KANINI

How to Build a Service-aware CMDB and Maintain its Health for Effective IT & Business Operations

Roadmap, Best Practices, and Use Cases

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Introduction

Organizations often struggle with managing their IT-related issues and delivering uninterrupted services to customers due to the lack of visibility into their IT systems and services. This invisibility stems from disparate repositories which store infrastructure and service-related data. Such siloed data affects cross-departmental collaboration, hinders the quality of service delivery, and increases costs.

Without a solution that can provide a comprehensive view of the relationships and dependencies between IT assets and services, it can become increasingly difficult for IT teams to manage and maintain a company's IT infrastructure and services efficiently.

According to a 2022 SolarWinds IT Trends Report, 54% of technology professionals said that they have visibility into only half or less of their apps and infrastructure.

Organizations are now embracing a service-aware Configuration Management Database (CMDB) that -

- → **Consolidates the configuration data of an organization's IT components or the Configuration Items (CIs), such as software versions, routers, technical documentation, servers, staff data, data center, etc.**
- → **Stores the CIs and business service data along with their relevant attributes such as IP address, description, memory, etc.**
- → **Depicts the relationship between services and IT components through service maps.**

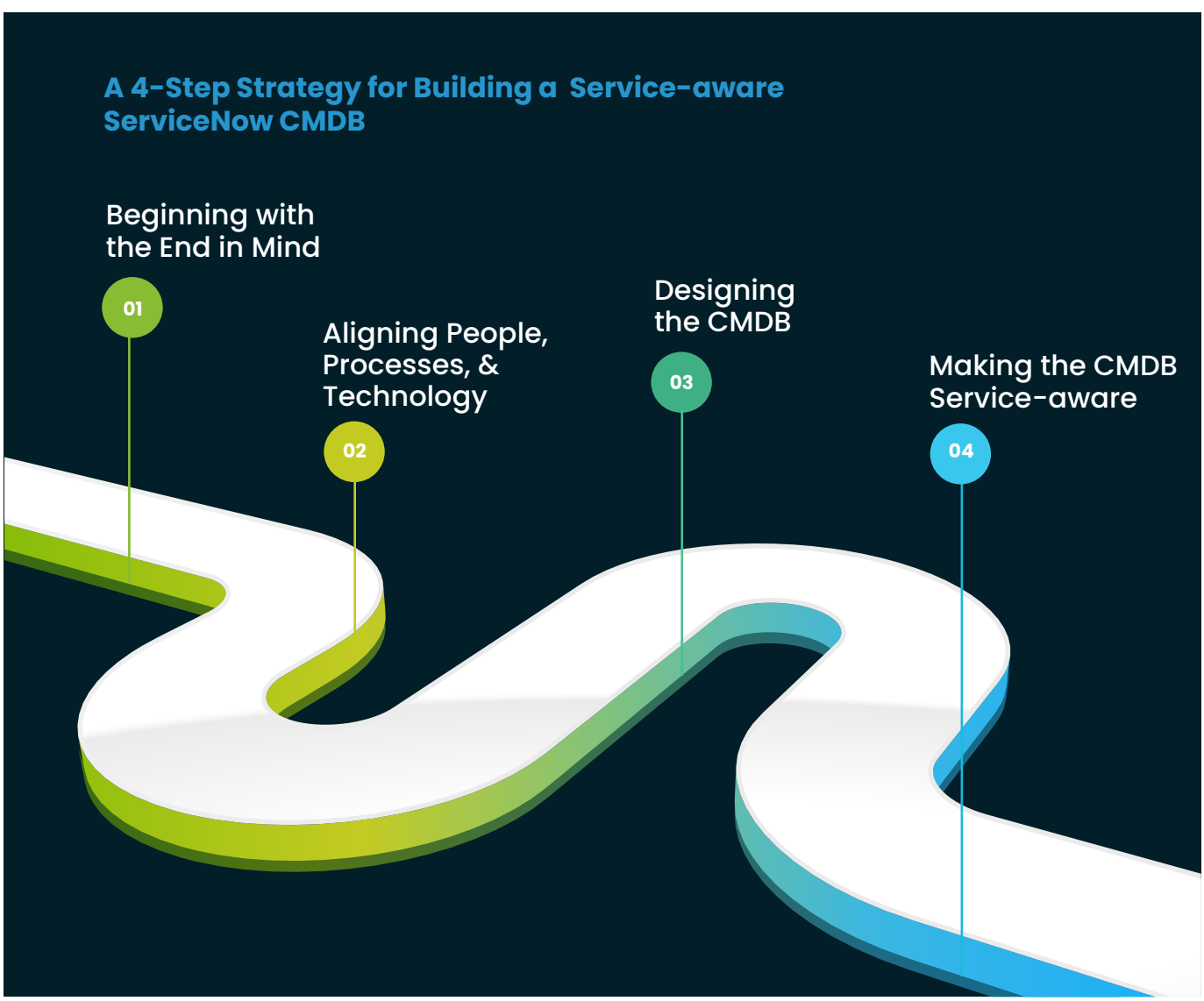
ServiceNow is one of the market leaders in offering workflow automation solutions including CMDB, and ServiceNow CMDB is proving to be instrumental for organizations seeking IT transformation.

While it's easy to make the decision to deploy CMDB, the challenge often lies in implementing it effectively to realize the benefits. Devising an effective roadmap is essential to achieve a successful CMDB implementation.

Roadmap to Building a Service-aware CMDB with ServiceNow

Organizations may face challenges while implementing CMDB because they might lack adequate knowledge or adopt a big-bang approach without a proper configuration management team. Usually, such organizations do not have clarity on the value they expect from their CMDB. It is important to consider all such factors and take the necessary steps to ensure a successful service-aware CMDB implementation.

Here is a step-by-step strategy that can help organizations build their service-aware CMDB the right way, using ServiceNow:



01

Beginning with the End in Mind

The first step in implementing a service-aware CMDB is to have a well-thought-out implementation strategy. There is no one-size-fits-all approach. The plan should be built with the end goal in mind, in line with the organization's long-term vision/objectives.

It is essential to collaborate with all the stakeholders to understand the overall organizational infrastructure - what are all the services involved, and what is the value that's expected out of the CMDB implementation across all business levels. Also, ensuring proper governance is vital.

It is important to bear in mind that a fast and all-at-once approach to CMDB implementation may cause process issues and lead to a failed implementation. Adopting an iterative and incremental approach is important to ensure smooth service-aware CMDB implementation.

02

Aligning People, Process, and Technology

The next step in the service-aware CMDB implementation journey is to assemble a robust configuration management team. This team should be built based on business capabilities. This can include implementing a centralized structure or a distributed team structure.

For instance, a centralized administration structure with a single CMDB owner for all the CI classes (hardware, software, etc.) can be beneficial for small organizations where the processes are comparatively simple. In large organizations, where the processes are complex, a distributed structure in which there are CMDB owners for each CI class can be the way forward.

Furthermore, creating a proper Organizational Change Management (OCM) strategy helps in ensuring that the implementation doesn't affect usual business processes. There needs to be proper synchronization between people, processes, and the technology that is being implemented (in this case, the service-aware CMDB) across the organization.

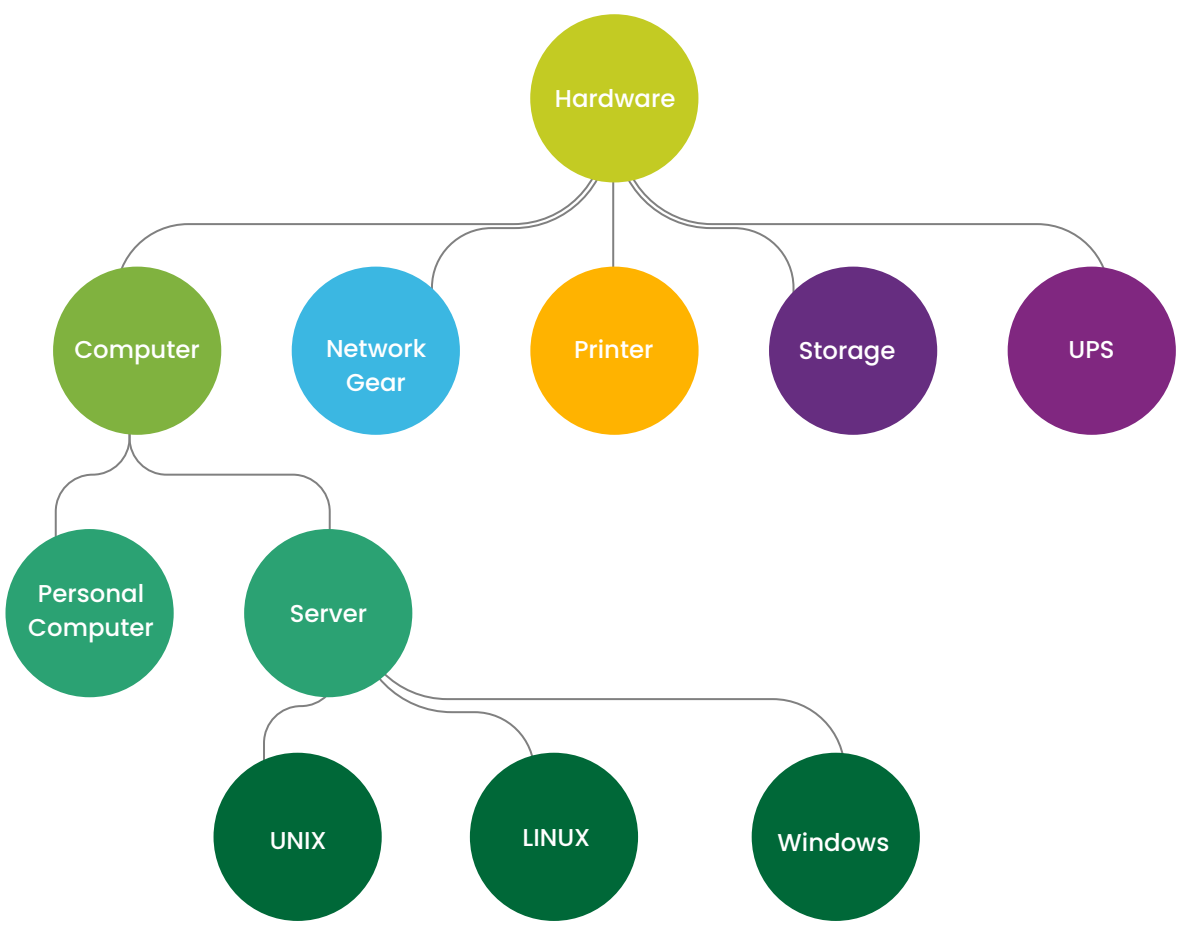
03

Designing the CMDB

Designing the CMDB to solve the organization's problems is the third step in implementing a service-aware CMDB. Organizations should have clarity on what CI classes, CIs, and CI attributes should be populated in the CMDB. They need to identify the use cases that align with their business goals and populate only the relevant CI and service data.

Instead of populating whatever data an organization has, it would be more efficient to identify and populate just the critical data in multiple and separate batches. Besides, the CIs should be classified with simple names based on relevant parent-child relationships, in order to avoid complications. This also means that there shouldn't be too many CI classes at the highest level of the CMDB. For example, the highest CI class is "hardware" in the case depicted here. For example, the highest CI class is "hardware" in the case depicted here.

CMDB Parent-Child Hierarchy



Aligning the CMDB with ServiceNow's CSDM Framework - A Best Practice

Organizations can build a robust, service-aware CMDB that is in line with their business strategy and objectives by aligning it with ServiceNow's Common Service Data Model (CSDM) framework.

Alignment with the CSDM framework enables the organization's configuration managers to organize the CIs and service-related data appropriately in the relevant tables in the ServiceNow CMDB. This improves service visibility, increases IT agility, and fosters better decision-making.

This way, all the ServiceNow solutions (ITSM, ITBM, ITOM, CSM, etc.) that are implemented by an organization to support its service offering can leverage the required data from the CMDB to function optimally and deliver the desired value to the users.

04

Making the CMDB Service-aware

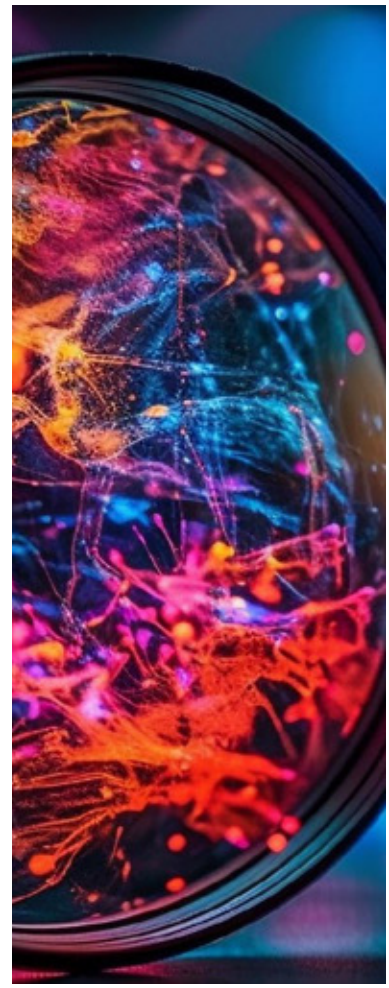
The fourth step in the service-aware CMDB implementation journey is to make the CMDB service-aware by identifying the CIs, mapping their relationship with the organization's services, and populating that data in the CMDB. However, populating CI data and mapping it with business services through a manual process can be tedious and time-consuming. This is where utilizing ServiceNow's automated tools can help speed up the process of making the CMDB service-aware while ensuring accuracy. Let's understand how ServiceNow's tools can help ease the process.

ServiceNow Discovery for Discovering Infrastructure Data

ServiceNow Service Mapping for Mapping CIs with Business Services

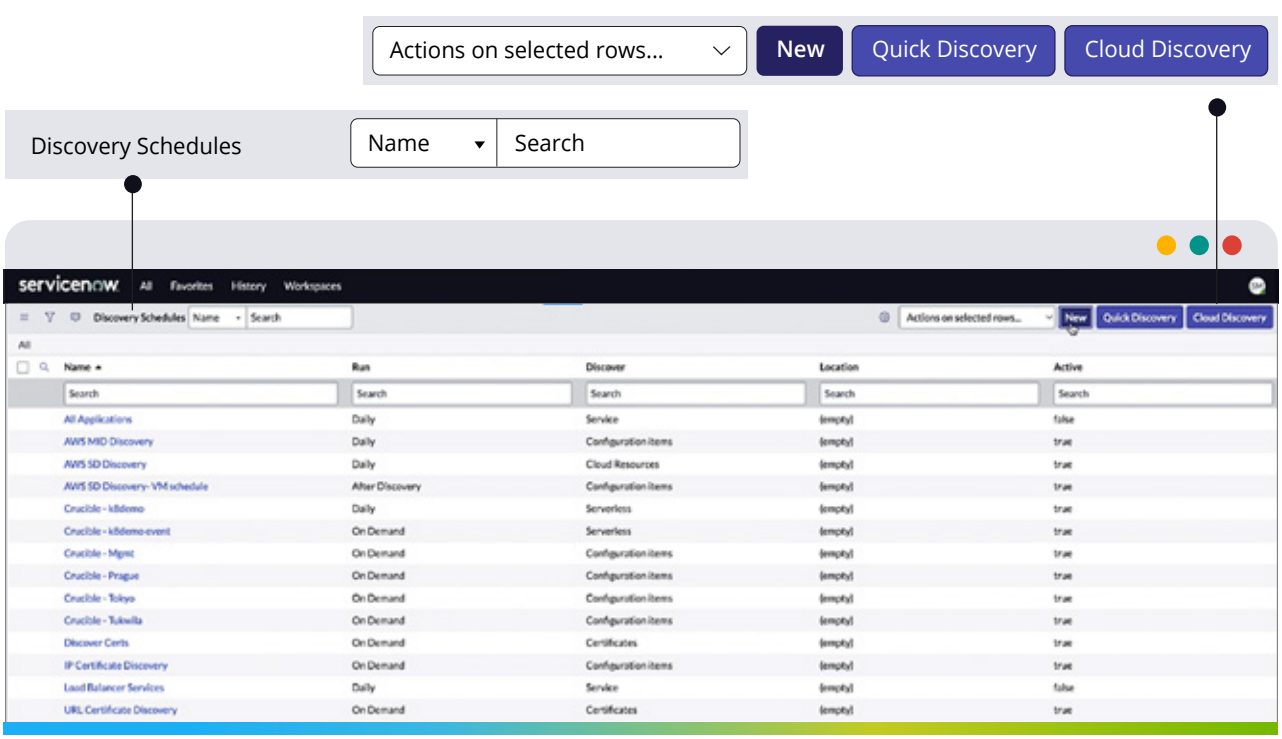
ServiceNow Service Graph Connectors for Bringing Data from Third-party Sources

ServiceNow Discovery for Discovering Infrastructure Data



Using ServiceNow Discovery can help automate the process of identifying CIs and their interdependencies through Management, Instrumentation, and Discovery (MID) Servers. It enables organizations to gain real-time visibility into the public and private cloud environments and automate the transfer of data into the CMDB. This is known as the horizontal discovery process.

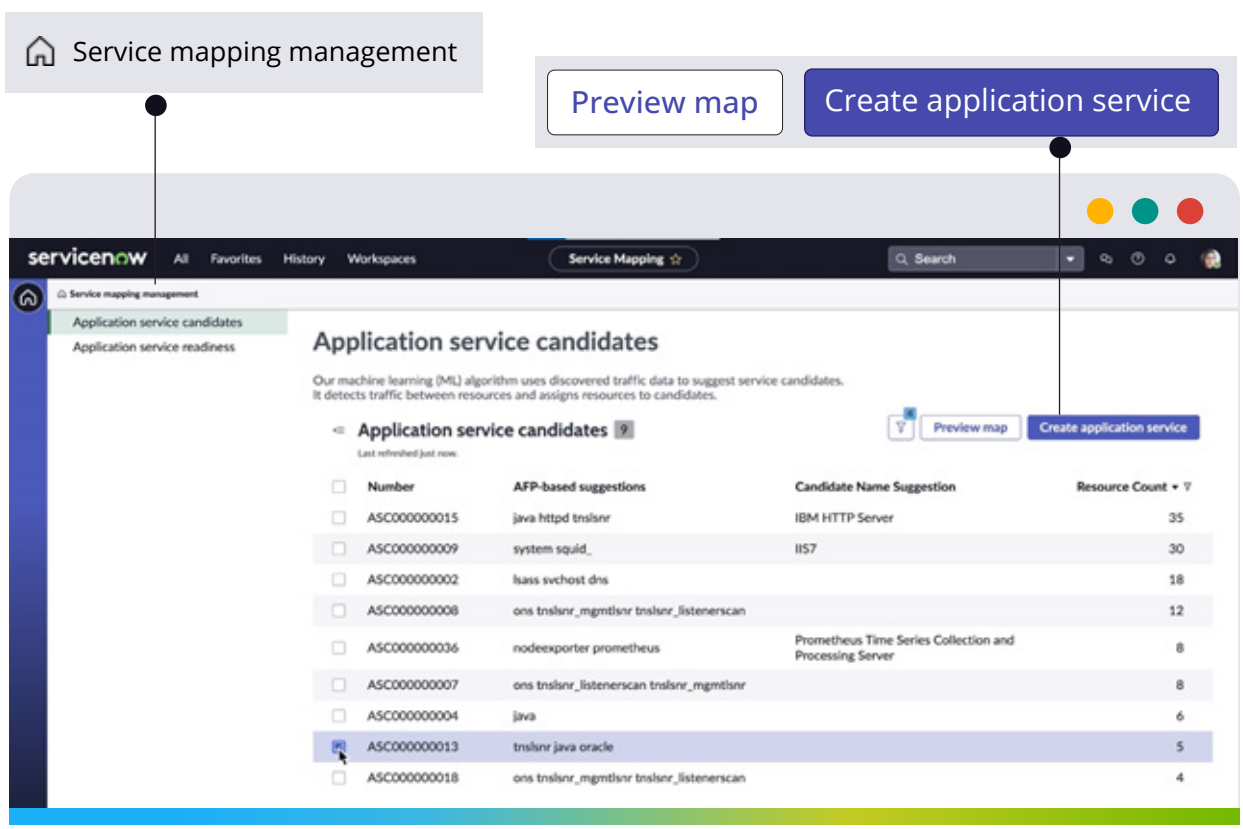
Discovery ensures that the gathered data adheres to predefined rules and structures, maintaining data consistency and accuracy across systems. Moreover, organizations can easily deploy ServiceNow Discovery through a guided setup. However, ServiceNow Discovery in itself doesn't identify CI relationships with business services and doesn't solely contribute to a service-aware CMDB.



ServiceNow Service Mapping for Mapping CIs with Business Services

To map business services with relevant CIs and make a CMDB service-aware, organizations need a top-down discovery process. By implementing ServiceNow Service Mapping, they can automate the identification of relationships between the CIs and business services based on the infrastructure data discovered by ServiceNow Discovery.

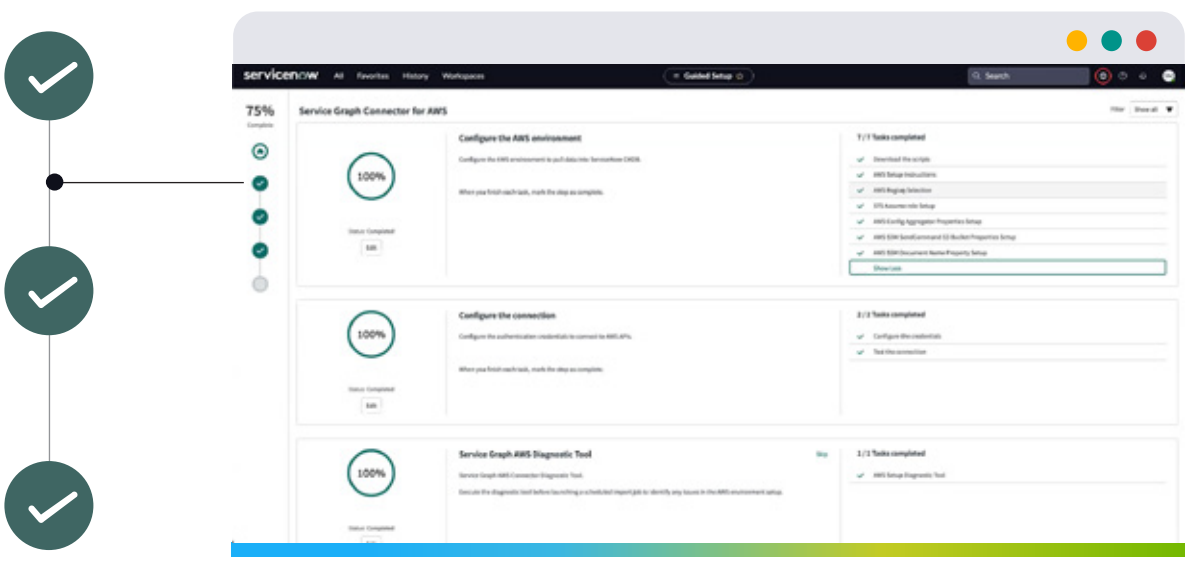
ServiceNow Service Mapping identifies the entry points (URL) of business services, adds business context to the CIs, and creates the required service maps. It helps ensure that all CIs connect to the organization's service offerings. With these service maps automatically getting updated in the CMDB, organizations can access information about all their services and achieve service-aware IT operations effortlessly.



ServiceNow Service Graph Connectors for Bringing Data from Third-party Sources

Apart from the above two, by implementing ServiceNow service graph connectors, organizations can extract data from their existing third-party tools or sources (e.g., vulnerability scanners, APM tools, device management tools, etc.) and populate that data into the CMDB.

Populating data from third-party sources into the CMDB, using the connectors, involves a two-step process. First, the data from the third-party tools gets stored in their own management database. Then, organizations can use the service-graph connectors to bring the third-party data, stored in their respective tools' databases, into the service-aware CMDB. The connectors are aligned with the CSDM framework and help ensure data consistency and timeliness.



Implementing a combination of these CSDM-compliant tools helps organizations map the data to the right location or tables in the CMDB and, achieve their goal of building a service-aware CMDB. With this, the organizations can understand the connection between all their services and IT infrastructure.

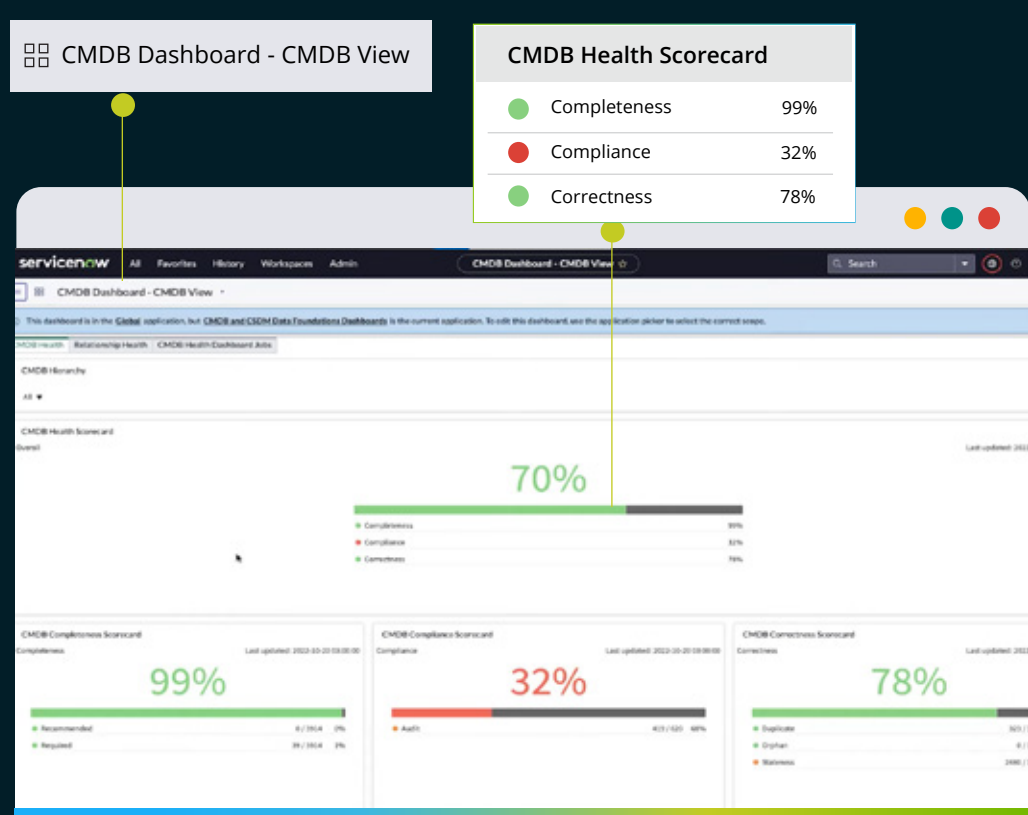
Apart from this, certain data that is related to an organization's service offering, users, and organizational structures may not be captured by automated discovery and mapping tools. Such data should be populated manually in the CMDB.

Maintaining a Healthy Service-aware CMDB with ServiceNow

Making effective use of a service-aware CMDB for IT operations may not be possible if the CMDB is not healthy. A healthy CMDB has accurate, complete, and up-to-date data.

Factors such as lack of executive support, poor management, absence of a structured approach, inadequate monitoring capabilities, etc. can hinder the ability of an organization to maintain the health of its service-aware CMDB.

CMDB Health Dashboard



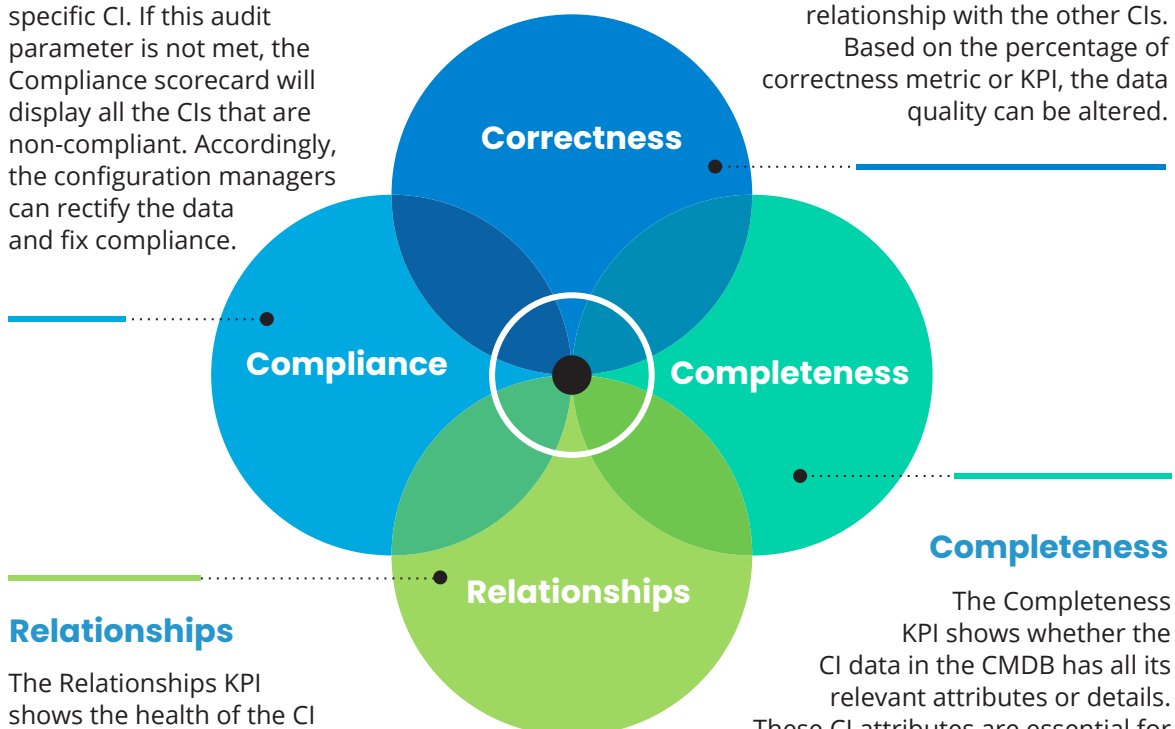
Aligning the CMDB with the CSDM framework enables organizations to audit and maintain the health of their service-aware CMDB consistently. Additionally, ServiceNow's CMDB health dashboard enables organizations to monitor the health of their service-aware CMDB by showcasing the state of the CMDB data through the following KPIs:

Compliance

The CIs in the CMDB should comply with the company's requirements or the predefined criteria. For example, an organization may have set a parameter that a specific software must be in a specific CI. If this audit parameter is not met, the Compliance scorecard will display all the CIs that are non-compliant. Accordingly, the configuration managers can rectify the data and fix compliance.

Correctness

The Correctness KPI shows whether CIs in the CMDB are recorded properly or not. What this means is that the CMDB may have CIs that are recorded more than once, or are not part of the organization's infrastructure anymore and have no relationship with the other CIs. Based on the percentage of correctness metric or KPI, the data quality can be altered.



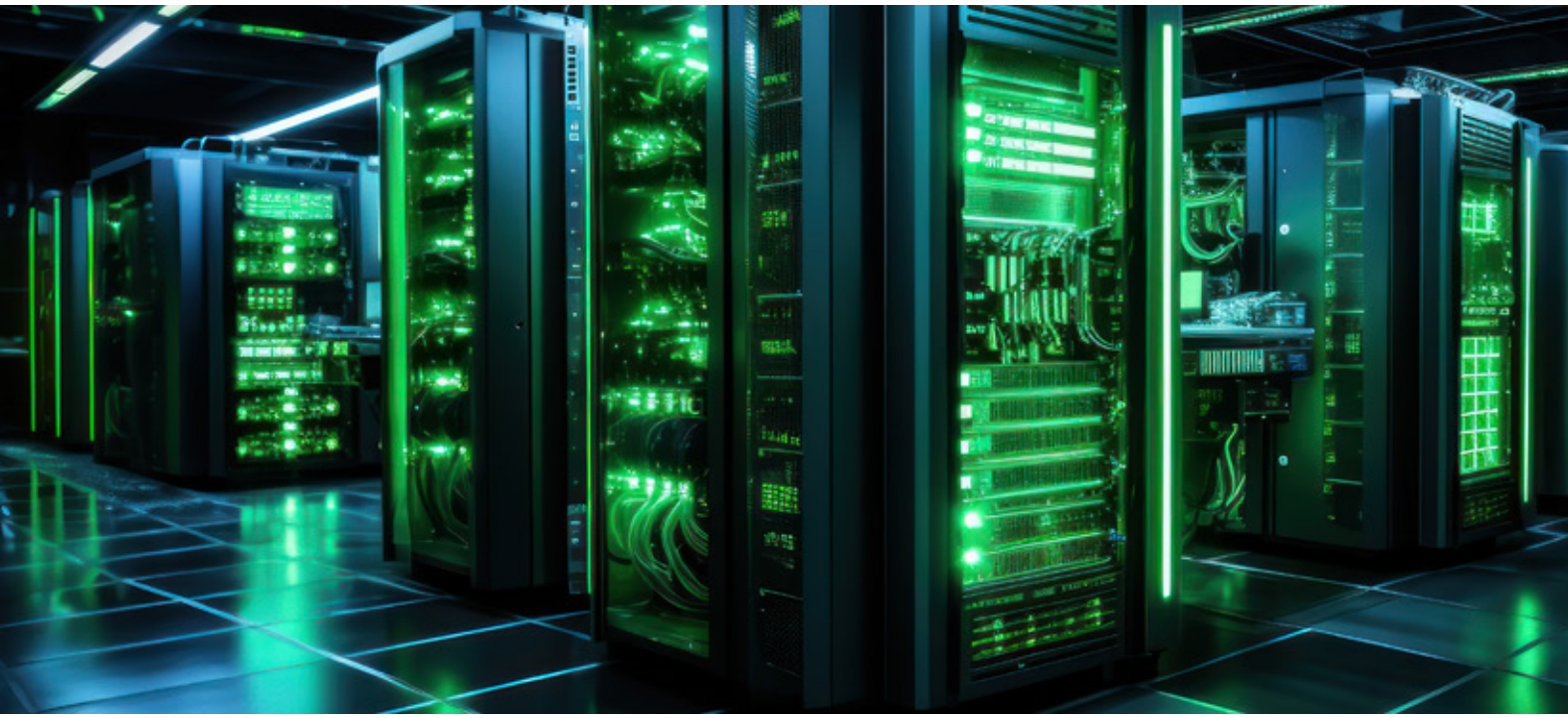
Relationships

The Relationships KPI shows the health of the CI relationships in the CMDB. It depicts the CI relationships that have the same parent and child CIs, that don't have either a parent or child CI or have parent/child CIs that are no longer useful. It also identifies CI relationships that deviate from recommended relationships and do not adhere to best practices.

Completeness

The Completeness KPI shows whether the CI data in the CMDB has all its relevant attributes or details. These CI attributes are essential for organizations to solve many infrastructure- and service-related issues. Based on the percentage of data completeness, configuration managers can take the required action to populate the relevant and mandatory CI attributes, improving CMDB accuracy and usability.

Apart from aligning with the CSDM framework and monitoring the metrics shown on the health dashboard, it is also essential to set up a proper process to ensure the CMDB is consistently filtered and updated with all the critical CIs and services an organization deals with.



Solving Business Problems with Service-aware ServiceNow CMDB – Real-world Scenarios

A service-aware ServiceNow CMDB enables organizations to easily understand their operational structure from a data perspective–combining both IT and business service aspects. It supports them in their decision-making processes across departments and hierarchies. It plays a significant role in identifying issues before they arise, ensuring effective IT operations management. It also helps organizations gain visibility into business service performance, thereby enhancing service delivery and customer/user satisfaction.

Having all that said, combining a service-aware CMDB with ServiceNow's other enterprise-wide solutions works well for organizations across industries to unlock their full potential and attain the highest level of business maturity.

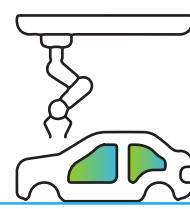
01

Faster Incident Resolution

Fast incident responses and smooth incident management are essential to reduce the impact of IT-related service issues (e.g., Data loss, network connectivity problems, viruses, password resets, etc.) on business operations. This is very important for ensuring uninterrupted infrastructure and service availability. In these cases, a service-aware CMDB provides the IT teams with a holistic view of the IT infrastructure and the related services to respond to incidents faster.

Use case 1

Industry: Manufacturing



The Scenario

A manufacturing company (e.g., an automobile manufacturer) often depends on multiple vendors for infrastructure and services. These vendors may be contributing to different pieces of the company's infrastructure and services and hence no single vendor would have a holistic understanding and be able to manage all of them. Hence, the company has to manage the infrastructure and the services by itself. But often, the lack of IT and service visibility can be a barrier to effective management, hindering incident response and infrastructure change management.

The Solution

A service-aware CMDB aligns CI relationships with the services provided by vendors. With this information, manufacturing companies can manage the infrastructure and services efficiently and ensure that there is no compromise in service quality. Whenever users raise a ticket for IT-related service issues on the ServiceNow portal, the IT team can easily manage and resolve the incident request. They can tap into the root cause of a critical incident and prevent recurring incidents. Also, the service maps in the CMDB allow better management of unplanned or sudden IT infrastructure changes without affecting daily business operations or services.

Benefits

- Prevention of recurring IT and service incidents.
- Better handling of IT infrastructure changes.

02

Minimized Downtime & Improved Efficiency

Organizations may face sudden service outages or downtimes due to digital infrastructure failures or while transitioning to hybrid and distributed architectures.

According to The Uptime Institute's 2022 Annual Outage Analysis report, one in five organizations stated having experienced a "serious" or "severe" outage (involving significant reputational harm, compliance lapses, and financial losses) in the last three years, indicating an increase in the frequency of major outages.

Such sudden disruptions can be detrimental to the overall user experience. In these situations, building a service-aware CMDB can be quite essential.

Use case 2

Industry: Retail

The Scenario

A large retail company has to manage its IT systems and processes to deliver uninterrupted services to customers. However, it can be difficult to consolidate the data that is required to ensure smooth management of these systems and minimize service disruptions.

The Solution

With a service-aware CMDB, retail companies can monitor and manage their systems in real-time. They can understand why a particular system is going down, minimize downtime, and schedule regular maintenance processes easily. They can utilize ServiceNow's AI-powered Event Management application to remediate the issues faster by integrating this application with their third-party infrastructure monitoring tools and service-aware CMDB. This application creates alerts by extracting insights from these monitoring tools and connects these alerts to the service maps in the CMDB for further remediation.

Benefits

- Better management and prevention of service outages.
- Easy remediation of infrastructure and service issues.

03

Proactive Response to Security Vulnerabilities

A Titanium study found that in 2022, 65 percent of businesses had network breaches as a result of attackers taking advantage of weak security and operational controls.

To prevent security breaches, loss of data, and subsequent service interruptions, the security teams of organizations should be very vigilant. They should be able to identify which are the critical systems that need protection and the threats associated with those systems.

The service-aware CMDB provides the security teams with this much-needed visibility into the vulnerabilities.

Use case 3

Industry: Healthcare

The Scenario

Healthcare providers use a variety of medical devices–scanners, ultrasound machines, etc.–to deliver high-quality and reliable patient care. Protecting the software in such medical devices from vulnerabilities or threats and understanding the level of utilization of these devices across the organization can be challenging.

The Solution

The service-aware CMDB helps healthcare providers handle their medical devices and the software/hardware components that support them. The visibility that service-aware CMDB brings would allow healthcare organizations to resolve equipment issues faster and ensure uninterrupted availability of medical equipment throughout care delivery. They can further integrate advanced security tools such as ServiceNow Security Operations (which includes features such as security incident response, vulnerability response, and threat intelligence) with the service-aware CMDB to automatically identify vulnerabilities or threats in the healthcare systems and even automatically assign them to the relevant remediation teams. Furthermore, healthcare organizations can identify unutilized and underutilized equipment and dispose of them easily.

Benefits

- Automated identification of vulnerabilities and threats in medical devices.
- Efficient medical equipment utilization and management.

04

Assured Regulatory Compliance

The Health Insurance Portability and Accountability Act (HIPAA), Gramm Leach Bliley Act (GLBA), and Sarbanes-Oxley Act (SOX) — are some of many data privacy laws and regulatory compliance standards that organizations must comply with while catering to different industries such as Healthcare and Banking & Financial Services. Keeping critical data and systems secure & compliant with all the relevant regulations helps an organization build trust and reputation amongst its stakeholders.

Service-aware CMDB gives organizations easy visibility of the data to ensure regulatory compliance.

Use case 4

Industry: Banking & Financial Services

The Scenario

The Banking and Financial Services (BFS) sector is bound by strict regulations and compliance standards. They have to track and manage various software and hardware assets like trading systems, servers, and networking equipment to ensure strict adherence to Information Security regulations and run a sustainable business.

The Solution

By implementing the service-aware CMDB, BFS companies can have complete control over their systems & networks and make sure that regulatory compliance is met. The CMDB solution ensures compliance even when configurations or changes are made to these systems or the banking network. It also helps them avoid repetitive auditing for compliance and ensures their IT systems meet legal requirements.

Benefits

- Proper IT compliance management.
- Mitigation of legal risks.

05

Optimized IT Resource Allocation

Another significant advantage that organizations get from their service-aware CMDB is IT resource optimization. Organizations can leverage their service-aware CMDB to make informed decisions in utilizing their IT resources efficiently. They can align the IT resources with their service delivery models efficiently. This helps reduce the chances of unexpected expenses that arise due to the inefficient usage of IT systems at both individual and organizational levels.

Use case 5

Industry: Technology Services and Solutions

The Scenario

With medium and large-scale software/technology companies that offer various IT services & solutions such as cloud solutions, IT strategic planning, and others, the challenge lies in optimizing internal IT resource allocation that can impact service delivery and operational efficiency.

The Solution

A service-aware CMDB empowers such software companies to gain a comprehensive understanding of how each IT component supports their services and which IT resources are heavily used, underused, or not used at all. By combining this insight with the ServiceNow IT Asset Management (ITAM) tool, they can effectively allocate resources, improving service quality and operational efficiency.

Benefits

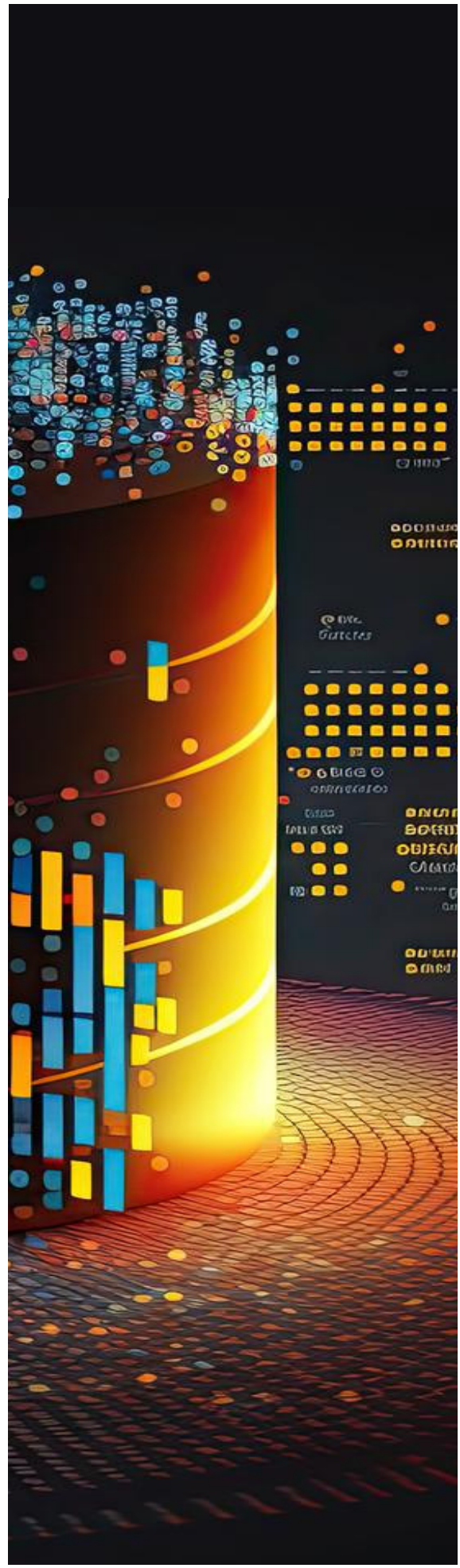
- Effective utilization of IT resources.
- Improved return on investment.

Final Note

Implementing the service-aware CMDB can seem simple from a theoretical perspective; but in reality, there could be many challenges that arise while implementing it. Without the right experts on board, it can be difficult to get a proper direction. What makes service-aware CMDB implementation simpler and less stressful is turning to a trusted ServiceNow partner who has the experience and expertise to handle the CMDB implementation processes properly, in line with the industry-specific best practices. Not just that, but taking the expert help of a ServiceNow partner can enable you to focus on your core business operations and larger organizational goals.

As a ServiceNow Premier Partner, we at KANINI implement the right strategies to make sure that your organization's service-aware CMDB implementation is a success. Get in touch with our ServiceNow experts to know more.

Take your CMDB assessment now!



About KANINI

KANINI is a digital transformation enabler, providing cutting-edge software services and solutions that help enterprises drive innovation and business growth. We create impeccable customer experiences through thoughtfully designed digital solutions that help improve our customer's efficiency, scale, and revenues.

We specialize in ServiceNow consultation and implementation, Product Engineering, and Data Analytics & AI - all delivered through flexible engagement models. We focus on empowering Banking & Financial Services, Healthcare, Manufacturing, and a few other industries to leverage new-age technologies and solutions by implementing agile development practices and a global delivery framework.

KANINI is a ServiceNow Premier Partner, and our ServiceNow MSP offering enhances operational efficiencies and drives business growth for our customers. Learn more about how we can help you with your ITSM, ITOM, CSM, FSM, GRC, SecOps, ITAM, and ITBM needs.

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