



Metro Ethernet Forum (MEF)

PIPE Networks is the first Australian Telecommunications Carrier to be MEF Certified. The MEF is a global industry alliance comprising of more than 150 organisations that aim to accelerate the worldwide adoption of carrier class ethernet networks and services.

The MEF develops technical specifications and implementation agreements to promote interoperability and deployment of Carrier Ethernet worldwide which is a ubiquitous, standardised, carrier-class service that distinguishes it from familiar LAN based ethernet

MEF Certification

PIPE Networks chose to seek MEF certification for its PipeEthernet™ services to provide industry leading service quality to our customers.

Traditionally, ethernet services have been purchased for their competitive pricing rather than for their quality or performance. In fact the most demanding users have preferred technologies such as ATM, Frame Relay and X.163 that have a guaranteed quality of service.

PipeEthernet™ services are certified to the MEF Carrier Ethernet standard. This standard provides the framework to deliver metro ethernet services that have been designed by the world's peak ethernet body. Carrier Ethernet provides industry leading performance, features and security designed specifically for wide area ethernet, making it a true replacement for legacy services such as Frame Relay and ATM.

The MEF have created a new language to describe Wide Area Ethernet. Previously providing a detailed ethernet service specification has been very difficult due to common ethernet being a Local Area Network (LAN) technology and not having enough well defined terms to properly describe the service when used in a Wide Area Network (WAN) environment. This new language allows for detailed and unambiguous service specifications ensuring that you get what you need and what you pay for.

Carrier Ethernet

Carrier Ethernet is a ubiquitous, standardised, carrier-class service defined by five attributes that distinguish it from familiar LAN based ethernet.

Standardised Services:

E-Line and E-LAN provide transparent, private line, virtual private line and LAN services ideally suited for converged voice, video and data networks.

Scalability:

Scalability of bandwidth from 1Mbps to 10Gbps and beyond, in granular increments.

Reliability:

The ability for the network to detect and recover from incidents without impacting users, with recovery times of less than 50ms.

Quality of Service:

A network managed to carrier-class standards.

Service Management:

Services that deliver end-to-end performance matching the requirements for voice, video and data over converged networks.

Why is MEF Certification Important?

The lack of a well defined standard for ethernet services has resulted in varying quality, reliability and compatibility among providers. MEF compliant services adhere to stringent technical specifications and deployment guidelines that provide a level of consumer confidence that has been previously unattainable.

The MEF accreditation is an assurance of service quality and guarantees the ability to interoperate with other providers. Customers who purchase MEF certified products benefit from full specification disclosure and the knowledge that the product they are purchasing has been designed and deployed to MEF standards.

Key MEF Terms

All to One Bundling

A UNI attribute in which all CE-VLAN IDs are associated with a single EVC.

Bundling

A UNI attribute in which more than one CE-VLAN ID can be associated with an EVC.

CE-VLAN CoS

Customer Edge VLAN CoS. The user priority bits in the IEEE 802.1Q Tag in a Service Frame that is either tagged or priority tagged.

CE-VLAN ID

Customer Edge VLAN ID. The identifier derivable from the content of a Service Frame that allows the Service Frame to be associated with an EVC at the UNI. The identity of the VLANs on the Ethernet port of the customer equipment that is attached to the UNI.

CE-VLAN ID Preservation

An EVC attribute in which the CE-VLAN ID of an egress Service Frame is identical in value to the CE-VLAN ID of the corresponding ingress Service Frame.

CE-VLAN Tag

Customer Edge VLAN Tag. The IEEE 802.1Q Tag in a tagged Service Frame.

Class of Service (CoS)

A set of Service Frames that have a commitment from the Service Provider to receive a particular level of performance.

Committed Burst Size (CBS)

CBS is a Bandwidth Profile parameter. It limits the maximum number of bytes available for a burst of Service Frames sent at the UNI speed to remain CIR-conformant. It defines the average rate in bits per second of ingress Service Frames up to which the network delivers Service Frames and meets the performance objectives defined by the CoS Service Attribute.

Committed Information Rate (CIR)

CIR is a Bandwidth Profile parameter. It defines the average rate in bits, of ingress Service Frames up to which the network delivers Service Frames and meets the performance objectives defined by the CoS Service Attribute. A Bandwidth Profile property where a pre-determined level of Bandwidth Profile compliance for each Service Frame, if present, is ignored when determining the level of compliance for each Service Frame.

Customer Edge

Equipment on the Subscriber side of the UNI.

E-LAN

An Ethernet service type that is based on a Multipoint-to-Multipoint EVC.

E-Line

An Ethernet service type that is based on a Point-to-Point EVC.

E-LMI

Ethernet Local Management Interface (A layer 2 control protocol).

EBS

Excess Burst Size.

EPL

Ethernet Private Line.

Ethernet Virtual Connection (EVC)

An association of two or more UNIs that limits the exchange of frames to UNIs in the EVC.

EVC Maximum Transmission Unit Size

The maximum sized Service Frame allowed for an EVC

EVPL

Ethernet Virtual Private Line.

Excess Information Rate (EIR)

EIR is a Bandwidth Profile parameter. It defines the average rate in bits per second of ingress Service Frames up to which the network may deliver Service Frames without any performance objectives. The rate up to which the network will attempt to deliver ethernet Service Frames before they are discarded.

GARP

Generic Attribute Registration Protocol (A layer 2 control protocol).

Ingress

The direction from the CE into the Service Provider network.

Ingress Bandwidth Profile

A characterisation of ingress Service Frame arrival times and lengths at the ingress UNI and a specification of disposition of each Service Frame based on its level of compliance with the characterisation.

LACP

Link Aggregation Control Protocol (A layer 2 control protocol).

LAMP

Location Aware MAC Protocol (A layer 2 control protocol).

Layer 2 Control Protocol Service Frame

A Service Frame that is used for Layer 2 control.

LLDP

Link Layer Discovery Protocol (A layer 2 control protocol).

MRP

Metro Ring Protocol (A layer 2 control protocol).

MSTP

Multiple Spanning Tree Protocol.

OAM

Operations, Administration and Maintenance.

PE

Provider Edge.

Point-to-Point EVC

An EVC with exactly 2 UNIs.

RSTP

Rapid Spanning Tree Protocol.

Service Multiplexing

A UNI attribute in which the UNI can be in more than one EVC instance.

STP

Spanning Tree Protocol.

End User

The organisation or customer purchasing and/or using ethernet services.

User Network Interface (UNI)

The User Network Interface is the physical interface or port that is the demarcation between the customer and the service provider. The physical demarcation point between the responsibility of the service provider and the responsibility of the subscriber.

Source: <http://metroethernetforum.org>.