



How Discovery and Service Mapping Create Value for IT

IT asset and configuration management are your company's most important service management capabilities. The data you collect and manage in these systems enable both support staff and decision makers to understand your components, where they are located and how they relate to each other. With a complete solution that helps you discover, manage and consume configuration data, leaders can be confident they have the information to keep systems and business processes secure, healthy and under control.

Discover

Your IT and business environments are complex – both in the diversity of components involved and the web of relationships that connect them. Discovery is the means to capture information about your environment from a variety of points-of-view, and then to create digital records that can be used to drive operational activities and informed management decisions. The quality and precision of the discovered data will determine the confidence of the decisions that can be made.



Discovery is the means to capture information about your environment from a variety of points-of-view

Inventory on Demand

Automated discovery efficiently collects inventory data without the time delays or human error that typically occur with manual counts. Because discovery is automated, it is capable of capturing on-demand information about the environment. It can also help your organization capture changes in its environment that your [change-control processes](#) may have missed. With the proliferation of cloud services, dynamically optimized infrastructure and the accelerating rate of business change, having current information to drive decisions is important.

Not only is discovery capable of providing current data about the environment, but also by validating new data against what you have captured during the past. Discovery can help you identify changes in your environment. This information is priceless in situations where you must assess the impact of an incident while it is occurring or diagnose a root cause of a problem.



Collection Methods

There are many different types of components in your IT environment. Discovering all of them will likely involve many different collection methods. Using an agentless approach from a common service can often discover devices connected to a centrally accessible network. For those components that are not centrally accessible or for more frequent detection of changes to servers or endpoints, it may be necessary to deploy collection agents to perform the inventory tasks.

Whether you are using agents or agentless collection (or a combination of both), perhaps, the most important part of discovery is combining and reconciling the independent points-of-view into a single, compounded perspective of your environment. Like a panorama assembled from still-frame photos, the entire landscape doesn't become apparent until you stitch the picture together.



Discovery gives you the raw data you will use to analyze your IT environments. Complete and diverse data you discover about the components and relationships in your environment will enable the creation of higher-resolution Service Mappings of your environment. Automation and the use of multiple types of collection methods are the key to achieving the completeness and diversity you seek.



Manage

Discovery will provide you with considerable data about your IT environment you must then manage. At the simplest level, this requires a Configuration Management Data Base (CMDB) where you can store your asset and configuration data. The CMDB itself is just a container and a fairly simple piece of the puzzle. What is more important (and more complicated) is what is stored in the CMDB. Preventing your wealth of information from evolving into a heap of useless junk data starts with good data design and hygienic practices.



Start with quality inputs

The first rule of ensuring CMDB data hygiene is “Don’t put bad data into your CMDB initially!” You must reconcile discovery with other data sources and the data already stored to address gaps, redundancy, updates and conflicts. You don’t want to store the individual still-frame photos, just the combined panoramic landscape.



Keep it current

Your IT landscape isn’t static – it is continuously changing. You will constantly be making updates to your configuration data as things change in the environment. This isn’t always simple, because not all discovery capabilities will identify changes at the exact same instant. You must have a method to determine when data was captured to assemble it into an accurate timeline of change.



Embracing change

Managing change in your asset and configuration data is essential to ensure the information available to decision makers is complete and accurate. One of the most difficult management tasks is determining when a component or relationship is absent from the environment permanently versus being temporarily inactive, but expected to return. If you are only focused on maintaining the current state in your CMDB (as many IT Service Management systems do), then this is an almost impossible distinction to make with certainty. If your CMDB includes both the current state and the timeline of changes, then there is no need to make any distinction. At any point, the object is either present, or not – it doesn’t matter why.



Protecting Value

Protecting the value of your IT asset and configuration data requires diligent management practices. If you have solid capabilities to refine data as it enters your CMDB and you are able to keep data current and effectively handle things coming and going, then you will be on the right track to preserving the value that you acquired in discovery. Now, it is time to use that data.



Consume

IT asset and configuration details are of little value to your organization while they are locked in your CMDB. Value is realized when information is consumed and used to support decisions and operational processes. Discovery found the gems and configuration management refined them, now it is time to sell or display them. The asset and configuration data that you discover and manage is consumed in 3 primary ways:

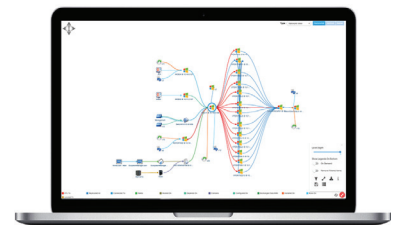
1. Raw data

There are many questions that leaders and operations staff must answer to understand how processes and systems are operating and to identify opportunities for improvements. The IT asset and configuration data in your CMDB contains a digital version of your organization's "connective tissue," which is available to support analysis and decision-making. This core set of data can be used as a backbone to integrate and correlate operational data and observations from other sources, making traditional in-depth data analysis more effective.



2. Service Mapping

Traditional analysis methods are often slow and require specially trained data analysts to combine, organize and synthesize data for consumption. Many of the highest-value uses for your IT asset and configuration data involve real-time decision making. Service Mapping provides a means of working with data in visual form – drawing attributes and relationships directly from the CMDB. Staff and decision makers are then able to "see" what is in the environment and immediately interpret the insights they are seeking.



3. Integrated into ITSM Processes

For common scenarios, raw data and Service Mappings of IT asset and configuration data are often integrated directly into other IT Service Management (ITSM) capabilities, such as a service desk console or monitoring dashboards. The goal in integration is to reduce the number of tools a person must use to do his or her job. Increasingly, Service Mappings are replacing written data in these applications because of their capability to reflect large quantities of data in compact formats that are easy to interpret.



Your organization realizes value from your IT asset and configuration data by consuming it to support operational activities and informed decisions. Service Mappings enable your staff and leaders to access information and interpret insights quickly to make real-time decisions. Accuracy and confidence in these decisions come from the processes used to capture and manage the underlying data.



Realizing value from your IT asset and configuration management efforts requires the collection of high-quality data through discovery as well as integrating independent data, managing change effectively in your CMDB and providing the right capabilities for consuming and using your data. All three sets of capabilities must be present and integrate well to result in an effective IT asset and configuration management solution.

Business continuity depends on IT

Modern companies are hooked on their technology. From digital business processes to workflows that involve sharing data with suppliers and customers, technology is everywhere. When the technology fails however, business stops. To ensure operational resiliency, security and effective risk management, your company must understand its assets and how they are configured together.

Pace of change

The pace of business change is accelerating. Cloud services and modern infrastructure environments are enabling new services to be activated in a matter of minutes, rather than the previous months. Many of these services are self-healing, with automated repair and failover capabilities – causing dependencies to shift without any human interaction. Companies are meanwhile adopting agile development methods that enable technology to be applied to new business problems quicker. All of these services and methods impact your IT asset and configuration data. Capturing data frequently and visualizing changes as soon as they are captured enable you to make assessments and decisions quickly and confidently to benefit your business.



Complexity

Companies' business-technology ecosystems are becoming more complex. Third-party components are introducing new asset types into our environments every day. Cloud services are leading to dynamic reconfiguration of infrastructure and application environments – causing dependency relationships to change almost continuously. The BYO trend means many users bring their own connectivity, devices, operating systems, applications and even data into the workplace. When these BYO assets are considered together, it's easy to understand why companies need the power of discovery and Service Mapping more than ever to understand the complexity and risk of BYOD (bring your own device).



You can't depend on documentation and staff knowledge

Companies evolve with acquisitions, organic growth, divestitures, reorganizations and a big list of other transformational events. Often, these events cause your documentation of the IT environment and supporting processes to become obsolete or, worst, lost. Your employees change jobs – including your SMEs and decision makers. New employees rarely have the same knowledge and context of the people they are replacing. The impact of these changes makes it highly likely that your company has neither the written documentation nor staff knowledge of your complete IT environment.

You can't just take a manual inventory either – the cost to obtain an accurate snapshot manually would be prohibitive. Even if you were able to complete such an effort, then the data would be obsolete before the effort was completed. Automated discovery and Service Mapping are the only methods to obtain the data you need and make it available for consumption quickly and effectively.

Why pairing discovery and Service Mapping is essential to modern ITSM

Discovery and Service Mapping capabilities in isolation add some value to your ITSM processes. Discovery reveals more complete data about your environment. Service Mapping enables quicker consumption and understanding of your data. The big value is a result of using these capabilities together.



Your IT ecosystem is a physical and virtual environment. You can't see and touch everything. You can certainly see equipment in racks, but that doesn't reveal what each piece does and how they are related. Inventory and configuration spreadsheets aren't much better. Human brains understand [pictures and process](#) much better visually than they do in a text format. It makes sense, therefore, that the best way to understand our complex IT ecosystems is through pictures. Unfortunately, to organize and manage data about our IT assets and configurations efficiently, we need it in a digital form – words and numbers.

We use discovery to capture the physical and virtual environment and translate it into data. Service Mapping capabilities enable us to process and render the data into meaningful pictures.



Scenarios and problems this will help resolve

The combination of discovery, configuration management and Service Mapping provide some good generalized capabilities that should be a part of every IT organization's box of tools. Like any tools, just having them isn't enough – you must apply them to real-world problems in your organization. Here are some of the top IT scenarios and problems that these capabilities will help you solve.

1. Incident and Problem Management

Incidents occur constantly. Often, incidents only impact a few users, but occasionally you encounter a major incident with widespread organizational impact. How can you tell the difference? Service Mapping of your configuration management data can help your incident managers:

- ◆ Determine the scope of the systems involved
- ◆ Identify dependencies quickly
- ◆ See the impact to operations clearly
- ◆ Engage the right support teams to restore service
- ◆ Trace root-cause and unreported impacts

Discovery gave you access to the data you need; Service Mappings now enable you to act quickly to assess impact and resolve critical incidents effectively.





2. Data Center Migration

Moving services from one data center to another or migrating to cloud infrastructure environments can be scary and stressful if you don't have the right capabilities and must guess how the process is progressing. Do you actually know what is in your data center and the cloud and how it is all connected? If you are like most IT leaders, then you actually don't (but that's okay, we won't tell anyone) and that's a big problem when you start moving services. Visualizing your IT asset and configuration data across all environments can enable you to:

- See the complete current state of infrastructure, services and dependencies
- Account properly for each in the new environment
- Identify and manage task and risks involved with conducting the migration
- Track shifting dependencies and ensure successful migration
- Re-normalize and optimize operations after the move by seeing the complete "new" picture



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3. Risk Management

Risk management is more than just security, it's about mitigating anything that is likely to go wrong. A solid risk management plan enables leaders to focus on winning in the marketplace with the confidence that the organization is ready to support them. Risk management is an essential part of IT planning as well. Just as in life, IT leaders must accept some risk, but there is plenty against which we can and should mitigate. With a clear understanding of these risks, IT can develop defensive strategies to:

- Make overdue equipment upgrades
- Increase service-level agreements
- Implement effective redundancy
- Close overlooked backdoors
- Boost security and monitoring

By visualizing relationships and dependencies, your IT staff will be more equipped to uncover hidden and not-so-obvious weak links that could threaten the health of your business services.

Other scenarios where you can use these capabilities include:

1. Asset management and taxation
2. New executive onboarding
3. Providing support without deep SMEs
4. Stakeholder communications during major incidents
5. Coordinating suppliers for multi-vendor support
6. Ensuring complete SLA coverage
7. Compliance audits





If a picture is worth 1,000 words, then consider the value of a picture that describes the wealth of knowledge locked in your CMDB. Service Mapping is the key to unlock this treasure trove of knowledge, so your leaders and ITSM staff can leverage it in the countless decisions they make every day. Discovery tools have enabled companies to collect an inventory of their IT ecosystem that is both complex and diverse. Perhaps, the most important part of this inventory is the web of dependencies that show how various components in the ecosystem interact with each other.

Even with automation assisting with the organization of this data, there is too much volume and changes are taking place too fast for humans to consume it effectively, and then synthesize and analyze it in written form. By translating this data into Service Mappings, the data about your IT systems can not only be more easily understood, but also, it will be easier for your staff to associate it with the physical objects the Service Mappings depict.



About Virima

Headquartered in Atlanta, GA., Virima Technologies is an innovator of cloud-based and on-premise IT Asset Management and IT Service Management (ITAM & ITSM) solutions. Through advanced infrastructure discovery and Service Mapping capabilities, Virima links the business processes to the technology and services business rely upon. Virima automates IT operations functions enabling improved service, security, risk and compliance management. The ITAM and ITSM capabilities of Virima deliver insight and value to each of their clients, enabling them to address their entire IT operational needs.

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