

SPECTRUM BUSINESS SERVICE MANAGEMENT
SEPTEMBER 2004

Executive Summary

With services and SLAs being direct sources of revenues (or penalties) for service providers and the basis of business processes in enterprises, they must be managed effectively to ensure quality services are delivered and SLAs are met. It is no longer acceptable to provide component level management of the network, applications, systems, or security in separate silos. In order to manage effectively, the IT staff needs real-time alarms on services as well as SLAs that are in danger of violation. These alarms must provide the root cause and the impact analysis allowing them to be addressed quickly and in order of priority. Finally, organizations must have the ability to report on both service performance and SLA compliance.

Aprisma has introduced SPECTRUM Service Manager, working in conjunction with current SPECTRUM solutions to provide Business Service Intelligence™—real-time and historical management of services, SLAs, and customers. Service Manager logically manages the IT infrastructure tying network components, servers, and applications together into logical services such as e-mail and other hosted applications, Internet Access, WAN connectivity, and more. It also ties customers and SLAs to the services so faults can be prioritized based on the importance of the services, customers, and SLAs that are affected. Real-time alarms are generated warning of service outages and impending SLA violations, including the root cause, allowing them to be addressed quickly before the business is severely impacted. SPECTRUM Service Manager also provides historical reports showing past performance and details of degradations and outages allowing the business to find new ways to improve the services over time.

Service Manager is built to integrate tightly with SPECTRUM and provide Service Level Management in addition to the integrated fault and performance management SPECTRUM provides today. Service Manager adds to the value of SPECTRUM by providing real-time and historical management of services, customers, and SLAs to show the true impact of infrastructure degradations and outages.

The first step of any service-centric management initiative should be the discovery, definition and documentation of offered services by the provider of those services. An example would be an IT department publishing a menu of available services such as e-mail, remote access, CRM, ERP, etc. It is important to note, however, that only one service should be picked first to go through this process. Arguably that first service should be the one with the highest cost, or the greatest source of profitability. For many enterprises, the highest cost service is monthly recurring WAN services. For a service provider, the highest source of profitability might be pay-per-view video service. The key point is to pick one service or business process; model the relationships and dependencies; understand what is “normal” behavior and then notify upon exception or deviation from that normal state. Document and communicate success on managing this first service before moving on to the next one. Organizations that have been successful with Service Level Management projects have started small, shown success and then expanded in a controlled manner. The end goal is a cost-effective method to measure service levels in business terms, set objectives, predict results, publish reports and offer service-level guarantees which link IT infrastructure status and performance with business-oriented IT services.

Service Management Challenges

There are many issues facing service providers and enterprises today when it comes to managing the services they deliver and ensuring compliance with the SLAs that guarantee them.

As service providers and enterprise businesses become increasingly reliant on the services their IT Infrastructures provide, it is becoming important for them to manage the services, not just the individual infrastructure components such as routers, switches, servers, and applications. It is no longer “good enough” to know a router is down; businesses must know which services are down and which customers are impacted in order to prioritize fixes and keep the business running efficiently. Every minute of downtime or degraded service costs money so the issues must be addressed quickly and effectively.

Service providers are being forced to offer SLAs on the services they sell to customers either to stay competitive in the marketplace or by the customers themselves. The SLAs from service providers typically include penalty clauses for violating the service guarantees. In order to remain competitive and profitable, it is important to continuously comply with the SLAs. In addition to SLAs between external service providers and enterprises, the high reliance on IT services is pushing many enterprises to request or require SLAs from their internal IT department and provide reports to upper management showing the service levels and how they relate to the SLAs. In most environments, the IT department has no means to measure or report on these SLAs and is being forced to build customized applications in an attempt to deliver this. It is well known that custom development within a corporation is very expensive up front and even more expensive to maintain as things change quickly. To effectively offer and meet SLAs in both environments, Service Level Management must be implemented.

Service providers are also moving toward a model of proactive customer notification for outages. The problem is that when a router, switch, server, or application is degraded or fails, it is difficult to know exactly who is impacted. Service providers need to know the impact of each outage. Even in situations where proactive notification isn't taking place, call centers are swamped with phone calls when problems occur and need a way to quickly answer these calls or set up an automated message stating the problem is known and the estimated time to correct it. Service Management is required to provide a dashboard view of services and customers with their status to allow call centers to be more efficient in these situations.

Finally, enterprises purchase many services from their service providers today but don't have an effective way to validate the service providers SLAs. Many SLAs require the customer to notify the service provider of a breached SLA in order to be compensated for the violation. Without a service level management system it is difficult to ascertain when service levels are not met and to prove the claim.

Service Manager Functionality

Aprisma developed SPECTRUM Service Manager to meet today's challenges in proactively managing services and SLAs. It provides a service dashboard, service and SLA reports, fault impact analysis, and a flexible configuration interface.

Service Correlation

In line with the heavy reliance on IT services, Service Manager allows management in terms of the services and value the infrastructure provides, not just the components. This allows operators to understand problems with services, not just with devices and then be left to guess what services are affected. Service Manager provides real time alarms on these services when they are down or degraded, allowing operators to respond quickly and allow the entire business to run smoothly.

Service Manager measures the condition, statistics, events, and performance information for underlying service components allowing flexibility to measure the things most important to your customers and business. This management information is correlated to a single logical service where the health and availability of that service is managed. By understanding all the components that make up the service, the events that affect the service, and the interrelationships, Service Manager is able to pinpoint the root cause of any service problems allowing faster resolution. To accomplish this, Aprisma has developed an advanced event correlation engine that correlates events across multiple silos (network, application, security, etc...) to detect root cause problems, even in cases where the root cause may not be directly monitored by SPECTRUM. Aprisma first patented cross-silo correlation in 1998.

Since all services must be maintained, Service Manager provides configurable maintenance windows for managed services. These may be determined ahead of time and scheduled during specific times of specific days, or can be scheduled ad-hoc to allow maintenance of a service. This maintenance window is also factored into SLA calculations where the service's performance during maintenance is not counted against the SLA. Service Manager takes maintenance windows a step further by allowing the user to examine the service at its component level to determine the allowed maintenance window for each component, so that a maintenance window can be found that affects the fewest number of services for the least amount of time.

Proactive Service Level Agreement Management

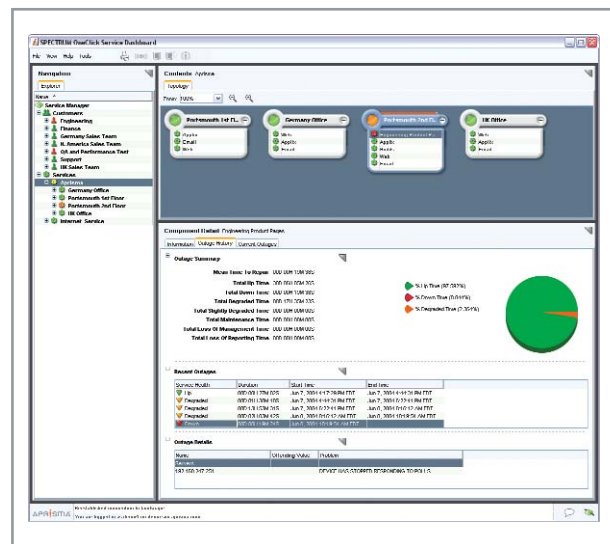
As most service providers are currently offering SLAs and enterprises are moving toward offering SLAs to their internal customers, an SLA management tool is needed to ensure SLAs are met, eliminating the need to pay penalties for non-compliance. Service Manager addresses this need by offering proactive SLA management. Service Manager monitors the SLAs that are guaranteeing the managed services and generates early warning alarms and trending to indicate pending SLA violations allowing particular attention to be paid to that SLA to ensure it is not violated. Further, Service Manager offers web-based reports for services and SLAs. Service providers and enterprises may use these reports to verify and validate the service performance to their customers. They may also be used by an enterprise to understand if the SLAs with their service providers are violated and if so, provide the information required to validate the claim.

Service Manager allows SLAs to be made up of many different guarantees such as availability, performance, Mean Time Between Failures (MTBF), Mean Time To Repair (MTTR), and other metrics based on statistics gathered by network, systems, and application managers. This provides the flexibility required to monitor the real contract between the provider and the user.

Service Dashboard

Aprisma has introduced a Service Dashboard with Service Manager that provides the appropriate information for use by executives, business managers, call centers, and customers. This dashboard is built on the SPECTRUM OneClick architecture for easy access, distribution, and administration. The dashboard provides at-a-glance information for services, customers, and SLAs. It is configurable through preferences and favorites to allow users to view the information most important to them. In addition to real-time status, the dashboard provides summary information for services and customers to include MTBF, MTTR, time since last outage, and more. When a service or customer is in a problem state, details are provided to show the assigned troubleshooter, duration of outage, affected users, and more. For Service Level Agreements the current state of the SLA is given with details available such as total loss down or degraded time counted against the SLA and the time left before violation. The dashboard also provides SLA trending showing if and when an SLA is in danger of violation before the end of the period based on the performance and availability trends to date for the SLA period.

From the Dashboard, Service Manager users have direct links to detailed historical reports and SPECTRUM OneClick Console users have direct links into Root Cause Analysis details and troubleshooting information.



on the more important issues. It also enables users to quickly and efficiently access information such as root cause, symptomatic events, correlated events, real time performance graphs and more, allowing them to quickly fix the problem and get the service back to normal condition.

Flexible Configuration

Aprisma designed Service Manager for use in the large and dynamic environments typical of service providers and large enterprises. To accommodate this, Service Manager has flexible configuration options including Service and SLA templates, automatic updates and monitoring as new devices are added to a service, and an OSS integration gateway.

Service and SLA templates are available in Service Manager to aid in up-front configuration as well as ease the burden of frequent adds/moves/changes. These templates are fully customizable for any environment and allow the most consistent information to be stored and then used to create services and SLAs by simply adding the unique information to that service or SLA. In order to simplify changes, Service Manager allows changes to the templates to be globally applied to all services and SLAs created from them. For example, if the "Gold SLA" is changed to provide a 20ms response time vs. the original 25ms response time, the change can be made in one location and then globally applied to all SLAs created from the "Gold SLA" template.

In addition to templates, Service Manager provides the ability to automatically update services and SLA metrics as devices, systems, or applications are added, deleted, or changed within a service. Configuring Service Manager to use dynamic service policies to automatically add or delete objects from the service and monitor them appropriately based on the type of object as the objects within the service are changed. This eliminates the requirement of many other Service Managers to manually reconfigure the services that depend on a specific object as the object is deleted or changed or to manually reconfigure them to use a new object that is added to the infrastructure.

Finally, for service providers with OSS systems currently in place, Aprisma provides a gateway to import information from the OSS into Service Manager to create both services and SLAs. This simplifies the process of re-creating information or manually transferring information from one system to another.

Conclusion

The management paradigm is shifting from managing components within silos to managing the services provided by IT Infrastructures, and the customers they serve. Without making this shift, it is hard for companies to live up to the business needs that rely on the IT Infrastructure. Aprisma has developed SPECTRUM Service Manager to manage services, customers, and SLAs in order to provide the required quality of service and ensure success.