Client › RAVEN Systems, Inc. / American Messaging Services

The Challenge:
Help RAVEN Systems develop an entirely new technology platform that combines wireless digital transmission and IP-based communications.

The Solution:
Employ the MatchPort® AR to deliver a reliable and secure Ethernet networking capability while decreasing development time.

The Result:
Integrating the MatchPort AR with RAVEN Systems' wireless digital transmission technology helped the company quickly bring to market two new applications based on a ground-breaking new platform.

> "
> Lantronix helped us dramatically reduce our time to market for new applications based on our new technology platform.
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Myron Anduri,
VP, New Product Engineering
American Messaging Services

The Challenge: Enhancing the Capabilities of Next-Generation Products

RAVEN Systems, now owned by American Messaging Services, produces mass notification products that deliver messages to a family of alerting devices in mere seconds. Designed for use by first responders, municipalities, educational campuses, industrial facilities, military bases and more, the system is based on wireless messaging transmission, commonly referred to as paging. While this one-way technology has tremendous advantages over other notification methods, such as cell phones, PDAs, wireline phones and email accounts, the system lacked the ability to provide delivery confirmation to the sender.

In December 2007, RAVEN Systems began development on its next-generation wireless emergency notification system, aptly named the RAVEN System. The RAVENAlert, a key component of the system, is designed for municipalities, college campuses, businesses and other organizations that employ a dedicated local emergency management team. In addition to transmitting digital messages wirelessly, RAVEN Systems wanted the RAVENAlert to communicate back to the alerting agency that the message had been successfully delivered. Accordingly, RAVEN Systems' development engineers needed a networking co-processor module to augment the system's wireless capability with IP connectivity.

LANTRONIX®

Think it. Connect it. Control it.

The Solution: Lantronix Marries Wireless Capability with IP Connectivity

While the RAVENAlert platform was in development, a Lantronix application engineer visited the facility on several occasions. According to Myron Anduri, vice president of new product engineering, "One of the advantages of working with Lantronix is their willingness to roll up their sleeves and work closely with us to truly understand our needs."

Taking into consideration RAVEN Systems' desired capabilities and technological requirements for the RAVENAlert, Lantronix recommended the MatchPort AR, an embedded module that delivers SSL/SSH-ready Ethernet networking capability to virtually any product with a serial interface on the host microcontroller. The MatchPort AR sends and receives serial data in packets over Ethernet without burdening the device's main processor, and incorporates advanced CGI and AJAX web server capabilities for remote data acquisition, device monitoring and configuration.

The RAVENAlert was developed using an entirely new technology platform that integrated RAVEN System's wireless digital transmission technology with MatchPort AR's IP-based communications. In addition to enabling verification of page delivery, the system can also send text-based information, such as a URL, instructions on what action to take, directions to safe locations and more. Because Lantronix offers MatchPort AR as part of a kit, virtually no additional programming was required on the part of the RAVEN Systems engineers, which decreased the time to market for the RAVENAlert system by months.

The Results: The New Technology Platform Spawns Assorted Applications

Once the RAVENAlert system prototypes were fully tested, the company began marketing the system to its enthusiastic target audiences. In addition to the RAVENAlert, RAVEN Systems has employed the innovative "wireless out/IP back" technology platform to develop other, non-emergency-based products. For instance, the RAVEN RC4 enables a completely new way to remotely control computer systems where firewalls have traditionally been a barrier to legitimate remote access. This product also allows users to reboot electrical devices by simply using a touchtone phone or PC-based software. Enabling remote access negates the need for physical access by a technician, which can potentially save a company upwards of $500 per call.

Looking to the future, RAVEN Systems is exploring other applications for the new technology. Says Anduri, "We've been able to marry two often competing technologies for a great end-use platform. It's a whole new concept. And Lantronix was a part of making that happen."

About RAVEN Systems Inc. / American Messaging Services
RAVEN Systems, Inc. was established with the goal of creating a better method for warning citizens affected by tornadoes and severe weather. That desire led to the development of an entirely new concept for mass notification for all types of emergencies. A provider to the military, various government agencies and the nuclear power industry for over ten years, RAVEN Systems delivers products that use proven wireless paging technology for low cost and high reliability. In 2009, RAVEN Systems was acquired by Lewisville, Texas-based American Messaging Services, the second largest paging company in the United States with more than 1.4 million customers.

Visit www.americanmessaging.net for more information.

For more information on the MatchPort AR, visit **www.lantronix.com/matchportar**

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