Take Configuration Management into the Cloud
Executive Summary

As more organizations move to hybrid IT or full cloud deployments, it is critical to be able to discover and manage all resources regardless of where they’re located. Comprehensive configuration management that extends across physical, virtual, and cloud environments integrates deep discovery and CMDB into one platform or "single pane of glass." It enables a complete and real-time understanding of resources, their dependencies, and how best to mitigate the risks that come with incremental change. This paper explores the value of multi-cloud discovery and configuration management and describes how the Micro Focus Configuration Management System (CMS) enables a truly comprehensive yet flexible solution.

Cloud Adoption, Hybrid IT is Growing

The IT landscape is changing at an incredible pace—and it shows no sign of slowing. The unwavering adoption of cloud and hybrid IT computing is a key case in point. As more workloads transition to the cloud, business dependency—and spending—on those resources grows.

Hybrid IT solutions are similarly gaining traction, as businesses seek access to cloud-related benefits while also keeping critical workloads on premise for security and control.

The cloud—with its speed, agility, and scale—is a game changer. It streamlines certain facets of IT and helps drive business innovation and outcomes. But in the context of configuration management, it’s a different story altogether.

IT teams evaluate hundreds of thousands of incremental IT changes each year across on-premise and virtualized resources. DevOps adds another layer of complexity to that process. Now cloud and hybrid IT deployments introduce a new IT realm that must be accounted for in the context of the broader landscape.

Multi-Cloud Configuration Management—Does it Matter?

It’s no surprise that some businesses question the relevancy of configuration management in the cloud. Cloud service providers such as Amazon, Microsoft, and Google are tracking AWS, Azure, and Google Cloud resources, so why should you? While it’s true that these companies are monitoring and providing information to you about the health of the resources you’re using, what they can’t tell you is how those resources impact your other systems and services. You are essentially "flying blind"—seeing only a part of the big picture—which ultimately limits your control and puts the business at risk for poor service quality, outages, and non-compliance.

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1 Forbes, Roundup of Cloud Computing Forecasts, 2017
Extending configuration management capabilities across multiple platforms, including cloud and hybrid IT environments, enables a critical bird’s eye view into all of your resources and their related dependencies. It can essentially:

- Provide incident, problem, change, event, and service management in line with ITIL principles and processes
- Offer visibility into your configuration and the mapping of services (via strong discovery of resources, service modeling, and software inventory)
- Enable greater control of service delivery with an improved understanding of cloud resources for use in asset management, service management, and monitoring
- Ease your migration from on-premise to cloud with the ability to discover resource groups that should move to cloud simultaneously
- Reduce costs by identifying and cutting out unused resources, so you’re paying only for the services and software needed

Is your Configuration Management Toolset up to the Challenge?

While it is certainly advantageous for organizations to extend configuration management across platforms and into the cloud, it also raises the question: Can existing configuration management solutions provide the comprehensive coverage that organizations need to effectively manage changes?

Not all configuration management offerings are alike. Some purport to cover multi-cloud environments. Truthfully, however, the breadth and depth of that coverage varies. If you’re seeing poor service management quality, a higher percentage of unplanned and emergency changes, or an increase in software license compliance violations, something is awry.

Micro Focus delivers the breadth and—perhaps more importantly—the depth required today with its proven Configuration Management System (CMS). This solution provides the most flexible and comprehensive cloud discovery and configuration management capabilities on the market today.

Micro Focus CMS incorporates strong Universal Discovery and UCMDB into one tool so organizations can very easily identify where all of their resources are located, regardless of platform; see how they’re connected; and proactively manage changes connected with those resources to prevent unplanned outages.

**Micro Focus CMS—Improve Service Quality, Speed, and Agility While Mitigating Risk**

Micro Focus CMS includes tools for automatically collecting (by discovery or integration), reconciling, managing, and presenting data about all configuration items and their relationships.
The Micro Focus solution includes automated Universal Discovery and a federated configuration management database (UCMDB) that integrates with other enterprise data sources in a seamless fashion so that IT management teams can have all the data needed in a single location to allow for effective decisions and change control.

CMS automatically and accurately updates topology maps and connects business services, applications, and infrastructure components in real-time, providing an up-to-date blueprint of your enterprise’s IT environment to increase service quality while improving speed and agility. Viewing all of your data in a single location reduces risk that changes will occur without your full awareness or that a compliance issue will go unnoticed.

Micro Focus CMS puts you in control with a range of features and capabilities, including:

- **Intuitive web browser interface** – The modern interface radically simplifies CMS onboarding and administration. Access all CMS data effortlessly, even if you’re not an expert.
- **Single tool** – Monitor and manage your entire CMS system—including federated UCMDB, discovery, inventory, and dependency mapping—through a single pane of glass. With all tools, all data in one place, you know immediately when something occurs in your environment, so that you can make smarter decisions and take corrective action.
- **Hybrid/cloud discovery** – Universal Discovery probes cloud, virtual, and physical environments. Its discovery methods are sufficiently flexible so that you can access information in the manner your security teams will allow—agent-based, agentless, passive, and hybrid.
- **Automated service modeling** – Fast dependency modelling allows you to create a top down model of business services. Automating this process saves unprecedented amounts of time. And with a solid understanding of how your infrastructure is connected both physically and logically, you can quickly address unexpected incidents while more effectively managing planned changes.
- **Common platform integration** – Micro Focus CMS integrates with the majority of ITOM tools as well as many non-Micro Focus tools, so you can seamlessly send data back and forth between different tools and systems. And with Micro Focus’s recent release of its innovative ITOM Platform, discovery is also available as a composable micro service.
- **Smart software analytics** – Machine learning in discovery of software licenses and Oracle-verified license discovery provides high depth of detail of software characteristics on deployed systems and drastically reduces the amount of time needed for software asset management.

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**Key Micro Focus CMS capabilities:**

- HTML 5-based UI
- Modeling, visualization, and reporting
- Multi-tenancy
- Automated service modeling
- RESTful API and integration platform
- Smart software analytics

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Hybrid cloud adoption grew 3X, increasing from 19% to 57% in a single year.²

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² *Forbes, 2017 State Of Cloud Adoption and Security*
- Leverage different security models for discovery. Put agents on end machines, perform agentless discovery, or track via the management API
- Flexibly meet any configuration goal of dependency or inventory mapping

**Probe Deeper with Universal Discovery**

The Micro Focus solution extends public cloud discovery in AWS to include Amazon EC2 Container Registry (ECR), Amazon EC2 Container Service (ECS), and Elastic Load Balancers. It includes discovery of Microsoft Azure and Google Cloud as well.

With comprehensive multi-cloud discovery, companies can:
- Map workloads before moving them to the cloud and map them again once there
- Continue standardized policy deployment (ITIL, DevOps) within Hybrid environments
- Perform software asset management in cloud environments
- Share insights and discovery from multiple cloud providers at once

**Comprehensive Discovery Across the Entire IT Landscape**

**DISCOVERY OF CLOUD AND VIRTUALIZATION**
- Public cloud compute resources and services from AWS, Azure and Google
- Private cloud compute resources from OpenStack, vCloud, Docker Swarm and CloudFoundry
- Virtual servers from VMware, Hyper-V, Citrix, Oracle VM, HP, IBM, Solaris, Red Hat, Xen
- Virtual environment managers from VMware (vCenter), Microsoft (SCVMM) and Red Hat (RHEVM)
- Container technologies such as Docker and AWS ECS

**DISCOVERY OF SERVERS AND WORKSTATIONS**
- All major Linux vendors and supported versions
- All supported releases of Windows Server
- All supported releases of Windows and MacOS
- Mainframe IBM z/OS and AS400

**DISCOVERY OF INFRASTRUCTURE TECHNOLOGIES**
- Clustering technologies from Microsoft, IBM, Microsoft, Red Hat, HPE, Solaris and Veritas
- Load balancing technologies from F5, A10, Alteon, Cisco and Microsoft
- Network context including layer2 connectivity, DNS Zone, and firewalls, using both active and passive network methods
DISCOVERY OF APPLICATIONS
- Databases from Microsoft, Oracle, SAP, MySQL, PostgreSQL, Sybase and HPE
- Enterprise software from Microsoft, Cisco, SAP and Siebel
- Middleware from Microsoft, Apache, Tibco, WebSphere, GlassFish, Jboss and Oracle
- Secure access software from IBM and Oracle

SOFTWARE INVENTORY COLLECTION
- List of more than 144,000 installed software titles with more being added monthly
- System utilization metrics
- Machine-learning enabled software teaching assistance

Avoid Compliance Fines with Sophisticated Software Discovery
Micro Focus’s software inventory collection also probes resources across clouds. In addition to tracking software licenses within companies, CMS can determine who is using the software. Used in conjunction with SAM modules, you can compare this information with the number of licenses purchased to help ensure your organization is meeting software licensing agreements.

Effectively Manage Change Across your Entire IT Landscape
Modern solutions, like Micro Focus CMS, can better enable organizations to leverage the advantages of the cloud while also optimizing your investment in those resources.

Simplify your experience with an effective system that automates time-consuming tasks, integrates multiple datasets into one solution, and offers deep discovery capabilities across any platform you are using. Both IT and the business win with:
- Improved visibility with a constantly up-to-date, real-time dynamic view of configuration management data
- Greater control with effective change management and service modeling to improve service management quality
- Ease of use with a modern tool that’s intuitive to operate and share configuration data across organizations
- Reduced IT asset costs and improved software license compliance
Get started today. Choose Micro Focus CMS for the clarity and critical insight that makes managing incremental IT changes simple—even in the cloud.

Learn More At
www.microfocus.com/cmdb