RESOLVE

The Secret
to an Always Accurate
CMDB

Introduction

A well-maintained, accurate Configuration Management Database (CMDB) is the cornerstone of successful IT operations and delivers clarity about the resources, data, and relationships stored in your IT environment. Maintaining a solid repository of information is critical to efficiency, effective troubleshooting, mitigating risks of change management, accurate planning, and much more.

When done right, an up-to-date CMDB will tell you:

- The complete inventory of available resources in your environment and what's running on them

- Resource locations and interconnectivity

- How each resource supports the business

- Resource cost and utilization

- Resource security

- How changes will impact critical applications, infrastructure, and budget

- How to quickly resolve problems when they occur (and find the root cause)

From Peak of Inflated Expectations to Trough of Disillusionment

It wasn't that long ago when IT leaders had high hopes for their CMDB. Given its promise and potential to simplify IT operations, there was significant time and effort put into building out configuration databases in most enterprise organizations.

Unfortunately, experts soon realized that it was almost impossible to track everything in the CMDB because there was simply too much to input manually. Adding to that pain, the CMDB was only able to capture upstream-downstream relationships while left-right relationships did not translate very well. Before long, the CMDB lost its mojo. It was just too cumbersome and inaccurate, and IT leaders everywhere were left discouraged.
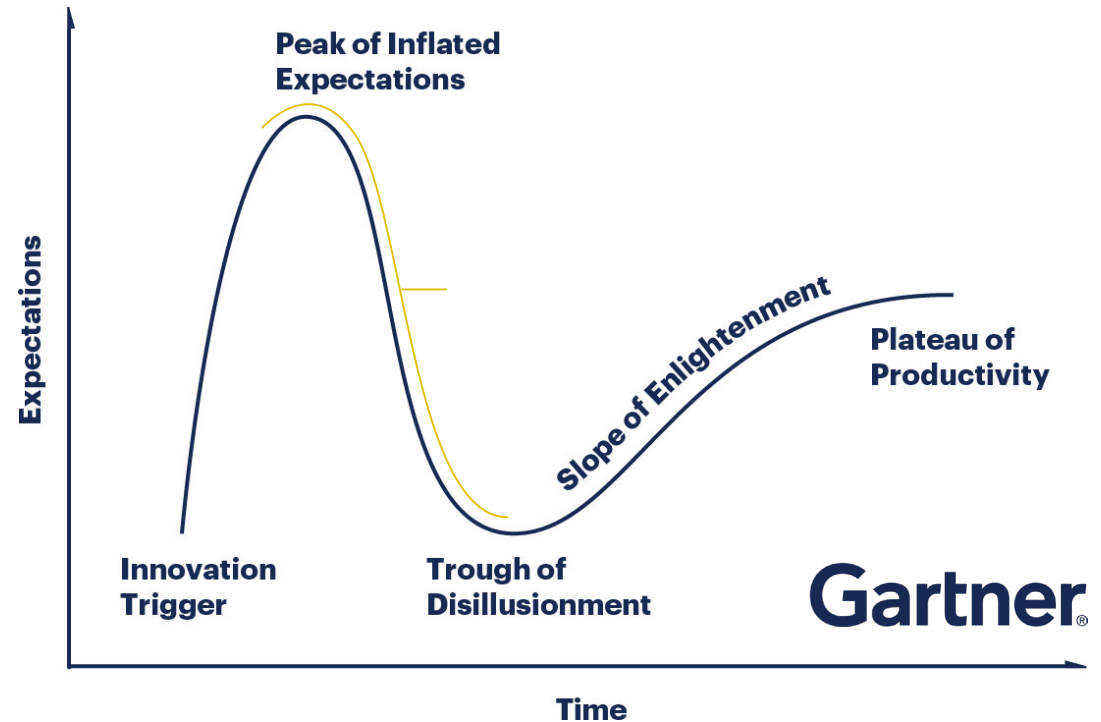
Industry statistics indicate that only **25%** of organizations receive meaningful value from their CMDB investments.

Top 10 Reasons Why It Is So Difficult to Get Your CMDB Right

Anyone who has embarked on the journey to build or maintain a CMDB can attest to the many obstacles IT leaders face. Developing a game plan at the outset helps you deal with these top challenges, such as:
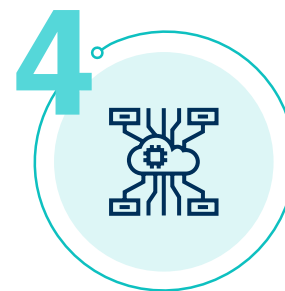
1

Teams distrust the data as being obsolete, incomplete, or simply inaccurate.

2

Manual updates can't keep pace with today's dynamic IT environments, especially with multiple daily deployments.

3

Mapping dependencies by hand is exceedingly time consuming, riddled with error— and nearly impossible in larger environments.

4

Highly-virtualized environments with containers and serverless architecture are difficult to track. It's not about physical devices anymore!

5
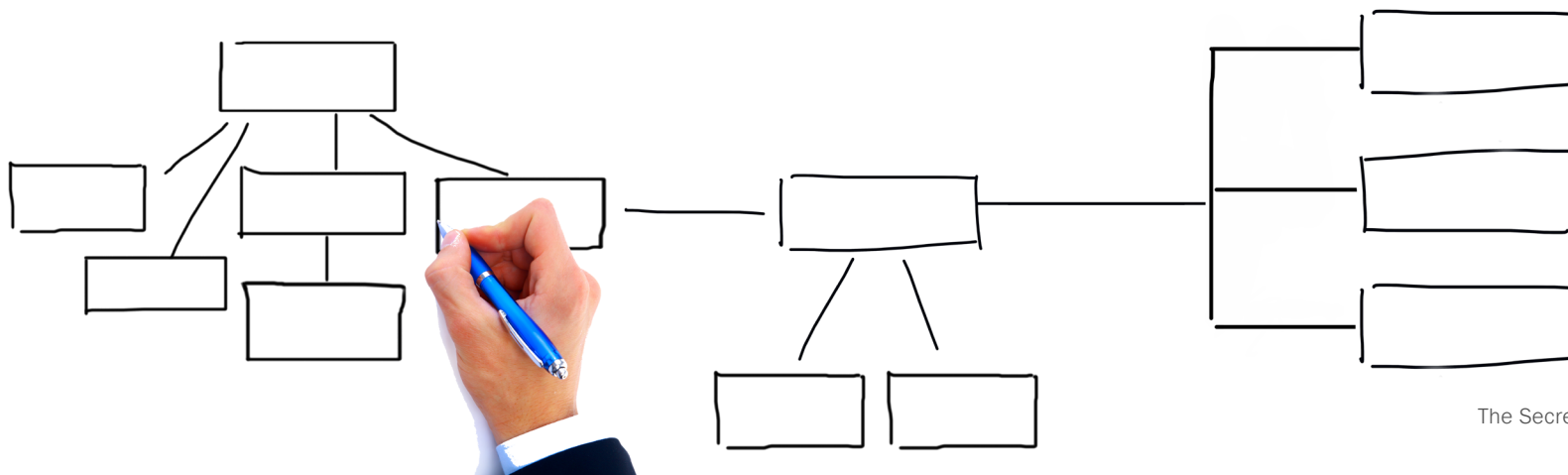
Hybrid, multi-cloud, multi-domain environments are too complex to track manually.

6

Internet of Things (IoT) means millions of devices (of many types) are joining your IT environment.

7

Lack of executive sponsorship is a common downfall of many CMDB initiatives.

8

Who knows which data is being pushed out and by whom?

9

IT governance and controls are more challenging than in the past, and data gaps are more glaring than ever before.

10

New devices need to be tracked and managed for an increasingly remote and distributed workforce.

Overcoming CMDB Challenges

Although not highly visible, a well-managed CMDB rewards you with tremendous and comprehensive value. But to lock in these benefits, you need to take responsibility for keeping your CMDB fit-for-purpose. Hewlett Packard Enterprise (HPE) sponsored a leading analyst firm to poll 100 IT executives on CMDB and discovery tools. Their most compelling responses on CMDB challenges include:

Reconciling data between multiple discovery tools or databases:

A CMDB is an ideal place to centralize, consolidate, and aggregate information. Multiple core business functions, including IT services, operations, and asset management use a CMDB. However, since most CMDBs are only populated using discovery tools, this data must be verified and augmented by means of multiple data sources to ensure its accuracy and utility to all relevant functions.

Achieving accurate discovery in dynamic environments (clouds, containers):

Virtual, cloud, and containerized systems may exist only for short periods of high demand. During such times, their information must be extracted from log files. These virtual systems need verification of their configurations for billing, software licensing use, and security vulnerabilities—similar to physical servers.

You need to take responsibility for keeping your CMDB fit-for-purpose.

Maintaining human expertise required for CMDB maintenance and updates:

CMDB maintenance demands the skills to account for any duplicate or missing assets. Values that populate each asset of record or Configuration Item (CI) must be current and reliable, with any inconsistencies resolved. Large CMDBs containing thousands of values require experienced professionals to evaluate conflicts when specifying precedence rules.

Compliance-related concerns with maintaining CI data:

Vendors often surprise businesses with license compliance audits, which an accurate CMDB can address and allay. Lacking your own reliable license count, you may need to call upon internal resources for verification or, alternatively, rely on the vendor's figures, which may mean paying a premium. Even more critical, Chief Information Officers (CIOs) are required to maintain an accurate count of IT assets to avoid the risk (and costs) of noncompliance with Sarbanes-Oxley section 404, which mandates adequate financial reporting.

Costs (human/system) of maintaining accurate CI data:

The expense of maintaining data accuracy in a CMDB increases exponentially as asset volume expands. Automating this task requires the maintenance of complex precedence rules at a CI attribute level. True accuracy requires a minimum of two or more data sources in addition to the source CMDB records. The cost of manual reconciliation is prohibitive once asset numbers increase to thousands, and the process is always prone to human error.

> "At least three vendors that we interviewed used the term 'death spiral' to describe CMDBs that didn't manage data quality well."
>
> — From Forrester, "Rethink Your CMDB"

Don't Lose Hope!
Technology Developments Usher in a CMDB Renaissance

Automated Discovery and Dependency Mapping

Recent technology developments have finally automated discovery and dependency mapping, enabling near real-time updates to CMDBs that deliver the long-awaited accuracy required to fulfill their potential.

Unprecedented Visibility

Full-stack visibility into dynamic, hybrid enterprise IT environments enables IT teams with the visibility they need to manage infrastructure and applications more efficiently and effectively.

Automated Identification and Inventory

Discovery advances empower you to identify and inventory your total compute, network, and storage entities across data centers and multi-cloud environments. Dependency mapping then identifies the upstream-downstream flows to effectively map the relationships between assets and applications and form groups that make up critical business services.

A Truly Automated CMDB Without Human Intervention

Imagine all of this accurate, relevant data pushed to the CMDB in real time, without the need for human interaction! What's more, automation enables updates to the CMDB's asset-class structure while auto-creating changes and change requests.

Your Working Cornerstone of IT Operations

Together, these advances add up to a CMDB that's the true mainstay of IT operations—a strong foundation for more progressive, advanced automation and intelligent IT operations.

Actionable Steps to Getting Your CMDB Right

Ready to organize and automate your CMDB? Before getting started, develop your strategy. Determine the primary data you wish to start with, how you plan to use it, and how it will be maintained over the lifetime of your CMDB. Remember, data quickly becomes useless if it lacks a plan for continual action and updating.

A High-Level Blueprint to Help You Chart Your Course

1 **Identify your executive sponsor and drive alignment.**
Executive support and sponsorship are critical to the success of your CMDB initiative, as well as alignment across your stakeholders.

2 **Document your goals and CMDB vision.**
Outline the long-term CMDB vision for your organization and how you plan to leverage the data to meet specific business goals.

3 **Determine your data strategy.**
Identify the data you need to capture to support your goals, and which applications and services are most important. Set up the classes in the CMDB and ensure each class has an owner and process attached to it.

4 **Integrate tools to automate discovery and infrastructure application dependency and service mapping.**
Automate discovery and dependency mapping (DDM) to capture and push data to your CMDB to ensure it is always accurate and up-to-date.

5 **Keep your eye on the prize.**
Ensure you stay involved with your unfolding process as tools are deployed and integrated; then continuously track and validate every aspect of functionality throughout the entire lifecycle.

6 **Gauge ongoing improvement and evaluate KPIs.**
As you define, measure, and begin to see results, continue to improve and expand your process. The greater the accuracy and volume of detail, the greater the value of your CMDB.

CMDB Maturity Model
Measure and Evaluate Your Current CMDB

How mature is your CMDB? This model will help you determine where you are today and how to take a phased approach to incremental improvements. As you work your way up the maturity model, the items on the right of the model will help you achieve the next milestone.

1 Deviations in service status, proactively alert on both impact and performance of business services before the customer experiences the issue.

Advanced Capabilities
- Event Correlation
- Analytics and AI

2 Understanding of appliation-to-infrastructure (CIs) to define and monitor business services and applications. Manage QoS to the business.

3 Incident and change impact analysis, to drive better MTTR and MTBF.

Intermediate Capabilities
- Topology Mapping and Visualization
- Application Dependency

4 CIs related to incidents and changes to track maintenance and downtime.

Basic Capabilities
- Discovery
- CMDB Import

5 Basic CMDB requirement, driven from an interest to know what you own and where it is. No relation of CIs to incidents.

Making Your CMDB the Center of Your Universe

As your CMDB evolves, it has the potential to become the center of your IT universe, fueling everything from change management and governance to underpinning the planning process for complex cloud migrations. Once teams have confidence in the CMDB's accuracy, they can use this data for both strategic decision-making, as well as streamlining day-to-day tactical operations.

"Until now, Infrastructure and Operations (I&O) pros couldn't gain an accurate understanding of their enterprise application ecosystem. Attempts to fix this shortcoming failed due to the unscalable manual processes they required— the best-known failure being the rise and fall of CMDB... [today] successful AIDM provides I&O teams with a big-picture topology of how applications and infrastructure connect, making operational and business processes more efficient."

— From Forrester, "It's Go Time For Application and Infrastructure Dependency Mapping (AIDM)"

Incident response and root-cause diagnosis

Improving security posture

Software asset and technology lifecycle planning

Planning, including cloud migration

Services mapping

Impact analysis

Change management and governance

Auditing and compliance

Cost analysis, forecasting, and planning

Resource utlization and optimization

New Technologies Can Help
Automated Discovery & Dependency Mapping (DDM)

Ensure that your CMDB is always accurate:

Automated DDM can finally deliver the deep visibility you need into complex, dynamic IT infrastructure. Automating these functions helps overtaxed IT teams by simplifying management, streamlining operations, and offering a unified view into multi-domain environments.

Deploy agentless automated DDM:

Resolve's DDM is part of a broader suite of advanced IT operations capabilities. It quickly discovers compute, network, and storage entities across dynamic hybrid IT environments without deploying any agents.

Scan subnets or user-input boundaries to identify CIs and determine a variety of details about each entity:

Resolve's lightweight data collectors intelligently gather vendor make, model, platform, configuration, IP address, and more. A real-time inventory is produced and can be filtered and viewed in a variety of ways.

Resolve's DDM identifies and tracks dynamic, multi-layer dependencies between infrastructure components, applications and supporting infrastructure, and services:

The resulting topology maps make it easy to visualize the relationships between CIs, applications, and services, providing unprecedented visibility for troubleshooting, change requests, and proactive maintenance. You can even overlay fault, performance alerts, and tickets right on top of the topology maps to identify root cause and improve mean time to resolution (MTTR).

Finally—and most importantly for the subject at hand—Resolve provides bidirectional connectors to your CMDB that enable auto-discovery and dependency mapping data to be automatically pushed to the CMDB in near real time. This ensures you always have an accurate, up-to-date record of everything in your environment and how it is all connected.

How Will You Benefit?

While getting your CMDB right is a journey, it's worth the effort. In addition to offering many immediate advanced resources and advantages, it also sets the stage to advance digital transformation efforts and to accelerate your automation initiatives.

Here's a quick, simple summary of the benefits you can expect from automating discovery and dependency mapping:

FULL OBSERVABILITY
Auto-discover and map all of the network, compute, and storage CIs across hybrid environments

IMPROVE MTTR
Accelerate incident response with deep visibility and root-cause analysis

SAVE TIME
Eliminate countless hours of manual work and human error

INCREASE PERFORMANCE
Improve application and infrastructure performance and uptime

UNIFY YOUR VIEW
Access all your CI data in one place through a single pane of glass

RISK CHANGE MANAGEMENT
Make changes confidently and safely with full context

ENSURE ACCURACY
Rest assured that your CMDB is always populated with the latest discovery and dependency details

REDUCE COSTS
Eliminate unnecessary or underutilized CIs to save money

GAUGE IMPACT
Quickly quantify the business impact of outages to ensure stakeholders are informed and issues are correctly prioritized

IMPROVE COMPLIANCE
Identify unknown CIs that pose a risk and auto-generate reports for your auditors that offer the full visibility they require

RESOLVE

About Resolve

Resolve Systems helps enterprise technology teams worldwide achieve agile, autonomous operations with an industry-leading intelligent IT automation platform and a discovery and dependency mapping solution. With more than a decade of automation expertise, Resolve's solutions are purpose-built to address challenges posed by increasing IT complexity. Resolve enables organizations to maximize operational efficiency, overcome labor shortages, reduce costs, quickly troubleshoot and fix problems, and accelerate service delivery. Resolve is majority-owned by Insight Partners, a leading global venture capital and private equity firm investing in high-growth technology and software companies.

Visit us at resolve.io.

Ready to see what DDM can do for you?

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