ServiceNow Discovery

The IT challenge

You rely on your ServiceNow® Configuration Management Database (CMDB) to manage your IT infrastructure. By providing a centralized record of your applications and infrastructure—and how they are related—it helps you to quickly diagnose and remediate outages, minimize the risk of changes, optimize infrastructure spend, lower operational costs, and avoid software license compliance penalties. To deliver these benefits, your CMDB needs to be accurate and up to date. However, if you use manual processes to populate your CMDB, there's no easy way to keep up with constant infrastructure changes or avoid data entry errors. Your CMDB becomes increasingly unreliable and can ultimately fall into disuse as people lose trust. Dynamic virtualized and cloud environments make things even more challenging since changes are now automated and happen in minutes.

The ServiceNow solution

ServiceNow® Discovery discovers your entire IT infrastructure, creating an accurate and up-to-date record in your ServiceNow® CMDB. It discovers both physical and logical components, including virtual machines, servers, storage, databases, applications, and more. It can even discover your custom applications using application fingerprinting—supervised machine learning algorithms that automatically identify new types of applications as they are deployed in your network. It also provides Application Dependency Mapping (ADM), identifying upstream and downstream dependencies to the TCP port and process level.

Consistent and extensible data model

The ServiceNow CMDB is built on a single data model with a standard taxonomy, predefined semantics, consistent format, data quality standards, and common processes. Every ServiceNow application uses this data model, ensuring that the ServiceNow CMDB delivers value out of the box and that ServiceNow applications work seamlessly with each other. You can also easily extend this data model—for example, you can extend out-of-the-box tables and views with a few mouse clicks.

Built to keep pace with dynamic multi-cloud environments

Discovery provides real-time visibility of public and private cloud environments by integrating with notification-driven cloud vendor configuration interfaces such as the AWS Config API, while still offering the option of scheduled and on-demand discovery. In addition to Amazon AWS, it also supports Microsoft Azure, Google GCP, and IBM Cloud—including both IaaS and PaaS infrastructure—as well as container and serverless technologies such as Kubernetes, Docker, and AWS Lambda. It also supports Oracle Cloud—including IaaS and DBaaS. This includes collecting tag data. It also discovers VMware, Citrix, Red Hat OpenShift, and Nutanix Hyperconverged Infrastructure, as well as traditional on-premises environments.

A trusted single system of record

Discover your entire IT infrastructure, creating a complete, up-to-date, and accurate record in your CMDB, ensuring data integrity and consistency

Accelerate your multi-cloud strategy

Get real-time visibility of your multi-cloud and virtualized on-premises infrastructure, including out-of-the-box support for Amazon Web Services, Microsoft Azure, Google GCP, IBM Cloud, Oracle Cloud, VMware, Citrix, Kubernetes, and more.

Confidently ingest third-party data

Includes Service Graph Connectors —certified integrations that ensure data timeliness, integrity, and consistency when ingesting third party data into your CMDB.

Drive operational excellence

Works seamlessly with other ServiceNow products to help you fix outrages faster, strengthen change processes, reduce risk, optimize infrastructure spend, and minimize software compliance issues.

Scalable and secure

ServiceNow's scalable and distributed discovery architecture uses standard protocols and encryption to securely discover your infrastructure.

Ensure data integrity and consistency

Discovery is designed to help you avoid data consistency and accuracy issues. It works seamlessly with the ServiceNow® Identification and Reconciliation Engine (IRE) to accurately map discovered data to CIs and prevent duplicate CIs. It also ensures that discovered data is consistently mapped to the right CIs by enforcing compliance with the CMDB data model. This allows ServiceNow apps to use discovered data out of the box and increases reporting accuracy.
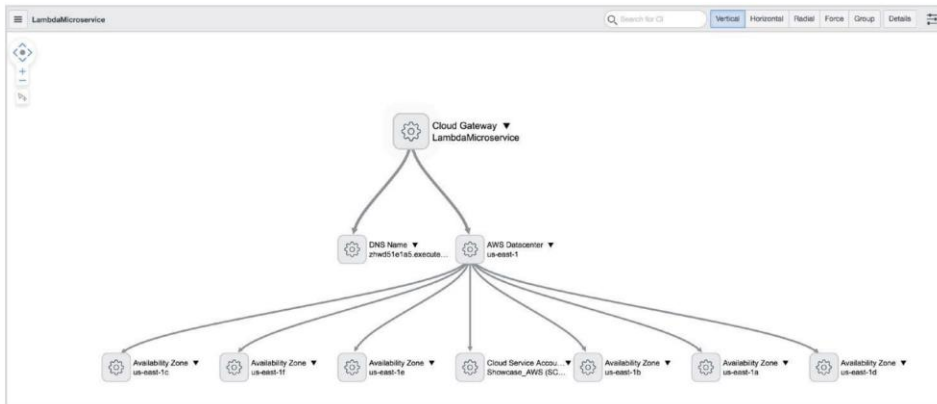
A real-time view of cloud infrastructure and dependencies

Confidently ingest third-party data with Service Graph Connectors

Discovery also includes Service Graph Connectors—certified integrations that allow you to ingest data from third-party systems directly into your CMDB. These connectors are developed and tested by third-party vendors under ServiceNow's rigorous engineering oversight and prescriptive guidance. This ensures data timeliness, integrity, and consistency for third-party data in the same way that Discovery does for discovered data. This includes leveraging the IRE and enforcing compliance with the CMDB data model.

Maximize data quality with a multisource CMDB

Often, the same discovery information is available from multiple discovery sources. Discovery collects and stores data from all these sources and lets you decide which sources should be used to populate your CMDB. For example, if you are collecting data for CI attributes X and Y from sources A and B, you can decide to populate attribute X from source A and attribute Y from source B. You can also switch sources at any time, in which case your CMDB is automatically updated. Discovery provides detailed reports that allow you to determine the available discovery sources for specific CIs, identify data discrepancies between sources, and pinpoint data gaps. This allows you to maximize data quality and completeness in your CMDB by choosing the best discovery sources, to reduce costs by retiring unused discovery sources, and to bring unmanaged CIs that are not currently being discovered under management.

Fast time to value

Get up and running quickly with hundreds of supported devices and services and guided setup tools.

Easy extensibility

Easily add support for new types of infrastructure and services with built-in no-code/low-code tools.

Scalable

Discovery interacts with your infrastructure via distributed Management, Instrumentation, and Discovery (MID) Servers that run securely behind your firewall as a Windows service or UNIX daemon on standard hardware or a virtual machine. MID Servers support a wide range of discovery mechanisms and protocols, including SSH, SNMP. Nmap, WMI, PowerShell, WinRM, SMI-S, and CMI, allowing them to discover virtually any IP-enabled device. Each MID Server handles thousands of IT components, and you can deploy multiple MID servers in a load-balanced or failover configuration to provide almost unlimited scalability and high resiliency,

Secure

MID Servers initiate all communications with your main ServiceNow instance over a single HTTPS connection. This minimizes the risk of incoming attacks on open firewall ports and eliminates the need for a dedicated VPN. Device credentials are securely stored on the MID Server using 3DES encryption, are never transmitted to the main ServiceNow instance, and cannot be redisplayed once entered. Alternatively, credentials can be stored in an external Privileged Access Management (PAM) tool such as CyberArk or BeyondTrust. This allows you to provide least privileged access and enforce credential update policies.

Fast time to value

Get up and running quickly and easily with Discovery's guided setup. This leads you through the steps of deploying a MID Server, adding credentials, creating discovery schedules, and launching Discovery. Discovery also provides a quick-start mechanism for populating IP subnets and ranges, which it then uses to automatically stagger discovery tasks by location. Discovery also comes with hundreds of patterns—pre-built instructions to discover specific types of infrastructure and services. New patterns are released regularly through the ServiceNow Store.

Easily extensible with no-code/low-code tools

You can also create your own patterns with Discovery's built-in pattern framework, which lets you configure new patterns for any IP-enabled device with little or no coding. And there's no need to update all your MID Servers when you want to deploy new discovery patterns; these are automatically downloaded from your main ServiceNow instance to your MID Servers.