

Airvana Hits the Accelerator on Time-to-Market

Integrated ATCA Solution Helps Leading Network Infrastructure Provider Cut Development Time Frames and Costs

So Many Opportunities, So Little Time

The resurgence of the telecommunications industry is well underway. Carriers are deploying the infrastructure needed to support emerging IP-enabled telecommunications services; suppliers are starting to build solutions for a fully converged, IP-based network system; and open standards have emerged for hardware, run-time operating systems, and middleware layers.

But here's the challenge: As competition escalates in this burgeoning marketplace, product development windows grow increasingly narrow, and delivering on time remains critical. Companies that are developing new products must ensure sufficient market penetration before the competition has time to react.

Airvana, a leading mobile broadband infrastructure provider, was looking to enter new markets within the IP-enabled telecommunications infrastructure. The company had identified an opportunity to provide a new class of equipment that would complement its current product portfolio: a Universal Access Gateway (UAG), a carrier-class, high-capacity, highly reliable, highly redundant network infrastructure element. The market window to build and deploy this product was a mere 18 months.

Airvana's project team knew that building the UAG from scratch would be daunting. Developing all the pieces in-house would require a huge resource commitment just to get the standard requirements completed for the hardware and software—in addition to integrating, testing and validating the solution. Once the base unit was up and running, only then could engineering resources shift focus on the real value-added component, the application layer.

The project team decided they could leverage commercially available, standards-based hardware and software solutions that would allow them to reduce overall project risk, deliver their product within the market window, and enable their development teams to focus on the area where they would gain the most competitive advantage.

"Maximizing the efficiency of our global development teams enables us to remain agile while also keeping project costs down. Standardizing on Wind River's Eclipse-based development environment allows us to easily move engineers from project to project with minimal ramp-up time."

— Frank Chen, VP of Engineering Strategy and Architecture, Airvana

Company Profile: Airvana

- Leader in IP-based mobile broadband network infrastructure
- Privately held
- Multinational development centers

Industries

- Next-generation networking and mobile infrastructure
- Fixed Mobile Convergence

Solution

- Wind River Platform for Network Equipment, Linux Edition
- RadiSys Promentum SYS-6010
- OpenClovis Application Service Platform (ASP) and Integrated Development Environment (IDE)

Results

- Powerful, fully integrated COTS solution that enables out-of-the-box application development
- Ability to focus resources on competitive differentiation
- Reduction in development cost and risk
- Shorter time to revenue
- Flexibility to build high-quality, competitive products using best-of-breed technologies

ATCA-Based COTS Offering

Most COTS offerings on the market today provide either a hardware-only or software-only solution, and most solutions have not integrated with middleware that includes manageability and high-availability functionality. Companies like Airvana must still spend considerable engineering resources piecing together the components to create a functional system—and development teams often run into unforeseen problems and schedule delays trying to debug their inhouse integration efforts.

Knowing this, Airvana set out to find a solution that was already fully integrated, tested, and validated. They found three industry leaders—RadiSys, Wind River, and OpenClovis—and the first true COTS solution that enabled them to do immediate, out-of-the-box application development.

Once Airvana elected to leverage standards-based solutions, the company started looking for the necessary components. Airvana had seen a demonstration of the Promentum family of hardware boards, and noted their scalability—the ability to build several network elements using one core technology. This significantly reduces the learning curve for engineers, and Promentum boards were already proven in the market.

Building a network element that leverages ATCA-based hardware requires a Carrier Grade Linux (CGL) operating system. RadiSys had previously teamed up with Wind River to integrate a CGL solution for the Promentum boards, and this was a clear advantage for Airvana. However, the project team decided to compare Wind River Platform for Network Equipment, Linux Edition, against other commercially available Linux solutions. Wind River's industry leadership, standards-based CGL run-time platform with integrated tools, and worldwide support capabilities made the decision easy. By leveraging Wind River's Linux distribution, Airvana could use one common code base that scaled to fit the needs of multiple networking projects. This software scalability complemented the strategy RadiSys had taken with their hardware. In addition, Airvana was already using Wind River's VxWorks RTOS and Workbench development suite for other networking projects. Familiarity with Wind River tools meant engineers could standardize on one common development environment for multiple projects.

The ATCA standard also calls for middleware that includes manageability and high-availability functionality. This requirement was achieved with the OpenClovis Application Service Platform (ASP), which provides an extensive set of management software modules running on a distributed core infrastructure. The platform is also aligned with the Service Availability Forum (SA Forum) Application Interface Specifications for high availability. RadiSys, Wind River, and OpenClovis had integrated their products, eliminating a potentially time-consuming and risky step in the project.

Leveraging the Power of an Integrated Solution

Fully integrated COTS solution

- ATCA hardware platform
- Carrier Grade Linux develop-and-run platform
- Carrier-grade high availability (HA) and system management middleware

Tested, validated, supported

- Each component individually and jointly tested and validated

Open, standards-based

- ATCA-specified hardware
- Carrier Grade Linux
- SAF, AIS, HPI
- Open-source HA middleware
- Eclipse-based development environment

Flexible business models

- Enterprise licenses
- Royalty-free options

Proven industry leaders

- World-class providers
- Global support capabilities
- Experienced professional services teams

Airvana leveraged the ASP software across multiple products, and found the OpenClovis IDE allowed them to model and develop their system faster than predicted.

In addition to the ATCA-based hardware and software components, Arivana also leveraged Wind River's proven network stack to protect the unique characteristics of their application and provide features not available in the native network stack.

The hardware and software provided by RadiSys, Wind River, and OpenClovis combine to create a powerful COTS solution that enables immediate, out-of-the-box application development. As a result of employing this solution, Airvana can focus resources on competitive differentiation, reduce development cost and risk, shorten time-to-revenue, and build high-quality, competitive products using best-of-breed technologies.

Learn More

For additional information about these products, visit:

www.radisys.com

www.openclovis.com

For information about the ATCA specification, visit

www.picmg.org/v2internal/newinitiative.htm.

WIND RIVER

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