

Best Practices for Migrating ServiceNow CSDM Models

'ike (knowledge) level: Intermediate

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Introduction ▾

Adopting the [Common Service Data Model](#) (CSDM) in ServiceNow is a critical step for organizations seeking to improve data accuracy, operational efficiency, and alignment between IT and business processes. As ServiceNow evolves and refines its CSDM framework, organizations may find themselves struggling to migrate their existing implementation to a newer CSDM model. Migration involves more than just transferring data—it requires a strategic approach tailored to the organization's unique needs. This guide outlines best practices for a seamless transition, addressing key challenges such as integrating existing customizations, consolidating multiple data sources, and managing non-discoverable Configuration Items (CIs).

Beyond information technology, CSDM significantly contributes to strengthening cybersecurity, risk management, and compliance. Given the increasing concerns surrounding data security and Zero Trust initiatives, effectively structuring your CMDB ensures proactive risk management, improved vulnerability response, and a resilient IT ecosystem.

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Understanding the CSDM Framework ↘

CSDM is more than just an IT framework—it's a structured approach that brings clarity to your Configuration Management Database (CMDB) and aligns IT assets with real business needs. Instead of just dumping data into a database and hoping for the best, CSDM helps create logical relationships between services, technology, and business objectives. Here's what a successful migration to CSDM looks like:

1. Structuring CMDB Data the Right Way

One of the biggest advantages of CSDM is how it categorizes your data into well-defined domains. This means breaking down your CMDB into:

- **Business Capability** – How IT directly supports business operations.
- **Application Services** – The software and tools that power business functions.
- **Technology Portfolio** – The infrastructure and hardware that keeps everything running.

By structuring your data within these domains, you create a more organized, useful, and actionable CMDB.

2. Making IT More Visible to the Business

One of the main reasons CSDM exists is to help IT teams and business leaders get on the same page. Instead of IT being a mysterious black box that only tech teams understand, CSDM maps out how different IT components support business services. The result? Faster issue resolution, better decision-making, and IT teams that can clearly communicate their impact on the organization.

3. Handling Non-Discoverable Configuration Items (CIs)

Not everything in your IT environment can be automatically discovered—things like SaaS subscriptions, vendor contracts, and compliance documentation often require manual tracking. With CSDM, organizations can:

- Clearly define ownership for manually managed assets.
- Automate as much as possible with workflows and AI-based anomaly detection.
- Keep data up to date and accurate, reducing the risk of outdated information causing problems down the line.

4. Strengthening Security with Cybersecurity Principles

Security should be at the core of every CSDM implementation. By integrating cybersecurity best practices such as Zero Trust, organizations can:

- Strengthen access controls to ensure the right people have the right level of access.
- Monitor for unauthorized changes or anomalies.
- Improve overall data protection by enforcing strict governance and role-based security.

5. Expanding Beyond IT – A Business-Wide Approach

CSDM isn't just for IT. When properly implemented, it becomes a tool for:

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- **Financial Planning** – Mapping IT assets to financial budgets for better cost management.
- **Compliance & Risk Management** – Ensuring regulatory standards are met and reducing organizational risk.
- **Vendor & Supply Chain Management** – Tracking third-party dependencies and understanding their impact on services.

Final Thoughts

Migrating to CSDM is about more than just cleaning up your CMDB—it's about creating a structured, secure, and business-aligned IT environment. The key to success is taking a phased approach, getting buy-in from stakeholders, and making sure your CSDM strategy extends beyond IT to support the whole business. When done right, CSDM becomes the backbone of a well-run, efficient, and resilient organization.

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The Benefits of CSDM

Adopting the Common Service Data Model (CSDM) in ServiceNow isn't just a technical upgrade—it's a game changer for how IT and business teams work together. It helps make everything more structured, more efficient, and more secure. Here's why embracing CSDM is a smart move:

1. More Accurate & Consistent Data

Having a well-structured Configuration Management Database (CMDB) is key to keeping your IT operations running smoothly. CSDM helps by:

- Standardizing how data is stored and managed, reducing inconsistencies and errors.
- Making sure all your IT assets and services are properly connected, so you always have a clear picture of dependencies and relationships.
- Improving data quality over time, ensuring reliable insights for decision-making.

2. Better Alignment Between IT & Business

One of the biggest advantages of CSDM is that it bridges the gap between IT operations and business objectives. It does this by:

- Helping IT teams clearly see how their work impacts overall business goals, leading to better prioritization.
- Giving executives and leadership better visibility into IT services, allowing for more strategic decision-making.
- Enabling financial tracking of IT assets, ensuring better budget control and cost transparency.

3. Stronger Security & Compliance

Security and compliance are huge concerns for any organization, and CSDM plays a crucial role in both areas:

- It ensures data governance by clearly defining asset ownership and responsibility.
- Help organizations enforce Zero Trust security models by restricting access based on structured roles and responsibilities.
- Streamlines audits and compliance reporting by maintaining a clean, well-documented CMDB.

4. Smoother Operations & Cost Savings

Efficiency is everything when it comes to IT management. With CSDM, organizations can:

- Eliminate duplicate records and reduce manual work, freeing up resources for more strategic initiatives.
- Standardized IT workflows, making IT Service Management (ITSM), IT Operations Management (ITOM), and IT Asset Management (ITAM) more effective.
- Reduce operational costs by optimizing asset utilization and avoiding unnecessary spending on redundant systems.

5. Improved Change & Incident Management

When something goes wrong, you need to know what's impacted and how to fix it fast. CSDM helps by:

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- Providing clear dependency mapping so teams can quickly pinpoint the root cause of incidents.
- Reducing service downtime by enabling smarter change management strategies that minimize risks.
- Helping IT teams prioritize fixes based on business impact, ensuring the most critical issues are addressed first.

6. Scalable & Future-Proof

As your business grows and evolves, so do your IT needs. CSDM ensures your CMDB is ready for the future by:

- Providing a flexible framework that scales with your organization, whether you're expanding services, moving to the cloud, or adopting new technologies.
- Aligning with ServiceNow's ongoing enhancements, so your IT operations stay modern and adaptable.
- Ensuring IT teams can continue to innovate without worrying about breaking their data model.

Rolling out CSDM isn't just about improving your CMDB—it's about creating a stronger foundation for IT and business collaboration. From reducing operational headaches to boosting security and compliance, the benefits of CSDM extend far beyond IT. By implementing CSDM the right way, organizations set themselves up for long-term success, with better visibility, smarter decision-making, and a more resilient IT environment.

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Common Challenges When Implementing CSDM ↴

Rolling out the Common Service Data Model (CSDM) in ServiceNow is a significant step toward a structured and effective Configuration Management Database (CMDB). However, the process comes with several challenges that organizations must navigate to ensure a smooth transition. Below are some common roadblocks and how to address them.

1. Custom Data Models That Don't Fit

Many organizations have built custom CMDB structures over the years that do not align with CSDM's framework. This misalignment can create difficulties in migration and integration.

- **Legacy Structures:** Existing data models may have been developed for specific business needs that don't map directly to CSDM.
- **Operational Disruptions:** Adjusting the CMDB while maintaining daily operations requires careful planning and execution.
- **Solution:** Conduct a thorough assessment of current data models and create a structured migration plan that aligns custom elements with CSDM without disrupting critical business processes.

2. Too Many Data Sources & Integration Issues

Different teams within an organization often maintain separate data repositories, making it difficult to establish a unified and accurate CMDB.

- **Data Silos:** Different departments may use disparate systems, leading to inconsistencies.
- **Integration Complexity:** Consolidating multiple sources while maintaining data integrity is a challenging task.
- **Solution:** Implement Service Graph Connectors and automated reconciliation tools to integrate data sources smoothly while ensuring data accuracy and consistency.

3. Manually Managed (Non-Discoverable) CIs

Not all assets within an organization can be automatically discovered, making manual data entry a necessity.

- **SaaS and Cloud Services:** Many cloud-based assets and vendor-managed services are not easily discoverable.
- **Compliance & Vendor Data:** Regulatory documents, vendor contracts, and software subscriptions often require manual tracking.
- **Solution:** Establish clear ownership and accountability for non-discoverable Configuration Items (CIs), utilize workflows to streamline manual updates, and leverage AI-driven anomaly detection to maintain data integrity.

4. Making Sure Business Processes Stay Aligned

CSDM implementation impacts more than just IT operations—it extends to financial, security, and vendor management.

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- **Cross-Departmental Impact:** Finance, security, and compliance teams must work together to ensure alignment.
- **Lack of Standardized Workflows:** Without clear workflows, data governance and reporting can become inconsistent.
- **Solution:** Engage all stakeholders early in the process, create governance policies that span multiple business units, and establish clear data ownership to maintain alignment.

5. Security & Compliance Risks

Without a structured implementation approach, security and compliance risks can increase, affecting data governance and regulatory requirements.

- **Data Governance Gaps:** Poorly implemented CSDM can lead to inaccurate asset tracking and unauthorized changes.
- **Regulatory Non-Compliance:** Organizations may fail to meet industry standards such as ISO 27001, NIST, or GDPR.
- **Solution:** Align CSDM implementation with cybersecurity frameworks, enforce strict access controls, and implement real-time monitoring to detect and prevent security threats.

6. Resistance to Change

Adopting a new data model often faces internal resistance from teams who are accustomed to existing processes.

- **Lack of Awareness:** Teams may not fully understand the benefits of CSDM.
- **Change Fatigue:** Employees may resist yet another process change, fearing increased workload or disruptions.
- **Solution:** Communicate the benefits of CSDM early, provide hands-on training, demonstrate quick wins, and gain executive sponsorship to drive adoption.

Implementing CSDM is a transformative process that requires careful planning, stakeholder engagement, and a strong governance framework. By addressing these common challenges proactively, organizations can ensure a successful CSDM rollout that enhances data accuracy, improves IT service delivery, and aligns business processes for long-term success.

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How to Get Started with CSDM

To make CSDM adoption go smoothly, follow these steps:

1. **Assess Your Current Setup**
 - Run a CMDB health check to find gaps and inconsistencies.
 - Compare your existing model with CSDM best practices.
2. **Define Your Goals & Scope**
 - Figure out what services matter most and where to start.
 - Make sure IT and business goals are aligned.
3. **Get the Right People Involved**
 - Bring in IT, security, compliance, and business teams.
 - Set clear responsibilities for data ownership and governance.
4. **Map Out Your Data Model**
 - Plan how to transition from custom data models to CSDM.
 - Keep things as simple as possible to avoid future headaches.
5. **Roll It Out in Phases**
 - Start small with a pilot project before going all in.
 - Expand gradually based on lessons learned.
6. **Automate & Optimize**
 - Use ServiceNow's automation tools to clean up and manage data.
 - Set up reconciliation and anomaly detection to maintain accuracy.
7. **Monitor & Improve Continuously**
 - Keep an eye on CMDB health using dashboards and reports.
 - Update governance policies as business needs evolve.

By following these steps, organizations can successfully implement CSDM and get better visibility, stronger security, and more efficient IT operations.

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Best Practices for Migration ↘

1. Start with a Solid Plan

- **Assess Your Current CMDB:** Utilize ServiceNow's health check tools to identify data gaps, inconsistencies, and dependencies.
- **Prioritize Key Business and IT Services:** Focus on services critical to business operations.
- **Collaborate Across Teams:** Engage IT, security, compliance, and finance teams early in the process to ensure alignment.
- **Map Custom Data Models to CSDM:** Develop a clear strategy for migrating existing customizations while preserving key relationships.
- **Evaluate Zero Trust Security Needs:** Determine how your CMDB should enforce access controls and data segmentation.

2. Align and Secure Custom Models

- **Simplify Where Possible:** Reduce unnecessary customizations to enhance maintainability.
- **Establish Governance Policies:** Implement role-based access, encryption, and audit trails to protect data.
- **Follow Cybersecurity Frameworks:** Align with standards like NIST, ISO 27001, and CIS to fortify CMDB security.
- **Apply Zero Trust Principles:** Enforce strict access controls and monitor for unauthorized changes.

3. Consolidate and Normalize Data

- **Define Standard Naming Conventions:** Ensure consistency across all data sources.
- **Automate Reconciliation:** Utilize ServiceNow's reconciliation tools to eliminate duplicates and resolve conflicts.
- **Leverage Service Graph Connectors:** Simplify data integration while maintaining security and compliance.
- **Prioritize Business-Critical Data:** Begin with high-risk and high-value assets to minimize disruptions.

4. Managing Non-Discoverable CIs

- **Assign Ownership:** Clearly define responsibilities for manually managed assets.
- **Automate Where Possible:** Use workflows to handle manual updates more efficiently.
- **Ensure Data Integrity:** Employ AI-driven anomaly detection to flag inconsistencies in manual entries.
- **Enhance Security with Micro-Segmentation:** Restrict access to non-discoverable CIs based on roles and risk levels.

5. Ensuring Data Integrity Over Time

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- **Utilize the CMDB Health Dashboard:** ServiceNow's CMDB Health Dashboard provides insights into data completeness, compliance, and correctness.
- **Automate Data Quality Checks:** Schedule regular validation processes to detect anomalies and correct inconsistencies.
- **Establish Data Stewardship Roles:** Assign data stewards to oversee CMDB integrity and enforce governance policies.
- **Enable Continuous Monitoring:** Implement AI-driven monitoring to identify potential data integrity issues in real-time.
- **Review and Update Governance Policies:** Regularly refine governance strategies to adapt to evolving business and security requirements.

6. Integrate CSDM with Business Processes

- **Finance & Cost Management:** Link assets to financial data for improved cost tracking and forecasting.
- **Risk & Compliance Management:** Use ServiceNow's Integrated Risk Management (IRM) to track regulatory compliance and risk exposure.
- **Vendor & Supply Chain Management:** Extend CSDM to track supplier dependencies, SaaS platforms, and third-party risks.
- **Workforce & HR Enablement:** Integrate digital workspace management and employee access workflows with CSDM.
- **Security Operations:** Strengthen security governance with real-time access control and anomaly detection.

7. Achieving Enterprise-Wide Adoption

For organizations encountering resistance from business units, utilize the following strategies to encourage adoption:

- **Clear Communication:** Articulate the value of CSDM in enhancing operational efficiency and security.
- **Executive Sponsorship:** Gain support from leadership to drive enterprise-wide implementation.
- **Tailored Training:** Provide customized training for different business units to address specific needs.
- **Demonstrate Quick Wins:** Show tangible improvements from pilot projects to build confidence.
- **Incentivize Adoption:** Recognize teams that successfully integrate CSDM into their workflows.
- **Continuous Feedback Loop:** Collect insights from stakeholders to refine processes and address concerns.
- **Integrate with Business Processes:** Ensure CSDM aligns with financial, security, and compliance workflows.

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Pre-Migration Project Checklist ▾

Before starting the CSDM migration project, organizations should complete the following checklist and engage relevant subject matter experts:

Key Activities:

1. Perform a comprehensive CMDB health assessment.
2. Identify key business services and their dependencies.
3. Establish governance policies and data quality standards.
4. Define scope, timeline, and key milestones for the migration.
5. Develop a change management and communication plan.
6. Align security controls with Zero Trust principles.
7. Identify automation opportunities to reduce manual efforts.
8. Conduct a pilot test before full-scale implementation.

Subject Matter Experts to Engage:

- **CMDB Administrators:** Ensure accurate data structuring and compliance with ServiceNow standards.
- **IT Service Management (ITSM) Experts:** Align CSDM with existing IT workflows and incident management.
- **Security and Compliance Officers:** Ensure security policies and compliance requirements are met.
- **Risk Management Teams:** Assess the impact of CSDM on risk and regulatory compliance.
- **Enterprise Architects:** Validate alignment with business capabilities and technology roadmaps.
- **Application Owners:** Ensure accurate representation of applications within the CSDM framework.
- **Finance and Procurement Teams:** Align asset and cost tracking processes with CSDM.
- **Business Unit Leaders:** Ensure cross-functional collaboration and enterprise-wide adoption.

Identifying CSDM Services in ServiceNow Using ITIL 4 Concepts ▾

In ServiceNow's Common Service Data Model (CSDM) framework, identifying services is a structured process that aligns with ITIL 4's service management principles. The approach involves defining and categorizing services into multiple layers, ensuring clear visibility, accountability, and alignment with business outcomes.

ITIL 4 and Service Identification

ITIL 4 defines services as a means of delivering value to customers by facilitating outcomes without requiring the customer to manage specific costs and risks. In the context of ServiceNow CSDM, identifying services follows a structured four-layer approach that maps services from business needs down to operational components.

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CSDM's Four-Layered Approach to Identifying Services

1. Business Layer (Business Services & Capabilities)
 - What It Represents: High-level business services that provide value to the organization. These align directly with business capabilities and customer needs.
 - ITIL 4 Context: This corresponds to Business Services in ITIL 4, which define value streams and outcomes.
 - Examples: Customer Support Service, Employee Onboarding Service.
2. Service Layer (Business & Technical Services)
 - What It Represents: The formalized IT services that support business services, typically aligned with Service Portfolio Management. These are managed and consumed internally or externally.
 - ITIL 4 Context: This aligns with Service Offerings, where services are defined, managed, and delivered.
 - Examples: Email Service, HR Case Management Service, IT Helpdesk Service.
3. Application Layer (Application & Information Models)
 - What It Represents: The applications and data components supporting IT services. This layer ensures that technical dependencies are well-documented and linked to services.
 - ITIL 4 Context: This supports Service Components, ensuring applications are aligned with service delivery.
 - Examples: ServiceNow ITSM Application, SAP ERP, Microsoft Exchange.
4. Technology Layer (Infrastructure & Operations)
 - What It Represents: The physical and virtual infrastructure enabling service delivery, including servers, networks, and cloud environments.
 - ITIL 4 Context: This aligns with Technical Services that underpin service performance and availability.
 - Examples: AWS Cloud Servers, Cisco Networking, Data Center Infrastructure.

How ServiceNow CSDM Helps Identify Services

By structuring services into these four layers, ServiceNow's CSDM ensures:

- Clear service ownership and accountability.
- Improved CMDB accuracy and dependency mapping.
- Strong alignment with ITIL 4's Service Value System (SVS) and Service Portfolio Management.
- Enhanced visibility for IT and business stakeholders.

By leveraging ITIL 4's service definitions and CSDM's structured layers, organizations can effectively identify, manage, and optimize services to drive operational efficiency and business value.

Case Study: Enhancing IT Risk Management with CSDM ↘

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The Challenge

A global financial services firm faced difficulties with vulnerability response due to inadequate visibility into upstream and downstream dependencies. Security teams struggled to quickly identify which business services were impacted by security vulnerabilities, resulting in slow response times and increased risk.

The Solution

The company restructured its CMDB using CSDM to create clearer relationships between IT assets, applications, and business services. Key improvements included:

- **Mapping IT assets to *business services*** for enhanced visibility into security dependencies.
- **Automating impact analysis** utilizing ServiceNow's Business Service Mapping.
- **Prioritizing vulnerabilities based on business impact** to focus remediation efforts where they were most critical.
- **Implementing Zero Trust security controls** to ensure only authorized users could access sensitive CMDB data.

The Results

- **40% faster vulnerability remediation** by swiftly identifying affected services.
- **Improved compliance posture** with detailed audit trails of risk assessments and remediation actions.
- **Stronger security governance** via automated workflows and least-privilege access policies.

Conclusion ↘

Migrating to CSDM is not merely a technical endeavor—it presents an opportunity to enhance IT governance, security, and business efficiency. By adhering to best practices, integrating Zero Trust security principles, and extending CSDM beyond IT, organizations can improve the reliability of their CMDB, reduce vulnerabilities, and gain a clearer understanding of their entire digital ecosystem.

About Mana'o Pili ↘

Mana'o Pili is a Hawai'i based technology consulting firm specializing in business automation through ServiceNow. Mana'o Pili provides its customers with individualized solutions. We reject the notion of one-size-fits-all solutions. Instead, we partner with you to craft a tailored plan that aligns with your unique needs, budget, and objectives. Our approach focuses on optimizing your existing platform while minimizing customization and reducing technical debt.

Here at Mana'o Pili, we treat our customers as 'ohana (family), listen closely to your challenges and deliver tailored attention with exceptional service.