TROY Connectivity Software Suite
for OEMs

TROY

Wireless and Connectivty
Solutions

TROY's Connectivity Software Suite for OEMs allows printer and other device manufacturers and printer/device controller manufacturers to use the existing processing power of their controller to also handle network and wireless connectivity applications. The TROY OEM Software Suite can eliminate the need for a separate processor, memory, and interface circuitry, thereby substantially reducing the overall cost of a connected solution. TROY's software suite offering includes three libraries:

• TROY's Network Protocol Suite

• TROY's Network Services Suite

• TROY's Wireless LAN Security Suite

The first part of the library, the TROY Network Protocol Suite, is a set of network protocol stacks that augment the TCP/IP stack included with most embedded operating systems. These protocol stacks support a wide range of custom protocols used in network communications today, including Netware (full Novell NEST® NDS/NDPS support), AppleTalk, NetBEUI, and DLC/LLC.

The Network Services Suite provides communication and printing applications for the network protocols. The Library also provides the high level code required to process print jobs for the various protocols mentioned above. TCP/IP services include LPD, direct TCP, FTP, NetBIOS IP, SMB, WINS, DHCP, and DDNS . Also included is TROY's Internet Email communications package which includes IPP (Internet Printing Protocol) as well as TROY's PrintraNet software which allows data to be retrieved from a POP3 email account.

Multiple services are provided for configuration and management of the device on a network including a Telnet command line console, HTTP based configuration allowing any web browser to manage the device, and SNMP for configuring via third party SNMP tools including HP's OpenView or Web JetAdmin utilities. TROY can also provide management utilities for communications which can be customized to a specific customer's requirements.

The TROY Wireless LAN Security Suite is for device manufacturers looking to integrate wireless capabilities, and want their wireless LAN option to include a number of security options. TROY's Wireless LAN security suite includes 802.1x wireless LAN security with the most commonly used EAP types including TTLS, LEAP, and PEAP. Also included is WPA and WPA2 which both will authenticate in Enterprise and Personal modes.

Communication between the TROY Connectivity Software Suite and the customer application is packet oriented, and uses shared memory buffers for efficiency. This minimizes the amount of data copying required, while providing a simple and flexible interface for the application. Along with network communications data, separate logical channels are provided for console configuration data, status information, and to allow the customer application to extend the SNMP entries and HTTP configuration pages.

TROY provides services for the network or wireless driver implementation. TROY has extensive experience in writing network and wireless drivers for embedded operating systems and different hardware. TROY can also provide services for enabling firmware downloads over the network, and for implementing other specific OEM custom features.

Performance. Security. Quality. TROY sets the standard for wireless and connectivity solutions.

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Specifications

System Requirements
- The complete TROY software suite can require up to 2 megabytes of available memory. Optional operating system components such as the Scalable Enhanced Network Stack (SENS) or the SNMP package if using Wind River Operating System.

Protocols
- IPX/SPX, Appletalk, NetBEUI, DLC/LLC,
- TCP/IP protocol services include lpr/lpd, direct TCP (raw), FTP, NetBIOS IP, SMB, WINS, DHCP, and DDNS, POP3/SMTP, SNMP

Management
- Telnet Command Line Console
- HTTP Web Browser Interface
- SNMP (V1, V2, TROY, HP JetDirect MIBs)
- TROY ExtendView / NetworkAlert32 utilities
- HP WebJetAdmin
- Software Channel between device and libraries
- Netware PCONSOLE, PRINTCON, PRINTDEF, NWADMIN
- Apple Printer Utilit and Apple LaserWriter Utility
- WINS (Windows Internet Naming Service) and DDNS (Dynamic Domain Name Service)
- IP Address Configuration via ARP, RARP, BOOTP, DHCP, TROY ExtendView, HP WebJetAdmin, HTTP Web Browser Interface, or command line console

WLAN Security
- 802.1x EAP-TTLS
- EAP-LEAP
- 802.1x EAP-PEAP
- WPA-Personal (Wi-Fi Protected Access Pre-Shared Key Mode)
- WPA-Enterprise (Wi-Fi Protected Access with 802.1x)
- WPA2-Personal + WPA2 Enterprise (Both CCMP and WRAP modes of AES)

Other Features
- Multiple services per port
- Programmable character string conversion (on a per service basis)
- IP security (ability to restrict incoming connections based on IP Address)
- Configurable TCP port numbers (on a per service basis)
- Sophisticated diagnostics, including protocol trace capability and crash dump

Configuration

- Printer Device Application
- TROY Network Services Suite
- OS with TCP/IP
- TROY Network Protocol Suite
- TROY Wireless LAN Security Suite
- Ethernet/Wireless Network Driver