

**Objective**

Evaluate and implement a highly-available and reliable storage area network (SAN) from a vendor that offers high-quality current and future global support

Approach

Chose Hewlett Packard Enterprise and HPE 3PAR StoreServ solutions and implemented for Microsoft Visual Studio Division

IT Matters

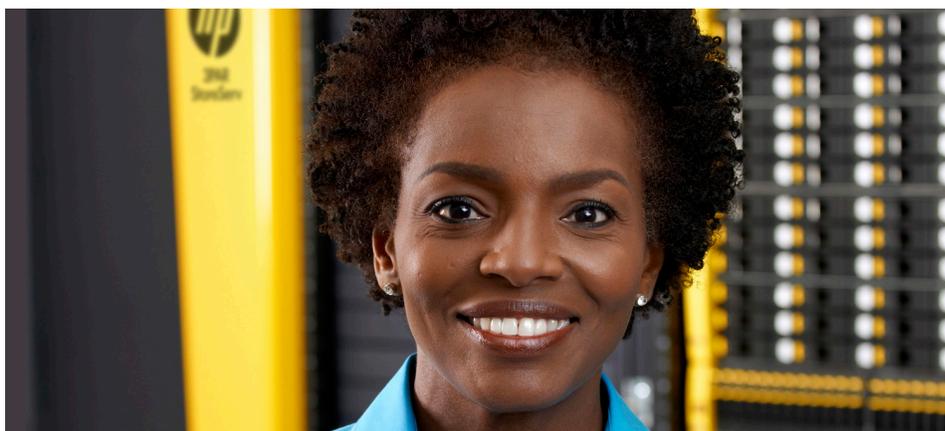
- SAN now reliable and highly automated
- Critical build launch window reduced by 50 minutes nightly increasing overall developer and testing productivity
- IT staff productivity increased by 20 hours weekly
- HPE custom-designed Proactive Care with “anything we need” capability leverages IT expertise

Business Matters

- Hundreds of thousands of dollars saved in uptime and reliability
- Critical Visual Studio build processes on schedule for development and testing
- HPE provides quality global present and future roadmap support
- Microsoft teams with HPE support to synchronize futures to mutual benefit
- \$90,000 a year in salary savings due to increased IT productivity

Microsoft Visual Studio Division depends on HPE 3PAR StoreServ

HPE 3PAR StoreServ brings reliability to the very heart of Microsoft R&D



The strategic Microsoft Visual Studio Division, responsible for the development and maintenance of Microsoft development tools, needed to replace its end-of-life storage solution. It had become unreliable and prone to failure, resulting in data loss and impeded schedules. After a painstaking and encompassing evaluation of the storage field, Microsoft chose HPE 3PAR StoreServ solutions and a global support partnership with Hewlett Packard Enterprise (HPE) for its mission-critical R&D storage infrastructure.

Microsoft is a big place. And Greg Arnits, principal IT manager, Infrastructure Operations and Solutions, Microsoft Visual Studio Division, and his IT team, are at the center of the Microsoft universe. This critical division can't afford to have its storage systems breaking down during builds and development cycles. Too much depends on the Microsoft development core functioning at top efficiency. Arnits and his staff are

responsible for maintaining storage for over 3,000 Visual Studio developers and staff, as well as 10,000 devices. His team must ensure that critical builds for the development and testing environments are reliable and possess the robust functionality required. Unfortunately, the previous storage solution, nearing end-of-life, had become unreliable and vendor support wasn't ideal. Seeking to improve this situation, the team underwent a thorough evaluation and proof-of-concept (POC) for a new storage technology and global partner. Hewlett Packard Enterprise earned their handshake.

“We never had any real association with HPE 3PAR StoreServ before, although we use a lot of HPE ProLiant servers at Microsoft in a different division,” admits Arnits. “We remained unbiased in our evaluation and let the company, the people, support level, and the technology determine which solution we should choose. HPE won out.”



After a year and a half of due diligence reviewing storage options, Arnits narrowed the field to HPE and another firm for the final six-month proof of concept (POC). No stone was left unturned. According to Dmitri Artimenia, SAN administrator, Infrastructure Operations and Solutions, Microsoft Visual Studio Division, HPE set up all use-cases for the IT team and for the Visual Studio's business needs.

"HPE brought a very collaborative approach to our POC in which they fully analyzed the intricacies of our use-cases and helped us learn best-practice ways to reach our goals with HPE 3PAR StoreServ technology," he recalls.

Visual Studio ushers in new storage era with HPE 3PAR StoreServ

Today, two HPE 3PAR StoreServ 7400s and an HPE 3PAR StoreServ 10400 do the heavy lifting for the Visual Studio Department, and all data is fully migrated. To help with the migration process, Arnits invested in an HPE MPX Multifunction Router and cites HPE support as the ideal relationship he was hoping to form. Microsoft IT staff migrated all 800 raw terabytes of data themselves, a process, he says, he would normally have to pay another company "a lot of money" to do for them.

"The HPE MPX Multifunction Router is an impressive piece of hardware we can continue to use," he says. "The HPE support team trained us and helped us gain quick mastery over the technology, resulting in our team managing the data transfer effectively on our own. That's the kind of customer/vendor synergy I was searching for in our evaluation, and found with HPE."

The Microsoft Visual Studio Division uses its new HPE 3PAR StoreServ Storage Area Network (SAN) in an R&D development environment. SAN space usage is equally split, with half of the SAN utilized for nightly build drops and the other half used for infrastructure purposes, e.g. housing Microsoft® SQL Server® databases, tools, files shares, web servers, etc. The HPE SAN API was also key to integrating with the current tool as needed. During the POC, developers called the API from test code in order to prove

it was robust.

It all boils down to superlative support

Arnits differentiates his HPE 3PAR StoreServ acquisition by noting that, although the HPE 3PAR StoreServ technology and functionality added greater value over the other systems they evaluated and tested, it was actually HPE support that was the make-or-break feature needed.

"Exceptional global storage support and partnership was the number one criteria driving this acquisition," he stresses. "Price, reliability, resiliency, how the technology handles failures, how parts get replaced were, of course, critical. Experience dictates, however, that if the system isn't reliable, and you don't have good support, it doesn't matter how fast it is. Happily, HPE covered the whole spectrum: reliability, the highest performance available, and a support system that functions like a virtual component of our division."

The reason Arnits insists on only the best support is self-evident. His division makes all of the underlying tools for developing and writing code, such as C++, C#, Visual Basic, the .NET Framework, ASP.NET, among others, for any platform. "Whether it's Windows, IOS, Android, Azure, we are the platform tool for everything," explains Arnits. "You can imagine what havoc was caused when our previous system went down. Everything is sourced from these basic builds. HPE 3PAR StoreServ reliability has put us back on a stable track that we can count on."

Critical storage services within the division need to stay running 24x7x365, not just most of the time. "Great support is about competent, trustworthy people," says Arnits. "It's all people-based. It's the quality of the people."

"We look at our partnership with HPE as a long term investment," he expands. "It's not just about solving today's problems. If we can't fix today's issues, we're certainly not going to be able to fix tomorrow's issues. It was an intent of the POC to find and create a long term partnership that would work with us to support each other's businesses along the way. That's a big commitment."

“Microsoft Visual Studio makes all of Microsoft’s developer tools, so our division is at the center of the Microsoft universe. We support all of the needed R&D processes and infrastructure. Stability, reliability, and superb hands-on global support and long-term partnership were our major criteria, and HPE and HPE 3PAR StoreServ came out on top. We’re very happy with the solid technical and global support solution we’ve created together.”

— Greg Arnits, principal IT manager, Infrastructure Operations and Solutions, Microsoft Visual Studio Division

A good example of the full support Arnits finds is with HPE Proactive Care service that includes an assigned local Account Support Manager (ASM) for personalized and proactive support. When asked what it includes, he simply says “Anything we need, on demand.” Plus, it includes a four-hour parts replacement clause.

HPE “future” support critical for high-level planning

The need for HPE and Microsoft’s Visual Studio Division to stay “in tune” with each other’s future roadmap, is a key aspect of the level of support needed and achieved with HPE. Since bringing HPE onboard, Arnits has been working closely with senior HPE leaders to help develop support for Microsoft’s future needs. For example, he cites discussion about integration points for Azure and other products where both Microsoft and HPE create functionality to help solve today’s business problems as well as tomorrow’s. “HPE is being very proactive with us regarding future needs and new technology directions to pursue together. This ability to plan together at this level was absolutely key to us when choosing HPE as our storage solution.”

Hundreds of thousands of dollars saved in uptime and reliability

When asked to characterize his ROI, Arnits pauses a moment to put the returns into concrete benefits he can now see in everyday practice. “Our ROI is gaining back our uptime and systems reliability, putting the productivity back in our people, as well as reducing automation issues in our tooling,” he says.

With his previous storage platform, he recounts nightly system management issues, which often interfered or prevented critical build processes. He also recalls major outages that dramatically affected productivity. “If you can’t build for a week, that’s a costly and unacceptable problem. We haven’t had any outages since implementing our HPE 3PAR StoreServ SAN. I estimate we’re saving hundreds of thousands of dollars in regained productivity and reliability. Everybody is a lot calmer, too.”

While on the subject of ROI, Artimena mentions that productivity gains include improved performance of the nightly build

Case study

Microsoft

Industry

Manufacturing and
Distribution

Customer at a glance

Application

HPE 3PAR StoreServ solutions in support of Microsoft Visual Studio Division R&D processes and infrastructure

Hardware

- HPE 3PAR StoreServ 7400 Storage
- HPE 3PAR StoreServ 10400 Storage
- HPE MPX Multifunction Router

Software

- HPE 3PAR Peer Motion Software
- HPE 3PAR Peer Persistence Software
- HPE 3PAR 7400 Operating System Suite Base LTU
- HPE 3PAR 7400 Data Optimization Suite V2 Base LTU
- HPE 3PAR 7400 Virtual Copy Base LTU
- HPE 3PAR 7400 Remote Copy Drive LTU
- HPE 3PAR 7400 Virtual Domains Base LTU
- HPE 3PAR 7400 Reporting Software Suite LTU
- HPE 3PAR Adaptive Automation Software
- Microsoft® Hyper-V® Server Virtualization
- Microsoft® Windows® 2000 – 2012 R2
- Microsoft® SQL Server®

Services

- HPE Proactive Care with an assigned local Account Support Manager
- HPE training classes



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“HPE brought a very collaborative approach to our POC in which they fully analyzed the intricacies of our use-cases and helped us learn best-practice ways to reach our goals with HPE 3PAR StoreServ technology.”

— Dmitri Artimonia, SAN administrator, Infrastructure Operations and Solutions, Microsoft Visual Studio Division

process and creating performance gains in the overall tooling process. He also says HPE does the best job of implementing safeguards in how HPE 3PAR StoreServ writes data in the storage virtualization layer. Out of the many new features he is taking advantage of, Arnits specifies a few of his favorites. “Having integration points for Microsoft System Center Virtual Machine Manager (SCVMM) and management packs for Systems Center Operations Manager (SCOM) are a nice addition that we have not had before. We also like the features of being able to view from the server HBA all the way back to the HPE 3PAR StoreServ for analysis and diagnostic information.” Using all of the new tools at hand, the IT staff has automated much of the processes and is taking full advantage of the faster create-and-delete processes achieved with the HPE 3PAR StoreServ SAN.

“We’ve reduced our nightly launch window for our builds by 50 minutes and reduced our error rate to almost non-existent,” adds Artimonia. “Every minute, every hour counts when we have to get builds out to the division. The longer the build takes, the less time the developers and testers have to meet their deadlines. That’s about seven hours a week gained time, per tester and developer, which is ideal.”

In addition, system management and maintenance is so much more automated and simple that Arnits says they have gained back a half-person’s worth of time a week, which translates to about \$90,000 a year in salary.

Dreaming of uptime

The over-riding theme, the greatest benefit that both Arnits and Artimonia describe in different ways, is simply reliable uptime. Since the Microsoft Visual Studio Division is at the core of Microsoft, a delay here and there trickles down throughout the company. One can hear the collective sigh of relief as they discuss the reliability they now have, both with HPE 3PAR StoreServ technology, and with HPE support. But when asked what the most fun benefit is that they get from the HPE storage solution, they don’t pause long.

“We sleep better at night,” smiles Arnits. “And I don’t have to call anybody at one in the morning to ask for permission to shut down the SAN,” adds Artimonia. “Increased productivity, and improved sleep. What a great technology.”

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