

AN132

16-124594rev00

Creating Wireshark Log

Introduction

In EtherCAT Communications it is often necessary to create a log of all data passing over the network for debugging purposes. This document will demonstrate how to create a Wireshark log of all the EtherCAT messages.

Hardware Requirements

04	
Qty	Description

3 RJ-45 Ethernet cables (Cat6 12" preferred)

1 StarTech USB 3.0 to Dual Port Gigabit Ethernet Adapter <u>https://www.startech.com/Networking-IO/usb-network-adapters/USB-3-to-Dual-</u> <u>Port-Gigabit-Ethernet-Adapter-NIC-with-USB-Port~USB32000SPT</u>

1 Great Scott Gadgets LAN Throwing Star https://greatscottgadgets.com/throwingstar/

StarTech Adapter



Great Scott Gadgets Throwing Star



Software Requirements

Wireshark can be downloaded using the following link:

https://www.wireshark.org/download.html

The recommended version of Wireshark for this application is the Old Stable Release (2.6.11).

Setting Up

Turn off the EtherCAT Master. Important messages are sent on startup from the Master to downstream devices and will be missed if the log has not been started before the Master was powered on. After acquiring a dual port ethernet adapter (or two single port usb-ethernet adapters) and the LAN throwing star, connect the hardware components together.



Connect the hardware in accordance with the graphic above. The existing ethernet cable will connect from the Master to the LAN Tap. One of the 12" Ethernet cables will connect from the LAN Tap to the drive, and the other two 12" cables will connect from the LAN Tap to the Dual Port USB-Ethernet Adapter. Connect the USB-Ethernet Adapter to the PC.

Now install the drivers for the adapter. For Windows Machines, navigate to the Device Manager. Rightclick on the adapter in the list under "Network adapters" and select "Update Driver". Perform this step twice (once for each adapter). The next step is to start the Wireshark Software.

After opening Wireshark, click on the Capture Options Button in the toolbar (top left).

4	The Wir	eshark N	etwork	Analyz	er						
File	e Edit	View	Go	Captu	e	Analyze	Statistics	Telephony	Wireless	Tools	Help
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	Apply a	lispla Car	oture o	ptions	Ĺ						

Click the Manage Interfaces Button.

Manage Interfaces 9 interfaces shown, 2 hidden Show and hide interfaces, add comments, and manage pipes and rem	n▼ ote interfaces.
Start Close Help	

Check all the Show Checkboxes to see all the local interfaces connected to the network then select "OK".

Amage Interfaces	?	×
Local Interfaces Pipes Remote Interfaces		
Show Friendly Name Interface Name Comment Ethernet 3 \Device\NPF_{1CD5469F-3658-45B4-8FBE-48CEB812CB67} USB3.0 to Gigabit Ethernet Adapt Ethernet 5 \Device\NPF_{7B919B1C-DD9C-4BAB-A08E-1242517052B6} Realtek USB NIC Bluetooth Netw \Device\NPF_{9B8FE4F1-5F2A-4491-9100-FB64CAFD2CAC} Microsoft Ethernet 10 \Device\NPF_{24D7FC5C-F8E8-49D2-9099-A97964239BD4} Fortinet Ethernet 12 \Device\NPF_{40D42B-66E2-40A0-9F1F-E4D0DD59B317} USB3.0 to Gigabit Ethernet Adapt Local Area Con \Device\NPF_{40D7C352-56E1-4A8F-8776-471F3F1A158E} Microsoft Ethernet \Device\NPF_{7B3B82ED-D895-494E-80AA-8727E55D98E0} Intel(R) Ethernet Connection 1219-LI Ethernet \Device\NPF_{10390D944-DA82-4C74-84FA-9088A5904B06} Microsoft Ethernet 2 \Device\NPF_{15178904D-96CB-4C08-A815-8893A2D00011} Microsoft Wi-Fi \Device\NPF_{15178904D-96CB-4C08-A815-8893A2D00011} Microsoft Ethernet 15 \Device\NPF_{8772612-88F3-4ED6-9F88-C1D3FA7931F8} Oracle	M Help	

All the local interfaces are now shown in the Capture Interfaces Display. Hover over the adapter or click the down arrow to see its address. This address must match the address in the Command Line to verify that the correct adapter is being captured when selecting interfaces in the Capture Interfaces Display.

terfa	ce	Traffic	Link-layer Header	Promis	Snaplen (Buffer (N	Monite	Capture Filter		
US	B3.0 to Gigabit Ethernet Adapt: Ethernet 3	M	Ethernet	\checkmark	default	2	_			
	Addresses: fe80::d5a7:2420:2a01:1904, 0.0.0.0)								
Rea	altek USB NIC: Ethernet 5		Ethernet	\checkmark	default	2	_			
Mie	crosoft: Bluetooth Network Connection 2		Ethernet	\checkmark	default	2	_			
For	rtinet: Ethernet 10		Ethernet	\checkmark	default	2	_			
Eth	nernet 12	M	Ethernet	\checkmark	default	2	_			
Mi	crosoft: Local Area Connection* 2		Ethernet	\checkmark	default	2	_			
Inte	el(R) Ethernet Connection I219-LM: Ethernet	human	Ethernet	\checkmark	default	2	_			
Mie	crosoft: Ethernet 6		Ethernet	\checkmark	default	2	_			
Sop	phos SSL VPN Adapter: Ethernet 2		Ethernet	\checkmark	default	2	_			
Mie	crosoft: Wi-Fi		Ethernet	\checkmark	default	2	_			
Ora	acle: Ethernet 15	~	Ethernet	\checkmark	default	2	_			
Enab	ole promiscuous mode on all interfaces	re filter						Mana	age Interfa	ac

To see all the addresses of the network adapters connected to the PC, open the **Windows Command** Line.



Type: "ipconfig /all" shown above. There is a space between "ipconfig" and "/all".

Hit the Enter Key on the keyboard.

A list will print in the command line of all the network adapters connected to your PC along with information pertaining to each adapter.

Find the adapters with the description "ASIX AX88179 USB 3.0 to Gigabit Ethernet Adapter" and take note of each of their **Link-local IPv6 Addresses**. Match those with the addresses found in Wireshark's **Capture Interfaces Screen**.

If the correct addresses in the Command Line are not found in the list of addresses in the Capture Interfaces Screen, then the dual port USB-Ethernet Adapter is probably connected to the PC through a docking station. Please connect the dual port adapter directly to a USB port on the PC.

Ethernet adapter Ethernet 3:

Connection-specific DNS Suffix	. :	
Description	. :	ASIX AX88179 USB 3.0 to Gigabit Ethernet Adapter
Physical Address	. :	00-0A-CD-34-55-B7
DHCP Enabled	. :	Yes
Autoconfiguration Enabled	. :	Yes
Link-local IPv6 Address	. :	fe80::d5a7:2420:2a01:1904%5(Preferred)
Autoconfiguration IPv4 Address.	. :	169.254.25.4(Preferred)
Subnet Mask	. :	255.255.0.0
Default Gateway	. :	
DHCPv6 IAID	. :	805309133
DHCPv6 Client DUID	. :	00-01-00-01-22-A7-27-6D-54-E1-AD-B9-B7-2C
DNS Servers	. :	fec0:0:0:ffff::1%1
		fec0:0:0:ffff::2%1
		fec0:0:0:ffff::3%1
NetBIOS over Tcpip	. :	Enabled

Ethernet adapter Ethernet 12:

Connection-specific DNS Suffix . :	
Description	4
Physical Address	
DHCP Enabled Yes	
Autoconfiguration Enabled : Yes	
Link-local IPv6 Address : fe80::b88d:1714:50cc:2081%26(Preferred)	
Autoconfiguration IPv4 Address : 169.254.32.129(Preferred)	
Subnet Mask	
Default Gateway :	
DHCPv6 IAID	
DHCPv6 Client DUID : 00-01-00-01-22-A7-27-6D-54-E1-AD-B9-B7-2C	
DNS Servers fec0:0:0:ffff::1%1	
fec0:0:0:ffff::2%1	
fec0:0:0:ffff::3%1	
NetBIOS over Tcpip : Enabled	

Wireshark · Capture Interfaces										
Input Output Options										
Interface Traffic										
✓ USB3.0 to Gigabit Ethernet Adapt: Ethernet 3M										
Addresses: fe80::d5a7:2420:2a01:1904, 0.0.0.0										
> Microsoft: Bluetooth Network Connection 2										
> Fortinet: Ethernet 10										
✓ USB3.0 to Gigabit Ethernet Adapt: Ethernet 12										
Addresses: fe80::b88d:1714:50cc:2081, 0.0.0.0										
> Microsoft: Local Area Connection* 2										

E

Now that the adapters are known to be correct, they can be selected for capture.

erface	Traffic	Link-layer Header	Promis	Snaplen (Buffer (N	Monite	Capture Filte	er	
USB3.0 to Gigabit Ethernet Adapt: Etherne	et 3A	Ethernet		default	2	_			
Addresses: fe80::d5a7:2420:2a01:1904,	0.0.0.0		_						
Microsoft: Bluetooth Network Connection	n 2	Ethernet	\checkmark	default	2	_			
Fortinet: Ethernet 10		Ethernet	\checkmark	default	2	_			
USB3.0 to Gigabit Ethernet Adapt: Etherne	tt 12λλ	Ethernet	\checkmark	default	2	_			
Addresses: fe80::b88d:1714:50cc:2081,	0.0.0.0								
Microsoft: Local Area Connection* 2		Ethernet	\checkmark	default	2				
Intel(R) Ethernet Connection I219-LM: Eth	ernet and and and a second and a second and a second a se	Ethernet	\checkmark	default	2	_			
Microsoft: Ethernet 6		Ethernet	\checkmark	default	2	_			
Microsoft: Wi-Fi		Ethernet	\checkmark	default	2	_			
nable promiscuous mode on all interfaces								Manage	Interfac
								-	

Both adapters **MUST** be selected before clicking the Start Button. To do this, simply click on the name of one adapter and then **while holding down the Ctrl Button on the keyboard**, click on the name of the second adapter. Before clicking the Start Button, the Capture Interfaces Display should look like the above image. Click the Start Button shown above.

Alternatively, if the Capture Options Menu was not accessed when Wireshark was first started and the name of the known Ethernet Adapters appears in the Capture Display, the **Start Capturing Packets Button** can be pressed (after selecting both adapters in the interface tree) to begin logging. The button has a shark fin icon shown below.



Wireshark is now logging all the messages to and from the drive and master.

Deck Deck <thdeck< th=""> Deck Deck <thd< th=""><th>Apply a display filter <ctrl-></ctrl-></th><th>~~~</th><th></th><th></th><th></th><th></th></thd<></thdeck<>	Apply a display filter <ctrl-></ctrl->	~~~				
Two Source Destation Protect Length Infe 2077 0.00225 (50.254.5).155 100.254.255.255 ECAT 2013 0.0054, 'PAR': 1en 4, 'FRAT: 1en 4, 'FRAT: 1en 4, 'FRAT: 1en 1, 'PAR': 1en 1, PAR(Cot 500 Reg : 'Initiate Download' (1) ido-e0.2009 5ut 250.555 2007 0.001254 (100.254.5).155 100.254.255.255 ECAT 3013 0.054, 'PAR': 1en 4, 'PAR': 1en 1, PAR(Cot 500 Reg : 'Initiate Download' (2) ido-e0.2009 5ut 250.555 2008 0.00125 (100.254.5).155 100.254.255.255 ECAT 3013 0.054, 'PAR': 1en 4, 'PAR': 1en 1, PAR(Cot 500 Reg : 'Initiate Download' (1) ido-e0.2009 5ut 250.555 2008 0.00121 (100.254.5).153 100.254.255.255 ECAT 3013 0.054, 'PAR': 1en 4, 'PAR': 1en 1, PAR(Cot 500 Reg : 'Initiate Download' (1) ido-e0.2009 5ut 250.555 2008 0.00121 (100.254.5).153 100.254.255.255 ECAT 3013 0.054, 'PAR': 1en 4, 'PAR': 1en 1, PAR(Cot 500 Reg : 'Initiate Download' (1) ido-e0.2009 5ut 250.555 2008 0.00121 (100.254.5).153 100.254.255.255 ECAT 3013 0.054, 'PAR': 1en 4, 'PAR': 1en 1, PAR(Cot 500 Reg : 'Initiate Download' (1) ido-e0.2009 5ut 250.555 2008 0.00121 (100.254.51.135 100.254.255.255 ECAT 3013 0.054, 'PAR': 1en 4, 'PAR': 1en 1, PAR(Cot 500 Reg : 'Initiate Download' (1) ido-e0.2009 5ut 250.555 2009 0.00124 (100.254.51.135 100.254.255.255 ECAT 303 0.064, 'PAR': 1en 4, 'PAR': 1						
22677 0,000235 100:245.51.35 22678 0,00126 100:245.51.35 22678 0,00126 100:245.51.35 1267.244.255.255 22678 0,00126 100:245.51.35 1267.244.255.255 ECAT 128.2 Cmds, 'APAR': 1n 4, 'FRA': 1n 1, 'FRA': 1n 1, 'PAR': 1n 1, PAC(COS 500 Req : 'Initiate Upload' (2) Idx-0c2000 Sub- 22688 0,00036 100:245.51.35 1269.244.255.255 ECAT 128.2 Cmds, 'APAR': 1n 4, 'FRA': 1n 1, 'FRA': 1n 1, PAC(COS 500 Req : 'Initiate Upload' (2) Idx-0c2000 Sub- 22688 0,00036 100:245.51.35 1269.244.255.255 ECAT 128.2 Cmds, 'APAR': 1n 4, 'FRA': 1n 1, 'FRA': 1n 1, PAC(COS 500 Req : 'Initiate Upload' (2) Idx-0c2000 Sub- 22688 0,00125 100:245.51.35 1269.244.255.255 ECAT 128.2 Cmds, 'APAR': 1n 4, 'FRA': 1n 1, 'FRA': 1n 1, PAC(COS 500 Req : 'Initiate Download' (1) Idx-0c2000 Sub- 22688 0,00125 100:245.51.35 1269.244.255.255 ECAT 34.3 Cmds, 'APAR': 1n 4, 'FRA': 1n 1, 'FRA': 1n 1, PAC(COS 500 Req : 'Initiate Upload' (2) Idx-0c2000 Sub- 22688 0,00125 100:245.51.35 1269.244.255.255 ECAT 34.3 Cmds, 'APAR': 1n 4, 'FRA': 1n 1, PAC(COS 500 Req : 'Initiate Upload' (2) Idx-0c2000 Sub- 22688 0,00125 100:245.51.35 1269.244.255.255 ECAT 34.3 Cmds, 'APAR': 1n 4, 'APAR': 1n 1, 'PAR': 1n 1, PAC(COS 500 Req : 'Initiate Upload' (2) Idx-0c2000 Sub- 22688 0,00135 100:245.51.35 1269.244.255.255 ECAT 34.3 Cmds, 'APAR': 1n 4, 'APAR': 1n 1, 'PAR': 1n 1, PAC(COS 500 Req : 'Initiate Upload' (2) Idx-0c2000 Sub- 22680 0,00014 100:245.51.35 1269.244.255.255 ECAT 34.2 Cmds, 'APAR': 1n 4, 'YRA': 1n 1, 'PAR': 1n 1, PAC(COS 500 Req : 'Initiate Upload' (2) Idx-0c2000 Sub- 22690 0,00013 100:245.51.35 1269.244.255.255 ECAT 34.2 Cmds, 'APAR': 1n 4, 'YRA': 1n 1, PAC(COS 500 Req : 'Initiate Upload' (2) Idx-0c2000 Sub- 22690 0,00013 100:245.51.35 1269.244.255.255 ECAT 34.2 Cmds, 'APAR': 1n 4, 'YRA': 1n 1, PAC(COS 500 Req : 'Initiate Upload' (2) Idx-0c2000 Sub- 22690 0,00013 100:245.51.35 1269.244.255.255 ECAT 34.2 Cmds, 'APAR': 1n 4, 'YRA': 1n 1, PAC(COS 500 Req : 'Initiate Upload' (1) Idx-0c2000 Sub- 22690 0,00013 100:245.51.35 1269.244.255.255 ECAT	. Time Source	Destination	Protocol	Length Info		
2907 0.001200 109.254.51.35 109.254.51.35 109.254.525.35 ECAT 101 222 Conds, 'APAR': Len 4, 'FRAT: Len 1, En 1 Mbx(Cot 500 Reg : 'Initiate Upland' (2) Idx-0c2000 Sub- 25000 0.00004 109.254.51.35 109.254.51.35 109.254.255.35 ECAT 94 3 Conds, 'APAR': Len 4, 'APAR	25077 0.000235 169.254.51.35	169.254.255.255	ECAT	101 3 Cmds,	: len 4, 'FPWR': len 16, 'FPWR': len 1 Mbx(CoE SDO Req : '	Initiate Download' (1) Idx=0x2000 Sub=0)
25079 0.00156 109.254.51.55 109.254.55.55 ECAT 101 3 cms, 'PAR': 1en 4, 'PAR': 1en 16, 'PAR': 1en 178K(Cot 500 Reg : 'Initiate Upload' (2) Idx=0x2000 Sub- 25081 0.00156 109.254.51.55 109.254.55.55 ECAT 302 2 cms, 'PAR': 1en 4, 'PAR': 1en 16, 'PFR0': 1en 2 25081 0.00156 109.254.51.55 109.254.55.55 ECAT 302 2 cms, 'PAR': 1en 4, 'PAR': 1en 16, 'PFR0': 1en 2 25083 0.00021 109.254.51.55 109.254.55.55 ECAT 302 2 cms, 'PAR': 1en 4, 'PAR': 1en 16, 'PFR0': 1en 2 25083 0.00021 109.254.51.55 109.254.55.55 ECAT 302 2 cms, 'PAR': 1en 4, 'PAR': 1en 16, 'PFR0': 1en 2 25083 0.000251 109.254.51.55 109.254.55.55 ECAT 302 Cms, 'PAR': 1en 4, 'PAR': 1en 16, 'PFR0': 1en 2 25085 0.00135 109.254.51.55 109.254.55.55 ECAT 303 C cms, 'PAR': 1en 4, 'PAR': 1en 16, 'PFR0': 1en 2 25085 0.00135 109.254.51.55 109.254.55.55 ECAT 303 C cms, 'PAR': 1en 4, 'PAR': 1en 16, 'PFR0': 1en 2 25080 0.00135 109.254.51.55 109.254.55.55 ECAT 303 C cms, 'PAR': 1en 4, 'PAR': 1en 16, 'PFR0': 1en 2 25080 0.00135 109.254.51.55 109.254.55.55 ECAT 303 C cms, 'PAR': 1en 4, 'PAR': 1en 16, 'PFR0': 1en 2 25090 0.00131 109.254.51.55 109.254.55.55 ECAT 303 C cms, 'PAR': 1en 4, 'PAR': 1en 180.(Cot 500 Reg : 'Initiate Oumload' (1) Idx=0x2000 5ub- 25090 0.00031 109.254.51.55 109.254.55.55 ECAT 303 C cms, 'PAR': 1en 4, 'PAR': 1en 180.(Cot 500 Reg : 'Initiate Oumload' (1) Idx=0x2000 5ub- 25090 0.00031 109.254.51.55 109.254.55.55 ECAT 302 C cms, 'PAR': 1en 4, 'PAR': 1en 2 25090 0.00031 109.254.51.55 109.254.55.55 ECAT 302 C cms, 'PAR': 1en 4, 'PAR': 1en 2 25090 0.00031 109.254.51.55 109.254.55.55 ECAT 302 C cms, 'PAR': 1en 4, 'PAR': 1en 2 25090 0.00031 109.254.51.55 109.254.555.55 ECAT 302 C cms, 'PAR': 1en 4, 'PAR': 1en 2 25090 0.00031 109.254.51.55 109.254.555.55 ECAT 302 C cms, 'PAR': 1en 4, 'PAR': 1en 2 25090 0.00031 109.254.51.55 109.254.555.55 ECAT 302 C cms, 'PAR': 1en 4, 'PAR': 1en 2 25090 0.00031 109.254.51.55 109.254.255.55 ECAT 302 C cms, 'PAR': 1en 4, 'PAR': 1en 2 25090 0.00031 109.254.51.55 109.254.255.55 ECAT 302 C cms, 'PAR': 1en 4, 'PAR': 1en	25078 0.001208 169.254.51.35	169.254.255.255	ECAT	328 2 Cmds,	: len 4, 'FPRD': len 256	
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2502 0.00135 169.254.51.35 169.254.51.35 169.254.255.25 ECAT 04 3 (rds, 'APAR': 1en 4, 'APAR': 1en 1, 'PAR': 1en 1 / PAR': 1en 2 2508 0.00121 169.254.51.35 169.254.255.25 ECAT 328 2 (rds, 'APAR': 1en 4, 'PAR': 1en 1 / PAR': 1	25081 0.001363 169.254.51.35	169.254.255.255	ECAT	328 2 Cmds,	: len 4, 'FPRD': len 256	
2908 0.000221 169.254.51.55 169.254.255.255 ECAT 1013 Grads, 'APAR'1 Len 4, 'FPAR'1 Len 1 hbs/(CoE SOD Reg : 'Initiate Download' (1) Idx-ebx2000 Sub 2908 0.00135 169.254.51.55 169.254.255.255 ECAT 328 2 Grads, 'APAR'1 Len 4, 'FPAR'1 Len 1 hbs/(CoE SOD Reg : 'Initiate Download' (1) Idx-ebx2000 Sub 2908 0.00135 169.254.51.55 169.254.255.255 ECAT 328 2 Grads, 'APAR'1 Len 4, 'FPAR'1 Len 1 hbs/(CoE SOD Reg : 'Initiate Download' (1) Idx-ebx2000 Sub 2908 0.00005 169.254.51.55 169.254.255.255 ECAT 328 2 Grads, 'APAR'1 Len 4, 'FPAR'1 Len 1 hbs/(CoE SOD Reg : 'Initiate Download' (1) Idx-ebx2000 Sub 2908 0.00005 169.254.51.55 169.254.255.255 ECAT 328 2 Grads, 'APAR'1 Len 4, 'FPAR'1 Len 1 hbs/(CoE SOD Reg : 'Initiate Download' (1) Idx-ebx2000 Sub 2909 0.00005 169.254.51.55 169.254.255.255 ECAT 328 2 Grads, 'APAR'1 Len 4, 'APAR'1 Len 8, 'FPAD'1 Len 2 2909 0.00005 169.254.51.55 169.254.255.255 ECAT 328 2 Grads, 'APAR'1 Len 4, 'APAN'1 Len 8, 'FPAD'1 Len 2 2909 0.00013 169.254.51.55 169.254.255.255 ECAT 328 2 Grads, 'APAR'1 Len 4, 'APAN'1 Len 8, 'FPAD'1 Len 2 2909 0.00013 169.254.51.55 169.254.255.255 ECAT 328 2 Grads, 'APAR'1 Len 4, 'APAN'1 Len 8, 'FPAD'1 Len 2 2909 0.00013 169.254.51.55 169.254.255.255 ECAT 343 Grads, 'APAR'1 Len 4, 'APAN'1 Len 8, 'FPAD'1 Len 2 2909 0.00025 169.254.51.55 169.254.255.255 ECAT 343 Grads, 'APAR'1 Len 4, 'APAN'1 Len 5, 'FPAD'1 Len 2 2909 0.00025 169.254.51.55 169.254.255.255 ECAT 343 Grads, 'APAR'1 Len 4, 'APAN'1 Len 5, 'FPAD'1 Len 2 2909 0.00025 169.254.51.55 169.254.255.255 ECAT 343 Grads, 'APAR'1 Len 4, 'APAN'1 Len 5, 'FPAD'1 Len 2 2909 0.00025 169.254.51.55 169.254.255.255 ECAT 343 Grads, 'APAR'1 Len 4, 'APAN'1 Len 5, 'FPAD'1 Len 2 2909 0.0005 169.254.51.55 169.254.55.255 ECAT 343 Grads, 'APAR'1 Len 4, 'APAR'1 Len 4, 'APAN'1 Len 5, 'FPAD'1 Len 2 Frame 1: 94 bytes on wire (752 bits), 94 bytes captured (752 bits) on interface 1 Etherrot IT, Franc 'Len 4, 'ARAN'1 Len 8, 'FPAD'1 Len 2 Frame 1: 94 bytes on wire (752 bits), 94 bytes captured (752 bits) on interface 1 EtherrCAT datagrama(5): 3 Co	25082 0.001385 169.254.51.35	169.254.255.255	ECAT	94 3 Cmds,	: len 4, 'ARMW': len 8, 'FPRD': len 2	
25000 4.000132 160.254.51.55 160.254.255.55 ECAT 3282 (cnds, 'APMR': Len 4, 'FPRD': Len 256 25000 0.000218 160.254.51.55 160.254.255.55 ECAT 1013 (cnds, 'APMR': Len 4, 'FPRD': Len 256 25000 0.000128 160.254.51.55 160.254.255.55 ECAT 3282 (cnds, 'APMR': Len 4, 'FPRD': Len 256 25000 0.000128 160.254.51.55 160.254.255.55 ECAT 1013 (cnds, 'APMR': Len 4, 'FPRD': Len 256 25000 0.000128 160.254.51.55 160.254.255.55 ECAT 1013 (cnds, 'APMR': Len 4, 'FPRD': Len 256 25000 0.000128 160.254.51.55 160.254.255.55 ECAT 1013 (cnds, 'APMR': Len 4, 'AFPRD': Len 256 25000 0.000131 160.254.51.55 160.254.255.55 ECAT 1013 (cnds, 'APMR': Len 4, 'AFPRD': Len 256 25000 0.000134 160.254.51.55 160.254.255.55 ECAT 1013 (cnds, 'APMR': Len 4, 'AFPRD': Len 2 25000 0.000134 160.254.51.55 160.254.255.55 ECAT 1013 (cnds, 'APMR': Len 4, 'AFPRD': Len 2 25000 0.000134 160.254.51.55 160.254.255.55 ECAT 1013 (cnds, 'APMR': Len 4, 'AFPRD': Len 2 25000 0.000134 160.254.51.55 160.254.255.55 ECAT 1013 (cnds, 'APMR': Len 4, 'AFWH': Len 8, 'FPRD': Len 2 25000 0.000134 160.254.51.55 160.254.255.55 ECAT 3028 (cnds, 'APMR': Len 4, 'AFWH': Len 8, 'FPRD': Len 2 25000 0.000134 160.254.51.55 160.254.255.55 ECAT 3028 (cnds, 'APMR': Len 4, 'AFWH': Len 8, 'FPRD': Len 2 25000 0.000134 160.254.51.55 160.254.255.55 ECAT 304 3 (cnds, 'APMR': Len 4, 'AFWH': Len 8, 'FPRD': Len 2 25000 0.000134 160.254.51.55 160.254.255.55 ECAT 304 3 (cnds, 'APMR': Len 4, 'AFWH': Len 8, 'FPRD': Len 2 25000 0.000134 160.254.51.55 160.254.255.255 ECAT 304 3 (cnds, 'APMR': Len 4, 'AFWH': Len 8, 'FPRD': Len 2 25000 0.00025 160.254.51.55 160.254.51.55 160.254.255.255 ECAT 304 3 (cnds, 'APMR': Len 4, 'AFWH': Len 8, 'FPRD': Len 2 25000 0.00026 (cndcd, cnds, cnds, cnds, cnds, cnds, cnds, 'APMR': Len 4, 'AFWH': Len 8, 'FPRD': Len 2 25000 0.00026 (cnds, cnds, cnds, cnds, cnds, cnds, cnds, cnds, cnds, 'APMR': Len 4, 'AFWH': Len 8, 'FPRD': Len 2 25000 0.00026 (cnds, cnds, cnd	25083 0.000221 169.254.51.35	169.254.255.255	ECAT	101 3 Cmds,	: len 4, 'FPWR': len 16, 'FPWR': len 1 Mbx(CoE SDO Req : '	Initiate Download' (1) Idx=0x2000 Sub=0)
25085 0.001350 169.254.51.35 169.254.255.25 ECAT 04 3 (mds, 'APMR'1 Len 4, 'APM'1 = Len 5, 'FPND': Len 2 25087 0.002163 169.254.51.35 169.254.255.25 ECAT 101 3 (mds, 'APMR'1 Len 4, 'FPND': Len 256 25087 0.002163 169.254.51.35 169.254.255.25 ECAT 101 3 (mds, 'APMR'1 Len 4, 'FPND': Len 256 25097 0.002163 169.254.51.35 169.254.255.25 ECAT 101 3 (mds, 'APMR'1 Len 4, 'FPND': Len 256 25097 0.002164 169.254.51.35 169.254.255.25 ECAT 101 3 (mds, 'APMR'1 Len 4, 'APM'1 = Len 5, 'FPND': Len 2 25097 0.002164 169.254.51.35 169.254.255.25 ECAT 101 3 (mds, 'APMR'1 Len 4, 'APM'1 = Len 5, 'FPND': Len 2 25097 0.002164 169.254.51.35 169.254.255.25 ECAT 101 3 (mds, 'APMR'1 En 4, 'APM'1 = Len 5, 'FPND': Len 2 25097 0.002154 169.254.51.35 169.254.255.25 ECAT 101 3 (mds, 'APMR'1 En 4, 'APM'1 = Len 5, 'FPND': Len 2 25097 0.002154 169.254.51.35 169.254.255.25 ECAT 101 3 (mds, 'APMR'1 En 4, 'APM'1 = Len 5, 'FPND': Len 2 25097 0.002154 169.254.51.35 169.254.255.25 ECAT 101 3 (mds, 'APMR'1 En 4, 'APM'1 = Len 5, 'FPND': Len 2 25097 0.002154 169.254.51.35 169.254.255.255 ECAT 101 3 (mds, 'APMR'1 En 4, 'FPND': Len 2 25095 0.00223 169.254.51.35 169.254.255.255 ECAT 101 3 (mds, 'APMR'1 En 4, 'FPND': Len 2 25095 0.00223 169.254.51.35 169.254.255.255 ECAT 101 3 (mds, 'APMR'1 En 4, 'FPND': Len 2 25095 0.00223 169.254.51.35 169.254.255.255 ECAT 101 3 (mds, 'APMR'1 En 4, 'FPND': Len 2 25095 0.00223 169.254.51.35 169.254.255.255 ECAT 101 3 (mds, 'APMR'1 En 4, 'APM'1 En 5, 'FPND': Len 2 25095 0.00223 169.254.51.35 169.254.255.255 ECAT 101 3 (mds, 'APMR'1 En 4, 'APMR'1 En 1 Mbs((Of 500 Reg : 'Initiate DownLoad' (1) Idx=0x2000 5ub 25096 0.00254 169.254.51.35 169.254.255.255 ECAT 101 3 (mds, 'APMR'1 En 4, 'APMR'1 En 4, 'APM'1 En 5, 'FPND': Len 2 Frame 1: 94 bytes on wire (752 bits), 94 bytes captured (752 bits), 045 bytes captured (752 bits), 045 bytes captured (752 bits), 055 bots), 055 bots cart (Frieffift) Internet Protocol Vertia 04.45, 'APMR'1 Len 4, 'APMM'1 Len 4, 'FPND'1 Len 2 EACT I fastegram(5)! 3 Cods, 'APMR'1 Len 4, 'APMM'1	25084 0.001432 169.254.51.35	169.254.255.255	ECAT	328 2 Cmds,	: len 4, 'FPRD': len 256	
2986 0.00021 169.254.51.55 169.254.51.55 ECAT 101 3 (mds, 'APAR': Len 4, 'FPAR': Len 1 hbx(Cot 500 Reg : 'Initiate Uplad' (2) Idx=0x2000 5ub- 25088 0.00159 169.254.51.55 ECAT 1013 (cnds, 'APAR': Len 4, 'FPAR': Len 1 hbx(Cot 500 Reg : 'Initiate Download' (1) Idx=0x2000 5ub 25080 0.00124 169.254.51.35 169.254.255.55 ECAT 1013 (cnds, 'APAR': Len 4, 'APAR': Len 1 hbx(Cot 500 Reg : 'Initiate Download' (1) Idx=0x2000 5ub 25090 0.00124 169.254.51.35 169.254.255.55 ECAT 3282 (cnds, 'APAR': Len 4, 'AFAR': Len 1 hbx(Cot 500 Reg : 'Initiate Uplad' (2) Idx=0x2000 5ub 25090 0.00124 169.254.51.35 169.254.255.55 ECAT 3282 (cnds, 'APAR': Len 4, 'AFAR': Len 1 hbx(Cot 500 Reg : 'Initiate Uplad' (2) Idx=0x2000 5ub 25090 0.00134 169.254.51.35 169.254.255.55 ECAT 3282 (cnds, 'APAR': Len 4, 'AFAR': Len 1 hbx(Cot 500 Reg : 'Initiate Uplad' (2) Idx=0x2000 5ub 25090 0.00134 169.254.51.35 169.254.255.55 ECAT 343 (cnds, 'APAR': Len 4, 'AFAR': Len 1 hbx(Cot 500 Reg : 'Initiate Uplad' (2) Idx=0x2000 5ub 25090 0.00134 169.254.51.35 169.254.255.55 ECAT 343 (cnds, 'APAR': Len 4, 'AFAR': Len 1 hbx(Cot 500 Reg : 'Initiate Uplad' (1) Idx=0x2000 5ub 25090 0.00135 169.254.51.35 169.254.255.55 ECAT 343 (cnds, 'APAR': Len 4, 'AFAR': Len 1 hbx(Cot 500 Reg : 'Initiate Download' (1) Idx=0x2000 5ub 25090 0.00135 169.254.51.35 169.254.255.55 ECAT 343 (cnds, 'APAR': Len 4, 'APAR': Len 1 hbx(Cot 500 Reg : 'Initiate Download' (1) Idx=0x2000 5ub 25090 0.0025 169.254.51.35 169.254.55.55 ECAT 343 (cnds, 'APAR': Len 4, 'APAR': Len 6, 'FPRO': Len 2	25085 0.001396 169.254.51.35	169.254.255.255	ECAT	94 3 Cmds,	: len 4, 'ARMW': len 8, 'FPRD': len 2	
29897 0.00116 169.254.51.35 169.254.255.255 ECAT 3282 C (nds; 'APMR': Len 4, 'FPRD': Len 256 29898 0.00053 169.254.51.35 169.254.255.255 ECAT 343 C (nds; 'APMR': Len 4, 'ARW': Len 8, 'FPRD': Len 2 2999 0.000124 169.254.51.35 169.254.255.255 ECAT 343 C (nds; 'APMR': Len 4, 'ARW': Len 8, 'FPRD': Len 2 2992 0.000131 169.254.51.35 169.254.255.255 ECAT 343 C (nds; 'APMR': Len 4, 'ARW': Len 8, 'FPRD': Len 2 2993 0.00137 169.254.51.35 169.254.255.255 ECAT 343 C (nds; 'APMR': Len 4, 'ARW': Len 8, 'FPRD': Len 2 2993 0.00137 169.254.51.35 169.254.255.255 ECAT 343 C (nds; 'APMR': Len 4, 'FPRD': Len 2 2993 0.00137 169.254.51.35 169.254.255.255 ECAT 343 C (nds; 'APMR': Len 4, 'FPRD': Len 2 2993 0.00137 169.254.51.35 169.254.255.255 ECAT 343 C (nds; 'APMR': Len 4, 'FPRD': Len 2 2995 0.000238 169.254.51.35 169.254.255.255 ECAT 1013 (nds; 'APMR': Len 4, 'FPRD': Len 2 2995 0.000238 169.254.51.35 169.254.255.255 ECAT 1013 (nds; 'APMR': Len 4, 'FPRD': Len 2 2995 0.000238 169.254.51.35 169.254.255.255 ECAT 1013 (nds; 'APMR': Len 4, 'FPRD': Len 2 2995 0.000238 169.254.51.35 169.254.255.255 ECAT 1013 (nds; 'APMR': Len 4, 'FPRD': Len 2 2995 0.000238 169.254.51.35 169.254.255.255 ECAT 1013 (nds; 'APMR': Len 4, 'ARW': Len 8, 'FPRD': Len 2 2095 0.000238 169.254.51.35 169.254.255.255 ECAT 1013 (nds; 'APMR': Len 4, 'ARW': Len 8, 'FPRD': Len 2 2095 0.000238 169.254.51.55, DEAT 1013 (nds; 'APMR': Len 4, 'ARW': Len 8, 'FPRD': Len 2 2095 0.000238 169.254.51.55, DEAT 1013 (nds; 'APMR': Len 4, 'ARW': Len 8, 'FPRD': Len 2 2005 0.000238 169.254.51.55, DEAT 1013 (nds; 'APMR': Len 4, 'ARW': Len 8, 'FPRD': Len 2 2005 0.000238 169.254.51.55, DEAT 1013 (nds; 'APMR': Len 4, 'ARW': Len 8, 'FPRD': Len 2 2005 0.000238 169.254.51.55, DEAT 1012 2005 0.000238 169.254.51.55, DEAT 1012 2005 0.000238 169.254.51.55, DEAT 1012 2005 0.000238 169.254.55.255 2005 0.000238 169.254.55.255 2005 0.000238 169.254.55.255 2005 0.00028 169.254.55.255 2005 0.00028 169.254.55.255 2005 0.00028 169.254.55.255 2005 0.00028 1	25086 0.000218 169.254.51.35	169.254.255.255	ECAT	101 3 Cmds,	: len 4, 'FPWR': len 16, 'FPWR': len 1 Mbx(CoE SDO Req : '	Initiate Upload' (2) Idx=0x2000 Sub=0)
25088 0.00159 169.254.51.35 169.254.255.25 ECAT 1013 (ands, 'APAR': Len 4, 'FPAR': Len 1 hbx(CoE 500 Reg : 'Initiate Download' (1) Idx-ebx2000 5ut 25090 0.00124 169.254.51.35 169.254.255.25 ECAT 3282 (ands, 'APAR': Len 4, 'AFAPC': Len 2 25092 0.000314 169.254.51.35 169.254.255.255 ECAT 3282 (ands, 'APAR': Len 4, 'AFAPC': Len 2 25092 0.000314 169.254.51.35 169.254.255.255 ECAT 3282 (ands, 'APAR': Len 4, 'AFAPC': Len 1 hbx(CoE 500 Reg : 'Initiate Upload' (2) Idx-ebx2000 5ub 25093 0.00137 169.254.51.35 169.254.255.35 ECAT 3282 (ands, 'APAR': Len 4, 'AFAPC': Len 1 hbx(CoE 500 Reg : 'Initiate Upload' (2) Idx-ebx2000 5ub 25094 0.001354 169.254.51.35 169.254.255.35 ECAT 3282 (ands, 'APAR': Len 4, 'AFAPC': Len 1 hbx(CoE 500 Reg : 'Initiate Upload' (2) Idx-ebx2000 5ub 25095 0.000231 169.254.51.35 169.254.255.35 ECAT 343 (ands, 'APAR': Len 4, 'AFAPC': Len 1 hbx(CoE 500 Reg : 'Initiate Download' (1) Idx-ebx2000 5ub 25095 0.000231 169.254.51.35 169.254.51.35 169.254.255.35 ECAT 343 (ands, 'APAR': Len 4, 'AFAPC': Len 2, 'PAR': Len 1 hbx(CoE 500 Reg : 'Initiate Download' (1) Idx-ebx2000 5ub 25096 -0.076. 169.254.51.35 169.254.255.35 ECAT 343 (ands, 'APAR': Len 4, 'AFAPC': Len 2 25096 -0.076. 169.254.51.35 169.254.255.255 ECAT 343 (ands, 'APAR': Len 4, 'AFAPC': Len 2 25096 -0.076. 169.254.51.35 169.254.255.255 ECAT 343 (ands, 'APAR': Len 4, 'AFAPC': Len 2 25096 -0.076. 169.254.51.35 169.254.255.255 ECAT 343 (ands, 'APAR': Len 4, 'AFAPC': Len 2 25096 -0.076. 169.254.51.35 169.254.255.255 ECAT 343 (ands, 'APAR': Len 4, 'AFAPC': Len 2 25097 20002300 (and and and and and and and and and and	25087 0.001169 169.254.51.35	169.254.255.255	ECAT	328 2 Cmds,	: len 4, 'FPRD': len 256	
25099 0.000053 169.254.51.35 25099 0.000154 169.254.51.35 25091 0.001331 169.254.255.255 25001 0.0001331 169.254.255.255 25001 0.0001331 169.254.255.255 25001 0.0001331 169.254.255.255 25001 0.0001331 169.254.255.255 25001 0.0001331 169.254.255.255 25001 0.0001341 169.254.255.255 25001 0.0001341 169.254.255.255 25001 0.0001351 169.254.255.255 25001 0	25088 0.001593 169.254.51.35	169.254.255.255	ECAT	101 3 Cmds,	: len 4, 'FPWR': len 16, 'FPWR': len 1 Mbx(CoE SDO Req : '	Initiate Download' (1) Idx=0x2000 Sub=0)
26000 0.00124 169.254.51.35 169.254.255.255 ECAT 3282 (ands, 'APMR': Len 4, 'FPMD': Len 256 25001 0.00131 169.254.51.35 169.254.255.255 ECAT 1013 (ands, 'APMR': Len 4, 'FPMG': Len 1 hbx(CoE 500 Reg : 'Initiate Upload' (2) Idx=0x2000 5ub= 25004 0.00135 169.254.51.35 169.254.255.255 ECAT 3282 (ands, 'APMR': Len 4, 'APMN': Len 8, 'FPMD': Len 256 25004 0.00135 169.254.51.35 169.254.255.255 ECAT 343 (ands, 'APMR': Len 4, 'ARMN': Len 8, 'FPMD': Len 2 25005 0.00032 169.254.51.35 169.254.255.255 ECAT 343 (ands, 'APMR': Len 4, 'ARMN': Len 8, 'FPMD': Len 2 25006 -0.076. 169.254.51.35 169.254.255.255 ECAT 343 (ands, 'APMR': Len 4, 'ARMN': Len 8, 'FPMD': Len 2 25006 -0.076. 169.254.51.35 169.254.255.255 ECAT 343 (ands, 'APMR': Len 4, 'ARMN': Len 8, 'FPMD': Len 2 25006 -0.076. 169.254.51.35 169.254.255.255 ECAT 343 (ands, 'APMR': Len 4, 'ARMN': Len 8, 'FPMD': Len 2 25006 -0.076. 169.254.51.35 169.254.255.255 ECAT 343 (ands, 'APMR': Len 4, 'ARMN': Len 8, 'FPMD': Len 2 25006 -0.076. 169.254.51.35 169.254.255.255 ECAT 343 (ands, 'APMR': Len 4, 'ARMN': Len 8, 'FPMD': Len 2 25006 -0.076. 169.254.51.35 0ct: 169.254.255.255 ECAT 343 (ands, 'APMR': Len 4, 'ARMN': Len 8, 'FPMD': Len 2 25006 -0.076. 169.254.51.35 0ct: 169.254.255.255 UCAT 343 (ands, 'APMR': Len 4, 'ARMN': Len 8, 'FPMD': Len 2 25006 -0.076. 169.254.51.35 0ct: 169.254.255.255 UCAT 343 (and condition and the 'ARMN': Len 8, 'FPMD': Len 2 25006 -0.076. 150.2 Condition and the 'ARMN': Len 8, 'FPMD': Len 2 2500 -0.076. 150.2 Condition and the 'ARMN': Len 8, 'FPMD': Len 2	25089 0.000063 169.254.51.35	169.254.255.255	ECAT	94 3 Cmds,	: len 4, 'ARMW': len 8, 'FPRD': len 2	
22091 0.001331 169.254.51.35 169.244.55.255 ECAT 94 3 (mds, 'APMR': len 6, 'FPRD': len 2 25092 0.0001371 169.254.51.35 169.254.255.255 ECAT 310 (mds, 'APMR': len 4, 'APMR': len 16, 'FPRD': len 2 25093 0.001371 169.254.51.35 169.254.255.255 ECAT 328 2 (mds, 'APMR': len 4, 'FPRD': len 2 25095 0.000238 169.254.51.35 169.254.255.255 ECAT 304 3 (mds, 'APMR': len 4, 'FPRD': len 2 25095 0.000238 169.254.51.35 169.254.255.255 ECAT 304 3 (mds, 'APMR': len 4, 'FPRD': len 2 25095 0.000238 169.254.51.35 169.254.255.255 ECAT 304 3 (mds, 'APMR': len 4, 'FPRD': len 2 25095 0.000238 169.254.51.35 169.254.255.255 ECAT 304 3 (mds, 'APMR': len 4, 'FPRD': len 2 25095 0.000238 169.254.51.35 169.254.51.55 ECAT 304 3 (mds, 'APMR': len 4, 'FPRD': len 2 25095 0.000238 169.254.51.35 169.254.51.55 ECAT 304 3 (mds, 'APMR': len 4, 'APMR': len 16, 'FPRD': len 2 25095 0.000238 169.254.51.35 169.254.525.255 ECAT 301 3 (mds, 'APMR': len 4, 'APMR': len 8, 'FPRD': len 2 25095 0.000238 169.254.51.35 169.254.525.255 UCAT 304 (mds, 'APMR': len 4, 'ARMM': len 8, 'FPRD': len 2 25095 0.000238 169.254.51.35 169.254.525.255 UCAT 304 (mds, 'APMR': len 4, 'ARMM': len 8, 'FPRD': len 2 25095 0.000238 169.254.51.55 160.254.51.55 160.254.255.255 UCAT 304 (mds, 'APMR': len 4, 'ARMM': len 8, 'FPRD': len 2 25095 0.000238 169.254.51.55 160.254.51.55 160.254.255.255 UCAT 304 (mds, 'APMR': len 4, 'ARMM': len 8, 'FPRD': len 2 25095 0.000238 169.254.51.55 160.254.51.55 160.254.255.255 UCAT 304 (mds, 'APMR': len 4, 'ARMM': len 8, 'FPRD': len 2	25090 0.001424 169.254.51.35	169.254.255.255	ECAT	328 2 Cmds,	: len 4, 'FPRD': len 256	
20092 0.000314 169.254.51.35 169.254.255.25 ECAT 1013 (ands, 'APMR': Len 4, 'FPMR': Len 1 Mbx(CoE 500 Reg : 'Initiate Upload' (2) Idx=0x2000 5ub= 20093 0.00137 169.254.51.35 169.254.255.25 ECAT 328 2 (ands, 'APMR': Len 4, 'ARMV': Len 8, 'FPRD': Len 2 20095 0.000235 169.254.51.35 169.254.255.255 ECAT 94 3 (ands, 'APMR': Len 4, 'ARMV': Len 8, 'FPRD': Len 2 20096 -0.076. 169.254.51.35 169.254.255.255 ECAT 94 3 (ands, 'APMR': Len 4, 'ARMV': Len 8, 'FPRD': Len 2 20097 0.000235 169.254.51.35 169.254.255.255 ECAT 94 3 (ands, 'APMR': Len 4, 'ARMV': Len 8, 'FPRD': Len 2 20096 -0.076. 169.254.51.35 169.254.255.255 ECAT 94 3 (ands, 'APMR': Len 4, 'ARMV': Len 8, 'FPRD': Len 2 2007 0.00023 (accessed 0.0003) (accessed 0.0003) (bt: Broadcast (ff:ff:ff:ff:ff:ff: Ethernet II, Scr: alc:ecd:0e0080(d3), obt: Broadcast (ff:ff:ff:ff:ff:ff:ff: Internet Protocol Version 4, Scr: 169.254.51.35, Dot: 169.244.255.255 User Datagram Protocol, Src Port: 6192, Dat Port: 34080 EtherCAT datagram(s): 3 Cmds, 'APWR': Len 4, 'ARWN': Len 8, 'FPRD': Len 2	25091 0.001331 169.254.51.35	169.254.255.255	ECAT	94 3 Cmds,	: len 4, 'ARMW': len 8, 'FPRD': len 2	
22093 0.001377 169.254.51.35 169.244.55.25 ECAT 3282 Candis, 'APAR': Len 4, 'FPRD': Len 2256 25095 0.000238 169.254.51.35 169.254.255.255 ECAT 343 Candis, 'APAR': Len 4, 'FPAR': Len 1, 'EPAR': Len 1 Mbx(CoE SDO Reg : 'Initiate Download' (1) Idx=0x2000 Sut 25095 0.0002.5 169.254.51.35 169.254.255.255 ECAT 343 Candis, 'APAR': Len 4, 'ARAN': Len 8, 'FPAD': Len 2 25095 0.0002.5 169.254.51.35 169.254.255.255 ECAT 343 Candis, 'APAR': Len 4, 'ARAN': Len 8, 'FPAD': Len 2 25095 0.0002.5 169.254.51.35 169.254.255.255 ECAT 343 Candis, 'APAR': Len 4, 'ARAN': Len 8, 'FPAD': Len 2 25095 0.0005 Candis Can	25092 0.000314 169.254.51.35	169.254.255.255	ECAT	101 3 Cmds,	: len 4, 'FPWR': len 16, 'FPWR': len 1 Mbx(CoE SDO Req : '	Initiate Upload' (2) Idx=0x2000 Sub=0)
25995 0.00235 169.254.51.35 169.254.51.35 169.254.255.25 ECAT 94 3 (ands, 'APMR': len 4, 'ARM': len 8, 'FPRD': len 2 25995 0.00235 169.254.51.35 169.254.255.25 ECAT 94 3 (ands, 'APMR': len 4, 'ARM': len 8, 'FPRD': len 2 25995 0.0025 169.254.51.35 169.254.255.25 ECAT 94 3 (ands, 'APMR': len 4, 'ARM': len 8, 'FPRD': len 2 94 3 (ands, 'APMR': len 4, 'ARM': len 8, 'FPRD': len 2 Frame 1: 94 bytes on wire (752 bits), 94 bytes captured (752 bits) on interface 1 Ethernet II, Src: a2:ce:d5:e8:08:04 (a2:ce:c5:e8:08:04), Dit: Broadcast (ff:ff:ff:ff:ff:ff: Internet Protocol Version 4, src: 169.254.51.35, Dot: 169.254.55.255 User Datagram Protocol, Src Port: 6192, Dat Port: 3490 EtherCAT datagram(s): 3 Cmds, 'APWR': len 4, 'ARMW': len 8, 'FPRD': len 2	25093 0.001377 169.254.51.35	169.254.255.255	ECAT	328 2 Cmds,	: len 4, 'FPRD': len 256	
25055 0.000238 159.254.51.35 169.254.255.255 ECAT 1013 Cmds, 'APAR': len 4, 'FPAR': len 1, M5x(CoE SDO Reg : 'Initiate Download' (1) Idx=0x2000 5 ut 25095 0.075. 159.254.51.35 169.254.255.255 ECAT 3612 cmds, 'APAR': len 4, 'ARM4': len 8, 'FPAR': len 1 M5x(CoE SDO Reg : 'Initiate Download' (1) Idx=0x2000 5 ut Frame 1: 94 bytes on wire (752 bits), 94 bytes captured (752 bits) on interface 1 Ethernet II, Src: al:ce:c60:00:03 (al:ce:c6:e0:00:d3), D51: Broadcast (ff:ff:ff:ff:ff:ff: Internet Protocol. Version 4, Src: 169.254.255.255 Ethernet Trane header EtherCAT frame header EtherCAT datagram(s): 3 Cmds, 'APAR': len 4, 'ARM4': len 8, 'FPRD': len 2	25094 0.001354 169.254.51.35	169.254.255.255	ECAT	94 3 Cmds,	: len 4, 'ARMW': len 8, 'FPRD': len 2	
22006 0.076_ 169.254.51.35 169.254.255.25 ECAT 94 3 Cmds, 'APWR': len 8, 'FPRD': len 2 Frame 1: 94 bytes on wire (752 bits), 94 bytes captured (752 bits) on interface 1 Ethernet II, Src: a2:ce:d3:e8:08:04 (a2:ce:c3:e8:08:043), 051: Broadcast (ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:	25095 0.000238 169.254.51.35	169.254.255.255	ECAT	101 3 Cmds,	: len 4, 'FPWR': len 16, 'FPWR': len 1 Mbx(CoE SDO Req : '	Initiate Download' (1) Idx=0x2000 Sub=0)
Frame 1: 94 bytes on wire (752 bits), 94 bytes captured (752 bits) on interface 1 Ethernet II, Src: al:ce:c8:e8:e8:d3 (al:ce:c8:e8:e8:d3), Dst: Broadcast (ff:ff:ff:ff:ff: Internet Protocol Version A, Src: 189, 254.51.55, Dst: 169, 254.255.255 User Datagram Protocol, Src Port: 6130, Dst: Dero: 13400 EtherCAT frame header EtherCAT datagram(s): 3 Cmds, 'APWR': len 4, 'ARWW': len 8, 'FPRD': len 2	25096 -0.076 169.254.51.35	169.254.255.255	ECAT	94 3 Cmds,	: len 4, 'ARMW': len 8, 'FPRD': len 2	
	Ethernet II, Src: a2:ce:c8:e0:00:d3 (a2:ce:c8:e0:00) Internet Protocol Version 4, Src: 169.254.51.35, Dst User Datagram Protocol, Src Port: 61192, Dst Port: 3 EtherCAT frame header EtherCAT frame header	d3), Dst: Broadcast (ff:1 : 169.254.255.255 14980 : len 8, 'FPRD': len 2	f:ff:ff:ff	::ff)		
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19 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 1 0 0 0 0 1 0	00 ff ff ff ff ff ff a2 cc c8 a0 a0 d3 a0 a0 45 a0 10 00 53 ae 1d 00 00 80 11 75 60 a9 fc 33 23 a9 fc 32 a9 fc 0f ff ff ef 68 88 a4 00 3c 00 60 32 10 02 11 c0 20 20					

Turn on the EtherCAT Master and run the application. When the application is complete, press the Stop Button shown below to stop logging messages.

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	63	366 0.001375	169.254.5	1.35			169	254.255.255	ECAT	101	. 3 Cmds,	'APWR':	len 4,	'FPWR':	: le
	63	367 0.001396	169.254.5	1.35			169	254.255.255	ECAT	94	3 Cmds,	'APWR':	len 4,	'ARMW':	: le
	63	368 0.000135	169.254.5	1.35			169	254.255.255	ECAT	328	2 Cmds,	'APWR':	len 4,	'FPRD':	: le
	63	369 0.001303	169.254.5	1.35			169	254.255.255	ECAT	101	. 3 Cmds,	'APWR':	len 4,	'FPWR':	: le
	63	370 0.001547	169.254.5	1.35			169	254.255.255	ECAT	94	3 Cmds,	'APWR':	len 4,	'ARMW':	: le
	63	371 0.000065	169.254.5	1.35			169	254.255.255	ECAT	328	2 Cmds,	'APWR':	len 4,	'FPRD':	: le
	63	372 0.001586	169.254.5	1.35			169	254.255.255	ECAT	101	. 3 Cmds,	'APWR':	len 4,	'FPWR':	: le
	63	373 0.001385	169.254.5	1.35			169	254.255.255	ECAT	94	3 Cmds,	'APWR':	len 4,	'ARMW':	: le
	63	374 0.000213	169.254.5	1.35			169	254.255.255	ECAT	328	2 Cmds,	'APWR':	len 4,	'FPRD':	: le
	63	375 0.001174	169.254.5	1.35			169	254.255.255	ECAT	101	. 3 Cmds,	'APWR':	len 4,	'FPWR':	: le
	63	376 0.001476	169.254.5	1.35			169	254.255.255	ECAT	94	3 Cmds,	'APWR':	len 4,	'ARMW':	: le
	63	377 0.000040	169.254.5	1.35			169	254.255.255	ECAT	328	2 Cmds,	'APWR':	len 4,	'FPRD':	: le
	63	378 0.001346	169.254.5	1.35			169	254.255.255	ECAT	101	. 3 Cmds,	'APWR':	len 4,	'FPWR':	: le
	63	379 0.001521	169.254.5	1.35			169	254.255.255	ECAT	94	3 Cmds,	'APWR':	len 4,	'ARMW':	: le

Finally, select File > Save As and save the log.

To see all the EtherCAT mailbox access in the log, apply a filter by typing "ecat_mailbox" in the Display Filter Textfield and clicking the Apply Filter Button shown below.

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Revision History

Date	Version	Revision
9/27/2019	1.0	Initial release