

# THE WALL STREET JOURNAL.



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TECH

## **'You're Stupid If You Don't Get Scared': When Amazon Goes From Partner to Rival**

The giant's cloud-computing business offers a look inside its model for expanding. Some partners praise the unit's chief for straddling the line between ally and competitor

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By *Jay Greene* and *Laura Stevens*

June 1, 2018 5:30 a.m. ET

It is with a certain dread every autumn that some companies described by [Amazon.com Inc.](#) as its technology partners [gather at a Las Vegas convention](#) and find out if Andy Jassy has new plans to encroach on their turf.

These firms run their software [on Amazon's vast array of servers](#)—part of what is known as [“the cloud”](#)—and from there sell use of their programs to others. Over nearly three hours, the boss of the Amazon Web Services unit walks the stage, revealing a road map of brand-new features Amazon itself plans to offer, a few of which inevitably compete with partners.

Last November, Emil Eifrem, one of roughly 100,000 people watching Mr. Jassy's keynote in the hall or remotely, braced for what he expected to be one of the announcements, a data-graphing service. Mr. Eifrem's company, Neo4j Inc., says it defined the technology, which allows customers to analyze data on Amazon's platform and others. Two years ago, as it researched the market, Amazon visited Neo4j asking for help building a similar product, said Mr. Eifrem, Neo4j's chief executive. Neo4j declined.

Mr. Jassy did announce Amazon's competing service in Las Vegas and made it widely available this week. “When Amazon launches in your space, you're stupid if you don't get scared by that,” Mr. Eifrem said, “because they do tend to outcompete everyone.”

Amazon's web-services business has been blazingly successful, and a look at how that came to be stands as a master class in [how Amazon wins](#)—and why now it has become a political target. The unit has become [the Seattle company's](#) cash cow, providing 73% of its operating income, or \$1.4 billion, on about 11% of its \$51 billion in total revenue [it reported in the most recent quarter](#).





Andy Jassy built Amazon's web-services unit into a dominant force. PHOTO: KAMIL BIALOUS FOR THE WALL STREET JOURNAL

Mr. Jassy made \$194,447 last year, the second most among Amazon's top officers after CEO Jeff Bezos, who made \$1.7 million. In 2016, Mr. Jassy received shares that were then valued at \$35.4 million, in addition to his salary—the most any top Amazon executive received that year.

A web-services platform such as Amazon's lets businesses and other entities rent computing resources at giant server farms, allowing them to do computing tasks in the so-called cloud rather than buying their own servers and software. Amazon was early to build such a platform,

and in doing so it upended the information-technology industry, pressuring incumbents that sold hardware and software.

Mr. Jassy's strategy echoes one Amazon employed in retail. There, it built a dominant platform and became a powerful ally to brands and vendors of goods sold on its website. Then Amazon also began selling its own brands and goods that competed with some of its vendors.

In its cloud services, Mr. Jassy built a platform that can weave a multitude of programs in a seamless web of offerings, its own as well as partners'. And Amazon then began selling its own services that compete with some.

"On top of everyone's mind is this black-widow behavior," said Bill Richter, chief of Qumulo Inc., a Seattle startup that offers data storage and management on Amazon's system. Amazon doesn't compete with his company, but every year, he said, "we pray there's not some big announcement" of an Amazon service that will.

There is **growing concern in Washington and abroad about the dominance of giant tech firms** such as **Alphabet Inc.'s Google and Facebook Inc.** Amazon, too, has come under attack from right and left. President Donald Trump in March tweeted that it is "**putting many thousands of retailers out of business!**" Sen. Bernie Sanders in an April Facebook post raised concerns about Amazon's "extraordinary power and influence."

Mr. Bezos, at Amazon's annual meeting Wednesday, answered a question about the mounting criticism, saying all large institutions "deserve to be inspected and scrutinized. It's normal."

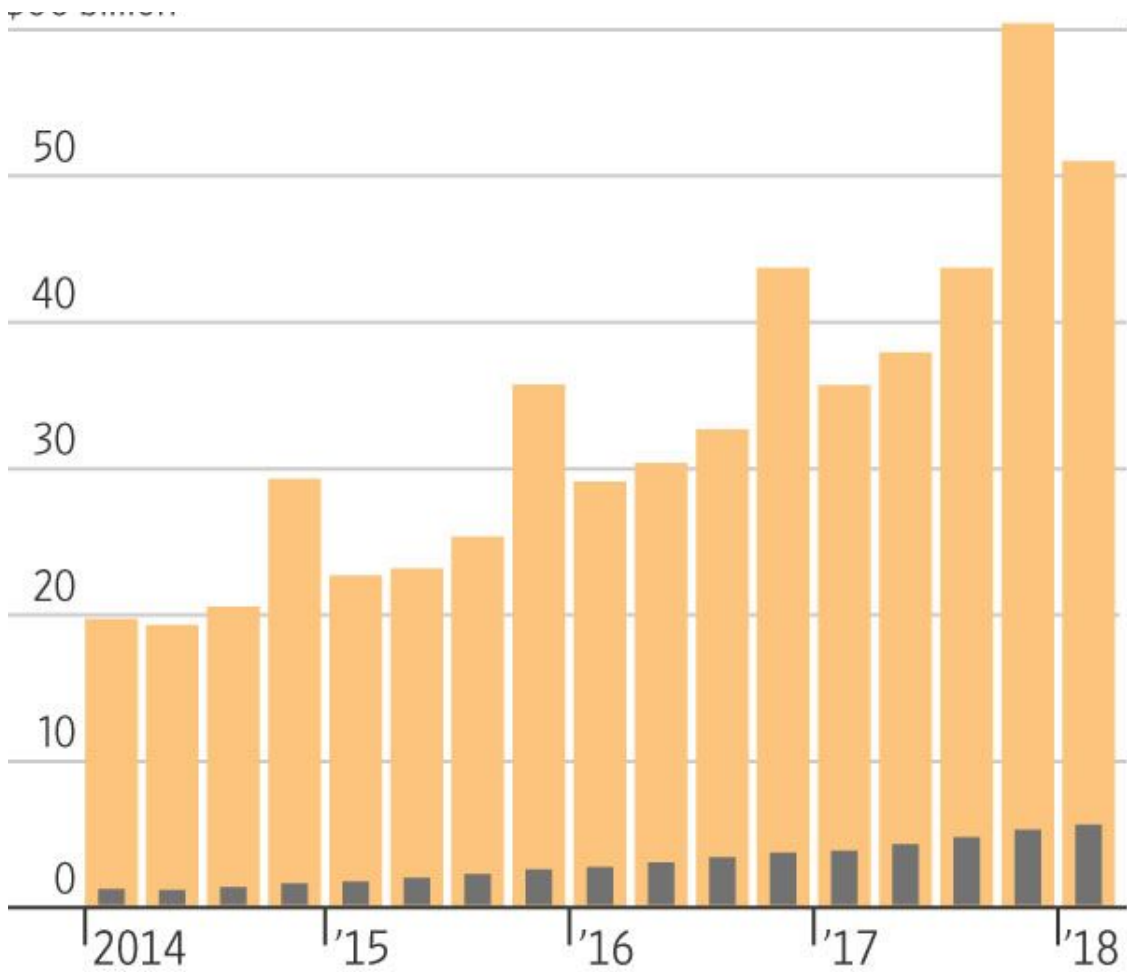
## Silver Lining

Amazon's 'cloud' revenue, through Amazon Web Services, is still a small portion of total sales...

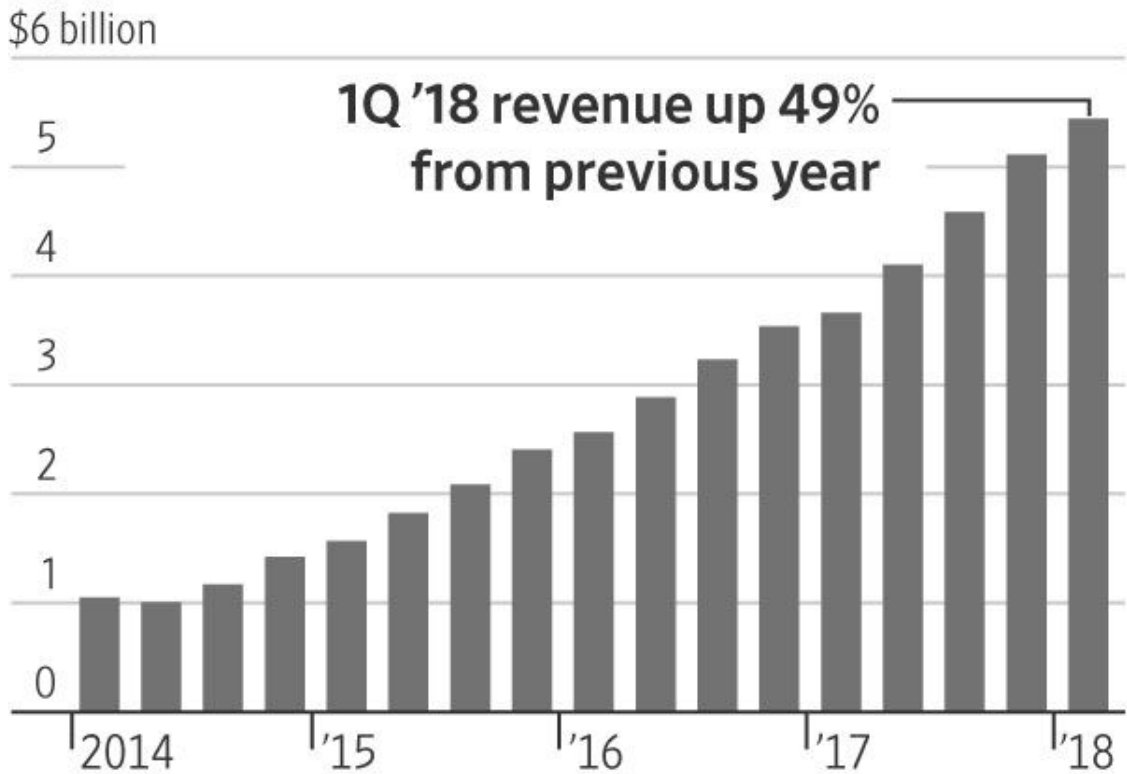
### Revenue

\$60 billion



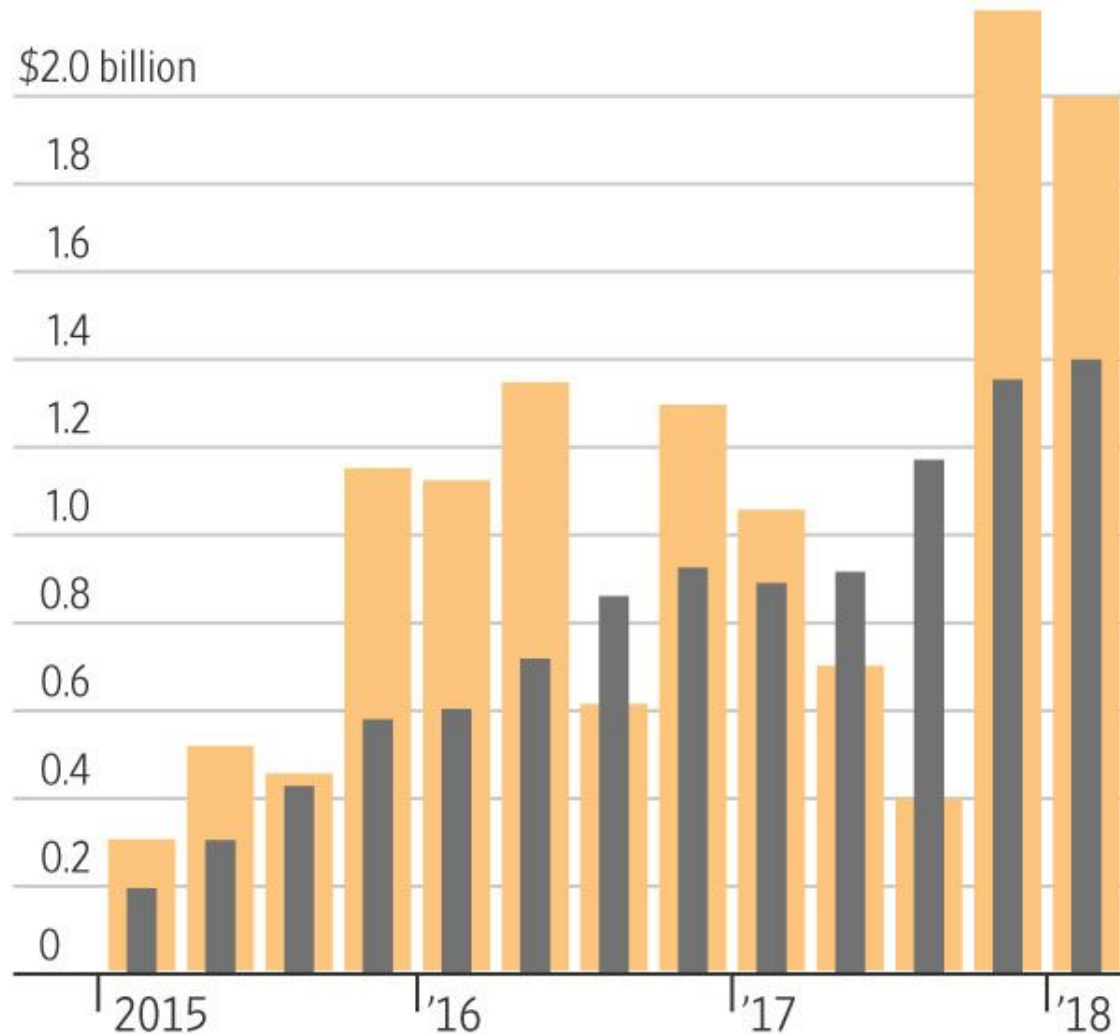


...but it is growing rapidly...



...and it brings in the bulk of Amazon's total profit.

## Operating income



Source: FactSet

Much of the ire focuses on Amazon's retail heft, but the story of Amazon's web services helps show how far the company is spreading its tentacles, with huge success. [Mr. Jassy has turned the world's largest online retailer into a dominant source of corporate technology online.](#)

Amazon is market leader, reporting \$17.5 billion in web-services sales last year. No. 2 [Microsoft Corp.](#) had \$5.3 billion in revenue last year from [its cloud-infrastructure business](#), estimates investment firm Stifel Nicolaus & Co.

The rising concern is over how Amazon's dominance may give it an advantage in new businesses. None of the Amazon partners The Wall Street Journal spoke with would say publicly that new Amazon competition damaged its business. Privately, some said they worry Amazon's encroachment may do damage eventually.

One reason there is angst but no visible pain when Amazon suddenly competes is that there is plenty of business to go around, said Tod Nielsen, CEO of a cloud-application company named FinancialForce.com Inc. "The total addressable market is so big. We're really in the early days of the land grab."

Mr. Jassy said in a November interview that Amazon is providing [services that customers are asking for](#). "You'll continue to see us add services as customers tell us they make sense and they want them from us." He declined this week to comment further. In a 2016 interview, he said: "In every one of the spaces where we have built further up the stack, our ecosystem partners who've built significant offerings on top of our platform have done just fine. These are gigantic markets."

### **Antitrust questions**

Amazon's position raises the kind of concerns seen years ago over practices of companies such as Microsoft. That company's use of its dominance in personal-computer operating systems to move into others' turf lay at the center of the landmark antitrust case against it.

Microsoft and the federal government settled in 2001, with Microsoft agreeing to such business restrictions as not engaging in some discriminatory practices. At the time, Microsoft founder Bill Gates called the deal "a good compromise and good settlement."

Amazon could run afoul of antitrust law if it tied new services to its cloud-infrastructure offering, making it less likely customers would use rival products, said Herbert Hovenkamp, a University of Pennsylvania Law School antitrust professor. Moves by Amazon to require customers and partners to use its services, rather than competitors', would also get regulatory scrutiny, he said.

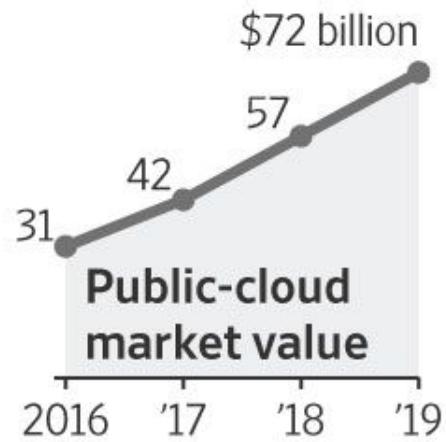
One [difference is Amazon Web Services isn't as dominant as Microsoft's Windows](#) in the late 1990s, when Microsoft held more than a 90% share

of its market. Goldman Sachs & Co. pegged Amazon's share of the so-called public-cloud market at 42% last year.

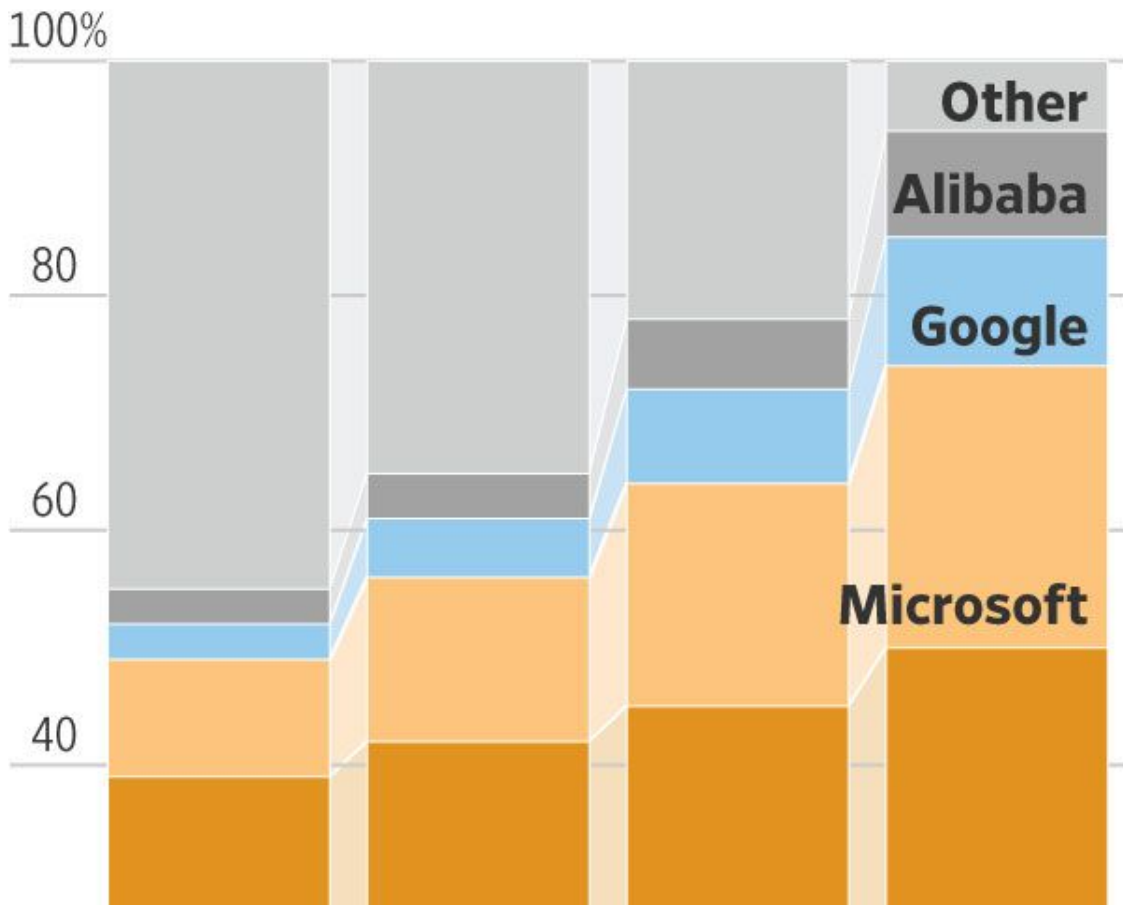
Amazon views the market more broadly, including all corporate tech spending in the cloud and in companies' own data centers. By that measure, Amazon's share "represents a single digit percentage," said an Amazon spokeswoman. Amazon Web Services, she said, "competes with the largest and most successful technology companies in the world in a market segment that's trillions of dollars in size."

## In the Web

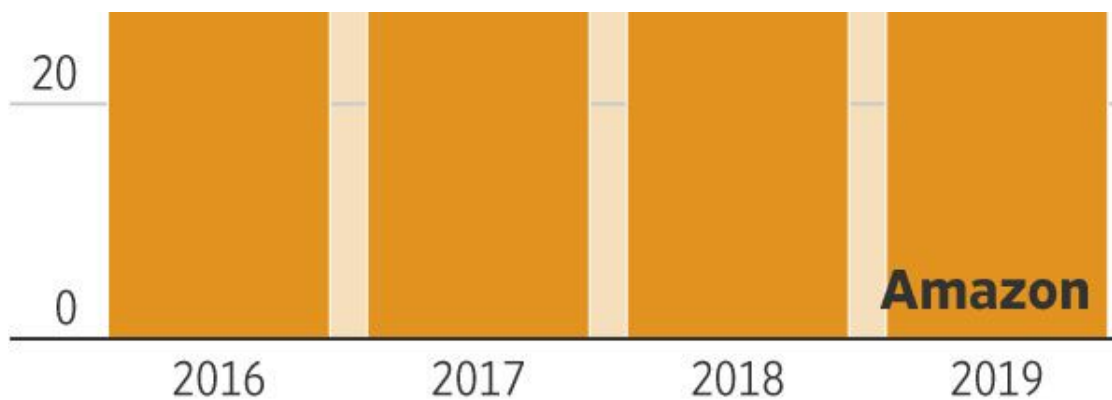
Amazon's web-services business has continued to gain global market share, while its main rivals also grow.



## Public-cloud market share







Note: 2018 and '19 figures are projections

Sources: Gartner; Goldman Sachs (estimate)

And Amazon isn't growing as quickly as Microsoft and [Google in cloud computing](#). Microsoft's revenue from the business gained 94% and No. 3 Google's more than doubled in the most recent quarter, while Amazon's climbed 45%, according to Goldman Sachs.

Some partners praised what they said is Mr. Jassy's ability to straddle the line between ally and rival, including CEO Bob Muglia of Snowflake Computing Inc., a data-warehousing service. It competes with an Amazon offering that existed when Snowflake began offering it on the platform. Mr. Muglia, speaking of his earlier days running Microsoft's division that worked with developers and corporate customers, said: "Andy has done a better job partnering with companies he competes with than I did."

### The data weapon

One Amazon weapon is data. In retail, Amazon gathered consumer data to learn what sold well, which helped it create its own branded goods while making tailored sales pitches with its familiar "you may also like" offer. Data helped Amazon know where to [start its own delivery services](#) to cut costs, an alternative to using [United Parcel Service Inc.](#) and [FedEx Corp.](#)

"In many ways, Amazon is nothing except a data company," said James Thomson, a former Amazon manager who advises brands that work with the company. "And they use that data to inform all the decisions they make."

In web services, data across the broader platform, along with customer requests, inform the company's decisions to move into new businesses,

said former Amazon executives.

That gives Amazon a valuable window into changes in how corporations in the 21st century are using cloud computing to replace their own data centers. Today's corporations frequently want a one-stop shop for services rather than trying to stitch them together. A food-services firm, say, might want to better track data it collects from its restaurants, so it would rent computing space from Amazon and use a data service offered by a software company on Amazon's platform to better analyze what customers order. A small business might use an Amazon partner's online services for password and sign-on functions, along with other business-management programs.

Amazon said it doesn't peer into the sensitive data such as customer records, corporate accounts and other data that its business partners store on Amazon's servers.

Amazon engineers are adding features and services at a rapid pace, more than 1,400 last year. "They never let up on the gas pedal," Mr. Bezos told shareholders Wednesday. "Our customers are loyal to us right up until the second a competitor offers a better service."



Mr. Jassy, here at a San Francisco event last year, uses an annual Las Vegas conference to announce new products that sometimes compete with Amazon partners. PHOTO: DAVID PAUL MORRIS/BLOOMBERG NEWS

The day before his November 2017 keynote, Mr. Jassy previewed his speech with venture-capital firms in a windowless Las Vegas conference room, two attendees said. One venture capitalist asked Mr. Jassy if he planned to launch services that could threaten startups that built their businesses on Amazon's platform. Mr. Jassy replied, they said, that any time Amazon moved into a market niche, companies already there continued to succeed because the markets are large and growing.

The notion that Amazon's entry in a market won't hurt new rivals "doesn't quite pass the smell test," said one of the attendees, a venture capitalist who said he worries about the threat to companies in his portfolio.



'A lot of CEOs go into Andy's keynote saying, "God, I hope Amazon doesn't introduce a product that competes with mine,"' says Snowflake Computing CEO Bob Muglia.

PHOTO: NICK UT/ASSOCIATED PRESS

"A lot of CEOs go into Andy's keynote saying, 'God, I hope Amazon doesn't introduce a product that competes with mine,' " said Snowflake's Mr. Muglia.

The introductions continue after Las Vegas. In December, Amazon launched Single Sign-On, which manages access to Amazon Web Services accounts, a move some believe will put it in competition with [Okta Inc.](#), which offers a way for customers to sign on once across

multiple services. Okta CEO Todd McKinnon said his company's product lets users sign in across a broader array of companies than Amazon's. Still, "we're paranoid," he said, "so we're watching them."

### Inside job

Mr. Jassy is a 20-year insider, a Harvard M.B.A. who led Amazon into music CDs and did a gig in the early 2000s shadowing Mr. Bezos as his technical assistant. He has led Amazon Web Services, known as AWS, since 2003.

The idea for the service, he said, was discussed at a 2003 brainstorming session in Mr. Bezos' living room. Participants began looking into how Amazon, which had built data centers to manage its retail operation, could turn that expertise into a business.

Early on, AWS focused on being a place where companies could build code and store data, and from which they could offer services to firms wanting to do business tasks in the cloud. The vision was that "any individual in his or her own garage or dorm room," Mr. Jassy said, "could have access to the same cost structure and scalability and infrastructure as the largest companies in the world."

"We thought we would have database services," he said, "but we didn't anticipate building our own."



The idea for the web service was discussed at a 2003 brainstorming session in CEO Jeff Bezos' living room, says Mr. Jassy, here at Amazon in Seattle this year. PHOTO:

KAMIL BIALOUS FOR THE WALL STREET JOURNAL

AWS appealed to startups, which, with just a credit card, could buy the computing services they needed. Airbnb Inc., Lyft Inc. and Pinterest Inc. are AWS customers. More-established corporations came along later.

Initially, Amazon built a few massive data centers in the U.S. It now has 55 collections of data centers globally.

Amazon's partners saw it becoming a rival in 2015, when [Mr. Jassy introduced a data-analytics tool, QuickSight](#), in his keynote. That encroached on partners such as [Tableau Software Inc.](#) QuickSight has gained some traction with small and midsize businesses, while Tableau has had success with larger corporations, said Stifel Nicolaus analyst Tom Roderick. The threat looms, he said, that Amazon will pluck off those bigger customers. "The fact is that Amazon is the bogeyman that can come at you in three to five years."

Tableau CEO Adam Selipsky, a former AWS executive and a friend of Mr. Jassy's, said: "There are tiny areas where the companies are in competition, but it's really noise."

Companies happy with Amazon's web services despite competing with Amazon include [Netflix Inc.](#), whose CEO, Reed Hastings, said Mr. Jassy took a hands-on approach to securing his business.

"As Andy would say, we are particularly valuable because we competed," said Mr. Hastings, saying he isn't concerned about Amazon's move a few years ago to become a rival in video.

Amazon's decisions to move into others' markets are part of doing business, said Barry Crist, CEO of Chef Software Inc., which makes tools to automate developer tasks and has limited competition with Amazon in the business of provisioning computing resources.

"As a small company, you've got to be the minnow that swims in and out of the mouth of sharks," he said. "If you get lazy, that mouth might close on you."

Amazon Web Services, often called AWS, has by far the biggest share of the so-called public-cloud market. PHOTO: DAVID PAUL MORRIS/BLOOMBERG NEWS

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