NEXCOM
Committed to Customer Success

Solution Brief

NexCPE™ FTA 1170
Flexible Platform for SD-WAN Application in 5G Networks

FTA 1170 leverages 5G FWA technology to offer sufficient flexibility for SD-WAN applications.

The Trend

Like in the real world, scenes in IT landscape vary dramatically. Not everyone enjoys the best outcome of the most advanced technology. Legacy network services are available to a large population of end users through wired connectivity as the sole option, to a large extent, due to local outdated IT infrastructure. A complete overhaul to upgrade local IT infrastructure in old towns has never been an easy task, whereas in less populated rural areas, the staggering cost that comes along with rolling out fiber cables, base stations and all that, inevitably leads to ROI decision that bottlenecks the initiative for broader services coverage.

5G development facilitates the applications of Fixed Wireless Access (FWA), an alternative connection to the Internet beyond conventional fixed line broadband. FWA enables network services of high bandwidth and high reliability, as well as low latency while simultaneously allowing faster deployment and less CapEx and OpEx on IT support and maintenance. Enterprises have always held high standards for network reliability as it has direct impact on business operations if things go wrong. Hence, SD-WAN emerges with its cloud-native nature as the answer to network stability and high availability, having been widespread in recent years, thanks to 5G FWA technology.

Aside from extranet connections, FWA is being applied to enterprise 5G private networks for intranet connections. Unlike our daily internet surfing using smart phones or laptops via mobile 5G broadband, there is a great variety of devices and machinery in manufacturing facilities demanding very different connection features. Some call for high bandwidth, some for low latency, some demand service availability as top priority. Such diversified requirements, in a setting teeming with numerous sensors of IoT transmitting data, used to be a big headache to many IT/OT professionals. However, that can be easily managed by network slicing now made possible in 5G private networks, built within modern smart factories across the world. End-to-end data collection, real-time monitoring, central control and management are now at one's fingertips.

The Challenge

To handle each application scenario with a purpose-built appliance is not a wise decision; not only due to the fact that the CapEx is high, maintaining all sorts of equipment is in itself a challenging task, especially when contexts and applications are constantly evolving. A universal platform that offers sufficient flexibility for software-defined networks will be the best approach for enterprises with their dynamic IT requirements and network functions. Ideally, such platform should be equipped with a hardware resource pool capable to run all virtual network functions and applications. Moreover, considering cybersecurity plays a crucial part in digital transformation, crypto engine to offload CPU workload so that additional computing power can be released to run additional VNF simultaneously becomes an indispensable feature for new uCPE.

NEXCOM Solution

NEXCOM hence introduces the nexCPE™ series, a new generation of uCPE, in coping with the challenge. The nexCPE™ series incorporates a set of hardware resources in a single system, providing a

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comprehensive hardware resource pool and 5G FWA capabilities for a variety of virtual functions. Targeting enterprise contexts, FTA 1170 is a uCPE offering the best hardware resource integration.

FTA 1170 features Next Gen Intel Atom® processor with up to 24 cores, max. 256G DDR4 RDIMM system memory and Intel® QuickAssist Technology (Intel® QAT) to optimize resource allocation for various virtual functions.

In terms of network capabilities, a total of 24 x 2.5GbE Ethernet switch ports balance CPU workloads in packet exchange on horizontal data paths, sparing additional computing resources to virtual functions with higher priority. The ports also support PoE+ functions for connecting various power devices, such as a webcam, wireless AP, or 5G modem. FTA 1170 also features optional support of modules for wireless connectivity, including 4G LTE, 5G FR1, and Wi-Fi 5/6. The 5G module enables FWA abilities while Wi-Fi 6 connects a variety of devices in the workplace seamlessly. FTA 1170 also features three swappable fans, two redundant power supplies and Out-of-band (OOB) management for the convenience of remote control.

Conclusion

Purpose-built appliances no longer attract attention of service providers and enterprise professionals, which are now on the lookout for flexible boxes able to provide seamless and fast connections to the Internet. Targeting enterprise environments, FTA 1170 enhances existing network infrastructure together with expanding its functionality.
FTA 1170 is a perfect appliance for 5G SD-WAN applications and building a reliable 5G private network, where it could be deployed in various scenarios, including but not limited to MEC (Multi-access edge computing) server, switch server, wireless broadband gateway, vDU, vCore, and uCPE.

NexCPE™ FTA 1170

1U Rackmount Professional uCPE for Wireless Broadband Applications w/ Next Gen Intel Atom® Processor

- Next Gen Intel Atom® processor, up to 24 cores
- DDR4 2933MT/s Long-DIMM sockets up to 256GB
- 24x 2.5GbE switch copper ports with PoE+
- Supports 4G LTE/5G FR1
- Supports Wi-Fi 6
- Supports IPMI 2.0
- Supports Intel® QAT

Founded in 1992, NEXCOM integrates its capabilities and operates eight global businesses, which are Industrial Mesh, Intelligent Platform @ Smart City, Intelligent Video Security, Mobile Computing Solutions, Medical and Healthcare Informatics, Network and Communication Solutions, Smart Manufacturing, and Open Robotics and Machinery. This strategic deployment enables NEXCOM to offer time-to-market, time-to-solution products and services without compromising cost.

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