Marvell and TSMC Deliver Industry’s Most Advanced Data Infrastructure Portfolio on 5nm Technology
Overview

Company founded 1995
FY20 revenue $2.7B
Employees 5,000+
Patents worldwide 10,000+

Located in Santa Clara, CA
R&D centers in US, Israel, India, Germany, China
Marvell’s mission

We develop and deliver semiconductor solutions that move, store, process and secure the world’s data faster and more reliably than anyone else.
More than Moore for next generation infrastructure

- 40% lower power
- 40% greater integration
- More than Moore using system-level innovations
Significant N5 vs. N7 silicon area benefits

On average >40% more content
N5 enables 40% power savings over N7
N5 scales next generation data infrastructure

- 5G Carriers
- Enterprise Networking
- Cloud Data Centers
- Automotive
Extending OCTEON data infrastructure leadership

5G Carriers

Enterprise Networking

Cloud Data Centers

Automotive

Power-performance and accelerator integration advantages vs leading competitors
N5 machine learning accelerator silicon benefits

- Area (mm²): N7 > 800, Barrier < 600, N5 > 800, < 600
- Power (W): N7 > 500, Barrier < 325, N5 < 600

- Double function
- Full function
- Half function
N5 data center networking switching silicon benefits

Area (mm²):
- >500mm²
- <350mm²

Power (W):
- N7: <175W
- N5: >250W

Chiplet:
- Double function
- Full function
- Half function
N5 5G baseband processing silicon benefits

Area (mm²)
- >300mm²
- <230mm²

Power (W)
- >55W
- <35W
Marvell best-in-class developed N5 IP

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More than Moore: N5 with Marvell system level innovations

- MCM integration
- Chiplet solutions
- In package memory

Marvell leading in advanced technology readiness and system integration
Delivering multiple R&D models that evolve with you

**Buy**
- Merchant solution

**Partner**
- Custom solution
  - Customer IP

**Build**
- ASIC

**Integrate**
- ASIC
  - Merchant solution
  - Partner chiplets & memory
Key takeaways

1. Leading the industry in 5nm standard and custom data infrastructure solutions

2. Enabling 40% power reduction and integration of 40% more functionality

3. Extending OCTEON infrastructure processor leadership

4. More than Moore – TSMC N5 + Marvell system level innovations

5. We are not resting...3nm development is underway