Companies › Information Technology

Cisco Systems

American company

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Fact-checked by The Editors of Encyclopaedia Britannica

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Table Of Contents

Cisco Systems, American technology company, operating worldwide, that is best known for its computer networking products. As a company that sold its products mostly to other businesses, Cisco did not become a household name, but in the second decade of the 21st century it was one of the largest corporations in the United States. Cisco was founded in 1984 and has its headquarters in San Jose, California.

A Cisco Systems building.

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Date: 1984 - present

Ticker: CSCO

Share Price: $57.33 (mkt close, Apr. 11, 2025)

Market Cap: $228.08 bil.

Annual Revenue: $54.18 bil.

Earnings Per Share (Prev. Year): $2.28

Sector: Information Technology

Industry: Communications Equipment

CEO: Mr. Charles H. Robbins

Headquarters: San Jose

The founders of Cisco Systems were Leonard Bosack and Sandra Lerner, a married couple (later divorced) who had met while students at Stanford University. After graduating in 1981, they worked at the school, directing the computer facilities of two different departments. Bosack found a way to link their respective computer networks using technology that other Stanford employees had devised in the 1970s. He and Lerner came to recognize that router technology, as it was called, could be adapted very profitably for large-scale use outside the university. In December 1984 the two founded Cisco Systems (originally written “cisco Systems”), taking the company name from the city of San Francisco. Stanford eventually licensed its proprietary software to Cisco.

In 1985 Cisco sold its first product, a network interface card for

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Sequoia Capital. Sequoia took effective control of the company in late 1987 and installed John Morgridge as president and CEO in 1988. He managed ably but did not get along with the founders. In 1990, soon after Cisco sold its first shares of stock to the public, Lerner was ousted from the company, and Bosack subsequently quit.

Cisco Systems grew rapidly in the early 1990s. The company introduced the improved 7000 model router in 1993, and that same year it began acquiring other companies. Its first purchase, Crescendo Communications, allowed Cisco to move decisively into the field of network switching devices. In 1994 the company relocated its headquarters from Menlo Park, California, to San Jose, and the following year John T. Chambers replaced Morgridge as CEO. Chambers continued to pursue the strategy of growth by acquisition. In 1998 Cisco bought Selsius Systems, a company with expertise in Internet telephony that helped Cisco take a dominant position in VoIP technology.

In 2006 Cisco introduced TelePresence, an elaboration of videoconferencing that is intended to allow people in different locations to interact as if they were in the same place. Cisco's networking expertise made it a leading provider of products for the Internet of Things, a concept often credited as having been named at Cisco. Chambers retired in 2015, as the company increasingly changed its emphasis from hardware to software.

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Investing › Stocks & Indexes

The rise of hyperscalers: Reshaping cloud computing and business

Servers, scalability, and a bridge to AI.

Print Cite Share

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Table Of Contents

Tech industry insiders have been talking about "hyperscalers" since at least the early 2010s, but only recently has the term gone mainstream. Now, financial and tech reporters are increasingly pointing to these powerful companies as the backbone of tomorrow's digital economy.

The cloud is scaling to new heights.

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As an investor, you're probably wondering what hyperscalers are, what services they offer, and how they're reshaping the future of technology and commerce. Time for a deeper dive.

Ex.1046 / IPR2025-00188 / Page 2 of 5
Cisco Systems, Inc. v. WSOU Investments
d/b/a Brazos Licensing and Development

What are hyperscalers?

Hyperscalers are large-scale data centers that provide a wide range of cloud computing and data solutions for businesses that need vast digital infrastructure, processing, and storage.

What sets hyperscalers apart from their traditional data center counterparts is not only their size—they're capable of hosting millions, if not billions, of users with speed and efficiency—but also their capacity to dynamically scale on demand.

Key Points

- Hyperscalers are large-scale data centers that provide a wide range of cloud computing and data solutions.
- Unlike traditional data centers, hyperscalers use distributed computer systems to scale dynamically on demand to handle huge workloads.
- Hyperscalers support business services including big data analytics, infrastructure-as-a-service, content delivery networks, and more.

What differentiates hyperscalers from traditional data centers?

Hyperscalers use *distributed* computer systems, teams of independent computers splitting up tasks across multiple machines to process high volumes of data. This is called **hyperscale computing**. Traditional data centers, on the other hand, prioritize *centralized* computer systems, which can often mean fewer but more powerful computers.

NVIDIA: The chips that power hyperscalability?

At the heart of NVIDIA's success are its graphical processing units (GPUs), chips that serve complex, high-end applications including ChatGPT (which was trained on NVIDIA chips). As of 2024, NVIDIA holds approximately 80% of the global market share in GPU chips.

The big difference is how they adjust their capacity to handle increasing workloads:

- Traditional data centers "scale up" by upgrading existing hardware.
- Hyperscalers "scale out" by adding more computers.

These methods of scaling make a huge difference when businesses need to grow fast, dramatically increasing their data capacity and workloads. Hyperscalers can usually meet this demand seamlessly, while traditional data centers will often hit a limit due to hardware constraints.

Who are today's biggest hyperscalers?

The "big three" hyperscalers dominating the cloud market are Amazon Web Services (AWS), Microsoft Azure, and Google Cloud Platform (GCP). These are the companies that provide the most extensive cloud infrastructure solutions worldwide.

What kinds of services do hyperscalers offer?

Among the wide array of services hyperscalers provide, here are a few that stand out:

- **Infrastructure-as-a-service (IaaS):** Virtualized servers, networks, and storage that companies can "rent" from a hyperscaler.

Ex.1046 / IPR2025-00188 / Page 3 of 5
Cisco Systems, Inc. v. WSOU Investments
d/b/a Brazos Licensing and Development

- **Platform-as-a-service (PaaS):** Platforms for developers to build and manage applications without the need for hardware.
- **Software-as-a-service (SaaS):** Some hyperscalers offer computer applications that are accessible via Web browsers.
- **Content delivery network (CDN):** Faster Web content delivery through the use of multiple servers across the globe.
- **Big data analytics:** Tools to process and analyze data to detect patterns, trends, and other data-based insights.

Why do businesses use hyperscale solutions?

Companies are increasingly looking to avoid the burden, costs, and risks of having to set up, manage, maintain, and scale up their own hardware-based infrastructure. This is why cloud computing, in general, has gained traction over the last few decades.

But when it comes to larger operations dealing with immense data volumes and workloads, hyperscalers' economies of scale dwarf those of traditional data centers, allowing businesses to save on costs and resources while optimizing performance. Hyperscalers may also offer value-added information technology services such as database management, data security, and artificial intelligence (AI) integration, among others. When AI exploded into the mainstream in the early 2020s, hyperscalers became key players in a game that was rapidly changing the nature of work.

AI & your money

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How is generative AI affecting hyperscalers?

Hyperscalers like the big three—Amazon, Microsoft, and Alphabet—are ramping up their investment in generative AI technologies:

- **Amazon** is integrating AI into its retail and cloud services for a number of tasks, from customer experience optimization to machine learning and code generation for its business customers.
- **Microsoft**, through its partnership with OpenAI, has integrated ChatGPT into its Bing search engine and Azure ecosystem, allowing users to access a wide suite of AI solutions including workflow automation, coding, customer service, app development, and data analysis.
- **Alphabet** integrated Gemini, its most powerful generative AI model, into business and enterprise-level workspaces. Its multimodal capabilities—processing text, images, audio,

and video across multiple platforms—can enable businesses to streamline and automate a wide range of complex tasks.

The widespread adoption of AI offerings from these firms—and other hyperscalers such as **IBM** (IBM) and **Oracle** (ORCL)—suggests that companies leveraging this new technology may be gaining a competitive advantage. The assumption among companies—and those who analyze and invest in them—is that the more advanced a company's AI tools, the more competitive its production potential will be.

Hence, hyperscalers that are able to provide more advanced AI tools might not only attract more commercial users, but may also provide them with a significant technological edge over their competitors.

The bottom line

Hyperscalers are the big players in the global digital infrastructure. The demand for their products and services will likely continue to grow, which, for investors, signals potential long-term investment opportunities.

It's worth noting, however, that many hyperscalers (particularly Amazon, Microsoft, and Alphabet) are already some of the largest companies on the planet. Their market capitalizations have seen decades of growth, driven not only by their cloud services (and other products and services), but also by investor expectations of more innovation in the future.

In prior eras, a company or industry would be priced for growth, then slowly fade to value as it matured. Today's hyperscalers, however, can boast price-to-earnings (P/E) ratios that are double and even triple those of a typical value stock. In other words, continued growth and innovation is already baked into share prices, which makes investing in hyperscalers a double-edged sword of sorts.

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