High Availability and Quality Monitoring

How Quality Monitoring can Prevent and Shorten Service Outages
Content

Executive Summary ..................................................... 3
The Costs and Risks of Outages ................................. 3
Computing the Cost of an Outage ............................... 4
A High Availability Strategy Must Include Robust Monitoring ................................................................................ 4
Attributes of a High Quality Monitoring Solution .......... 5
High Quality Monitoring with HPOM and MIDAS ............ 6
Summary ..................................................................... 7
Executive Summary

The cost of service outages is dramatically high. Any solution that either helps eliminate outages or shortens the duration of outages is worth implementing.

Many companies have invested heavily in people, processes and redundant technology in order to ensure service availability that is appropriate for their business. There is, however, one process that is often neglected is the company’s monitoring solution: An investment in a high quality monitoring solution that can increase the availability of IT services.

The MIDAS Product Family from Blue Elephant Systems enhances HP Operation Manager (HPOM) to provide a complete, robust monitoring solution. There are many significant benefits in implementing a high quality monitoring solution, e.g. enhanced productivity, transparency in IT infrastructure and processes, detailed reporting, and audit-ready documentation.

This Whitepaper focuses on one particular benefit: A high quality monitoring solution which can detect the problems leading to outages and shortening the time to recover from them.

The Costs and Risks of Outages

The high costs and risks associated with outages in IT services are well documented. High-profile examples of costly outages are numerous, even in the recent past.

Here are just a few:

- In April 2011, Sony's PlayStation Network was unavailable for two weeks due to “an external intrusion”. The cost of the outage was estimated to be at least $20 million, with some estimates that took the cost per person into account soaring to $24 billion.
- United Airlines suffered an outage in its passenger reservation system and website in August of 2012. The outage lasted for over two hours, with passengers facing delays and long lines. One of the highest costs of this outage was a loss in customer confidence. Darryl Jenkins, Chairman of the American Aviation Institute, said, “I think we’ve had so many problems with United … that I think it's at the point now where it's going to start costing them a lot of money in terms of losing passengers”.

The duration of outages can be eliminated or shortened by investing in a high quality monitoring solution.

MIDAS enhances HPOM to provide a complete, robust monitoring solution.

There are numerous examples of high-profile and costly outages.
The news of an Amazon Services outage in June of 2012 due to an electrical storm was alarming, but perhaps of greater concern was a smaller outage in April 2011 due to an unplanned networking change. In both cases, Cloud customers were affected by the outage for several days.

**Computing the Cost of an Outage**

A study published in 2011 by the Ponemon Institute showed that the cost of a data center outage ranges from a minimum of around $40,000 to a maximum of just over one million dollars, with an overall average cost of around $500,000 per incident. The study further states: “Overall, businesses lose an average of about $5,000 per minute in an outage”.

Computing the cost of an outage for your own business can be shocking. Consider the following formula posited by North American Systems International at http://www.nasi.com/downtime_cost.php:

\[
\text{LOST REVENUE} = \left( \frac{\text{GR}}{\text{TH}} \right) \times I \times H
\]

Where:

- GR = gross yearly revenue
- TH = total yearly business hours
- I = percentage impact
- H = number of hours of outage

Here’s how the formula works for a medium-sized business open eight hours/day with a 50% outage impact:

\[
\left( \frac{100,000,000}{2000} \right) \times .5 \times 1 = 250,000 \text{ per hour!}
\]

This medium-sized business would lose $250,000 per hour with each outage impact.

**A High Availability Strategy Must Include Robust Monitoring**

Based on the potential costs of an outage, it’s clear that IT must make appropriate investments in the people, processes and technology that match business goals for availability. Correct staffing, implementing industry standard processes (e.g. ITIL or COBIT), eliminating single points of failure, and disaster recovery planning are all critical parts of
planning for highly available services. Additionally however, every IT organization needs a proactive monitoring system and rapid fault detection solution in order to minimize downtime and the costs associated with this.

There are many possible causes for outages:

- UPS failure
- Human error
- Cooling failure
- Weather related
- Generator failure
- IT equipment failure
- ...

The question is how quickly these faults are detected, and how accurately the root causes are identified. With a low-quality monitoring solution, problems that lead to an outage can go undetected, and a poorly implemented monitoring solution can increase the time to recover from outages if the solution fails to point out the root cause of a problem.

Clearly, only a percentage of outages can be prevented by implementing a robust IT monitoring solution. However, robust IT monitoring can help guard against preventable IT outages; and mitigate loss and downtime associated with rare, though possible outages.

Attributes of a High Quality Monitoring Solution

How does a high-quality monitoring solution look? In order for a monitoring solution to be robust, it must be managed with the same rigorous lifecycle processes that are used for any production software. Therefore, a high-quality monitoring solution will offer the following attributes:

- Transparency
  The monitoring solution has to be controlled by a powerful, intuitive interface. The administrator has to be able to see what effect any changes will have on the monitored environment. In addition, changes must be tracked and audited.
- Documentation
  The monitoring configuration must be documented in a way that business partners can view the monitoring solution for their services.
• Testing
Changes in monitoring must be tested in association with a controlled release process.

• Automation
Common configuration and deployment tasks can be automated.

• Change management
The monitoring solution must offer a version control system that allows for the implementation of change management. The ability to compare versions with the deployed configuration is also required.

• Controlled release to production
The ability to implement a full release to production process over the entire life cycle of instrumentation – from initial development to retirement has to be available.

• Consistency
The monitoring solution must support a packaging concept that will keep all configuration items belonging to the same monitoring item (e.g. an application) consistent.

High Quality Monitoring with HPOM and MIDAS

HP Operations Manager (HPOM) is a powerful tool for monitoring systems and applications. It provides the agent-based monitoring of a company's IT infrastructure, and is one of the most commonly used operations management tools in the industry.

The MIDAS Product Family from Blue Elephant Systems extends the capabilities of HPOM to deliver a robust monitoring solution. The MIDAS family offers several products with the functionality that supports the rigorous processes described above:

• Transparency
MIDAS Configurator has a straightforward web-based GUI, allowing the administrator to see what effect any changes will have on the monitored environment. Full version control, advanced editing and advanced auditing enable changes to be tracked and audited.

• Documentation
MIDAS Configurator also provides automated, one-touch documentation for all of the components of the monitoring solution.

• Testing
MIDAS Debugger reduces the number of tools and actions...
required for testing policy modifications, improving quality and reducing development time.

- Automation
  The MIDAS API Toolkit allows for all MIDAS tasks to be automated and supports various programming languages. In addition, a full-featured command-line interface provides access to many of the MIDAS functional areas.

- Change management
  MIDAS Configurator delivers a full version control system that allows for the implementation of change management. The ability to compare versions with the deployed configuration is also provided.

- Controlled release to production
  MIDAS Administrator provides advanced policy development, packaging, release management, desired state verification and monitored deployment. The packaging concept includes grouping, managing, releasing and deploying blocks of monitoring configurations related to an application or service supporting a controlled and replicable process for moving monitoring from development to production.

- Consistency
  The packaging concept that is included with MIDAS Administrator keeps all configuration items belonging to the same monitoring item consistent.

Summary

The high cost of outages demands that IT organizations plan for the people, processes, and technology that match the business needs for high availability. High-quality monitoring is a vital part of appropriate investments to ensure high availability of the services that IT provides to the business.

Adding MIDAS to HP Operations Manager enables transparent monitoring including testing, automation, and appropriate processes for change, configuration and release management. This rigorous approach to monitoring ensures that issues that can cause outages will be detected, and the time to recover from outages reduced.

If you would like to know more about high availability and quality monitoring to prevent and shorten service outages or are interested in a demo, please visit [www.blue-elephant-systems.com](http://www.blue-elephant-systems.com), send an email to [sales@blue-elephant-systems.com](mailto:sales@blue-elephant-systems.com) or give us a call on +49 711 400 425 25.