

Driving Automated Insight to Business Applications with EMC Smarts



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Automated Insight to Applications with EMC Smarts

Automation based on application behavior

EMC Smarts application-oriented products

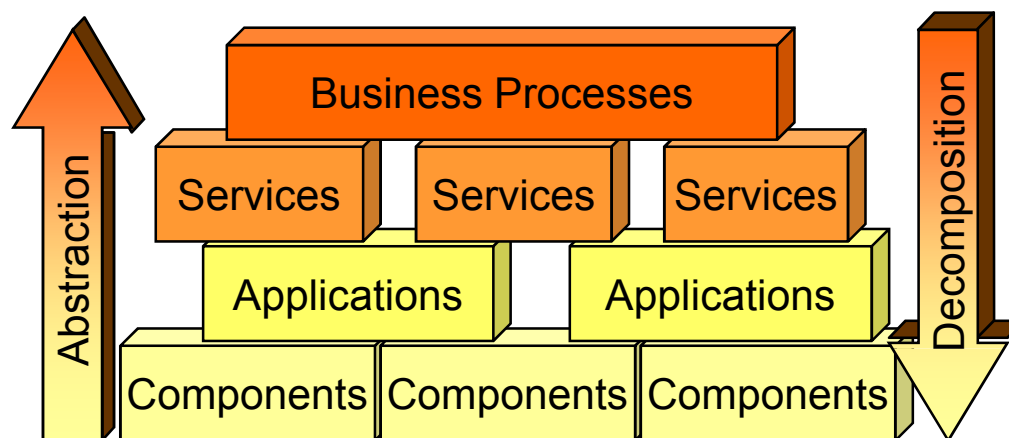
New! EMC Smarts Application Discovery Manager

Future developments at EMC Smarts

Applications: The Business Service Proxy

Applications are tangible services to users

Business processes are increasingly embodied in applications



- (e.g., SAP, Siebel, web apps, middleware)

Monitor applications and you monitor at least some level of business service

- Relevance to business service depends on application sophistication
- Triage focuses on application monitoring to prioritize action

Driving Automation

Comprehensive automation is years away

Incremental automation is realistic

- Indeed this happens all the time

Automated discovery

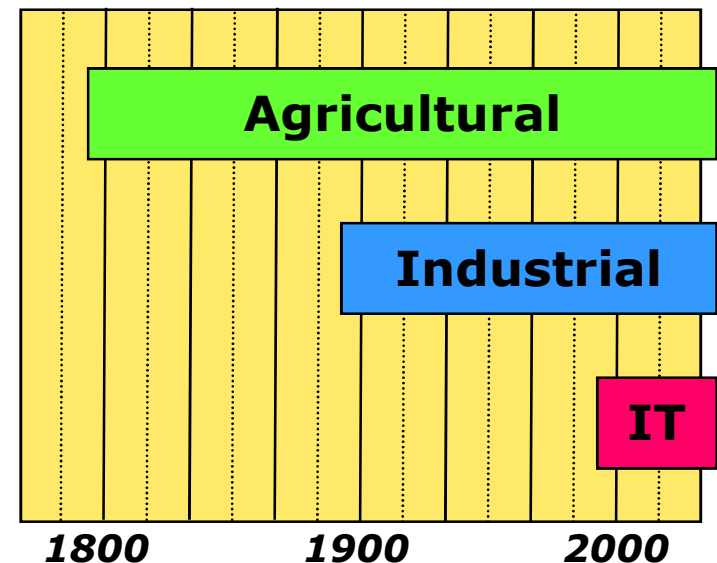
- Populate CMDB to ensure freshness and accuracy

Automated analysis

Automated action

- Not just HOW to adapt, but also WHY and WHEN to adapt

Leverage EMC virtualization



**Automation Timeline
(history repeats)**

EMC Smarts Operational Benefits

Streamline ITIL adoption

EMC Smarts provides process automation

- Reduce costs
- Improve reliability

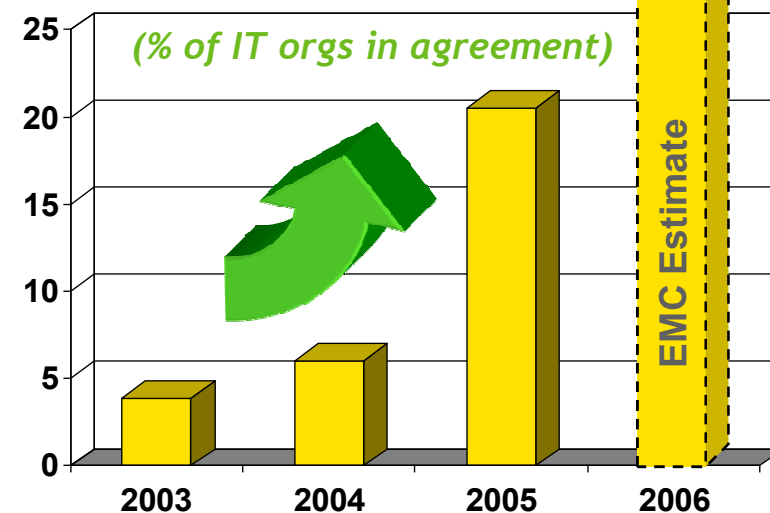
Incident management:
the best first step

- Many tasks and tools in place

Triage: a crucial early stage
of incident management

- Automation is a great opportunity

ITIL is exploding



Most significant issue facing management strategy:
Implementation of ITIL

Source: META Group

Automating Incident Triage

Incident Management is:

- Isolation
- Escalation
- Restoration

Triage is:

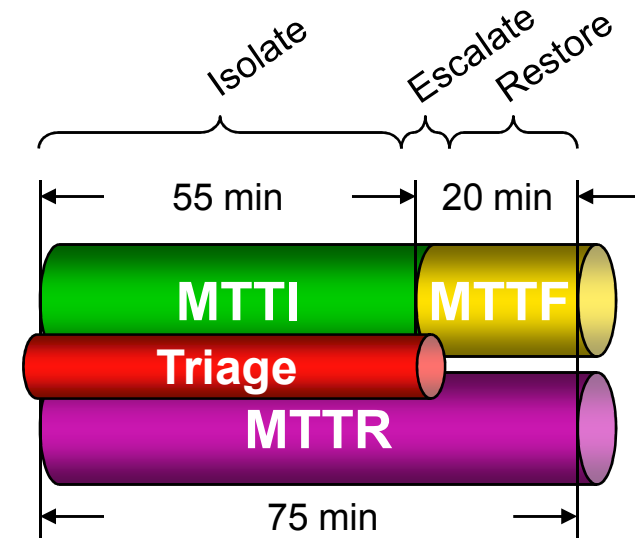
- Identifying the cause
- Directing resolution properly
- The right person ⇔ the right job

Reduce finger-pointing

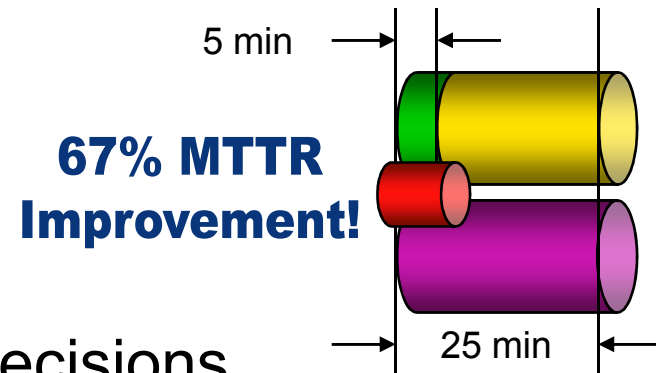
Accelerate resolution

- Lower operational costs

Applications provide context for decisions



The Impact of Automated Triage



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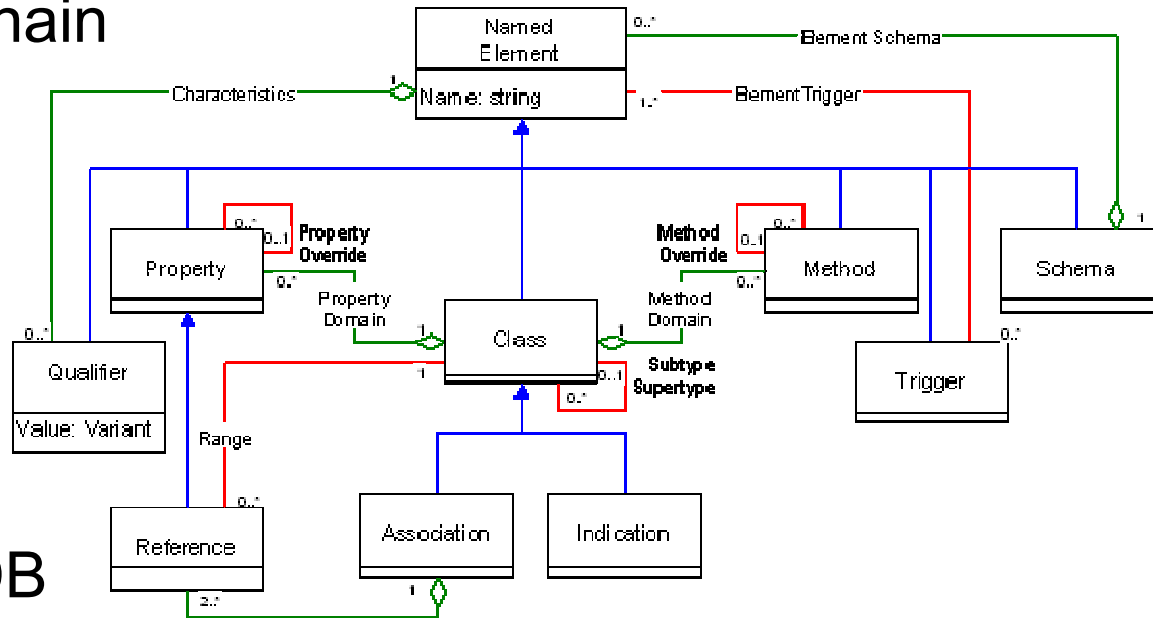
Future developments at EMC Smarts

The Power of the EMC Smarts Object Model

Captures an accurate description of the real world

Complete service chain

- Infrastructure
- Logical overlays
- Applications
- Services
- Service users



The heart of a CMDB

Drives myriad automation mechanisms

No other vendor can boast such a robust, unified model

Application Connectivity Monitor (ACM)

Entry-level application-oriented monitor

Automatically discovers applications and monitors for availability

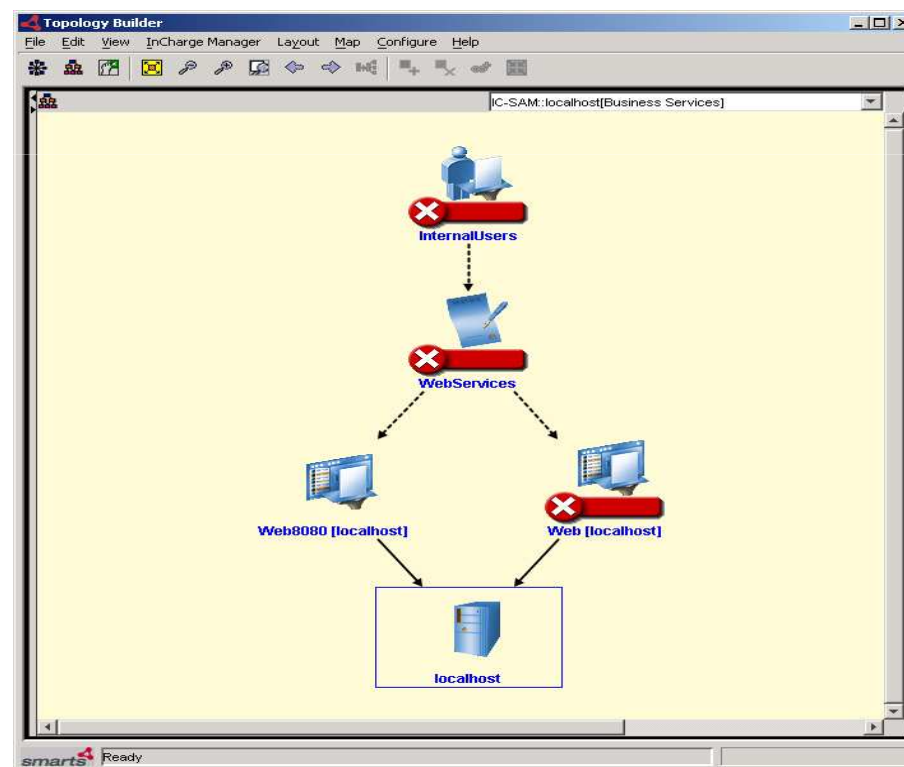
- Preconfigured to discover hundreds of applications

Maps applications to hosts

- Leverages these relationships for automated analysis

Rapid time to value

- Quick and easy install
- Intuitive customization GUI



ACM Version 2.1

New Version Available Now!

Support for redundancy groups

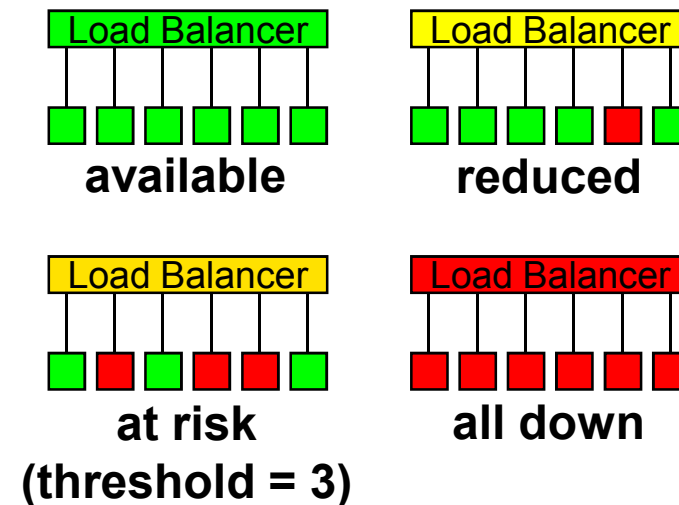
- e.g., load balanced servers

New topology builder

- GUI for mapping services to hosts
- Also maps redundancy groups

Stronger third party event integration

Load Balancers are Application-Aware Infrastructure



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New! Application Discovery Manager (ADM)

Available Now!

Illuminates the “darkness” within applications

Automatically discovers and maps application relationships

“Topology” presents app-to-app relationship map

Phase I of delivery: Visibility

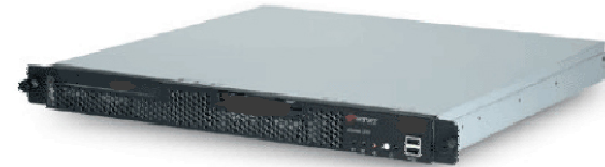
- Automated discovery and presentation

Phase II of delivery: Drive analysis

- Beginning Q3 of 2006
- Model linkage to analysis products



ADM Appliance Packaging



OEM technology from nLayers

Re-branded and supported as EMC product by EMC

- Benefit from the stability, trust, and financial strength of EMC

Appliance is a generic 1U Intel server plus software

Additional development by EMC will evolve rapidly

- New development team dedicated to application-oriented products
- Integration into the Smarts ICIM object model is the first step

Rapid time to value using appliance packaging

- No need to acquire server, administrators, patches, etc.

Passive network traffic capture and analysis

Why EMC Chose nLayers for OEM

nLayers prevailed in an extensive EMC analysis

- Twelve vendors considered
- Top choice in ForresterWave on Application Mapping

Model-based approach aligns with EMC Smarts

- Enables faster product integration and CMDB expansion

Hybrid model is more secure than pure active approaches

- Less intrusive
- Easily customized based on customer needs

Ample “Fingerprints™” can identify complex applications

Activity/usage data enhances EMC’s performance strategy

Intuitive ADM User Interface

The screenshot displays the EMC ADM User Interface in a web browser window titled "Discovery > Relationships - Microsoft Internet Explorer provided by EMC Corp". The main area shows a network diagram with several server nodes, each representing a host with its IP address and associated services. The nodes are interconnected with arrows indicating network relationships and protocols.

- Zoom views:** A vertical slider on the right side of the interface allows users to zoom in and out of the network diagram.
- Navigation aid:** A small overview map in the top-left corner provides a high-level view of the network structure.
- Slider control to view usage over time:** A vertical slider on the right side, labeled "Behavior", allows users to view usage data over time, with a "By Hour" checkbox and a time scale from 00:00 to 23:00.
- Intuitive command buttons:** A set of icons at the bottom right of the interface provides various command and navigation options.
- Heavy usage:** A callout points to a node with a thick blue arrow, indicating high usage.
- Light usage:** A callout points to a node with a thin blue arrow, indicating low usage.
- Application relationship showing protocol info:** A callout points to an arrow between two nodes, showing the protocol used for the connection (e.g., SSH, HTTP, SNMP).
- Server showing resident applications:** A callout points to a node's details, showing a list of services running on the server, such as "Service on port 4665", "Service on port 4762", "Service on port 4880", and "Service on port 4978".

ADM Testing at EMC

Installed at EMC's live data center in Westborough, MA

Discovered 30,000 nodes, 13,000 apps and 75,000 application-to-application relationships within three hours

SMARTS fingerprint created in 20 minutes

- Flagged as “unclassified”
- Config files were not necessary nor could they capture the dynamic nature of SMARTS app

Another custom EMC business application was found

- Fingerprint created in 30 minutes



Building on ADM for Application-Oriented Management

Integration with ICIM and feeding analysis is a dramatic differentiator from all competitors

- Including others who OEM nLayers

Configuration management is central to IT Operations

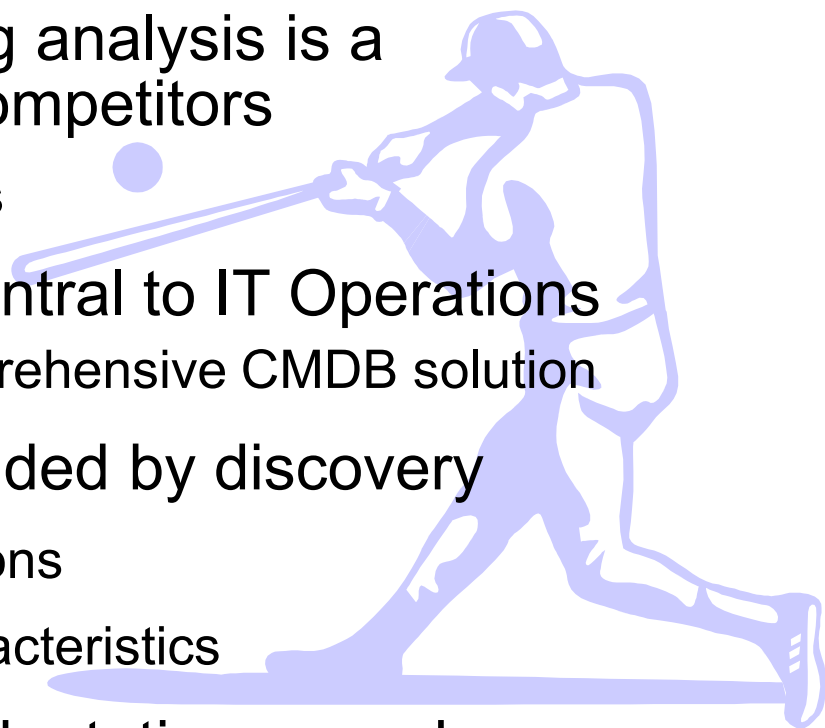
- ADM is a critical enabler in a comprehensive CMDB solution

Automated monitoring will be guided by discovery

- Initiate appropriate monitoring actions
- Measurements based on app characteristics

EMC is a trusted virtualization/adaptation powerhouse

- Application context determines WHEN and WHY to adapt



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Other Future Developments at EMC Smarts

Application-Oriented Management: strategic to EMC

- Smarts is the epicenter
- Collaboration with other EMC units

Rich third-party integration capacity

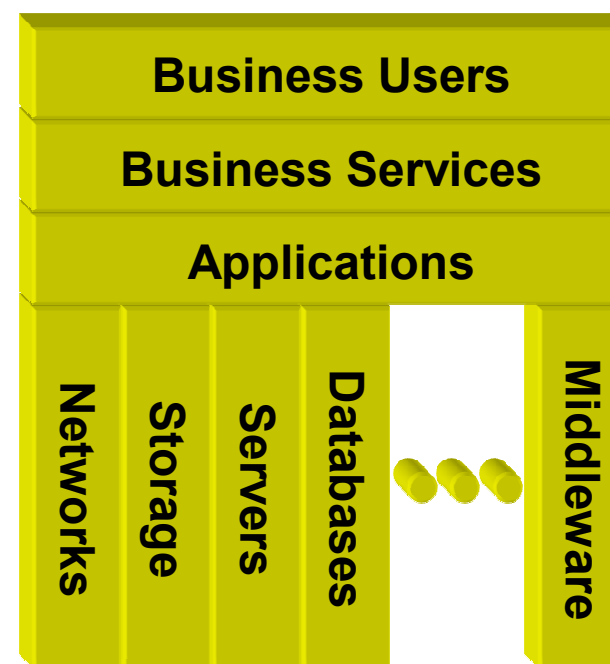
- Optimizes triage automation

Broader service management solutions

- Additional ITIL automation

Storage Insight linkage

- Unmatched services-through-infrastructure capability



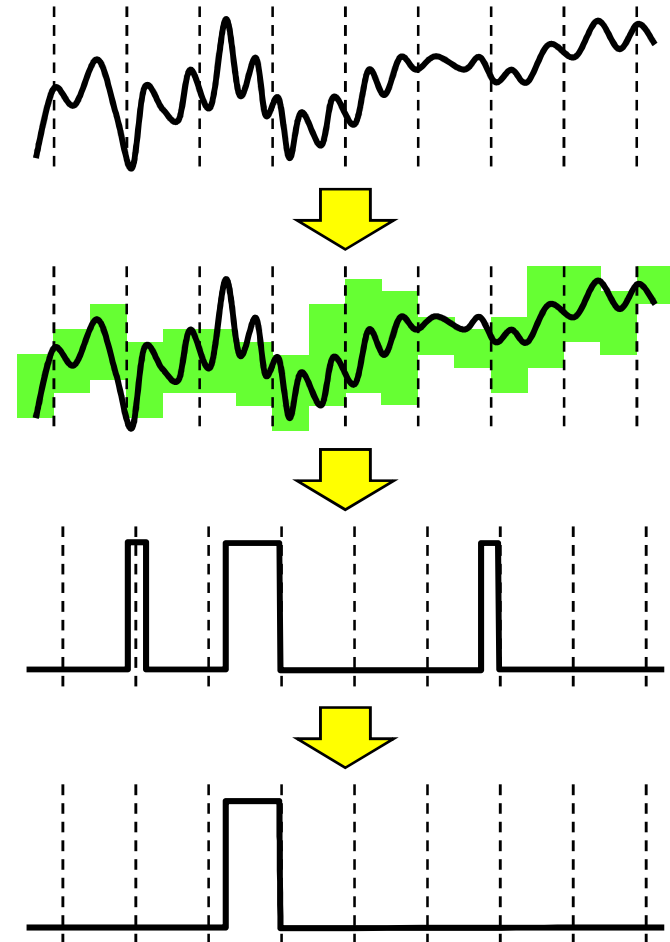
Other Future Developments at EMC Smarts

Performance monitoring

- For both infrastructure and applications
- Application performance monitoring will benefit greatly

Configuration management for process discipline

- Configuration already inherent in the model
- Partner ecosystem



Hooking into Business Process Management

Business processes embody one or more applications

- SAP, Oracle, etc. automate business logic

Instrumentation standards must proliferate

- Legacy application are black holes
- Web services, SOA, BPEL all hold promise

Follow the flow of business process execution

- Tracking transactions accurately is not easy, however

EMC is following or participating in these developments

- Our management tools will support these new technologies
- EMC Documentum already offers impressive BPM capabilities

EMC Smarts Value Proposition

Automated triage for incident management

- Reduced cost of operations
- Quicker incident resolution

Business impact analysis

- From infrastructure and applications
- Thanks to our unique object model

New ADM product offers incomparable visibility into application behavior

- Potent catalyst for unrivaled product evolution

The ultimate engine for automation



EMC²[®]

where information lives[®]