

LynuxWorks Flips Telica's Switch



Founded in 1998, Telica, Inc. designs and manufactures innovative voice and data infrastructure products for the evolving telecommunications arena. The company provides intelligent, reliable switching platforms that streamline telecommunications networks and accelerate the deployment of competitive voice and data services.



Telica's flagship Plexus 9000 multiservice access switch represents a sophisticated next-generation switching platform that offers both economic and competitive advantages to large, incumbent service providers while effectively accommodating future subscriber growth.

Managing for today—planning for tomorrow

Service providers routinely face a remarkable challenge: streamlining and increasing traffic flow between legacy and next-generation Internet Protocol (IP) and Asynchronous Transfer Mode (ATM) packet networks, particularly at the network edge. In addition to leveraging their previously installed base, carriers must plan for packet telephony services with the capacity to successfully manage future subscriber growth. Advanced packet switches must seamlessly interconnect and competitively function as Time Division Multiplexing (TDM)-based Public Switched Telephone Network (PSTN) switches with the ability to support Voice-over-ATM (VoATM) and Voice-over-IP (VoIP). Furthermore, providers must accomplish all of this while ensuring virtually no disruption to their existing services.

Telica's carrier-grade Plexus 9000 multiservice access switch provides customers a flexible, cost-effective solution for managing current traffic while transitioning to voice-over-packet telephony. It offers the functionality of a high capacity Tandem or Class 5 switch along with a fault-tolerant packet-based switch for TDM, VoIP, and VoATM services. The device features a 15Gb/s switch fabric and supports over 80,000 protected DS-0 ports/shelf in TDM applications and 18,000 ports/shelf



for VoIP and VoATM, making the Plexus 9000 less complex to deploy and operate than marginally comparable platforms requiring several shelves and an intricate architectural configuration for the same level of port density. "Our solution fits seamlessly into a customer's existing network. It minimizes infrastructure costs and provides a reduced footprint and an elevated service level to easily accommodate voice-over-packet technology," said Joe Quinlivan, vice president of engineering at Telica. "Our product lets customers expand their existing infrastructure today—not build an entirely new one down the road—that will handle future growth, remain competitive, and generate revenue."

A comprehensive solution

Telica realized early in the development process that in order to accurately respond to both existing and emerging customer needs, the Plexus 9000 required a real-time operating system (RTOS) capable of supporting high performance demands while also providing the predictability and reliability essential for mission-critical telecommunications applications.

Specifically, three conditions fueled the company's selection process: 1) the chosen RTOS had to capably support a wide variety of protocols and applications; 2) it had to provide availability and reliability and, in particular, protected memory space more robust and reliable than traditional operating systems; and 3) the RTOS had to include a powerful tool set to accelerate development time and contribute to valuable time-to-market gains.

"LynuxWorks demonstrated exceptional commitment to ensuring that our developmental needs were continuously met."



Joe Quinlivan
VP of Engineering, Telica, Inc.

From both a technical and business standpoint, the company carefully evaluated six leading real-time operating systems, including VxWorks, with which many of Telica's developers had previously worked. However, VxWorks does not offer protected memory space, a vital feature for Telica in terms of system robustness and debugging. Ultimately, Telica turned to LynuxWorks' LynxOS® for the solution.

LynxOS blends performance, reliability, and scalability with patented technology for real-time event handling, and also provides complete UNIX® compatibility. It also meets strict POSIX® conformance tests, making its application interfaces compatible with Linux. With a fully preemptable kernel featuring fast, deterministic context switching, combined

with LynuxWorks' dedicated support, the LynxOS package fit Telica's exacting requirements. "From both a business and technical perspective, it made sense to go with LynxOS. It was the only RTOS that met our criteria. Transitioning from VxWorks to LynxOS proved a very smooth process with a remarkably brief learning curve on the part of our developers," said Quinlivan. "Moreover, many of our customers are already familiar with LynxOS and LynuxWorks, and several of their partners use LynxOS as well. For our particular product and market, the choice was clear."

LynuxWorks also offered a unique perk somewhat uncommon in the RTOS arena: a high-caliber professional services division that proved invaluable to Telica throughout its entire product development cycle. "Because we are a newly formed company, LynuxWorks demonstrated exceptional commitment to ensuring that our developmental needs were continuously met," said Quinlivan.

A win-win partnership

Powered by LynxOS, Telica's Plexus 9000 multiservice access switch provides carriers a proven strategy for applying next-generation IP- and ATM-based network technology to today's infrastructure. It also exemplifies the successful collaboration and rewarding alliance between Telica and LynuxWorks. "LynuxWorks has been there for us every step of the way," said Quinlivan. "We're extremely satisfied with the RTOS and have experienced no serious problems whatsoever. We've been given outstanding customer service and technical expertise, and are happy with LynxOS."



1.800.255.5969



LynuxWorks, Inc.
855 Embedded Way
San José, CA 95138-1018
408.979.3900
408.979.3920 fax
www.lynuxworks.com

LynuxWorks Europe
Craven House
121 Kingsway, Holborn
London WC2B 6PA
United Kingdom
+44 208 906 9506
+44 208 906 2338 fax

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