

Smarter Network Infrastructure

Discover the most advanced levels of reliability, security and signaling performance with flexible and scalable Adax solutions for traditional Legacy TDM networks to LTE and beyond.

Are you starting new telecom application developments, upgrading them to a virtualised environment, needing higher-density signaling solutions, want to add new interfaces between legacy networks, protect your investment in TDM switching equipment, or upgrade your mobile core network for IoT and M2M?

You need Adax Smarter Network Infrastructure.

Adax offers high performance, modular, scalable and very flexible products including SIGTRAN-SS7 Signaling Gateways, LTE-EPC and vEPC, DPI, Security, SCTP and GTP acceleration solutions for IoT and M2M.

The Adax Advantage: 35 Years' Experience of Signaling

Adax was the first to offload host-intensive SS7 MTP2 transactions to its board over 30 years ago, and the highly successful range of Adax HDC SS7 cards was born; thousands of those boards are deployed in networks worldwide. With the advent of 4G, IoT, M2M etc there is a growing need for signaling protocols such as SCTP, SIGTRAN and GTP.

Today Adax provides:

- **Complete stacks** such as TCAP with M3UA or MTP3
- **Adax SCTP/T** is also the robust transport layer SIGTRAN and Diameter stacks need for reliable, high performance, high capacity signaling
- **Individual SIGTRAN modules** – M2PA, M3UA and M2UA – to integrate under existing SS7 stacks
- **Adax GTP** providing protocol acceleration for high capacity and performance
- **Signaling Gateways** for SS7 backhaul, network and protocol interworking
- **Signaling Controllers** providing the best TDM SS7 connectivity on the market today

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.

All Adax products and solutions offer:

- **High Performance** – linear scalability with high throughput, even with lots of small packets, offering a competitive price-performance ratio reducing total cost of ownership
- **Flexibility** – can handle multiple configurations, SS7, SIGTRAN, Diameter or ATM broadband, offering easy migration from one configuration to another, providing protection of investment and a whole host of interworking opportunities
- **Interoperability** – individual modules and a fully integrated SS7 and SIGTRAN stack solution for TCAP and MAP with comprehensive APIs for all protocol layers providing rapid integration and fast time to market
- **Reliability and Robustness** – Adax SCTP for Telecom (SCTP/T) is specifically designed to meet the high availability (five 9s) demands of telecom networks and in particular the thousands of simultaneous associations. Rapid lost-packet recovery and precision timers are not available in many SCTP products
- **Tradition and Experience** – Steeped in the tradition of telecom reliability and robustness, with thousands of installations worldwide, Adax real-time signaling products are ready to meet the extreme challenges of today's LTE and yesterday's Legacy networks.

Legacy to LTE Networks and Beyond

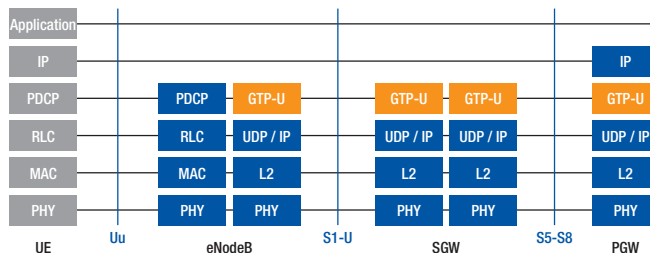
Adax GTP & SCTP

High capacity GTP acceleration critical for the performance of 3G and 4G networks

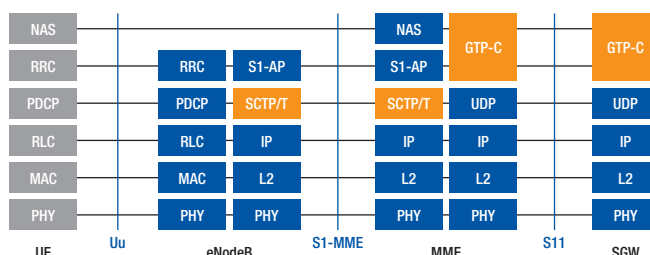
- 4G PGW, SGW and MME enhancement
- 3G SGSN and GGSN enhancement
- Load Balancing, Backhaul & Aggregation
- QoS and Traffic Management
- Monitoring, Test and Measurement

GTP and SCTP capacity essential for large scale M2M and IoT connections and throughput

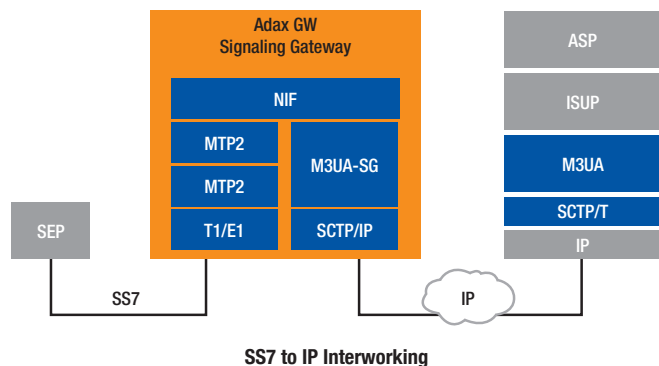
- Car telematics & the 'connected car'
- Industrial automation, monitoring & control
- Intelligent transport system
- Smart homes & buildings
- Control and User Plane separation (CUPS)



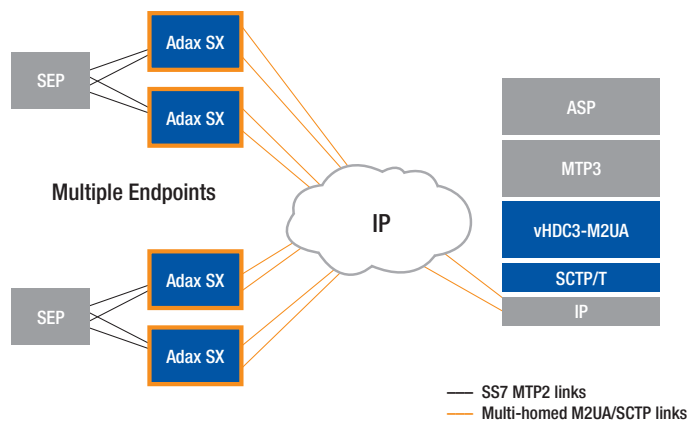
4G User Plane



4G Control Plane



SS7 to IP Interworking



Consolidation of SS7 LSLs from many SEPs

AdaxGW

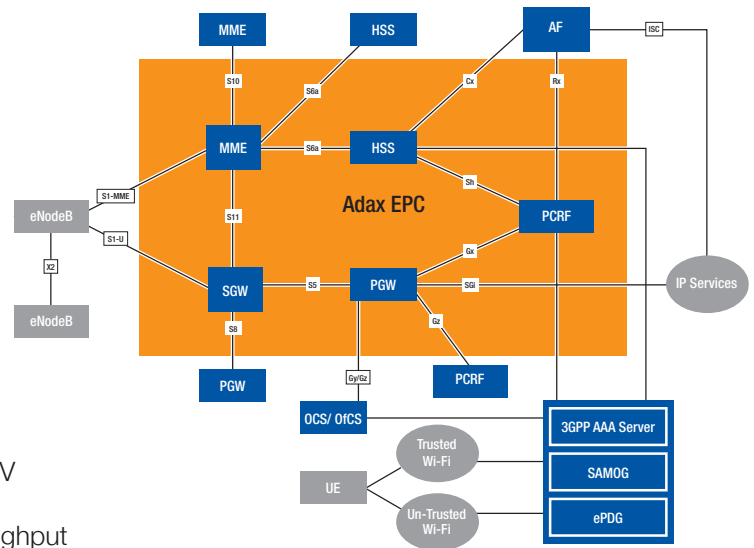
SS7 to IP Signaling Gateway for Legacy Network Interworking

The AdaxGW offers unparalleled scalability and flexibility to protect investment in both Legacy and IP networks:

- Quickly and cost-effectively offer TDM interfaces to existing IP only solutions
- Maintain SS7 TDM connectivity at the edge whilst modernizing the IP core
- SS7 long-haul link replacement to reduce network transport costs and retain legacy equipment
- Ideal replacement for End of Life Cisco ITP
- Interfaces and protocols supported for 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

Adax LTE-EPC – Compact Core Network

- **High Performance** – optimised, distributed data planes deliver industry leading throughput
- **Modular** – mix and match PGW, SGW, MME, HSS and PCRF modules as required
- **Scalable** – from 50 to 250,000 subscribers
- **Compact** – small footprint RMS or ATCA system for ‘Network In A Box’
- **Flexible** – virtualised ‘Network In The Cloud’ software for NFV
- **Competitively Priced** – modular system with scalable throughput enables building of pay-as-you-grow LTE core network
- **Applications** – ideal for rural networks, MVNOs, WiMAX replacement and niche markets such as public safety, defense, campus networks and business broadband services



Adax Boards, Blades and Appliances

- Control and Data Plane acceleration and capacity with Adax on-board protocol processing for SS7, IPsec, DPI, SCTP (for Diameter and SIGTRAN) and GTP.
- The Intelligent Packet Filtering and Packet Processing strengths of the Adax boards and DPI software provide the perfect platform for Value Added Services, M2M and IoT applications.
- Improves application performance by freeing up host CPU resources from the processor intensive protocol and packet processing functions and provides a highly scalable and cost-effective solution across a range of boards, blades and appliances:

Pkt2-PCIe and Pkt2-AMC for DPI, Packet Processing, IPsec and GTP acceleration and capacity

APR2c ATCA Cavium Octeon Blade

APR2i ATCA Intel Xeon Blade

HDC3 SS7 and ATM Controller

ATM5 ATM to IP Interworking Controller

Communications Appliance for security, packet processing and network interworking solutions

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