



Microsoft MapPoint

Highlights

- Keynote Performance Scoreboard and Diagnostic Services pinpoint potential performance problems.
- MapPoint Web Service exceeds 99.9% availability.
- Highly customizable solution fits easily into Microsoft's performance tracking systems.

Keynote Performance Scoreboard and Diagnostic Services Help the MapPoint Web Service Detect and Negotiate Performance Roadblocks

More than 15 million geographic queries hit the Microsoft MapPoint Web Service every day, supporting thousands of different mission-critical applications around the world. The MapPoint Web Service is a location and mapping platform that allows developers to easily build location-based services into applications such as Web site locators, fleet and asset tracking applications, call-center applications, and more. Hosted by Microsoft Corp., the MapPoint Web Service contains the cartographic, demographic, business listing, construction, traffic and other data and provides the programmatic access to maps and driving directions, addresses and places, and proximity searches that many businesses rely on in their day to day processes.

To ensure that Microsoft's promises will be upheld, the MapPoint Web Service uses the Keynote Performance Scoreboard and Keynote Diagnostic Service (KDS) for quick response to any potential performance problem.

If the MapPoint Web Service was unavailable or performing poorly, then MapPoint Web Service customers' applications could fail, and customers might be unsatisfied. To give customers confidence while using the MapPoint Web Service, Microsoft guarantees 99.9% up time. That means the MapPoint Web Service operations team must find and fix any potential problems with the MapPoint Web Service as soon as possible to prevent any down time.

"It's essential that we are alerted of any potential problems as early as possible so we can fix them before our customers experience any performance degradation. We implemented Keynote Performance Scoreboard to help notify us of any technical issues," says Gary Ide, Operations Program Manager, Microsoft Corp. "Potential problems are easy to spot, allowing us to see the relevant details needed to fix the problem quickly."

"Service Level Management with Keynote Performance Scoreboard and Keynote Diagnostic Services has helped us to exceed 99.9% availability over the past year. That kind of availability is the key to satisfied customers and saving money in performance penalties."

Microsoft
MapPoint
Web Service

The Challenge: Ensure that any problems are noticed instantly and fixed quickly

The MapPoint Web Service consists of large clusters of servers in the Windows Server System that must respond within one second to the 15 million queries per day that flood into the MapPoint Web Service over direct, multi-homed links from more than a dozen different Internet access providers. It's not just the server clustering that's complex; it's also the massive connectivity to the World Wide Web.

For such an intricate system, it is not easy to design a performance monitoring system that finds problems quickly without drowning the operations staff in a flood of minor or irrelevant alarms. And what about those problems that arise from subtle, complicated interactions among the system components? They can be tricky, because individual server measurements usually don't see them and they are tough to diagnose. Such a problem might exist for a long time before the operations staff realizes it's there, and then it takes a long time to fix. That is something that could result in MapPoint Web Service down time, which could violate Microsoft's strict Service Level Agreement (SLA)—resulting in penalty payments and unhappy customers.

The Solution: Keynote Performance Scoreboard and Keynote Diagnostic Services

The MapPoint Web Service already used Keynote Transaction Perspective® IE-based monitoring service, so Microsoft chose Keynote's Performance Scoreboard to track service level compliance in their operations center. Microsoft also engaged Keynote's Diagnostic Service to provide assistance 24/7 with measurement or diagnosis.

Performance Scoreboard

Destination	Total (sec)	Last 30 Minutes
East	8.218	8.218
MidWest	8.218	8.218
South	8.218	8.218
West	8.218	8.218
Internet	8.218	8.218
Origin	8.218	8.218
AT&T	8.218	8.218
Level3	8.218	8.218
Qwest	8.218	8.218
Sprint	8.218	8.218
UUNET	8.218	8.218

The Keynote Performance Scoreboard was an immediate hit with the MapPoint Business Unit operations team—and with the rest of the organization as well. Scoreboard's clean visual design allows any deviation from excellent performance to stand out instantly. Instead of sorting through a stack of alarm messages, operators see any incipient problem visually.

Performance Scoreboard makes it easy for the operations team to spot those SLA-threatening issues quickly and it uses the same data that will be used at the end of the month for SLA penalty evaluation. It's also extremely easy to drill down into any problem to get diagnostic details. "Keynote's Scoreboard has been instrumental in our finding problems before they impact our SLAs," says Ide.

Ide was also impressed with Keynote's work in customizing scoreboard to fit neatly into Microsoft's performance tracking systems. "Just as valuable as the product itself was the simple, straightforward development and implementation of customized changes. With Keynote, making changes was a stress-free experience with help from an extremely responsive team of people."

Keynote Diagnostic Services

The MapPoint operations staff also began to use Keynote's 24/7 Keynote Diagnostic Services (KDS), which provides 24/7 support for root-cause analysis of complex performance issues. "Keynote's Diagnostic Services have been extremely helpful in analyzing complex issues with our web applications," said Ide.

A recent case in point was when MapPoint had occasion to call on KDS for assistance in diagnosing an intermittent problem, something that occurred so rarely that there was some doubt as to whether it actually existed.

"Keynote's measurements had begun to report intermittent HTTP "401" errors ("unauthorized user") for some XML transactions, but our staff couldn't pinpoint or reproduce the problem. When Keynote's KDS team was called, they immediately began intensive work with the MapPoint operations staff," continued Ide. "Additional measurements were started, then detailed analysis of those measurements and of MapPoint Web Service internal statistics revealed the root cause: a small time slippage among clocks within a cluster, coupled with unusually-low software tolerance for such slippage. That allowed a short-lived transaction authorization set by one server to "expire" before a different server in the cluster finished working with it. As far as individual servers were concerned, there hadn't been a problem."

That is an example of a problem that slips between the cracks of within-the-firewall measurement systems; it can only be detected by true end-user measurements of complete XML transactions across the latency of the Internet.

The Bottom Line: Confidence, Ease of Use and Customer Satisfaction

Ide, sums it up: "Service Level Management with Keynote Performance Scoreboard and Keynote Diagnostic Services has helped us to exceed 99.95% availability over the past year. That kind of availability is worth real the key to satisfied customers and saving money in performance penalties. Performance Scoreboard is reliable and easy to use; it helps my staff and gives me confidence. It is an important factor in the MapPoint Web Service's service level management methodology."



For more information please contact Keynote at 1-800-KEYNOTE or via email at: product-info@keynote.com

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