Managed Switch Technology Primed for Military Applications

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The success of net-centric warfare is dependent on fast, secure communications technology – specifically Ethernet. To meet the military's demands for Ethernet-enabled vehicles, there is an increased focus on developing a variety of Ethernet switches and routers to help the military achieve mission success.

“Lightly Managed” Switches Attractive Choice for Military Programs
There has been an increasing demand of late within military technology refresh programs for “lightly managed” rugged COTS switches. These devices support a core networking feature set and provide some basic management capabilities, which make them well suited for many situational awareness upgrade applications. Additionally, the “lightly managed” variety of switch is much less costly than fully managed switches—a very attractive consideration for budget sensitive military groups.

The need for a switch that includes many of the functional advantages of a fully-managed switch without the hefty price tag or complexity prompted Parvus to develop the new lightly-managed DuraNET 1268 rugged 10-port Ethernet switch subsystem. By offering powerful Layer 2 features such as IPv6 Class of Service (CoS) prioritization, Simple Network Management Protocol (SNMP), IEEE-802.1Q tagged or port-based VLANs, a Serial Command Line Interface (CLI), and Web management, among others, the DuraNET 1268 is primed for insertion into demanding network-centric manned and unmanned vehicles and aircrafts. A handful of airborne, maritime, and ground vehicle programs have already specified this device since it was recently introduced to the market.

Managed Switches Provide Necessary Features for Military's Needs

Maintaining situational awareness through the use of video, maps, radio and satellite technologies requires a networking infrastructure that can manage and prioritize data packets to ensure mission safety and success. This type of network management is often performed by a managed switch, which includes the necessary features to meet the military's stringent efficiency and security demands.

Features such as Quality of Service (QoS), are especially critical for military users in a mixed-traffic environment where large data files such as map images can delay important voice packets or flash messages that need to reach the vehicle operator. Also, with the Rapid Spanning Tree Protocol (RSTP) feature available on managed switches, networking devices can now provide for faster spanning tree convergence after a topology change. It is not uncommon for redundant flight-critical electronics onboard manned and unmanned aircraft to be networked by Ethernet switches supporting some form of STP. In this way, onboard mission computers have multiple potential data paths and can quickly recover if critical hardware fails.

What's Ahead for Managed Switches

As the military's need for more management capabilities increase, manufactures must continue to innovate switch technology to meet impending demands. An example of this is the number of ports available on managed switches. Presently, many military vehicle applications require 8-10 ports; however, with the military's "future-proof" stance on acquiring technology, manufacturers need to have roadmaps in place to deliver switches with more port density to support a larger number of devices. Managed switches are an integral component of the military's net-centric warfare initiatives and consistent upgrades need to take place to ensure switch technology continues to meet the military's networking needs.

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