







# How to build an impactful CMDB from scratch

Nick Bartak

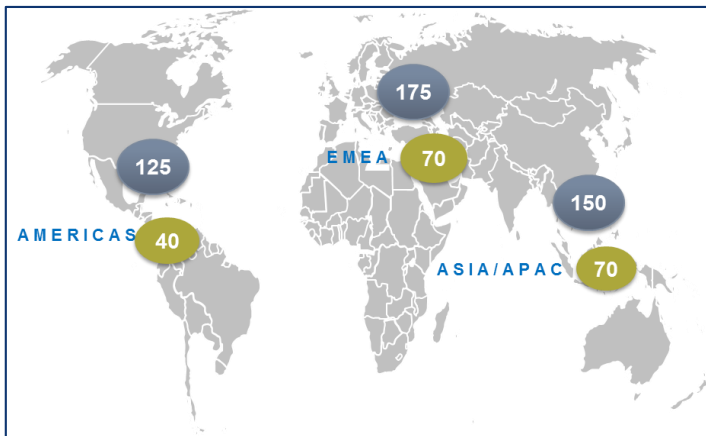
Wipro Consulting Services

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# Agenda

-  **About Wipro**
  -  **Scope and Objectives**
  -  **Key Considerations**
  -  **Factors affecting a CMDB design**
-  **Creating a CMDB Blueprint**

# Wipro's world class ITSM capability



## Global Expertise

- Over 450 ITSM consultants with practical, multi vendor way of working
- Over 180 ITSM specialists, with ITIL and MSI equipped certifications
- Organisation focus on MSI business
- Core MSI expertise coupled with Lean, Agile, Program Management, and Innovation

## Ready to deploy Enablers

- Rapid SI/ Rapid SM framework
- Readymade process libraries and toolkits
- Fast track set up ecosystem
- Leading edge ITSM tools

## Proof points

- Case in points for SI set up and operate
- Proven benefits and tested approaches
- Global delivery modes for rendering SIAM services

## Flexible, Partnership model

- Long term strategic partnership driven model
- Adaptive, flexible approach to ensure adoption
- Deeper understanding and appreciation for internal dynamics

## ...to deliver lasting impact

- Enabling multi-supplier sourcing
- Effective IT global business alignment to increase IT Performance by 30-50%
- 10-25% labor productivity benefits
- 20% improvement in customer satisfaction
- 30-40% faster set up of SI function
- Cost reduction by 17% - 56% reduction in Incidents
- Improved customer experience by a magnitude of 23%
- Enhanced ability to measure and monitor E2E SLAs



People and Organisation  
» Improved capability



Processes  
» Efficient and standard processes and services



Costs  
» Reduced costs  
» Real benefits delivery  
» Business case

# Scope and Objectives

We all know CMDBs store Configuration Item (CI) data which helps with identifying CIs and their inter-relationships in an IT ecosystem . The information available in a CMDB can be utilized to improve service levels.

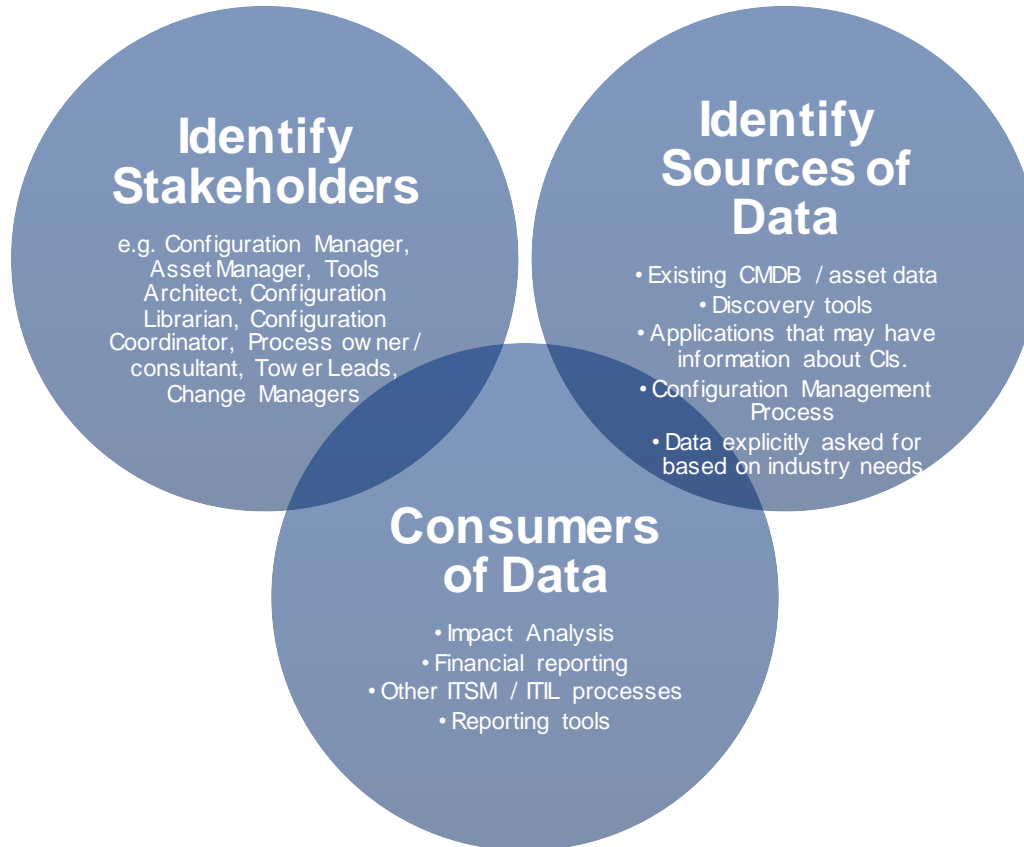
The general perception is that CMDBs are databases which store asset information. CIOs world over are looking for a CMDB that can be leveraged to deliver value not just in storing CI data, but also in maximizing the value that is provided by every component in the CMDB. The key to a good CMDB is its design approach.

This presentation will help you prepare the right mindset before starting with CMDB design.

In this session, attendees will learn how to get a head start on building a CMDB from scratch. We will cover the following:

- Key considerations for building a CMDB
- Factors affecting the CMDB design
- Creating a blue print

# Key Considerations for building a CMDB



# Factors affecting a CMDB Design

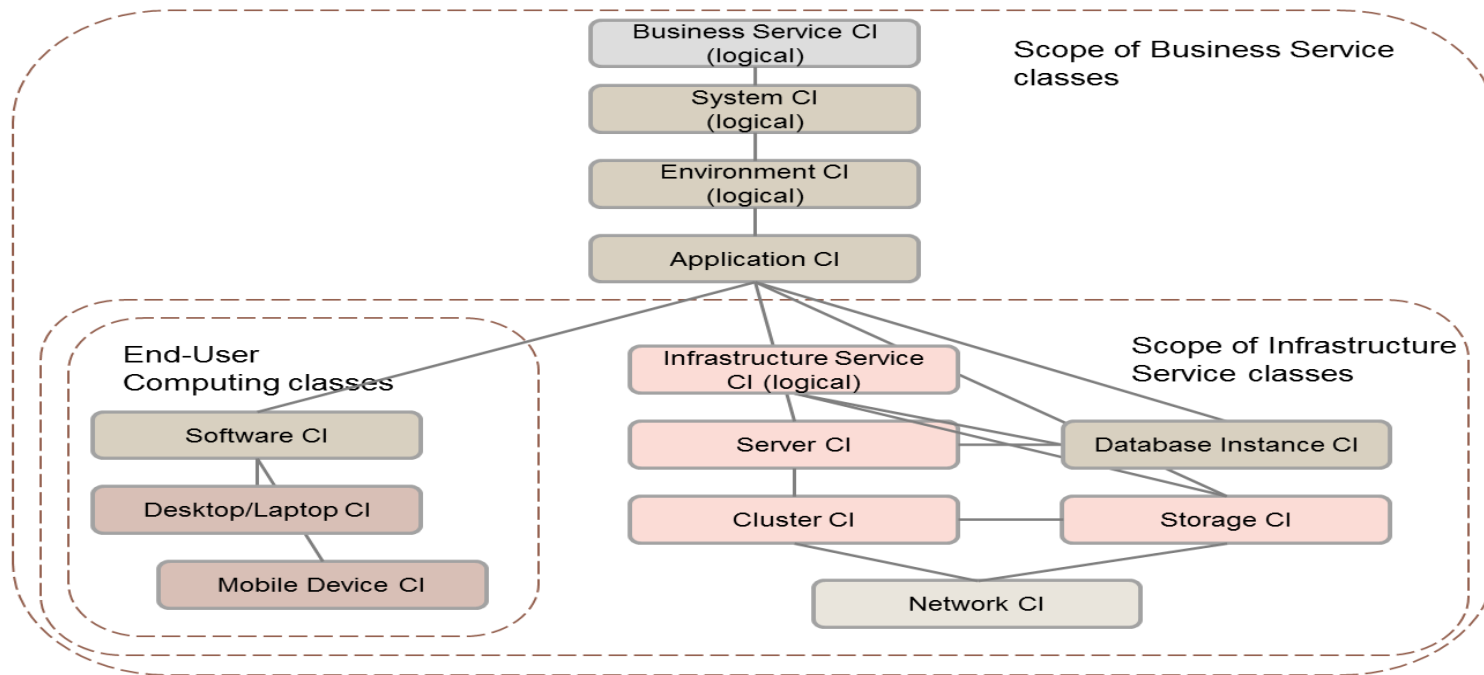


# Key Factors Affecting a CMDB Design

- What CIs to should exist in the CMDB?
- What attributes of each CI should be considered?
- Existing data and its sources
- Complexity of Data
- Value expected out of CMDB
- Proposed CMDB / ITSM Tool
- Tool integrations planned

# Class Model in ITSM Tool

- Classes in an ITSM tool map to CI types in a CMDB. E.g. Servers, Applications, Databases, Clusters, Network, etc.
- Attributes give more details about each class. E.g. A server would have a name, asset id, IP address, make, model, etc.





# Creating a CMDB Blue Print



# Creating a CMDB Blueprint

1. Identify CIs and Attributes based on existing sources, which could be an existing CMDB, an asset management tool, discovery tool, Contract, Process.
2. Normalize the list of classes by removing duplicate classes and attributes.

	Retired date	Acquisition date	Acquisition Method	State / Substate	Warranty Period	ram	os_version	os_service_pack	gpu_core_thread	gpu_speed	os_address_width	gpu_manufacturer	gpu_core_count	gpu_name	gpu_type	gpu_count	drive_type	short_description	device_id	last_discovered	Domain Type	Last Change Request
<b>Classes</b>																						
Asset (Hardware class)																						
CI Class - Computer																						
CI - Disk																						
CI - Network Gear																						
CI - Software																						
CI - Clusters																						
CI - Application																						
CI - Communication Device																						
CI -Database instances																						
CI - Server																						
CI - Data Center																						
CI - Printer																						
CI - Computer Peripherals																						
CI - Software																						
CI - Storage Servers																						

# Creating a CMDB Blueprint

3. Now correlate attributes to classes. For each cell on the X axis and Y axis mark the source as “A” if the source is Existing CMDB; “C” if the source is Contract; “AD” if the attribute is “Auto Discovered”. Attributes that do not apply to a particular class should be left blank. This is what the table should look like:

	Retired date	Acquisition date	Acquisition Method	State / Substrate	Warranty Period	ram	os_version	os_service_pack	cpu_core_thread	cpu_speed	os_address_width	cpu_manufacturer	cpu_core_count	cpu_name	cpu_type	cpu_count	drive_type	short_description	device_id	last_discovered	name	computer	disk_space	dhcp_enabled	mac_address	netmask	ip_address
<b>INDEX</b>																											
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Asset (Hardware class)						AD																					
CI Class - Computer				A			AD	AD	AD			AD	AD		AD	AD	AD	AD			A,AD,C		AD				A,AD
CI - Disk																			AD		A,AD,C	AD					
CI - Network Gear																		AD			A,AD,C						A,AD
CI - Software																		AD			A,AD,C						
CI - Clusters																		AD			A,AD,C						A,AD
CI - Application																		AD			A,AD,C						
CI - Communication Device																					A,AD,C						
CI -Database instances																		AD			A,AD,C						
CI - Server							AD	AD	AD	AD		AD	AD		AD	AD	AD	AD			A,AD,C						A,AD
CI - Data Center																		AD			A,AD,C						
CI - Printer																		AD			A,AD,C						A,AD
CI - Computer Peripherals																		AD			A,AD,C						
CI - Software																		AD			A,AD,C						
CI - Storage Servers																		AD			A,AD,C						

# Creating a CMDB Blueprint

4. Based on OOB permissions in ITSM tool, identify each attribute as Mandatory or Optional. Use colour codes Blue = Optional and Red = Mandatory. This is CMDB Blue Print v0.1.

	Retired date	Acquisition date	Acquisition Method	State / Substrate	Warranty Period	ram	os_version	os_service_pack	cpu_core_thread	cpu_speed	os_address_width	cpu_manufacturer	cpu_core_count	cpu_name	cpu_type	cpu_count	drive_type	short_description	device_id	last_discovered	name	computer	disk_space	dircp_enabled	mac_address	netmask	ip_address
<b>Classes</b>																											
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# Creating a CMDB Blueprint

5. Identify the corresponding Class of the CI in CMDB tool. In most cases, the Class will have a similar name as the CI type. Below are a few examples:.

CI Type	Class Name in CMDB
Database Instance	CI Class – Database Instances
Server	CI Class – Server
Printer	CI Class - Printer
Load Balancers	CI Class – ??
Environment	CI Class - ??

6. Most CI types identified by services will map to a class already identified as the blue print. Some may not.
7. Decide on these CI types need to be accommodated in the Blue Print v0.1.

Ask the following questions:

- Is the CI Managed by Technology Tower. i.e. are there Change or Incident tickets likely to be raised against the subject CI.
  - Does the CI have a life cycle?
  - How often are the attributes associated to the subject CI Type likely to be undergo change?
- If the answers to the above questions are “Yes”, “Yes” and “Very frequently”, then the CI type and its corresponding attributes need to be added to the Common Data Model.

CI Type	Class Name in CMDB
Database Instance	CI Class – Database Instances
Server	CI Class – Server
Printer	CI Class - Printer
Load Balancers	CI Class – Network
Environment	User attribute “Environment” instead

# Creating a CMDB Blueprint

8. Blue Print v0.1 will now encompass all CIs and corresponding attributes that are required to manage the IT infrastructure. There will be certain attributes which may have multiple sources. E.g. “Name”, “Model”, “Manufacturer” etc. A collective call should be taken along with all stakeholders to identify the true source of data for each of these attributes.

CI Class	ServiceNow CMDB Attributes	Source - Assyst	Source - SCCM	Source - Contract
Configuration Item (All classes) and Hardware	Asset Tag	shortCode		
Configuration Item (All classes) and Hardware	Name	Name	name	asset ID
Configuration Item (All classes)	Assyst Generic Class	Generic Class Name	system role	
Configuration Item (All classes)	Assyst Product Class	productClassName	system role	
Configuration Item (All classes) and Asset (Hardware class)	Department (Reference)	SectionName		
Configuration Item (All classes) and Asset (Hardware class)	Managed By / Owned By	UserName		
Configuration Item (all Classes) and Asset (Hardware)	IP Address	keyA (ip address)		
Configuration Item (all classes) Asset (Hardware class)	Serial Number	serialNumber		
Configuration Item (All classes) and Asset (Hardware class)	Location (Reference)	roomShortCode		

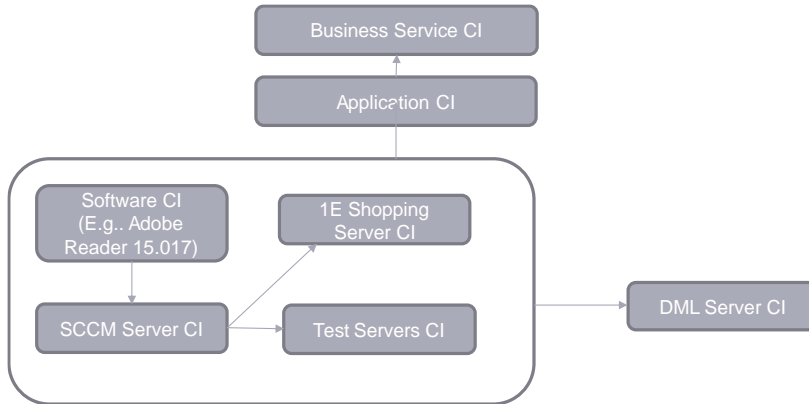
9. Once a single source of data provider for each CI and its attribute is identified and agreed upon, configure the ITSM tool as per the Common Data Model design.

This includes:

- Display only agreed attributes as fields on the form interface of a CI.
- Hide other irrelevant attributes which are not a part of design.
- Configure CMDB tool to consume data for attributes where the source is marked as “AD”
- For CIs and Attributes where the data is likely to be entered manually, create csv templates which can be passed on to the Tower Teams to share such data. These would typically cover Attributes which have source as “C” and “P”.
- Import data received as a one time dump into the new CMDB.

# Creating a CMDB Blueprint

10. Understand existing logical and physical CI model structure for each service. Map these relationships to relationship types available in CMDB



e.g. if a software runs on a server, define the relationship type between Software CI Class and Server CI Class as “Runs on...”, where the Server is a parent class and Software is a child class. Once this relationship is established, instances of Software can be related to instances of Servers with the above relationship.

Similarly relationships need to be defined at a class level for Servers and Clusters, Applications and Business Services.

11. Physical classes identified should be connected to Logical Classes with a tree structure (One more many Physical Classes will connect to a Logical Class.)

This is a bottom-up approach to build the Common Data Model. The top most should be a Business Service.

# Q & A








# Thank You for your time

Nick Bartak  
Senior Consultant

 [in/nick-bartak](https://www.linkedin.com/in/nick-bartak)