MICRO FOCUS

Data Sheet
IT Operations Management (ITOM)

Universal Discovery

Micro Focus® Universal Discovery (UD) software combines the automation of inventory discovery and dependency mapping. Universal Discovery assists with incident, problem and change management, as well as asset management, business service management and transformation projects.

Map IT to Your Business

Are your service dependency maps of IT application and infrastructure frequently out-of-date or non-existent? Can you meet your software asset management challenges with licensing, teaching, and normalization? Can you ensure you're accurately mapping CI's and changes real-time in both your data center and the cloud? Without visibility into IT applications and infrastructure dependencies, it is difficult and time-consuming to prioritize, triage, and resolve incidents.

An understanding of how IT hardware inventory, applications and infrastructure work together in real-time with constantly up to date information is fundamental for effective service delivery. This understanding must be comprehensive, timely, and take into account the complex web of interdependencies that make up today's multi-tiered infrastructures. Without proper management and control, IT assets impose both high cost and risk to your organization. Proper optimization is needed to both save money and reduce risk, in a way that does not unnecessarily increase administrative time and cost. However, if your organization is growing and expanding across geographies, the task becomes even harder.

As software costs increase and security and compliance requirements become more stringent, the risk of being audited increases. This puts greater importance on the need to be aware and in control of all elements of your IT environment—regardless of physical location—with a high level of accuracy.

Product Highlights

Universal Discovery delivers key technology that offers end-to-end IT visibility through a combination of agent, agentless and passive deployment. The discovery engine allows customers to easily gather detailed asset and configuration item (CI) information for specific servers and the applications running on them, as well as inventory and software utilization information.

Virtualization means that in addition to tracking conventional devices, such as notebooks, desktops, and servers, your organization needs to inventory virtual devices. Universal Discovery software helps you meet this need. It works with many popular virtualization technologies to collect information in support of inventory and chargeback requirements. Universal Discovery combines the elements of Micro Focus Discovery and Dependency Mapping Advanced (DDMA) and Discovery and Dependency Mapping Inventory (DDMI) to dynamically discover and continuously map IT hardware inventory and service dependencies. This successful merger provides visibility and control over business services with minimal effort and cost. It also populates a single repository, the Micro Focus Universal Configuration Management Database (UCMDB), to create an accurate model of your IT environment.

Universal Discovery and the Universal CMDB are tightly integrated. UD combined with the Universal CMDB enables a top-down and bottom-up view of the relationships between IT hardware inventory, elements and business services. UD generates an automated, continuously updated map showing both IT elements and relationships, extending to the cloud and populates this data into the Universal CMDB.

This tight integration with the CMDB streamlines data instantiation, updates, and predictive change impact analysis rather than relying on piecing together two or more separate solutions.

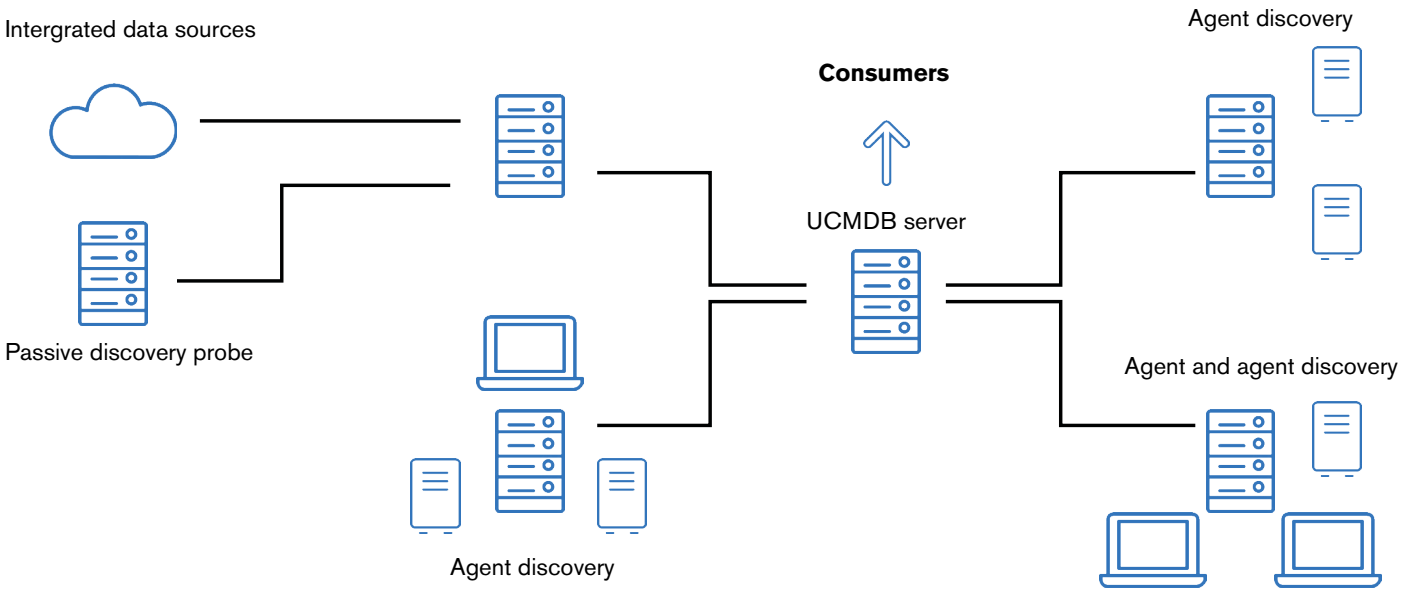

Figure 1. Elements to create an accurate model of your IT environment

Breadth and Depth of Discovery

Universal Discovery provides the basis for understanding the services that IT delivers—from the physical layer of the data center all the way to the business process layer.

Unlike network-oriented discovery products or asset inventory products, Universal Discovery explores assets and configuration items (CIs) from layer 2 through layer 7 of the Open Systems Interconnection (OSI) model, as well as deep-device and application-specific information. Importantly, it also explores and maps the relationships between these elements beyond the traditional uses and contains relationship types. It is object-oriented, allowing specific CIs and relationships to be discovered using a library of discovery patterns that can capture:

- High-level applications and their components, such as WebSphere, WebLogic, GlassFish, MQ, SAP, and Siebel
- JCo3, J2EE or .NET components
- Custom or legacy applications
- Database components, such as tablespaces, users, and jobs
- Servers and server inventory and resources, such as CPUs, memory, network interfaces, and storage devices
- Network devices, such as routers, switches, load balancers, switch ports, VLANs, and firewalls
- Storage elements, including storage arrays, logical disks, and interconnectivity between SAN elements, also included is discovery of VMware storage topology including VMware data stores, VM file systems, local storage on the ESX servers and the relations between them
- Virtual environments for VMware, Microsoft, Oracle VM Server for SPARC and Xen; including virtual file systems, disks, network interfaces, and management servers
- PCs, laptops, printers
- Private and public cloud deployments utilizing Amazon Web Services (AWS) EC2 and vCloud
- Mainframe/iSeries (AS/400) attributes such as LPARs, sysplexes, TCP, UDP, and start tasks, in addition, IPv6 support, address space discovery, Cisco connectivity, and WebSphere discovery
- The relationships that exist between all of the above elements

Third-party product integrations support the discovery and dependency mapping of lower and higher layers of the OSI model as well. For instance, UD integration with the Emerson Aperture product line helps you understand the physical layer of the data center such as what physical racks servers are deployed onto (OSI layers 0 and 1), detailed information on power supply to racks and individual servers. This also enables impact analysis from a power supply point of view and makes it possible to analyze impact of power failure on applications, business services and lines of

business in UCMDB. UD, through the use of a pull adapter, can also leverage the BMC Atrium CMDB by pulling assets, CIs and relationships from BMC Atrium to create the same topology in UCMDB. In addition, integrations with third-party products such as Troux and CiscoWorks can provide insight into which business processes depend on which IT infrastructure.

UD also supports integration with other IT solutions to leverage deep configuration information around specific IT domains. Domains such as storage, server, or network environments can be extended through integration with solutions such as Micro Focus Storage Essentials software, Micro Focus Network Node Manager software, and VMware VirtualCenter.

Gain Control with Universal Discovery

Universal Discovery enables your IT organization to better utilize your hardware and software assets. It helps you identify which hardware devices need to be upgraded. It assists in enforcing compliance by identifying all installations of software (authorized and unauthorized) and allows your organization to optimize software license expenses and avoid penalties for unauthorized use of software. It even identifies what applications are used most frequently to help you further optimize your software expenditures.

Spiral Methodology

Spiral discovery characterizes the Micro Focus approach to active discovery. Active discovery is performed by discovery patterns—essentially pieces of functionality that allow UD to gather a specific type of information. Each discovery pattern gathers only a small piece of the puzzle. By running multiple patterns, each building on the next, a rich model of the IT environment is created. This approach is highly efficient and can be easily tailored to meet the unique requirements of your IT environment.

Hybrid Discovery

In an effort to simplify administration, Universal Discovery uses a single UI and data repository to support both agent and agentless discovery and dependency mapping of assets to provide detailed configuration information. A single data flow probes can now be configured to run an agent discovery, agentless discovery or a combination of both.

Agent-Based Discovery

Secure communications with the discovery agent provides the ability of discovery probes to enable remote management. Additionally, part of simplifying the deployment and management of credentials, Universal Discovery provides a shell protocol which allows agentless discovery patterns to be executed similar to using SSH/NTCMD on end points that have UD agents installed on them. In other words, if a user has an agent on the box, with the protocol a user can now run an agentless scan over the top of the existing agent scan. Agent discovery also introduces a new Call Home functionality to facilitate inventory of users for non-durable connections and the agent will issue a call to collect all the data as soon as element is reconnected to the network. Lastly, UD includes a Native Agent Packaging and UNIX® agents are packaged into the native OS package format allowing the agents to be installed/uninstalled using the native package manager. A wrapper installation script has also been provided to simplify the process.

Passive (Real-Time) Discovery

Universal Discovery integrates with Real User Monitoring (RUM), as a passive discovery probe, to continuously sense network traffic in real time allowing for the capture non-durable connections as well as durable connections. Passive discovery also introduces transaction/application scope discovery. This allows the administrator to capture a true picture of the actions or traffic associated with their infrastructure. Passive discovery keeps a user aware, at all-times, what is presently happening, while an active discovery only captures a scheduled snapshot.

Zone-Based Discovery

Discovery management provides the capability to creating defined zone in the UI for a region of the infrastructure of organization. Customers can define Data Center X as a Management Zone when they need to either discover all windows machines of Data Center X every week and using the same discovery parameters or discovery all J2EE-Servers of Data Center X every day and using the same discovery parameters. Each management zone can have an individual parameter for schedule or discovery category, such as an application or mainframes, for an IP ranges. A retailer might set up each store as a separate management zone for example.

Real-time Discovery in the Cloud

Cloud architectures are changing the industry as they provide end users with the flexibility and agility to self-provision, start, stop, snapshot, and archive components at the IaaS and PaaS levels. This ability allows changes to now occur in minutes versus hours or days. The majority of existing discovery technologies in the industry are schedule-based, and they are unable to keep track of these dynamic changes made in cloud environments in this time frame, causing potential for negative impact to end users if cloud-based changes and CI's are not found and tracked effectively in real-time.

However, UD offers real-time discovery of cloud architectures based on discovery occurring immediately after an event takes place. This allows public (such as AWS, Azure, and GCP) and private cloud changes to be tracked in real-time, and cloud architectures to always be up-to-date.

Asset Management

With out-of-the-box integrations with other products like Asset Manager and Service

Manager within the ITSMA Suite, and Universal CMDB software—Universal Discovery provides a central source of hardware and software inventory data, to help reduce the complexity of IT environments and help optimize the investment in management software.

The device discovery capability of UD automates the discovery, classification, and documentation of every network-connected device, including workstations, laptops, mobile devices, servers, routers, hubs, switches, printers, IP phones, and firewalls. In-depth inventory and usage information is collected via agents from a large range of platforms, including AIX, HP-UX, Solaris, Linux, and Windows.

Accurate software recognition is also the basis for reconciling installed applications to licensable entitlements for both stand-alone and suite-based license grants.

With Smart Software Analytics in UD, the industry-leading IDOL platform for unstructured data search has been added to Universal Discovery. This adds a level of machine learning to software license discovery, providing vastly improved software application index (SAI) maturity within an organization through automated software recognition and teaching.

UD provides an accurate picture of your IT environment through reliable discovery and inventory techniques. It helps you solve key challenges around cost reduction, security, and compliance.

Automated Service Modeling

UD provides the ability to automatically discover and model critical business services and business applications, starting from an entry point for the service (for example the URL of the service) and create a model of a particular service or and enterprise application by automatically leveraging the existing out-of-the-box discovery mechanism. ASM creates service models that are maintenance-free and appear in near real time, by discovering the service in a top-down manner, and update the map automatically. Additionally, ASM can even discover non-web applications and services, triggered from running software.

By using the intuitive dashboard in Universal CMDB Browser users can easily add the layers they are interested in (network, infrastructure, etc..) to create the views they need. This dashboard is the same for ASM and non-ASM services.

Discovery Troubleshooter

Gaining insight into the health of one or more discovery activities just got a lot easier, UD provides a discovery troubleshooter that can be launched to assist in the troubleshooting activities. The troubleshooter can also troubleshoot missing nodes, node elements and running software by Software Identification Rules. This approach allows administrators, from a user interface perspective, to know the health of their discovery jobs.

Controlling Discovery

IT organizations have complete control over the timing, frequency, scope, and downtime windows in the discovery process. For example, you can configure UD to perform a low-level network sweep once per month, discover routers and switches once per week, and discover Web servers every six hours. Each discovery run can add new assets and CIs to the CMDB and make changes to existing CIs. The probe clustering capability provides the ability to assign IP ranges over a cluster of probes to balance the load of large ranges of IP addresses.

Using Discovered Data

Universal Discovery gives you the power to accurately discover what exists in your IT environment and map how it relates to other IT elements that support your business-critical services. This information is then stored in the Universal CMDB and made available to other solutions in your IT environment, allowing everyone in IT to use the same service context. Beyond this, the Universal CMDB provides value-added capabilities that include:

- The ability to capture change history each time a change to a CI is discovered
- The ability to compare CIs or sets of CIs to support a range of IT needs, including compliance and gold standard requirements
- The ability to create simple impact modeling rules that can be used to support predictive change impact analysis
- The ability to export data to other products and services such as ServiceNow, BMC Remedy, CA CMDB and XML to enable easy creation of XML based integrations

Foundation for a Configuration Management System

ITIL recognizes the need for IT to seamlessly share data across the IT ecosystem without regard to where this information is stored. This concept was introduced in ITIL as a configuration management system (CMS). The heart of a CMS is an integrated CMDB that provides access to both core CI data that is stored in a CMDB alongside non-CI data that is stored elsewhere in the IT ecosystem. Federation is the key capability that allows the Universal CMDB to support this seamless sharing of data. This approach:

- Eliminates the need to copy and store large amounts of non-CI data into your CMDB
- Increases the ability to leverage non-CI data stored in multiple IT solutions for both proactive and reactive uses
- Reduces the need to establish and maintain point-to-point integrations across many IT solutions

Micro Focus Universal Discovery Community at Micro Focus Live Network

Universal Discovery community on Live Network is a 24/7 platform for delivering up-to-date content for Universal Discovery. Through Live Network, customers who have purchased UD get access to:

- Downloadable content packs, integration packages, and documentation
- Discussion forums on UD and related topics community contributed discovery content and best practices from partners and customers

Key Features and Benefits

To help you diagnose and resolve problems more quickly, Universal Discovery automatically and continuously discovers your IT environment and maps interdependencies from layer 2 to layer 7 of the OSI model and stores this information in the Universal CMDB. This supports the following benefits:

- Minimize the finger pointing within IT by creating a common view of the services that IT delivers and how the IT infrastructure supports these services
- Accelerate incident and problem resolution through automated change tracking
- Understand the potential impact of changes prior to executing them through predictive change impact analysis
- Identify compliance issues by comparing assets and CIs to gold standards
- Integrate tightly with the Universal CMDB to support ITIL processes
- Automate discovery and inventory of network devices, printers, servers, and desktops in the environment
- Real-time discovery of events in cloud environments
- Provide out-of-the-box normalized reports of detailed hardware configurations and software installations
- Gain visibility with accurate and complete inventory information, based on file system scans
- Enable software license optimization, chargeback, and compliance based on software utilization metrics
- Integrate with Asset Manager for software asset management
- Integrate with Universal CMDB for data reuse and end-to-end management
- Integrate with Client Automation to support configuration management activities
- Enable regular tracking of changing asset configurations

A Complete Solution

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License Flexibility

Unit-based licensing provides the maximum granularity and value for discovery. There are two types of unit-based discovery.

Basic Discovery

Basic discovery is the entry level unit of discovery designed to capture the configuration of devices connected to an IP-based network (including, but not limited to laptops, PCs, servers, network & storage devices, virtual machines and containers) and includes the following capabilities. Basic discovery is used to understand what hardware you have, the software installed on that hardware, and the normalization of that software to industry terminology using a Software Application Index (SAI) library.

Advanced Discovery

Advanced Discovery is designed to build upon the capabilities of Basic Discovery, to include the ability to capture how a device is configured, and to enable the additional capture of the device's runtime environment, and its relationships to the runtime environment of other devices (i.e. topology and dependencies) Advanced Discovery can map the connections between infrastructure and software in your data centers and understand the configuration and software inter-dependencies, including complex topologies of clusters and enterprise applications (i.e. SAP, Siebel, etc.).

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