

XetaTS

Terminal Server Overview

April 2020

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XETAWAVE
CUSTOM RF SOLUTIONS

xetawave.com

XetaTS Webinar Agenda

- Overview
- Features
- Applications
- Competition



XetaTS Overview

Industrial Terminal Server

- Lowest Price
- IP enable serial devices
- Class 1 Div 2 Industrial Grade



A terminal server is a server or network device that enables connections to multiple client systems to connect to a LAN network without using a modem or a network interface.

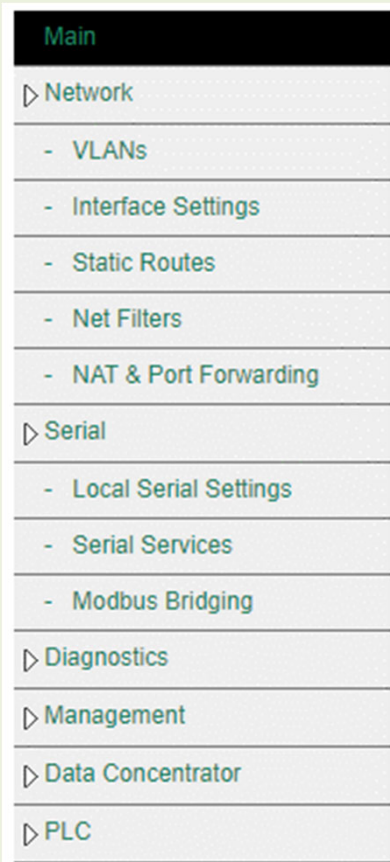
XetaTS Features

- Linux radio without the radio
- TCP Terminal Server/Client
- UDP & Multicast Terminal
- VLANs, Static Routes, Net Filtering
- NAT & Port Forwarding
- Modbus Bridging
- NTP, Radius, SNMP
- Data Concentrator add-on
- PLC add-on



- 2 Ethernet & 2 Serial Ports
- 1 Micro USB 2.0 Ports
- +10 to +32 Vdc
- -40°C to +85°C
- Class 1 Div 2
- 182g Plastic Enclosure

XetaTS Features: Common GUI



Local Serial Ports

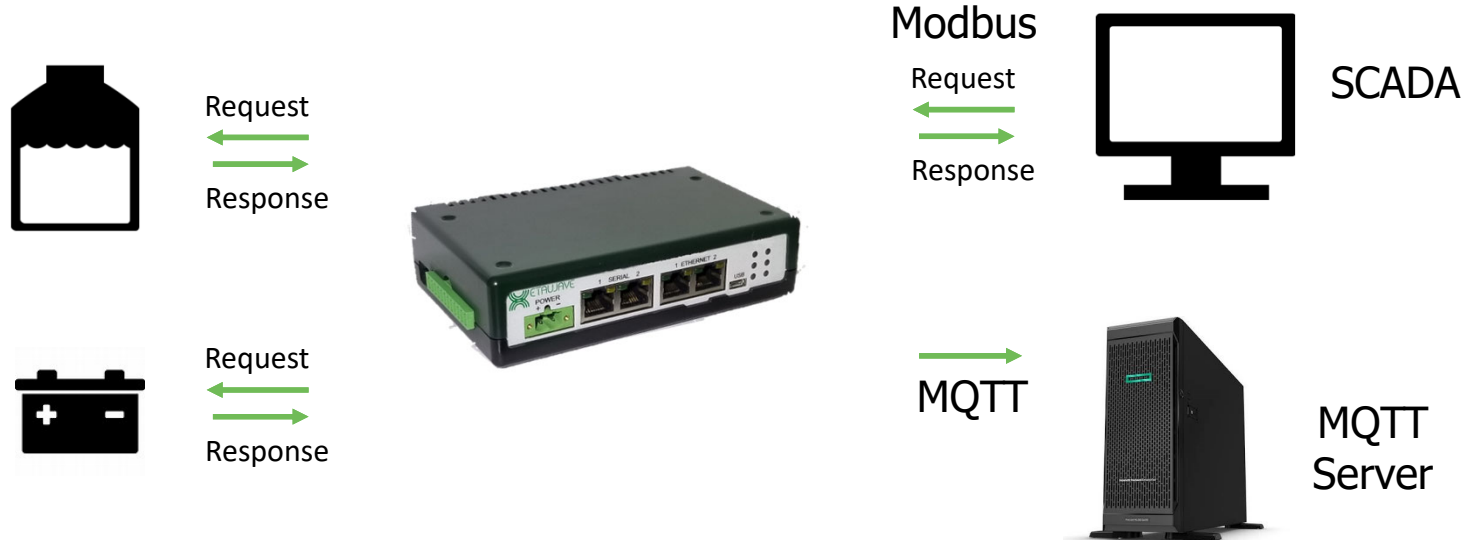
| Port | Data/Login | Interface | Baud Rate | Data | Parity | Flow Control | RS485 Line Delays |
|---------------|--|--|-----------|---|--|--|---|
| Serial Port 1 | <input type="radio"/> Data <input checked="" type="radio"/> Login | <input checked="" type="radio"/> RS232 <input type="radio"/> RS422 <input type="radio"/> RS485 | 115200 ▼ | <input checked="" type="radio"/> 8 bits <input type="radio"/> 7 bits | <input type="radio"/> Even <input type="radio"/> Odd <input checked="" type="radio"/> None | <input type="radio"/> RTS/CTS <input type="radio"/> XON/XOFF <input checked="" type="radio"/> NONE | Turn on <input type="text" value="40"/> bits Turn off <input type="text" value="10"/> bits |
| Serial Port 2 | <input type="radio"/> Data <input checked="" type="radio"/> Login | <input checked="" type="radio"/> RS232 <input type="radio"/> RS422 <input type="radio"/> RS485 | 115200 ▼ | <input checked="" type="radio"/> 8 bits <input type="radio"/> 7 bits | <input type="radio"/> Even <input type="radio"/> Odd <input checked="" type="radio"/> None | <input type="radio"/> RTS/CTS <input type="radio"/> XON/XOFF <input checked="" type="radio"/> NONE | Turn on <input type="text" value="40"/> bits Turn off <input type="text" value="10"/> bits |

Serial Services

| Description | Enabled | Connect From | Connect To | Delete |
|-------------|-------------------------------------|---|-----------------------------------|---------------------------------------|
| service 0 | <input checked="" type="checkbox"/> | Select Type: TCP Terminal Server ▼ Local Port: <input type="text" value="4320"/> Network Idle Timeout (secs): <input type="text" value="60"/> Serial Input Trigger (chars): <input type="text" value="1024"/> Serial Timeout Trigger (msec): <input type="text" value="20"/> Message Mode: <input type="checkbox"/> QoS Options: Enable TCP_NODELAY: <input type="checkbox"/> IP TOS priority: Normal ▼ | <input type="checkbox"/> Serial 2 | <input type="button" value="Delete"/> |

XetaTS Features: Data Concentrator

- No cost add-on firmware module
- Modbus polling engine and aggregator
- Reports using Modbus or by exception with MQTT



XetaTS Features: Programmable Logic Controller (PLC)

- No cost add-on firmware module
- Built-in Basic programming language
- Generate internal code to add custom logic

Overview:

This PLC executes supplied BASIC language code approximately 2-3 times per second.

Functions:

int = fnCRGet(Reg) - Get coil register from Modbus registers.

int = fnDRGet(Reg) - Get discrete register from Modbus registers.

int = fnHRGet(Reg) - Get holding register from Modbus registers.

int = fnIRGet(Reg) - Get input register from Modbus registers.

int = fnHRGetFloat(Reg) - Get float from holding register and register+1, from Modbus registers.

fnCRSet(Reg,Val) - Set coil register in Modbus registers. Val is 0 or non-zero.

fnHRSet(Reg,Val) - Set holding register in Modbus registers. Val is 16 bits, unsigned.

fnHRSetFloat(Reg,Val) - Set float in holding register and register+1, in Modbus registers. Val is float/real.

fnGetSeconds() - Get float/real of uptime seconds.

All Reg variables are Protocol addresses (0 based), not PLC addresses (1 based).

Reserved Keywords:

REM, TRUE, FALSE, NIL, MOD, AND, OR, NOT, IS, LET, DIM, IF, THEN, ELSEIF, ELSE, ENDIF, FOR, IN, TO, STEP, NEXT, WHILE, WEND, DO, UNTIL, GOTO, GOSUB, RETURN, CALL, DEF, ENDDF, ME, NEW, VAR, REFLECT, MEM, TYPE, END.

Standard Library:

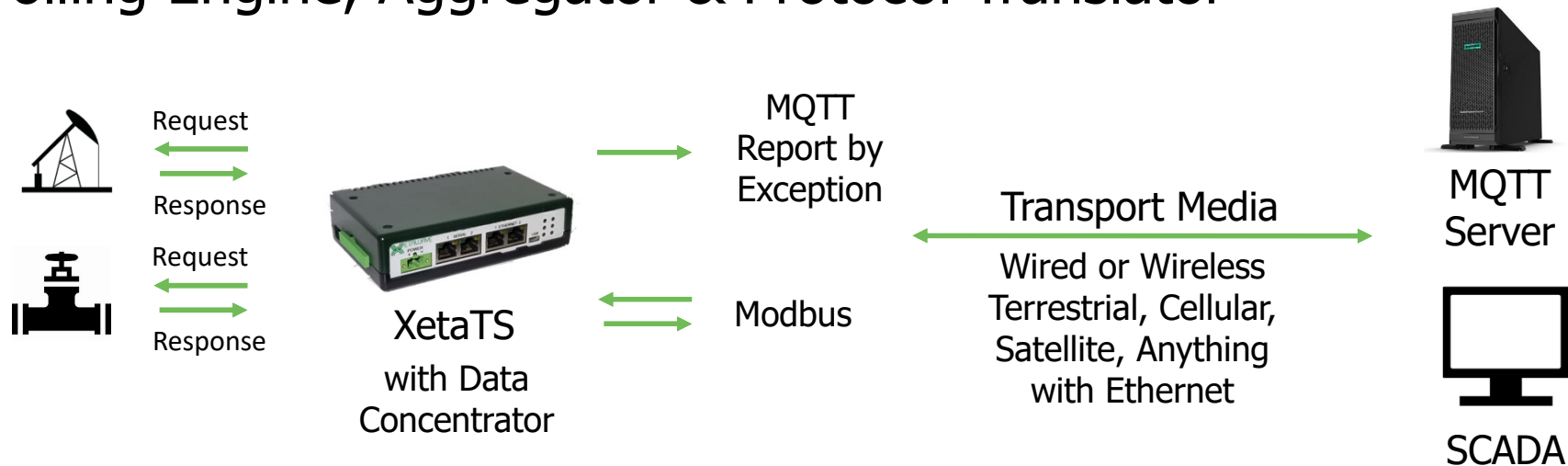
ABS, SGN, SQR, FLOOR, CEIL, FIX, ROUND, SRND, RND, SIN, COS, TAN, ASIN, ACOS, ATAN, EXP, LOG, ASC, CHR, LEFT, LEN, MID, RIGHT, STR, VAL, PRINT.

XetaTS Application: Add Ethernet to Serial Networks



- IP enable serial devices
- Interface to Ethernet end devices
- Communicate with end devices over Ethernet and/or serial
- An alternative to replacing existing serial radio networks
- Allows flexibility to schedule radio upgrades while providing a quick and inexpensive way to deploy IP connectivity

XetaTS Application: Polling Engine, Aggregator & Protocol Translator



- Communicate with multiple end devices using Modbus
- Communicate with end devices over Ethernet or serial
- Store data locally when transport media is interrupted
- Reduce transport media bandwidth by reporting with a unified Modbus map or by exception using MQTT

Terminal Server Comparison

★ Key XetaWave Differentiators



| | Moxa | Perle | | Digi | Xetawave |
|---------------------------|--|---|--|---|--|
| Serial Interface | RS232/422/485 | RS232/422/485 | | RS232/422/485 | RS232/422/485 |
| Serial Rate | up to 921.6 kbps | up to 230.4 kbps | | up to 230.4 kbps | up to 921.6 kbps |
| Comm Modes | Real COM, TCP Server/Client, Pait Connection, Terminal | TCP/UDP Socket, Terminal, Serial Tunneling | | Server, Client, VCOM, Paired | TCP Server/Client, UDP Terminal, Multicast Terminal, |
| Buffering | 64KB Internal, 32 GB SD Slot | 4KB | | 8KB serial, 4KB network | |
| Ethernet | 10/100Base-TX | 10/100Base-TX | | 10/100Base-T | 10/100Base-TX |
| Protocols | UDP, TCP, DHCP, DNS, SMTP, ARP, PPPOE, Telnet, more... | UDP, TCP, ARP, DHCP, DNS, SMTP, ARP, PPP, Telnet, RADIUS, more... | | UDP, TCP, ARP, Telnet, DHCP, BOOTP, ICMP | UDP, TCP, ARP, DHCP, Telnet, VLAN, Modbus TCP, DNS, RADIUS |
| Management | HTTP, HTTPS, SNMP | HTTP, HTTPS, CLI, SNMP | | HTTP | HTTP, HTTPS, CLI, SNMP |
| Security | SSH | SSH, SSL/TLS | | SSHv2, SSL/TLS | SSH |
| Features | IP Filtering, Port Forwarding, Static Routing | IP Filtering, Static Routing, VPN, Modbus Gateway | | IP Filtering, Port Forwarding, Static Routing | IP Filtering, Port Forwarding, Static Routing, VLAN, Modbus Bridge, Data Concentrator, PLC |
| Voltage | 12-48 Vdc | 9-30 Vdc | | 9-30 Vdc | 10-32 Vdc |
| Power draw | < 4.0 W | < 24.0 W | | < 6.0 W | ★ < 1.8 W |
| Dimensions | 3.5" X 4.37" X 1.1" | 3.6" x 2.5" x 0.87" | | 5.22" x 3.33" x 0.95" | 5.5" x 3.5" x 1.5" |
| Weight | 27.75 oz | 8.1 oz | | 6.67 oz | 6.4 oz |
| Temperature | 0°C to +55°C | 0°C to +55°C | | 0°C to +60°C | -40°C to +85°C ★ |
| Certifications | FCC, CE, UL, NEMA TS2 | FCC | | CE, FCC, VCCI, C/UL | ★ C1D2 |
| Part Number | NPort 6250 | IOLAN TG2 | | PortServer TS2 | XetaTS-22NPLNA |
| List Price | \$\$\$ | \$\$\$ | | \$\$\$ | ★ \$ |
| Single Serial Port | NPort 6150 | IOLAN DG1 | | PortServer TS1 | |
| Price | \$ | \$\$ | | \$\$ | |

Thank you for joining us

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