



Elite Software R&D Services
Since 1990

Developing of IPM Sentry Shelf Manager—the first ATCA shelf management module

Client

Pigeon Point Systems (“PPS”) is a privately held software and hardware development company founded in 1997. It focuses on products and services supporting the adoption of open modular platforms to replace proprietary architectures, with a primary focus on the telecommunications market and PICMG standards. Pigeon Point’s product portfolio includes world-class management components for modular platforms based on the AdvancedTCA® (ATCA), AdvancedMC™, and MicroTCA™ architectures, plus consulting and design services. Pigeon Point participates actively in defining the open modular architectures. An executive member of PICMG, Pigeon Point is a leader in the ATCA, AdvancedMC and MicroTCA subcommittees and is active in many other technical subcommittees. Pigeon Point is also a contributing member of the Service Availability™ Forum and active in its HPI Working Group. The company serves more than 140 customers, including 6 of the top 10 global communications OEMs. The list of its customers is headed by such industry authorities as Motorola Computer Group, Intel Corporation, Force Computers, Microsoft Corporation, Siemens Mobile, Texas Instruments, along with many others. PPS is headquartered among the redwoods in Scotts Valley, California.

In 2008 Pigeon point Systems was acquired by Actel Corporation and became a wholly owned subsidiary of Actel. Earlier this year, Actel and Pigeon Point announced a partnership to develop and market solutions based on the Actel Fusion® mixed-signal FPGAs to speed the design of AdvancedTCA blade and AdvancedMC carrier blade management controllers. By acquiring the leading provider of TCA management components, Actel now offers

a comprehensive solution for proprietary and standards-based system management implementations in the industrial, military, telecommunications, and medical markets.

Project Scope

Development of the IPM Sentry Shelf Manager—the software component of the further generations of hardware and software products that shall provide cost-effective, inter-operable management of open modular platforms based on the Intelligent Platform Management Interface (IPMI) and Advanced Telecommunication Architecture (Advanced TCA)

Statistics

- Team size: up to 18 people in Auriga
- Client relationship duration: 10 years

Objectives

- Development and verification of the IPM Sentry Shelf Manager software components—the core component of any Advanced TCA chassis, including
 - achieving compatibility with Compact PCI chassis
 - development of the interface software to access the IPM Sentry Shelf Manager remotely, using network protocols RMCP, SNMP and HTTP (Web-based access)
- Development of the IPM Foundation library (IPMF)—supplementary software building block that can be used by 3rd party companies to develop various management objects in Advanced TCA environment.

Results

- Linux ported to Xscale and mips hardware platforms supported by the Shelf Manager. For the third supported hardware platform—ARM7—the embedded version of linux—uClinux—was applied.



- Three different cross development environments implemented
- Created Intelligent Platform Management Foundation (IPMF) that provides a foundation layer of software components for Shelf Manager and other IPM components.
- IPM Sentry Shelf Manager developed and rigorously tested on different hardware platforms (Intel, Motorola, Siemens, Pentair Schroff, Elma, Asis, etc).
- Various interface software components, providing remote access to the Shelf Manager core using RMCP, SNMP and HTTP (Web-based access) network protocols.
- Set of miscellaneous support and development tools that provide easy-to-use various adjustment services to 3rd party companies.
- A set of regression tests cases has been developed which is used as a de-facto standard by many companies during workshops and internal testing.

Tools and Technologies

- Linux, uLinux
- IPMI, AdvancedTCA, RMCP, SNMP, HTTP/HTML
- gcc, ARM7, Xscale and MIPS assemblers

Customer's Quote

"The Auriga engineering teams have been highly competent, effective and disciplined."

Mark Overgaard
President