As a CPRI bridge product for wireless fronthaul transport, Fasthaul™ was developed so 4G and 5G network operators interested in the benefits of C-RAN can avoid the high cost and typically long lead time of connecting every small cell with dark fiber. Instead of using fiber, Fasthaul delivers CPRI over a high-speed wireless connection using millimeter wave frequencies. Fasthaul provides a bridge from a dark fiber donor site, connected to a cloud-based BBU, to a fiber-stranded acceptor site housing one or more RRUs. A high-level topology for single donor-single acceptor configuration is shown in Figure 1.

Fasthaul tames CPRI’s appetite for bandwidth and intolerance of bit errors by combining Holographic Beam Forming™ (HBF) antenna technology at 39 GHz frequencies with its high-performance Thresher™ modem. Fasthaul supports auto-alignment and discovery, allowing for installation and configuration without the use of expensive third-party antenna alignment systems.

Once installed, Directivity-on-Demand™ allows Fasthaul to instantly compensate for pole sway/tilt so it stays aligned automatically. HBF is particularly well-suited to small cell installation because it offers the lowest cost, size, weight and power consumption (C-SWaP) profile of any beamformer. Thinner, lighter and conformal HBF antennas also address aesthetic concerns of the communities who adopt them.

Key attributes of a single Fasthaul front end/antenna system include:

- Supports 39 GHz
- Uses 100 MHz + 100 MHz channel pair for wireless link, channel aggregation available
- Two CPRI v6 optical ports, CPRI line rate up to 9.8 Gbps per port (up to option 7)
- Support of any 4G LTE FDD/TDD frequency with bandwidths up to 20 MHz
- 0.8-kilometer range at max line rate, greater than 1 km for lower options

No more stranded small cells.
- Easy installation (less than 2 hours)
- Automatic commissioning (instantaneous upon power up)
- Automatic commissioning field of view -50° to 50° in azimuth and -20° to 20° in elevation, with manual adjustment extends to full 360°
- Cloud based remote control and monitoring
- Size: 8” x 8” x 4”

Fasthaul is the industry’s first and fastest millimeter wave CPRI bridge. Fasthaul offers C-RAN, 4G and 5G network operators the highest performance, lowest C-SWaP wireless CPRI bridge available today. For more product detail, pricing and available, contact Pivotal Commware.