eXmux 3500 in Different Network Segment
RFL eXmux 3500® IP Access Multiplexer

The RFL eXmux 3500 is a hardened IP Access Multiplexer engineered for mission critical infrastructures that seamlessly transport voice, serial, video and Ethernet data communications over Ethernet/IP or MPLS networks. The eXmux 3500 is a Layer 2 device with an integrated managed Ethernet switch which allows the eXmux 3500 to be used either in a private network with other eXmux 3500's or as part of a larger Ethernet/IP/MPLS network. Both fiber (using SFPs) and RJ-45 connections are available for the eXmux 3500; uplink speeds of up to a Gigabit are possible.

The purpose of this application note is to show the eXmux-3500 IP Access Multiplexer technology concepts installed and interoperate between other managed switches and routers.

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Nowadays, networking systems equipment e.g. switches, routers that allows multiple bridge networks to interoperate transparently with other vendor's equipment typically requires a full integration testing to meet the standard implementations set by the industry.

This application note should allow us to look into the eXmux 3500 IP Access Multiplexer implementation when connected into different network segments using switch and router devices. The eXmux 3500 is a Layer-2 switch device that uses the widely acceptable IEEE 802.3 Carrier Sense Multiple Access with Collision Detection (CSMA/CD) standard.

In Figure 1, the eXmux 3500-1 and eXmux 3500-2 are connected in 10.1.1.0 and 11.1.1.0 network segments, respectively. Data and TDM over IP traffics ingressing and egressing in port 6 in both eXmux 3500 devices are all Untagged (VID-1). eXmux 3500-1 uplink port 6 is connected to cisco 3560 swithport swF0/10 (Access Port, VLAN 10) and eXmux 3500-2 uplink port 6 is connected to switchport swF0/11 (Access Port, VLAN 11), respectively. The switchport swF0/1 is configured to be the Trunk port for VLAN 10 and VLAN 11 towards the router's port rF0/1 The Cisco 3560 switch processes the tagging/untagging of the VID and switching while the Cisco 2800 performs the routing between the 10.1.1.0 and 11.1.1.0 network segments.

The eXmux 3500 were configured to exchange management & clocking information and data traffics across the network segments. Point-to-Point TDM bundles are created for the services. Please refer to the eXmux 3500 User Manual for the detailed configurations guide.
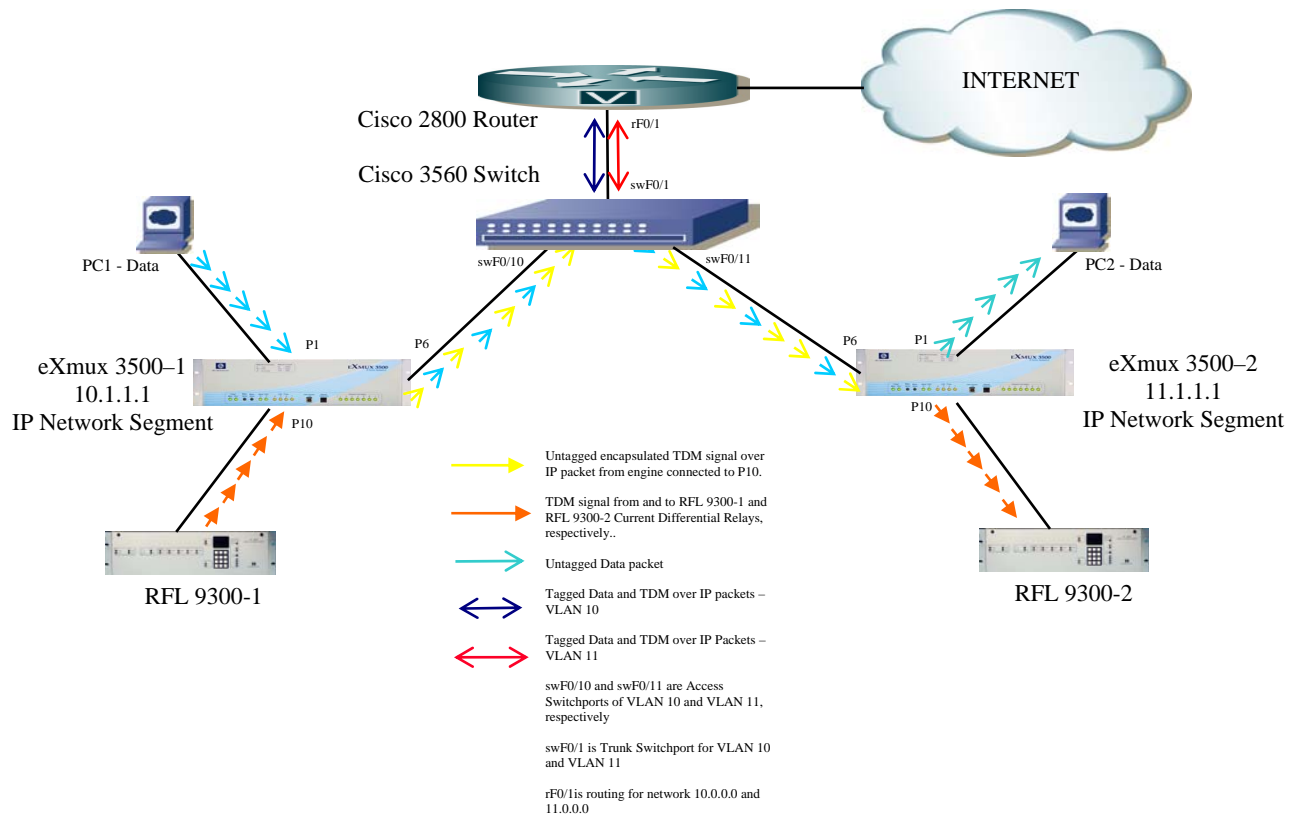
Figure 1

Contact RFL Electronics at 973-334-3100 for any inquiries and further assistance. Cisco 2800 router and Cisco 3560 switch are used for testing the application. Please contact RFL personnel for the details of the Cisco devices configurations.