ADLINK TECHNOLOGY INC.



Application

ADLINK's AdvancedTCA Wi-Fi Offload Solution for 3G/4G LTE Network Bandwidth Bottleneck

ADLINK Technology, Inc.

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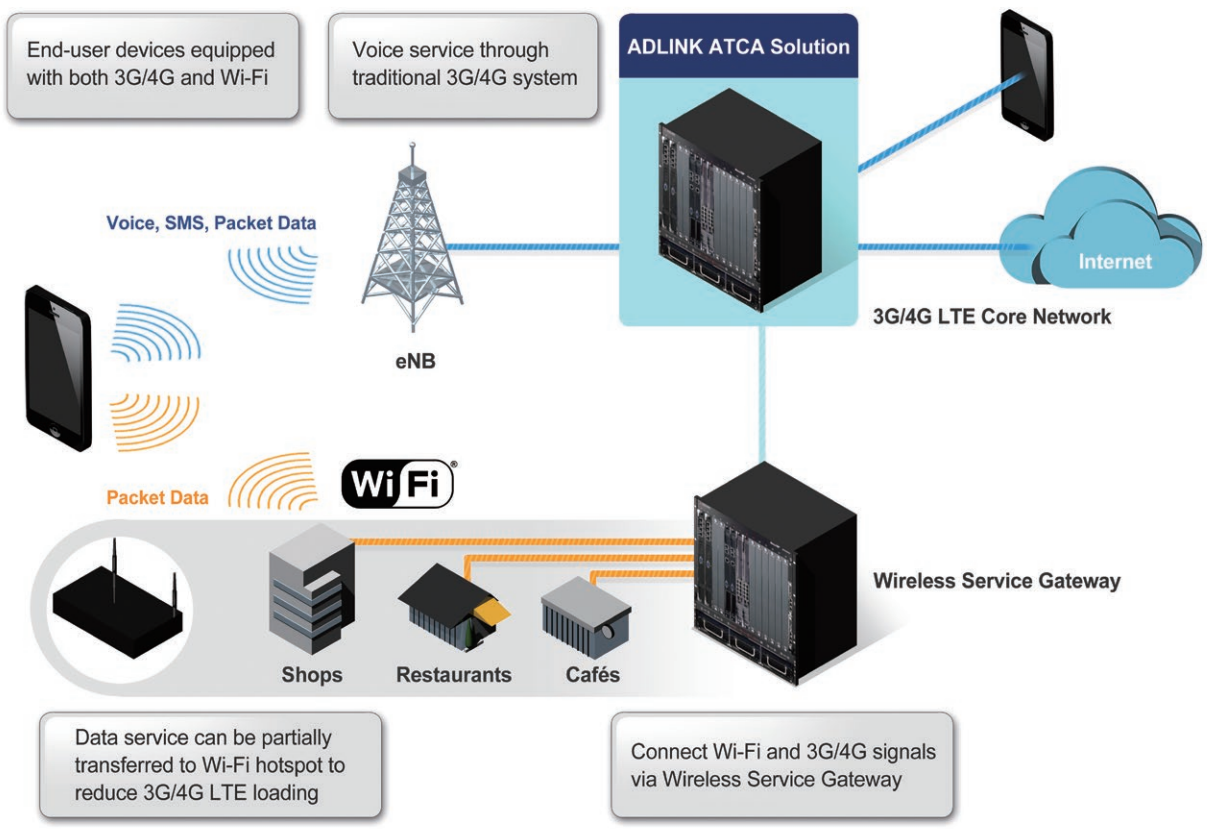
Challenge

As mobile communications enters the 4G LTE era, ultra-broadband Internet access is expected to usher in more bandwidth-intensive applications and services which in turn will result in the same problems 3G has been facing: a deluge of data competing for finite bandwidth resources.

Therefore, many major mobile network operators are launching Wi-Fi hotspot deployments to offload data from 3G/4G networks to wireless LAN (WLAN) in order to alleviate data congestion and improve mobile communications quality, including elimination of low web surfing speeds, interrupted media streams and disconnected calls.

This data diversion strategy is also a cost-effective method for macro mobile communications. Although the Wi-Fi networks only serve to supplement the 3G/4G network, they offer higher bandwidth than 3G, are often situated in areas where bandwidth is most in demand, and have lower deployment costs than 3G/4G equipment. Deploying Wi-Fi services is cheaper and faster than 3G/4G and is a quick and efficient way to add capacity to the macro network.

As many of the Wi-Fi hotspots are located in public locations with retail businesses such as hotels, coffee shops, restaurants and convenient stores, mobile network operators can achieve additional gains by selling Wi-Fi service to these retailers. Stores and business can attract customers by offering Wi-Fi services (either free or paid) without having to invest in the required infrastructure, and network operators can offset the costs of their WLAN data bypass investment.



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Functional Requirements

Outstanding Computing Power

Featuring Intel® Xeon® processors, ADLINK AdvancedTCA®blades provide 40G/10G communications capability. AdvancedTCA stands for "Advanced Telecom Computing Architecture" has the specification designation PICMG 3.x, and is targeted to requirements for the next generation of carrier grade communications equipment. The AdvancedTCA specification incorporates the latest trends in high speed interconnect technologies, next generation processors and improved reliability, manageability and serviceability, all within a standardized form factor for ease of system integration and maintenance.

High Density and Compact System Size

Compared with traditional 1U servers, ATCA systems can save space in network server rooms for future expansion needs. ADLINK's most powerful ATCA processor blade to date is the aTCA-9700, featuring dual 10-core Intel® Xeon® processor E5-2600 v2 and providing extremely higher bandwidth and computing power. Supporting Intel® QuickPath Interconnect Technology, a highspeed, packetized, point-to-point interconnect, the aTCA-9700's dual processor and chipset combination offers much higher bandwidth with lower latency, providing an efficient architecture for more interconnect performance to be achieved in real systems.

Hot-Swappable

For mission critical applications, the mean time to repair (MTTR) is one of the most important considerations. The AdvancedTCA specification, with blade form factor and hot-swappable design, allows systems to be repaired immediately without powering off and opening the chassis. In telecom applications such as video streaming and Wi-Fi access points, not one second of downtime can be tolerated. AdvancedTCA was conceived and targeted to the specific requirements of the telecommunications industry.

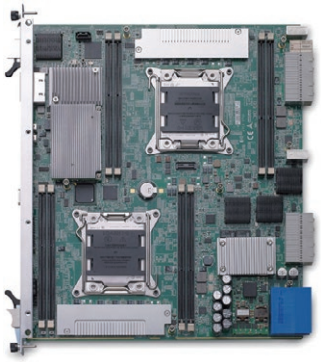
ADLINK Solution

The ADLINK aTCA-6250, a dual Intel® Xeon® processor E5-2600 family AdvancedTCA® processor blade with high processing capability, rack space efficiency and hot-swap ability, has been used to replace legacy servers at mobile network data centers as part of Wi-Fi offload deployment projects. The ADLINK ATCA solution combines multiple blades in one chassis with integrated management, simplified cabling and reduced power usage. With ADLINK ATCA solution, mobile network operators can double the number of servers available in the same floor space.

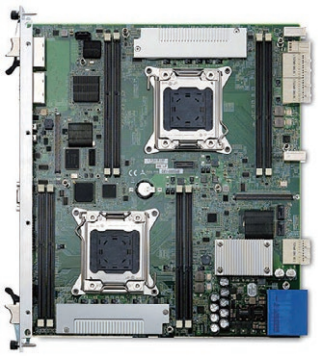
ADLINK provides a complete array of ATCA products to support varied requirements. For example, the aTCA-6250 processor blade used in this Wi-Fi offload project is powered by two 10-core Intel® Xeon® processor E5-2658/2648L v2 and provides 10GbE Fabric Interfaces.

As mobile network systems are upgraded to 4G/LTE, the ADLINK Wi-Fi servers can easily be upgraded to aTCA-9700, which provides 40GbE connection capability, by simply swapping out the blades without changing the chassis. This helps reduce capital investment for the system upgrade. ADLINK ATCA blades are also hot-swappable, which means any of them can be mounted and removed while the system is operating, reducing Mean Time to Repair (MTTR) and enabling easy maintenance.

According to the Wi-Fi Alliance, the number of Wi-Fi enabled 3G devices is increasing at a rapid pace. The Alliance expects that 95% of all smartphones will come equipped with Wi-Fi capability by 2015. The market potential is huge and competition is keen. ADLINK ATCA processor blades with high-density design have helped and will continue to help our customers tap into the huge Wi-Fi installation base with advantages in space-efficiency, cost-effectiveness, high scalability, flexible upgrade ability and easy maintenance.



aTCA-9700: Dual Intel® Xeon® processor E5-2680/2658 v2 40G AdvancedTCA® Processor Blade



aTCA-6250: Dual Intel® Xeon® processor E5-2658/2648L v2 10G AdvancedTCA® Processor Blade

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About ADLINK Technology

ADLINK Technology is enabling the Internet of Things (IoT) with innovative embedded computing solutions for edge devices, intelligent gateways and cloud services. ADLINK's products are application-ready for industrial automation, communications, medical, defense, transportation, and infotainment industries. Our product range includes motherboards, blades, chassis, modules, and systems based on industry standard form factors, as well as an extensive line of test & measurement products and smart touch computers, displays and handhelds that support the global transition to always connected systems. Many products are Extreme Rugged™, supporting extended temperature ranges, shock and vibration.

ADLINK is a Premier Member of the Intel® Internet of Things Solutions Alliance and is active in several standards organizations, including PCI Industrial Computer Manufacturers Group (PICMG), PXI Systems Alliance (PXISA), and Standardization Group for Embedded Technologies (SGeT).

ADLINK is a global company with headquarters in Taiwan and manufacturing in Taiwan and China; R&D and integration in Taiwan, China, the US, and Germany; and an extensive network of worldwide sales and support offices. ADLINK is ISO-9001, ISO-14001, ISO-13485 and TL9000 certified and is publicly traded on the TAIEX Taiwan Stock Exchange (stock code: 6166).

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