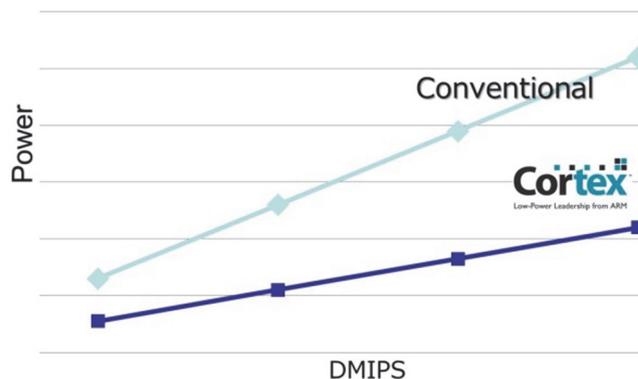


# SynQuacer™ Server system NEO-concept by Socionext

## ■ Overview

- Prototype system connecting 64 CPUs via proprietary switch architecture
- High frequency CPU : well-tuned many cores
- Absolute low power consumption "Down to 30%"
- Flexible scalability
- Variety of use-case



30%

- ✓ Cloud service
- ✓ Media server
- ✓ CDN
- ✓ File system

\*:CDN  
Content Delivery Network

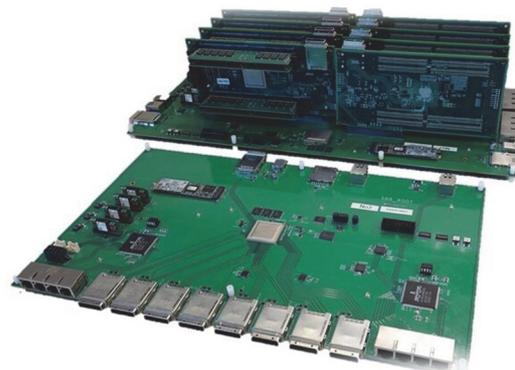
## ■ Configuration of prototype system

- 24 of power efficient Core are on CPU
- CPU and local memory are on PEC\*<sup>1</sup>
- 8 PECs are connected via Switch SoC on SBB\*<sup>2</sup>
- 8 SBBs are connected via SBB-R\*<sup>3</sup>
- Total 1536 cores (24 x 8 x 8)

\*1: PEC: Processor Element Card

\*2: SBB: System Bridge Board

\*3: SBB-R: Top of Rack



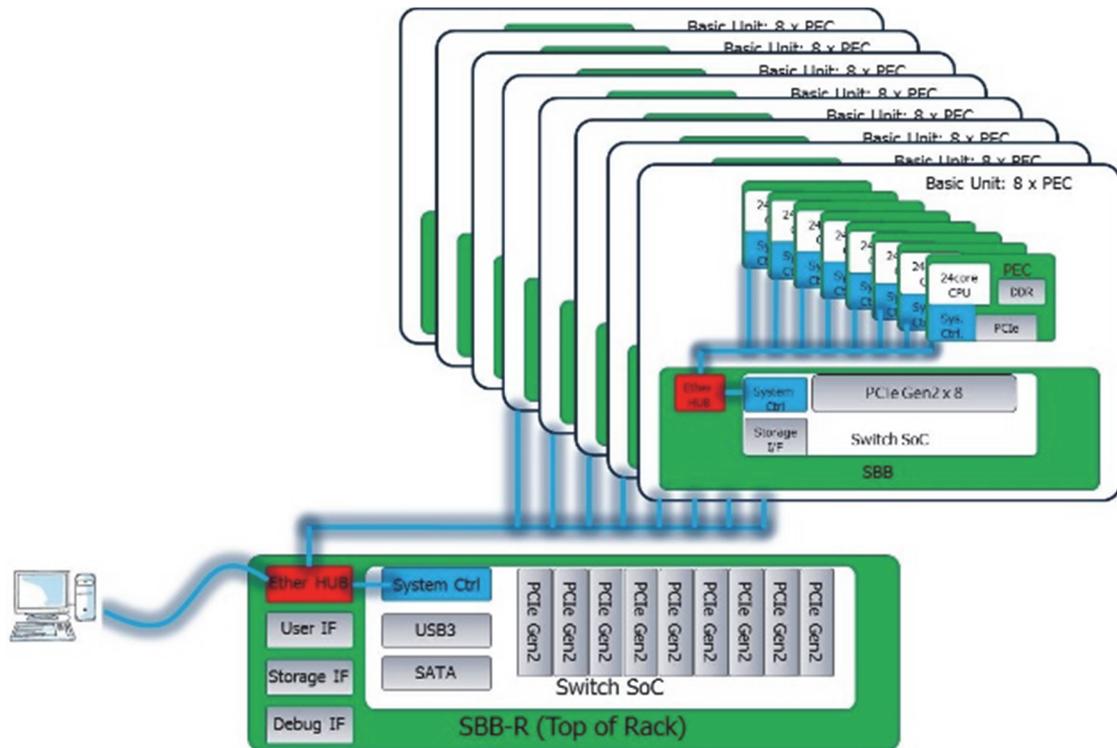
<Notes>

- Lower power consumption is confirmed on real board (measured at our company).

- SynQuacer is a trademark of Socionext Inc.

# ■ Maintenance and Management Features

- Network using internal system control block
- Central control by Socionext proprietary processing unit
- Online board replacement
- Encryption protected network



# ■ Specifications

CPU	ARM® Cortex-A53, 24core, 1GHz <sup>*1</sup>
PEC (Processor Element Card)	1 CPU, 4 RDIMM Slots
Number of CPU	1 [24core] - 64 [1536core]
SBB (System Bridge Boards)	1 [8 CPU] - 8 [64 CPU] <sup>*2</sup>
Memory type	16GB DDR4-RDIMM, ECC
Memory Min. config.	128GB [8 CPU] - 1TB [64 CPU]
Memory Max. config.	512GB [8 CPU] - 4TB [64 CPU] <sup>*3</sup>
Storage type	M.2 SSD/SATA3-6Gbps/512GB/Type2280
Storage capacity	512GB [1 System Bridge Board] - 4TB [8 System Bridge Boards]
External LAN connection	GbEthernet
PCI Express (System Slot)	x4lane 1ch Root Complex
PCI Express (Extension)	x4lane 1ch x64 PECs
System Management Facility	Installed

\*1: Performance of 2x System Bridge Board will be equivalent to x86 server.

\*2: 8 CPUs on 1 SBB, 8 SBBs are connected.

\*3: 4x RDIMM are on Processor Element Card.