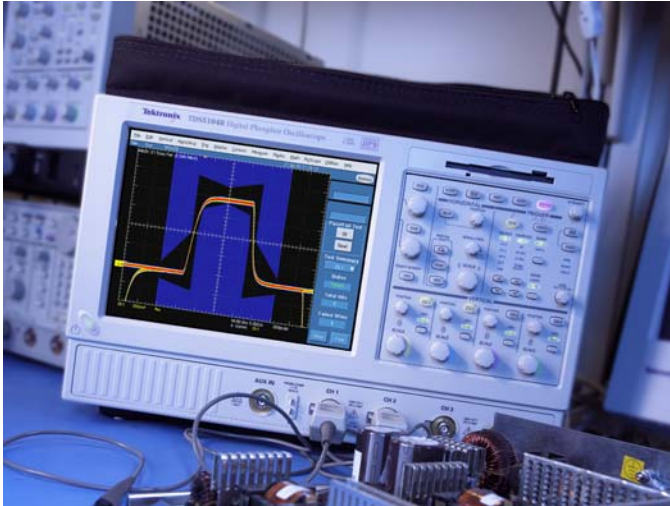# Xerox Chooses Tektronix Oscilloscopes to Achieve Long Term Productivity



## Solution Summary

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| Challenge | Find a long-term and cost-effective test and measurement solution to standardize on functionality, usability and accessories, and that will improve user productivity. |
| Solution | Implement a comprehensive search for effective, cost-efficient oscilloscopes using an in-house focus team and internal engineering feedback to determine the best supplier partner from both a technical and business perspective. |
| Benefits | Standardizing on a single platform provided cost savings and productivity gains, improved operations efficiencies, simplified service and training as well as production, and provided assurance of high quality test equipment across the corporation. |

2004 was a critical time for the Xerox Asset Management Group in Webster, New York. In order to continue their industry leadership in digital printing, an important decision was needed regarding their test and measurement equipment. The lease on their existing array of oscilloscopes was due, and the group was posed with the challenge of finding a solution that would meet the technical needs of its engineers as well as the business needs of the organization.

Rather than simply replacing their existing equipment, the team at Xerox Asset Management Group seized this opportunity to find a strategic partner, one who would help Xerox to find a stable long-term solution and meet the technical needs of engineers as well as the productivity and cost requirements of the business.

Xerox followed a rigorous process to select its partner, beginning with a list of basic equipment criteria specified by the engineers. The oscilloscopes had to be 100-500 MHz, upgradeable, portable, and easy-to-use, and have world-class repair and maintenance support. The oscilloscopes were also required to work with Xerox's existing calibration equipment and have an array of compatible accessories. The selection team also identified that it wanted to select a single partner for all of their scope needs, rather than manage several different solutions and relationships. After evaluating the leading scope companies against these initial requirements, Xerox narrowed the short-list to three companies that met the initial criteria.

Xerox invited the candidates to present their solutions and leave the equipment with teams of engineers and product development staff so they could test the functionality of the oscilloscopes in their normal work environment. The team evaluated oscilloscopes of 100, 300 and 500 MHz bandwidth for a few days at each of several lab sites to see how well they would perform various functions.

At the conclusion of the testing process, the evaluation team at Xerox unanimously selected Tektronix as the partner that best addressed all the selection criteria.

"In the end, Tektronix was the obvious choice," said John Sullivan, project lead for the Xerox Asset Management Group. "They had all the right equipment offerings, our engineers found the oscilloscopes very easy to use, and they really took a partnering approach to this process. We were also impressed with the commitment they demonstrated to ongoing training."

Xerox purchased 114 Tektronix Digital Phosphor Oscilloscopes (DPO). 91 of the chosen instruments are the TDS5000B with MyScope™, the industry's first customizable user interface. The remaining oscilloscopes were the TDS3014B, a portable, battery operated scope that allows engineers to move from machine to machine for easier testing.

The Tektronix oscilloscopes Xerox selected also cost less than their existing leased equipment, and upgrade availability ensures the oscilloscopes will continue to be useful in the years to come. "The TDS5000B is basically a complete computer, making it very easy to add new applications and software-based analysis tools, or expand memory," stated Sullivan. "And all of these upgrades are possible without replacing the box."

**Tektronix**

In constant use at Xerox for a broad range of applications, oscilloscopes are used for designing, testing, debugging and compliance testing digital printers, scanners, paper feeders and paper handlers, as well as for other products and projects under development.

The breadth of application offering from Tektronix was another key selling point for Xerox. With expertise across multiple testing disciplines, Xerox was assured that Tektronix was a partner they could turn to for any

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> - Alan Sleeman, Manager, Xerox Asset Management

testing problem they might encounter. Key applications Xerox is using with the new oscilloscopes include: PCI analysis for PCI bus development; jitter analysis for advanced timing of lasers; fast frame testing for capturing intermittent events occurring over long timeframes; power analysis; electrical testing of circuit board components; mixed signal analysis; USB analysis; current and current inrush measurements to motors, lamps and other load; and high voltage differential measurements.

In addition to the applications that ensure Xerox can reliably test what it needs to, the user interface of the new equipment made everyday usage a better experience. Engineers and technicians were not only pleased with the new oscilloscopes, they were outright enthusiastic about new features such as MyScope and the Microsoft Windows® mouse right-click functionality.

"I've never heard such nice compliments before," commented Sullivan. "Even engineers who previously had the technicians doing the measurements are now hands-on with the new oscilloscopes."

The MyScope interface makes the TDS5000B easy to customize by quickly building any number of custom control windows using a simple, visual, drag and drop process. Each user in a shared environment can create their own personalized "toolkit" of oscilloscope features, making it unnecessary to search through menu after menu to repeat similar tasks, or re-learn how to drive the oscilloscope after a break from the lab. In addition, because the control windows can be stored as files on the hard drive, they can be easily transferred to other TDS5000B Series oscilloscopes.

Xerox also found great productivity in the usage of the TDS3014B, a portable scope that allows an engineer to test multiple machines around the lab using the same scope. According to Sullivan, sometimes it's easier to bring the scope to the units being tested. These portable oscilloscopes allow engineers to set up the test parameters once and test multiple units quickly and easily.

Another productive feature for users is the context sensitive menus within the Microsoft Windows mouse right-click and scroll wheel features. When pointing the curser at an area of interest on the display – for example a waveform display on channel one - users can right-click to bring up a menu of possible controls. "Even though these are very powerful tools with complex analysis capabilities, they're designed so well that anyone familiar with oscilloscopes can use them," explained Sullivan. "This ease of use greatly increases our productivity."

Xerox received the oscilloscopes in April 2004 and scheduled training and implementation in the labs in May. In addition to the initial training sessions, Tektronix continued to check in with Xerox, working with the Asset Management Group to explore opportunities to add even more value. This commitment to continued support has already resulted in specialized advanced training during the summer.

The decision to standardize on Tektronix Digital Phosphor Oscilloscopes is helping Xerox to improve design and manufacturing processes and shorten time to market. "Tektronix's high quality equipment and overall approach throughout this effort has really reinforced that we made the right decision," said Alan Sleeman, Manager, Asset Management Group, Xerox. "With Tektronix as our partner, we have increased our capability and productivity while at the same time reduced costs and improved our engineer's experience."