MONOLITH SOFTWARE

Unified Service Assurance

The First. The Only. Unified Infrastructure Management Software.

The Impact of True Unification

Now more than ever, infrastructure technology is in a state of upheaval and escalating chaos. Proliferation of devices, services and new offerings such as Data, VoIP, Video, and Cloud are the order of the day for service providers that must remain competitive.

Complexity – A Profit-Killer

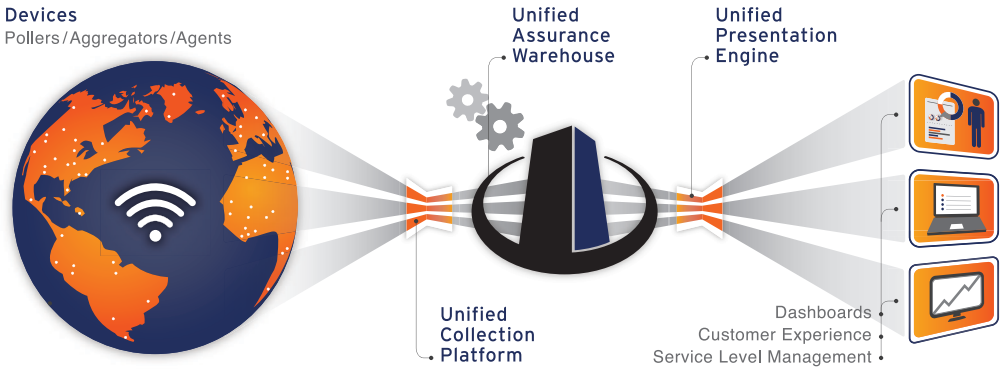
Across the board, there's an immediate obstacle in this growth process. The breadth and scope of infrastructures is rapidly expanding, which in turn increases the complexity of monitoring and managing the performance of services. The fear is that tools continue to be added on top of the infrastructure and eventually one will come along that breaks the camel's back. This is a road to diminishing returns at a time when revenue opportunities and gaining market share should be quite attainable.

Service assurance is becoming increasingly important. At the same time, it has become more difficult to deliver. The conversation in many camps is beginning to steer toward "unification" as the ultimate answer. ***Unification comes in many flavors, but the Monolith solution is the only one that is built from the ground up for this purpose.***

True Unification – The Single Code Set Solution

After decades of stacking up tool upon tool like a fragile house of cards, the industry is starting to realize – there has to be a better way. Monolith created the first solution to offer true unification, which means that a single code set and database are used to collect data, assure devices and services, and present the information each user deems most critical to monitoring and management.

Monolith Software's suite of products (Event Manager, Metric Manager, Infrastructure Relationship Manager, Service Level Manager, and Dashboard Engine) are modular aspects of a single code set solution with a single data repository. Infrastructure and service complexities are mitigated when the complete end-to-end granular perspective is leveraged by normalizing device, fault, performance, topology, service logic, and component relationship information into a ***single data repository.***



Key Features

- Single code set solution
- Single data repository
- Data normalization
  - Device
  - Fault
  - Performance
  - Topology
  - Service logic
  - Component relationship
- Multi-tenant presentation
- Role-based access control

"There are a lot of management companies out there that make promises – but Monolith Software is the only one with the technology to back it up. The Monolith solution gives us the real-time, unified management capabilities that effectively meet our needs both now and in the future."

Leon Hofer, Iowa Network Services,
VP Network Operations

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True Unification Enables True Proactivity

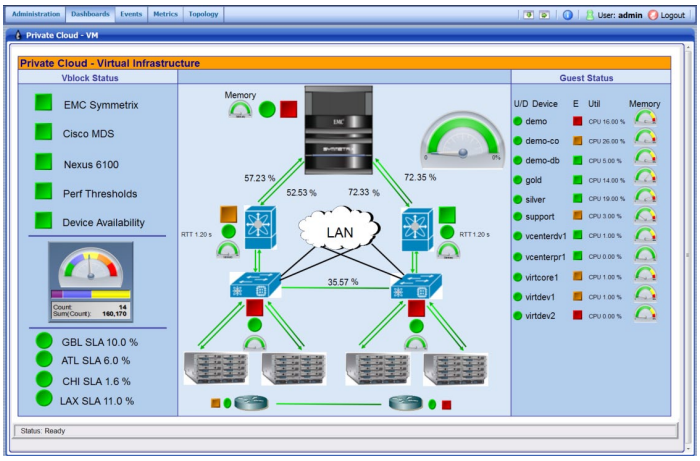
If it goes to the NOC, it's too late!

Historically, we've accepted this as truth: devices will fail, services will have performance degradations, and infrastructures will falter given a cascade of effects from its constituents. The goal of every operations group managing an infrastructure was to minimize incident disruptions and reinstate services. This goal resulted in reactive management that has been predominantly events-focused. But that's all that was available, given that proactive management philosophies were hindered by the inherent limitations from integrating disparate siloed tools. In contrast, proactive management with Monolith Software's unified tool has none of these limitations and thus Monolith's unified approach enables more profound impact. The new proactive management model expands beyond an event focus to emphasize the precursors in performance, topological, or service level data which can ***identify potential incidents before they occur and provide assurance of promised service levels.***

The All-Seeing Foundation

To further enhance proactive management, Monolith employs a set of functions that build an unprecedented foundation. Monolith's Device Auto Discovery automates the collection of key infrastructure component information. Using additional agents and processes, Monolith captures the infrastructure relationships. Monolith's SLM Engine integrates the service relationships. With the foundation of the infrastructure relationships and the service relationships, Monolith's unified approach gives a complete, real-time, end-to-end representation of the infrastructure and the services it delivers. ***This enables the creation of a dashboard mash-up view of a private cloud/ virtualization infrastructure where event data, metric data, and topology data are placed in context and updated in real-time in a single pane of glass*** (see sample illustration below).

Sample Monolith Dashboard



Incidents Can Happen

A unified tool with a single data repository provides several key advantages over siloed tool sets with respect to incident identification. Slight degradations in performance across various device types can be identified and proactively managed, while they may remain undetected by device-specific monitoring tools. The cascade of undetected degradations could result in a serious service incident. Another advantage of a unified tool is the visibility it provides into the criticality of an incident. When incidents occur, mediation efforts should be focused towards minimizing the more significant impacts. ***With Monolith's unified approach, the relationship awareness about devices, services, and customers allows prioritization judgments to be made quickly and accurately.***

> "Monolith allows us to visualize our data, not just from a technical perspective, but also from a business perspective."
>
> Craig Yappert, Oracle, *Director Enterprise Monitoring Solutions*

Proactive Mediation

When mediating an incident within a siloed tool environment, the process can entail operators jumping from one tool to another to understand the cascade effects and the root causes. Monolith's unified approach allows root cause analysis and incident scope detection to be quick and automated. Because all the data resides within Monolith after having been normalized, a variety of correlation and enrichment functions can be leveraged. Without a unified tool

correlating the entire scope of data sources, operators are compelled by siloed environments to do this process themselves or depend upon the veracity of numerous integrations. ***Monolith's unified tool allows mediation actions to occur earlier, be better targeted, and undergo evaluation, in context, immediately.***

Architecting Unification

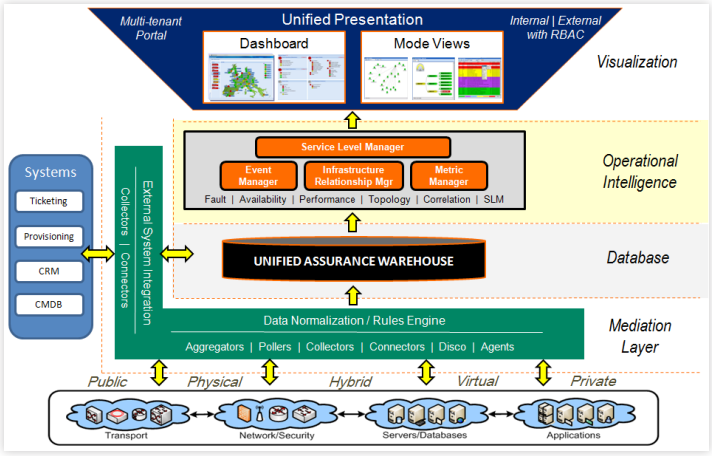
The concept of Monolith was not developed in a think-tank. It is the manifestation of ten years of front-lines experience where complaints and suggestions were compiled from users of the traditional status quo tools available on the market. Frequent complaints – e.g. "it takes to long to implement", "it's too much work to maintain", "integrations cost too much", "training time and cost is prohibitive", "too much hardware is required", "maintenance costs are too high" – were the norm. Since the traditional Big Four vendors were not inclined to address this issue, Monolith stepped forward to fill the market gap..

Monolith empowers organizations to move from highly disjointed, disparate, high maintenance solutions to a unified, single code set, single database solution. We expanded upon popular concepts (e.g. normalization, Manager of Managers, common user interface) and utilized much later generation technologies (e.g. LAMP, HTML 5, AJAX, browser based technology, no plug-ins).

The Monolith solution is more highly evolved, delivering a platform to enable unified service assurance by unifying data sets and unifying access to data across the key operational intelligence domains. The unified Monolith platform can be categorized into four areas; a mediation layer, a database, operational intelligence functions, and visualization capabilities. ***Simplification through unification is the core driver behind the Monolith approach.***

Mediation Layer

In order to achieve unified presentation, one must gain unified access to data. This can only be achieved by collecting all data into a common platform, our Unified Assurance Warehouse. The job of the Mediation Layer is to normalize key operation monitoring and management data into the Unified Assurance Warehouse. The Mediation Layer consists of software components that Monolith has developed whose sole purpose is to bring monitoring, management and inventory data into the Unified Assurance Warehouse. Mediation Layer components exist for all of the varying types of data; whether the information is fault, performance, topology, inventory, or service level management. The elegance behind this approach is that each of the components utilizes a common rules structure within the mediation layer. This allows administrators of the system to learn once and apply knowledge consistently, regardless of the management domain, the type of infrastructure, or external systems that the data originates from -- transport devices, network devices, servers, or applications, or the conceptual application or service (physical or virtual, members of public, private or hybrid clouds). Additionally, this normalization and rules engine process standardizes the data and enables Monolith to capture the infrastructure relationships that underpin services.



Database

The Unified Assurance Warehouse resides at the database layer where it stores and serves as the normalized data

repository for all of the information passed up from the mediation layer. The database is designed to scale well beyond the capabilities offered by non-unified suppliers such as the Big Four. Many companies have developed software that is quite capable of managing smaller environments. Things quickly begin to break down, however, when software is applied to large scale, service provider grade environments. Monolith's Unified Assurance Warehouse provides a single source for infrastructure data. In it we maintain fault, performance, inventory, relationship (topology & service), and enrichment information. This is the data that is utilized by our Operational Intelligence layer.

Operational Intelligence

The Operational Intelligence layer is where Monolith puts the information gathered from the mediation layer and stored data in the database layer to work. Think of this as the logic store. The place where now, because access to all data is enabled, operations can be deployed that reduce downtime, drive operational efficiency, become predicative versus reactive, and take advantage of correlation and automation capabilities. At this layer are the key modules – Event Manager, Metric Manager, Infrastructure Relationship Manager and SLM Manager. This has historically been accomplished by buying best of breed software for each of these functionalities or by buying the software from an aggregator.

Only Monolith delivers this in a single code set, fully integrated solution. The advantages of simplicity versus complexity, pre-built integration versus manual integration, one common database versus multiple databases, and one rules engine versus multiple are highly impactful in scale and scope.

Visualization

The most readily apparent and obvious part of the Monolith solution is the visualization layer. Many solutions on the market require signed clients, or Internet Explorer running either JRE or Active-X plug-ins. Monolith offers a 100% browser based, plug-in free interface that leverages the latest web technology available. The interface is fast, ubiquitous and platform independent. Multi-tenancy and full Role-based Access Control are included out of the box. This allows for presentation of data to both internal and external consumers in a secure and reliable fashion, and for customization of views for varying audiences.

A key feature of the visualization layer is the ability to deliver mode-based views. The goal is to provide access to actionable data in the least number of mouse clicks possible. One customer said their NOC team went from 20 clicks to 3 to get actionable data. Monolith's Dashboard Engine is a powerful visualization enabler. The Dashboard Engine allows for presentation of any type of information as well as groupings of information into a mash-up style view that allows presentation of disparate data in an easy at-a-glance manner.

The Impact of Unification

Indeed we've only scratched the surface of the power of the Monolith solution. The unified approach unleashes a broad range of possibilities, and the optimum implementation can take a variety of forms.

The impact of true unification is being realized by organizations around the globe. As infrastructure complexity rapidly increases, it cannot be addressed by already-fragile siloed tools. The unique, and stunningly simple, unified approach opens the door to a new world of access, visibility and customization. The time is right for the unified approach to technology infrastructure management.

About Monolith Software

Monolith is the industry's first, and only, unified infrastructure management software. Monolith offers a comprehensive, fully integrated solution that provides one consistent rules engine for data acquisition, one unified data warehouse allowing unprecedented access to decision-enabling data, and one, consolidated multi-tenant interface for expanding access to deeper business intelligence. Accessible through real-time dashboarding, this unique, unified approach streamlines and enhances fault, availability, performance, correlation, discovery and topology mapping. The result is a simplified process for SLA management and capturing network KPIs. Comprehensive granular visibility, never before available by using disparate legacy tools, increases operational efficiency and allows for enhanced customer intimacy.