umboss

Automatic Discovery and Reconciliation.
Done right.

Product overview

Introducing UMBOSS's Automatic Discovery and Reconciliation

UMBOSS is a unified Network and Service Assurance product designed for telecom providers and enterprises managing complex communication, hybrid data centers, IT infrastructure and digital services.

Here at UMBOSS, we recognize that accurate and up-to-date resource data is crucial for Assurance and other management processes in any organization.

Therefore, UMBOSS provides the Automatic Discovery and Reconciliation module (ADM), which is both an integral part of UMBOSS and a stand-alone component that easily integrates into the resource inventory activities of telecom and enterprise IT organizations.

Discover physical, logical, and virtual resources.

UMBOSS ADM crawls through your network and hybrid data center infrastructure, scans virtual resources, and detects all logical resources with special dedication to topologies.

Reconcile discovered data with your inventory.

Discovered data is stored in the internal repository of UMBOSS ADM. The data is reconciled with your inventory systems based on your own policies through API integration, data export, and other methods.

Introduce continuous rediscovery practice.

Discovery job scheduling with flexible reconciliation policies allows your organization to keep an eye on all changes in the network, correlate them with internal process issues, and continually improve inventory data quality.

Benefits of Automatic Discovery and Reconciliation

Every UMBOSS deployment starts with discovery. This ensures comprehensive management of all elements within the active segment of your infrastructure.

Regardless of your organization's current inventory projects, UMBOSS ADM always brings clarity to the subject of "what is out there in the network and data center."

UMBOSS is all about an umbrella approach. ADM is no exception. It provides all-encompassing inventory discovery across all your ICT domains: fixed and mobile networks, hybrid data centers, virtual environments, cross-domain topologies, etc.

All active resource data is correct

Discovery unveils all the details of all devices

You are in control of which discovered data gets updated in the inventory

You understand which entity is related to another entity and how

Discovered topologies traverse all your ICT domains

Stitching of physical, logical, and virtual resources

Discovery combines data from all sources: devices, EMSs, files, etc.

Discovered location parameters get geo-coded

Umbrella Vantage Point to
Discover it All

Thanks to its umbrella vantage point, ADM crawls through the network, collecting inventory information directly from devices and element managers using various protocols like SNMP, CLI, HTTP/S, API, SOAP, CORBA, NETCONF, FILE, etc.

The plugin architecture allows connector creation for any equipment or EMS. The job scheduler facilitates defining and executing numerous repetitive discovery processes for specific ICT infrastructure segments.

All gathered data is consolidated to compute diverse network topologies across layers like BGP, OSPF, ISIS, L2, L3, SAN, etc. This data is stored internally for export and reconciliation, reconciled with UMBOSS's NDM or a third-party inventory system using the inventory-specific API or TM Forum OpenAPI.

Flexible reconciliation policy management provides full control over reconciling newly discovered elements and changes with the resource inventory system.
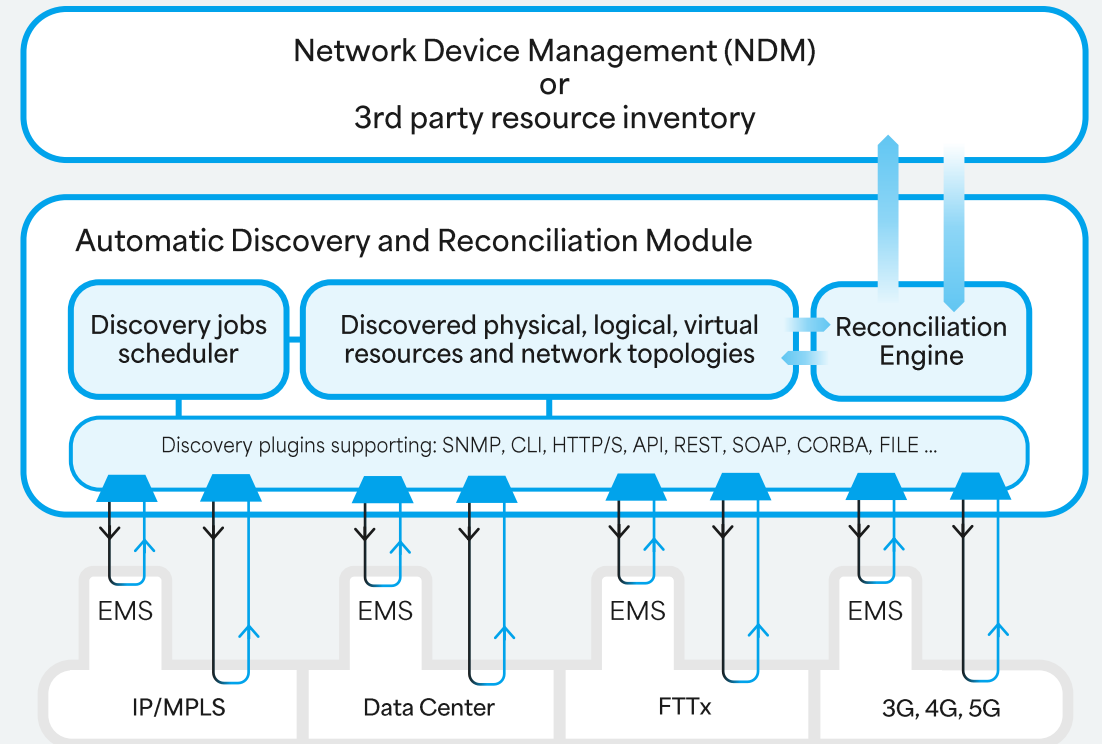
Resource Management Ecosystem

Network Device Management (NDM)

NDM functions as UMBOSS's own inventory hub for active physical, logical, and virtual devices and their topologies, housing essential data like serial numbers, vendor details, device names, roles, hardware/software versions, firmware location, status, and custom information.

It also manages data on modules, interfaces, topologies, IP addresses, and supports file attachments. Data is sourced through automatic discovery, or more time-consuming methods like data import or manual input.

Configuration Management (CM)

The Configuration Management module periodically collects configurations directly from all managed devices as part of batch or per-event jobs.

It executes configuration versioning and provides configuration comparison capabilities.

Address Book (AB)

Address Book (AB)
The Address Book module manages data on:
- Customers
- Locations
- Contact Data

This data is further used to enrich alarms and performance data. It can be synchronized with external sources or loaded and updated manually.

Device Discovery

UMBOSS ADM combines multiple data acquisition methods for a single entity to ensure all relevant resource data is found.

The list of out-of-the-box supported devices is long, but plugin architecture allows engineers to develop any technology or vendor specific data discovery method.

For ICT systems with dedicated element management systems, the discovery method utilizes an EMS's API to acquire all the inventory data. However, even in this case UMBOSS ADM can still combine EMS inventory data with data obtained directly from devices to create the full inventory status of the target system.

The illustration to the right showcases some of the parameters that are discovered. ADM can be customized to discover and store any customer parameters required!

Device parameters

- Device name
- DNS device name
- Device type
- Description
- IPv4 address
- IPv6 address
- Reference designator
- Vendor

- Product number
- Serial number
- Hardware version
- Software version
- Firmware version
- Device role
- Discovery method
- Operational status

Device modules

- Device
  - Module 1
    - GE Port 1
    - GE Port 2
  - Module 2
    - GE Port 1
    - GE Port 2
  - Power supply container
    - Power supply
    - Fan
    - Voltage sensor

IP addresses

IPv4	Mask	If Name	If Alias
10.62.16.18	255.255.255.0	GEth0/3	Cust Grms
10.62.16.19	255.255.255.0	GEth0/5	P2p_c45
10.62.16.20	255.255.255.0	GEth0/6	L2_VPN

Interfaces

| A	O	Name	Desc.	Alias	Type	Speed	MAC	
■	■	FastEth01	Fa0	Old_cust	eCsmacd	100 Mbit/s	0x1ce85d27ca	
■	x	GigaEth0/1	Gi0/1	L2_VPN	eCsmacd	1 Gbit/s	0x1ce85d27cb	
x	■	GigaEth0/2	Gi0/2	P2p_c45vg1	eCsmacd	1 Gbit/s	0x1ce85d27cc	

Topology Discovery

UMBOSS ADM uncovers network topologies at L2, L3, and protocol-specific levels, including OSPF, BGP, IS-IS, and others. Storage Area Network (SAN) and other specific topologies are also detected.

To create a comprehensive view, UMBOSS ADM overlays partial topologies from EMSs and network devices.

The calculation of these topologies involves a variety of data sources and algorithms. For L2 topology, ADM integrates network protocols (LLDP, CDP, EDP, MTDP), ARP cache, LDP neighbors' information, IP routing tables, etc.

UMBOSS ADM utilizes heuristic algorithms, merging configuration, protocol, and performance data to calculate the most likely topology when other information is unavailable.

Beyond topologies, ADM recognizes logical entities such as VLANs, VRFs, tunnels, IP addresses, etc. In specific scenarios, it stitches logical entities to physical and virtual elements, enhancing the understanding of overall network structures.

EMS

Network Devices
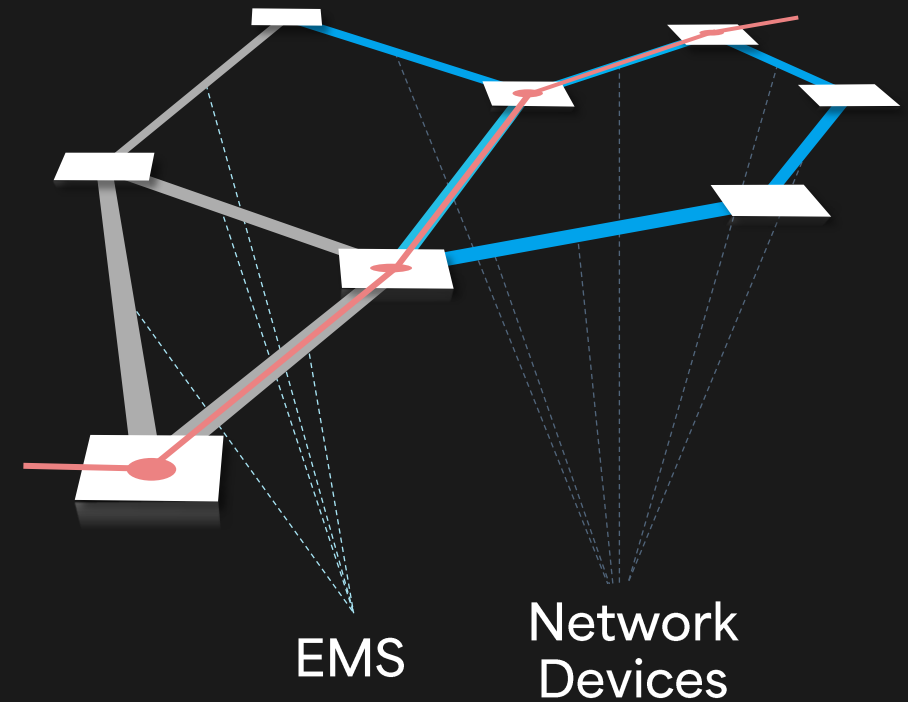
Inventory Management Efficiency with UMBOSS ADM

Umbrella automatic discovery creates a bird's-eye view of your ICT infrastructure across all domains:

Core network	Transport network
Access network	Mobile network
Data center infrastructure	Cloud infrastructure
Service platforms	Enterprise CPEs
Power Supply	Cooling systems

All glitches in your inventory management process are detected

Your inventory is correct and up-to-date

One tool to discover devices of all vendors

Expansion and upgrade planning based on accurate data

With ADM your resource inventory system becomes complete

Your regular inventory checks are executed more efficiently

Services are mapped to resources correctly

Fulfillment and assurance processes are streamlined

About UMBOSS Company

UMBOSS Company, vendor for its genuine software product UMBOSS, serves as a trusted advisor to telecoms and enterprise IT, streamlining digital services provisioning through end-to-end resource and service assurance processes.

Our dedicated team, comprised of subject matter and domain experts, continuously enhances UMBOSS to be the preferred choice for assurance solutions.

Committed to TM Forum and other industry standards, we aim to create a cloud-native, AI-backed autonomous assurance product for global telecom and enterprise IT customers.

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Interested in discovering more?

You can read all you want about UMBOSS, but the best way is to experience it through a demo.

Schedule a Demo →