

Marvell® OCTEON Fusion® CNF95xx Family

4G/5G Macro Cell Baseband Processor

Overview

- Marvell is the industry leader in 5G macro cell base station silicon
- CNF95xx is already in volume production with leading tier 1 OEMs
- CNF95xx may be combined with other Marvell processors (OCTEON, ThunderX, Prester) to provide network infrastructure OEMs with complete RAN solutions from one supplier
- Marvell is willing to engage with OEMs to design semi-custom CNF95xx variants, either by incorporating the OEM's IP blocks or by modifying the design for related PHY processing functions

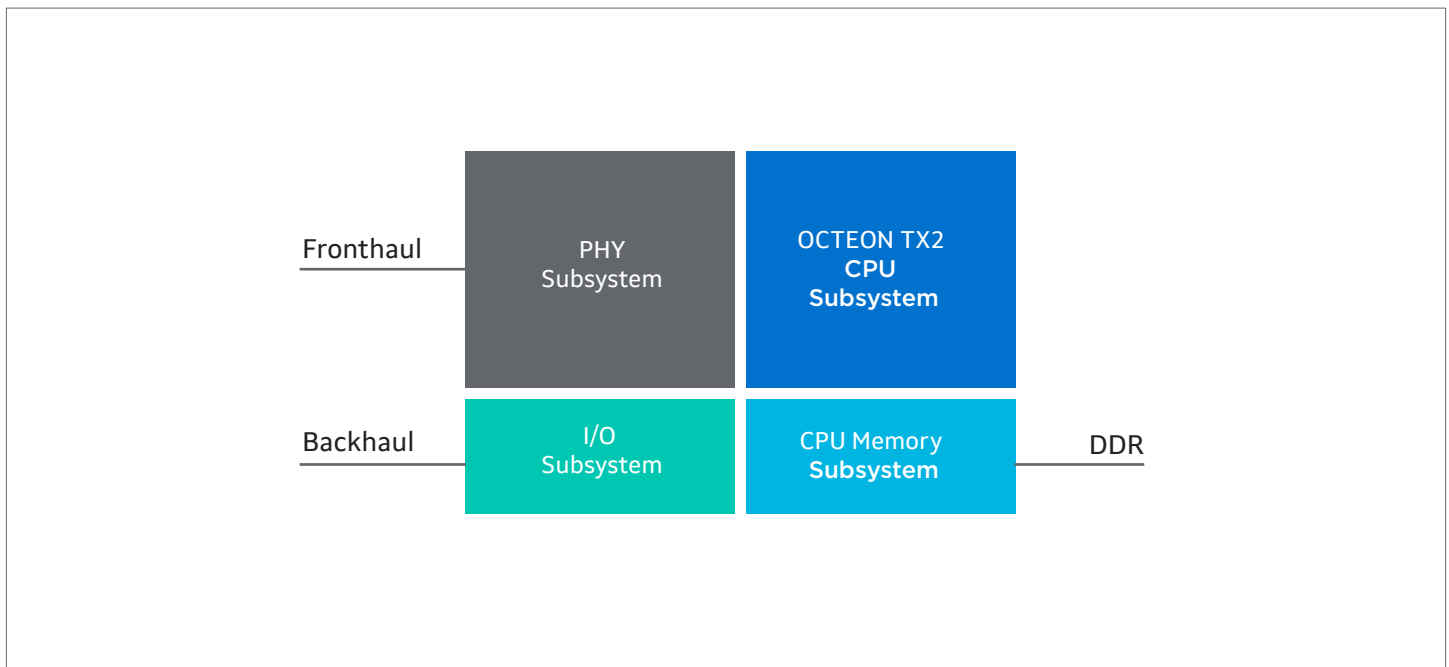
The OCTEON Fusion® CNF95xx family of 4G/5G baseband processors is targeted at top tier telecommunication equipment manufacturers. With a specific focus on running 5G and 4G layer 1 processing for very high throughput macro cell base stations, CNF95xx is the industry's only macro cell merchant silicon available in the market. CNF95xx is currently in volume production with leading tier 1 OEMs.

CNF95xx baseband processors are well suited for both traditional all-in-one base station designs as well as emerging ORAN-defined split architecture base stations. An OCTEON Fusion CNF95xx distributed unit (DU) combined with a complementary OCTEON CN9xxx network processor central unit (CU) provides a compelling price/performance advantage over competing solutions. In addition, CNF95xx baseband processors support both mid-band (sub-7GHz) and mmWave radio frequencies making them suitable for 5G deployments in any geography worldwide.

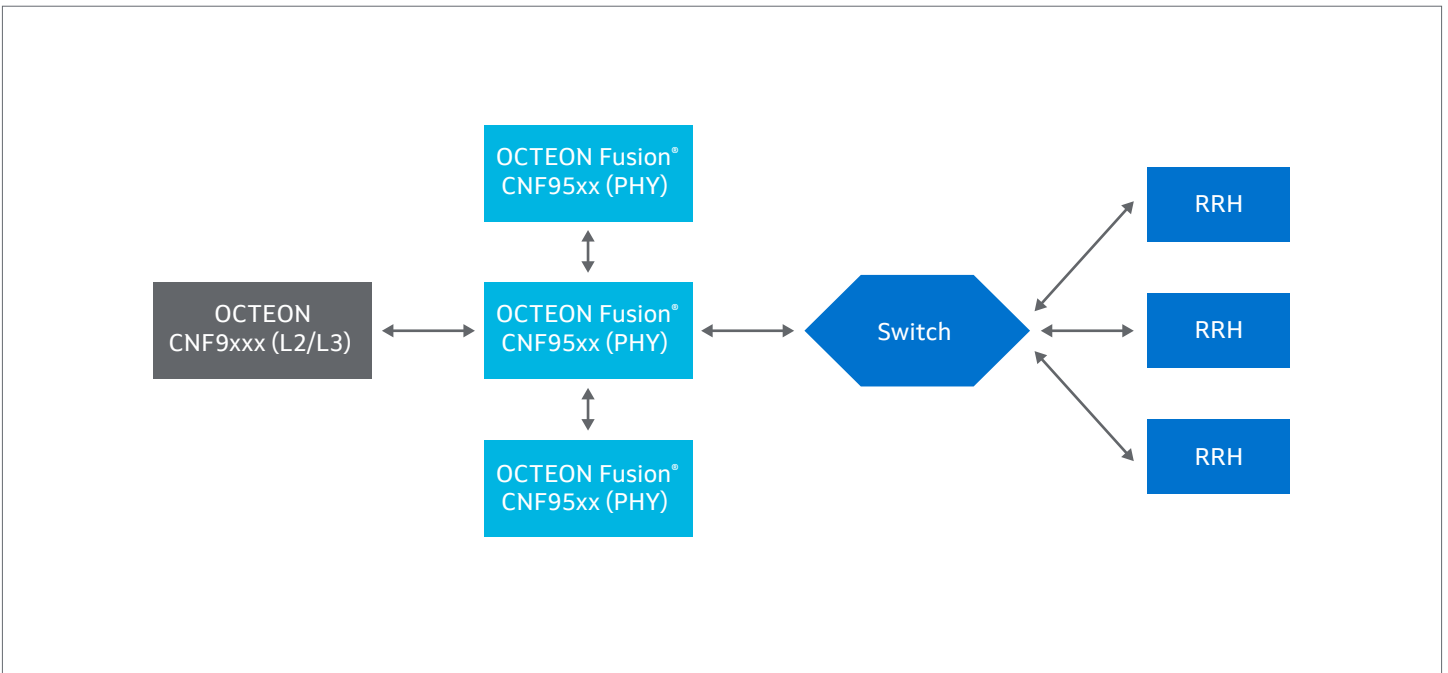
CNF95xx is a lower cost and lower power alternative to the FPGA-based solutions found in the 4G/5G infrastructure market. These third-generation OCTEON Fusion processors have been optimized for 5G PHY Layer performance but retain a degree of programmability to support future enhancements to the 3GPP 5G specification.

Marvell is receptive to the possibility of developing customer-specific variants of the CNF95xx processor for OEMs who would like their own IP blocks embedded within the chip.

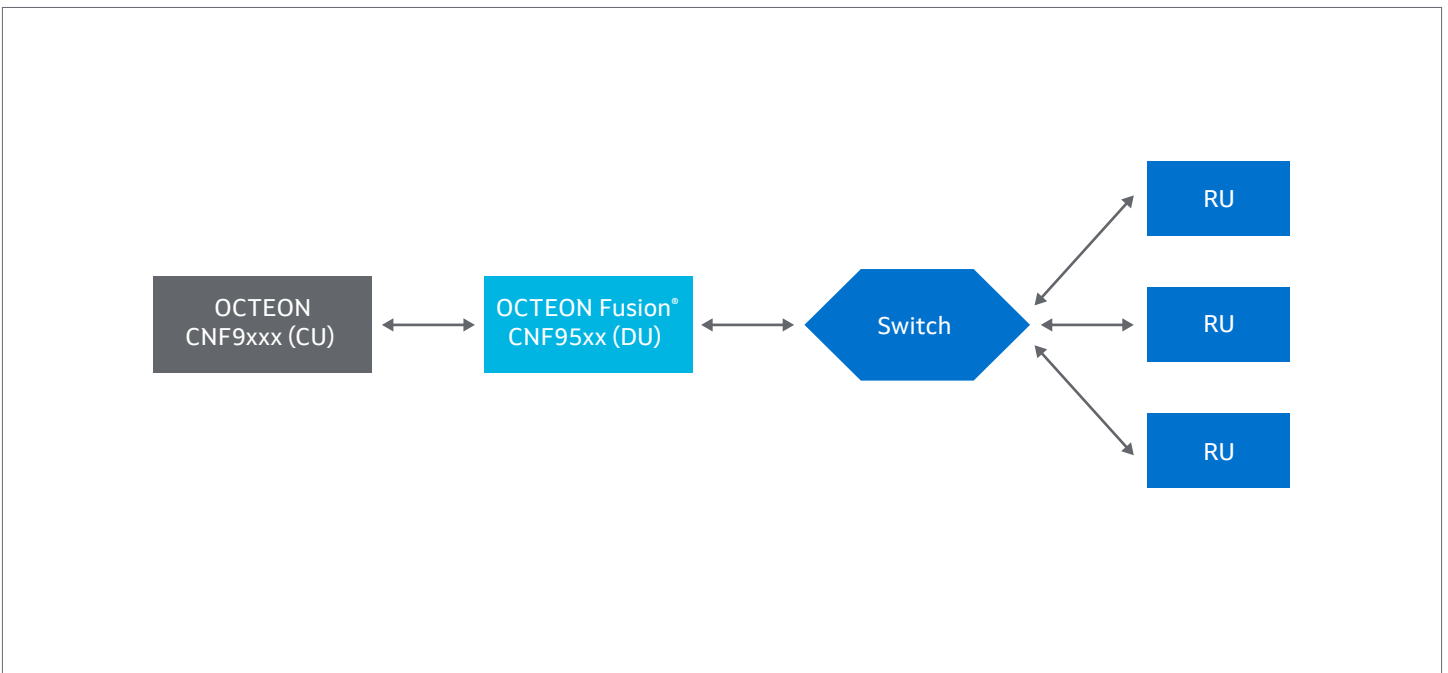
Block Diagram



4G/5G Macro Cell Example



5G Split RAN Example



Key Features

Features	Benefits
Flexible baseband architecture	<ul style="list-style-type: none">Allows customers to configure cells/sectors/bandwidths as required for each deployment.
Support for either/both 4G and 5G	<ul style="list-style-type: none">Single baseband chip allows network operators to provide a cost-effective solution for legacy 4G and new 5G services. They can even choose to operate both protocols simultaneously, within the same base station enclosure.
Support for a wide range of frequencies	<ul style="list-style-type: none">Allows base stations to operate in both mid-band and mmWave, the two primary cellular spectrums available around the globe.
It is a PHY layer processor	<ul style="list-style-type: none">Provides customer with options for all-in-one macro cells or ORAN DU configurations – both of which will be deployed over the next 5 – 10 years. OEMs can provide RAN solutions for both use cases with the same silicon.
Ethernet-based RF Interface	<ul style="list-style-type: none">Supports new high-throughput radio technologies which are needed to support 5G connectivity.
Member of Marvell's OCTEON lineup of multi-core processors	<ul style="list-style-type: none">Integration with Marvell-supplied solutions eases RAN design and shortens time-to-market with integrated silicon and software solutions.

Target Applications

- 4G/5G Macro Cell Base Stations – may run both protocols simultaneously
- 5G Distributed Unit (DU) for ORAN Architecture Macro Cell Base Stations



Marvell first revolutionized the digital storage industry by moving information at speeds never thought possible. Today, that same breakthrough innovation remains at the heart of the company's storage, networking and connectivity solutions. With leading intellectual property and deep system-level knowledge, Marvell semiconductor solutions continue to transform the enterprise, cloud, automotive, industrial, and consumer markets. For more information, visit www.marvell.com.

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