Artel

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> *John Clark*
> *President, Masterclock*

Artel and Masterclock Deliver Uniquely Accurate PTP Synchronization for Leading Aeronautics & Space Agency

Challenge

One of the world's leading aeronautics and space research organizations needed a modern, reliable, and highly accurate solution for synchronizing operations across control rooms/centers, IT rooms, launch pads, and other mission-critical facilities. Such a solution will be vital for the organization as it moves toward IP-based synchronization and timing distribution for mission critical applications. The existing system relied on proprietary, legacy, and end-of-life components, presenting an opportunity for both modernization and standardization.

Solution

Masterclock timing systems have a long history of supporting mission critical applications around the globe and the company supplied its Precision Time Protocol (PTP) timing capabilities along with Quarra PTP-aware switches from Artel to provide reliable, accurate synchronization over IP networks.

"The fundamentally asynchronous, nondeterministic nature of packet-based networks makes accurate timing difficult, but PTP offers a proven solution to this challenge," says Rafael Fonseca, vice president of product management at Artel. "When used properly, this technology can synchronize device clocks to within nanoseconds across a large network with many hundreds of nodes. The combination of our Quarra switches with Masterclock PTP timing servers provides a very accurate and stable timebase for all types of signals, even in the most demanding applications."

Masterclock's systems enable distributed synchronization of time, frequency, and count information for both network infrastructure and legacy applications. The implemented system moves network signals over a fiber backbone to deliver precise synchronization to the network edge where signals can be utilized or translated as needed for integration. Quarra's Ethernet connections support 100 Mbps ports to allow many small edge devices to move large amounts of data with accurate PTP synchronization while ensuring sync is maintained.

"After extensive lab testing with our GMR series of products we found great performance and value from the Artel Quarra range of switches," says John Clark, President at Masterclock. "They are an ideal complement for our timing server products. Most importantly, the Artel team committed themselves to our application and worked alongside us to ensure we provided the precise solution to delight the end-user."

Result

The proven interoperability and performance of Masterclock timing servers and Artel's Quarra IP switches ensures that the aeronautics and space research organization can move forward with confidence in implementing IP-based synchronization and timing distribution for mission critical applications.

The organization will be equipped to deploy PTP technology across a multi-facility environment in collaboration with multiple PTP timing servers.