AS7315-27X

Disaggregated Cell Site Gateway

Edgecore Open Compute Contribution

September 2019

AS7315-27X Disaggregated Cell Site Gateway

- This product has previously been contributed to TIP by Edgecore
- Complimentary product to current AS7316-26X Cell Site Router which is OCP Accepted.
- Edgecore seeking OCP Accepted status for AS7315-27X contribution

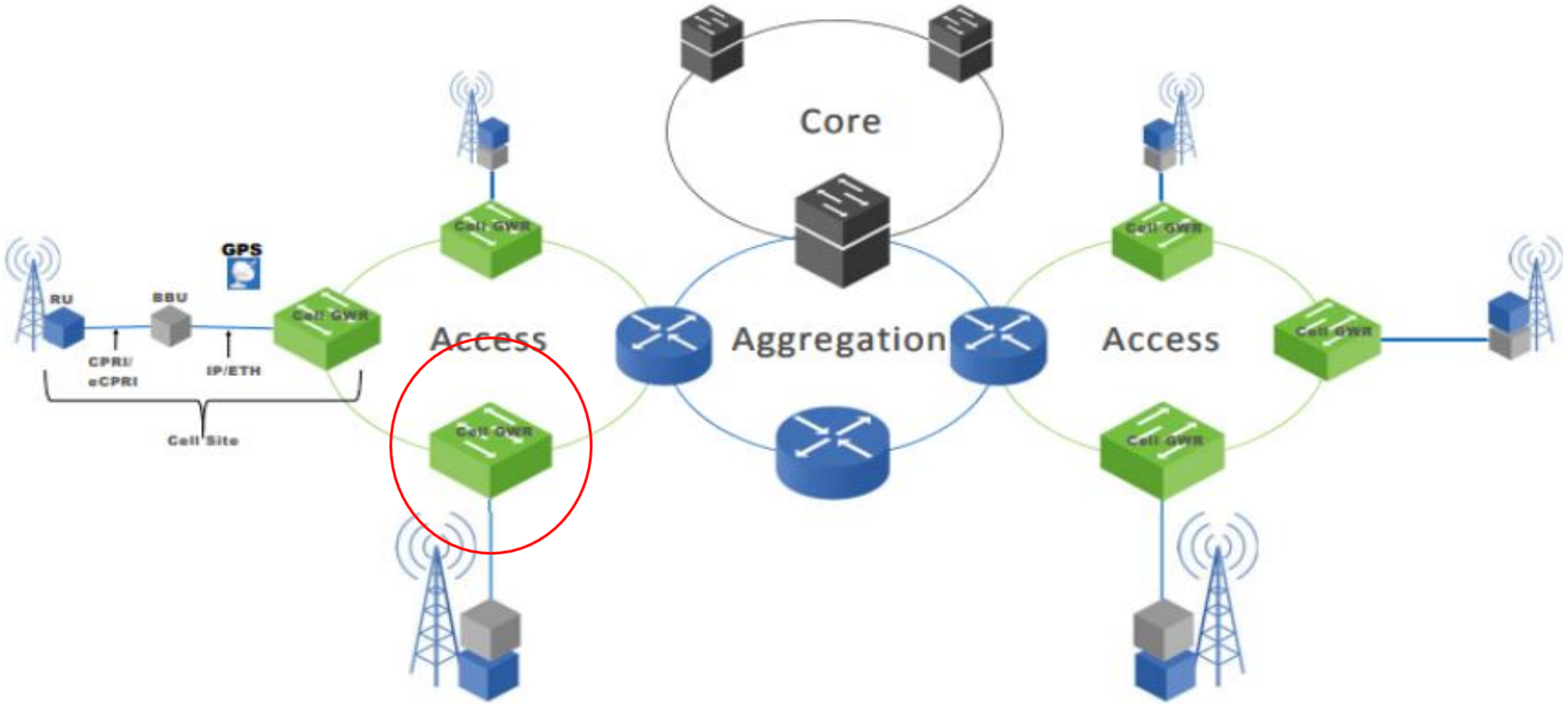
Why “Open” Cell Site Gateways?

- 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

Cell Site Gateway High Level Requirements

- Outside plant compliant with operating temperature -40C to +65C
- 1RU 19” Rack mountable
- Maximum equipment depth 300mm
- Redundant power supplies and fans
- Circuitry to support clock synchronization techniques including IEE1588 and SyncE
- Support for local timing inputs/outputs GPS, TOD, 1PPM, etc.
- Ability to support long haul optical modules

Topology

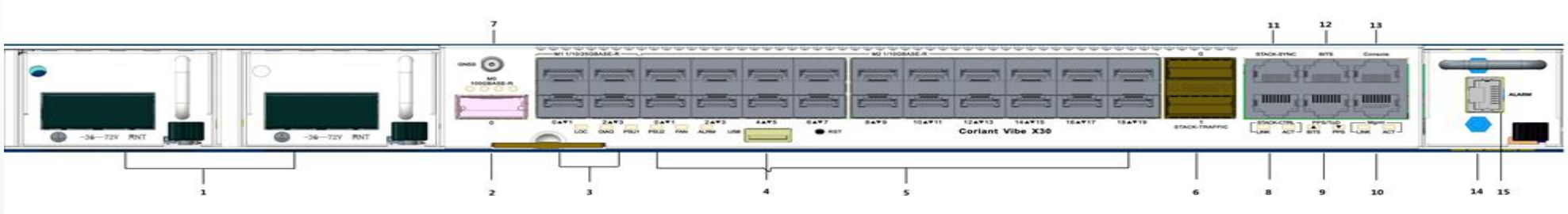


Source: AT&T OCP Presentation OCP_OutDoorSIAD.V4.pdf

Edgecore AS7315-27X Contribution

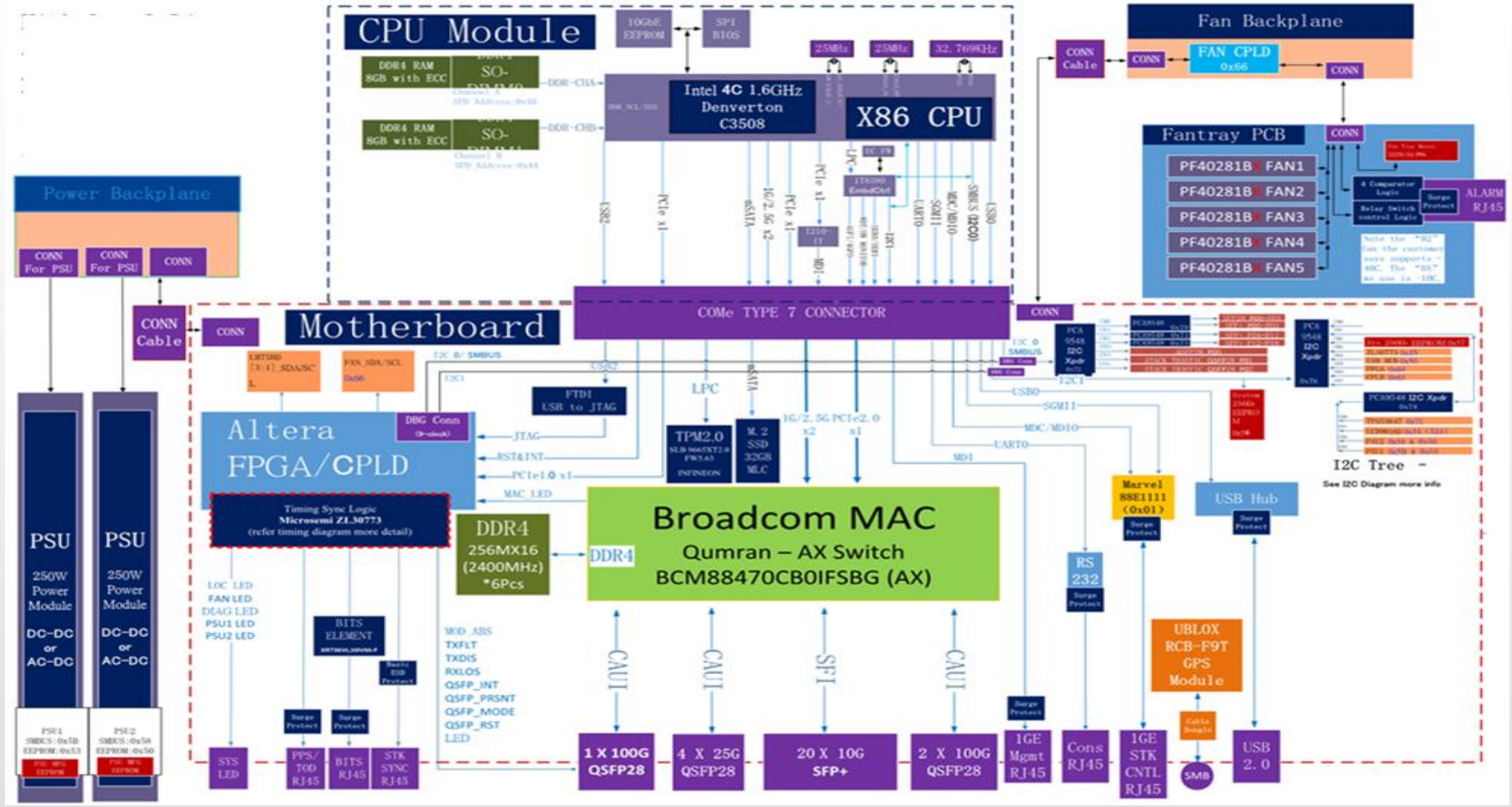
- 20 x 10G SFP+, 4 x 25G SFP28, 3 x 100G QSFP28
- Deep Buffer Switch Architecture
- Outdoor Plant Deployment
  - NEBS3, -40 to 65C operating temp
  - 1U, 300mm depth
  - 300W max power
- Full 1588 and Synchronous Ethernet
- AC and 48VDC Power Options
- Broadcom StrataDNX QumranAX silicon

Edgecore Cell Site Gateway Contribution



Description	
1- Power Supply	9- PPS-Tod RJ45 port
2-100 Gigabit Ethernet QSFP28 ports	10- Management Ethernet port (**MGMT**)
3-25 Gigabit Ethernet SFP28 ports	11- Stack-Sync RJ45port
4-USB storage port	12- Building-Integrated Timing System port (**BITS**)
5-10 Gigabit Ethernet SFP+ ports	13-RJ45 console port
6-100 Gigabit Stacking QSFP28 ports	14-Fan Tray
7- GPS antenna port	15-Alarm RJ45 port
8-Stack-CtrlRJ45 port	

Edgecore Cell Site Gateway Contribution



Comparison to existing AS7316-26X

	AS7316-27X	AS7315-27X
Number of 10G SFP+ ports	16	20
Number of 25G SFP28 ports	8	4
Number of 100G QSFP28 ports	2	3
Stacking support	No	Yes
CPU	8 Core Xeon	4 Core Atom
Airflow	Front to Back	Side to Side
1PPS in/out ports	Yes	No
10 MHz in/out ports	Yes	No
Micro USB Console port	Yes	No
Alarm Port	No	Yes

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 Code in Binary and Source format
  - Test Plan

Software Support

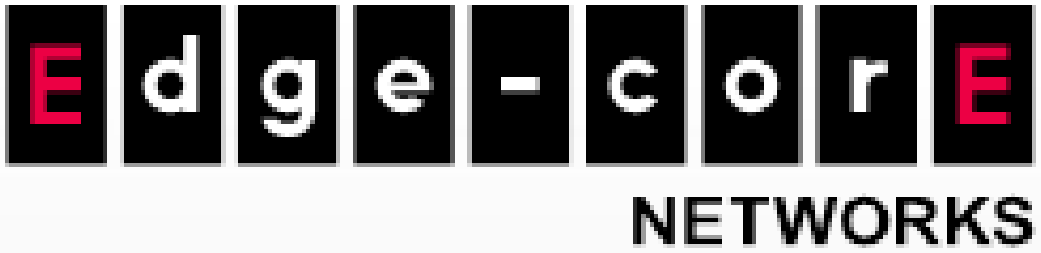
- ONIE
- Open Network Linux
- OCP Baseline Redfish
- Open Optical Monitoring (OOM)

Edgecore AS7315-27X 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 filed trials – Throughout Q4 2019
  - Volume and GA Q1 2020

OCP Tenets

- Scale – The AS7315-27X 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 AS7315-27X 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 complementsry "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.



Thank You