SUPERMICRO IN 5G AND EDGE COMPUTING

Low latency applications have unique connectivity requirements. Mobile World Live's Michael Carroll talks to Supermicro Director Mark Maltby about the state of Multi-access Edge Computing (MEC) and 5G Open RAN, and how Supermicro helps to lead the industry.

Multi-Access Edge Computing (MEC), also called Mobile Edge Computing, has grabbed a lot of attention recently, particularly in the context of 5G. What are the key capabilities of MEC and why does it matter?

MEC moves the computing power closer to the end user, to enable applications and services that require unique connectivity characteristics such as the ultra-low latency achievable with 5G. Some examples of low latency applications include motion control applications, such as those for automated guided vehicles, drones, and robotics.

Augmented reality and virtual reality are two other low latency applications that the edge makes possible, as it ensures that the environment image is presented in real-time to synchronize with the user's movement.

MARK MALTBY | DIRECTOR BUSINESS DEVELOPMENT 5G, EMBEDDED AND IOT, AT SUPERMICRO

Mark Maltby is a senior technologist with a deep understanding of telecoms infrastructure. He is closely involved with operator-led alliances and working to accelerate development in the space.

As a member of the Edge Compute and 5G team, Mark is a solutions architect tasked with supporting customers and strategic partners within the MEC and 5G market verticals.

Industrial automation is another area that benefits from the Intelligent Edge. For example, factory-wide real-time process control requires low latency, which is best served by edge computing.

And finally, video analytics and surveillance are very important low latency applications made possible through the Intelligent Edge. Video and image information can be analyzed and processed in real-time to generate local alerts and actions. Computer vision, which is video analysis, will use local AI inferencing to reduce response times, whilst minimizing how much pre-processed and filtered data is sent to the cloud. And therefore, saving network transit costs.

As a member of the O-RAN Alliance, what are you working on and what benefits does being involved in a standards body like that bring to Supermicro?

Membership of the O-RAN Alliance enables Supermicro to work with the global community of mobile network operators and helps ensure Supermicro systems are aligned with future market requirements. Ten working groups within the O-RAN alliance are defining all aspects of the open interface RAN architecture. Workgroup 7 is focused on the hardware platform. Subsequently Supermicro, in conjunction with our technology partner Intel, contributed to several server reference designs for the different base station deployment scenarios.

I volunteered to be an editor for one of the task groups within Workgroup 7. My role as a task group editor is to take part in weekly meetings, coordinating with the other vendors and operators who contribute to the specifications, and then edit and prepare the specification documents for the O-RAN publication process.

Certainly, the O-RAN Alliance membership has been invaluable to Supermicro as we've developed our latest generation of systems for Radio Area Networks.

SUPERMICRO SERVER FOR MEC AND 5G

**210P-FRDN6T Edge Server with
3rd Gen Intel® Xeon® Scalable Processor**

Where does Supermicro stand within the broader shift to Open RAN, in terms of meeting operator needs around vendor diversity and the services this architecture will enable?

Supermicro is unique, being the only Tier 1 hardware manufacturer with production in Silicon Valley, California, and we believe we have the industry's broadest range of application-optimized products to meet operator requirements from the edge to the core of the network. O-RAN architecture brings agility and intelligence to the Radio Area Network.

SUPERMICRO

As a global leader in high performance, high efficiency server technology and innovation, we develop and provide end-to-end green computing solutions to the data center, cloud computing, enterprise IT, big data, HPC, and IoT markets.

Our Building Block Solutions® approach allows us to provide a broad range of SKUs, and enables us to build and deliver application-optimized solutions based upon your requirements.

With O-RAN, the status of network performance and network resources are continually monitored. One of the functions, the RAN Intelligent Controller, can be used to optimize load balancing, mobility management, multi-connection control, QoS management, and network energy savings.

This architecture enables interesting use cases, such as Radio Resource Allocation for Unmanned Aerial Vehicle (UAV) applications. An unmanned aerial vehicle flying at low altitude and low speed, carrying HD cameras and other sensors, requires a high bandwidth, low latency connection, and continuous adjustment in real-time. This can now be achieved with O-RAN architecture in 5G networks.

Supermicro does not currently have any Unmanned Aerial Vehicles on the product roadmap, but who knows what the future may bring!

For more information, please visit www.supermicro.com/5g