GENBAND™

DRIVING THE NETWORK EVOLUTION

VOICE OVER FTTX AND BROADBAND NETWORKS

Carrier Class Gateways for Voice Services over Packet Access Networks

The G6® Universal Gateway and G2® Compact Gateway allow immediate revenues via Class 5 call control over packet-based access networks, with an effective upgrade path to Next Generation, IMS networks.

BUSINESS REQUIREMENT

Service providers are deploying packet-based access architectures such as FTTx, IPTV, T1/E1/PRI, broadband wireless, and DSL for high speed data and video services. They are currently using reliable Class 5 Local Exchange switches to provide voice services and features over their own or leased circuit-based access plant. Because these Local Exchange assets continue to provide significant value and are tightly integrated into all systems and processes, service providers are looking for ways to leverage these Local Exchange switches to provide voice services over packet networks.

TECHNICAL CHALLENGE

Because EWSD and DCO line frames are proprietary to EWSD and In order for circuit-based Local Exchanges to provide voice services and features over packet-based access architectures, a Local Exchange Access Gateway is needed for two primary purposes: 1) to convert circuit-based voice to packet voice, and 2) to interwork Local Exchange signaling protocols (such as "off-hook") with packet protocols so that Local Exchange features can be provided to phones over the FTTx or broadband packet network.

SOLUTION

GENBAND's G6 Universal Gateway is one of the world's most widely deployed platforms for bridging packet access networks to Local Exchange switches, using standard Local Exchange interfaces such as GR-303, TR-08, and V5.2. The G6 platform is widely used by service providers because of its rich feature support and extensive interoperability with packet access platforms and CPE (IADs, MTAs, ONTs). GENBAND's new G2 Compact Gateway uses the same software as the G6 and offers these same capabilities.

BENEFITS

- Leverages Existing Assets – extends Class 5/Local Exchange switches and features across new packet networks
- World-Class Reliability – a NEBS-3 certified platform, completely redundant, hitless upgrades, billions of in-network minutes
- Unmatched Interworking Flexibility – supports GR-303, TR-08, V5.2, CAS, and PRI circuit interfaces as well as H.248, BLES and MGCP endpoints
- Broadens Service Coverage – line and trunk-based services are supported, including dynamic voice and Circuit Emulation services for T1/E1/PRI and PBXs
- Reduces Access Costs – allows multiple voice lines and data over a single broadband facility, reducing costs of maintaining or leasing circuit access
- Assets are Protected – the G6/G2 easily transition to provide Trunking Gateway and Packet Line Gateway services in softswitch and IMS architectures

GENBAND

DRIVING THE NETWORK EVOLUTION

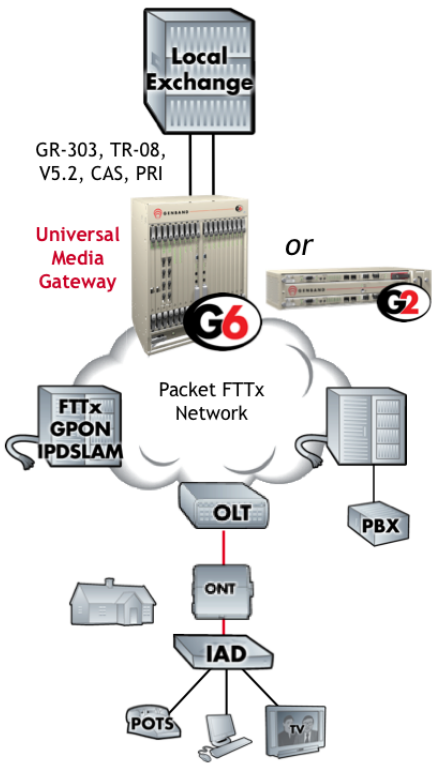
VOICE OVER FTTX AND BROADBAND NETWORKS

CASE STUDY 1 - INTERNAL OR EXTERNAL?

Service Provider A is deploying a new packet-based FTTx access network to enable triple play services. It is trying to decide the best path for providing Class 5/Local Exchange voice services – whether to use the FTTx Access Platform's internal gateway card or external G6 and G2 Gateways.

Service Provider A does a quick business case to determine the most efficient and least costly path. They estimate that by year three, 20 offices will be deployed, each with 3 FTTx platforms and 1,000 customers per FTTx platform. Each Access Platform will need four gateway cards – one for GR-303, one for Business services like PRI, and each with a redundant card. This means 12 cards per office, 240 total cards and FTTx slots used, and only 9% utilization of ports.

Analyzing further, they realize that they can achieve 83% port efficiency at less than half the cost by using G6 and G2 gateways instead of numerous "Access Platform gateways". As well, the G6 and G2 gateway ports can be re-used as they migrate to softswitch or IMS networks.



CASE STUDY 2 - EXTENDING CLASS 5 LIFE

Fixed Line Operator B provides local voice services over its primarily copper-based access networks. Their Class 5/Local Exchange TDM switches provide reliable call control and will continue to do so until fully depreciated and/or there is a compelling reason to provide softswitch or IMS call control.

Fixed Line Operator B implements a Class 5 Derived Voice over Broadband program. It uses G6 and G2 access gateways to connect copper based IP access equipment to its Class 5/Local Exchange switches. All existing Class 5 Local Exchange features are transparently passed through the IP/broadband access network.

The G6 and G2 gateways allow Fixed Line Operator B to proceed forward immediately on deploying its Broadband networks. When migration to softswitch or IMS call control occurs in the future, the G6 and G2 platforms will provide additional gateway functions such as PSTN trunking and connecting legacy (DLC or Access Node) equipment to the new call control.