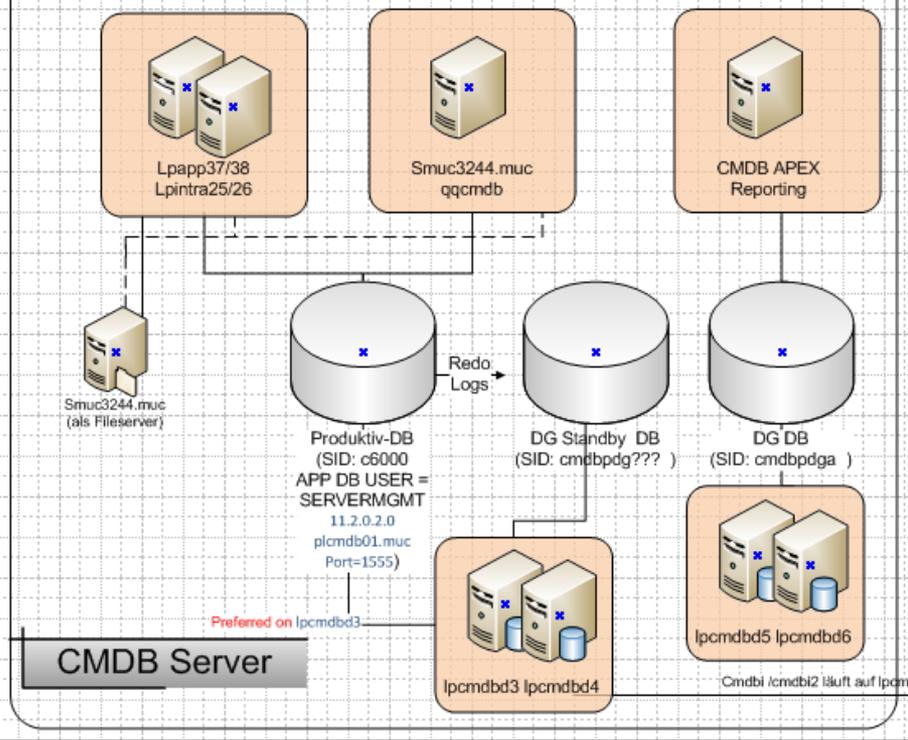
CMDB alternativ (SARA)  
APP-040528  
APPD-06154  
ICTO-969  
gRID =CIT-ICTO-969  
SWI-870813  
SWK-46269

CMDB Reporting  
APP-101181  
ICTO-1832  
gRID =CIT-ICTO-1832

<https://intra.bmwgroup.net:5344>  
<https://pintra25.bmwgroup.net:5344/command.html>  
<https://pintra26.bmwgroup.net:5344/command.html>

<http://sara.muc>  
[http://it.muc/rz/IT\\_Intranet/Services/WAN/Informationen/Index.htm](http://it.muc/rz/IT_Intranet/Services/WAN/Informationen/Index.htm)

<https://smuc3244.muc:8163/command.html>



# Configuration Management.

**1 Process Policy**

**2 Process Activities and Roles**

**3 Data Structures**

**4 ITSM Interfaces**

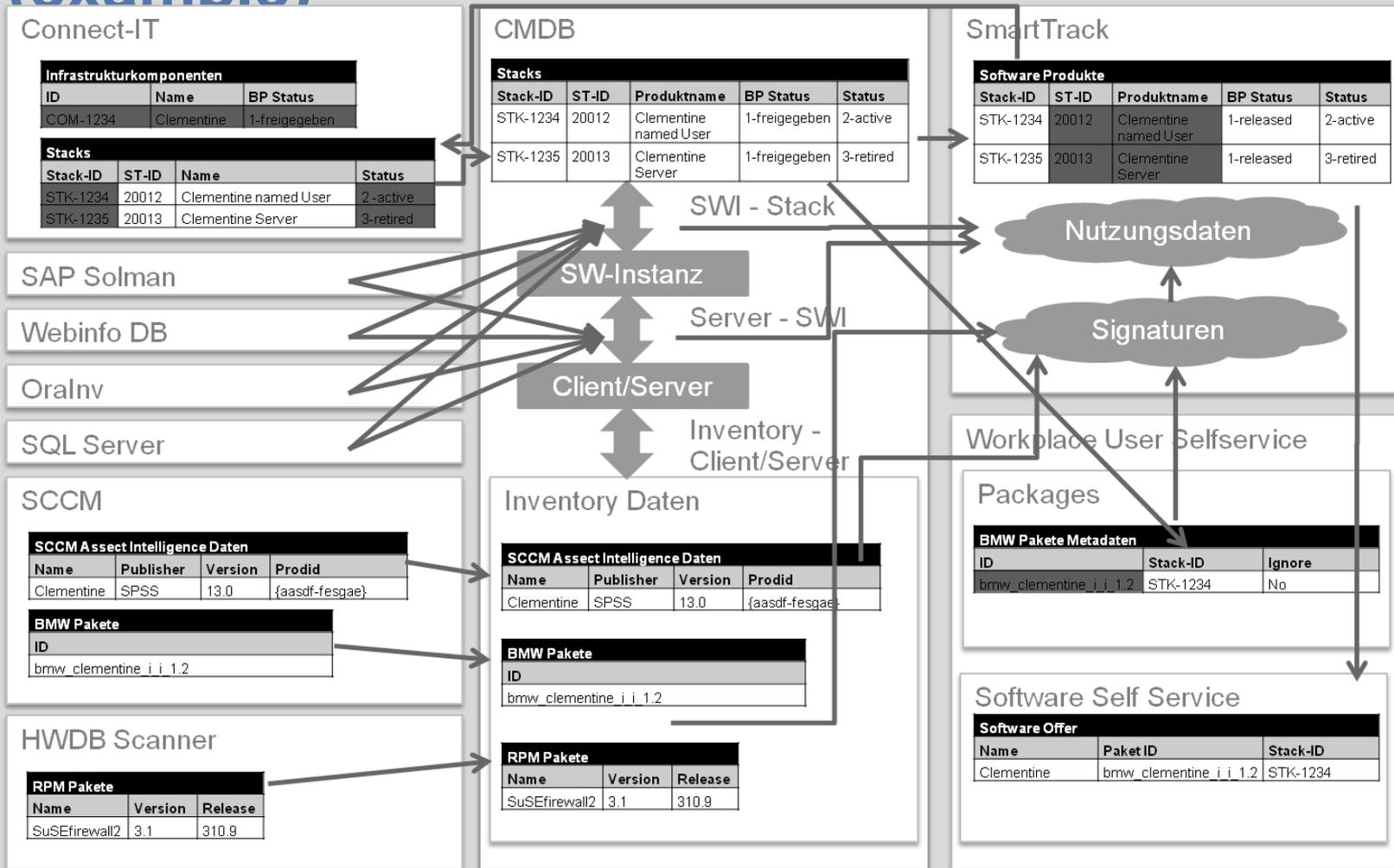
**5 Where to get information**

# CONFIGURATION MANAGEMENT PROCESS BASIC

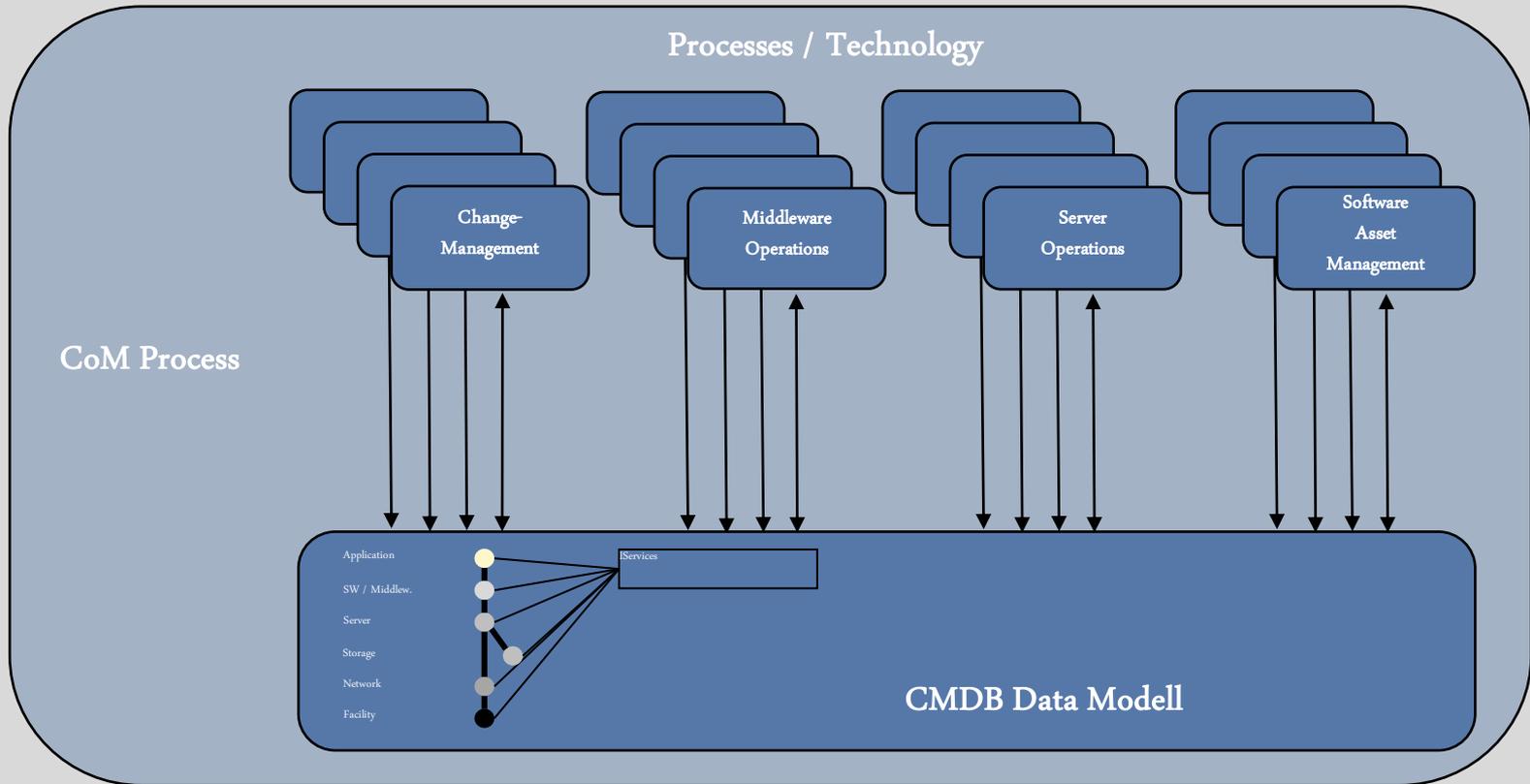
## Mission / Team

- **Mission: Dealing with IT configuration data**
  
- **CoM Core Team: (5)** steering the process  
Thomas Ledermann, Kai Klaeren, Thomas Schmidl, Gerhard Feißel, Christian Stilz
  
- **CoM Configuration Managers: (> 70)**  
representing service management and operational processes  
(e.g.: Incident management, Application operation, SAM, ..)

# Configuration Management Process Basic Complexity of involved systems and data (example)



# Configuration Management Process Policy Mission: Dealing with IT Configuration Data

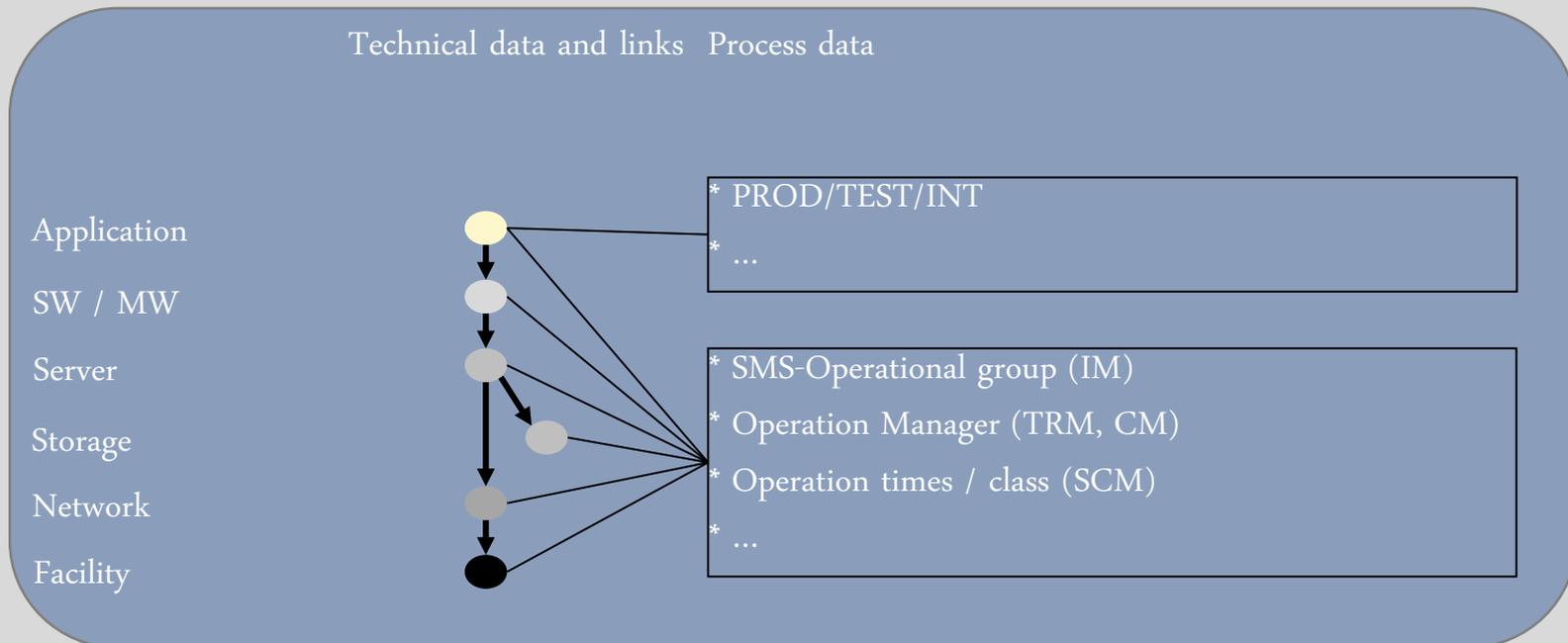


Configuration Management organizes and manages the data transfer between IT processes and IT technologies of the BMW group. This data constitutes the CMDB.

# Configuration Management Process Policy Documentation Rules

Each operational group (e.g. server operation) will document information which belongs to it and the links to resources which are used.

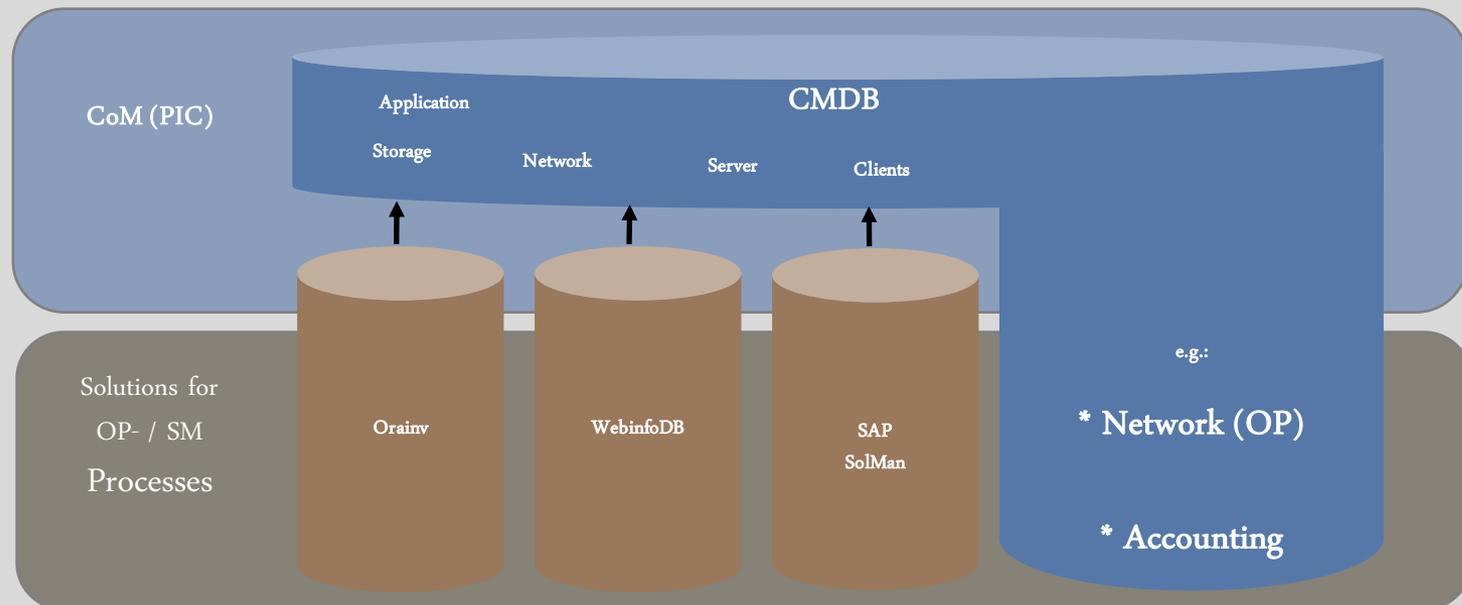
Application operation is documenting overall information.



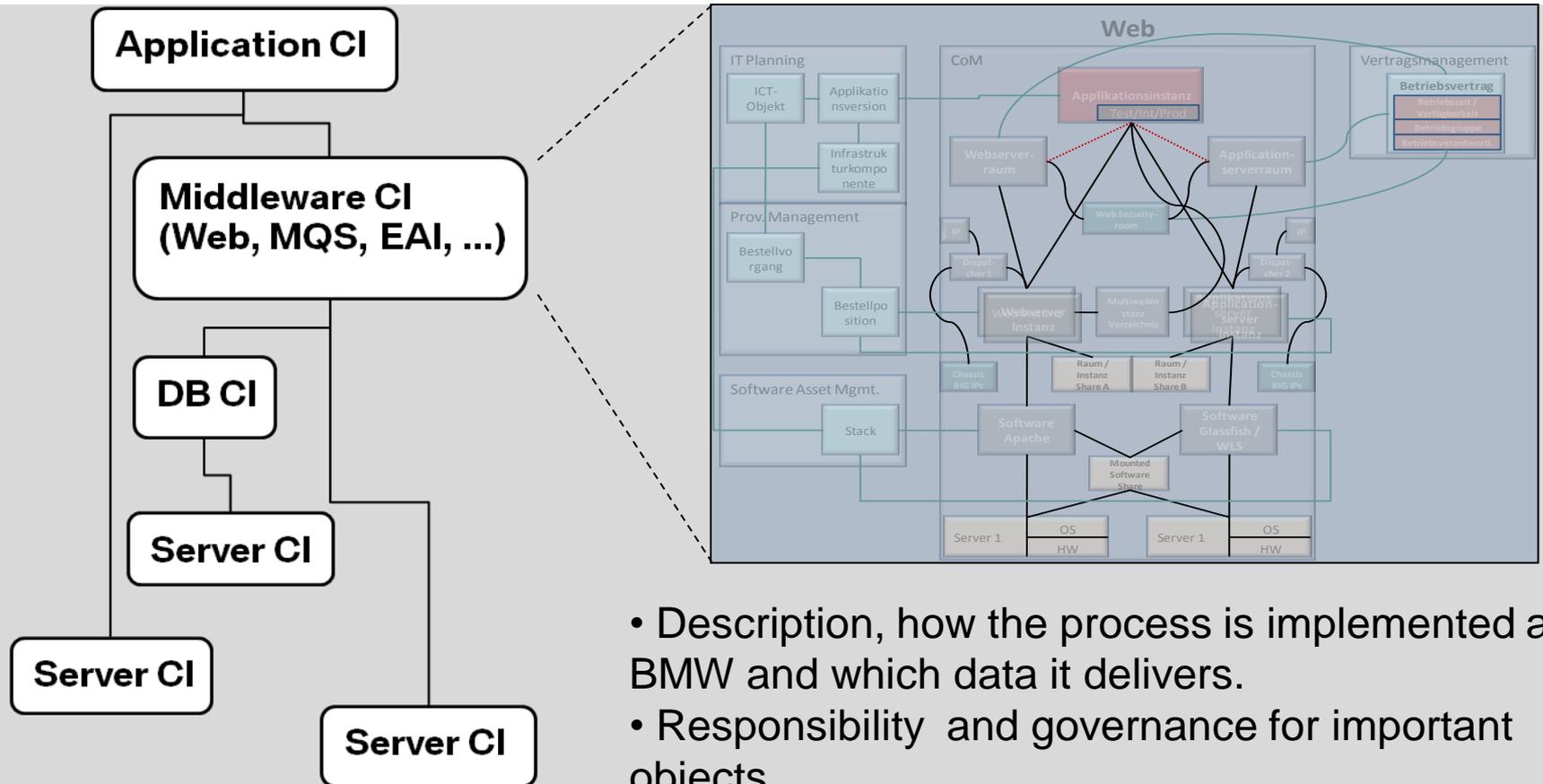
# Configuration Management Process Policy Implementation Rules

The tool and its data model will be used as provided by FNT without BMW specific customization.

There is always one tool and one process that provides the data.



# Configuration Management Process Policy Configuration Management Plan



- Description, how the process is implemented at BMW and which data it delivers.
- Responsibility and governance for important objects
- Data and links required from CoM (e.g. Business / IT-Infra.)

# Configuration Management.

1 Process Policy

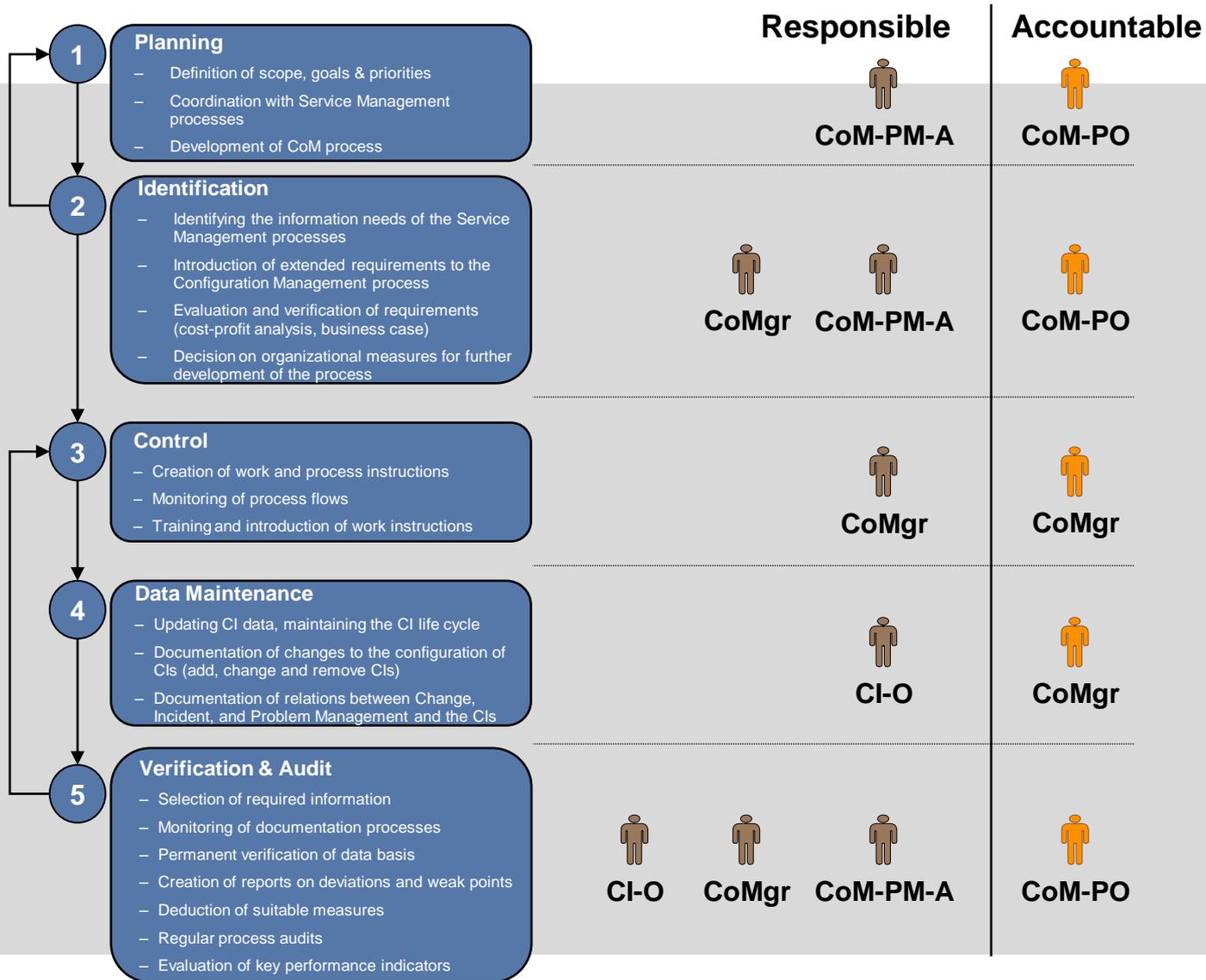
2 Process Activities and Roles

3 Data Structures

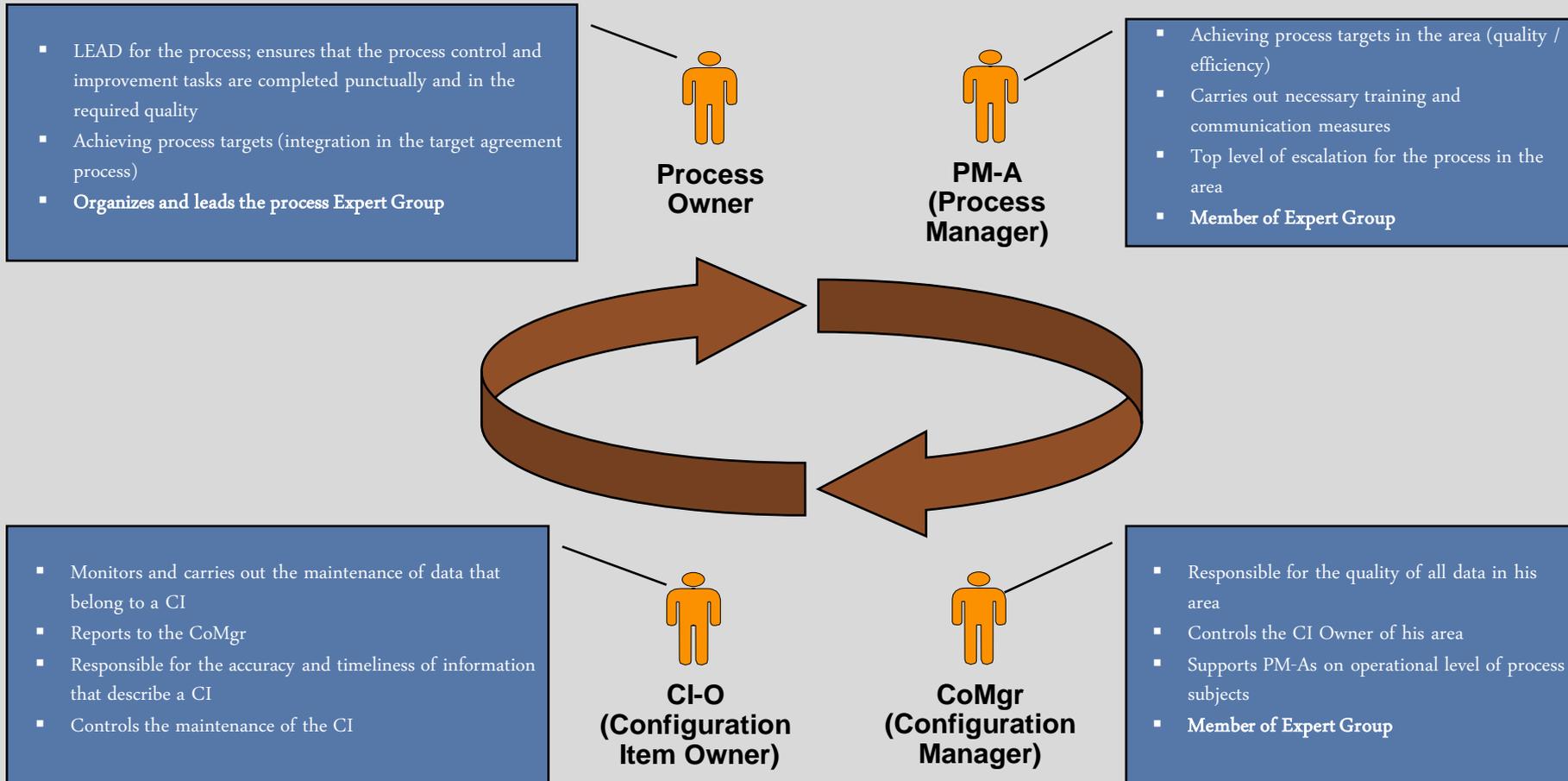
4 ITSM Interfaces

5 Where to get information

# Configuration Management Process Overview



# Configuration Management Process Roles



# CONFIGURATION MANAGEMENT PROCESS ACTIVITIES

## Planning

- During the planning of the constitution of Configuration Management, the process goals, scope and priorities are defined. This activity allows the process partners, the Service Management processes in particular, to bring in their requirements to the process and their information needs with regard to the configuration items.
  - In this activity, the requirements are gathered and are used as input to the next activity - **identification**.
  - In addition, the requirements serve as basis for the definition of metrics and target values that are handed over to the activity **verification & audit**.
- Examples for requirements:
  - Adding a new CI type or adding new attributes to existing types to the maintenance in the CMDB (e.g., SAP systems).
  - Definition of metrics to verify the coverage and quality of the maintenance of the new CI type.

# CONFIGURATION MANAGEMENT PROCESS ACTIVITIES

## Identification

- By identifying the information needs of the Service Management processes, the requirements from the planning activity are extended, evaluated and verified. When the requirements are accepted, they are written down in the system proposal document (requirements to both process and tool). Decisions on the requirements are documented as well.
  - Organizational measures for further process development are derived from the business requirements to the process.
  - Requirements with regard to CIs and the CMDB that are documented in the system proposal are handed over to software development of Solution Management.
- Examples for detailed requirements:
  - Process: Establishing a new CoMgr for SAP system CIs
  - Creation of a system proposal in order to describe the CI type SAP system

# CONFIGURATION MANAGEMENT PROCESS ACTIVITIES

## Control

- In the control activity, process and work instructions are defined and introduced. In order to allow for smooth progress, the process flows are controlled via comparison of planned and actual data. This activity also ensures that changes to CIs are documented.
  - The detailed requirements (e.g., system proposal) from the **identification** activity serve as input for the process instructions.
  - The comparison of planned and actual data is based on the results of the deviation and weak points reports from the **verification & audit** activity.
- Examples:
  - Creation of process instructions for the maintenance of SAP systems

# CONFIGURATION MANAGEMENT PROCESS ACTIVITIES

## Data Maintenance

- In order to keep the documentation of CI data (CMDB) constantly up-to-date, the data have to be maintained. Any changes that result from activities that modify the properties (attributes) or relationships of CIs have to be documented. For this reason, Configuration Management controls and documents all resources that are added to the system. New hardware, for instance, can be entered into the CMDB at the time of ordering or when the hardware has shipped.
- In order to ensure that all data of CIs (CMDB) provide an accurate and precise image of the physically installed base, the following activities have to be controlled and documented:
  - CI is added
  - Status of a CI changes (e.g., in use, withdrawn)
  - Owner of a CI changes
  - The relationship between CIs changes
  - CI is removed
  - The relationship of a CI to a service, documentation or other CIs changes
  - CI is linked to a tool from a partner process (e.g., Change, Problem, Incident)
  - Configuration of a CI is updated after an audit has taken place
- The process instructions contain details on how to carry out the data maintenance.

# CONFIGURATION MANAGEMENT PROCESS ACTIVITIES

## Verification & Audit

- The content of the tools and databases in use is verified constantly. The resulting quality figures are permanently available on the Intranet site from Configuration Management in the quality reports from <http://cmdb.muc>.
- The results of the audits are reported to the Configuration Manager who are in charge to check and correct the reported faults.

# Configuration Management.

**1** Process Policy

**2** Process Activities and Roles

**3** Data Structures

**4** ITSM Interfaces

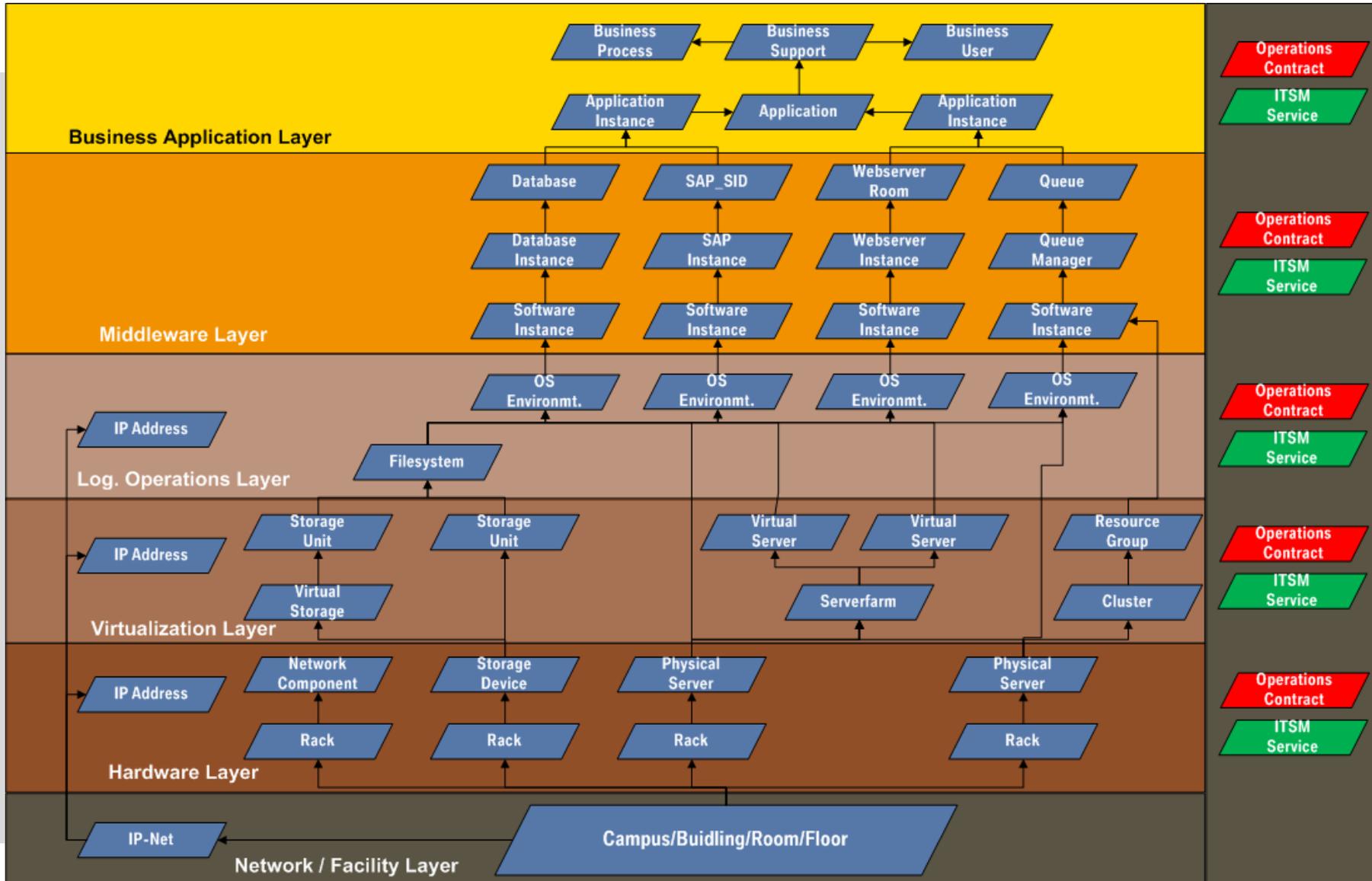
**5** Where to get information

# CONFIGURATION MANAGEMENT DATA STRUCTURES

## Setting up Data Structures

- Configuration Management deals with complex data structures.
- However, data structures are modeled to the needs of the partner processes (Change, Incident, Problem, Release & Deployment, Event Management, Software Asset Mgmt, Supplier Management, Infrastructure Operations, Application Operations, etc.).
- Data structures combine technical CIs (physical server), service CIs (ITSM Service), organizational CIs (people and roles).
- Data structures are documented in a global Use Case document which is part of the Configuration Management Plan.
- For each partner process, a Use Case with its data structure has been defined.
- The global Use Case document can be found at **<http://config.muc>**.

# Configuration Management Data Structures (Simplified Excerpt)



# Configuration Management.

**1** **Process Policy**

**2** **Process Activities and Roles**

**3** **Data Structures**

**4** **ITSM Interfaces**

**5** **Where to get information**

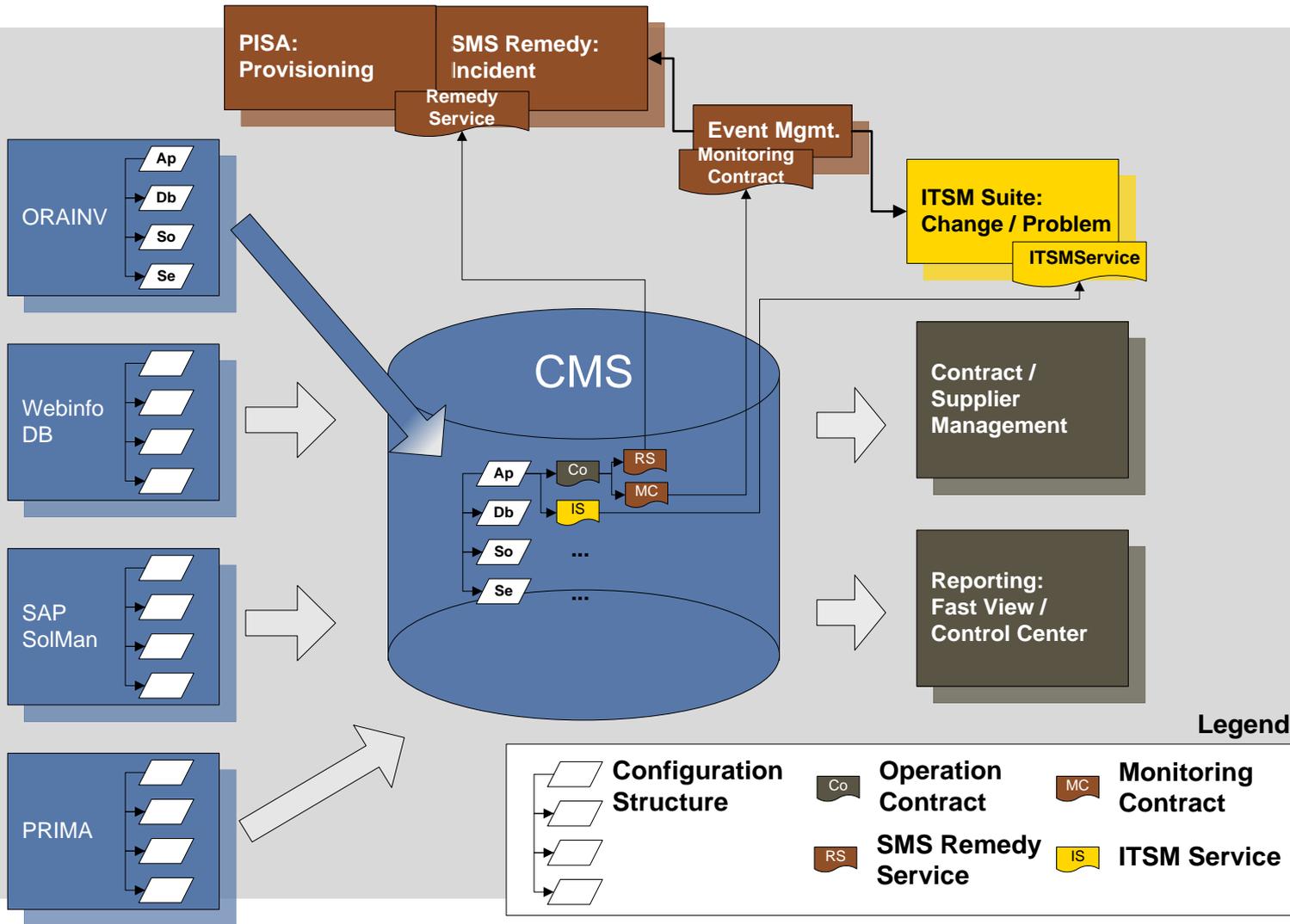
# CONFIGURATION MANAGEMENT

## ITSM INTERFACES

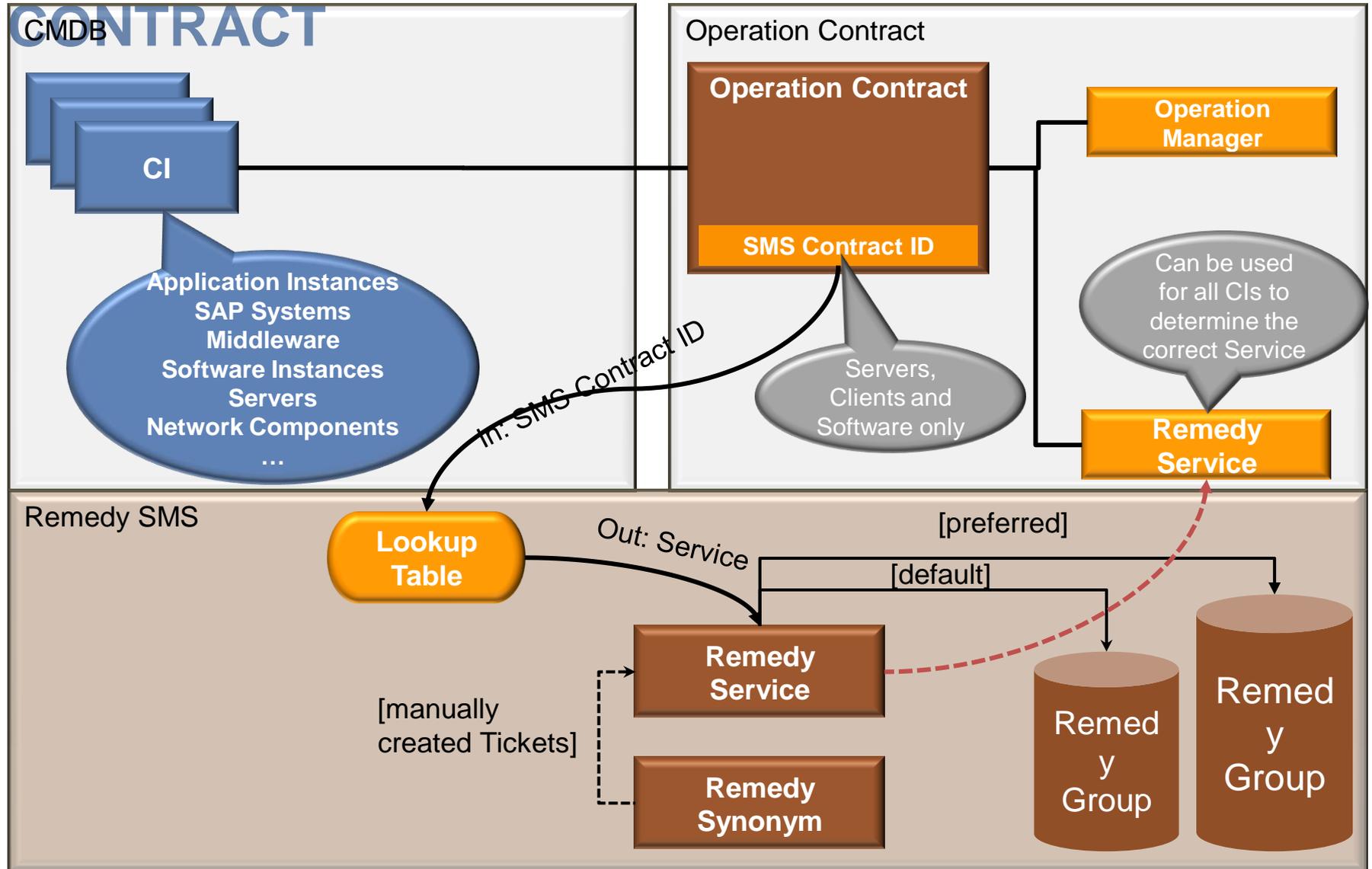
### Operation Contract vs. ITSM Service

- Configuration Structures (i.e., CIs and their relationships) are either transferred via interfaces to the FNT CMDB or they are maintained manually in the CMDB.
- **ITSM Services** are used by **Change and Problem Management** (and Incident Management starting in 11/2013) to assign changes / problems in the ITSM Suite.
- Each CI has exactly one ITSM Service assigned to it.
- **Operation contracts** may be assigned to CIs. Operation contracts reflect service levels agreed upon with a provider and may be used for **provider cost allocation**.
- Operation contracts assigned to infrastructure CIs (especially server, software) contain rules (i.e., monitoring contract) for the automatic ticket routing (via SMS Remedy) of the **Event Management** process or to auto select a Remedy Service in SMS Remedy for a given CI.
- SMS Remedy Service information is assigned to operation contracts. This information is used by the **Incident Management** process and especially the plants' control center in Dingolfing for correct incident impact analysis and ticket creation.

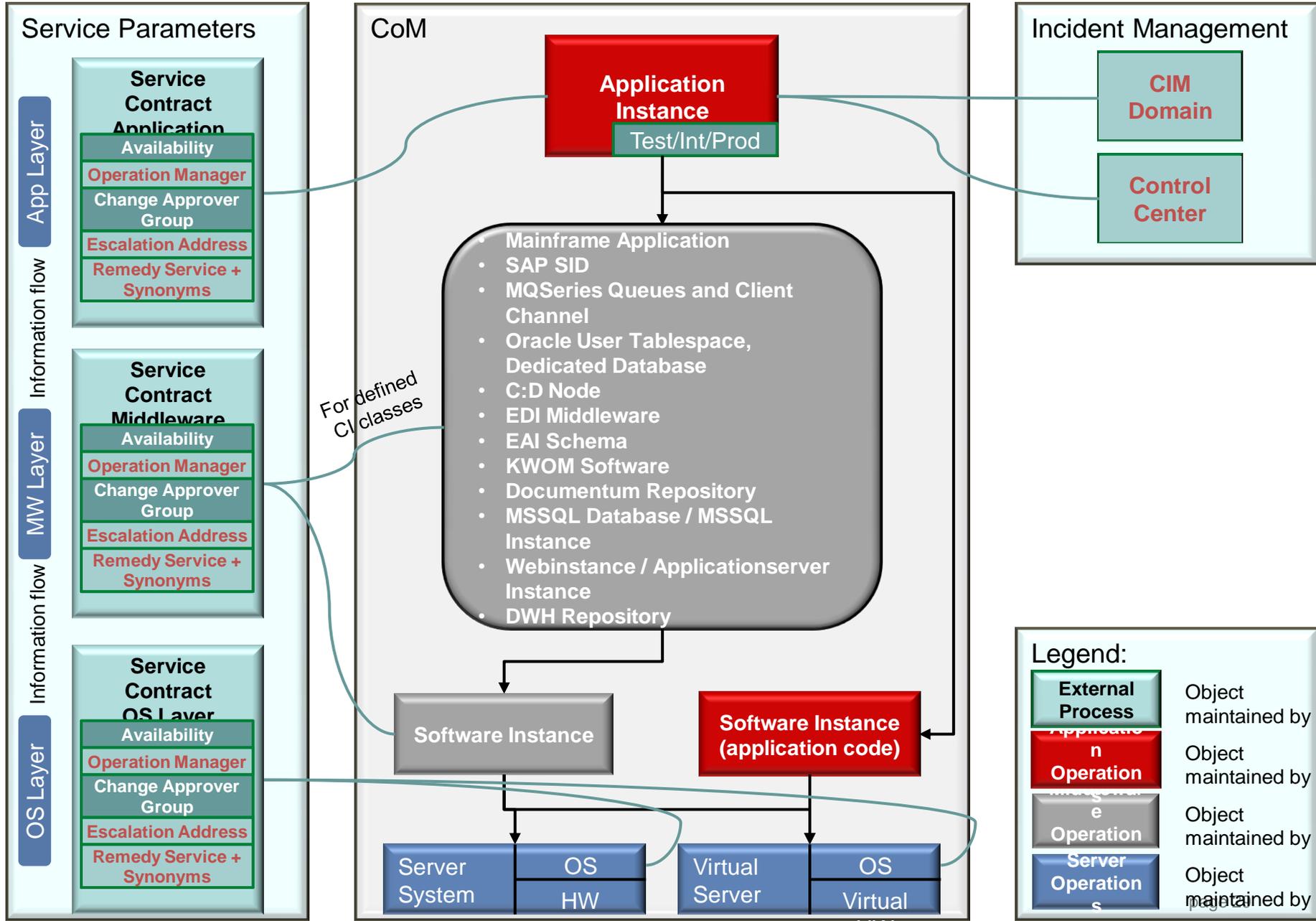
# Configuration Management Interfaces (Excerpt)



# CONFIGURATION MANAGEMENT INTERFACE TO INCIDENT MANAGEMENT: OPERATION



# CONFIGURATION MANAGEMENT



# CONFIGURATION MANAGEMENT INTERFACE TO INCIDENT MANAGEMENT: OPERATION CONTRACT

## Contract Autoselect Functionality.

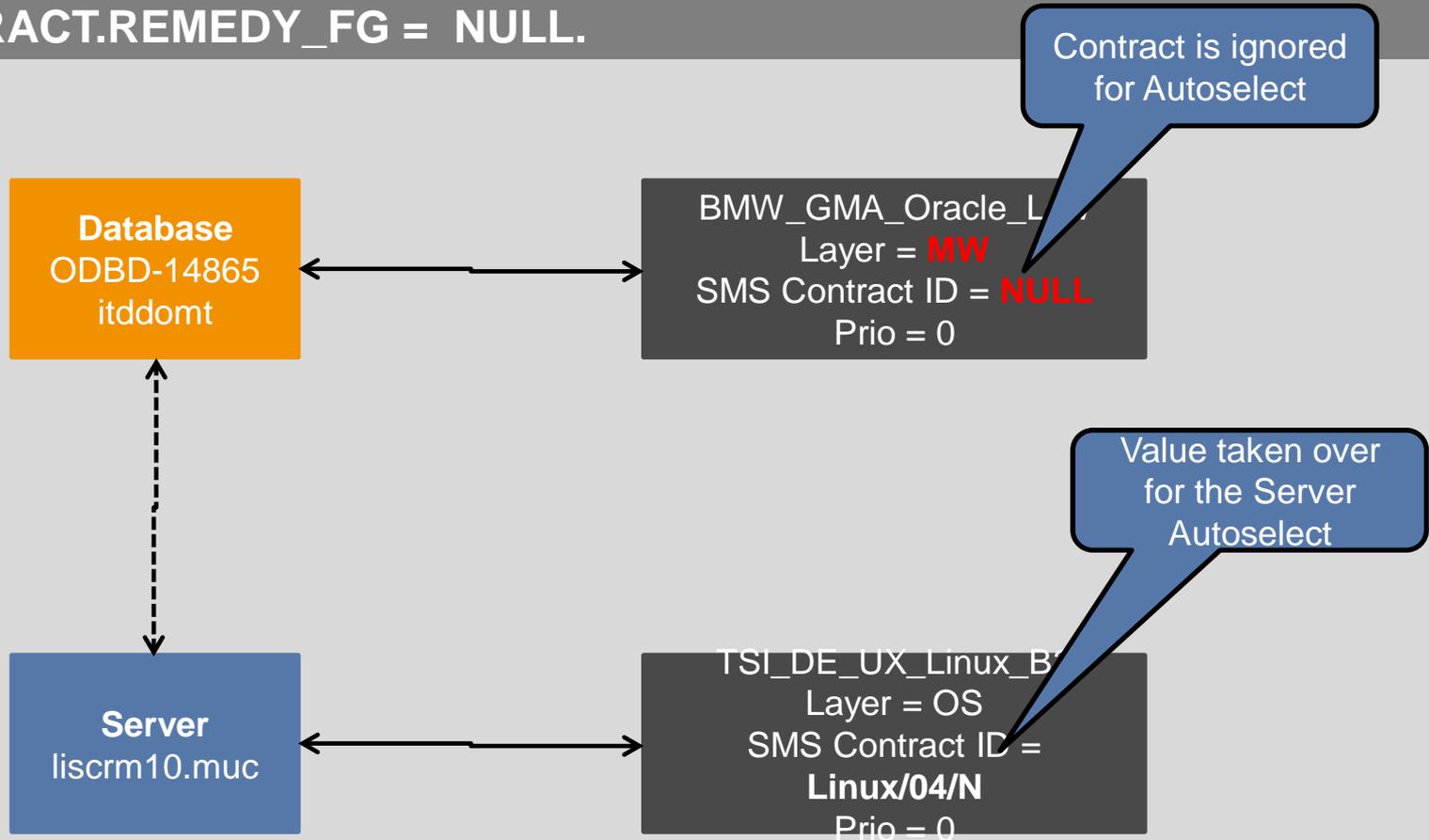
The following procedure is called Autoselect:

- The user enters the name of a server (or a client, printer, etc.) in SMS-Remedy under "Inventory Data".
- The SMS "Contract No." is fetched via an interface from the Operations Contract in CMDB. The "Autoselect" Button appears.
- A click on the Button automatically sets (after selection of incident or request) Service and Fixgroup of the Ticket.
- Please note that this functionality requires an appropriate configuration of SMS-Remedy: A table has to be maintained. The informations have to be delivered to SMS-Remedy administration. A template can be found in TPL-Service Template under „ContractData". It is important to provide the "Contract No." in exact the same spelling as in CMDB. SMS Remedy ist case-sensitive.
- Especially in Windows Environment it is intended, that tickets routed by "Autoselect" go to the middleware operations. This and further processes do only work, when the software instances were created and linked in CMDB.

# CONFIGURATION MANAGEMENT INTERFACE TO INCIDENT MANAGEMENT: OPERATION CONTRACT

T\_BMW\_CONTRACT\_OS\_V\_BMW\_CONTRACT\_MW

MW\_CONTRACT.REMEDY\_FG = NULL.



# CONFIGURATION MANAGEMENT INTERFACE TO INCIDENT MANAGEMENT: OPERATION CONTRACT

## Contract Autoselect in SMS Remedy.

Selected Server  
liscrm10.muc

server	storage	server	unix	04 high prio	Linux/04/N
server_storage	server	server	unix	04_support	Linux/04/N

value from OS  
Contract (Contract assigned to Server)

Inventory data

IP name: liscrm10

IP address +

Inventory no. +

Company no.

Ping

Type of eq: 99B9682

Serial no. +

Cost center

Guarantee

Guarantee

Manufactur

Model

Type

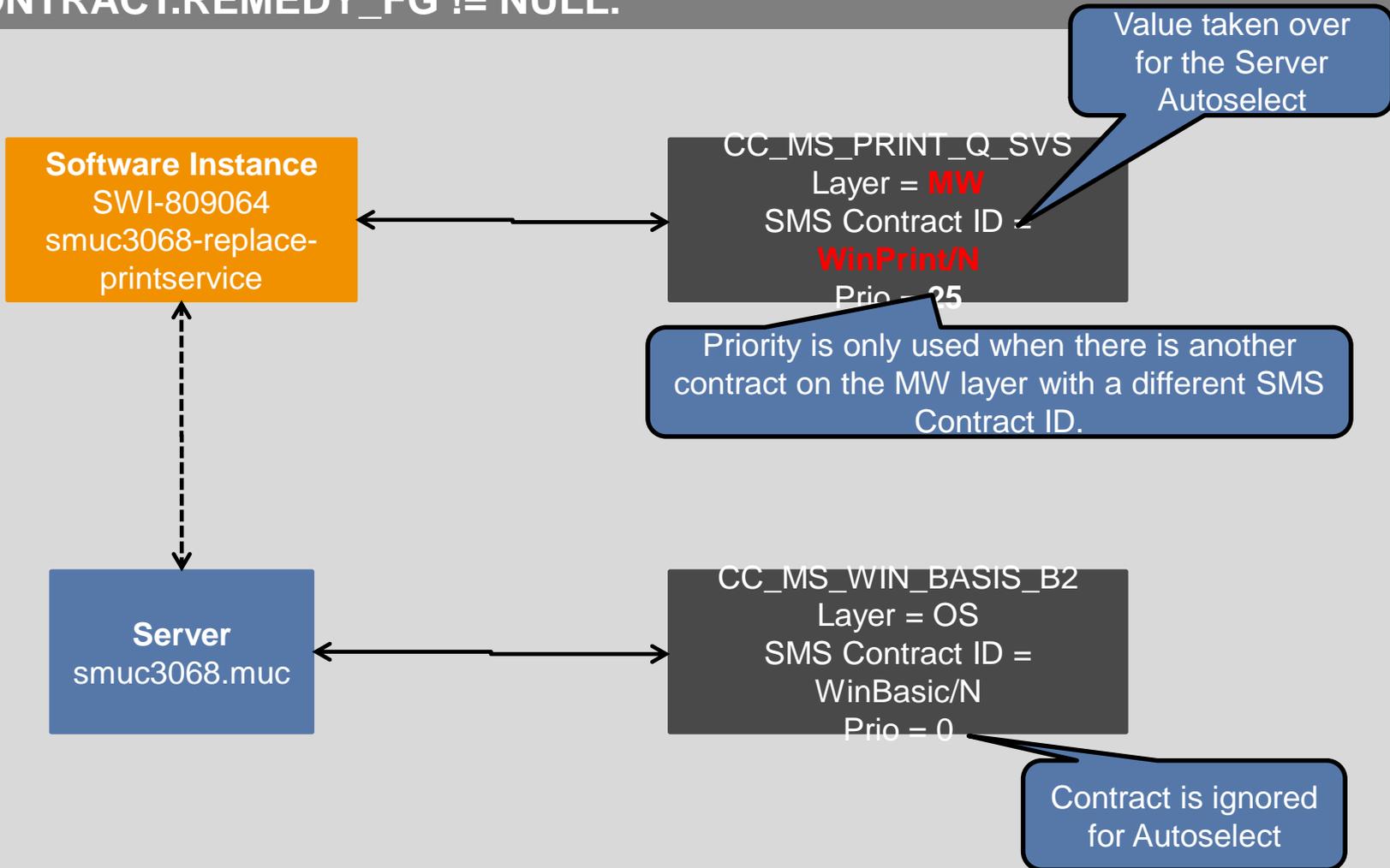
Auswahlliste

OK Abbrechen

# CONFIGURATION MANAGEMENT INTERFACE TO INCIDENT MANAGEMENT: OPERATION CONTRACT

T\_BMW\_CONTRACT\_OS\_V\_BMW\_CONTRACT\_MW

MW\_CONTRACT.REMEDY\_FG != NULL.



# CONFIGURATION MANAGEMENT INTERFACE TO INCIDENT MANAGEMENT: OPERATION CONTRACT

## Contract Autoselect in SMS Remedy.

Selected Server  
smuc3068.muc

Ticket description: service specific questions  
Inventory data

IP name:  
smuc3068

IP address +  
[ ]

Inventory no. +  
[ ]

Company no.  
[ ]

Ping

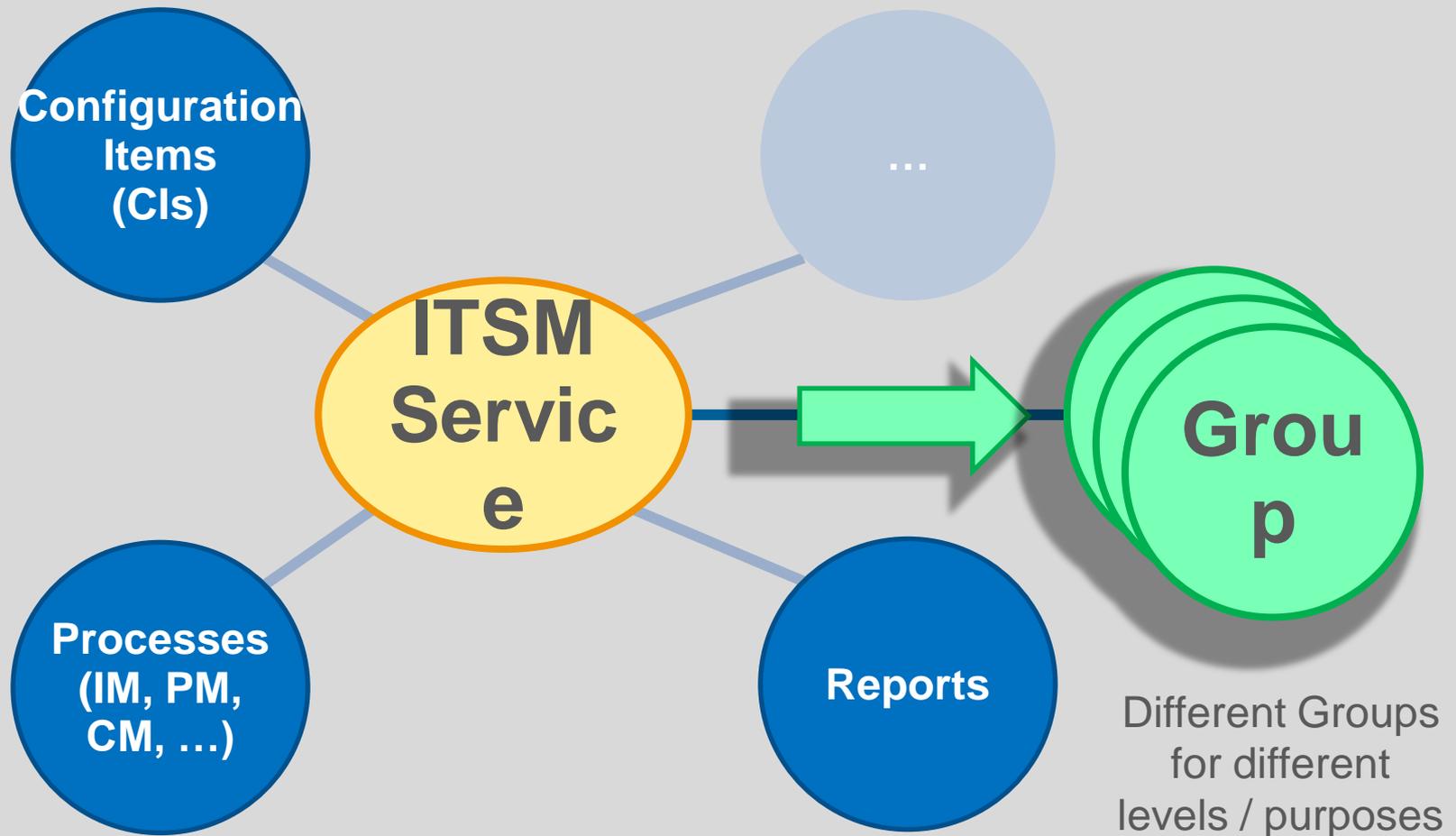
Auswahlliste

it-infrastructure	it-operations	microsoft-server-appl	standby-support	WinPrint/N
it-infrastructure	it-operations	microsoft-server-appl	standard-support	WinPrint/N
it-infrastructure	it-operations	microsoft-server-appl	service-request	WinPrint/N

value from MW  
Contract (Contract assigned to Software)

OK Abbrechen

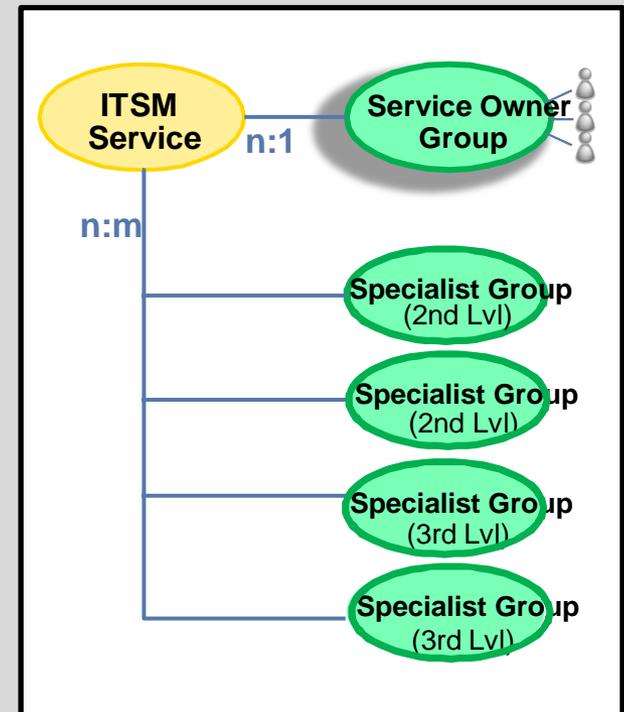
# ITSM Group and Group Assignment. group in context.



# ITSM GROUP AND GROUP ASSIGNMENT. INTRODUCTION OF THE “SERVICE OWNING GROUP”.

## Service Owning Group

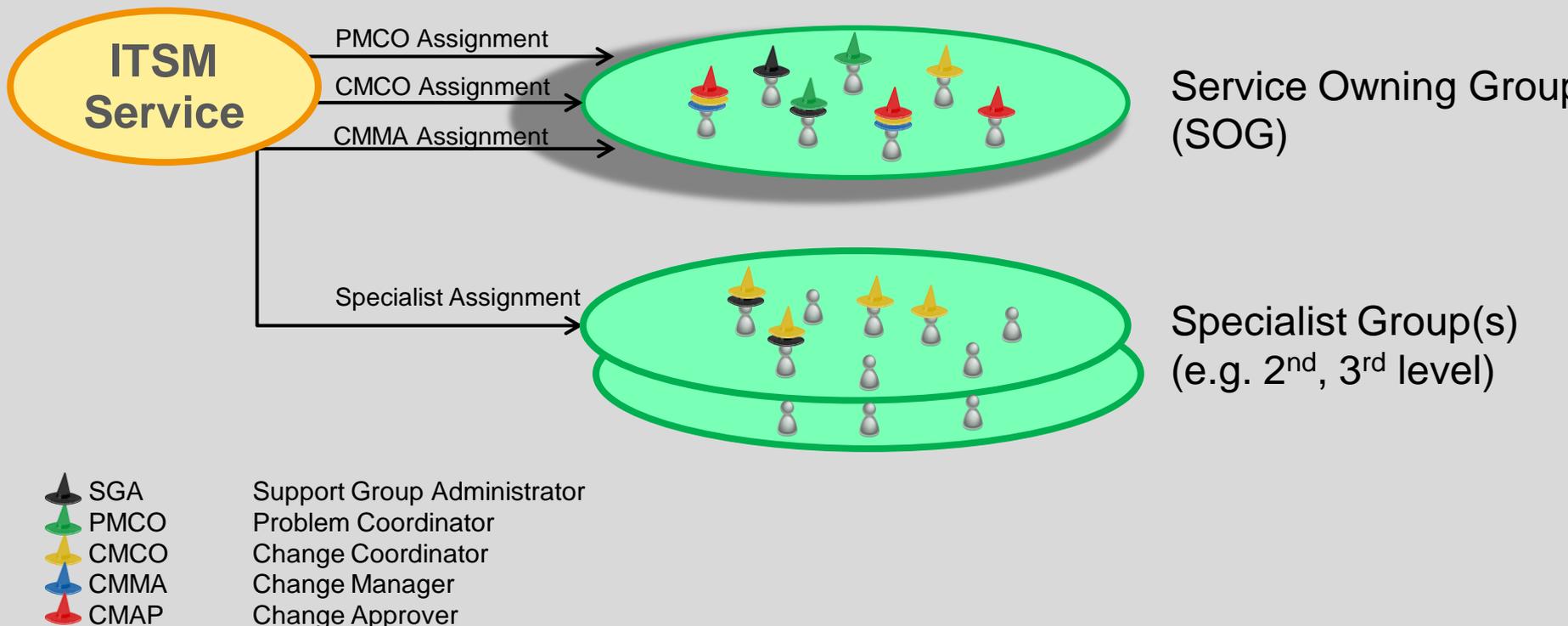
- Each ITSM Service is associated with exactly one Service Owning Group (**SOG**).
- Members of the SOG have the task of **managing and coordinating** Problems, Changes and later Incidents.
- Thus, the SOG operates **cross-functionally** and **across processes**.



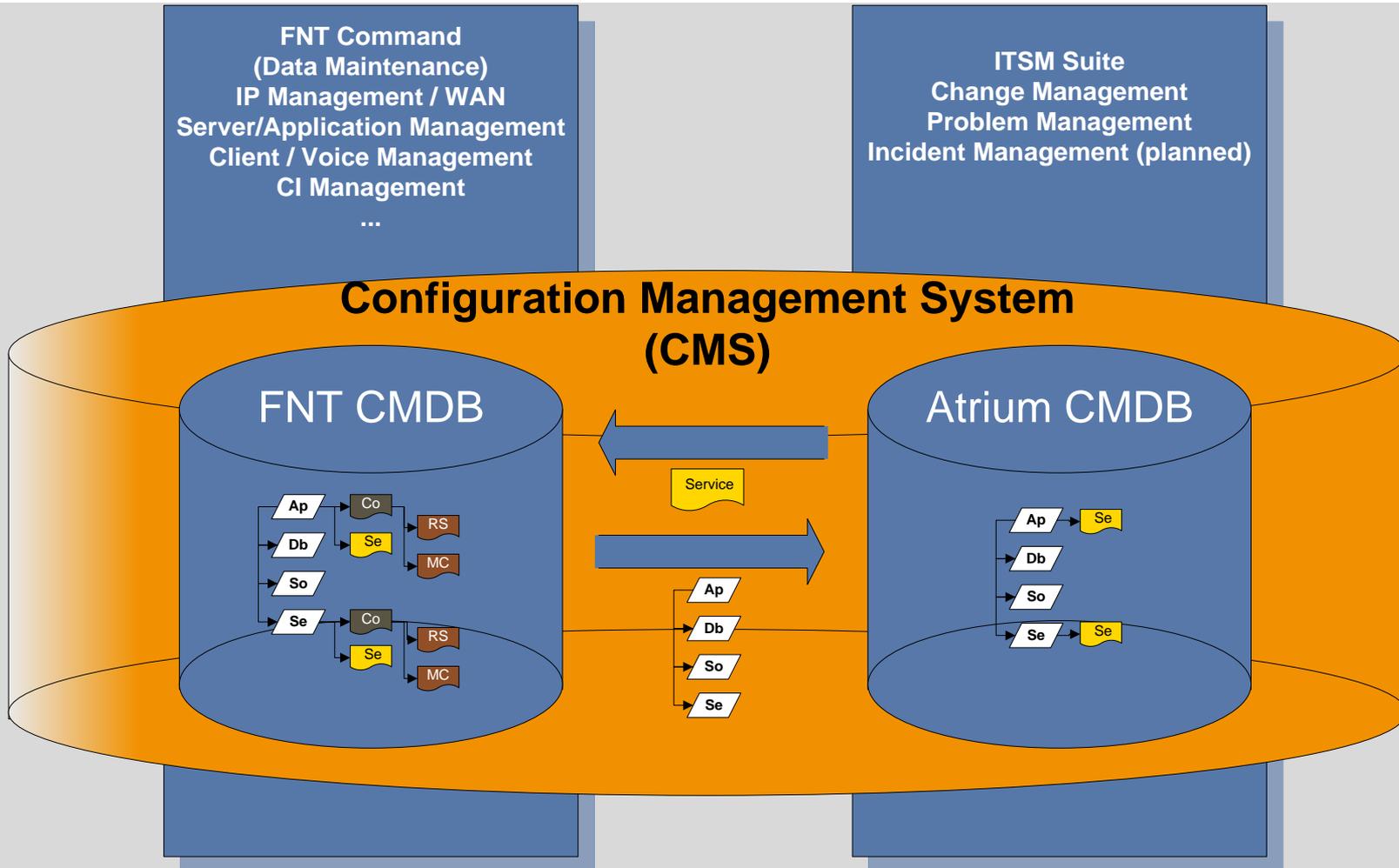
# ITSM GROUP AND GROUP ASSIGNMENT. GROUP ASSIGNMENT VIA ITSM SERVICE.

## Group Assignment

- For every ITSM Service a Service Owning Group (SOG) is defined.

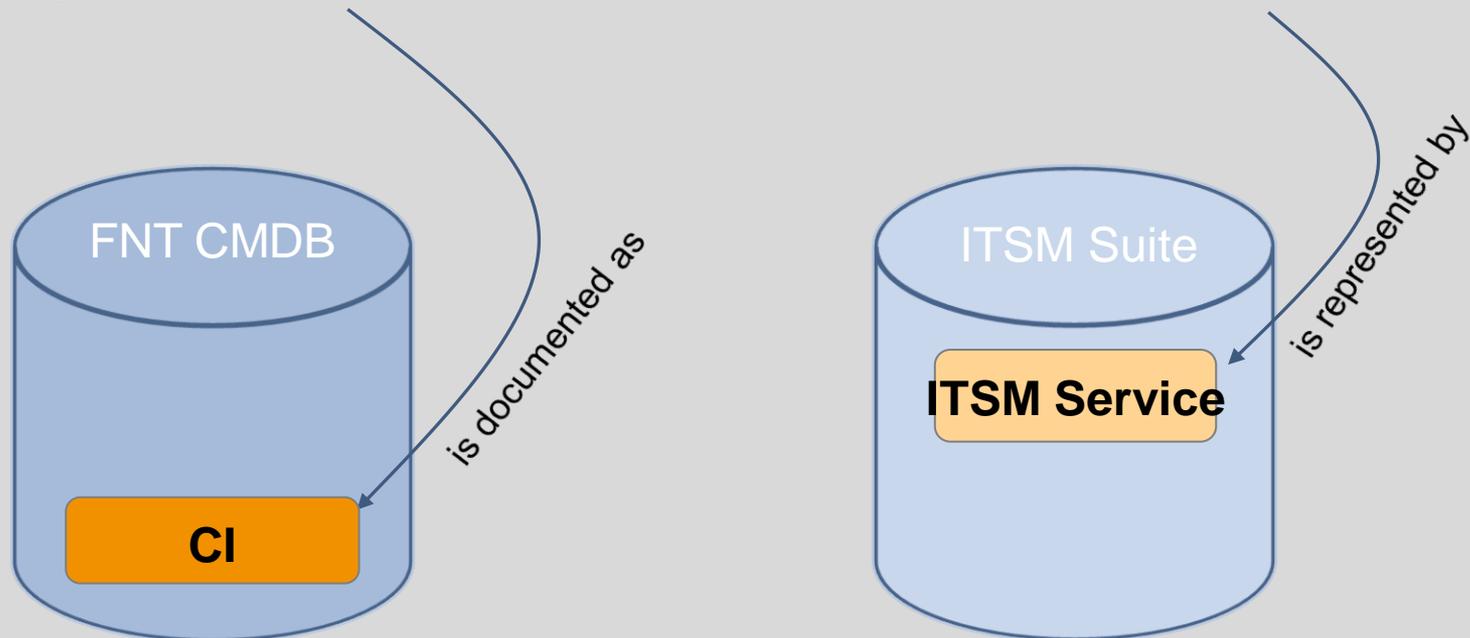


# Configuration Management CMS



# CONFIGURATION MANAGEMENT IT SERVICE MANAGEMENT

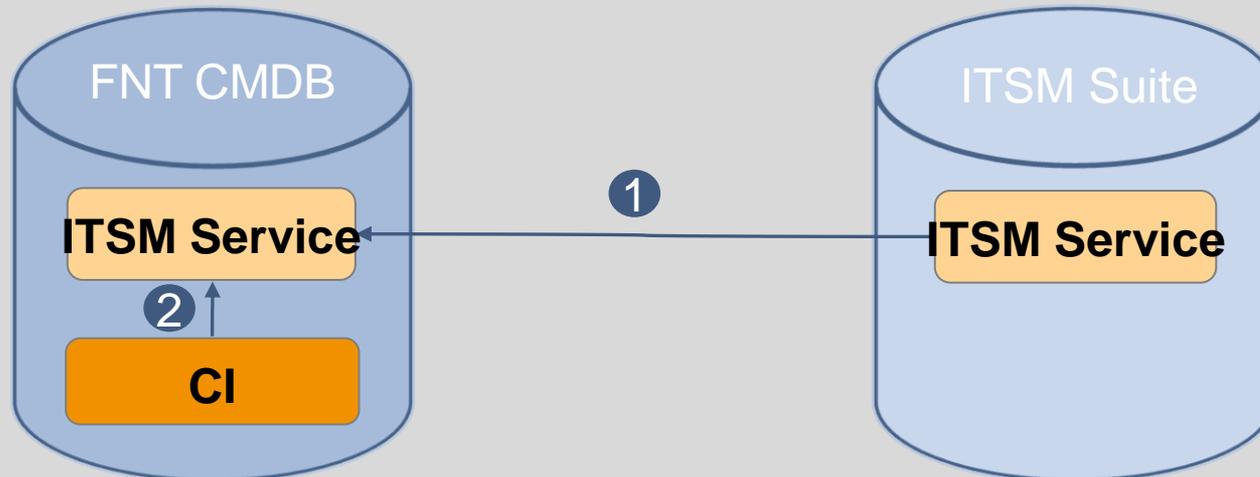
To enable IT Service Management,  
each **application and infrastructure component** needs to be **supported**.



# CONFIGURATION MANAGEMENT IT SERVICE MANAGEMENT

Since all infrastructure components (CIs) with **all their relations** must be documented in FNT CMDB, ITSM Services and CIs have to be linked within FNT CMDB. So

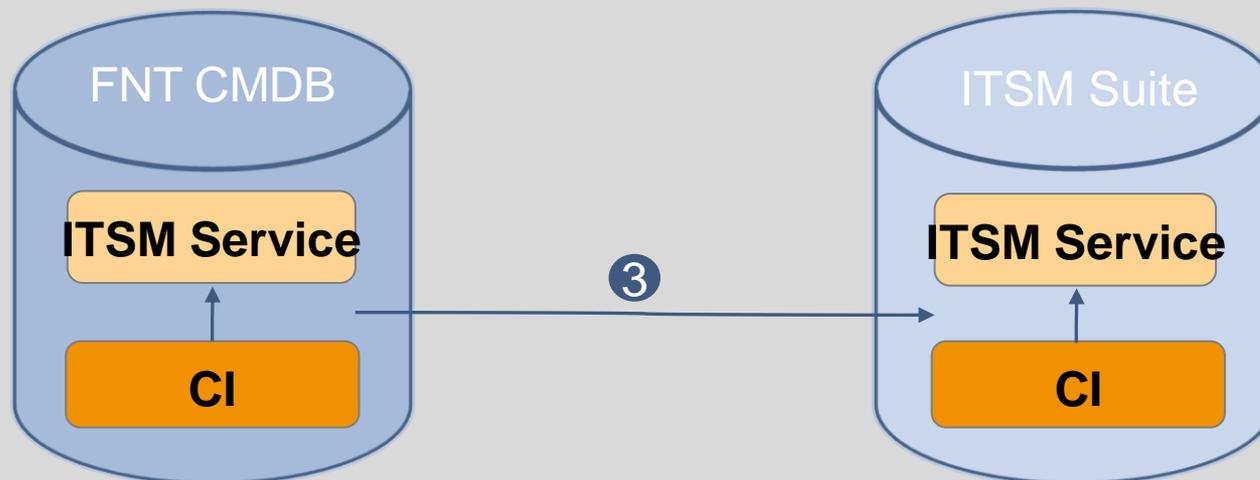
- 1 ITSM Service has to be copied to FNT CMDB
- 2 ITSM Service has to be linked to CI



# CONFIGURATION MANAGEMENT IT SERVICE MANAGEMENT

Since the ITSM processes work with the ITSM Suite and uses data from ITSM Suite only, all CIs with all their relations have to be copied to ITSM Suite. So **3**

CI and relationship to ITSM Service have to be copied to ITSM Suite



# CONFIGURATION MANAGEMENT PROCESS BASIC

## CMDB Command

The screenshot displays the FNT Command web interface. At the top, there is a navigation bar with tabs for "Command", "Administration", "Server-/Application Mgmt", "IP Management", "Client Management", "Voice", and "WAN". The main header features the FNT logo and the text "IT SERVICE SOLUTIONS". Below the header, there are four main menu items: "base", "line", "logic", and "gate". The "Command" logo is prominently displayed with the tagline "The modular system". A grid of icons represents various management functions: Navigator, Server-/Application Mgmt, Client Management, Object Management, Portmanagement, IP Management, Voice, WAN, DNAMEs, Billing Data, and Monitoring Configuration. On the left side, there is a "Support:" section with links for "German support site" and "Englische Support-Seite". At the bottom left, user information is shown: Login: qx51993, Login time: 2014-09-16 22:16, Mandator: CMDB, Flash Version: WIN 11,4,402,265, and Group: qx51993. The Command Version is 8.9.4 (Build 50708). At the bottom right, there are language options for "Deutsch" and "English", and a "Logout" button.

# CONFIGURATION MANAGEMENT PROCESS BASIC

## Server

The screenshot displays the Command Center application interface. The top navigation bar includes tabs for Command, Administration, Server - Application Mgmt (active), IP Management, Client Management, Voice, WAN, Navigator, and Monitoring Configuration. The main window shows a search for 'Application instance' with 6 records found. The search criteria are: Application = CMDB\*. The search results table is as follows:

Object-ID	Application	Version	Environment	Status	Operator	Data Source	Data source
APPD-10332	CMDB INT	2011	Integration	active		CMDB	
APPD-06154	CMDB PROD	2011	Production	active	App_Operations	CMDB	
APPD-07932	CMDB Server Inventor	1.x/2.x	Production	active		CMDB	
APPD-06153	CMDB TEST	2011	Test	active		CMDB	
APPD-09802	CMDB-Reporting PRC	2.0	Production	active		CMDB	
APPD-16190	CMDBV9 INT	9	Integration	active	App_Operations	CMDB	

# CONFIGURATION MANAGEMENT PROCESS BASIC

## ITSM Service

The screenshot displays the Command ITSM Service configuration management interface. The window title is "Command Administration Server-Application Mgmt IP Management". The menu bar includes "File", "Edit", "View", "Extras", and "Help". The toolbar contains various icons for navigation and actions. The search bar shows "Application instance: CMDB PROD | 2011" and "ITSM Service: SVCE-2259". The breadcrumb navigation indicates "Application instance: CMDB PROD | 2011 >> ITSM Service: SVCE-2259" and the current view is "Documentation view".

The main content area is titled "CI context" and features a "Select context" dropdown set to "CI Browser". A central pane displays a configuration item (CI) for "CMDB TEST | 2011" with the following details:

- Application instance**: CMDB TEST
- Version**: 2011
- Status**: active
- Application type**: Deployment

On the right side, a list of associated persons is shown:

- ANBURAJ MANICKAM** (Person): Name MANICKAM, First name ANBURAJ, Department FG-922, Telephone, E-mail anburaj.manickam@partner.bmw.de
- MARTIN FACKLER** (Person): Name FACKLER, First name MARTIN, Department FG-922, Telephone, E-mail martin.fackler@partner.bmw.de
- NILS NOLTE** (Person): Name NOLTE, First name NILS

At the bottom of the interface, there are four buttons: "Save and close", "Save", "Reset", and "Close".

# CONFIGURATION MANAGEMENT PROCESS BASIC

## Contacts

Websiteaktionen    [Seite](#) [Veröffentlichen](#) Site-Info  Fackler Martin, (Martin.Fackler@partner.... 

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**BMW GROUP**   Configuration Management [► CoM Wiki Seiten](#) [► nSeMo\\_Wiki\\_Main](#)

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Configuration Management CMDB Team  

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[Kürzlich bearbeitet](#)

- CMDB\_2014.1\_Wiki\_R1  
IP Management Import IPv4 Net using IP Management
- CMDB\_2010.1\_Wiki\_R2  
IP Management Usecases IPv4/IPv6
- CMDB\_2014.1\_Wiki\_R1  
IP Management Link IPv6 Net with Zone using IP Management
- CMDB\_2014.1\_Wiki\_R1  
IP Management Link IPv4 Net with Zone using IP Management
- CMDB\_2014.1\_Wiki\_R1  
IP Management Create IPv4 Net Range

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[CoM und CMDB Wiki](#)

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Benutzungsanleitung für Wiki / Wiki Manual

CoM Anleitungen für Administration / Admin Manual

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[CMDB Tool](#)

[CMDB Prod](#)

### Configuration Management and CMDB Wiki

The CMDB Wiki provides you with all instructions you need for your daily work with CMDB. Please read the overview on the [Configuration Management Process with its roles and the current organisation](#) to understand the CoM context.

Below some general information for working with CMDB:

- [Instructions for working with the CMDB GUI](#)
- [CMDB Reporting](#)
- [Fast View](#)
- [High level overview of data model and the interface to ConnectIT](#)
- The following sections describe in detail how Configuration Data is introduced, used or removed in/from CMDB as part of tasks within the various IT processes in BMW IT. Responsible for the content are the respective Configuration Managers (CoMgr). They have the right to add and edit pages in Wiki ([Wiki Manual](#)).

Please document all CIs as described and don't forget to create the **links to the CIs you use**. Only with a high quality of data and correct linkage of CIs, CMDB is able to fully support all participating systems and processes.

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### Supported IT Processes and Functions

(*Topics in Italics* are unchanged with nSeMo)

#### Application Operations

- [Instructions for Application Operations](#)

#### Business Intelligence Operations

- [Instructions for Business Intelligence Operations](#)

#### Change Management

**The CMDB is the  
tool  
of all connected  
Service  
Management  
processes**

Thank you

