

Marvell Technology, Inc. (NASDAQ: MRVL)

Recommend Buy 5% | PT: \$59.01

October 17th, 2022



CIMG Investment Research

Marvell is better than a semi-average investment

Marvell Technology is a global supplier of semiconductor infrastructure solutions comprised of high-performance standard and semi-custom products. Serving four main end markets of carrier, automotive, data center & cloud, and enterprise, MRVL is leading the transition to cloud-optimized silicon solutions. The future of this market requires customization and optimization as traditional software has proven to be inefficient given the scale required for cloud computing going forward. As a strategic capital allocator, MRVL has made numerous organic investments and acquisitions to create vertical integration and increase synergies between product lines. Driven by artificial intelligence, machine learning, and networking applications that require more bandwidth, there is a greater need for cloud-optimized interconnect solutions that deliver required reach at lowest power and latency levels. Intra-rack connectivity is the last major untapped segment of the cloud data center networking market and Marvell is well-positioned to capitalize on this emerging opportunity.

Investment Thesis

MRVL is leading the disruptive transition to ZR optics and will benefit from the 200G/400G ramp cycle as cloud providers upgrade their networking capabilities: The acquisition of Inphi was transformative for MRVL, further diversifying its product portfolio with the addition of the PAM4 and 400ZR. Inphi has built a high-speed data platform to meet demand for increased bandwidth with lower power to cloud data centers. The rise of cloud computing has led to a massive expansion of regional data centers. These centers must be located near customers, but it becomes difficult to deploy huge data centers in metropolitan areas. High-speed fiber optics with high bandwidth connect these centers together which creates huge bandwidth demand growth for connectivity. ZR refers to the distance between regional data centers, therefore, new architecture drives demand for ZR optics as data must move quickly between centers located 120+ kilometers apart.

Compute Express Link (CXL) technology is the driving factor in creating a fully disaggregated architecture in the cloud data center: Within MRVL's pursuit of cloud-optimized silicon solutions, a primary focus is a market-leading share of the complete cloud data center. CXL allows data center resources to instantly be allocated effectively in relation to the given workload requirements, thus improving ownership costs and performance efficiency. CXL is bound to shape the next generation of composable data centers, that are bound to deal with high memory workloads like AI, machine learning, and analytics. MRVL acquired Tanzanite, a leading developer of CXL technology, to take advantage of their memory pooling technology. Tanzanite's already-demoed memory pooling capabilities used CXL to enable multiple processors access to 80TB of memory at lower latencies. MRVL is already building upon Tanzanite's base by working with the technology to optimize server architecture and infrastructure agility. Building towards the optimization of CXL will enable Marvell to be at the forefront of the future fully composable data center.

Recent news surrounding U.S. government restrictions on the sale of semiconductors and chip-making equipment to China has led to overblown concerns for the future: On October 7th, the Biden administration implemented new export controls designed to prevent China from acquiring chips that could be used in supercomputers and deny China access to equipment and technology they would need to replicate the high-powered chips. The export control classification numbers (ECCNs) do not impact Marvell the same way they affect other major chip manufacturers, leading to investor oversight in which Marvell is undervalued. Despite concerns about Marvell's exposure to China, most if not all of their product lines will be unaffected by the recent legislation.

Technology

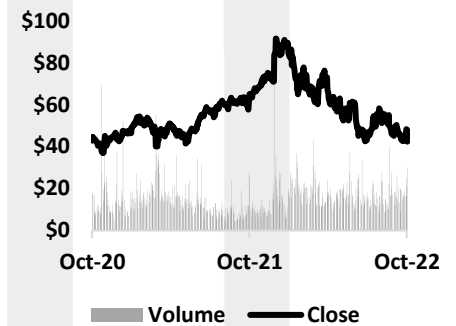
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Figure 1: MRVL 2 Year Stock Chart



Price	\$37.87
PT	\$59.01
Dividend Yield	0.57%
Upside	36%
52-Week Range	\$35.30 – \$93.85
Dil Shrs Outstand	857.9m
Mkt Cap	\$36.11b
LTM P/E	21.02x
LTM Prices/Sales	6.58x
EV/EBITDA	44.19x
TTM Revenue	\$5.52b

Company Overview

Marvell is a fabless semiconductor designer focused on designing and distributing infrastructure solutions. Since 2018 when Marvell acquired Cavium, an ARM processor company, they have been reinventing themselves through strategic M&A and forward-looking decisions made by management. Once mainly a consumer company, Marvell's leadership recognized the need for state-of-the-art infrastructure solutions in order to sustain the tremendous growth in global connectivity and positioned the company at the forefront of those innovations. Marvell creates data center and carrier infrastructure, enterprise networking, and custom solutions for automotive and industrial manufacturers. The acquisition of Cavium and Avera Semi enabled Marvell to create high-end DPUs and customized chips for their clients. Their key acquisition of Inphi allowed them to best the market on cheaper and faster DSPs for data centers. In the same year, the addition of Innovium gave MRVL access to the Ethernet switch market and a contract with a Tier 1 cloud company. These acquisitions filled the gaps in Marvell's product lineup allowing them to become a one-stop shop for an entire enterprise network or data center infrastructure. Marvell has also made strategic choices to prepare them for the future of the industry, with their investment in AEC cables and Compute Express Link. In the past five years, Marvell has reshaped their company to fit a growing gap in the market, while also making crucial decisions to accelerate future growth.

Industry Overview

The global semiconductor chip industry is expected to reach about \$600 billion in 2022. While it is still largely dwarfed by farming, oil, and gas—industries that are worth an annual \$10 trillion and \$5 trillion in revenue respectively—80% of the world's food or fuel does not come from a handful of manufacturers concentrated in a just a few countries. When considering the recent turmoil brought on semiconductor companies from leading world governments, business diversification becomes a clear distinctive factor to suppliers of the wireless and wireline industries. These industries are vastly exposed to the consumer segment due to a high reliance on original equipment manufacturers, such as Apple or Samsung Electronics.

Marvell's customer diversification is much better than most of its competitors, considering that only one distributor has had a weight of more than 10% of its revenue over the past three years. Marvell is not overly reliant on large tech and data infrastructure companies like many of its peers. Geographically, some 80% of Marvell's revenue goes to customers located in Asia, which means that exposure to the domestic market is quite low. Additionally, Marvell has broad exposure to growth prospects from industry tailwinds of which 5G, the Internet of Things (IoT) connectivity and artificial intelligence (AI) are the primary secular growth themes.

Valuation

We valued MRVL using a DCF model with a 12% discount rate and long-term growth rate of 2.5%. To project the company's revenue, we used the product segments of Data Center, Carrier Infrastructure, Enterprise Networking, Consumer, and Automotive/Industrial. Based on our assumptions we arrived at a price target of \$59.01 implying 59.01% upside.