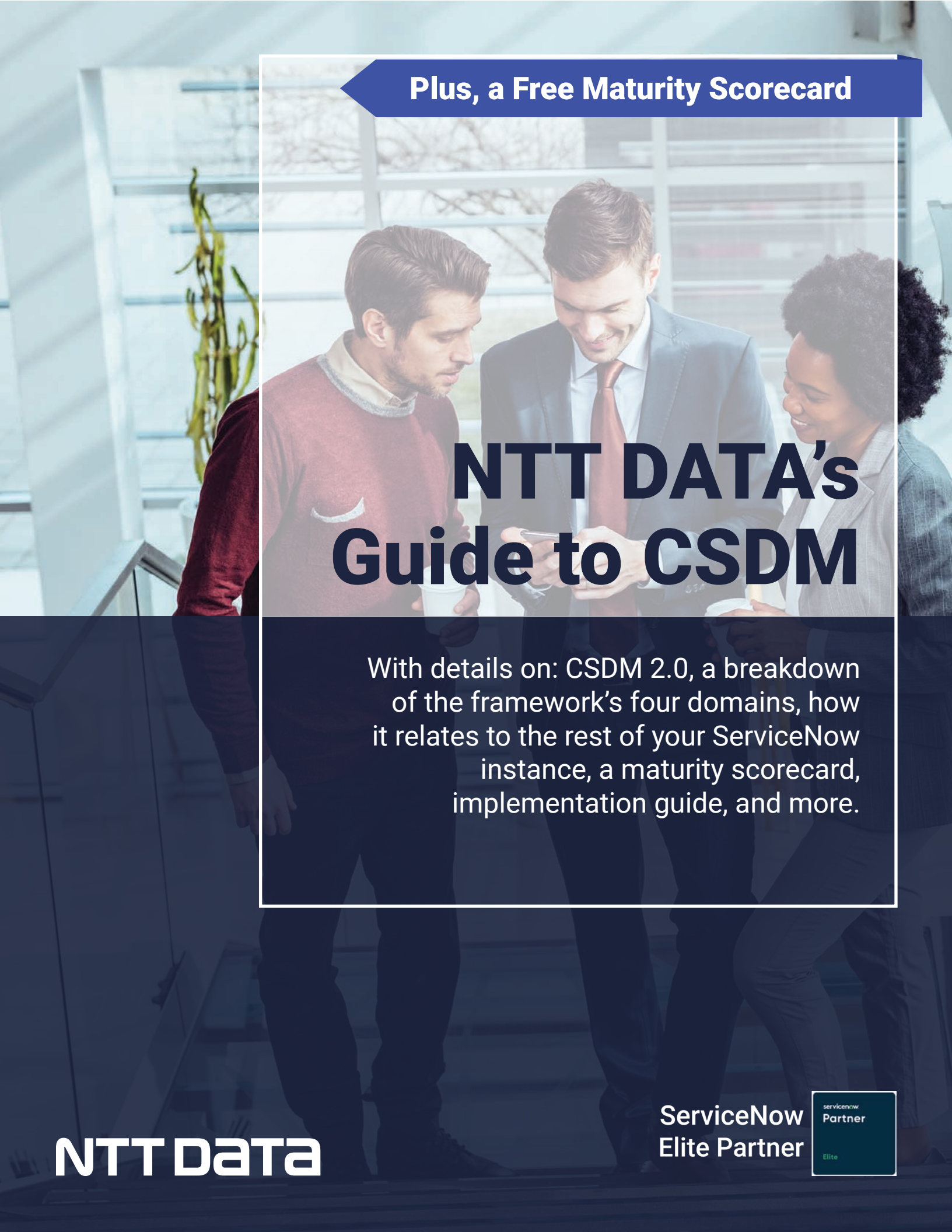

Plus, a Free Maturity Scorecard

NTT DATA's Guide to CSDM

With details on: CSDM 2.0, a breakdown of the framework's four domains, how it relates to the rest of your ServiceNow instance, a maturity scorecard, implementation guide, and more.

NTT DATA

ServiceNow Elite Partner

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Introduction

The Common Service Data Model (CSDM) represents a standard and shared set of service-related definitions across the ServiceNow platform. These standards are then translated into a CMDB Framework for use by all of the platform's products.

As the ServiceNow product expands across the enterprise, it is becoming more and more important to have a solid base from which to build your Service Management organization. By coupling your "Service Centric" mindset with configuration items that provide service, you get more accurate reporting of service costs and data in the right location (for the right reasons). And in this lies the need for ServiceNow's Common Services Data Model (CSDM).

CSDM is a prescriptive, singular set of service-related definitions that span the ServiceNow product portfolio and the Now Platform; Together, they form the basis for the CSDM framework. ServiceNow is currently in the works of standardizing this shared set of definitions to ensure accurate service reporting and consistent use of terms, as well as to provide prescriptive guidance on service modeling.

To get this clear from the very beginning, CSDM is not a separate application purchase within ServiceNow nor is it something to be customized. There is no code to be implemented or learned, or a set of reports to be read. It is Service Modeling guidance for clients who do not wish to risk not realizing the full value of the platform.

While CSDM originated in Kingston with Business Capability and Business Application, it wasn't until New York that CSDM included what we are going to cover in the rest of this book. The framework includes mappings for service-related tables and CI class mappings. ServiceNow is continually extending the scope of CSDM to include more prescriptive guidance for IT Service Management (ITSM), Customer Service Management (CSM), HR Service Delivery (HRSD), IT asset management (ITAM), and other ServiceNow product areas.

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Users and Personas

Page 5

Understand the distinct user groups for each of the four CSDM domains.

Maturity Scorecard

Page 15

Score your current business maturity.

The Four Domains of CSDM

The CSDM conceptual model contains the following domains; Design, Manage Technical Services, Sell/Consume, and Manage Business Services.

The CSDM conceptual model contains the following domains; Design, Manage Technical Services, Sell and Consume, and Manage Business Services. Each of these domains loosely corresponds with one or more ServiceNow products, services, or service types. Before we dive into the details of these domains, it is important to understand the following definitions.

Services and Service Types
A service enables you to achieve the outcomes that you want with minimal risks and without incurring costs. This definition is consistent with the base definition of "service" in the ITIL framework. Services typically have three components: the interaction, the offering, and the service system. For the sake of CSDM it is important to remember that Services and Service Types are not a single item, but rather the whole system that a single item effects.

For example, think of your trash service. If the trash service doesn't come and pick up your garbage, it could be because of one of the many individual items that make up the service (flat tire, late driver, traffic) is out of place, with the end result being actual service is effected.

Base System Service Types
ServiceNow includes these base system service types which you can extend to align with the service types in your organization.

- *Business Services*. Business services are associated with business users. Business services are typically lower-level leaf nodes of business capabilities in a structured hierarchy.
- *Technical Services*. Technical services are associated with service owners. Technical services are typically lower-level leaf nodes of one or more business or application services in a structured hierarchy.
- *Application Services*. Application services are logical representations of a deployed application stack.

CSDM Users and Personas

Strategy & Design

Enterprise Architect

Application Owner

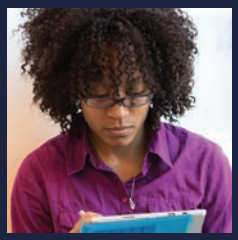
Business Service Consumption

Business Consumer

Service Owner

Manage Technical Services

Technology Service Owner



Application Service Owner

Technical Service Consumption

Technology Consumer

Strategy & Design Domain

The Design domain represents the tables currently in use by ServiceNow Application Portfolio Management (APM) .

While the Design domain represents the tables currently used by APM, these tables are not operational. Because these tables are not operational, you can't select them for Incident Management and Change Management.

The Design domain includes the following tables:

- Business capability [cmdb_ci_business_capability] table
- Business application [cmdb_ci_business_app] table
- Information object [cmdb_ci_information_object] table

While you're not required to use APM to use these tables, you can capitalize APM to rationalize and manage your business applications.

Business Capability

A business capability is a high-level capability that your organization must execute to complete a business model or fulfill a mission. It is typically associated with performing specific tasks needed to achieve one or more business outcomes and often listed as verbs (for example, manage financials or provide IT support services).

To improve business capabilities, establish a relationship between the following configuration items (CIs):

- The business capability and the business application (for visualization and reporting purposes).
- The business application and the business service.

These relationships enable you to:

- Determine if the provided services are meeting key strategic initiatives of the business capabilties.
- Rationalize the business applications used are fit for purpose and are not duplicated.
- Evaluate the cost of business applications to the business

An accurate service model that includes these relationships can serve as the foundation for strategically aligned architectural decisions.

Business capabilities are recorded in the [cmdb_ci_business_capability] table.

Representing Business Capabilities in a Hierarchy

You can also represent business

capabilities in a hierarchy that includes a parent business capability and one or more lower-level (child) capabilities. These lower-level capabilities are called “leaf nodes.” Leaf nodes are represented by numeric values, such as 1.0 for the parent and 2.0 through 6.0 for the leaf nodes.

If you add, update, or delete a capability at a leaf node, update the levels of all the capabilities for the leaf nodes in that hierarchy, as applicable.

To update the capabilities, click the Update Capability Level and HierarchyID related link in the Business Capability form. Updating the capabilities ensures that the capability map reflects the change. When you’re updating business capabilities, note the following guidelines:

- When adding a capability, the hierarchy level is automatically assigned based on the parent capability level.
- If the parent capability is updated in the hierarchy, the levels of all its leaf node capabilities are recalculated.
- The total number of leaf node levels can’t exceed six in the hierarchy.
- Only leaf node-level capabilities or capabilities without leaf node levels can be deleted.
- Don’t create circular relationships. For instance, when creating a parent capability, a leaf node capability can’t be its parent.

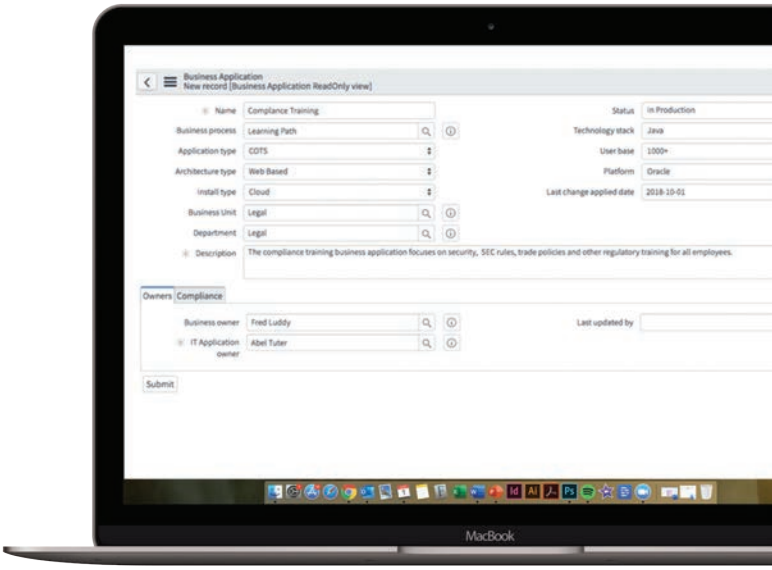
Business Application

A business application represents the software and infrastructure (for example, the titles catalog) used to provide a business function. Business applications increase productivity and perform other business functions, such as accounts payables, accounts receivables, and general ledger.

Expert Tip:

If a business capability hierarchy requires more than six levels, consider using multiple business capabilities.

A business application can span geographies (for example, Americas, the Asia Pacific Japan (APJ), or regions (for example, Europe, the Middle East, and Africa [EMEA]).



You can enter the details of a business application by using the Business Application form. Alternatively, you can import the list of applications from a spreadsheet or a third-party tool. To import data, define a data source and a transform map, and run or schedule an import. Although not required, you should use a business application.

Because the business application is a manually managed CI class, you must also manually create its required relationships. For example, you must create relationships between the business application and other CIs, such as the instances of the application services in use.

Creating relationships also enables you to relate business applications to infrastructure CIs, such as databases and web servers. Using APM, you can add any business application for which you must track costs, usage, business value, functionality, and risks.

Information Object
Referenced by the business application, the information object is part of the information portfolio. The information object is a CI that displays information in an organized form; An information object describes the type of data (or the information) that the application receives from the database.

You can use the object table to identify the types of data a business application uses, including highly sensitive data such as:

- Personally Identifiable Information (PII)
- Payment Card Industry Data Security Standard (PCI DSS) data
- Health Insurance Portability and Accountability Act (HIPAA) data

Expert Tip:

If needed, you can integrate or connect two or more applications to establish their relationship.

Manage Technical Services Domain

This domain represents the tables currently used by ServiceNow ITOM, such as Service Mapping and Discovery. While you aren't required to use Service Mapping and Discovery to use the tables, these two ServiceNow products let you manage configuration items (CIs) and their relationships.

The CIs in this domain are the discovered items, such as installed applications, servers, and network components.

The Manage Technical Services Domain also represents the portfolio of technical services in use. These services are operational, which means that you can select them for Incident Management and Change Management. The typical users are application service owners and technology service owners.

Application Service
An application service is a logical representation of an application stack in use. Using application services, you can view maps and change history for services. If you're using Event Management, you can monitor service performance and identify health issues for application services.

Application services are the entry points for Service Mapping. Mapped to the CMDB [cmdb_ci_service_discovered] table, Application services are layered beneath a business or technical service.

Application services are key relationship entities for ITSM, ITOM, ITBM, and SPM; they include relationships between business applications, business services, technical services, applications, and infrastructure CIs. You can expose an application service by using the related business or technical service offering;

- *Application*. An application is any program or module used to complete a specific function. An application defines behavior and is associated with a specific function. Applications are typically discoverable instances and provide a specific set of functions for one or more services. ServiceNow limits applications to those applications on a single host. This limitation ensures that the applications are uniquely identified during discovery. Also, there's a one-to-many (and not a one-to-one) relationship between the application and the application service. A single installed application, such as a database instance, may support multiple application services. The application table [cmdb_ci_appl] is not an inventory or portfolio of your applications. Inventory or application portfolio objects belong in the business application table (as documented in Design domain). The application table and extended tables contain those uniquely discovered instances of code in use on the host. Applications are considered infrastructure CIs.

- *Infrastructure CIs*. Infrastructure CIs are managed physical and logical components. A CI may be a single module, such as a server, database, or a router. A CI may also be a complete system (for example, a web server, database, or infrastructure.) The underlying infrastructure components or CIs can be complicated. This complexity increases as data structures are layered on top of those physical CIs. For that reason, you should work with a business relationship manager or enterprise architect to define the various business capabilities and business applications.

Technical Services

Technical services are associated with service owners and are typically layered beneath one or more business or application services.

When you use technical services, you can view and manage the technology that you provide to the business. If you're using Event Management, you can monitor service performance, and identify health issues for related infrastructure CIs and application services.

Technical services are mapped to the [cmdb_ci_service] table and are classified as "technical services." Event Management-enabled technical services are mapped to the [cmdb_ci_query_based_service] table. A technical service may have one or more technical service offerings.

Technical Service Offerings

Technical service offerings (SO) divide technical services into these options:

- Location or geography
- Environment
- Pricing
- Availability
- Capability
- Support group (for incident)
- Technical approval group (for change)
- Packaging options (commitments)

You can use the technical service offering to set different levels of performance and select features for a given technical service.

A service commitment defines the service delivery obligations agreed to between the consumer and the provider.

The technical service offerings map to the [service_offering] table, are classified as "technical service," and derive from the service. The technical service offering is based on how the parent serves a specific technical need. Every operational technical service should have at least one technical service offering.

Expert Tip:

Beginning in the New York release, you can request technical services through the Request Catalog.

Sell & Consume Domain

The Sell/Consume domain represents the tables currently used by Service Portfolio Management (SPM) and CSM.

You're not required to use SPM or CSM to use the referenced tables. However, using these ServiceNow products enables workflow management and report service-related data.

Business Service Portfolio
At the highest level, a portfolio is a collection of services, products, projects, or applications. You can use it to group and manage items for a business. You can group items by:

- Objective
- Capability
- Organization (for example, enterprise resource planning [ERP] or financial management)
- Geography

A business service portfolio is a hierarchical collection of business services. The business service portfolio contains products and services, which in turn can be used to define strategic business objectives and manage the life cycle of those services.

Business Service
A business service is associated with business users and is typically layered beneath one or more business capabilities. Business users can use the Request Catalog to order business services, service offerings, and service commitment levels. The business services are mapped to the [cmdb_ci_service] table and are classified as "business services."

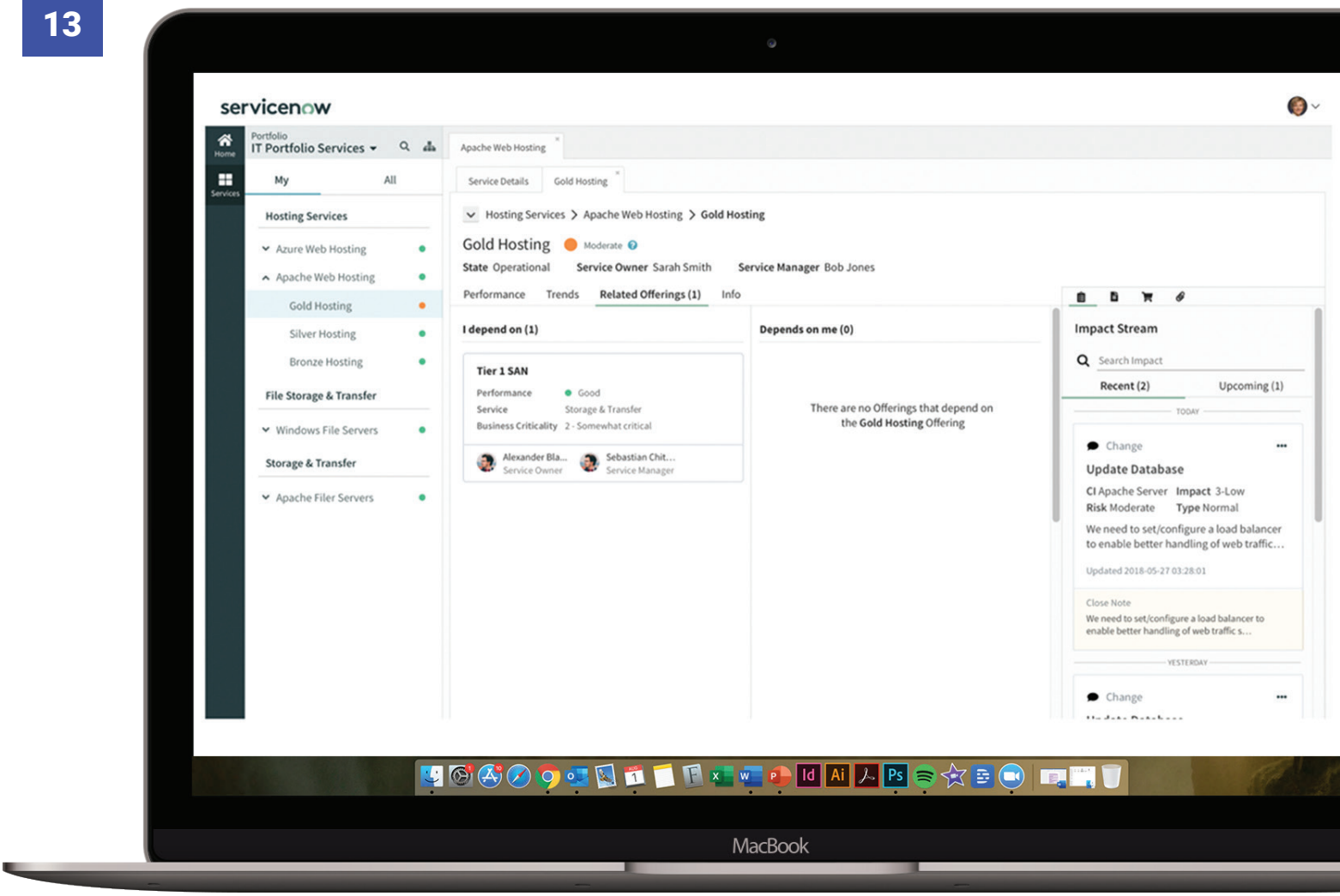
A business service may contain one or more business service offerings.

Business Service Offerings
Business service offerings are the starting point for configuring SPM. Business service offerings consist of one or more service commitments, which define the level of service in terms of availability, scope, pricing, and other factors. For example, an organization may offer two levels of desktop support:

- A "standard" offering of upgrades and virus protection.
- An "executive" offering with the standard commitments, plus a response time guarantee. For example, this offering could be a response time of 30 minutes between the hours of 8:00 a.m. and 5:00 p.m., Monday through Friday

Business service offerings have the following characteristics:

- Business service offerings divide the service into capability, availability, pricing, and packaging options. You can use the service offering to set different levels of performance and features for a given service.



- Business service offering commitments define the agreed-upon service delivery obligations. Service offering subscriptions record which users have access to an offering.
- Business service offerings are the specific ServiceNow records that identify the specific business area and the entity where the service is delivered. Some business services and service offerings depend on the application service.
- Business service offerings are derived from the service and refined depending on how the parent serves a specific business need.

Business service offerings typically have different Service-Level Agreements (SLAs). Without a business service offering, your SLAs remain at a process level only. For example, the SLA stays at a P1 incident or a minor change and doesn't refer to the service offering affected. You can represent business services and offerings in the service catalog (by catalog items) and make them available for consumers.

Expert Tip:

Think of the Manage Business Services domain as a layer on top of the CSDM conceptual model. This domain incorporates portions of the other CSDM domains.

Manage Business Services Domain

This domain represents portions of the other CSDM domains: Design, Manage Technical Services, and Sell/Consume. Think of the Manage Business Services domain as a layer on top of the CSDM conceptual model. This domain incorporates portions of the other CSDM domains.

For example, the service owner may be responsible for more services than just the services in the Sell/Consume domain. If the service owner is in HR, for example, they may be financially responsible for the business application that provides HR services. That same service owner for HR may need to manage the HR application instances (known as application services). The service owner may also be accountable for the impact the application has on the business. Because of these additional responsibilities, CSDM lets service owners oversee the business applications and their deployed instances. This visibility lets service owners accurately gauge their responsibilities.

CSDM Maturity Scorecard

1 Initial	• Ad-hoc, no strategy • Low-level maturity in the platform • No documented processes	• No CMDB or manually populated CMDB • No clear roles or RACI
2 Developing	• No strategy • Informal processes • CMDB used operationally • CMDB populated manually	or with integrations • Manual mapping • No clear roles or RACI
3 Defined	• Strategy defined and documented • Documented processes • CMDB used operationally	• Manual mapping • Roles and responsibilities defined • Technical services defined
4 Managed	• Strategy defined and documented • Services defined and auto-mapped • Automated data population • Proactive operational processes	• Data Certification and Auditing • Alignment between IT and the business • Roles and responsibilities defined

CSDM Framework Implementation Guide

Implementing CSDM is all about a phased approach, similar to other products and services on the ServiceNow Platform. From crawl to walk to run, each stage builds on the previous one.

CSDM is Service Modeling guidance for clients who do not wish to risk not realizing the full value of the platform.

Stage One: Crawl

The crawl stage focuses on goals you can achieve with IT Service Management (ITSM). Start by focusing on applications and the application-related data in these areas and tables:

- Business application [cmdb_ci_business_app] table
- Application service [cmdb_ci_service_discovered] table
- Application [cmdb_ci_appl] table

Benefits of Stage One
No matter what kind of implementation you are undergoing, the first stage is going to paint the picture for the rest of your roadmap. It is essential that you spend the necessary time here, consulting with key stakeholders and trusted partners to establish your base.

For CSDM, the crawl stage provides the minimum CMDB requirements necessary to provide Incident Management and Change Management and will serve as your foundation for using APM. When you use APM, your business application data is in the right place in the CMDB, which makes setting up APM faster (not to mention more accurate for all the following stages).

The crawl stage also acts as a foundation for using Service Mapping. When you use CMDB, your application service data is populated and ready to use for mapping the entry points. Without this stage your organizations would not be able to manage the life cycles and versions of the technologies that underlie the business applications you're using. When you use CMDB and SAM together, you can identify outdated or at-risk software.

Stage Two: Walk

Applications that you're using and the network infrastructure need someone to manage and support them. This stage focuses on doing that management and is a good time to think about Service Mapping and Event Management. The following ServiceNow tables identify the technology provider:

- Technical service [cmdb_ci_service] table, or [cmdb_query_based_services] table for Event Management. This base system CMDB table identifies the provider of the technology that your business consumes.
- Technology service offering [service_offering] table. Technical service offerings may be further divided as follows; location and geography, environment (production or non-production), pricing, availability, support group (for Incident Management), technical approval group (for Change Management), and packaging options (commitments).

The technical service offering comes from the service and is refined based on how the parent serves a specific technical need. Every operational technical service should have at least one technical service offering.

Benefits of Stage Two

While the crawl stage set up your structures, the walk stage facilitates managing the discovered infrastructure CIs. Manually managing the metadata on these CIs, such as support group and technical approval group, can be involved. By identifying the technical service offering that manages these CIs, you can:

- Configure ServiceNow to populate and synchronize this metadata onto the related child objects.
- Eliminate the manual effort of maintaining the metadata on thousands of CIs

It is also during this second stage that you will also establish a view of those CIs, applications, and technology owners. You can see the specific support assignments, which you can change as needed based on your support structure, operational-level agreements (OLAs), and commitments. Also, this view enables you to formalize for your process for supporting applications and technology owners.

Similarly to crawling, walking serves as a foundation for using SPM. As you continue to use SPM, your service data will continue to be in the right place in the CMDB.

Other benefits of this middle stage include; enabling you to order technology service offerings through the Request Catalog, automating ordering offerings as needed to enhance the request workflow and update or create related CIs (it's important to remember that the Request Catalog is not a CMDB table), creating a foundation for ITOM products, such as CMDB and Discovery.

Stage Three: Run

When you use ITSM, you must understand the impact that a technology can have on your business. For example, your business may:

- Consume the technology provided
- Sell the technology (as is the case with Customer Service Management (CSM)]
- Sell and consume the technology

The run stage focuses on the relationship between the technology and the business that sells or consumes (or does both) for that specific technology. Now that your Business Services are defined, this is also the time and place to fully implement APM and tie those Services back to the Business Capabilities.

Benefits of Stage Three

Completing the run stage means you have aligned your IT with your Service Centric business goals. Also during this stage you will have achieved an impact assessment for Incident Management and Change Management. Within an incident or change, you can identify the impacted business, assuming relationships exist between the selected CI and the impacted businesses.

Additionally, you will have a foundation for using SPM in the Service Owner Workspace. Service owners can monitor service portfolios and understand service-related information including:

- Trends
- Improvement initiatives
- Service performance
- Outage monitoring

Last, after the run stage you will have formed a foundation for ITSM capabilities. This foundation populates the related “Subscribe by” table on a service offering to identify the business and subscribers affected. Business service offerings can identify subscribers by; user, company, location, department, and group.

CSDM Quick Tips

Crowd-sourced directly from our team of CSDM experts, here is an assortment of 6 CSDM quick tips to help kick-start your understanding of CSDM.

1. Business Application may be any application, homegrown or purchased off the shelf, used by the business or used for technical reasons. Example of this include; Active Directory, Backup Exec, LogicMonitor, or SolarWinds.

2. A Business Capability may include “Managing Information” or a Core Capability that requires security, data management. etc. Therefore a technical application can be considered a “Business Application”.

3. Every Business Application will have an Application Service.

4. The Application Service, if used by the business, would have a corresponding Business Service Offering that depends on the Application Service.

5. Both Technical and Business Service Offerings reference (or can relate) up to a Service. In some cases, there may not be a “Technical Service” that underpins the Application Service. Typically, found in SaaS applications that are a “End User” type of business service offering such as Zoom. Similarly, in some cases, there may not be a “Business Service” that underpins the Application Service. Typically found with Technical Applications like LogicMonitor, Backup Exec, Active Directory, and Okta.

6. In some cases, there may not be an Application Service or Business Application. Typically found with Technical Service Offerings related to Infrastructure CIs; a Technical Service for Compute/Hosting Service with offerings for “Windows Servers” “Linux Servers”. This can also be found with Desktop Software, Desktops, Printers – Business Service Offerings that are used by the business but have no underlying infrastructure stacks that needs maintenance and support.

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