

MAGNUS.NET

NETWORK MANAGEMENT PRACTICE

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INTRODUCTION

Network Management is a very complex problem area. Objects to be managed in this space include network services, network routers, switches, interfaces, firewalls, intrusion detection devices, wireless components, routed protocols, traffic accelerators, web proxy devices, and load sharing devices. Managed objects and their services need to be both managed (controlled and configured) and monitored (fault, performance, security). Efforts in this space also extend to Service Level Reporting, Capacity Planning, and Accounting of resource usage.

Successful solutions in this space require specialists with a broad range of technical knowledge and experience. The first technical competency required in this space is knowledge of the management instrumentation available for managing various objects and services. The second technical competency needed is knowledge of various management tools available today. Knowledge and experience is needed to select the right tools to use for specific environments and to configure these tools for optimal use and minimal maintenance. Finally it is critically important to leverage tool in accordance to effective service delivery and service support processes.

There is no such thing as off the shelf management solutions. Management tools are often toolkits that are extended via proprietary or public domain scripting languages. Experienced specialists with access to previously developed scripts are in the best position to implements proven solutions in a timely manner. Prior experience also avoids operational problems in particular to scalability and maintenance of management tools.

Many IT organizations have inadequate network management and incur a great deal of risk and brute force in providing their services. If this is your situation, contact Magnus.net. Our Network Management Practice can provide you experienced professional help in the design, deployment and ongoing support of network management solutions. We have the managed object knowledge, the tools knowledge and the operational experience necessary to make your efforts in this space both successful and painless.

NMS ASSESSMENT OFFERINGS

A thorough review of existing infrastructure is a requisite step in the process of accessing the scope of effort needed to expand or re-engineer existing infrastructures. Standard assessment and audit offerings of the Network Management Practice are as follows:

NETWORK AVAILABILITY ASSESSMENT

Network Availability is the single most important Key Performance Indicator (KPI) used to assess the present state of overall network health. Network Availability Assessments are performed when our clients lack this KPI metric. In some cases they are performed when our clients have purchased new companies and need an assessment of the health of the Network Infrastructure of the company they just purchased.

Magnus.net uses its own Network Availability monitoring tool to perform this assessment. This tool is applicable to any network that deploys HSRP on access subnets. For every router in the network it identifies valid HSRP VIPs, and then monitors packet delivery availability from each datacenter to each HSRP VIP and reports on business period and non-business period availability. The following reports are available from the Network Availability Assessment:

<p>OVERVIEW</p> <table border="1"> <thead> <tr> <th>Month</th> <th>FullAvail (24*7)</th> <th>BusAvail (M-F 7am-6pm)</th> </tr> </thead> <tbody> <tr> <td>2007-09</td> <td>100%</td> <td>100%</td> </tr> <tr> <td>2007-08</td> <td>100%</td> <td>100%</td> </tr> </tbody> </table> <p>Daily Availability For 2007-09:</p> <table border="1"> <thead> <tr> <th>Day</th> <th>DayOfWeek</th> <th>FullAvail</th> <th>BusAvail</th> </tr> </thead> <tbody> <tr><td>01</td><td>Saturday</td><td>100%</td><td>100%</td></tr> <tr><td>02</td><td>Sunday</td><td>100%</td><td>100%</td></tr> <tr><td>03</td><td>Monday</td><td>100%</td><td>100%</td></tr> <tr><td>04</td><td>Tuesday</td><td>100%</td><td>100%</td></tr> <tr><td>05</td><td>Wednesday</td><td>100%</td><td>100%</td></tr> <tr><td>06</td><td>Thursday</td><td>100%</td><td>100%</td></tr> <tr><td>07</td><td>Friday</td><td>100%</td><td>100%</td></tr> <tr><td>08</td><td>Saturday</td><td>100%</td><td>100%</td></tr> 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7am-6pm)	2007-09	100%	100%	2007-08	100%	100%	Site	AdminDomain	FullAvail	BusAvail	PreviousMonthFullAvail	PreviousMonthBusAvail	BT2DC	OCRP	100%	100%	100%	100%	RL_A	BT/OCPE	100%	100%	100%	100%	msn04a	MPLS	100%	100%	100%	100%	msn04b	MPLS	100%	100%	100%	100%	msn04c	MPLS	100%	100%	100%	100%	msn04d	MPLS	100%	100%	100%	100%	msn04e	MPLS	100%	100%	100%	100%	msn04f	MPLS	100%	100%	100%	100%	msn04g	MPLS	100%	100%	100%	100%	msn04h	MPLS	100%	100%	100%	100%	msn04i	MPLS	100%	100%	100%	100%	msn04j	MPLS	100%	100%	100%	100%	msn04k	MPLS	100%	100%	100%	100%	msn04l	MPLS	100%	100%	100%	100%	msn04m	MPLS	100%	100%	100%	100%	msn04n	MPLS	100%	100%	100%	100%	msn04o	MPLS	100%	100%	100%	100%	msn04p	MPLS	100%	100%	100%	100%	msn04q	MPLS	100%	100%	100%	100%	msn04r	MPLS	100%	100%	100%	100%	msn04s	MPLS	100%	100%	100%	100%	msn04t	MPLS	100%	100%	100%	100%	msn04u	MPLS	100%	100%	100%	100%	msn04v	MPLS	100%	100%	100%	100%	msn04w	MPLS	100%	100%	100%	100%	msn04x	MPLS	100%	100%	100%	100%	msn04y	MPLS	100%	100%	100%	100%	msn04z	MPLS	100%	100%	100%	100%	msn05a	MPLS	100%	100%	100%	100%	msn05b	MPLS	100%	100%	100%	100%	msn05c	MPLS	100%	100%	100%	100%	msn05d	MPLS	100%	100%	100%	100%	msn05e	MPLS	100%	100%	100%	100%	msn05f	MPLS	100%	100%	100%	100%	msn05g	MPLS	100%	100%	100%	100%	msn05h	MPLS	100%	100%	100%	100%	msn05i	MPLS	100%	100%	100%	100%	msn05j	MPLS	100%	100%	100%	100%	msn05k	MPLS	100%	100%	100%	100%	msn05l	MPLS	100%	100%	100%	100%	msn05m	MPLS	100%	100%	100%	100%	msn05n	MPLS	100%	100%	100%	100%	msn05o	MPLS	100%	100%	100%	100%	msn05p	MPLS	100%	100%	100%	100%	msn05q	MPLS	100%	100%	100%	100%	msn05r	MPLS	100%	100%	100%	100%	msn05s	MPLS	100%	100%	100%	100%	msn05t	MPLS	100%	100%	100%	100%	msn05u	MPLS	100%	100%	100%	100%	msn05v	MPLS	100%	100%	100%	100%	msn05w	MPLS	100%	100%	100%	100%	msn05x	MPLS	100%	100%	100%	100%	msn05y	MPLS	100%	100%	100%	100%	msn05z	MPLS	100%	100%	100%	100%	msn06a	MPLS	100%	100%	100%	100%	msn06b	MPLS	100%	100%	100%	100%	msn06c	MPLS	100%	100%	100%	100%	msn06d	MPLS	100%	100%	100%	100%	msn06e	MPLS	100%	100%	100%	100%	msn06f	MPLS	100%	100%	100%	100%	msn06g	MPLS	100%	100%	100%	100%	msn06h	MPLS	100%	100%	100%	100%	msn06i	MPLS	100%	100%	100%	100%	msn06j	MPLS	100%	100%	100%	100%	msn06k	MPLS	100%	100%	100%	100%	msn06l	MPLS	100%	100%	100%	100%	msn06m	MPLS	100%	100%	100%	100%	msn06n	MPLS	100%	100%	100%	100%	msn06o	MPLS	100%	100%	100%	100%	msn06p	MPLS	100%	100%	100%	100%	msn06q	MPLS	100%	100%	100%	100%	msn06r	MPLS	100%	100%	100%	100%	msn06s	MPLS	100%	100%	100%	100%	msn06t	MPLS	100%	100%	100%	100%	msn06u	MPLS	100%	100%	100%	100%	msn06v	MPLS	100%	100%	100%	100%	msn06w	MPLS	100%	100%	100%	100%	msn06x	MPLS	100%	100%	100%	100%	msn06y	MPLS	100%	100%	100%	100%	msn06z	MPLS	100%	100%	100%	100%	msn07a	MPLS	100%	100%	100%	100%	msn07b	MPLS	100%	100%	100%	100%	msn07c	MPLS	100%	100%	100%	100%	msn07d	MPLS	100%	100%	100%	100%	msn07e	MPLS	100%	100%	100%	100%	msn07f	MPLS	100%	100%	100%	100%	msn07g	MPLS	100%	100%	100%	100%	msn07h	MPLS	100%	100%	100%	100%	msn07i	MPLS	100%	100%	100%	100%	msn07j	MPLS	100%	100%	100%	100%	msn07k	MPLS	100%	100%	100%	100%	msn07l	MPLS	100%	100%	100%	100%	msn07m	MPLS	100%	100%	100%	100%	msn07n	MPLS	100%	100%	100%	100%	msn07o	MPLS	100%	100%	100%	100%	msn07p	MPLS	100%	100%	100%	100%	msn07q	MPLS	100%	100%	100%	100%	msn07r	MPLS	100%	100%	100%	100%	msn07s	MPLS	100%	100%	100%	100%	msn07t	MPLS	100%	100%	100%	100%	msn07u	MPLS	100%	100%	100%	100%	msn07v	MPLS	100%	100%	100%	100%	msn07w	MPLS	100%	100%	100%	100%	msn07x	MPLS	100%	100%	100%	100%	msn07y	MPLS	100%	100%	100%	100%	msn07z	MPLS	100%	100%	100%	100%	msn08a	MPLS	100%	100%	100%	100%	msn08b	MPLS	100%	100%	100%	100%	msn08c	MPLS	100%	100%	100%	100%	msn08d	MPLS	100%	100%	100%	100%	msn08e	MPLS	100%	100%	100%	100%	msn08f	MPLS	100%	100%	100%	100%	msn08g	MPLS	100%	100%	100%	100%	msn08h	MPLS	100%	100%	100%	100%	msn08i	MPLS	100%	100%	100%	100%	msn08j	MPLS	100%	100%	100%	100%	msn08k	MPLS	100%	100%	100%	100%	msn08l	MPLS	100%	100%	100%	100%	msn08m	MPLS	100%	100%	100%	100%	msn08n	MPLS	100%	100%	100%	100%	msn08o	MPLS	100%	100%	100%	100%	msn08p	MPLS	100%	100%	100%	100%	msn08q	MPLS	100%	100%	100%	100%	msn08r	MPLS	100%	100%	100%	100%	msn08s	MPLS	100%	100%	100%	100%	msn08t	MPLS	100%	100%	100%	100%	msn08u	MPLS	100%	100%	100%	100%	msn08v	MPLS	100%	100%	100%	100%	msn08w	MPLS	100%	100%	100%	100%	msn08x	MPLS	100%	100%	100%	100%	msn08y	MPLS	100%	100%	100%	100%	msn08z	MPLS	100%	100%	100%	100%	msn09a	MPLS	100%	100%	100%	100%	msn09b	MPLS	100%	100%	100%	100%	msn09c	MPLS	100%	100%	100%	100%	msn09d	MPLS	100%	100%	100%	100%	msn09e	MPLS	100%	100%	100%	100%	msn09f	MPLS	100%	100%	100%	100%	msn09g	MPLS	100%	100%	100%	100%	msn09h	MPLS	100%	100%	100%	100%	msn09i	MPLS	100%	100%	100%	100%	msn09j	MPLS	100%	100%	100%	100%	msn09k	MPLS	100%	100%	100%	100%	msn09l	MPLS	100%	100%	100%	100%	msn09m	MPLS	100%	100%	100%	100%	msn09n	MPLS	100%	100%	100%	100%	msn09o	MPLS	100%	100%	100%	100%	msn09p	MPLS	100%	100%	100%	100%	msn09q	MPLS	100%	100%	100%	100%	msn09r	MPLS	100%	100%	100%	100%	msn09s	MPLS	100%	100%	100%	100%	msn09t	MPLS	100%	100%	100%	100%	msn09u	MPL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<table border="1"> <thead> <tr> <th>Month</th> <th>FullAvail (24*7)</th> <th>BusAvail (M-F 7am-6pm)</th> </tr> </thead> <tbody> <tr> <td>2007-09</td> <td>100%</td> <td>100%</td> </tr> <tr> <td>2007-08</td> <td>100%</td> <td>100%</td> </tr> </tbody> </table> <p>WORSE 10 VIPs FULL Availability For 2007-09</p> <table border="1"> <thead> <tr> <th>IP</th> <th>Site</th> <th>FullAvail</th> <th>BusAvail</th> <th>PreviousMonthFullAvail</th> <th>PreviousMonthBusAvail</th> </tr> </thead> <tbody> <tr><td>10.114.3.68</td><td>msn04a</td><td>99.99584</td><td>99.99584</td><td>100.00000</td><td>100.00000</td></tr> <tr><td>10.194.38.250</td><td>msn04c</td><td>97.08872</td><td>72.32143</td><td>100.00000</td><td>100.00000</td></tr> <tr><td>10.250.99.250</td><td>msn04e</td><td>99.99997</td><td>99.99997</td><td>100.00000</td><td>100.00000</td></tr> <tr><td>10.187.33.250</td><td>msn04a</td><td>99.99997</td><td>99.99997</td><td>100.00000</td><td>100.00000</td></tr> 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Magnus.net uses 3rd party tools that support Cisco IP SLA to perform this assessment. When the client has an appropriate tool such as [Ciscoworks IPM](#) or [Crannog Response Watch](#) then Magnus.net will use the client own tool for the data collection so that the client can continue to maintain the monitoring themselves after the assessment is completed. When the client lacks a tool that supports [Cisco IP SLA](#), Magnus.net will provide an appropriate tool for conducting the assessment. This assessment is only possible for network environments that deploy Cisco routers that can support enabling IP SLA.

This assessment entails enabling Cisco rtr responder on source-destination Cisco routers. Then Cisco IP SLA tests are enabled to monitor site to site packet delay and jitter statistics. Site to site tests are run for at least a week and a report is produced that shows which site to site delays are problem areas. Then Magnus.net network consultants can work with the client to diagnose the problem areas and take corrective action.

NMS TOOLS AND PROCESS ASSESSMENT

Established organizations need a solution provider who can evolve from what they currently have. Since they often support many diverse network and system management tools, they need a solution provider who is familiar with their existing management tools and organizational processes. Magnus.net provides such clients with expert help on how to best integrate management of new technology objects with their existing management tools or how to evolve their existing management capabilities and tools usage.

Our NMS Tools and Process Assessment is performed when our clients desire to modernize or enhance the management and monitoring of their network components and services. In some cases, deployment and processes problems may exist and the tools are not being effectively utilized. Often this audit occurs when monitoring tools fail to detect many network faults or when they announce many false or duplicated incidents.

This assessment is performed by a senior network management consultant that has certified experience with the applicable client management tools and [ITIL](#) process certification. It involves onsite review of the deployment, configuration, and usage of the existing management tools. Once the scope of the assessment is established, we review the current tools in place and make recommendations on where the problems and gaps exist. The deliverable is a detail report on problems or gaps with the existing management deployment and detail recommendations on how to improve the configuration, ongoing support, and effective use of your management tools and resolve any important gaps.

This assessment also includes reviewing an organization's process models for Incident, Problem, Change, Configuration, and Performance Management. We compare them against ITIL best practice templates and KPIs. An analysis is performed to identify gaps or problems in existing processes models. For each gap or problem area details recommendations for resolving the gap or problem is provided.

NMS ARCHITECTURE AND SOLUTION DESIGN

This service offering involves a Magnus.net working with the client to architect a complete network management solution roadmap that includes Configuration, Fault, Performance, Security and Traffic Management. In some cases, it occurs after a client has undergone an NMS Operations Assessment and now wants to scope out the entire effort to remediate the problem and gap areas. With an overall architecture design in place, specific deployments can then be coordinated in phases.

Magnus.net Network Management Practice excels in the architecture and design of network management solutions. Design first involves reviewing clients' management requirements and working with the client to define an appropriate solution roadmap. From the roadmap, a project plan is developed and the required budget for hardware, software, development and support expenditures is defined.

Without an architectural roadmap, NMS point product tools are deployed in a disjointed fashion and evolve into a maintenance and scalability headache. For example, take ITIL incident management and problem management. Often point products are deployed by silo technology owners who setup email based paging rules in the point products. The tool and alerts are useful only to that single technology owner and is not part of formal incident and problem management processes. If that technology owner is not available, the monitoring solution is just shelf ware.

A critical component of effective IT infrastructure monitoring is effectively selecting and implementing suitable point products but then consolidation all enterprise wide incident events from the various point products into a consolidated event management system. The event management system performs numerous functions including: providing a single pane of glass into overall health of IT components and services; event correlation and problem diagnostics; ticketing system and operator notification management.

NMS tools integration and process architecture is critically important to both large and medium size enterprises. Large enterprises have 24x7 NOCs but need to accurately filter the important information from a huge amount of raw data. Medium size enterprises often do not have a 24x7 NOC and need to obtain consolidated operational visibility across technology silos and sophisticated alarm notification mechanisms that don't needlessly wake up support staff in the middle of the night for issues that are not critically important.

Magnus.net network management design projects vary in breadth. Enterprises have diverse object management requirements ranging from how to best monitor Voice Over IP, QOS, and MBONE traffic to how to best monitor operations of specific devices, services or applications. Some often have complicated Service Level Monitoring and capacity monitoring requirements.

The participation of Magnus.net specialists in clients' design and planning is very beneficial for clients. Experience is very important in network management solution design. Good design must add functionality but eliminate avoidable maintenance and scalability headaches. Magnus.net specialists, with their experience in this space, help their clients prevent many headaches in regards to network management evolution and integration.

NMS DEPLOYMENT MANAGEMENT

This service delivery often occurs when a client has decided on a NMS solution plan and now has decided to use one the company's strategic vendor such as IBM or HP to implement the complete solution all at once.

In this case, the client may commission Magnus.net to act as an independent SME to project manage the vendor NMS deployment, to QA the project deployment as it is occurring so problems are identified as early as possible in the deployment cycle, and finally to take internal staff members and mentor them in preparation of administrating the final NMS solution once it in place.

CONSOLIDATED EVENT MANAGEMENT SYSTEM DEPLOYMENT

Consolidating Event Management is critical in leveraging NMS point products. Consolidating Event Management is also critical to effective ITIL Incident Management process maturity. Magnus.net works with the client to implement consolidated event management across multiple technology objects and NMS point products.

The first part of this engagement is assessing the scope of the effort and also what product tool is to be used to perform what is often called the Manager-of-Manager function. For large enterprises, [Cisco Info Center](#) (aka [IBM Tivoli Netcool](#)) is an excellent tool for this function but depending on client situation we have also used products such as [HP OpenView](#) for this function. In other situations, products such as [Augur](#), [Alarm Point](#) or [Telalert](#) may be used.

The goal in this service delivery is to consolidate events from multiple technology silos (Routers, Switches, Firewalls, UPS, servers, Storage, etc) into one consolidate event management system and to provide event correlation, event automations, and enrichments to the processed events. Magnus.net strives to achieve a 95+% accuracy rate in event console consolidation meaning the event console rarely has false positive or duplicated events. This accuracy rate then make the event console suitable for automated ticket generation.

Magnus.net consolidated event management deployments follow ITIL incident management process best practice model as closely as possible depending on the how much is possible with the event manager tool selected. For example, where possible each event is displayed in the event console with an associated SOP instructing operators on how that event should be triage. Where possible event data is archived and a web based tool is provided to allow post review of major events during earlier time periods.

NMS POINT PRODUCT DEPLOYMENTS

Magnus.net management specialists are experienced in network management deployment of multi-vendor environments but truth of the matter is that today the majority of our engagements are related to the ability to configure and monitor Cisco based network infrastructures.

We are a Cisco Solution Partner and our consultants have many years of experience deploying and using Cisco and leading vendor NMS products. We can help you understand the various Cisco and leading vendor NMS products and their value to you. Where applicable Magnus.net will install and configure the appropriate NMS products and integrate it with the rest of your NMS architecture.

Magnus.net network management practice reduces the cost of ownership for most organizations in the setup and administration of NMS management tools. By using our specialists in the administration and support of your management tools we can reduce your cost of ownership in this space. Our network management specialists have training, experience and certification in most of the leading NMS vendor tools available on the market today. Many are also ITIL and PMP certified. The following is a list of NMS tools that we have network management specialist expertise with.

CISCO SECURE ACCESS CONTROL SERVER (ACS) DEPLOYMENT

This service offering is where Magnus.net consultants with install and configure [Cisco Secure Access Control Server \(ACS\)](#) if needed by the client. Cisco Secure ACS enables your network administrators to control:

- Who can log into the network
- The privileges each user has in the network
- Recorded security audit or account billing information
- Access and command controls for each configuration's administrator

The deployment of Cisco ACS tool is often one of the first NMS requirements for many Cisco based network environments.

CISCOWORKS LAN MANAGEMENT SOLUTION (LMS) DEPLOYMENT

This service offering is where Magnus.net consultants with install and configure [CiscoWorks LAN Management Solution \(LMS\)](#) if needed by the client. Cisco LMS is a integrated package of the following Cisco specific tools and capabilities:

- Device Fault Manager (DFM): this is a Cisco OEM of EMC SMARTS IP Availability/Performance Manager and includes Cisco specific root cause fault detection and notification.

- Resource Manager Essential (RME): this tool is for monitoring Cisco device inventory and basic Cisco configuration and software release management.
- Internet Performance Manager (IPM): this tool is used to define Cisco IP SLA tests and to view IPM measurement and trend reports.
- Campus Manager: This includes Cisco User Tracking, Path Analysis, and Topology map. (Note: User Tracking automatically maintains a database of what MAC and IP devices are attached to each Cisco Switch port. This is vital information to available to operations.)
- Common Services and CiscoView: for integrating other tools with Ciscoworks and for GUI based device management
- Cisco Router and Switch Conf File Retrieval, Diff Compares, and Archiving
- Cisco Syslog receipt, archiving and regular expression filter based notifications

CISCOWORKS CONFIGURATION ASSURANCE SOLUTION (CAS) DEPLOYMENT

This service offering is where Magnus.net consultants with install and configure [Cisco Configuration Assurance Solution \(CAS\)](#) if needed by the client. Cisco CAS is particularly helpful in making sure network device configuration errors are detected at soon as they occur in larger size IP networks.

CAS is a multi-vendor tool. It supports Cisco and most leading network device vendor devices in regards to maintaining and detecting configuration errors.

- Automatically audits the network, systematically analyzing configurations from individual devices and sends SNMP trap notifications when it detects a configuration error.
- Reports compliance against network engineering configuration policies
- Combined visualization of topology, traffic, and configuration
- Predicts the ability of the network to maintain integrity and security under simulated failure conditions

CISCOWORKS SECURITY MANAGEMENT SUITE DEPLOYMENT

This service offering is where Magnus.net consultants with install and configure Cisco Security Management Suite if needed by the client. This suite consist of two products, namely Cisco Security Manager and Cisco Security Monitoring, Analysis and Response System (MARS). These products are synergistic with each other but are not dependent on each other. Thus they can be deployed in singular or plural form.

- [Cisco Security Manager](#) is a powerful but easy-to-use solution for configuring firewall, VPN, and intrusion prevention system (IPS) policies on Cisco security appliances, firewalls, routers, and switch modules.
- [Cisco Security Monitoring, Analysis, Response System \(MARS\)](#) is an appliance-based, all-inclusive solution that allows network and security administrators to monitor, identify, isolate, and counter security threats.

CISWORKS NETWORK COMPLIANCE SOLUTION (CWNCM) DEPLOYMENT

This service offering is where Magnus.net consultants will install and configure [Cisco Network Compliance Solution \(CWNCM\)](#). This widely popular product is a highly regarded multi-vendor network change management tool. It provides:

- A scalable multi-vendor offering for centralized network configuration and change management
- real-time change detection
- pre-deployment validation
- policy enforcement
- policy driven Audit and Compliance tracking
- automated generation of compliance reports (SOX, HIPAA, GBLA)
- ITIL driven Advanced Workflows to manage large change projects and to manage custom approval policies
- Network Change, Configuration and Compliance Reporting

CWNCM allows enterprises to centrally manage and control widespread network change and configuration management in accordance to ITIL best practices and regulatory and government compliance policies.

CISCO UNIFIED COMMUNICATIONS MANAGER SUITE DEPLOYMENT

Cisco Unified Communications Manager suite consists of two products, namely:

- [Cisco Unified Operations Manager](#): used to monitor an entire Cisco based Unified Communications Infrastructure and rapidly trouble shoot problems. It also provides phone inventory reporting. Operations Manager supports all the layers of Cisco Unified Communications System and provides contextual performance monitoring, alerting and reporting.
- [Cisco Unified Service Monitor](#): is for real time measurement of voice quality and MOS reporting. Service Monitor is deployed in conjunction with Cisco 1040 Sensors for

Voice Quality monitoring and it allows alerting to be setup when voice calls across the network falls below a defined quality threshold.

HP OPENVIEW NETWORK NODE MANAGER (NNM) DEPLOYMENT

[HP OpenView NNM](#) is possibly the most widely deployed SNMP network management platform in use today across both large and small network environments. This product has continually evolved over the years. Its current 7.x version has very sophisticated Root Cause Analysis logic and widespread multi-vendor support.

Due to its widespread popularity, our consultants have a great deal of experienced deploying HP OpenView Network Node Manager. They also maintain up to date formal HP OpenView NNM certifications. We have the ability to provide clients a very broad and effective HP OpenView NNM deployment using our solution libraries for extending HP OpenView NNM to fault monitor IP based networks.

EMC SMARTS INCHARGE DEPLOYMENT

Magnus.net has the ability to provide clients an very broad and effective [EMC SMARTS InCharge](#) deployment to fault monitor IP based networks. EMC SMARTS InCharge is another widely deployed SNMP network management platform in use today by many enterprises. It is the software that is the core of CiscoWorks LMS Device Fault Manager (DFM) except DFM is a limited to Cisco only device support. (SMARTS InCharge in the past was also resold by Cisco under the name Cisco Network Connectivity Manager.)

EMC SMARTS is a suite of products which include: SMARTS IP Availability Manager, Performance Manager, Route Protocol Manager, and Service Assurance Manager. It was one of the first SNMP products on the market with effective Root Cause Analysis logic. Due to the popularity of the product our network management practice has a great deal of experienced with the configuration and administration of EMC SMARTS InCharge.

CAPACITY MONITORING DEPLOYMENT

Capacity Monitoring of all network resources is important but it is most often used in the area of monitoring expensive resources such as WAN interfaces so network costs are minimize according to load requirements. Magnus.net management specialists are familiar with most 3rd party network capacity monitoring tools including those of HP OpenView, CA Concord EHealth, [Lucent VitalNet](#) to name a few. We are also experience with open source tools such as CACTI that also are used for this purpose.

A part of network performance and capacity planning is using instrumentation such as [Cisco NetFlow](#), [Cisco Network Analysis Modules \(NAM\)](#), [NetScout RMON probes](#), and Network General (now NetScout) Sniffers to monitor network traffic. Our traffic monitoring experience includes using [Cisco NetFlow](#) and NetFlow tools such as [NETQOS](#). For traffic capture needs, NAM blades from Cisco and or RMON probes from NetScout may also be required.

Need a network capacity monitoring solution ? Magnus.net's management specialists have the expertise to deploy an appropriate performance monitoring, capacity planning, and traffic monitoring solution for any size organization.

NETWORK SERVICE AND END-USER-EXPERIENCE MONITORING DEPLOYMENT

Network Service monitoring and End User Experience Monitoring is another area where Magnus.Net consultants have a great deal of experience. Our experience here involves using tools such as HP OpenView Internet Services (OVIS) monitor, CIC (aka NetCool) Internet Services Monitor, [Coradiant TrueSight](#), [Citrix EdgeSight](#) and [Lucent VitalSuite](#).