Crimson 3.2.0025 Release Notes

The C3.2.0025 release of Crimson 3.2 contains more than 120 improvements and fixes; this document provides an overview of the broad areas in which improvements have been made. A more detailed list of individual enhancements and fixes can be found at the end of this document.

Improved Tunnel Support

Support for OpenVPN, IPsec and GRE tunnels has been greatly expanded and improved. OpenVPN supports far more configuration options and operating modes, including support for Layer 2 bridges in addition to Layer 3 tunnels. IPsec is fully operational and now route-based rather than policy-based SAs to allow better access to link state information while still allowing interaction with policy-based peers. Tunnels now support packet capture, link monitoring and enhanced peer monitoring, ensuring easier debugging and greater link stability.

Improved Firewall Behavior

NAT and port forwarding options have been expanded, with finer control over address masquerading and route symmetry. More robust protections have been added against the leakage of private IPs on to cellular modem links, something that can otherwise cause problem on Verizon networks. Custom firewall rules can now be added at different locations in the firewall table, providing finer control of firewall behavior. FTP port forwarding with data connection translation is now supported. Outbound routing can now be turned off for any interface to prevent packet leakage in complex routing scenarios. IP Transparency has been improved to better interact with other firewall features and to support link monitoring.

Power Management Options

The processor operation mode can now be adjusted to reduce power consumption in lightly loaded systems. A feature has also been added to allow modems to be turned off on a specified duty cycle and to synchronize MQTT transfers with the periods during which the modem is available. This allows greatly reduced current consumption while still ensuring the reliable upload of data.

Usability Improvements

Many small improvements to usability have been made. For example, packet capture now supports quick configuration buttons to minimize the number of clicks required, and real-time packet monitoring via tcpdump has been implemented. Various extraneous messages have been removed from the system log to avoid masking important information. SVM integration has been improved for easier remote monitoring. Numerous small bugs have also been fixed.

USB Serial Device Support

USB to Serial devices based on the FTDI chipset can now be used to provide additional serial ports or to integrate with instruments and other devices that implement a USB serial interface. Such ports can run regular Crimson protocols, or can be directly accessed via Crimson's raw port functionality.

Serial Server Support

Inbound TCP/IP connections can be converted to serial data streams via the new serial server.

Low Memory Protection

The device is now better protected against low memory conditions, both by tolerating them better and automatically detecting memory leaks and resetting the system. A periodic reset can also be configured.

Individual Items:

Description	Item Type
Enhanced OpenVPN Tunnels Support	Enhancement
Enhanced IPSec Implementation	Enhancement
Add DNS Masquerade Server TTl Tuning	Enhancement
Improved Firewall Handling Of Network Services	Enhancement
Improve Internet Sharing Behavior	Enhancement
Improved Link Monitoring To More Interfaces	Enhancement
Improved IPT	Enhancement
Fixed Port Forwarding With FTP	Fix
Fixed Various Cellular Carrier Settings	Fix
Enhanced Usability Of Cellular Diagnostics	Enhancement
Add Support For FTDI USB Serial Devices	Enhancement
Add Support For Serial-To-IP Conversion In Group 1, Including GUI	Enhancement
Fixed Various MQTT Issues	Fix
Enhanced OPC UA Server Cert	Enhancement
Added Controller Low Power Mode	Enhancement
Fixed Bacnet UDP/802.3 Driver	Fix
Fixed DNP3 Deadband Issue	Fix
Fixed EIP2 Driver Issue	Fix
Fixed L5K Enhanced Driver Import Add On Tags	Fix
Add Support For DH+ Converter	Enhancement
Allow Send-Via Interface Selection For Modbus Master	Enhancement
Fixed Data Logging Issue With Large Arrays	Fix
Fixed Issue When Converting Crimson 3.0 File	Fix
Add Ability To Read IEC Variables On Startup	Enhancement
Display Local And UTC Time In System Web Server	Enhancement
Fix/Enhanced Several Certificate Activities	Enhancement
Fixed Unicode Data Entry Via Web Page	Fix