AS5915-18X

Disaggregated Cell Site Gateway

Edgecore Open Compute Contribution

February 2021

AS5915-18X Disaggregated Cell Site Gateway

- This product has previously been contributed to TIP by Edgecore
- Complimentary to current AS7316-26XB and AS7315-27X OCP Accepted Cell Site Routers
- Edgecore seeking OCP Accepted status for AS5915-18X contribution

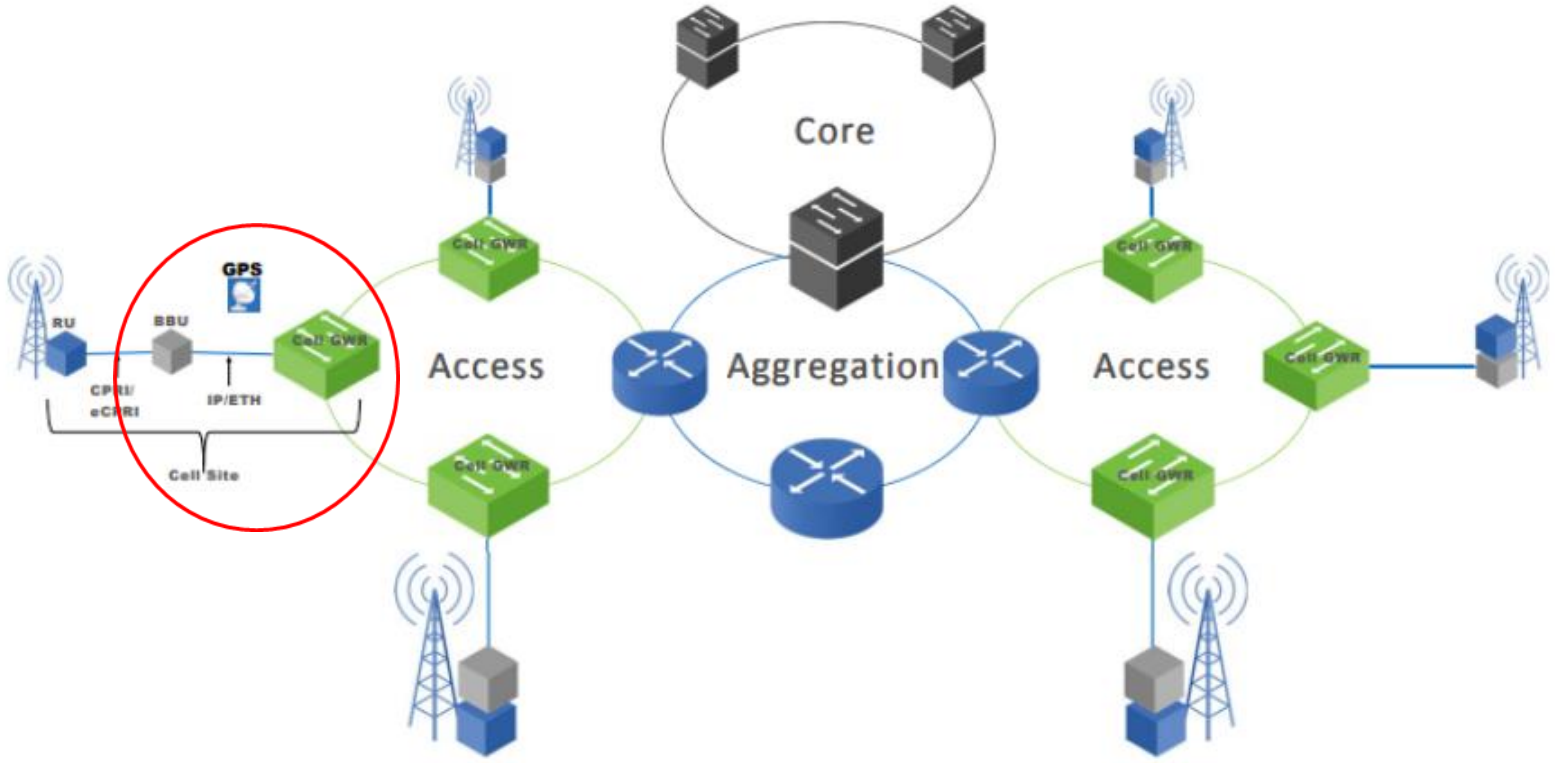
Why “Open” Cell Site Gateways?

- Updates to existing equipment are needed as mobile backhaul usage surges with 5G deployments on the horizon. Sitting at the edge of the network the Cell Site Gateway is high volume deployment product and a natural location for Carriers to start enjoying the benefits of open networking.
  - Removal of single vendor lock in and traditionally slow technology roadmaps from incumbents
  - Truly open Hardware that can run different commercial and open-source operating systems offering choice to the operator
  - New operating systems choices that provide extensibility and the execution of arbitrary agents
  - Removal of vendor lock in on pluggable optics and cables leading to lower capex

High Level Requirements

- Outside plant compliant with operating temperature -40C to +65C
- 1RU 19” Rack mountable
- Maximum equipment depth 240mm
- Redundant power supplies and fans
- Circuitry to support synchronization techniques including IEE1588 and SyncE
- Support for local timing inputs/outputs GPS, TOD, 1PPM, etc.
- Ability to support long haul optical modules

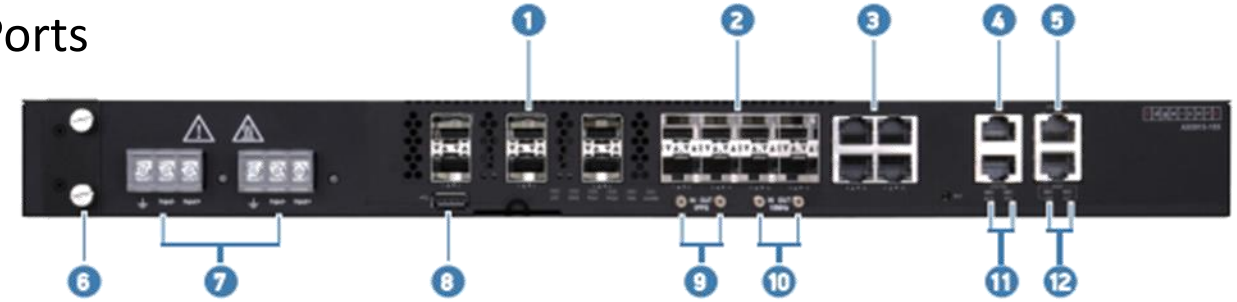
Topology



Source: AT&T OCP Presentation OCP_OutDoorSIAD.V4.pdf

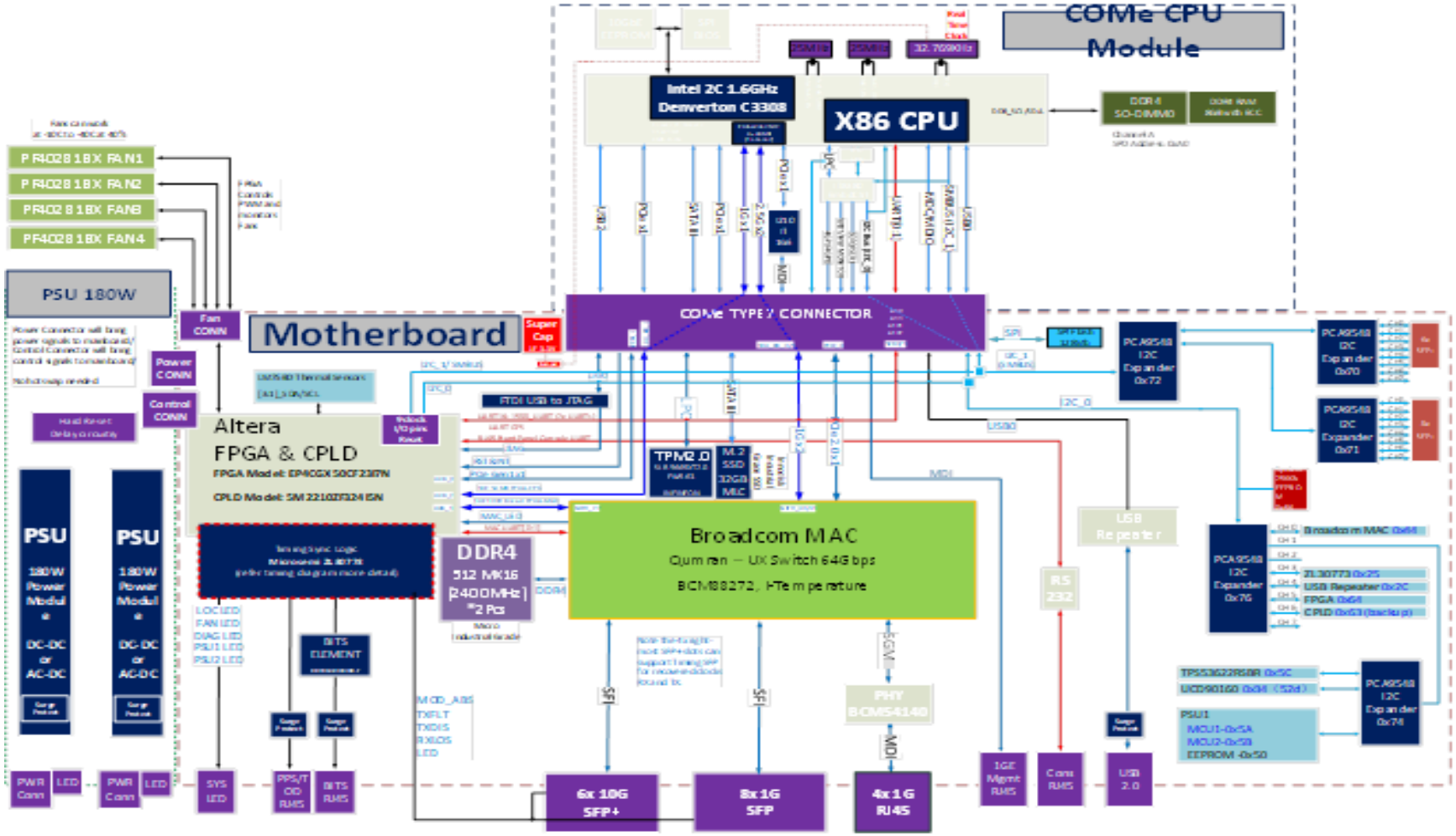
Edgecore AS5915-18X Contribution

- 6 x 10G SFP+, 8 X 1G SFP Ports, 4 x 1G RJ45 Ports
- Deep Buffer Switch Architecture
- Outdoor Plant Deployment
  - NEBS3, -40 to 65C operating temp
  - 1U, 240mm depth
  - 180W max power
- IEEE 1588 and Synchronous Ethernet
- Broadcom StrataDNX Qumran UX silicon



Description			
1	10G SFP+ ports	7	PSU 1/PSU 2 (fixed)
2	1G SFP ports	8	USB 2.0
3	1G RJ-45 ports	9	1pps Input/Output
4	BITS port	10	10MHz Input/Output
5	1G RJ-45 console port	11	TOD/1PPS RJ-45 port
6	Filter Slot (Optional)	12	Management RJ-45 port (MGMT)

AS5915-18X Contribution



Comparison to existing AS7316-26X and AS7315-27X

	AS7316-26X	AS7315-27X	**AS5915-18X**
Number of 10G SFP+ ports	16	20	**4**
Number of 25G SFP28 ports	8	4	**0**
Number of 100G QSFP28 ports	2	3	**0**
Number of 1G Ports	0	0	**4**
Stacking support	No	Yes	**No**
CPU	8 Core Xeon	4 Core Atom (COM Ex Type 7)	**4 Core Atom (COM Ex Type 7)**
Airflow	Front to Back	Side to Side	**Side to Side**
1PPS in/out ports	Yes	No	**Yes**
10 MHz in/out ports	Yes	No	**Yes**
Micro USB Console port	Yes	No	**No**
Alarm Port	No	Yes	**No**

What Is Being Contributed ?

Hardware

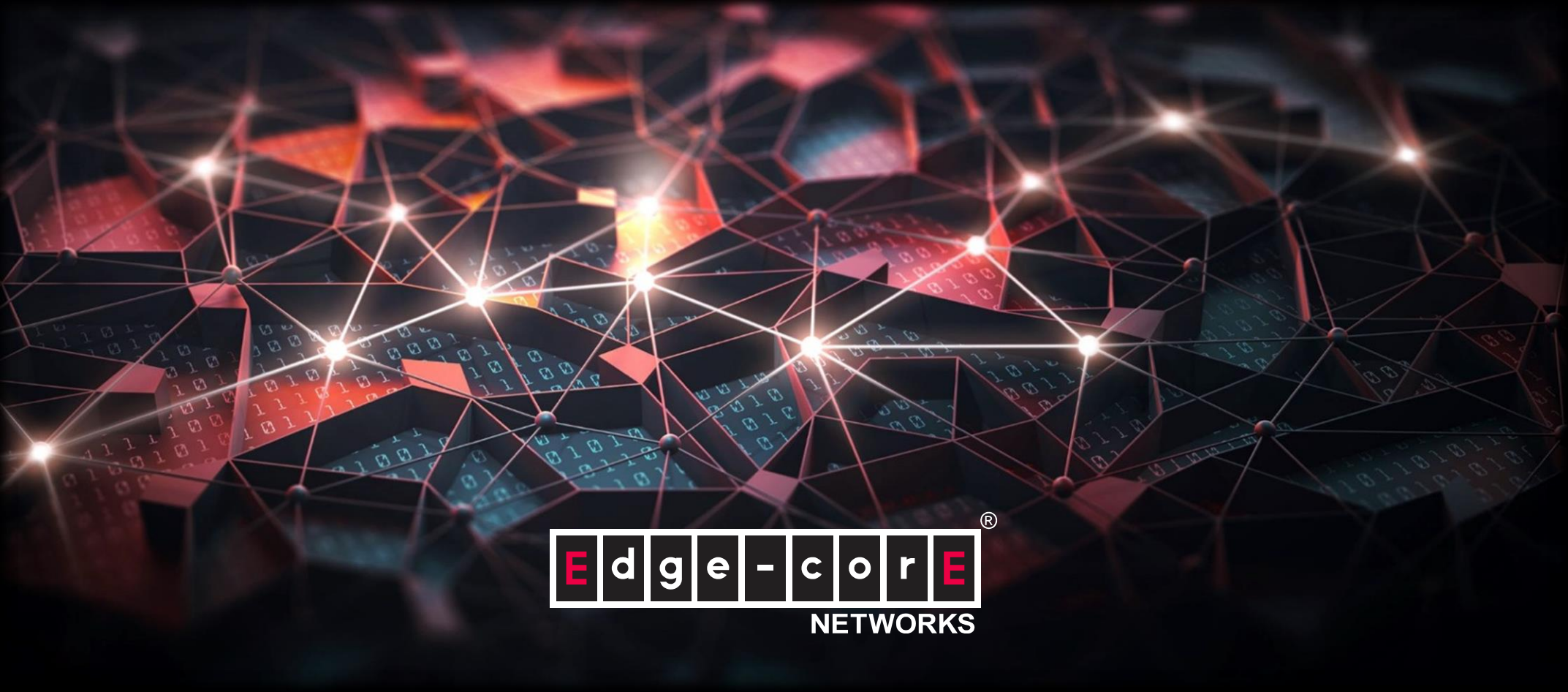
- Design Specification
- Complete Design Package
  - Schematics
  - Allegro .brd Files
  - Gerber Files
  - Mechanical STEP Files
  - Mechanical Assembly Drawings
  - Complete Bill of Material
  - CPLD/FPGA Code in Binary and Source format
  - Test Plan

Software Support

- ONIE
- Open Network Linux
- OCP Baseline Redfish Profile Support
- Open Optical Monitoring (OOM)

Edgecore AS5915-18X Contribution

- Contribution Schedule
  - Specification contribution – Complete ready for review
  - Design file contribution – Complete ready for review
  - Incubation Committee overview and presentation available for review
  - Contribution Acceptance - Pending
- Product Schedule
  - Sample units distributed to software partners – Complete
  - PoC tests and field trials – Throughout Q2 2021
  - Volume Deployments Q3 2021



Thank You

OCP Tenets

- Scale – The AS5915-18X allows for large scale deployments in Telco/Carrier environments. This is provided by the many choices of automated provisioning and management features and functions provided the various NOS options and in the ecosystem available for the products.
- Openness - The AS5915-18X is a completely open design with a complete hardware design package contributed to Open Compute. In addition to the open hardware these product will support numerous open source software options including SONiC and many NOS options available through ONF (Trellis, Stratum, etc.)
- Impact - The introduction of the complementary "Open" Cell Site Gateway will have a tremendous impact with Telco carriers as they are increasing cellular installations and heading towards their 5G rollout. Decreased Capex in combination with NOS options that offer open programmable interfaces will significantly decrease installation time and allow rapid service bring up.