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Getting Excited About MRVL; Need to See Margin Recovery and Realization of Synergies

Companies: AMD, AVGO, INTC, MRVL, NOK, NXPI, NVDA, XLNX, Samsung (005930.KR)

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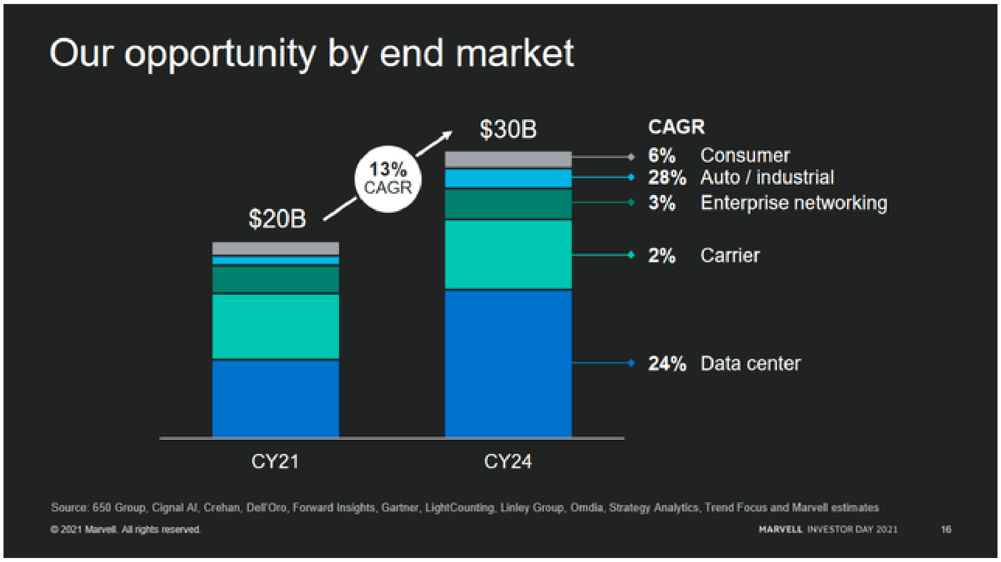
Key Findings

- Marvell Technology Inc. (MRVL) has the parts in place to deliver consistent earnings growth given growing end markets such as data centers, communications, and auto ethernet. However, Marvell needs to show gross margin improvement to around 60% and allow its recent acquisitions to realize expected synergies.
- Marvell on Mar 3rd is expected to report $1.32 in revenues for the current quarter vs. $798M last year, no doubt goosed by acquisitions but still ~65% above the same quarter a year ago.
- The company has not been afraid to make acquisitions that might reduce gross margins in the short term. However, acquiring Aquantia, Innovium, Cavium, and Inphi has moved Marvell to focus on higher-margin infrastructure and away from lower-margin consumer. Its Avera acquisition gives it application specific integrated circuits (ASIC) and its Inphi acquisition give it data center communication digital signal processors (DSP), both of which strengthen network backbone infrastructure.
- The 5G rollout has been slower than expected, but Marvell should benefit significantly once it picks up. The company has all the bricks in place (data center, storage, security, auto ethernet, and electro-optics) to take off with 5G.
- Softer defined data centers (SDDs) require hyper-connectivity within the data center, which makes optical interconnects (a higher margin product) that Inphi manufactures. 400G optical interconnects modules based on silicon photonics using DSP will help with the 5G market. Marvell once supplied copper interconnects between data centers but earlier did not provide optical modules, a hole that Inphi has plugged. So, now, Marvell's portfolio includes storage, processors, copper interconnects as well as electro optics from Inphi and security solutions.
- Electro optics (data center storage and data transmission) has a growing SAM from $260M in 2017 to $1B in 2021 to a projected $2B by 2024, a 26% CAGR (company projections). Automotive Ethernet (networking) will generate $5.3 billion by 2028 from a current $1.5B, a 20% CAGR opportunity.
- NXPI Semiconductors (NXPI), Intel Corp. (INTC) (in silicon photonics competing with Inphi), Advanced Micro Devices Inc. (AMD), and Broadcom Inc. (AVGO) are all potential competitors, but all of them lack Marvell's concentration on the data center. NXPI is more focused on automobile chips. Intel has the high-powered compute and Altera (a poor substitute for DSPs), but as of now it does not lead in storage, security, or networking. AMD, with time running out on the acquisition of Xilinx Inc. (XLNX), might get FPGAs like Intel's Altera, but does not have storage, while Broadcom has networking and storage but does not have high-powered compute and has shifted some of its focus to software.
- In network infrastructure, Samsung and Nokia Corp. (NOK) are major Marvell customers. However, more than 40% of revenue for Marvell comes from China. So, some of it is risky if China-U.S. relations worsen, in which case Marvell's growth would depend on Huawei deserters. Automobile is a good opportunity for Marvell but with a revenue limit of around $1.5B with a 20% CAGR.
- Marvell is not cheap. It trades at 32.7x forward earnings, with earnings growth at 41.3% (2.19 vs. 1.55). However, PEG ratio is around 0.78, significantly less than 1 for a high-growth stock, in which case price should be at least $90. With rising interest rates, now may not be the best time to enter, but $5 to $10 lower from current prices would be a great opportunity.

Wait For The Opportunity On Marvell

- Our checks suggest that lead times are increasing. Our checks also suggest that 5G infrastructure and auto networking have slowed due to "other" company chip issues and Covid.
- Marvell is in the networking and storage space. It makes switches, controllers, network adapters for the Networking area and data processing products for data centers in the Storage area. Infrastructure accounts for 84% of revenues and Consumer is only 16%. Its markets are shown below, from its Investor Day presentation.



- In CY2021, a high percent of Marvell's opportunity was in data centers with the lower growth carrier business being a large part of the opportunity. By 2024, of course, data centers will remain important with products such as DSP processors, SerDes (serializer/de-serializer) and products with a concentration on security, such as its Octeon processor and Nitrox adapter.
- The auto/industrial opportunity was around $1.5B in 2021 and will grow to $6B with a CAGR of 20% by 2026. Automobile ethernet is becoming more intelligent and has more ports than before. Advanced driver assistance systems (ADAS), entertainment, and self-driving all will allow additional sensors and additional data processing and additional ports. Auto ethernet ports will grow from only 100 million units in 2018 to about 1,370 million units by 2026 at a 39% CAGR per the company's 2021 Investor Day.
- On the automobile side, Marvell is working with companies such as Volkswagen's Porsche, NIO, Daimler, BMW, Toyota, and Ford. But these have not fully translated into revenues yet. The company does project revenue increases of >20% in 2022 and 2023.
- All that said, we would wait for a stock price in the high $60s before jumping in as we think interest rate hikes will begin to bite. However, the previous high of around $93 can be attained in a rally, so it is a matter of wait and watch. So, wait and watch.

Background

Srini Sundararajan, Ph.D., is a Senior analyst at Blueshift Research covering semiconductor equipment, semiconductors, LED, OLED, and solar. He worked on his doctorate on silicon oxide substrates at the University of New Mexico/ Sandia National Lab / Los Alamos National Lab and did a post-doctoral stint at the University of California-Berkeley/Lawrence Berkeley National Labs. Subsequently he was employed by Novellus (won Intel business for Silicon nitride film, now part of Lam Research), KLA-Tencor, Schlumberger, Applied Materials, and HMI (now part of ASML). On Wall Street, he was the associate of II#1 and II#2 analysts at Citi and at Lehman/Barclays before being a full analyst at Oppenheimer and Summit Research, a firm he co-founded. This was followed by a stint as Asia VP ex-China for Daramic (lead-acid battery separator #1 manufacturer), a part of Asahi Kasei, followed by a stint at Starlight Investments as a Technology analyst (materials and pharma). To get back into the latest technology trends, he was in Operations at Intel Vietnam.

Given both the technology and finance background, Srini is ideally placed to comment on semiconductor trends in addition to the contacts in the industry which help him capture early trends ahead of the rest of the street.

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- Foundry (TSM, UMC, Global Foundries (private))
- Logic, Processor and Graphics Chip Makers (AMD, INTC, NVDA, XLNX)

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Disclaimer: The analyst has positions in the following securities: LRCX, INTC, AMD