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**Firmware Release Notes**

**PREMIUM ETYPOR T EXEC V5.4**

**TSX P57 1634M**  
**TSX P57 2634M**  
**TSX P57 3634M**

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## **ETYPORNT Version 5.4 Release Notes**

### **1 IN PREMIUM ETHERNET MODULES IO SCANNING CAUSES EXCESSIVE ARP TRAFFIC WHEN USING A GATEWAY**

#### **1.1 Issue**

Each line of an I/O scanner issues its own ARP prior to establishing a connection. This can cause excessive traffic for a router or gateway.

#### **1.2 Resolution**

The I/O scanner will issue an ARP for each IP address rather than for each line of the scanner. This will eliminate multiple ARPS to the same device.

#### **1.3 Customer action**

Upgrade the ETY Port firmware.

## **ETYPORT Version 5.2 Release Notes**

### **2 THE WEB PAGE ALLOWED USER TO ENTER MORE THAN 16 CHARACTERS AS A PASSWORD BUT ONLY 16 WERE USED**

#### **2.1 Issues**

If the user entered a new password as 17 characters in the http password web page, the NOE returned a page saying that the password change was successful. When the user tried to use the new password, it failed.

#### **2.2 Resolution**

The password field was corrected to limit the user to 16 characters and no more will be accepted.

#### **2.3 Customer action**

Upgrade the ETY Port firmware.

### **3 ENHANCEMENT - INCREASE TTL TO 32 FOR ALL ETHERNET PRODUCTS**

#### **3.1 Issues**

A customer requested that the Time To Live be increased to 32 in order to accommodate larger number of hops.

#### **3.2 Resolution**

The TTL is now 32 for this Ethernet product.

#### **3.3 Customer action**

Upgrade the ETY Port firmware.

## **4 TWO COPIES OF FDR .PRM FILES SHOULD BE CREATED IN BOTH RAM AND FLASH. THE FLASH VERSION OF THE PRM FILES IN THE PATCH IS NOT CREATED**

### **4.1 Issues**

The problem is in the algorithm when it attempts to parse the extension names of the FDR files on RAM (.prm). It is due to an existing method coding when comparing strings. The strings do not have the proper number of bytes so the Flash version of the .prm files could not be created.

### **4.2 Resolution**

A more specific string comparing function in C programming language was used allowing specifying number of bytes to compare. The FLASH files are now created.

### **4.3 Customer action**

Upgrade the ETY Port firmware.

## **5 ENHANCEMENT TO ADD OPTION FOR SLOWER RETRIES WHEN COMMUNICATING WITH GATEWAYS**

### **5.1 Issues**

Slower responding gateways can cause a problem in communications.

### **5.2 Resolution**

There will be an option added in Unity to enable better operation with Gateways

### **5.3 Customer action**

Upgrade the ETY Port firmware.

## **6 RESPONSE TO ICS-ALERT-12-020-03. THE NOE IS VULNERABLE TO HTTP SERVER BUFFER OVERFLOWS**

### **6.1 Issues**

An Http GET request with too-long filename causes overflow, device crash.

## **6.2 Resolution**

An Http request with a too long filename will be rejected.

## **6.3 Customer action**

Upgrade the ETY Port firmware.

# **7 SECURITY ISSUES WITH THIS DEVICE**

## **7.1 Issues**

Cyber Security required the following:

- 1) Remove Telnet service
- 2) Remove Wind River debug service pt
- 3) Remove unused logins/passwords from firmware

## **7.2 Resolution**

Removed Telnet service.  
Removed Windriver debug port.  
Removed unused password access points.

## **7.3 Customer action**

Upgrade the ETY Port firmware.

## **ETYPORNT Version 5.1 Release Notes**

- **SPECIAL NOTE** THE ETY PORT V5.1 INTEGRATES A NEW HARDWARE COMPONENT. THE ETY PORT WITH A PV OF X.X OR GREATER CANNOT BE DOWNGRADED TO EXEC VERSIONS LESS THAN VERSION 5.1.

### **8 IO SCANNER OPERATION DOES NOT ALWAYS TRIGGER FAST RETRANSMISSION IN TARGET DEVICE (20048102\*V5.1)**

#### **8.1 Issues**

Fast Retransmission is triggered by three KEEP ALIVE messages. Under some circumstances the ETY Port would only issue two.

#### **8.2 Resolution**

The ETY port will now issue three KEEP ALIVE messages in order to insure that the target device will follow the fast retransmission algorithm.

#### **8.3 Customer action**

Upgrade the ETY Port firmware.

### **9 REPEATED ACCESS TO THE DIAGNOSTIC STATISTICS WEB PAGE CAUSES WEB SERVER CONNECTION TO BREAK (20048535\*V5.1)**

#### **9.1 Issue**

Repeated rapid access or refreshing of the Diagnostic Statistics web page can cause the web server to lose its connection

#### **9.2 Resolution**

A race condition was occurring that led to an endless loop. This was corrected and the loop will no longer occur.

#### **9.3 Customer action**

Upgrade the ETYPort firmware.

# **Premium ETYPort Version 4.9 Release Notes**

## **10 I/O SCANNER NOT SCANNING AT CONFIGURED REP-RATE**

(20044462-20046322-20046496\*V4.9)

### **10.1 Issue**

- The I/O Scanner may not operate at the configured Rep Rate if its configured rate is greater than 1 second.
- If the Rep Rate is configured for a value of 5 msec, the actual rep rate will vary between 1ms and the configured rate of 5 msec.

### **10.2 Resolution**

Modified I/O Scanner task priorities.

### **10.3 Customer action**

Upgrade the ETYPort firmware.

## **11 FUNCTION CODE 23 NOT SUPPORTED IN SERVER MODE**

(20045238\*V4.9)

### **11.1 Issue**

The ETYPort does not support Function Code 23 in server mode. In instances where a Modbus server did not support FC23 read/write, the IO Scanner would instead split the request into separate FC3 Read and FC16 Write requests.

### **11.2 Resolution**

The ETY will now respond to FC23 requests with a FC23 response which will increase the response time from the PLC.

### **11.3 Customer action**

Upgrade the ETYPort firmware.

## **12 ETYPORT WILL LOCKUP IF ANOTHER DEVICE ON THE NETWORK IS PRESENT AT IP ADDRESS 192.168.2.1** (20046089\*V4.9)

### **12.1 Issue**

If a device at IP address 192.168.2.1 already exists on a network when an ETYPort is booted up on the same network, then the ETYPort will lock up.

## 12.2 Resolution

Suppressed ARPing for IP address 192.168.2.1 at bootup.

## 12.3 Customer action

Upgrade the ETYPort firmware.

## 13 I/O SCANNING CAN TAKE 4-6 SECONDS TO START AFTER A HOT STANDBY SWAPOVER (20046125\*V4.9)

### 13.1 Issue

If the primary is powered off, I/O Scanning from the new Primary can take 4 seconds or longer to startup after the swap occurs.

### 13.2 Resolution

After a HSBY swap, the number of retries were reduced and the RST algorithm was modified so client connections would close quicker.

### 13.3 Customer action

Upgrade the ETYPort firmware.

## 14 I/O SCANNER HEALTH BITS WILL NOT RETURN TO HEALTHY STATE (1) AFTER A TESYSPORE IS POWER CYCLED (20047044\*V4.9)

### 14.1 Issue

Sometimes after power cycling a TesysPort, the respective I/O Scanner health bits in the ETYPort changes to a state value of zero (0) and never changes back to a value of one (1) after power is re-applied to the TesysPort.

### 14.2 Resolution

If a response is not received within 3x times the configured health timeout, then the IO scanner connection is re-initialized.

### 14.3 Customer action

Upgrade the ETYPort firmware.

## **15 I/O SCANNER WILL NOT OPEN A CONNECTION IF THE DEVICE BEING SCANNED HAS A SLOW RESPONSE TIME (20047044\*V4.9)**

### **15.1 Issue**

If the device being IO scanned has a slow response time (110-120ms), then the IO scanner will not be able to open a connection.

### **15.2 Resolution**

Round Trip time algorithm for retransmission was corrected.

### **15.3 Customer action**

Upgrade the ETYPort firmware.

# **Premium ETYPort Version 4.8 Release Notes**

## **Released 5-2010**

### **16 ETYPORNT DOES NOT START IF ITS LINK STATUS IS NOT ESTABLISHED (20046229\* V4.8)**

#### **16.1 Issue**

An ETYPORNT will not go into run mode if the link is not established on an operational network. For example:

- ETYPORNT did not start if the switch is not fully operational before the ETYPORNT has completed its boot-up.
- ETYPORNT does not go into RUN if the cable is disconnected during power-up.
- If the ETYPORNT and managed switch is powered up simultaneously, the ETYPORNT will not go into RUN.

#### **16.2 Resolution**

The issue was resolved by increasing the size of the status buffer.

#### **16.3 Customer action**

Upgrade the ETYPORNT firmware.

### **17 I/O SCANNER CONFIGURATION ‘HOLD LAST VALUE’ ISSUE ON PREMIUM HOT STANDBY SWAP OVER (20046238\* V4.8)**

#### **17.1 Issue**

If an I/O Scanner is configured for ‘Hold Last Value’ in a Premium HSBY system, the ETYPORNT I/O scanner did not always hold the last value on a swap over. The PLC will sometimes read I/O scanner information in the middle of the ETYPORNT I/O scanner update. Therefore, only the health has been updated while the data is still in the process of being updated.

#### **17.2 Resolution**

The issue was resolved in the ETYPORNT firmware by writing the data first and then setting the health values.

### **17.3 Customer action**

Upgrade the ETYPORT firmware.

## **18 ETYPORT STOPS I/O SCANNER COMMUNICATION WITH SLOW RESPONDING DEVICES** (20046431\* V4.8)

### **18.1 Issue**

I/O Scanning to devices with varying response times may stop if it receives a reset (RST) from the device. If a RST is received by the ETYPORT on a connection it can cause the I/O Scanner entry to stop communicating.

### **18.2 Resolution**

The firmware was changed so that when the ETYPORT receives a RST from the server on an established connection, it closes the existing connection and tries to establish a new connection on a different port.

### **18.3 Customer action**

Upgrade the ETYPORT firmware.

## **19 I/O SCANNER LOSES COMMUNICATION WITH GATEWAYS** (20045783\* V4.8)

### **19.1 Issue**

I/O Scanning client stops communicating when a gateway device (i.e, TesysT, Exemys, Emerson Fieldbus Gateway) loses a packet. The loss of a packet results in a packet with an incorrect sequence number, thus stopping communications.

### **19.2 Resolution**

ETYPORT I/O Scanning a gateway. The gateway may occasionally drop a packet (query). The gateway waits a period of time, and then re-transmits the previous response. The ETYPORT ACKs the response and continues ACKing (set of 6), based on the round trip time, but never retransmits the query.

In the code, the timer responsible for the retransmission was canceled thus stopping the retransmission from triggering.

The code to cancel the retransmit timer was modified.

### **19.3 Customer action**

Upgrade the ETYPORT firmware.

## 20 A RANDOM ETYPOR T REBOOT RESULTS IN THE ERROR LOG RECORDING AN ERROR 921 (20046626\* V4.8)

### 20.1 Issue

The following conditions will cause a 921 Crash code:

1. The CPU sends an incorrect Modbus response message to the ETY.
2. The CPU sends an invalid packet across the Premium backplane to the ETY.
3. The ETYPOR T will reset if it detects that a new Modbus message received from a device on the network contains the same Modbus message transaction ID as a message already being processed within its internal buffers.

### 20.2 Resolution

Changes have been incorporated into the CPU and the ETYPOR T to enhance the communications between the modules across the backplane. In the event that one of these conditions occurs, the ETYPOR T will discard the incorrect or invalid message and continue to operate without resetting.

### 20.3 Customer action

**Both the ETYPOR T and Premium CPU firmware must be upgraded.**

- Minimum ETYPOR T Exec version 4.8
- When using the ETYPOR T, the CPU's TSXP571634M, TSXP572634M, and TSXP573634M require a minimum version of 2.8.

## 21 ETYPOR T CAN TAKE UP TO 25 SECONDS TO CLOSE A CONNECTION (20046368\* V4.8)

### 21.1 Issue

The ETYPOR T sends a set of 6 ACKS or Keep-alives followed by a RST. This can take up to 25 seconds before the connection is closed and allowing a new one to open.

In the code, the timer responsible for the retransmission was canceled thus stopping the retransmission from triggering.

### 21.2 Resolution

The code to cancel the retransmit timer was modified.

### **21.3 Customer action**

Upgrade the ETYPORF firmware.

## **22 UPGRADE INSTRUCTIONS**

### **22.1 Unity Programming software**

The ETYPort firmware is upgraded using the Unity OS Loader.