



EMAN Automates Services Lifecycle Management at Cisco



Cisco Information Technology
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Overview

- Overview

 - What is EMAN?

- Challenge

 - Efficiently provide network-related services to 50,000+ Cisco employees and contractors at 300+ sites

- Solution

 - EMAN – a web-based Enterprise Management system created by Cisco IT to monitor and manage Cisco's IT network infrastructure.

- Results

 - EMAN has enabled Cisco IT to meet its goals as a provider of services to internal customers

- Next Steps

 - <Extend EMAN's capabilities to all Cisco remote locations and Cisco customers

What is EMAN?

*EMAN is an internally developed web based **Enterprise MAN**agement application for managing components of the IT infrastructure as well as an integration point for other automation efforts.*



Challenge

- Efficiently provide network-related services across the enterprise
 - To 50,000+ Cisco employees and contractors at 300+ sites
- Address growing complexity of networked systems and company size by automating service provision across multiple technologies.
- Create an integrated suite of tools to manage:
 - Network performance monitoring – predict and prevent network downtime
 - Network operations automation – Facilitate equipment configuration and upgrade
 - Network inventory management – Document devices, operating systems, and applications
 - Service provisioning – voicemail, e-mail, home office DSL network access
 - Management reporting – Assist managers to track and control their department's IT budgets

Solution

- EMAN is a web-based Enterprise Management system created by Cisco IT to monitor and manage Cisco's IT network infrastructure.

EMAN addresses network performance as well as the provisioning of network-based services throughout the enterprise.

- The first EMAN tool, introduced in 1995, monitored the performance of network routers, switches, and other IP-addressable networked resources.

This basic tool has evolved over the last decade into an integrated suite of several hundred.

- The most important design criteria for EMAN have been scalability, reliability and availability, and low Operations Support System (OSS) costs.

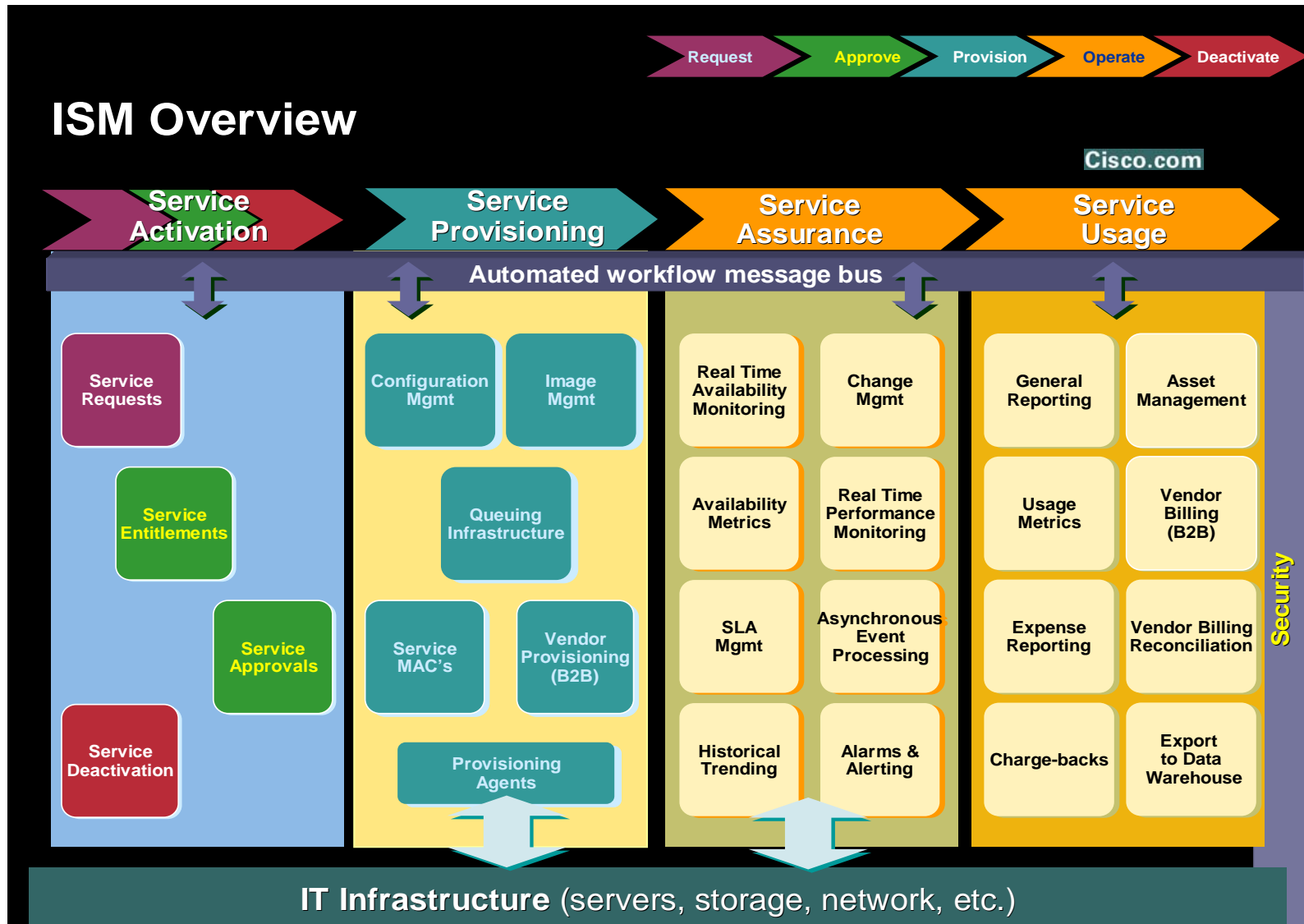
EMAN is built on Integrated Services Management (ISM), an elegant, service-oriented framework of reusable components developed internally or by third-party providers.

Solution

EMAN is composed of eight major components:

- **Availability monitor** – measures service availability and response time..
- **Real-time monitor** – provides real-time performance metrics for CPU, memory, bandwidth, and file system usage through an Simplified Network Management Protocol (SNMP) polling engine.
- **Event server** – processes SNMP traps, syslog messages, and operating system eventlog messages.
- **Alert server** – sends alerts to the appropriate subscriber through subscriber's preferred delivery method.
- **Data collector** – collects performance metrics from target systems at five-minute intervals
- **Cisco Netflow collector** – processes near-real-time Netflow statistics
- **Spare Solaris server** – contains boot images for rapid recovery in the case of system failure
- **Windows application server** – Contains boot images for Windows-based appliances for rapid recovery in the case of system failure

Solution



Results

- EMAN has enabled Cisco IT to meet its goals as a provider of services to internal customers
 - IT can easily create new services, roll them out quickly, and support self-service, while assuring network reliability and availability.
- Better service quality through a single system of record
 - Any added info
- Simplified Provisioning of Converged Services
 - Through a common interface that enables efficient support of a growing number of services
- More scalable support
 - Standardized processes and tools allow Cisco to scale support across theaters and time zones

Next Steps

- Extend EMAN to manage the services required by business applications, application infrastructure, and operating infrastructure
- Deploy “EMAN in a rack” to all remote Cisco locations
- Create a version of EMAN for enterprise customers.

This solution will enhance the current CiscoWorks solution by enabling companies to manage services across an entire WAN and to manage non-Cisco devices



“EMAN helps Cisco IT meet its goals as a service provider to internal clients by making it possible to automate ordering and provisioning...We can quickly create new services, deploy them, and support customer self-service, whether in San Jose or at any Cisco office around the globe.”

Alan Conley
Cisco Distinguished Engineer

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