



March 2005

Event and Service Impact Management: *Managing IT for the Business*

A META Group White Paper

“Monitoring and event management are in the midst of a dramatic shift away from a myopic focus on core infrastructure and application elements to a broader perspective of business services. This shift is producing some difficult yet feasible challenges to align technology details with a much loftier goal of assessing business impact. Key to conquering these challenges are structured processes, the appropriate application of monitoring technologies, and above all else, a revolution in thinking.

Cultural changes are often necessary to foster better insight into business services, and this new philosophy requires new technology solutions to augment existing tool investments. The pieces of the puzzle are before us. We simply need to understand how to assemble those pieces into something meaningful to prove business value.”



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Introduction

Most organizations have made significant investments of both time and money in tools for monitoring their IT infrastructure. These tools are used to understand the current state of critical infrastructure elements, such as devices, networks, and applications, and ideally provide some early warning regarding possible outages or performance issues. When used in this manner, monitoring tools provide value to the operations staff within an IT organization (ITO), yet often fail to provide true value to the greater ITO or even the business as a whole.

Monitoring and event management are in the midst of a dramatic shift away from a myopic focus on core infrastructure and application elements to a broader perspective of business services. This shift is producing some difficult yet feasible challenges to align technology details with a much loftier goal of assessing business impact. Key to conquering these challenges are structured processes, appropriate application of monitoring technologies, and above all, a revolution in thinking.

Cultural changes are often necessary to foster better insight into business services, and this new philosophy requires new technology solutions to augment existing tool investments. The pieces of the puzzle are before us. We simply need to understand how to assemble those pieces into something meaningful to prove business value.

The goal of monitoring and event management within ITOs should not be limited to improvement of IT operational capabilities. It should be expanded to include providing business managers with a better understanding of how issues with critical business services will affect the business as well as empowering them to make better management decisions based on technical data presented in a proper business context.

By its very nature, monitoring is a technical endeavor. Therefore, it is often viewed in a myopic manner as something meaningful only to system administrators and similar technical personnel. However, when monitoring of data takes place within the context of the broader services that are being consumed by the business, it can provide valuable insights into how the business is performing, rather than just providing simple metrics on IT components.

Proper management of the event data generated by monitoring tools across the enterprise is the first step in providing some level of context. The second step is to tie the event data to models representing the services that the ITO is providing. This combination of good event management and service modeling allows even non-technical types to start to understand how the business may be impacted when problems occur.

Event Management

It is common to see multiple monitoring tools in use within any given IT organization. The tools and their usage often are segmented along organizational lines, with discrete tools for the networking staff, the database team, and so on. This creates the typical silo effect within IT management practices that has become so problematic. The consequences of this are both good and bad. The good news is that each of these groups has the tools needed to effectively deal with the specific technology being managed. The bad news is that once the silos of technical skills and tools are built, they often become the lens through which all of IT management is viewed — and the important perspective of what truly matters to the business is lost.

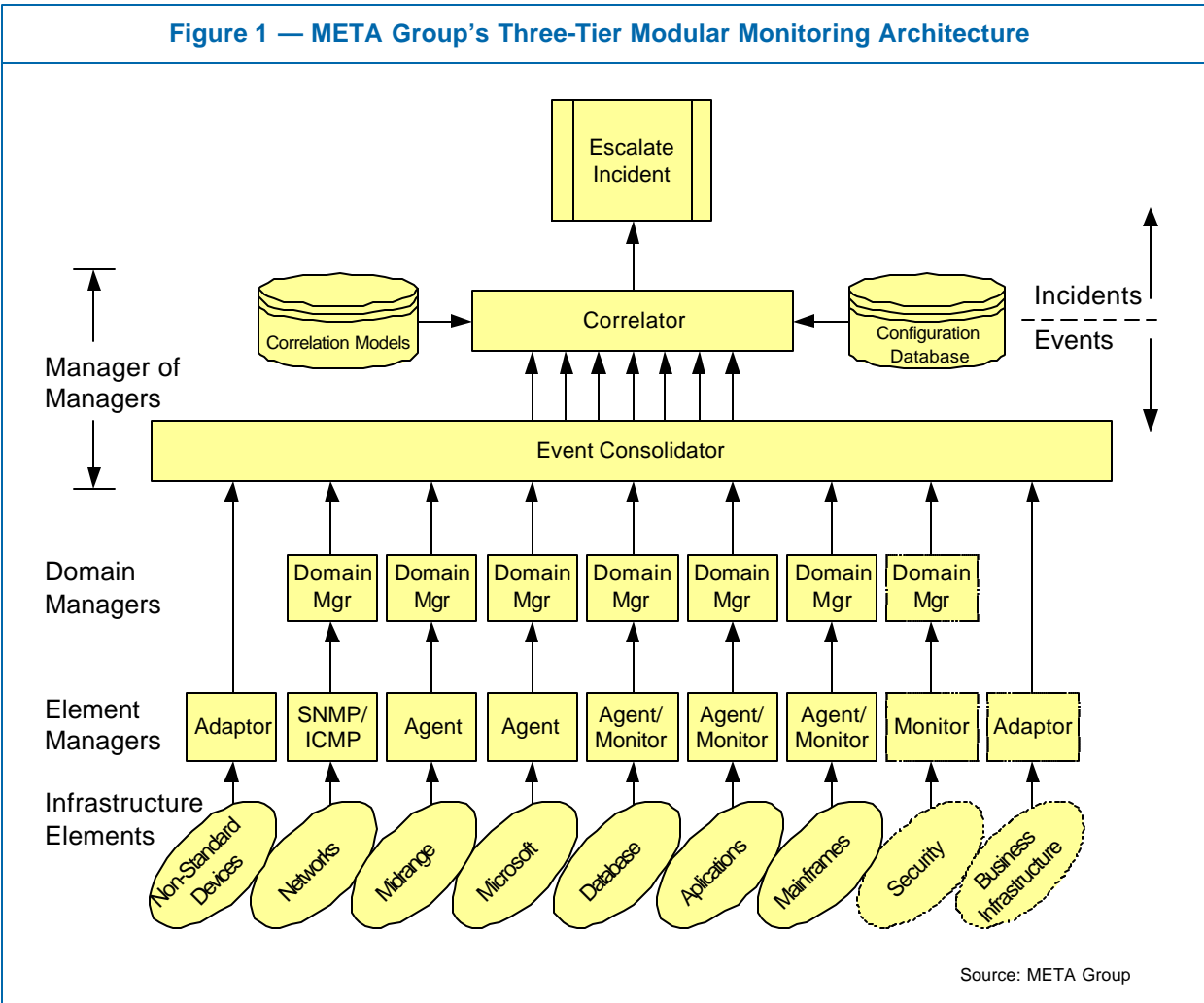
Buying, implementing, and maintaining multiple tools across an enterprise can be very expensive and time consuming if not properly managed. A common irrational reaction to this situation is the attempt to have the different technical teams agree upon a standard monitoring tool. Although the goal of simplification through standardization is noble, the monitoring requirements for the different areas of infrastructure technology usually make this nearly impossible to achieve. The best that most organizations have been able to achieve is to minimize the number of tools in use and possibly go so far as to standardize on the tools of a single monitoring vendor.

Given that most organizations will have multiple tools in use for specific areas of infrastructure, the challenge ITOs face is one of how different monitoring tools should be integrated. Ideally, most IT organizations would like to see their monitoring tools as tightly integrated as possible. In reality, however, the value and benefit of the highest levels of integration are rarely, if ever, worth the time and expense required. Given the resource constraints facing most organizations, the most practical type of integration is at the event level. The ability to combine and correlate events from multiple monitoring tools can bring order to the typical chaos surrounding management of complex IT infrastructure.

META Group has developed a three-tier monitoring model that provides a very useful guide for organizations to gain understanding of how different monitoring tools should be used and integrated (see Figure 1). The three tiers of this model are the element manager, the domain manager, and the manager of managers:

- **Element managers:** Element managers are expected to be low-level devices or transactional monitors that deal with very detailed and specific in a given area of technology, and most organizations will have many of these.

Figure 1 — META Group's Three-Tier Modular Monitoring Architecture



- **Domain managers:** Domain managers will be significantly fewer in number than element managers and will act as consolidation and aggregation points for data from the element managers. A typical organization will have only a few domain managers, and they often will be used in a domain-specific manner (e.g., network event data only). They are sometimes optional, but are usually recommended to distribute processing load.
- **Manager of managers:** The top tier of the monitoring model is the “manager of managers,” which should be the manager of record within an enterprise. Most organizations will have only a single manager of managers, due to the typical cost and overhead associated with implementation and maintenance. However, in certain circumstances, it is acceptable to have multiple managers of managers (e.g., due to geographic necessity or political issues).

Using the three-tier monitoring model as a guide, IT organizations must assess the level at which particular event data is relevant. This is a very crucial step toward creating better context for the event data coming from different monitoring tools. A common mistake is to allow any and all event data to flow freely all the way to the manager of managers, since those tools often have been promoted and designed to be highly scalable and capable of processing massive volumes of event data.

However, the problem with this approach is that certain event data might be valuable for managing an element of the infrastructure (e.g., loss of a drive in a RAID array) yet it may not be data that really needs to be seen on an enterprisewide basis. A good rule of thumb is that event data should ultimately end up where the risk associated with the event can be best assessed.

If an organization is successful in minimizing the number of monitoring tools in use — by aligning tools according to the three-tier model and bubbling up only the most important event information — it will have gone a long way in making the event data generated by monitoring tools more relevant to the business. At this stage, this event data is still meant to be consumed primarily by an IT audience, but there will certainly be less technical “noise” and a lay person will have a better chance of being able to understand the events and their significance. Still, good event management alone does not provide enough context to understand potential impact on the business. Events at this point are still dissociated from the actual services upon which the business is relying.

Service Impact Management

From the business perspective, the ITO’s real value lies in the services it provides, and not in the fact that it provides some technical infrastructure. In the past, the ITO often viewed itself as something similar to a department of transportation, building the bridges, roads, and tunnels that were requested by the business. From this perspective, the ITO assumed its job was to ensure that roads were not riddled with potholes, bridges did not collapse, and tunnels did not leak. Aside from that, the experience of driving on that infrastructure was not of concern.

Due to increasing pressure from the business, as well as a desire to better align IT with the business, the ITO has come to understand that although transportation infrastructure is important, what the business really is asking for is something more akin to logistics. The services of moving and connecting resources provide a greater value to the business than just providing the roads, though those roads are critical to the ITO’s ability to deliver. The IT organization realizes that it is more valuable as a services organization than simply as a provider of infrastructure.

Considering the ITO's role in the business more broadly, we can see that event management is actually more suited to managing infrastructure, and a different perspective is needed to make monitoring more business-relevant. Using the transportation analogy again, we can think of event management as the ongoing traffic reporting for vehicles on those bridges, roads, and tunnels.

Having a map of the roads and knowing where there might be heavy traffic or accidents is certainly useful, but the missing link is having an understanding of which "roads" and "traffic jams" have the most potential to keep the ITO from being able to move and connect resources that matter to the business. The ITO must know how the business is consuming the resources it provides and how critically the business views that consumption. This would be similar to understanding the routes that delivery drivers take and which routes are the most important.

The challenges for the ITO now become understanding the business's consumption of IT services, ranking those services in line with perceived business value, and tying event data to infrastructure components that can affect service delivery to the services. To accomplish this, the ITO must be able to model these services to gain understanding of which infrastructure components are related to the delivery of a given service.

Describing which networks, devices, software components, etc. are required for a particular service is often referred to as "technology relationship mapping." The objective of performing this mapping is not limited to understanding what infrastructure relates to a given service. It also includes the use of this mapping to better pinpoint the root cause of problems with critical services, so that outages or issues can be resolved in a more timely manner.

Creating and maintaining a technology relationship map for all of an organization's services can be cumbersome, due to the complexity of current architectures (e.g., redundant network connections), the proliferation of services, and the rate of change of those services. Therefore, automation is required to make appropriate headway in creating maps. Automation of technology relationship mapping through use of a tool will rarely be 100% accurate, so some level of manual intervention will be required. Still, it is a much easier task than trying to manually create these maps. In addition, these technology relationship maps need to be living entities that are kept current regarding changes to the infrastructure, so this mapping is not a onetime occurrence but an ongoing activity.

An important aspect of technology relationship mapping that is often not given enough attention is the formal ranking or scoring of services according to their value

to the business. The ITO often has a basic understanding of which services are important, based on past outages of different services, the reactions of the consumers of those services to the outage, and some postmortem analysis of the impact to the business. However, a better way to approach this ranking is to engage with the business before an outage occurs and have business users describe which services are more or less critical on a day-to-day basis. Working with the business to rank these services will usually be multidimensional, taking into account various aspects of the services, such as the number of users for a given service or the potential revenue impact of a service outage.

Once the ITO has modeled the services being consumed by the business through a technology relationship map and understands the importance of those services to the business, the final step is to marry the event data being generated from monitoring tools to the infrastructure contained in that map. The value of doing this is that the ITO will then have insight regarding those events that may impact services that are critical to the business. Even outside of the ITO, business consumers will be able to understand the service impact of different events, given the context of the services that they are familiar with. Through the combination of event management and service modeling, the ITO is able to take typically technical monitoring event data and turn it into something important and relevant to the business.

The representation of event data in a service context creates new possibilities for working with and reacting to problems. Not only can this data be used to understand the impact of particular events on business-critical services, but this knowledge can also be shared across the ITO and the rest of the organization, enabling better communication and responsiveness when problems occur.

For example, if a service outage is detected due to a number of events, an end-user support organization (e.g., the help desk) can be alerted with the knowledge of which users will be impacted, a trouble ticket can automatically be generated for the service outage rather than for the individual events causing the outage, and business managers can best gauge the implications of the outage and whether or not alternative courses of action are required.

Bottom Line

Through the combination of event management and technology relationship maps, the IT organization is able to transform the value of the data generated by monitoring tools. Being able to use events that occur in the infrastructure to more broadly understand service impact has turned data that is typically technically oriented into something that is vital to the business. With service impact management, business managers are more capable of assessing problem

situations and have better visibility into the issues that may affect their ability to run the business. Service impact management is an important discipline that enables alignment of the goals and activities of the IT organization with those of the business as a whole.

The culture for monitoring has long been one of vindication. Having the selfish goal of proving one's own innocence at the probable expense of another is pervasive, and this must change if there is any hope of offering business value through better business service. Continued malevolence will inexorably lead to punitive outsourcing of the IT services. Although this is a draconian measure, it is chillingly realistic, and in some cases, imminent. If we can collaborate to change this culture and implement a sound strategy of processes and monitoring automation, we can vindicate the entire organization and even fuel agility for the business itself. Everybody can win, if all are aligned with this strategy.

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