INVESTOR DAY 2020
October 8, 2020
Virtual Event
Introduction

Ashish Saran
Vice President, Investor Relations
October 8, 2020
# Agenda

<table>
<thead>
<tr>
<th>TOPIC</th>
<th>PRESENTER</th>
</tr>
</thead>
</table>
| Accelerating growth in 5G, cloud, and automotive | Matt Murphy  
President and CEO                          |
| Technology leadership                           | Sandeep Bharathia  
SVP of Central Engineering                    |
| Leading the way in data center storage          | Dan Christman  
EVP of Storage Business Group                 |
| Networking leadership                           | Raghib Hussain,  
Chief Strategy Officer and  
EVP of Networking & Processors                 |
| Financial roadmap                               | Jean Hu  
Chief Financial Officer                       |
| Q&A session                                     | All                                            |
Forward-looking statements

- Except for statements of historical fact, this presentation contains forward-looking statements (within the meaning of the federal securities laws) including, but not limited to, statements related to market trends and to the company’s business and operations, business opportunities, growth strategy and expectations, and financial targets and plans, that involve risks and uncertainties. Words such as “anticipates,” “expects,” “intends,” “plans,” “projects,” “believes,” “seeks,” “estimates,” “can,” “may,” “will,” “would” and similar expressions identify such forward-looking statements. These statements are not guarantees of results and should not be considered as an indication of future activity or future performance. Actual events or results may differ materially from those described in this presentation due to a number of risks and uncertainties.

- For factors that could cause Marvell’s results to vary from expectations, please see the risk factors identified in Marvell’s Quarterly Report on Form 10-Q for the fiscal quarter ended August 1, 2020 as filed with the SEC on August 28, 2020 and other factors detailed from time to time in Marvell’s filings with the SEC. The forward-looking statements in this presentation speak only as of the date of this presentation and Marvell undertakes no obligation to revise or update publicly any forward-looking statements.
Non-GAAP financial measures

- During this presentation, we may refer to certain financial measures on a U.S. non-GAAP basis.
- We believe that the presentation of non-GAAP financial measures provides important supplemental information to management and investors regarding financial and business trends relating to our financial condition and results of operations.
- While we use non-GAAP financial measures as a tool to enhance our understanding of certain aspects of our financial performance, we do not consider these measures to be a substitute for, or superior to, the information provided by GAAP financial measures.
- A reconciliation in accordance with SEC Regulation G for the non-GAAP financial measures used in these slides is available in the financial statements section of this presentation and/or in the Investor Relations section of our website at https://www.marvell.com.
Basis of presentation

Fiscal Year vs Calendar Year

- Financial measures in this presentation correspond to Marvell’s fiscal calendar
- Marvell’s fiscal year is the 52- or 53-week period ending on the Saturday closest to January 31
- As an example, FY2020 refers to the period February 3, 2019 through February 1, 2020
- We may also refer to calendar years in presenting external market data

Revenue and addressable markets

- Marvell report’s revenue disaggregated in three broad product groups: Networking, Storage and Other
- During this presentation, we also provide additional information on revenue and addressable market trends by four end markets: Enterprise Networking, Carrier Infrastructure, Datacenter and Edge
Data infrastructure (Video)
Accelerating growth in 5G, cloud, and automotive

Matt Murphy
President & Chief Executive Officer
October 8, 2020
Why data infrastructure?

- >$100B TAM
- High growth
- High barrier to entry

$100B TAM
High growth
High barrier to entry
What is the data infrastructure market?

WW Semi TAM

Industrial and Aerospace Electronics 14%
Consumer Electronics 11%
Automotive Electronics 12%
Communication Electronics 31%
Data Processing Electronics 32%

$310B
$420B with memory

4% CAGR

Consumer Infrastructure

Source: Gartner, CY19
What is the data infrastructure market?

We cut the market a different way
What is the data infrastructure market?

Infrastructure

Consumer

Source: Gartner, CY19, Marvell estimates

© 2020 Marvell. All rights reserved.
The most exciting market in semiconductors

- **Semiconductor TAM**: $310B, 4% CAGR
- **Infrastructure Semi TAM**: $140B, 6% CAGR
- **Marvell TAM**: $110B, 6% CAGR

Source: Gartner, CY19, Marvell estimates
The most exciting market in semiconductors

Marvell TAM

$110B
6% CAGR

Marvell SAM

$16B
$20B
9% CAGR

CY20
CY23

Source: Gartner, CY19, Marvell estimates

© 2020 Marvell. All rights reserved.
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.
Transformation to one-stop full solutions provider

Divest non-core businesses

Storage | Networking

WiFi | LTE modem | Multimedia | G.hn
Transformation to one-stop full solutions provider

- **2020**: MARVELL
- **2019**: Custom ASIC | Networking
- **2018**: Compute | Security
- **2017**: Storage | Networking
Leveraging technology platform across product lines

Storage

- SSD and HDD controllers and accelerators
  - MARVELL 88SS1098
  - MARVELL 881215
- Fibre Channel adapters

Networking and compute

- Ethernet switches, PHYs and adapters
  - MARVELL Prestera™
  - MARVELL Alaska™
- Data processing units (DPUs)
  - MARVELL OCTEON™ TX2
  - MARVELL OCTEON™ Fusion
  - MARVELL NITROX™

- Automotive Ethernet
  - MARVELL 88Q111x
  - MARVELL 88Q5050
- Custom ASICs
  - MARVELL 5G Custom
  - MARVELL Cloud Custom
Numerous $100M+ accounts and growing
Co-investing with customers

- All ASIC projects have NRE funding
- >1/3 of non-ASIC projects include NRE
“Execute with thoroughness and rigor”

The Marvell Playbook

- Product definition
- Project planning
- POR review
- WIP review
- Tape-out signoff
- Lessons learned
Our ESG journey

**Environmental**
Reducing carbon footprint

**Social**
Strong community support

**Governance**
Strong board and shareholder focus

- Joined UN Global Compact
- Adopted SASB methodology
Dynamic
Combining perspectives to create the smartest paths

Attentive
Listening, adapting and collaborating with nimble dexterity

Real
Transparent, goal-oriented, and deliver what we promise

Tenacious
Working shoulder-to-shoulder and leading the charge
Accelerating growth in 5G, cloud, and automotive

Data infrastructure

Customer partnerships

Technology leadership

Growth from 5G, cloud, auto
Evolution to being 1st to market
Delivering a 5nm platform for portfolio-wide leadership

- 40% Lower power
- 30% Higher density
- +++ Architecture and design
Our opportunity by end market

Serviceable market by end market

<table>
<thead>
<tr>
<th>End Market</th>
<th>CY20</th>
<th>CY23</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automotive, industrial, consumer</td>
<td>$16B</td>
<td>$20B</td>
</tr>
<tr>
<td>(PCs, gaming, cameras, etc.)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Data Center</td>
<td>$2.2</td>
<td>$2.8</td>
</tr>
<tr>
<td>Carrier</td>
<td>$5.2</td>
<td>$7.0</td>
</tr>
<tr>
<td>Enterprise Networking</td>
<td>$5.4</td>
<td>$6.9</td>
</tr>
<tr>
<td>Enterprise</td>
<td>$2.7</td>
<td>$3.1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Growth Rate</th>
<th>CY20</th>
<th>CY23</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automotive, industrial, consumer</td>
<td>9%</td>
<td>9%</td>
</tr>
<tr>
<td>Data Center</td>
<td>11%</td>
<td>11%</td>
</tr>
<tr>
<td>Carrier</td>
<td>8%</td>
<td>8%</td>
</tr>
<tr>
<td>Enterprise Networking</td>
<td>4%</td>
<td>4%</td>
</tr>
</tbody>
</table>

Source: Crehan, Dell’Oro, Forward Insights, Gartner, Linley Group, Strategy Analytics, Trend Focus and Marvell estimates

© 2020 Marvell. All rights reserved.
Investing in high growth subsegments: 5G, cloud, auto

Serviceable market by end market

Key high growth subsegments

Source: Crehan, Dell’Oro, Forward Insights, Gartner, Linley Group, Strategy Analytics, Trend Focus and Marvell estimates

Industrial includes: Aerospace & defense, factories, smart cities

© 2020 Marvell. All rights reserved.
Investing in high growth subsegments: 5G, cloud, auto

Serviceable market by end market

Key high growth subsegments

© 2020 Marvell. All rights reserved.

Source: Crehan, Dell'Oro, Forward Insights, Gartner, Linley Group, Strategy Analytics, Trend Focus and Marvell estimates

Industrial includes: Aerospace & defense, factories, smart cities
Investing in high growth subsegments: 5G, cloud, auto

Serviceable market by end market

Key high growth subsegments

Source: Crehan, Dell’Oro, Forward Insights, Gartner, Linley Group, Strategy Analytics, Trend Focus and Marvell estimates

Industrial includes: Aerospace & defense, factories, smart cities

© 2020 Marvell. All rights reserved.
Our share and strategy for long term growth

Growth segments

<table>
<thead>
<tr>
<th>End Market</th>
<th>LTM Revenue</th>
<th>Growth Expectations</th>
</tr>
</thead>
<tbody>
<tr>
<td>5G, cloud, auto</td>
<td>~ $0.7B</td>
<td>~ 2X market growth</td>
</tr>
<tr>
<td></td>
<td>10% share</td>
<td></td>
</tr>
<tr>
<td>Enterprise, wired, industrial</td>
<td>~ $1.5B</td>
<td>Faster than market</td>
</tr>
<tr>
<td></td>
<td>20% share</td>
<td></td>
</tr>
<tr>
<td>Consumer</td>
<td>~ $0.6B</td>
<td>Flat</td>
</tr>
<tr>
<td></td>
<td>50% share</td>
<td></td>
</tr>
</tbody>
</table>

Long term target: 10-15%

Source: Crehan, Dell’Oro, Forward Insights, Gartner, Linley Group, Strategy Analytics, Trend Focus and Marvell estimates

LTM: Q3FY20-Q2FY21

© 2020 Marvell. All rights reserved.
Acceleration of 5G growth drivers

Marvell has a growing position in Carrier infrastructure

>7M base station processors shipped

Base case

Today

- Full platform at 2\textsuperscript{nd} OEM
- Broader Ethernet adoption
- Larger radio head opportunity
- Massive MIMO adoption
- Tier 2 / regional OEM wins
- Potential market share shifts

Significantly larger 5G opportunity
Breaking down our cloud data center opportunity

Cloud opportunity

- Carrier and data center SAM similar
- Data center TAM much larger

Cloud strategy

Current position
- >10% company revenue today
- 50/50 storage & networking
- Both growing, networking much faster

Storage drivers
- DIY SSD strategy
- Nearline growth + preamp share

Networking drivers
- DPU for network & security acceleration
- Custom and semi-custom ASIC
- Large SAM expansion opportunity

Cloud revenue opportunity similar to 5G
Automotive Ethernet: the next >$1 billion market for Marvell

Multi-billion $ connectivity TAM now
- Migrating to Ethernet over time

Per car content from $5 to $50 today
- Growing to >$100 with autonomous

Design wins at 24 OEMs
- Investing to be market leader

Secured design wins to drive share to >1/3 of market
Accelerating growth in 5G, cloud, and automotive

Data infrastructure

- $110B TAM
- Secular growth
- Focused execution
Accelerating growth in 5G, cloud, and automotive

- New $100M+ customers
- Co-invest business model
Accelerating growth in 5G, cloud, and automotive

Technology leadership

- 5nm technology platform
- Fast follower to leader
Accelerating growth in 5G, cloud, and automotive

- 5G accelerating
- Cloud momentum
- $1B auto Ethernet

Growth from 5G, cloud, auto
Accelerating growth in 5G, cloud, and automotive

Data infrastructure

Technology leadership

Customer partnerships

Growth from 5G, cloud, auto
Thank You
Technology Leadership

Sandeep Bharathi
SVP Central Engineering
October 8, 2020
Moore’s law slowing down…

Source: International Business Strategies, Inc.

High performance and low power needs latest process
It’s all about the platform!

Platform focus delivers the highest performance/watt

Source: TSMC and Marvell
Migrating to advanced geometry is imperative

**Process**
Advanced features with greater integration

**Architecture**
Deliver higher performance

**Design**
Deliver lower power

**OCTEON DPU Performance**
(@ same power)

>7X

- Older Gen
- Current Gen
- Next Gen

© 2020 Marvell. All rights reserved.
Evolution to platform leadership

Led with architecture and design

Achieved scale and expertise

Lead with process technology, architecture, design
Process: from fast follower to leader


Fast follower

16nm test chip

7nm test chip

5nm test chip

3nm test chip

Leader

Foundry Ready

Marvell Test Chip
Key platform features for leading-edge process success

Leadership technology and design platform

Access to leading edge process
Analog and Digital IP
Advanced packaging
Test prototype
Development Flow

Collaboration with industry ecosystem partners

Foundry | EDA SW | Wafer/Chip Test and Assembly | External IP Portfolio | Supply chain

Scale enables delivery of a complex technology platform
Being first matters!

- First mover advantage
- Incumbency
- Market share
Anatomy of a modern SoC

- **Foundational blocks**: Network/switch/Al/engines/graphics, DSP, Cache/internal memory
- **High-speed IO interface**: DRAM interface, 25 Lanes 25G Ethernet, 36 Lanes Gen 4 PCIe, Octeon DPU Accelerators
- **Multi-core processor**: 36 Custom OCTEON ARM Cores, 21MB Cache, GPIO, PLLs, Gen 4 PCIe MACs, Ethernet MACs, USB

**Key Components**
- CPU
- DDR4
- Cache/ internal memory
- PLLs
- GPIO
- Ethernet MACs
- Gen 4 PCIe MACs
- USB
- DSP
- CPU
- DRAM interface
### Marvell's comprehensive IP infrastructure portfolio

<table>
<thead>
<tr>
<th>System IP</th>
<th>Processors</th>
<th>Critical analog and mixed signal IP</th>
<th>Foundation IP</th>
</tr>
</thead>
<tbody>
<tr>
<td>- NVMe Storage</td>
<td></td>
<td>- PCIe PHY (gen3, gen4, gen5, gen 6)</td>
<td>- Custom memories</td>
</tr>
<tr>
<td>- Ethernet Copper PHYs</td>
<td></td>
<td>- Memory Interface PHYs</td>
<td>- Analog building blocks</td>
</tr>
<tr>
<td>- Ethernet Optical PHYs</td>
<td></td>
<td>- NAND PHY</td>
<td>- PLLs</td>
</tr>
<tr>
<td>- Networking Switch</td>
<td></td>
<td></td>
<td>- IO</td>
</tr>
<tr>
<td>- Security Processors</td>
<td></td>
<td></td>
<td>- Temp sensor</td>
</tr>
<tr>
<td>- DSP Cores</td>
<td></td>
<td></td>
<td>- Voltage scaling</td>
</tr>
<tr>
<td>- Data Plane Processors</td>
<td></td>
<td></td>
<td>- Voltage Regulator</td>
</tr>
</tbody>
</table>

#### Foundation IP
- Custom cell libraries
- Custom memories
- Analog building blocks
- PLLs
- IO

#### Storage Connectivity
- Ethernet switching & PHYs
- Security
- Infrastructure processors
- Server processors
- Custom ASIC

#### Critical Analog and Mixed Signal IP
- PCIe PHY (gen3, gen4, gen5, gen 6)
- Memory Interface PHYs
- NAND PHY

#### Foundation IP
- Custom cell libraries
- Custom memories
- Analog building blocks
- PLLs
- IO
Data movement challenge

SerDes – fundamental building block

Different data rates

28G → 56G → 112G → 224G

© 2020 Marvell. All rights reserved.
Design and IP

Critical SerDes building blocks at the leading-edge

Advanced SerDes roadmap

224/112/56 Gbps 5/3nm

112/56 Gbps 5nm

112/56 Gbps 7nm

56/112 Gbps 16/12nm

12 Gbps

Marvell is uniquely positioned to lead

1. Being first matters – leads to market share
2. Best-in-class technology platform including process, architecture and design
3. Scale and leverage the platform to address the data infrastructure market
Thank You
Leading the way in data center storage

Dan Christman
EVP, Storage Business Group
October 8, 2020
The data center is the epicenter for storage

Data continues to move from devices to infrastructure

Source: Seagate/IDC Rethink Data Report, 2020
Key focus areas for data center storage

- Performance
- Capacity
- Security
- Efficiency
Marvell’s storage franchise

**Flash solutions**
- SSD controllers
- Storage accelerators

**HDD solutions**
- HDD controllers
- Preamps

**Fibre Channel**
- Fibre Channel adapters
Uniquely positioned in data center storage

- Storage leadership
- Customer intimacy
- Process and IP excellence
- Flexible business model
Leading the way in SSD

**Storage leadership**
- Leading SSD market share
- Scale to cover all swim lanes
- Data center focus

**Customer intimacy**
- Multi-generation designs
- Key NAND partnerships
- System OEM relationships

**Process and IP excellence**
- Host interface PHYs (NVMe)
- Advanced process nodes
- Leverage Marvell technology

**Flexible business model**
- Merchant and custom solutions
- Flexible firmware engagements
- Pioneer of DIY SSD
Let’s talk **DIY – Do It Yourself SSDs**

**Black box SSD**

**DIY SSD**

- Standard or customized controller
- Multiple NAND sources
  - Intel
  - KIOXIA
  - Micron
  - Samsung
  - SK hynix
  - Western Digital
- Customized firmware
Marvell is the leader in DIY SSD

Edge DIY SSD now in volume production

New cloud data center DIY SSD ramping next year
Our SSD growth strategy

- **DIY leadership**
- **Strong NAND vendor relationships**
- **Rapidly evolving features**
  - Host interface speeds
  - NAND advancements
  - Hardware acceleration
- **New opportunities opening at NAND vendors**
- **New tier one NAND OEM customer!**

NEW!
A closer look at where the data is being stored

Worldwide zettabyte shipments by storage media type

Source: Marvell market research based on Seagate/IDC Data Age 2025 Report, 2018

© 2020 Marvell. All rights reserved.
HDD provides the **capacity** for the data center

SSD provides the **performance**

Source: Marvell market research based on Trendfocus and Gartner
The data center is a growth opportunity for HDD

Total HDD exabytes shifting to data center

Maintaining $/GB advantage

More heads/disks driving content growth in preamps

Source: Marvell market research based on Trendfocus and Gartner

© 2020 Marvell. All rights reserved.
The data center is a growth opportunity for HDD

The preamp opportunity

- $400M+ overall preamp SAM
- Preamps scale with heads & disks
- Now started shipping
- Targeting >30% share of market

More heads/disks driving content growth in preamps

Source: Trendfocus
HDD innovations are enabling capacity growth

Marvell read channel and preamp technologies enable new architectures to grow capacity & maintain $/GB advantage

- Extending conventional recording
- Adding more platters
- Enabling energy-assist recording
Data center storage acceleration in the server

Native NVMe RAID boot accelerator

Virtualized storage accelerator

Offload the CPU!
Extending flash storage scalability with Ethernet

Announced by Kioxia
September 2020

POCs under evaluation at multiple customers
Summary

The data center is the largest & most important storage market

We continue to execute on our pivot to the data center

We have multiple vectors driving future growth

Targeting 30 - 35% share of $1B+ cloud storage SAM

Marvell Storage Revenue

- FY17
- FY18
- FY19
- FY20
- 1HFY21

Data Center
Edge/Other
Client

DIY SSD
NAND OEM sockets
Nearline HDD/Preamps
Storage accelerators
Thank You
Networking Leadership

Raghib Hussain
Chief Strategy Officer and EVP of Networking & Processors
October 8, 2020
Networking and compute product lines

**Networking**
- Marvell Prestera
- Marvell Alaska
- Marvell 88Q111x
- Marvell 88Q5050

**Compute**
- Marvell OCTEON
- Marvell OCTEON Fusion
- Marvell Nitrox

**Custom ASICS**
- Marvell 5G Custom
- Marvell AI Custom
- Marvell Wired Custom

**Ethernet switches, PHYs, and adapters**

**Data processing units (DPUs)**

**5G, AI, networking, and data center**
Networking and compute end markets

Enterprise
Automotive
Carrier
Data Center
Networking and compute end markets

Enterprise
Automotive
Carrier
Data Center
Traditional enterprise

Connecting offices

Today’s enterprise

Connecting people and resources
The borderless enterprise

Retail | Healthcare | Energy / Industrial | Virtual Events | Hospitality
What does the borderless enterprise need?

Visibility
- Line-rate telemetry
- Anomaly detection

Intelligence
- Flow-aware processing
- Smart traffic engineering

Zero-trust
- Secure boot, MACsec, IPSec

End-to-end performance
- Modular architecture
- Inline programmability
Case study: Just-walk-out retail

Drove new requirements:
- Extensive telemetry
- Advanced analytics
- Traffic management
- Security scheme/policy

Enabled by Marvell’s feature rich switch, PHY, and processor
## Refreshed enterprise networking portfolio

### 22 new products, all in the last 18 months

<table>
<thead>
<tr>
<th>Core and data center</th>
<th>Switch</th>
<th>PHY</th>
<th>Processor</th>
</tr>
</thead>
<tbody>
<tr>
<td>25-400 Gbps</td>
<td>Prestera 128x100G 32x400G</td>
<td>Alaska C MACSec PHY 2x400G</td>
<td>OCTEON CN98xx 200Gbps</td>
</tr>
<tr>
<td></td>
<td>Prestera 80x25/50G</td>
<td>Alaska C MACSec PHY 16x50G</td>
<td>OCTEON CN96xx 100 Gbps</td>
</tr>
<tr>
<td></td>
<td>Alaska C PHY 8x100G Serial</td>
<td>Alaska C Optimal PHY 8x25G/10G</td>
<td>OCTEON CN92xx 50 Gbps</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Aggregation</th>
<th>Switch</th>
<th>PHY</th>
<th>Processor</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-25 Gbps</td>
<td>Prestera 24x25G</td>
<td>Alaska C Gearbox 100G</td>
<td>OCTEON CN9131 25 Gbps</td>
</tr>
<tr>
<td></td>
<td>Prestera 48x25G</td>
<td>Alaska C Gearbox 40G</td>
<td>OCTEON CN9132 25 Gbps</td>
</tr>
<tr>
<td></td>
<td>Alaska C MACSec PHY 16x25G</td>
<td>Alaska C Optical PHY 8x25G/10G</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Access</th>
<th>Switch</th>
<th>PHY</th>
<th>Processor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-10 Gbps</td>
<td>Prestera 48x5G 24x10G</td>
<td>Alaska M PHY 8x2.5/5G</td>
<td>OCTEON CN9130 10 Gbps</td>
</tr>
<tr>
<td></td>
<td>Prestera 24/48x1G</td>
<td>Alaska M PHY 8x2.5/5/10G</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Prestera 24/48x2.5G</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Momentum in enterprise networking – switch / PHY

Existing customer
- New design win
- Ported network OS to Marvell silicon

New customer
- Full Marvell switch/PHY platform

Full access to broader platform, driving share gain
Momentum in enterprise networking – compute

- New platform win for OCTEON
- Enterprise router family at Tier 1
- Migrating from x86

Share gain with 5nm OCTEON family
Networking and compute end markets

Enterprise  Automotive  Carrier  Data Center
Evolution of the car

Inefficient and non-scalable

Fully integrated system and OTA upgradeable

One day every car will be a smart car, just like every phone became a smartphone
The network of a smart car

- Point to point, rigid, expensive
- Networked, secure, scalable, intelligent

Ethernet is the future
Automotive Ethernet

The next >$1B opportunity for Marvell

Source: Strategy Analytics Automotive Infotainment & Telematics System June 2020, Marvell estimates

© 2020 Marvell. All rights reserved.
Marvell investing to be #1 in automotive Ethernet

**Ethernet**
- 25+ years of Ethernet switch/PHY experience
- SerDes design expertise
- 100Mb to 25Gb secure switches/PHYs

**Automotive grade reliability**
- Only silicon company with CISPR25 lab on-campus
- ASPICE-compliant switch software

Design wins at 24 OEMs: 7 out of top 10
SAM expansion: compute, security, and storage
Networking and compute end markets

Enterprise

Automotive

Carrier

Data Center
Marvell has a growing position in Carrier infrastructure

<table>
<thead>
<tr>
<th>Year</th>
<th>3G</th>
<th>4G</th>
<th>5G</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2020</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

>7M base station processors shipped

Our progress in 5G

<table>
<thead>
<tr>
<th>2018</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full 5G base station platform</td>
<td></td>
</tr>
<tr>
<td>Baseband &amp; full 4G processor</td>
<td></td>
</tr>
<tr>
<td>Air encryption &amp; transport</td>
<td></td>
</tr>
<tr>
<td>Backhaul encryption</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Current</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base station (Digital unit)</td>
</tr>
<tr>
<td>Central unit</td>
</tr>
<tr>
<td>L1 Baseband</td>
</tr>
<tr>
<td>L2/L3 + Control</td>
</tr>
<tr>
<td>Baseband processing</td>
</tr>
<tr>
<td>Transport processing</td>
</tr>
<tr>
<td>Connectivity</td>
</tr>
<tr>
<td>Higher Layer processing</td>
</tr>
<tr>
<td>Backhaul connectivity</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Radio unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digital Radio</td>
</tr>
<tr>
<td>DFE</td>
</tr>
<tr>
<td>Massive MIMO processing</td>
</tr>
<tr>
<td>Fronthaul connectivity</td>
</tr>
</tbody>
</table>

Backhaul encryption

Mobile MANO 3-year Forecast (Jul 18)

Massive MIMO processing

Higher Layer processing

Backhaul connectivity

Digital Radio

Fronthaul connectivity

Connectivity

Transport processing

Baseband processing

Base station (Digital unit)

Central unit

Radio unit

L1 Baseband

L2/L3 + Control
Growing momentum in 5G

- Full platform at 2nd OEM
- Broader Ethernet adoption
- Larger radio head opportunity
- Massive MIMO adoption
- Tier 2 / regional OEM wins
- Potential market share shifts

Source: Dell’Oro Mobile RAN Quarterly Report, 4Q19, Marvell estimates

© 2020 Marvell. All rights reserved.
Purpose-built OCTEON for all RAN architectures

5G RAN

VRAN/ORAN

Radio Unit

Baseband Unit

Central Unit

Digital Unit (DU) and Central Unit

VRAN offload
5G ramping: long lifecycle ahead

Multi-decade product lifecycles

Source: Dell’Oro Mobile RAN Forecast Report, July 2020, Marvell estimates
5G now an even bigger growth driver for Marvell
Networking and compute end markets

Enterprise
Automotive
Carrier
Data Center
Evolution of data center

Traditional: dedicated appliances
- Firewall
- VPN
- Load balancer

Powered by OCTEON

Cloud: distributed in servers
- Network and security offloaded

Powered by OCTEON
The evolution of compute

Application processing

- Email
- CRM
- Database

Parallel processing

- Graphics
- AI
- Blockchain

Data processing

DPU
OCTEON since 2005

- Network protocols
- Traffic management
- Virtual switching
- Security processing
- Root of trust
- Storage virtualization
- Compression

Multiple end markets for DPU

- Wired
- Wireless
- Data Center
- Automotive
OCTEON-based DPU’s differentiated IP:

- Optimized network protocol processing hardware engines
- Line-rate security processing engines
- Hardware-based performance scaling engines
- High performance scalable on-chip network
Cloud: DPU market expansion

- Shifting workloads
  - Application-centric
  - Data-centric

DPU applications
- SmartNIC
- Security
- Video transcoding
- Storage virtualization
- vRAN DU offload

Data center compute TAM $22B
## Large cloud data center opportunity

<table>
<thead>
<tr>
<th>Current growth drivers</th>
<th>SAM expansion</th>
</tr>
</thead>
<tbody>
<tr>
<td>- DPU wins at 4 tier 1</td>
<td>- Shifting workloads</td>
</tr>
<tr>
<td>- ASIC designs ramping</td>
<td>- CPU → DPU</td>
</tr>
<tr>
<td>- Networking &amp; compute cloud SAM &gt;$4B in FY24</td>
<td>- Increasing demand for custom silicon:</td>
</tr>
<tr>
<td>- Targeting 10-15% market share</td>
<td>- Scale</td>
</tr>
<tr>
<td></td>
<td>- Unique workloads</td>
</tr>
<tr>
<td></td>
<td>- Resources</td>
</tr>
</tbody>
</table>
Comprehensive ASIC development platform

- **Process**: 5nm process now; leadership process roadmap
- **Architecture**: Data infrastructure critical IP and system expertise
- **Design**: Leading-edge SOC and custom chip design expertise

>25 years | > 2000 ASIC Designs

Marvell is the ideal partner for cloud customers
Example: custom Arm server processor

Low-end

Multi-die multi-socket

Integrated SoC
Enterprise
Borderless →
share gain

Automotive
Investing to lead
in next $1B
Ethernet market

Carrier
Acceleration
in 5G

Data Center
DPU and ASIC in
cloud driving large
revenue growth
Thank You
Financial Roadmap

Jean Hu
Chief Financial Officer
October 8, 2020
The path to creating long-term value

Accelerating revenue growth
- Attractive SAM growth
- Technology and product leadership
- Share gain

Growing earnings & FCF faster than revenue
- Strong gross margin
- Operational efficiency
- Technology and operating leverage

Disciplined capital allocation
- Organic investment
- M&A
- Shareholder returns
Evolving the portfolio to serve attractive end-markets

Revenue by end-market

Serviceable market by end-market

*LTM: Q2FY20 – Q2FY21

© 2020 Marvell. All rights reserved.
Our share and strategy for long-term growth

<table>
<thead>
<tr>
<th>End-market</th>
<th>LTM revenue</th>
<th>Growth expectations</th>
</tr>
</thead>
<tbody>
<tr>
<td>5G, Cloud, Auto</td>
<td>~ $0.7B</td>
<td>~ 2X market growth</td>
</tr>
<tr>
<td></td>
<td>10% share</td>
<td></td>
</tr>
<tr>
<td>Enterprise, Wired, Industrial</td>
<td>~ $1.5B</td>
<td>Faster than market</td>
</tr>
<tr>
<td></td>
<td>20% share</td>
<td></td>
</tr>
<tr>
<td>Consumer</td>
<td>~ $0.6B</td>
<td>Flat</td>
</tr>
<tr>
<td></td>
<td>50% share</td>
<td></td>
</tr>
</tbody>
</table>

**Long-term target: 10-15%**

Source: Crehan, Dell’Oro, Forward Insights, Gartner, Linley Group, Strategy Analytics, Trend Focus and Marvell estimates

LTM: Q3FY20-Q2FY21

© 2020 Marvell. All rights reserved.
Maintaining strong gross margin while growing revenue

Gross margin target range

Q2 FY21
Operations efficiency & volume
Merchant product mix
ASIC/Semi-custom product mix
Target

63%
63%
65%

Notes: Gross margin refers to Marvell non-GAAP Gross Margin. Chart is not to scale, for illustration purposes only.
Driving operating leverage

Manage Non-GAAP opex annual increase ~ 3%

Operational efficiency
- Focused R&D investments
- Execution discipline
- Headcount geo mix

Technology and operating leverage
- IP reuse across the company
- Customer funding for R&D

Non-GAAP Operating margin %

Scale curve

Revenue growth >> Opex growth = Significant operating leverage

© 2020 Marvell. All rights reserved.
## Long-term non-GAAP financial target

<table>
<thead>
<tr>
<th>Revenue growth</th>
<th>10 - 15% CAGR</th>
<th>Attractive end-markets and share gains</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross margin</td>
<td>63 - 65%</td>
<td>Improve &amp; maintain strong gross margin</td>
</tr>
<tr>
<td>Operating expenses</td>
<td>28 - 30%</td>
<td>Invest for growth</td>
</tr>
<tr>
<td>Operating margin %</td>
<td>&gt; 35%</td>
<td>Strong operating leverage</td>
</tr>
<tr>
<td>FCF%</td>
<td>&gt; 30%</td>
<td>Efficient cash conversion</td>
</tr>
</tbody>
</table>

Note: For our non-GAAP long term target model, we have not provided a reconciliation to the corresponding GAAP measures because certain items that impact these measures are uncertain or out of our control or cannot be reasonably predicted. Accordingly, a reconciliation of these non-GAAP financial measures to the corresponding GAAP measures is not available without unreasonable effort.
Capital allocation priorities remain unchanged

**Investment**

1. **Organic investment**
   - Invest in IP and product development
   - FY20: $1.2B*

2. **Acquisitions**
   - Aquantia and Avera
   - Strengthen portfolio and expand SAM
   - FY20: $1.1B
     - 3X sales multiple

3. **Divestiture**
   - WiFi
   - Highest ROI
   - FY20: $1.7B
     - 6X sales multiple

**Returns to shareholders (>50% of FCF)**

1. **Share repurchase**
   - Prioritize share repurchase
   - FY20: $364M

2. **Dividend**
   - Maintain current level
   - FY20: $160M

* FY20 Non-GAAP operating expenses
Capital returns to shareholders
$1.8B, ~110% FCF since Q3FY17

Cumulative share repurchase and dividends ($M)

<table>
<thead>
<tr>
<th></th>
<th>Share repurchase</th>
<th>Dividends</th>
</tr>
</thead>
<tbody>
<tr>
<td>2HFY17</td>
<td>$ 0</td>
<td>$ 1,000</td>
</tr>
<tr>
<td>FY18</td>
<td>$ 500</td>
<td>$ 500</td>
</tr>
<tr>
<td>FY19</td>
<td>$ 1,000</td>
<td>$ 500</td>
</tr>
<tr>
<td>FY20</td>
<td>$ 1,500</td>
<td>$ 500</td>
</tr>
<tr>
<td>1HFY21</td>
<td>$ 2,000</td>
<td>$ 500</td>
</tr>
</tbody>
</table>

Marvell 10Qs and 10-K
Financial flexibility supports growth strategy

**Balance sheet strength**
- Cash balance (Q2FY21) = $832M
- Undrawn credit facility = $500M

**Debt maturity schedule**

<table>
<thead>
<tr>
<th>Year</th>
<th>Term Loan</th>
<th>Senior Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>CY20</td>
<td>$450M</td>
<td></td>
</tr>
<tr>
<td>CY21</td>
<td></td>
<td>$500M</td>
</tr>
<tr>
<td>CY22</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CY23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CY24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CY25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CY26</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CY27</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CY28</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Financial flexibility**
- Strong free cash flow generation
- Investment grade credit rating
- Near term plan
  - Paying down term loan
  - Gross leverage ratio <1.5 exiting FY21
## Key takeaways

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Outgrowing the attractive end-markets we serve</td>
</tr>
<tr>
<td>2</td>
<td>Expanding earnings faster than revenue growth to capture value</td>
</tr>
<tr>
<td>3</td>
<td>Disciplined capital allocation funds LT growth strategy and shareholder returns</td>
</tr>
</tbody>
</table>
Thank You
Appendix
Reconciliation of Q2FY21 GAAP to Non-GAAP Gross Margin %

<table>
<thead>
<tr>
<th></th>
<th>Q2FY21</th>
</tr>
</thead>
<tbody>
<tr>
<td>GAAP gross margin</td>
<td>49.4%</td>
</tr>
<tr>
<td>Special items:</td>
<td></td>
</tr>
<tr>
<td>Share-based compensation</td>
<td>0.6%</td>
</tr>
<tr>
<td>Amortization of acquired intangible</td>
<td>11.7%</td>
</tr>
<tr>
<td>Other cost of goods sold</td>
<td>1.6%</td>
</tr>
<tr>
<td>Total special items</td>
<td>13.9%</td>
</tr>
<tr>
<td>Non-GAAP gross margin</td>
<td>63.3%</td>
</tr>
</tbody>
</table>
Reconciliation of Q3FY20 – Q2FY21 GAAP to Non-GAAP operating margin %

<table>
<thead>
<tr>
<th></th>
<th>Q3FY20</th>
<th>Q4FY20</th>
<th>Q1FY21</th>
<th>Q2FY21</th>
</tr>
</thead>
<tbody>
<tr>
<td>GAAP operating margin</td>
<td>-9.3%</td>
<td>-16.0%</td>
<td>-13.8%</td>
<td>-20.8%</td>
</tr>
<tr>
<td>Other cost of goods sold</td>
<td>0.7%</td>
<td>7.3%</td>
<td>2.7%</td>
<td>1.6%</td>
</tr>
<tr>
<td>Share-based compensation</td>
<td>10.2%</td>
<td>7.4%</td>
<td>8.6%</td>
<td>8.6%</td>
</tr>
<tr>
<td>Restructuring related charges</td>
<td>2.2%</td>
<td>2.5%</td>
<td>3.1%</td>
<td>16.6%</td>
</tr>
<tr>
<td>Amortization of acquired intangible assets</td>
<td>14.0%</td>
<td>16.0%</td>
<td>16.3%</td>
<td>15.3%</td>
</tr>
<tr>
<td>Other operating expenses</td>
<td>3.0%</td>
<td>2.4%</td>
<td>2.7%</td>
<td>1.1%</td>
</tr>
<tr>
<td>Non-GAAP operating margin</td>
<td>20.8%</td>
<td>19.6%</td>
<td>19.6%</td>
<td>22.4%</td>
</tr>
</tbody>
</table>
Reconciliation of FY20 GAAP to Non-GAAP Operating Expenses

<table>
<thead>
<tr>
<th></th>
<th>Recon (in Thousands)</th>
<th>Recon (in Billions)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total GAAP operating expenses</strong></td>
<td>1,600,299</td>
<td>1.6</td>
</tr>
<tr>
<td>Special items:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Share-based compensation</td>
<td>(229,050)</td>
<td>(0.2)</td>
</tr>
<tr>
<td>Restructuring related charges</td>
<td>(55,328)</td>
<td>(0.1)</td>
</tr>
<tr>
<td>Amortization of acquired intangible assets</td>
<td>(88,515)</td>
<td>(0.1)</td>
</tr>
<tr>
<td>Litigation settlement</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Other operating expenses</td>
<td>(63,361)</td>
<td>(0.1)</td>
</tr>
<tr>
<td><strong>Total special items</strong></td>
<td>(436,254)</td>
<td>(0.4)</td>
</tr>
<tr>
<td><strong>Total non-GAAP operating expenses</strong></td>
<td>1,164,045</td>
<td>1.2</td>
</tr>
</tbody>
</table>
Essential technology, done right™