

WHITE PAPER

Network Strategies to Drive Lower Costs amid Higher Traffic Demand

Introduction

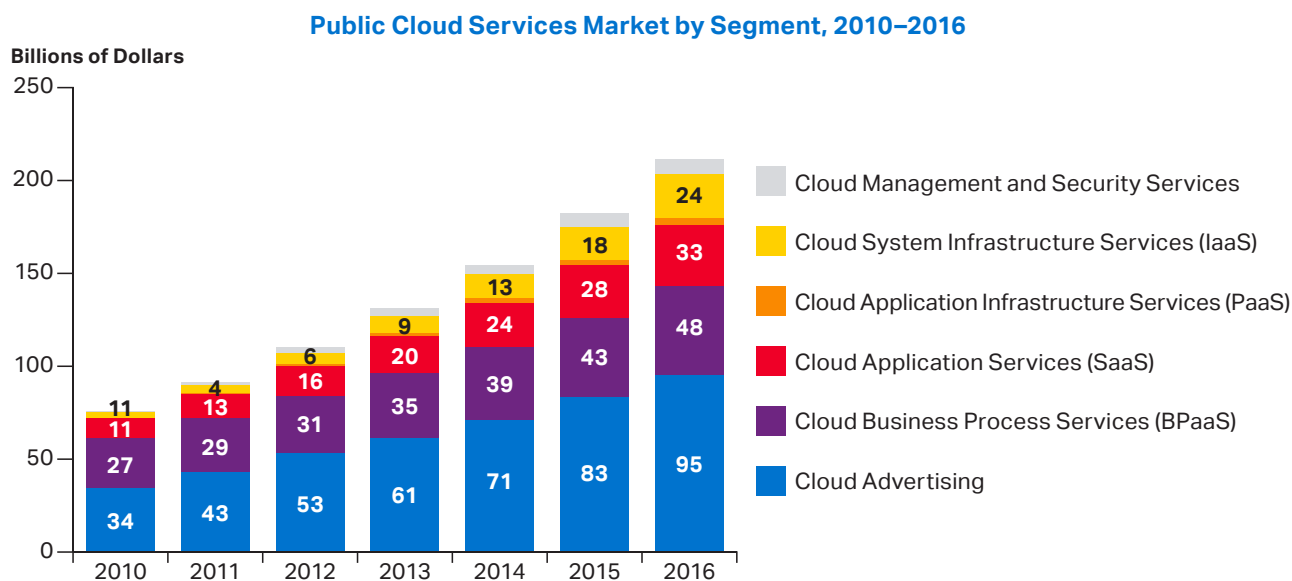
Despite the increasing reliance of modern business on network infrastructures, IT departments have recognized the need to curtail their capital and operational expenditures in the face of ever-tightening budgets. For some time now, packet-based networks have replaced legacy technologies like ATM and Frame Relay to support IP applications that demand high-speed connectivity. The use of router-based (Layer 3) infrastructure created a more flexible and cost-effective solution for remote user access, Internet access, website hosting, eCommerce, and the like. However, with the more recent explosion of video-based applications, and especially the 'cloud-first' strategies being adopted by IT departments, the cost of continued expansion of the routing infrastructure itself has come under scrutiny.

The industry has responded with numerous presentations and papers for implementing 'router offload' using Optical Transport Network (OTN) or Ethernet connection-oriented technologies like MPLS-TP, which can be leveraged to ease the continuous and growing expense of simply adding more and more routers to handle the burgeoning network load.

This paper discusses how OTN and MPLS-TP can be jointly deployed to optimize IP router infrastructures.

Drivers for Router Offload

The composition of Internet traffic has evolved dramatically in recent years, and with it, the demands on routers. As reported in Sandvine's 1H 2014 Global Internet Phenomena Report, real-time traffic (mainly video), characterized by higher bandwidth and



Source: Gartner (February 2013)

Figure 1. Public cloud service market growth