Adax GW

adax
Legacy to 5G and IoT

SS7 to IP Signaling Gateway and STP for Legacy Network Interworking

Overview

Service Providers are making the transition to 4G, and 5G is coming, but legacy connectivity for voice, SMS and IN applications still remains an absolute requirement. SS7 TDM interfaces must be maintained to meet the demand to interconnect different networks and multi-protocol solutions are required to connect divergent circuit and packet switching architectures. SS7 isn't retrograde – it's traditional. It's still the most robust, high performance, and reliable signaling solution out there and it's needed today more than ever.

The Adax Gateway (Adax GW) meets any signaling interworking requirement delivering the scalability, flexibility, throughput, and performance that enables service providers to manage the convergence and growth of their networks, whilst maintaining legacy connections and infrastructure. The Adax GW provides configuration options that allow it to function as an STP in an SS7-IP network. It can also function as if it were an STP on the SS7 network, that is, it will relay traffic rather than being an endpoint.

The Adax Signaling Gateway

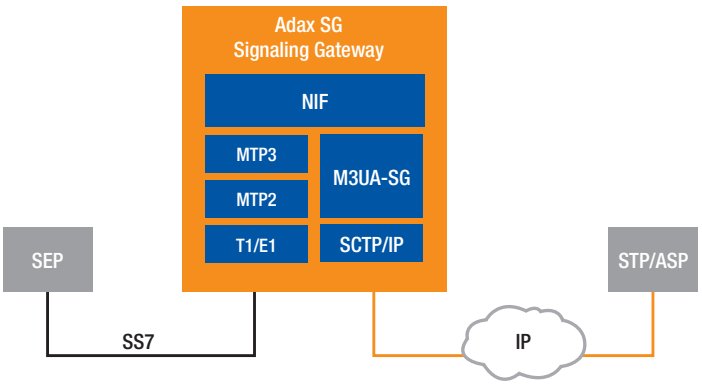
The Adax GW is a compact and economical signaling gateway for interworking SS7 and SIGTRAN, enabling service providers to maximize revenues, satisfy consumer demands for new services and protect investment in traditional SS7 infrastructure. This reduces the total cost of ownership of legacy equipment and enables the transition to new IP based networks without the need for costly STP replacement.

Supporting legacy TDM SS7 connections to any SIGTRAN protocol and SIGTRAN interworking, e.g. M2PA to M3UA, the Adax GW is configurable and reconfigurable in the field to meet any interworking requirement. Available as a complete boxed solution in a Rack Mount Server (RMS) or ATCA chassis, the Adax GW software can also be integrated in to the user's RMS of choice or virtualized Linux environment supporting technologies such as VMware. (see Adax vGW datasheet)

The Adax GW can simplify SS7 LSL concentration and remove the burden of moving individual DS0s via drop-and-insert on long-haul circuits. No additional point codes are required at the remote Signaling End Points and traffic between the SEPs and the STP can migrate to HSL and SIGTRAN, bypassing the cross connect device. The Adax Gateway can interwork ATM HSL and OC3 traffic too. For IP-only virtualized nodes, such as M3UA based charging and billing platforms, the Adax GW can provide SS7 interfaces. SIGTRAN traffic reliability is guaranteed by Adax SCTP's error correction features. They deliver a robust, reliable, high performance transport layer with multi-homing provisioning options that implement link monitoring and fail-over robustness and redundancy for quick recovery.

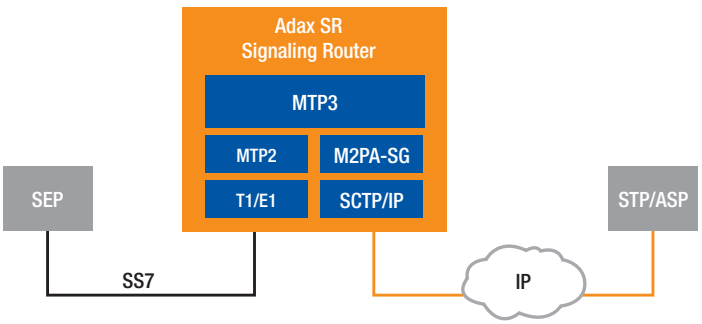
Adax GW Features and Benefits

- Maintains SS7 TDM connectivity, IP-enables any legacy node and interworks with cost effective IP links
- Can be configured as a Gateway STP
- Covers all legacy interworking requirements:
  - T1/E1/J1 LSLs, Annex A HSLs, ATM T1/E1, OC3, OC12, GbE
  - ANSI, ITU, UK, Chinese & Japanese national variants
  - SIGTRAN M2UA, M2PA, M3UA and SUA
  - SS7 GTT, SCCP, MTP3/b, MTP2/Annex A and ATM
  - Signaling Interworking: SS7/IP, IP/IP or ATM-IP
- Unparalleled scalability and flexibility to protect investment in both Legacy and IP networks:
  - Delivers the link density and throughput to enable service providers to manage the convergence and growth of their networks
  - Enables service providers to maximize revenues and satisfy consumer demands for new services whilst maintaining traditional TDM signaling in IP networks
- High-Availability options with no loss of service during switch-over
- One management interface for all configurations that are re-configurable & re-deployable
- Pre-integrated RMS or ATCA boxed solution
- Telcordia certified at Release 3.4 and designed to meet NEBS-3
- Software can be integrated in to user's RMS platform or virtualized Linux environment (Adax vGW)



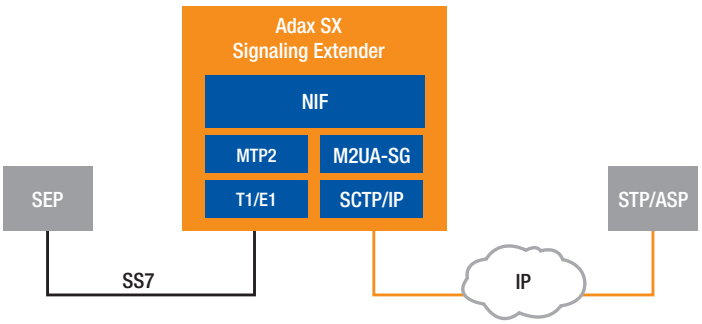
Adax Signaling Gateway: *MTP3 and M3UA interworking*

- M3UA<->MTP-3, M3UA<->M2UA, M3UA<->M2PA
- SUA, SCCP, and GTT options



Adax Signaling Router: *SS7 LSL concentrator over M2PA*

- M2PA, MTP3 transfer



Adax Signaling Extender: *SIGTRAN based SS7 LSL backhaul*

- M2UA, ISUP/TCAP backhaul

Adax Signaling Gateway Solutions

The Adax Signaling Gateway can be deployed in multiple configuration and platform scenarios as required. See also datasheets for the Adax vGW and Adax SX to get a full overview of our legacy interworking solutions.

Technical Specifications

Protocol and Standards Compliance

SS7

- SS7 MTP2: ITU-T Q.703, ETSI 300 008, 300 008-1, ANSI T1.111, TTC JT-Q.703, ITU Q.703 Annex A 1996, China SS7 YD/T 1125 – 2001
- SS7 MTP3: ITU-T Q.704, Q.707, ETSI 300 008, 300 008- 1, ANSI T1.111, Bellcore GR246, GR606, GR82
- SS7 SCCP: ANSI SCCP per T1.112 and Telcordia GR-246-CORE, with conformance testing per T1.235. ITU SCCP per Q.711 through Q.714, with conformance testing per Q.786c. ETSI SCCP per ETS 300 009
- MTP3b, Q.2210
- MTP3 transfer (NIF), MTP2 transfer (NIF)
- A, B, C, D, E, F Links

ATM

- ATM AAL2, ITU-T I.363.2
- ATM AAL5, ITU-T I.363.5
- SSCOP, Q.2110
- SSCF NNI, Q2140
- SSCF at UNI per Q.2130
- SSCS Layer Management Q.2144
- SSSAR/SSTED/SSADT, ITU-T I.366.1
- HSL over AAL5, Telcordia GR-2878-Core

SIGTRAN

- SCTP: RFC 4960
- M3UA: RFC 4666, Supports Chinese variant
- M2UA: RFC 3331
- M2PA: IETF Draft 7 - Draft 13, RFC 4165
- SUA: RFC 3868

Interfaces Available

- T1/E1/J1 ports
- Drop & Insert on all channels
- ATM/HSL T1/E1 ports
- GbE ports
- OC3/STM-1/STS-3c ports
- OC12/STM-4/STS-12c ports
- RTM options available

Management

- AdaxGWManager GUI Interface (Web/Java)
- SNMP v2 for Traps and Statistics
- Telnet/Command Line Interface, password protection
- TFTP for software upgrade

Designed to Meet

- "NEBS Ready" integrated system, RoHS compliant, designed to meet CE, UL, TUV and FCC
- For Electrical & Safety standards compliance see separate datasheets for the Adax boards.

Environmental Conditions

- Operating -5°C to 55°C
- Relative Humidity 5% to 90%
- Storage -40°C to 70°C

All specifications are subject to change without notice.

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