High availability means continuity

SAS® Grid Manager now includes high-availability capabilities for all of the services that are critical to your SAS environment. These capabilities:

- Provide continuity of business processes.
- Eliminate the requirement of a hot standby for failover.
- Provide high availability for SAS software components as well as any other critical components in your environment.
- Eliminate the need to purchase a third-party tool to provide high availability.

Business analytics solutions have evolved from use by quantitative analysts to become critical for a range of customer, product and operations business processes. Business users and their customers are demanding a resilient infrastructure that guarantees continuous uptime. As a result, organizations need applications that will not fail and disrupt analysts and downstream business processes.

Many SAS customers have large numbers of ad hoc SAS users or jobs that use analytics to support critical business activities. Simultaneous user counts can range from small groups within a department to hundreds or thousands of users at an enterprise level. With growing numbers of users, increasingly complex analytics, expanding data volumes and narrowing batch windows, businesses are facing an ever-greater need for guaranteed uptime and continuity of business services (commonly referred to as high availability). Business continuity means providing a fault-tolerant and resilient infrastructure, designed to be self-healing, ensuring that users can continue to operate regardless of what happens at the technology resource layer.

At the heart of such a highly available system is resilient infrastructure that provides the software architecture for successfully running SAS applications for scheduling and managing the execution of a wide variety of daily computing tasks across shared and networked hardware.

Real-Time Monitoring

A key feature of the high availability capabilities of SAS Grid Manager is the real-time monitoring of critical SAS services as well as any other crucial service in your analytic environment. The SAS Metadata Server, SAS Object Spawner, Platform Process Manager and the mid-tier application server are examples of components that are commonly configured for failover. Real-time monitoring provides the ability for SAS Grid Manager to automatically failover and restart these services on a secondary server in the grid in the event of a failure. This fault-tolerant system eliminates the single points of failure in your environment and allows your critical business operations to run without interruption. For SAS applications, this resilient infrastructure is based on SAS Grid Manager. One of the many benefits of SAS Grid Manager is that it provides high availability for critical services so that all SAS computing tasks running in the grid can be successfully completed.

Grid Computing Offers Flexibility

By combining proven, industry-leading grid computing middleware from Platform Computing with the power of SAS Business Analytics, SAS Grid Computing provides the ability to scale business processes and accelerate decisions for a competitive advantage. Users can submit SAS jobs to a shared pool of resources rather than an individual server to balance workloads and better manage the SAS environment. Computing-intensive programs can be allocated and managed to run in pieces across the grid, enabling IT organizations to optimize hardware capacity, improve performance and
offer more flexibility. Critical services can be monitored and automatically restarted in the event of a failure. All of these benefits are now available in a highly scalable, always available, shared analytics platform.

SAS® Grid Architecture and Platform RTM for SAS®

At right is an example SAS Grid Computing architecture diagram. High availability is provided via:

- Multimachine grid architecture.
- Failover capabilities of SAS Grid Manager.
- Software features including SAS checkpoint/restart, SASGSUB and the LSF requeue capability.

Figure 1: SAS Grid Computing Architecture

Figure 2: This is an example of using Platform RTM for SAS to configure high availability using the capabilities provided by SAS Grid Manager. Note that the Failover Host pulldown menu is a one-click configuration of failover.