

## **HP1000 Replacement: Bigfoot Gets a New Lease on Life**

The Tobyhanna Army Depot tests and repairs electronic equipment for American and allied nation armed forces. Amongst the hundreds of acres of test apparatus resided an HP1000-based Automatic Test System known as Bigfoot. This system is essential for testing PRC ground radio equipment. The HP1000 M/E/F Series computer system at the heart of Bigfoot was over 30 year's old and suffering reliability problems.

Hewlett Packard no longer supports the HP1000 and parts and service are increasingly difficult obtain. However, the Bigfoot test rack is essential hardware, so a solution was needed. The problem was resolved using a PC-based HP1000 hardware emulation package.

The HP1000 emulator was built around the Strobe Data Kestrel PCI-based co-processor card. The Kestrel exactly duplicates the original HP1000 computer and disk drives. A Strobe-sourced HP1000 compatible backplane was also deployed in the Tobyhanna application,. The M/E/F compatible backplane provided support for the original HP1000 printer, tape drive, and specialized test equipment interface cards. Peripheral equipment that took advantage of the General Purpose Interface Bus (GPIB) was supported with modern PCI-based GPIB adaptors. The entire replacement system was configured in a compact rackmount chassis that took up about a third of the space occupied by the original HP1000 (and also weighed about a third as much).

The replacement system was configured and installed in about 4 hours. Critical to success of the installation was obtaining an exact copy of the HP1000 system disk. Utilities and a backplane adapter card supplied as part of the replacement system allowed the hardware emulator to directly interface with the original HP1000 disk drive. The disk drive contents were copied to a virtual drive on the replacement system.

Skilled technicians at the facility ran the new system through its paces and pronounced it an unqualified success. They were pleased with the system's increased performance, small foot print, and exact duplication of the HP1000's functionality. An unexpected benefit was more accurate test results due to the improved reaction time of the modern hardware.

Just because systems are old, it doesn't mean they are not still useful. For Tobyhanna Army Depot, an HP1000 emulation package demonstrated the effectiveness of modern hardware emulation solutions by replacing over 200 pounds of essential, but obsolete computer equipment with a small, modern, reliable system that exactly duplicates the HP1000 functionality while providing better performance. Installation of the emulator guarantees Bigfoot at least 10 years of additional useful life. It was a fast, economical solution to a critical problem.

*About the author: Mr. Bruce Claremont founded Migration Specialties in 1992 to deliver OpenVMS, software migration, and hardware emulation services. He participated in the HP1000 replacement at Tobyhanna as an observer. More information about Mr. Claremont and Migration Specialties can be found at [www.MigrationSpecialties.com](http://www.MigrationSpecialties.com).*