Tracewell Systems offers IBM PureFlex capabilities beyond the back office

Fitting powerful, scalable, efficient technology into a wide variety of environments

Overview

The need

Tracewell Systems needed a next-generation, high-speed computing platform to help its customers deploy IBM® PureFlex™ technology in small and rugged form factors in environments beyond the back office.

The solution

Tracewell products leverage all PureFlex technology, including integrated IBM Flex System™ x240 compute nodes, IBM Flex System Fabric EN4093 scalable Ethernet switches and IBM Storwize® V7000 storage.

The benefit

Tracewell can deliver the unprecedented power, performance, scalability and efficiency of PureFlex technology to virtually any environment through its Small and Rugged Compute Platforms (SRCPs).
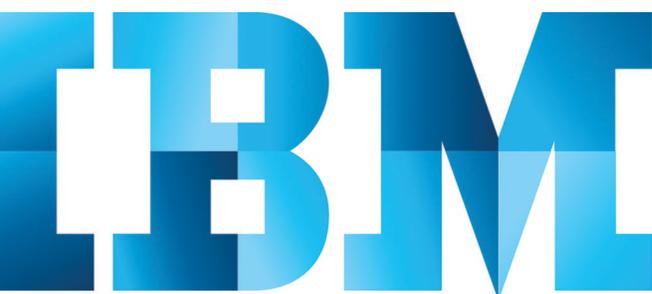
Across industries, users collect, analyze and manage more data than ever before. The rise of more sophisticated sensor technology makes it possible to collect an astounding amount of real-time data from a wide range of sources—which then must be cross-analyzed, stored and retrieved in ways never before possible. These "extreme analytics" are often being used far beyond the back office, in increasingly harsh or unusual environments—any place in which traditional computer systems don't fit due to size, weight and power constraints.

This is where Tracewell Systems is making a difference. The company's Advanced Form Factor Engineering Services and complete line of products take the best high-performance computing (HPC) technology and package it into small form factors or into rugged, high-performance systems that can deliver data analytics for specialized applications into nontraditional environments. With 40 years of experience in this area, Tracewell leads the market with innovative design, engineering and manufacturing solutions used by some of the nation's largest military and commercial organizations.

Enabling HPC in unusual or extreme environments

Tracewell enables commercial organizations and military agencies to deliver mission-critical applications wherever they are needed most—even in environments where it was never before possible. Tracewell's Small and Rugged Compute Platform (SRCP) family adapts IBM technology to create an entirely new category of computing platforms—systems with all of the tremendous advantages of PureFlex, now available in small or rugged form factors. Another benefit is that the SRCPs accept all the standard nodes for a PureFlex system—if a node works in an IBM Flex System, it will work in a Tracewell system. In particular, Tracewell systems leverage IBM Flex System x240 compute nodes with intelligent Intel® Xeon® processors, IBM Flex System Fabric scalable Ethernet switches, and Storwize V7000 storage systems.

The Tracewell SRCP family has been designed to support high-performance application requirements, enabling businesses and military agencies to manage their data needs for key applications ranging from radar, data intelligence, data mining and analytics, to advanced systems networking, security and cloud computing.

Tracewell platforms also enable users to deploy elsewhere the same hardware and software solutions they are using in their back offices. They simply move the necessary components into a compact SCRP form factor—which is not only a smaller footprint, but is designed to survive, for example, the rigors of forward deployment.

Matt Tracewell, executive vice president of Tracewell, explains, "Deploying applications beyond the back office used to require a custom system that took years to develop, was very expensive and locked you into a solution configuration that could never take advantage of the most current high-performance products. Our long-term platform solution is based on a wide range of the most powerful IBM HPC technology in the form of servers and switch technology."

"The foundation remains constant, but the solution can be easily updated as the latest compute nodes, storage products and high-speed network technologies from IBM become available."

Working together to engineer long-term solutions

IBM was the only technology vendor that Tracewell considered. "To us, IBM products and solutions represent the best available in the market. We have found no other company that invests in complete solutions the way IBM does—from its significant investments in research and development, to continual improvements in hardware, to providing a complete portfolio of data analytics offerings. All of this represents a long-term plan and roadmap for the future of HPC," says Tracewell.

"There is no question that IBM PureSystems™ defines what we will come to expect from computing platforms well into the future," he says. "As a product family, PureSystems changes the game and makes it possible to do things that could not be done before—more powerfully, efficiently and easily."

Solution components

Hardware
- IBM® PureFlex™ System
- IBM Flex System™ Fabric EN4093 scalable Ethernet switches
- IBM Flex System x240 compute nodes
- IBM Storwize® V7000 storage systems
- Intel® Xeon® processors

It was clear to Tracewell from the start that IBM innovation on the PureFlex platform would integrate well with Tracewell's deep understanding of small form factor and rugged computing, as well as the company's engineering capabilities. Tracewell's innovative SRCP products rely on both the IBM ability to provide reliable, scalable solutions that work, and on Tracewell's ability to uniquely adapt these solutions.

"Our business is in the extreme engineering details," says Tracewell. "We work with clients who need the most advanced and powerful computing platforms available. IBM was the only company that could provide the engineering support, insight and teaming we needed to make our solutions, and our business, work for our customers. Furthermore, IBM is committed to designing the steady stream of server, networking and storage products that our customers need to solve their immediate, short-term problems—while also keeping an eye on the long term."

Tracewell has engaged with a number of IBM groups to develop its PureFlex-based family of products, including the intellectual property, Systems and Technology, IBM System x®, PureSystems, engineering and product development groups. Tracewell also works with dedicated IBM sales and marketing teams for real-time feedback on product family requirements.

It is also critical for commercial and military customers that Tracewell can engineer or integrate its adapted chassis with other third-party technologies to provide complete solutions, in a smaller footprint, that are easier to deploy and manage.

Looking to the future—with IBM

As new IBM technologies come to market and integrate into the PureFlex platform, Tracewell plans to incorporate those capabilities into its IBM technology-based products to deliver ever-greater performance to customers.

"As IBM technology progresses, entirely new capabilities will emerge. By delivering PureFlex technology into truly unique environments, we believe customer innovation will naturally follow," says Tracewell.

For more information

Contact your IBM representative or visit us at:

ibm.com/puresystems/pureflex

For more information about Tracewell Systems, visit:

tracewellsystems.com