

Best Practices for Implementing and Migrating to CSDM

'ike (knowledge) level: Intermediate

Rev. August 1, 2025

Introduction: What CSDM Is and What It Isn't ↘

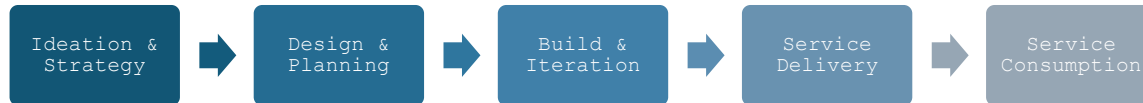


Figure 1 - CSDM 5 Domains

The **Common Service Data Model (CSDM)** is a prescriptive framework provided by ServiceNow that defines how organizations should structure and relate data across their CMDB and service portfolios. It is **not just a technical guideline** or a CMDB schema—it is a **strategic framework** that connects business strategy to IT operations, demand management, service delivery, and enterprise workflows. CSDM ensures consistent definitions, governance, and relationships that reduce technical debt, improve reporting, and make the platform easier to upgrade.

What CSDM Is:

- A **blueprint** for structuring services, portfolios, and supporting data.
- A way to align IT and business services under a common taxonomy.
- A foundation for enabling AI, automation, and enterprise governance.
- A prescriptive model that comes with **out-of-box (OOB) tables and relationships** in ServiceNow.

What CSDM Is Not:

- It is **not a replacement for CMDB**—CSDM uses CMDB as the foundation but extends beyond it.
- It is **not just an IT-only model**—CSDM 5 broadens to HR, Finance, Operations, Legal, and more.
- It is **not optional** if you want to maximize ServiceNow's value—future features increasingly rely on it.
- It is **not a one-time project**—CSDM maturity evolves through crawl-walk-run-fly.

What Makes CSDM 5 Different?

CSDM 5 is a major leap forward from previous versions (CSDM 3 and 4). Earlier iterations primarily focused on IT services and technical modeling. With CSDM 5, ServiceNow has extended the framework to cover the full-service **lifecycle** and multiple business domains.

Comparative Table: CSDM 3 vs. CSDM 4 vs. CSDM 5

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Feature / Focus Area	CSDM 3	CSDM 4	CSDM 5
Primary Focus	IT services & CMDB alignment	Expanded IT service modeling	Full enterprise service modeling (IT + HR + Finance + Ops + Legal)
Domains	Foundation, Design, Manage	Foundation, Design, Manage, Deliver	Foundation, Ideation & Strategy, Design & Plan, Build & Integrate, Deliver, Consume, Manage
Service Types	Application Services only	Application + Technical Services	Application, Data, AI, Network, Facility, Operational Process, Technology Mgmt Services
Product Modeling	Basic product modeling	Limited product/service offerings	Product Features, SBOMs, System/Software Component Models
Integration with Business	Limited	Moderate (linked to ITSM/SPM)	Strong integration with enterprise workflows (SPM, HR, Finance, Ops)
AI/DevOps Support	None	Minimal	Explicit AI Data Models, DevOps Change Models
Governance Model	Prescriptive, IT-centric	Broader governance guidance	Enterprise-wide governance, crawl-walk-run-fly maturity reinforced

Figure 2 - CSDM 3 v CSDM 4 v CSDM 5

Scenario 1: Implementing CSDM 5 from Scratch

The Opportunity

Organizations new to CSDM can build a clean, scalable, and future-proof architecture. The value lies in aligning business and IT from the start, making governance easier and reducing rework.

Step-by-Step Roadmap

Step 1: Establish Governance

- Form a CSDM Steering Committee with IT, business leaders, and enterprise architects.
- Assign **domain owners** (e.g., Finance for cost centers, HR for employee data).
- Publish a living **CSDM playbook** that defines roles, responsibilities, and policies.

Step 2: Build the Foundation

- Load key data into ServiceNow from authoritative sources.
- Integrate using APIs rather than manual imports.

```
// Example: Importing cost centers from SAP into ServiceNow
var sapData = getSAPCostCenters();
for (var i = 0; i < sapData.length; i++) {
    var cc = new GlideRecord('cmn_cost_center');
    cc.initialize();
    cc.code = sapData[i].code;
    cc.name = sapData[i].name;
    cc.u_authoritative_source = 'SAP';
    cc.insert();
}
```

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Step 3: Crawl Stage

- Start with one or two portfolios.
- Use Ideation & Strategy to capture and prioritize incoming requests.
- Link requests to demand and initial services.

Step 4: Walk Stage

- Introduce Resource & Capacity Planning.
- Map incidents and changes to Service Instances.
- Build dashboards for portfolio health.

Step 5: Run & Fly Stage

- Extend into enterprise services.
- Adopt SBOMs and AI/DevOps integration.
- Enable scenario planning with what-if analyses for executives.

Scenario 2: Migrating to CSDM 5 from Previous Versions

The Challenge

Migrating from CSDM 3 or 4 involves re-mapping services, updating processes, and ensuring continuity of ITSM and SPM operations. The challenge is balancing **continuity** with **innovation**.

Migration Roadmap

Step 1: Preparation

- Take a full backup.
- Document current usage and customizations.
- Identify integrations that may break.

Step 2: Foundation Alignment

- Normalize data across domains.
- Confirm authoritative sources.

Step 3: Map Old to New

- Transition Application Services → Service Instances.
- Update Technical Services → Technology Management Services.

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- Incorporate new domains into the roadmap.

Step 4: Iterative Migration

- Pilot on low-risk services.
- Automate mapping with scripts:

```
// Example: Mapping Application Service to Service Instance
var oldService = new GlideRecord('cmdb_ci_service_auto');
if (oldService.next()) {
    var newService = new GlideRecord('cmdb_ci_service_instance');
    newService.initialize();
    newService.name = oldService.name;
    newService.type = 'Application';
    newService.u_migrated_from = oldService.sys_id;
    newService.insert();
}
```

Step 5: Governance & Validation

- Use CMDB Query Builder for validation.
 - Train stakeholders.
 - Monitor dashboards for accuracy.
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Value Stream & Lifecycle Mapping in CSDM 5

Introduction

CSDM 5 introduces structured support for **Value Streams** and **Lifecycle Mapping**, enabling organizations to bridge the gap between business strategy, product portfolios, and operational services. For organizations that already have frameworks in place—such as ITIL, SAFe, or internal service taxonomies—the challenge lies in harmonizing these existing approaches with CSDM 5 rather than replacing them outright.

This section outlines how to best approach Value Stream and Lifecycle Mapping when you already have an established framework, ensuring smooth adoption, minimal disruption, and measurable business value.

What Are Value Streams?

Value Streams represent the **end-to-end flow of value delivery** across the enterprise—from ideation and funding through delivery and consumption. In CSDM 5, they provide a structured way to connect strategic goals with portfolios, services, and operational outcomes.

- **Strategic Value Streams:** Focus on long-term outcomes (e.g., customer acquisition, digital product innovation).
- **Operational Value Streams:** Deliver daily outcomes (e.g., HR onboarding, financial reporting, incident resolution).

What Is Lifecycle Mapping?

Lifecycle Mapping introduces standardized **Stages** and **Status values** that can be applied to Products, Assets, Locations, and other domains in CSDM 5. This ensures:

- Consistency across domains.
- Clear visibility into the maturity and status of a service or product.
- Easier governance and reporting for compliance and lifecycle health.

Best Practices for Mapping with Existing Frameworks

1. Align, Don't Replace

If you already use ITIL, SAFe, or another internal model, treat CSDM 5 Value Streams and Lifecycle Stages as the **overlay framework**. Keep existing processes but map them to CSDM constructs.

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Example: If you use SAFe, align **Epics** and **Capabilities** to CSDM's **Ideation & Strategy** and **Design & Plan** domains.

2. Start with High-Value Value Streams

Identify 2–3 Value Streams that deliver the most business impact (e.g., "Customer Engagement" or "Employee Onboarding").

- Map strategic objectives → Portfolios.
- Connect Portfolios → Services and Offerings.
- Link downstream to Incidents, Changes, and CI relationships.

3. Use Lifecycle Mapping for Governance

Adopt the standardized Lifecycle Stage and Status fields in CSDM 5:

- **Stages** (e.g., Plan, Design, Build, Deploy, Retire).
- **Status** (e.g., Active, Pending, Retired).

Apply these to Products, Applications, and Services to ensure clarity and consistency across portfolios.

4. Create Traceability Across Systems

Use authoritative sources and ServiceNow's Service Graph connectors to federate data:

- Connect ERP cost centers with Value Streams for financial alignment.
- Map HR employee roles to Service Ownership within Lifecycle Stages.
- Integrate DevOps pipelines into the Build & Integrate domain for live traceability.

5. Communicate in Business Terms

Executives respond to **value delivery**, not service tables. Show how Value Streams demonstrate ROI by:

- Linking demand to funded initiatives.
- Showing lifecycle health reports for critical services.
- Highlighting KPIs tied to business outcomes.

Example Implementation Steps

1. **Inventory Existing Value Streams:** Document current business processes, ITIL flows, or SAFe portfolios.
2. **Map to CSDM 5 Constructs:** Align existing terminology to CSDM Value Streams and Lifecycle stages.
3. **Pilot Mapping:** Start with one strategic Value Stream (e.g., "Digital Product Launch").

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4. **Apply Lifecycle Controls:** Enforce Stage and Status fields for services in that stream.
 5. **Validate Traceability:** Confirm that incidents, changes, and demands tie back to the stream.
 6. **Expand and Standardize:** Roll out mappings to additional streams and domains.
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Benefits

- **Transparency:** Traceability from strategic goals to operational outcomes.
 - **Consistency:** Unified lifecycle stages across services, products, and assets.
 - **Governance:** Stronger controls and compliance reporting.
 - **Alignment:** Brings existing frameworks (ITIL, SAFe) into harmony with CSDM 5.
 - **Business Value:** Makes service management measurable in terms executives understand.
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Conclusion

Approaching Value Stream and Lifecycle Mapping with an existing framework doesn't mean starting over. It means **harmonizing current processes with CSDM 5's structure**, gaining consistency, and improving traceability. By starting with high-value streams, adopting standardized lifecycle stages, and federating authoritative data, organizations can achieve the dual goals of **business alignment and operational excellence**.

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Prerequisite (knowledge) level: Intermediate

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Managing Multiple Authoritative Sources in CSDM 5

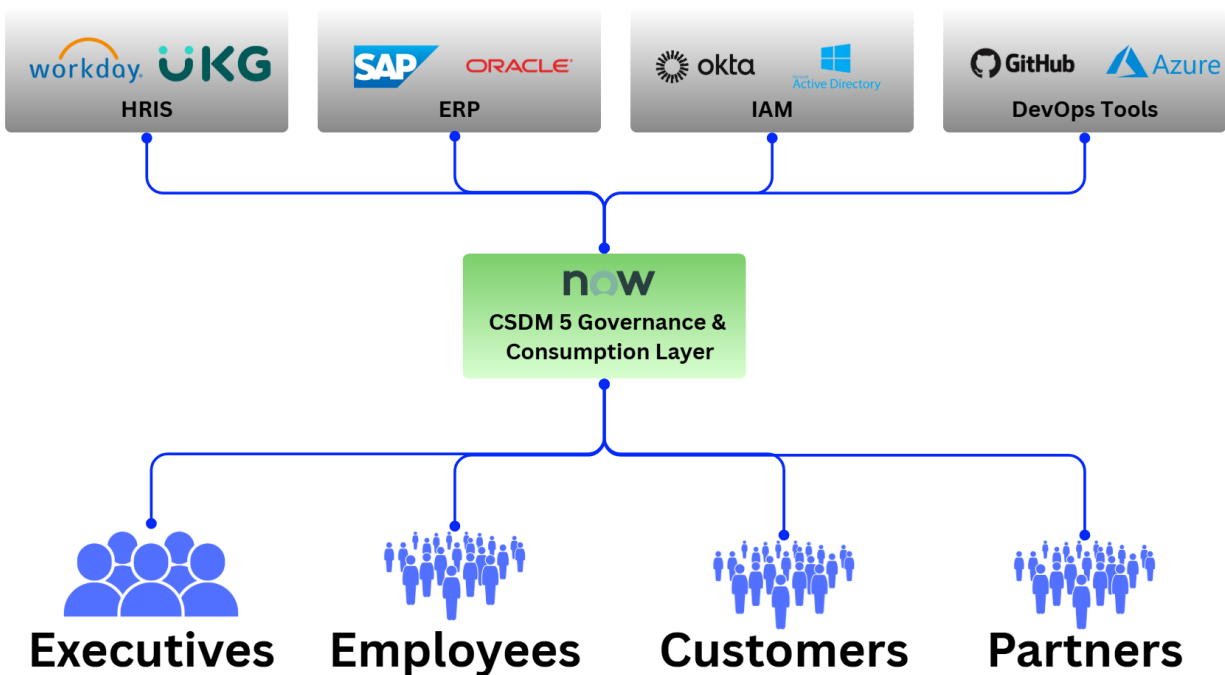


Figure 3 - Federating Multiple Authoritative Sources in CSDM 5

Introduction

Enterprises rely on a network of systems—ERP, HRIS, IAM, CMDB, and more. Each holds authoritative data for its domain. Without proper management, duplication and inconsistencies can erode trust. With CSDM 5, the goal is not to centralize all data into ServiceNow but to **federate and govern** it effectively.

Why It Matters

- **Accuracy:** Ensures data in ServiceNow reflects true records of authority.
- **Efficiency:** Reduces duplication and integration complexity.
- **Trust:** Stakeholders trust dashboards and reports when governance is clear.
- **Enablement:** A clean model supports AI, automation, and analytics.

Principles for Managing Multiple Sources

1. Define Systems of Record

- **HRIS (Workday, SuccessFactors):** Employees, organizational hierarchy.
- **ERP (SAP, Oracle):** Financials, cost centers, vendor contracts.
- **IAM (Okta, Active Directory):** Identities, access roles.

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- **ServiceNow CMDB:** Services, offerings, CIs, and relationships.

2. Federate, Don't Replicate

- Reference external IDs rather than copying entire data sets.
- Example: Link a Service Owner in ServiceNow to their Workday employee record.

3. Synchronization and Reconciliation

- Use **scheduled jobs, APIs, and IntegrationHub** to sync critical attributes.
- Implement reconciliation policies to detect drift between systems.

4. Shared Governance Across Domains

- Assign data stewards for each authoritative source.
- Establish **SLAs for updates** and reconciliation intervals.
- Use cross-domain governance boards to adjudicate conflicts.

Example Integration Pattern

```
// Scheduled job to sync cost centers from SAP into ServiceNow
(function() {
  var response = new sn_ws.RESTMessageV2('SAP_CostCenters', 'GET').execute();
  var result = JSON.parse(response.getBody());
  for (var i = 0; i < result.items.length; i++) {
    var cc = new GlideRecord('cmn_cost_center');
    cc.get('code', result.items[i].code);
    if (cc.isNewRecord()) cc.initialize();
    cc.name = result.items[i].name;
    cc.u_source = 'SAP';
    cc.update();
  }
})();
```

Prescriptive Guidance

- **Inventory systems:** Document each authoritative source and its ownership.
- **Define integration flows:** Decide which attributes to federate into ServiceNow.
- **Monitor synchronization health:** Build dashboards for data freshness and drift.
- **Evolve gradually:** Start with high-value integrations (SAP, Workday) and expand.

Conclusion

Managing multiple authoritative sources is central to CSDM 5 success. The goal is **federation, not duplication**—ensuring ServiceNow becomes the governance and consumption layer rather than a data dumping ground. This approach ensures cleaner data, higher trust, and a stronger foundation for enterprise automation and AI.

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Governance Checklist for Managing Authoritative Sources in CSDM 5

Purpose

This checklist provides prescriptive guidance for establishing governance when managing multiple authoritative data sources within the CSDM 5 framework. It ensures that data quality, ownership, and accountability are consistently enforced across the enterprise.

Governance Roles

- **Data Stewards:** Assigned to each domain (HR, Finance, IT, IAM) to maintain accuracy.
- **Service Owners:** Ensure services and offerings are mapped and linked correctly.
- **Governance Board:** Cross-functional team to resolve conflicts, approve standards, and monitor compliance.
- **Integration Owners:** Oversee API and data pipeline management.

Processes

- **System of Record Identification:** Clearly define which system is authoritative per domain.
- **Data Synchronization Cadence:** Establish SLAs (daily, weekly, real-time).
- **Reconciliation Rules:** Define how discrepancies are detected and resolved.
- **Change Management Alignment:** All schema or model changes reviewed by the governance board.

Tools & Automation

- **IntegrationHub/ETL:** Automate data sync between ServiceNow and external systems.
- **Monitoring Dashboards:** Track freshness of federated data.
- **CMDB Query Builder:** Validate relationships and service alignment.
- **Data Quality Reports:** Automated alerts for incomplete or stale records.

Governance Checklist

- ☐ Identify authoritative sources for all key domains (HR, Finance, IAM, Services).
- ☐ Assign data stewards and document responsibilities.
- ☐ Define data ownership in a living governance playbook.

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- ☐ Establish SLAs for synchronization and reconciliation.
 - ☐ Build automated integration pipelines.
 - ☐ Implement monitoring dashboards and alerts.
 - ☐ Set up regular governance board meetings (monthly/quarterly).
 - ☐ Train stakeholders on governance roles and policies.
 - ☐ Review and update governance documentation annually.
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Conclusion

Governance of multiple authoritative sources under CSDM 5 ensures consistency, accountability, and resilience. By following this checklist, organizations can prevent data conflicts, reduce integration risks, and build trust in the enterprise service model.

Business Benefits of CSDM 5

- **Strategic Alignment:** Create end-to-end traceability from ideation to delivery.
 - **Faster Innovation:** Streamline demand-to-service pipelines.
 - **Operational Efficiency:** Shorten MTTR with clear service ownership.
 - **Compliance:** SBOMs provide visibility for audits and security.
 - **AI Readiness:** Structured data fuels autonomous operations.
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Conclusion

This white paper has illustrated how **CSDM 5** transcends being merely a schema—it embodies a strategically driven, enterprise-grade operating model. It bridges business objectives, fleet-scale IT operations, and future-ready automation under one unified structure.

In line with the **ServiceNow CSDM 5 White Paper** by Scott Lemm and Rob Koeten, our guidance emphasizes the following foundations:

- **End-to-End Service Lifecycle:** CSDM 5 uniquely encompasses **seven distinct domains**—from Ideation & Strategy through Design & Planning, Build & Integration, Service Delivery, Service Consumption, all the way to Manage Portfolios—facilitating complete traceability of business value through delivery processes.
- **Enterprise Scope and Scalability:** It shifts the focus from purely IT-centric modeling toward enabling **cross-functional services**, including Data, AI, Network, Facility, and Operational Process services. This expansion positions ServiceNow as the backbone of enterprise service delivery.
- **Prescriptive, Future-Proof Modeling:** New constructs—like **Product Models, Software BOMs, Value Streams, and Lifecycle Stages**—create a robust structure for not only service delivery, but also strategic planning, compliance, and automation readiness.
- **Inclusive Vision for Digital Value Networks:** CSDM 5 lays the groundwork for **seamless alignment** between investment (SPM, portfolio planning), execution (DevOps, AI change models), and delivery (service instances, service consumption). ServiceNow positions this framework as central to achieving digital business transformation.