Chapter 10

ETHERNET SERVICES OVER METRO ETHERNET NETWORKS

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10.1. INTRODUCTION

One of the highest priorities for the Metro Ethernet Forum has been the establishment of standards for Ethernet services. These standards will allow subscribers to successfully plan and integrate Ethernet services into their overall networks and also to be able to do such integration with services from more than one service provider. These standards will also allow equipment vendors to implement capabilities in both service provider equipment and subscriber equipment such that the Ethernet services can be efficiently provided by the service providers and accessed by the subscribers.

To accomplish these goals, Ethernet services must be described in precise technical details. The descriptions of the fundamental constructs for Ethernet services are presented in Section 10.2. Service features are described in Section 10.3. The material in this chapter is based on [1].

10.2. SERVICES MODEL

The services model for Ethernet services is portrayed in Figure 10-1 and is further described in the following subsections.
10.2.1 Customer Edge View

The MEF Ethernet services are described from the point of view of the subscriber equipment, referred to as the Customer Edge (CE). Thus the services are defined only in terms that are observable to the CE. The types of technology and the architecture inside the Metro Ethernet Network (MEN) are invisible. By defining services in this manner, the MEN can evolve independently of the evolution of the subscriber’s network without disruption of the service that the subscriber is given.

10.2.2 User Network Interface

The User Network Interface (UNI) is the physical demarcation point between the responsibility of the service provider and the responsibility of a single subscriber. A UNI must be dedicated to a single subscriber.

A UNI is frequently an RJ-45 socket on a service provider-owned Ethernet switch that is placed on the subscriber’s premises. Another typical example is an RJ-45 socket on a service provider-owned patch panel.

As implied in Figure 10-1, another way of viewing the UNI is that it is located where the CE begins and the MEN ends when looking outward from the MEN. It follows that the MEF services are described as the UNI-to-UNI behavior. For example, frame loss performance is defined in terms of frames received by the MEN at a UNI and frames delivered by the MEN to one or more other UNIs.

A key goal in the development of the MEF Ethernet services is that existing, Standard Ethernet devices should be able to attach to an MEN (at a UNI) and successfully work with the service. This makes MEF Ethernet