

# MICROSOFT CORPORATION

Proactive network service assurance and insight with EMC Smarts and EMC Watch4net



## ESSENTIALS

### Industry

Application Software

### Company Size and Reach

- \$73.7B revenue in 2012
- Over 1 billion users worldwide

### Business Challenge

- Operate in a strategic versus reactive manner
- Ensuring manageability of IT network infrastructure as it scales beyond enterprise class
- Ensure "utility" access to users - always on service

### Solution

- EMC Smarts
- EMC Watch4net

### Results

- Identify most critical network issues and reduce alarms
- Informed planning decisions with detailed view of network infrastructure performance and trends

CUSTOMER PROFILE

## Overview

Founded in 1975, Microsoft Corporation is the leading provider of software, services and solutions to businesses and consumers worldwide. When people hear the Microsoft name, they may first think of Windows, Word, Excel or Outlook. Others might recall their latest Xbox Live session, a recent Skype interaction, or the Bing application on their smartphone. It is fair to say that Microsoft technology is pervasive within our business and personal lives, so it is not surprising to learn that Microsoft's user base has been estimated to exceed one billion people.

In addition to managing the infrastructure needed to support a dynamic organization that consists of over 90 thousand employees, Microsoft IT is the linchpin in ensuring a superlative customer experience as well. These users depend on the availability and performance of the Microsoft network. EMC® Smarts® enables Microsoft IT to identify and act rapidly on network issues that can threaten customer satisfaction, and EMC Watch4net® enables the organization to make informed decisions, facilitating effective strategy and execution under dynamic business conditions.

## CHALLENGE

To the Microsoft IT organization, the definition of success is simple: Everything just works. As Dustin Ward, Infrastructure Manager within Microsoft IT states, "If at the end of the day, nothing happens, then that's a good day for us."

What may sound like a basic goal is indeed a no small task. For in this context, the Microsoft IT infrastructure spans:

- ~ 14 thousand network nodes, with over 850 thousand ports
- ~ 100 thousand servers
- ~ 55 petabytes of storage

Adding virtualization to the above picture contributes further complexity and requires that the management approach is able to respond to its dynamic nature.

Microsoft IT, through its Insight and Manageability Engineering team, determined that a holistic approach to management was required. With the above scale of infrastructure and user base, the team knew that it had to operate more akin to a service provider and ensure "utility" like access for users, both within and outside of Microsoft. However, sheer network size intensified the occurrence of alert storms and dramatically increased the alert stream volume.

Further, to ensure that the infrastructure can accommodate future business requirements with agility and efficiency, deeper insight into the performance of the infrastructure was critical. "We had a lot of data in disparate systems, but we weren't able to do much with it as it stood. It was difficult to plan for capacity, growth and utilization", relates Ward.

## **SOLUTION**

Focusing on service assurance for their network infrastructure, the Microsoft IT organization has deployed EMC Smarts to deliver fault management and root cause analysis for over a decade. Network fault information is brought into Microsoft System Center, which serves as the main console for IT operations. Smarts has also recently been extended to monitor availability of the storage environment.

More recently Microsoft IT has added EMC Watch4net to leverage and analyze infrastructure performance and trend data. At the time of its adoption by Microsoft, it was known as Automated Performance Generator (APG), and sold by Watch4net, a company which has since been acquired by EMC. While Watch4net was a small organization at the time, any hesitation Microsoft IT may have had about that fact was addressed by Watch4net's status as an EMC partner, Microsoft's long term and positive experience with EMC, and the confidence that Microsoft IT has in EMC's support organization.

## **FAULT MANAGEMENT FOR A CARRIER-CLASS NETWORK**

Managing a network the size and scope of Microsoft's requires that the root cause of risk conditions be identified quickly so that corrective action can be taken before user services are impacted. Responding to a raw stream of network alerts is not feasible for a network of this size, so EMC Smarts delivers root cause alarm data to the System Center main console. It also provides critical topology information to ensure multi-tier visibility into Microsoft's distributed and virtualized IT environment.

In this way, EMC Smarts complements the strengths of Microsoft System Center and helps Microsoft IT realize its vision of delivering "utility" level service to its user community.

**"Alert storms, alert streams and their volume have always been something we've had to manage effectively, because of the size and scope of our network. Because of its strength in root cause analysis, Microsoft IT has always relied on EMC Smarts as its network fault management tool."**

Dustin Ward  
Infrastructure Manager at Microsoft

## **PLANNING WITH CONFIDENCE THROUGH DATA-DRIVEN DECISIONS**

EMC Watch4net is the flagship reporting tool used by Microsoft IT, and it also provides complementary functionality to Microsoft System Center. With it, Dustin Ward's team is able to harness historical data that has been collected to create performance trending and capacity reports and better predict future requirements and capital expenditures. Without the insight provided by EMC Watch4net, planning exercises would have relied more on educated guesswork from disparate tools than consolidated data in Watch4net. Overall monitoring has become more robust as well, with the ability to integrate data from EMC Smarts, Microsoft System Center, EMC Unisphere and other tools into detailed views through to the end points to further enhance manageability.

"With EMC Watch4net, we can focus on visualization and exploiting the rich sources of data already at hand. The fact that Watch4net doesn't require its own data gathering

is a big win for us with respect to avoiding additional network overhead", says Ward. EMC Watch4net consolidates data from many sources, so Microsoft IT can cross-reference network, compute, storage and application availability and performance data through one interface with integrated reports, versus reviewing multiple systems or creating reports manually from those multiple systems.

In addition to having a consolidated view of the infrastructure, the IT team can also share more information with constituent organizations. In keeping with a service provider perspective in their own role, they can offer a tenant view of their environment, to assist business units within Microsoft in understanding the performance of their IT services and planning their IT investments.

## SUMMARY

As organizations and their networks scale, the use of EMC Smarts for service assurance enables critical network visibility needed to accommodate the influx of alarms. Says Ward, "We have little to no tolerance for network problems because of the impact it has on Microsoft both from a user experience and financial perspective. You need EMC Smarts to manage the Microsoft network that users can rely on".

In fact, Microsoft has licensed EMC Smarts network discovery and health monitoring technology which was released to customers in Microsoft System Center 2012 Operations Manager. With EMC Smarts, customers can upgrade these integrated capabilities with root cause analysis similar to the capabilities from which Microsoft IT benefits.

As infrastructures grow, the importance of the performance and trending insights provided by EMC Watch4net increases as well. This fulfills a critical component to transforming from a reactionary mode to a more strategic role as an IT organization.

With Microsoft's colossal user base and carrier-class infrastructure, leveraging the strengths of Microsoft System Center, EMC Smarts and EMC Watch4net in a complementary manner has enabled Microsoft IT to maximize user experience and best position itself to tackle future technology initiatives.

## CONTACT US

To learn more about how EMC products, services, and solutions can help solve your business and IT challenges, [contact](#) your local representative or authorized reseller—or visit us at [www.EMC.com](http://www.EMC.com).

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