

BENEFITS

- No need for Legacy probes:** IP probes can interface TDM links, both signalling and voice channels
- Save money & investment:** fewer monitoring tools and smooth transition from TDM to IP

FEATURES

- Ethernizer E-615B & E-315B Signalling & Voice** allow an IP probe to monitor multiple STM-1 channelized links (VC-12/DS0-64kbps), carrying SS7 Signalling and Voice simultaneously
- * **Input:** up to 4 channelized STM-1 VC12/DS0 (64Kbps) transporting SS7 (HDLC based) and voice channels
 - * **Output:** (2 x1) GbE or (2x1+2x10) GbE ports, depending on model

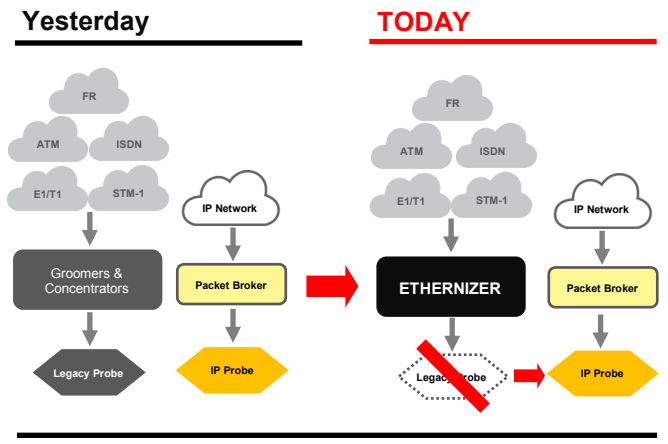
Protocol Conversion

- * **SS7 (HDLC): Message Transfer Part2 (MTP-2) - User adaptation Layer (M2UA);** up to 1024 Sigtran streams
 - * **Voice: RTP (Real-Time Transport Protocol) encapsulation of Voice Data Streams,** without transcoding function; up to 7812 RTP streams
- Different source/destination IP addresses can be assigned to each Sigtran stream** (1024 streams for each input module), providing aid to IP probes for SS7 linksets identification.

- E-615B & E-315B** support Layer 1 and Layer 2 alarms through SNMP traps:
- * **STM-1 LOS** (Loss of Signal) & **LOF** (Loss of Frame)
 - * **VC-12/E1 LOF** (Loss of Frame), **AIS** (Alarm Indication Signal) & **RAI** (Remote Alarm Indication)
 - * **SS7 Link Activity Alarm**

An **embedded Graphic User Interface** is available for system configuration, management and alarms status monitoring. Import/export of "csv files" is supported for easy configuration

Ethernizer bridges the transition from TDM to IP



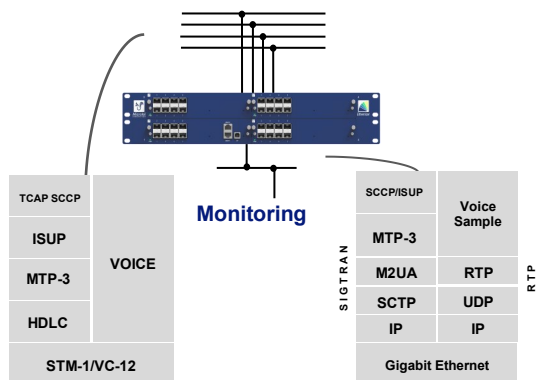
Ethernizer E-615 B

For Telecom Operators, migrating from Legacy network infrastructures to more scalable, flexible and efficient Internet protocol (IP) networks, is required for rolling out new converged IP services (voice, video, and data) and supporting Internet applications. However, this migration introduces significant challenges, as they must now implement new service assurance solutions, that provide complete end-to-end service performance visibility, in some cases gathering signalling and voice information from the TDM networks too.

On the other side, monitoring systems are more and more focused on IP only probes, as network operators ask for future proof solutions to save money and protect their investment.

In this scenario, Microtel **Signalling & Voice Ethernizer** can be used to feed IP monitoring probes with both TDM signalling and voice information, to provide a complete visibility of the end-to-end connection.

SS7 Signalling (HDLC) & Voice on STM-1



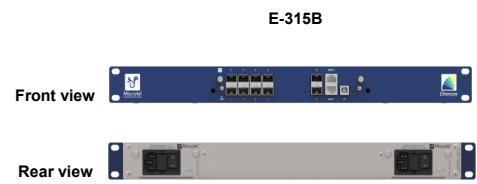
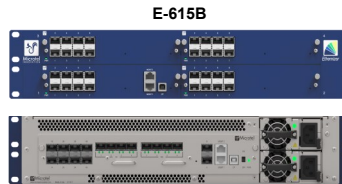
For a specific user conversation, the probe can correlate the CIC information, present in Sigtran stream, with the Voice Stream Source Information (STM-1 Input Port, VC-12 Channel and Timeslot, in the UDP Source Port packet field), through a static table filled with the information provided by the Telecom Operator.

Ethernizer E series also includes the following models:

Model	Input Interface	Output Interface	Protocol Conversion	
E-615B	up to 16	STM-1	(2x1+2x10) GbE	SS7 & Voice
E-315B	up to 4	STM-1	(2x1) GbE	SS7 & Voice
E-613B	up to 16	STM-1	(2x1+2x10) GbE	SS7
E-313B	up to 4	STM-1	(2x1) GbE	SS7
E-613A	up to 128	E1	(2x1+2x10) GbE	SS7
E-313A	up to 32	E1	(2x1) GbE	SS7

Technical specifications

Microtel T-20 optical splitter can be used to interface E-615B & E-315B to STM-1 links.



Model	E-615B	E-315B
Front view		
Up to 4 input modules (SFP included)	4 singlemode STM-1 (for each module) up to 16 STM-1	4 singlemode STM-1
STM-1 power status LED	LED ON (Frame detected) / LED OFF (no Frame) for each STM-1 input port	LED ON (Frame detected) / LED OFF (no Frame) for each STM-1 input port
Console port		1 USB
Management/Network LAN port		1x10/100 Mbps with RJ45 connector
Output ports (SFP connection)		2x1G Ethernet ports
Module power status LED	ON/OFF for each input module	ON/OFF
Rear view		
Output ports (SFP/SFP+ required)	2x1G + 2x10G Ethernet ports	
Console port	1 USB	
Management/Network LAN port	1x10/100 Mbps with RJ45 connector	
ON/OFF switch	One for each power supply AC/DC (2), with power status led	One or each power supply AC/DC (2)
Output transceiver type (SFP / SFP+)		
Copper	1000 Base T	
Singlemode	1000 Base LX (1310 nm) / 10 GE Base LR (1310 nm)	
Multimode	1000 Base SX (850 nm) / 10 GE Base SR (850 nm)	
Part number		
Chassis equipped with: 1 input module with 2 STM-1 links (4 Rx) and (2x1) GbE rear ports,		E-315B-B1-2AS-2G
Chassis equipped with: 1 input module with 4 STM-1 links (8 Rx) and (2x1+2 x10) or (2x1) GbE rear ports,	E-615B-B2-4AS-2G2H (2x1G+2 x10G) output ports	E-315B-B1-4AS-2G (2x1G) output ports
Chassis equipped with: 2 input module with 8 STM-1 links (16 Rx) and (2x1+2 x10) GbE rear ports,	E-615B-B2-8AS-2G2H	
Chassis equipped with: 3 input module with 12 STM-1 links (24 Rx) and (2x1+2 x10) GbE rear ports	E-615B-B2-12AS-2G2H	
Chassis equipped with: 4 input module with 16 STM-1 links (32 Rx) and (2x1+2 x10) GbE rear ports	E-615B-B2-16AS-2G2H	
Additional module with: 4 STM-1 links (8 Rx)	IN-0009-SB	
Capacity licence to enable 2 STM-1		E-315B-L-2AS
Redundant power supply AC or DC	PS2-3/460-AC or PS2-5/460-DC	PS1-3/160-AC or PS1-5/160-DC

Management <ul style="list-style-type: none"> Embedded configuration GUI Management interface <ul style="list-style-type: none"> 1 USB 1 Ethernet LAN port 	Operating <ul style="list-style-type: none"> Operating temperature: 0°C to 45°C Storage temperature: -20°C to 70 °C Relative humidity: up to 90% not condensing 	Power <ul style="list-style-type: none"> 220-110 Vac 50-60 Hz hot swap power module 48 Vdc hot swap power module Default redundancy Max consumption: (fully equipped) 350 W (E-613B) -150 W (E-313B) 	Dimensions (E-615B) <ul style="list-style-type: none"> Chassis 2U surface or 19" rack mount 482,6 mm W, 453 mm D, 88 mm H Weight: (fully equipped) 11 kg (24.2 lbs) 	Dimensions (E-315B) <ul style="list-style-type: none"> Chassis 1U surface or 19" rack mount 482,6 mm W, 453 mm D, 44 mm H Weight: (fully equipped) 5.5 kg (12.1 lbs)
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UK DISTRIBUTOR

TEST & MANAGEMENT DIAGNOSTIC SOLUTIONS

FRAME COMMUNICATIONS LTD

7 Midshires Business Park
Smeaton Close
Aylesbury
Bucks
HP19 8HL
UNITED KINGDOM

Tel: +44 (0) 1296 678510

Fax: +44 (0) 1296 436247

WEB: <http://www.frame.co.uk>

Email: testinfo@frame.co.uk

