

INVENTION DISCLOSURE

Invention Title:

An architecture for using SDN to support virtual cable modems and device configuration in DOCSIS based networks

Invention Summary:

This invention defines a network architecture that uses SDN mechanisms to provision DOCSIS networks and devices.

Invention Description:

A DOCSIS network operates using a controlling mechanism for the CPE device called a (DOCSIS Cable Modem Manager) or a vCM to control the cable modem element. In the vCM version the Cable Modem Manager has been virtualized and removed from the Cable Modem device and moved to the DPoE System. The application of this invention is dependent on virtualizing a cable modem manager thereby creating a vCM mechanism. This disclosure describes the use of SDN mechanisms to divide the vCM into two parts. The first part is the vCM eOAM module and the second part is the vCM DOCSIS OSS module. The purpose for the two parts is to allow the option of configuring DOCSIS network elements without using the DOCSIS provisioning model.

This system allows the continued use of the provisioning model defined in DOCSIS. In the DOCSIS provisioning model the DOCSIS OSS environment will communicate with vCM DOCSIS OSS module and the SDN Mechanisms would convey any needed information to the vCM eOAM module to provision the DOCSIS network elements. Conversely, other provisioning models will use the SDN mechanisms to communicate with the vCM eOAM module to provision DOCSIS network elements.

In the attached diagram the first slide depicts the original DOCSIS model used for DPoE and the needed vCM. The second slide depicts the vCM and its divided parts. The vCM component migrates from the DPoE System, divides, and resides in the network cloud architecture.

Invention Commercial value/customers:

This invention would primarily be utilized by cable industry multiple system operators and will allow BSS/OSS systems to interoperate with Standardized BSS/OSS systems and network configuration systems.

Invention differences:

No known similarities.

Network architecture to support the virtualization of DOCSIS Provisioned EPON Networks

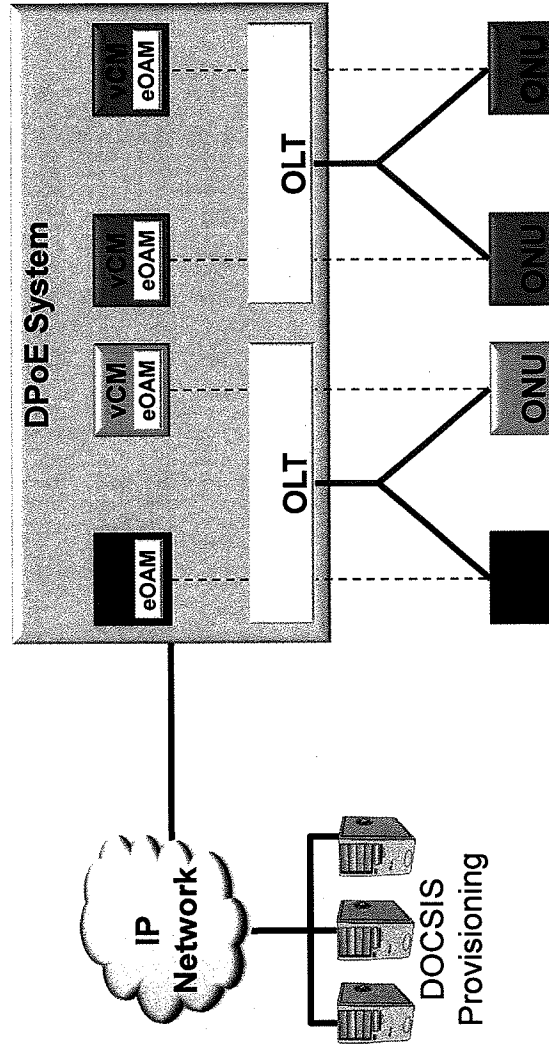
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