



National Instruments

Empowering Global Software Development with High-Speed Data Transfers

Overview

Challenge

NI needed a solution to provide its global team quick and easy access to the latest version of its software builds, enabling it to complete development projects more quickly and to predictably deliver finished products to customers.

Solution

NI deployed IBM Aspera High-Speed Transfer Server software in its central data center in Austin and transfer server software with IBM Aspera Sync in 17 of its remote global locations to provide high-speed transfers and synchronization. IBM Aspera Console was used to provide centralized visibility and management across the entire transfer environment.

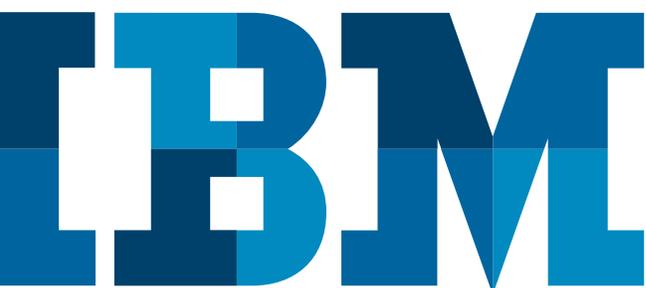
Results

- NI R&D teams can now work around the world continually on the latest software builds
- Increased agility for development teams and faster time to value for customers
- Complete transfers of large files and data sets regardless of size, distance or network conditions with 100 percent reliability
- Software build transfers are completed in two hours, down from two days

Established in 1976 in Austin, Texas, National Instruments (NI) provides graphical software and modular hardware solutions for more than 35,000 enterprise customers. NI's advanced technology solutions help engineers and scientists design, prototype and deploy measurement and control systems that enables them to increase productivity and accelerate innovation and discovery to bring thousands of products to market.

Using IBM Aspera's patented high-speed transfer technology, NI synchronizes large software builds between teams around the world from its centralized data center in Austin, Texas to significantly accelerate its follow-the-sun development. The Aspera deployment has made development timelines and costs more predictable while reducing the risk of delivery. With Aspera, NI can be more responsive to customers and ultimately develop innovative products and features faster.

“In my 17 years of experience of working on large scale IT projects, the Aspera deployment was the most successful I’ve been involved with and it imposed the least amount of inconvenience to our users and customers,” according Dave Shilling, IT Infrastructure Manager, National Instruments.



Benefits

- **Maximum Speed:** Significant improvement in software build transfer times from two days down to two hours, regardless of file size, transfer distance, network conditions
- **Reliability:** Data transfers fully utilize available bandwidth with adaptive bandwidth control and auto-resume of transfers from the point of interruption
- **Exceptional Security:** Enterprise-grade encryption in transit and at rest safeguards intellectual property and provides end-to-end protection
- **Scalability:** Highly-scalable, location-agnostic solution for data transfers provides multidirectional file replication and synchronization

Solution components

Software

- IBM® Aspera® High-Speed Transfer Server
 - IBM® Aspera® Console
 - IBM® Aspera® Sync
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Challenge

Today, more than 6,000 end users dispersed around the world need access to NI's code bases and software builds. This includes 2,000 developers that work continually on code bases, product and test teams that need to access exports and installers, and sales and marketing teams that need to access full release packages. To maintain an efficient and continuous development cycle, all updates to the code base from any of the remote sites need to be synchronized with its central data center, then synchronized back out to the remote offices.

With each file ranging from 1 KB to 32 GBs in size, and an average size of .5 MB, NI's code repository had grown to more than 300 TBs. Unreliable HTTP-based data transfers were forcing teams to wait several days to receive and work on the software builds, negatively impacting productivity and ultimately response times to customers.

Solution

NI needed a highly-scalable solution that would enable it to quickly, reliably and securely transfer up to 100 software builds each day and automate the delivery of updates to the code base across geographies every few hours.

The IBM Aspera High-Speed Transfer Server software was deployed for a proof-of-concept in NI's Austin data center and three remote locations where many developers were located - Cluj, Romania, Penang, Malaysia and Bangalore, India. Results of the test showed that the Aspera solution was able to reduce the synchronization process from two days down to two hours, a 95% reduction!

The NI and IBM Aspera teams then worked together to develop a tailored solution for multi-site transfer and synchronization to quickly and securely collect and distribute large software builds, even in countries that have restrictive network security and firewall policies and that are prone to high congestion, latency and packet loss.

The Aspera transfer server software with IBM Aspera Sync is now deployed in 17 of its remote global locations, all without requiring changes to NI's R&D workflows. The team is able to centrally monitor and manage the entire transfer environment using Aspera Console.

Results

With Aspera, NI R&D teams can work continually on the latest software builds. Over the last 18 months, the build process was shortened from an average of four days down to four hours. The teams are able to be more responsive to customers and can innovate more quickly as a result of the predictable delivery timelines and costs, and due to reduced risks previously associated with the development build process.

“In my 17 years of experience of working on large-scale IT projects, the Aspera deployment was the most successful I’ve been involved with, and it imposed the least amount of inconvenience to our users and customers,” according Dave Shilling, IT Infrastructure Manager, National Instruments. “For a global company of our size, going from concept to a fully-deployed solution in just eight months, despite the complexity of our IT infrastructure, is a testament to how flexible, reliable and manageable it is to work with the Aspera software and team.”

The Aspera solution also helped address a critical, unexpected problem involving a significant system failure just prior to quarter close. Using Aspera, NI quickly recovered all its files in hours versus the typical four day recovery time, enabling it to meet its critical shipment deadline and recognize quarterly revenue.

“We went from zero to hero in a heartbeat and the product paid for itself during the course of a week, even though the Aspera solution wasn’t originally deployed as a DR solution,” said Scott Dunlap, Senior Manager, Global Engineering Services, National Instruments.

About National Instruments

NI (ni.com) empowers engineers and scientists with a software-centric platform that incorporates modular hardware and an expansive ecosystem. This proven approach puts users firmly in control of defining what they need to accelerate their system design within test, measurement and control. NI’s solution helps build high-performance systems that exceed requirements, quickly adapt to change and ultimately improve the world.

About Aspera, an IBM Company

Aspera, an IBM company, is the creator of next-generation transport technologies that move the world's data at maximum speed regardless of file size, transfer distance and network conditions. Based on its patented, Emmy® award-winning FASP® protocol, Aspera software fully utilizes existing infrastructures to deliver the fastest, most predictable file-transfer experience. Aspera's core technology delivers unprecedented control over bandwidth, complete security and uncompromising reliability. Organizations across a variety of industries on six continents rely on Aspera software for the business-critical transport of their digital assets.

For more information

For more information on IBM Aspera solutions, please visit <https://www.ibm.com/cloud/high-speed-data-transfer> and follow us on Twitter @asperasoft.



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