Dialogic®

Solution Brief

Modern Media Gateways Accelerate Cost Savings with Static Trunking Applications

Introduction

Despite continuing decreases in bandwidth costs, many international and domestic long-haul transmission routes still have high prices or limited available capacity. For Communications Service Providers (CSPs), this presents a very costly problem that can erode already razor thin margins and introduce quality issues with voice traffic sent over bandwidth-constrained terrestrial, submarine and satellite transmission links.

Dialogic® I-Gate® 4000 Media Gateways (I-Gate 4000 MGWs) support static trunking architectures that empower CSPs with unmatched approaches for realizing substantial bandwidth savings without compromising on voice quality. I-Gate 4000 MGWs can help CSPs who want to realize:

- Reduced equipment CAPEX and OPEX
- More efficient utilization of deployed network resources, and
- New ways to improve competitiveness and increase profitability.

Applications that can stand to benefit from static trunking include:

- Interconnection of Mobile Switching Centers (MSCs) and Wireline switches
- Backhaul between MSC sites and Points of Interconnection (POIs) to the PSTN
- Transmission of long-distance international and domestic telephony traffic
- Call center connectivity and backup protection networks

Wireline and Mobile Interswitch Transport Savings

In a static trunking solution, the traffic transmitted between PSTN and/or MSC switches is compressed by an I Gate 4000 EDGE or I-Gate 4000 PRO Media Gateway (MGW) connected to one of the switches and decompressed at a remote I Gate 4000 EDGE or I-Gate 4000 PRO MGW connected to the second switch. The compressed traffic can be carried over IP or TDM networks. See Figure 1 for an example.

With I Gate 4000 MGWs, a CSP can build one IP transport network for both voice and data and take advantage of cost-efficiencies of converged IP transport prior to undertaking a full-fledged network migration. This allows CSPs to bypass their TDM transmission core with all-IP without compromising quality or stability, while preserving legacy PSTN switch investment (for example, switches and OSS).

Since the same I Gate 4000 EDGE or I-Gate 4000 PRO MGW can be used for both static trunking and softswitch-controlled VoIP services, I Gate 4000 MGWs offer a smooth evolution path from traditional TDM switches and transmission links to all-IP next-generation networks. CSPs with a TDM switching infrastructure can initially leverage the static trunking capabilities of the I Gate 4000 Media Gateways to lower costs by transporting voice over their packet-based data networks. Utilizing the same infrastructure, CSPs can then migrate to a more flexible and cost-effective switched IP network by adding a softswitch platform to their networks.

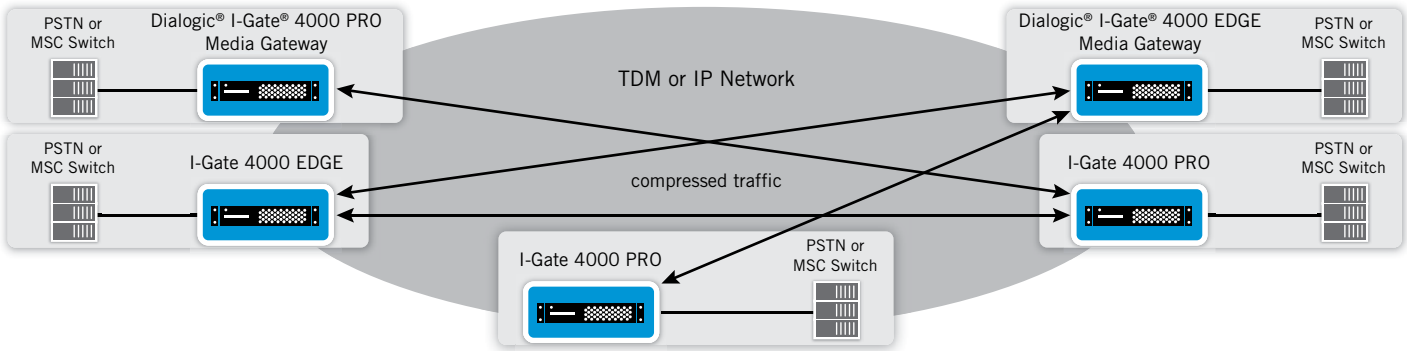

Figure 1. Wireline or mobile inter-switch transport

Mobile Network Point of Interconnection

A significant number of calls between mobile phones and PSTN phones require transport through the PSTN long-distance switching and transmission infrastructure. The mobile network operator often has to pay the wireline operator very high fees for long-distance service. Using a static trunking approach that compresses the traffic between the MSC site and a POI site near the local PSTN switch, the mobile operator can achieve significant savings by avoiding the need to pay long-distance fees. See Figure 2 for an example.

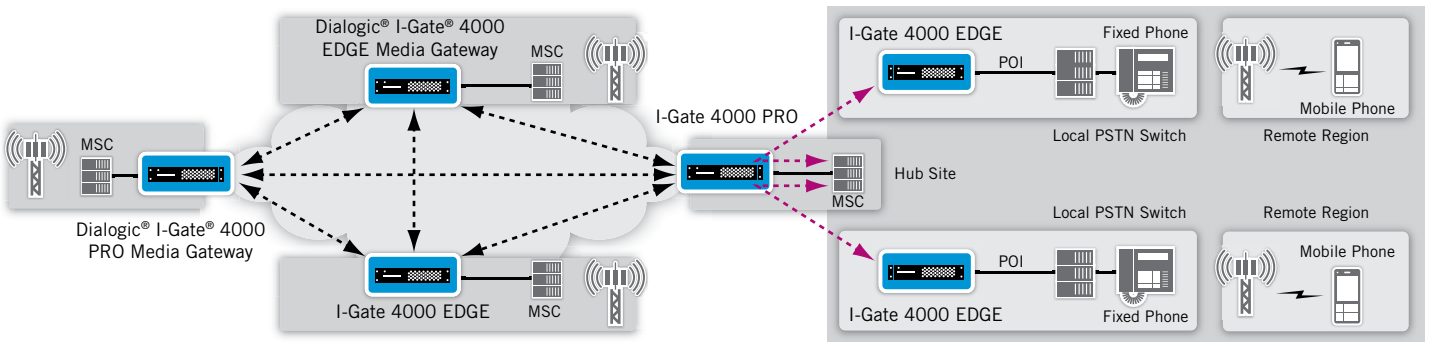

Figure 2. Inter-MSC and Point-of-Interconnection (POI) applications

Static Trunking in Satellite and Terrestrial Radio Link Applications

The high-compression techniques and voice quality protection mechanisms of I Gate 4000 MGWs enable a cost-effective solution for satellite and radio link routes over TDM or IP links. CSPs can deploy I-Gate 4000 MGWs either in a single-route point-to-point configuration or point-to-multipoint static trunking configuration (supporting multiple bearer links), thus handling traffic to multiple destinations. See Figure 3 for an example. Furthermore, the intelligent end-to-end compression feature of I-Gate 4000 MGWs can reduce CAPEX and OPEX in applications encompassing call paths through several compression and decompression segments (hops).

I-Gate 4000 MGWs support an in-band management feature. Management traffic can be carried through the same bearer link between two distant sites, thus allowing a CSP to manage remote I-Gate 4000 MGWs from a central (hub) site, eliminating the need for separate management links.

In addition, I-Gate 4000 MGWs possess an integrated cross-connect feature which supports any-to-any connectivity between E1/T1 64 kbps DS0 channels. This allows CSPs unparalleled flexibility in routing, grooming and optimizing traffic, while enabling them to reduce overall expenses in applications that require interconnection over

- Multiple narrow bandwidth (thin-route) satellite links
- Ring-topology microwave links between drop/insert nodes

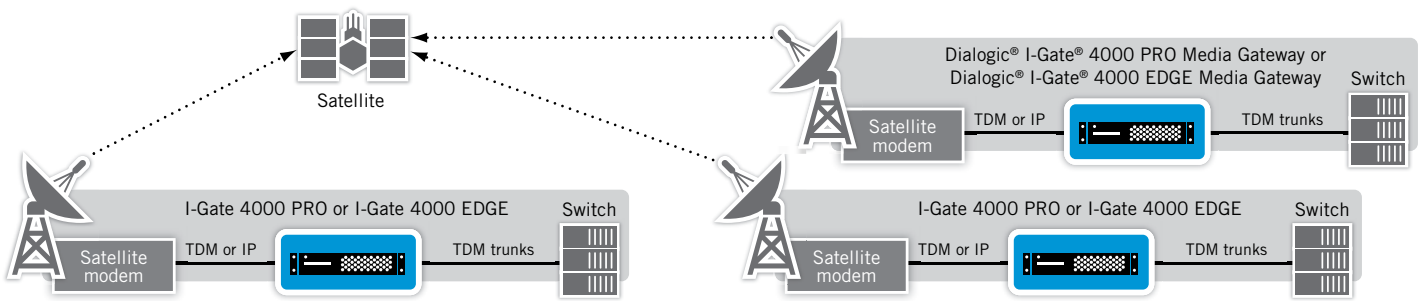

Figure 3. Satellite Static Trunking

Summary

I-Gate 4000 MGWs can help connect, optimize and reduce bandwidth requirements in static trunking applications across mobile, fixed and satellite networks. I-Gate 4000 PRO and EDGE MGWs are modern gateways that enable CSPs to deliver high quality voice with significant bandwidth savings (up to 93%) in both low and high port density options. They provide an open and reliable platform (up to “six 9’s” availability for the I-Gate 4000 EDGE MGW) and are compatible with a wide array of vendor switching technologies to help service providers gear up to offer new and differentiated services that involve future-ready features like HD Voice and WebRTC.

Find out more about I-Gate 4000 MGWs by going to http://www.dialogic.com/I-GateMGW

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