



▶ Virtualized Infrastructure - *Embedded Software Solutions for I/O Devices*

The client is a global product development and engineering company that has developed a device allowing I/O (Input/Output) to be shared across multiple servers. The device is targeted at data centers and manufacturers of enterprise class servers. The device reduces the costs of expensive I/O equipment by allowing them to be shared by multiple servers. It also allows redundancies to be setup for the I/O devices.

The Challenge

The client needed a provider who could adapt to the evolving requirements of the product and create embedded software for their I/O virtualization solution. As speed to market is a critical factor in technology deployment, the client also needed to keep the turnaround time to a minimum. They also required a provider who could cost-effectively enhance product quality to achieve overall customer satisfaction. Due to the geographical distance from the client, the software development team had to write the code without access to the underlying hardware. Later the software had to be seamlessly integrated with the actual hardware at the client's location.

Emtec's Solution

The client teamed with Emtec to develop a solution for their I/O equipment. At the heart of the device is a custom built chip which communicates with the actual devices and the servers. The software stack includes code written in C/C++ that talks with the hardware on one side and with the client software on the other.

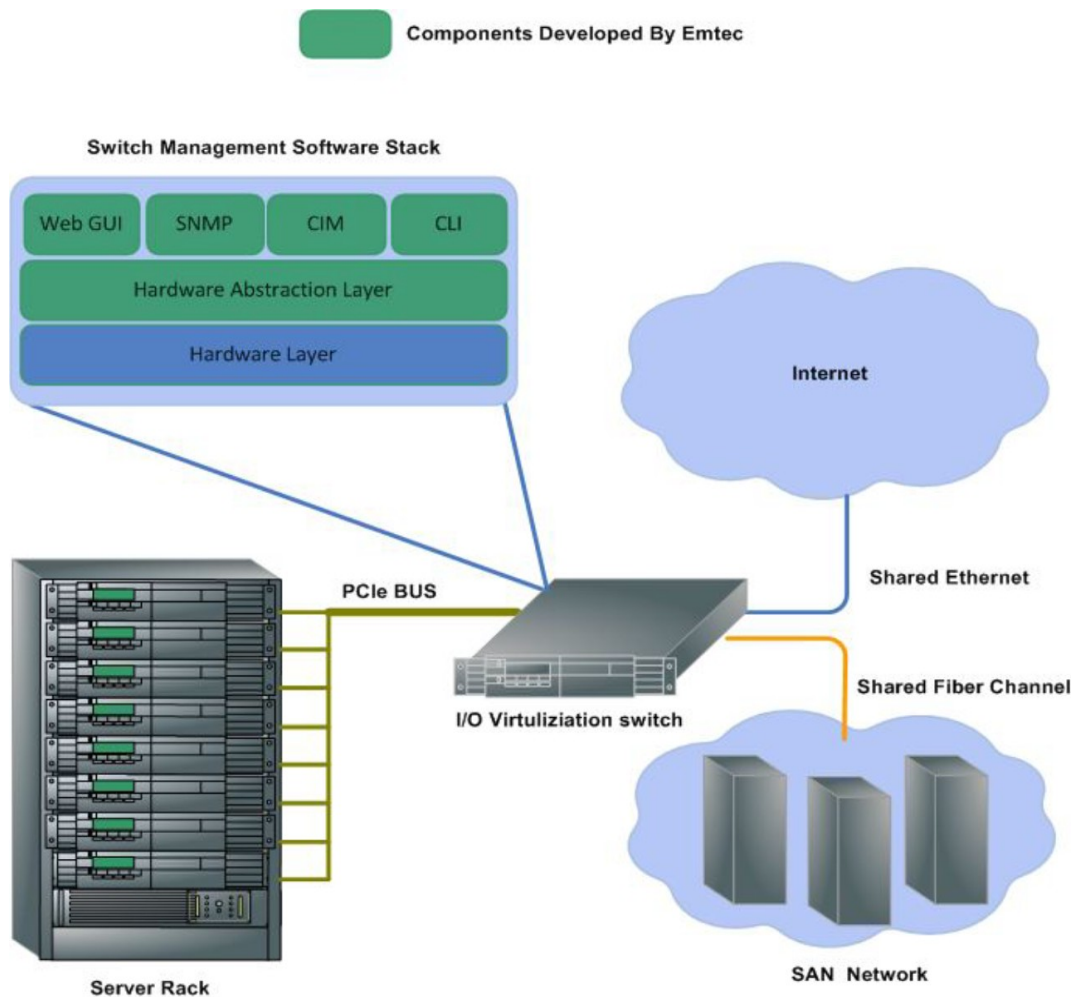
Emtec provided a Command Line Interface (CLI) for device management; product development and testing support specifically in embedded software and its web based management GUI; a SNMP Agent for the virtualization device; and a CIM client for the I/O equipment.

Technical Configuration

The Emtec programmers were able to successfully coordinate their efforts and develop the software without access to the hardware. The hardware was emulated by developing stub code. The team also co-coordinated with the globally dispersed client and resolved issues arising when integrating the software with the actual hardware layer. Additionally, the GUI code written in PHP had to be integrated with the Web Services developed in C/C++. Emtec developed a system health management software module using an open IPMI sub-system.

Outcome

Close coordination between the Emtec team and the client team helped in developing the software successfully. Emtec's expertise in embedded software applications led to a successful deployment and integration between the software and the actual hardware layer. The client benefitted from Emtec's quick turn-around time and the project was completed on schedule. The client also reduced their costs by sharing IO resources and reduced redundancies between IO devices. Additional savings were realized as the Emtec team also reduced power consumption by reducing the number of devices utilized.



About Emtec

Established in 1964, Emtec, Inc. is a systems integrator that provides IT services and products to the federal, state, local, education and commercial markets. Our market leading value-based management methods, coupled with best-in-class IT technology, application development services and strategic IT consulting, address a wide range of specific client needs, as well as support broader IT transformation initiatives. Emtec's service capabilities span the United States, Canada and countries around the globe.