



# How Broadcom Innovations Connect the World

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## Introduction

At Broadcom, innovation is central to its mission in serving the broad and deep technology needs of its customers and clients around the world. Broadcom's technology solutions range from semi-conductors to infrastructure and security software and more, bringing world-class expertise to its customer relationships and groundbreaking innovations to its products and services.

Broadcom is the most broadly diversified technology company that many people have never heard of, providing innovations in hardware and software across a wide range of technologies that most of us use every day.

So, how does Broadcom fulfill this mission? The company invests in the products that customers care most about, making them better and more sustainable over time, while making deep innovation happen by investing heavily in research and development. Broadcom brings industry-leading engineers, along with the ideas and concepts together to innovate without boundaries.

Beneath the covers of many of the building blocks of today's transformational technologies, from the availability of improved internet performance and capabilities to faster Wi-Fi and more, you will find the broad roots of Broadcom innovations and research, which have been quietly moving connectivity, versatility, and security forward for years.

In our last report, [Driving Innovation in a Multi-Cloud Enabled World: What the Broadcom VMware Transaction Means for Customers](#), we recommended customers focus on Broadcom's track record of innovation, IP leadership, and pure research and development indicators, such as patent awards. In this report, we dive deeper into Broadcom's rich history of software and hardware innovation.

Based on this heritage of innovation, we believe that a combined VMware and Broadcom will be better positioned to deliver a strong, flexible, sustainable infrastructure software solutions for customers of Broadcom and VMware. The combined company will have both the software engineering talent and the market reach to deliver solutions that enable its customers to build, run, manage, connect, deliver, and protect their applications — from everywhere.

## Broadcom's Software Innovations

One of Broadcom's greatest strengths is its software business, which has only one target: Focusing on innovative infrastructure software, applications and solutions for its diverse and technology-driven customers. [Broadcom's applications and focused business solutions](#) are the work of talented and dedicated technical experts who develop award-winning solutions on a large scale to find answers to the needs and demands of large, global customers.

Broadcom's mission is critical to the company and to its executive team, engineers, and sales and support staffs: To improve digital processes and IT infrastructure for the largest companies in the world – by enabling scalability, agility, and security. This mission is part of everything that Broadcom builds, envisions and delivers for its customers.

To make this mission successful, Broadcom created an [\*\*innovative approach to software delivery\*\*](#) that focuses on establishing true design partnerships that directly address the unique needs of its customers. Broadcom's software customers are the largest companies and government institutions in the world. To build and encourage these partnerships, Broadcom holds design workshops where its agile transformation and engineering teams work to understand and develop the features that matter most to their customers' operations.

[\*\*Broadcom acquired CA Technologies in 2018 and worked to add resources and modernize several products\*\*](#) within CA's product portfolio, helping the company make its products cloud-native and cloud-based in a major digital transformation. The work by Broadcom allowed CA to offer customers a beefed-up portfolio of best-in-class solutions across a diverse set of technologies, providing deeper value and broader feature sets.

In 2019, Broadcom then acquired the enterprise assets of Symantec, Inc. With these products, Broadcom reimagined the product portfolio around network security and rearchitected many Symantec products to integrate into the Google Cloud Platform. These digital transformation steps made it easier for Symantec to scale and update products more often and helped Broadcom to continue building one of the world's leading infrastructure technology companies.

CA and Symantec became the foundation of what is today the Broadcom software portfolio, which delivers a dramatically improved value proposition for customers, which are always striving to find the best products and partners to enhance their business operations.

## **Innovation Heritage and Future Directions**

Broadcom has a [\*\*rich history and heritage of intellectual property and research and development\*\*](#). Broadcom has one of the industry's broadest IP portfolios with >17,000 patents in FY22. Broadcom's impressive body of technological innovation has its origins with early American technology pioneers, including Bell Labs, Hewlett-Packard, CA Technologies, LSI, Symantec and Brocade.

That innovation is achieved through deep investments, with Broadcom spending about [\*\*25 percent of its annual net revenue on research and development\*\*](#), which in 2022 totaled about \$4.9 billion. Broadcom's growth in research and development spending has outpaced its revenue growth by nearly 50 percent since 2009.

Even more impressive is that about 75 percent of Broadcom's employees are world-class engineers who work each day to deliver the company's products and innovations to its customers around the globe.

How important are Broadcom's technologies to users on the Earth? [\*\*Some 99.9 percent of all internet traffic\*\*](#) passes through Broadcom technology, connecting people, homes, production processes and businesses, and moving data around the world at scale and at speed.



## Business Model and Strategy

To best serve its global enterprise customers, Broadcom's goal is to provide the right hardware and software technologies in a wide range of segments, including networking, server and storage connectivity, end-to-end broadband, and wireless mobile connectivity.

Broadcom provides these capabilities and products with its custom-designed partnerships that can respond quickly to the exact needs of its diverse customers.

Making these unique business-critical partnerships successful is the company's approach to scaling its solutions to meet customer demand while also streamlining support to ensure delivery of the best customer engagement processes.

Powering these goals is Broadcom's engineering-centered culture, which is centered on providing products and services while building for the future through new investments in the infrastructure and security software that makes up the foundational layer of Broadcom's software products and services.

Broadcom customers are always working with the same Broadcom teams, processes, and tools, whether they are deploying Broadcom infrastructure or security solutions. This familiarity with teams, products and processes drives efficiency, lowers costs, and speeds up time to value for customers.

Also integral to Broadcom's business model and strategy is that Broadcom standardizes on open and trusted technologies wherever possible. This provides deep flexibility and agility and continues the company's investments in quality software to produce category-leading solutions.

Flexible licensing models that scale on demand make subscription costs more predictable and allow Broadcom's software solutions to meet the needs of the world's largest multinational companies.

## Enterprise Class Software Solutions

Broadcom has impressive market penetration with its products and is a trusted partner to the 10 largest global leaders across major industries in financial services, telecommunications, government, automotive, industrial, healthcare, and utilities.

From the start, the Broadcom software portfolio was formed to meet the unique needs of the company's largest global customers which face unique challenges in managing the complexity of their hybrid IT environments. Broadcom is dedicated to helping customers have success in navigating complexity through its industry-leading software. The Broadcom software portfolio includes solutions encompassing AIOps, Cyber Security, Value Stream Management, DevOps, Mainframe, and Payment Security. This fits well with the company's acquisition of VMware, a leader in its field for the development of virtualization software, as VMware dovetails with Broadcom's vision of offering customer choice, especially as more large scale enterprises deploy private clouds and look for options and flexibility to public clouds. VMware will also bring cloud-native application development to Broadcom customers through its Tanzu platform, which lets customers build applications for multi-cloud settings.

## A Culture Rooted in Connectivity Innovation

Broadcom differentiates itself through high-performance design and integration capabilities that are integrated by the world's most successful companies, including innovations that have pioneered six generations of Wi-Fi products over the last two decades and increased Wi-Fi speeds 40x in the last 10 years. Broadcom's Wi-Fi 7 chip design, which integrates Wi-Fi 7 and Bluetooth 5.2 in a combo chip, is the world's first Wi-Fi 7 device to be certified by the Federal Communications Commission (FCC).

Broadcom has also built the world's lowest power and most compact L1/L5 GNSS receiver, which is critical for satellite positioning on personal devices including smartphones and smartwatches. As proof of its deep innovation and broad research and development investments, Broadcom has consistently doubled switch silicon bandwidth approximately every two years, most recently with Tomahawk 5 at 51.2 Terabytes per second (TBps).

## Accelerating Transformation with VMware

By bringing together Broadcom's complementary software portfolio with VMware's flexible and proven products, we believe the combined company will provide organizations with an enhanced package of infrastructure solutions that will deliver deeper and broader digital transformations for customers. We believe the combined organization will support customers in accelerating innovation and addressing the most challenging demands of a hybrid multi-cloud IT infrastructure. Customers of both companies will have more options and flexibility to build, run, manage, connect and protect applications at scale across diverse and distributed environments, from the data center to the public cloud and beyond to the edge. We are bullish about the benefits of the combined Broadcom's software solutions and VMware offerings for customers and we look forward to what is ahead.