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## Amazon's Cloud King: Inside the World of Andy Jassy



By Kevin McLaughlin

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n 2017, Luke Larson was in the middle of dinner with nearly a dozen Microsoft officials at El Gaucho, a steak restaurant in Seattle, when he received an awkward visit at the table from Andy Jassy, the chief executive officer of Amazon Web Services, the cloud computing arm of the internet retailer.

A year earlier, Mr. Larson's company, Axon, decided to switch from using AWS as its main cloud provider to a competing Microsoft service, which it uses to store vast amounts of video uploaded from Axon body cameras worn by law enforcement officers.

As Mr. Larson's Microsoft dinner companions sat in stony silence, Mr. Jassy cracked jokes and updated the Axon president on AWS's offerings, Mr. Larson said. Days later, Mr. Jassy followed up with an email to Mr. Larson asking if Axon would consider moving most of its business back to AWS, but he declined. (A person close to AWS said Mr. Jassy only came over because Mr. Larson sent him a drink and that Mr. Jassy didn't update him on AWS.)

#### THE TAKEAWAY

Amazon Web Services CEO Andy Jassy has built one of the most important new technology businesses of the last decade. He has done so while managing concerns among customers

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"I would not want to compete with Andy Jassy," said Mr. Larson, whose company also makes the Taser electroshock weapons. "The guy is clearly a force."

In AWS, Mr. Jassy helped found what is among the most important new technology businesses of the past decade, one that may lack the sizzle of an Uber or Facebook but is arguably as vital because of its role in running much of the internet economy. So widely used are its cloud services —they power everything from Netflix's streaming service to processing images and video from NASA's Mars Curiosity rover—that AWS has been referred to by one venture capitalist as a "tax" that most companies will eventually pay.

AWS revenues are estimated to have topped \$25 billion last year, and the unit is by far the largest source of profits for Amazon. While Microsoft and Google have poured money into boosting their own cloud offerings, AWS remains far ahead of them with 32% of the global market for basic cloud services in the third quarter of last year, according to research firm Canalys. Microsoft and Google had 17% and 8%, respectively.

Because AWS is nestled within a much better known parent company, run by an iconic CEO, Jeff Bezos, Mr. Jassy, 50, is a little known figure in the broader tech industry. In the early days of AWS, which he helped form at Amazon in 2006, Mr. Jassy shunned the spotlight, though that has begun to change in recent years as his business has soared. This week, he was expected to trek to Davos, Switzerland, for the World Economic Forum, the annual gathering of political and business elites.

He has departed from the mold of leaders in enterprise technology, the lucrative segment of the industry focused on selling software and hardware to other businesses. In a category filled with suit-wearing sales professionals who jet around closing customer deals with Fortune 500 CEOs, Mr. Jassy favors casual dress and tends to avoid the long process of wining-and-dining big companies considering signing up with AWS, spending most of his time working on new products.

But he is still fiercely competitive, as his effort to win back Axon's business shows. Mr. Jassy has

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Twitter account and speeches at Amazon conferences.

In addition to fending off his biggest rivals in the cloud business, one of Mr. Jassy's biggest challenges is managing concerns among some AWS customers that they are paying cloud service fees to a company that could one day compete with them, if it isn't already. The pharmaceutical maker GlaxoSmithKline, for example, has shifted most of its cloud computing from AWS to Microsoft's competing Azure service due to concerns about Amazon moving into the healthcare market, according to a person with knowledge of the matter.

An AWS spokesman declined to make Mr. Jassy available for an interview for this story, which is based on interviews with more than 20 people who know him.

### **Early Days**

Mr. Jassy was not an obvious candidate to start a business that has made Amazon, in effect, a landlord for a chunk of the internet. A graduate of Harvard University—where he was an **advertising manager** of the Crimson, the student newspaper—Mr. Jassy is not an engineer. His passions, according to a person close to AWS, include sports, pop culture and music. As of a few years ago, he had a collection of several thousand CDs, a former colleague said. Last year, he joined the ownership group for a new, as-yet-unnamed National Hockey League franchise for Seattle.

After joining Amazon in 1997, the year of its initial public offering, he caught Mr. Bezos' eye by writing the business plan for a new Amazon business—selling music CDs online—arguing that it was the logical next step for Amazon after book selling, another former colleague said. He later became general manager of the group.

In 2003, Mr. Bezos picked Mr. Jassy to be his technical assistant, a role that entailed shadowing the Amazon CEO in all of his weekly meetings and acting as a kind of chief of staff. While previous technical assistants had languished under the demanding Amazon leader, Messrs. Jassy and Bezos became close friends during that time and Mr. Jassy remains one of Mr. Bezos' trusted advisers (he is on the "S-team," a **group of about a dozen Amazon executives** in Mr. Bezos' inner circle).

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earlier technical work Amazon had done to let independent retailers sell goods through Amazon's e-commerce systems.

Gradually, Mr. Jassy and others came to realize Amazon could take over the management of even more basic computing chores for outside companies, such as storage and databases, by running them inside Amazon data centers. Customers no longer had to worry about purchasing and maintaining the hardware and software needed for their applications.

The launch of its first services in 2006 coincided with the rise of a new generation of internet startups, many of them propelled by the emergence of smartphones as a platform for applications. Mr. Jassy was well attuned to the needs of these startups, most of which were happy to let Amazon run their technical infrastructure while they focused on more meaningful innovations.

"He's able to think about things that are very complex and boil them down into a few clear action items that really matter," said Mr. Dalzell, who left Amazon in 2007 and was one of Mr. Jassy's mentors. "He has a unique ability to get to the essence of what's important to customers and put that at the forefront."

In meetings, Mr. Jassy follows Mr. Bezos' approach of letting others speak first and then weighing in later with his feedback, a former AWS employee said. He doesn't hold back if he feels their work isn't up to par, but he has a softer touch than Mr. Bezos—known for his scorching criticisms—favoring "humor and gentle cajoling" to get what he wants, the person said.

Even though Mr. Jassy was the top dog at AWS, he remained mostly invisible outside Amazon. He allowed the division's chief technology officer, Werner Vogels, a Dutch computer scientist with a knack for public speaking, to become the face of the new business, while he focused on products.

For years, Mr. Jassy was opposed to Amazon disclosing the division's financial results, because he didn't want competitors knowing how fast AWS was growing, according to a former employee.

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"Andy wanted to keep them guessing," the former employee said. "If they knew what Andy knew, they likely would have invested more earlier."

#### Sales Calls

Pressure on Mr. Jassy to step out of the shadows started to mount around 2012, as AWS begin to win more business from large companies and government agencies, which want to talk directly with top executives before signing deals. In 2013, in a major coup for its credibility, AWS won a contract, worth up to \$600 million over 10 years, to operate a private cloud service for the Central Intelligence Agency.

But Mr. Jassy lacked the polish of the silver-tongued executives common throughout the enterprise technology business. For years, he was known for driving a '90s era Jeep Cherokee and was rarely spotted straying from a wardrobe of sneakers, jeans and flannel shirts. "He has like four of these shirts, and you'd see them all in the course of a week," said a former colleague.

He didn't seem entirely comfortable with the sales chores his peers were expected to do. On at least two occasions in 2014, CEOs of Fortune 500 companies wanted to meet with Mr. Jassy, but he declined and didn't send someone in his place, said a former AWS salesperson, who left Amazon in large part because of Mr. Jassy's reluctance to meet with customers.

"Some customers wanted to sit down and shake someone's hand and know that there is a relationship," this person said, adding that he was informed by Mr. Jassy's staff that the AWS head wouldn't take sales meetings "unless we were on the 2-yard line and there was a very specific outcome."

A person close to AWS challenged this characterization, saying that Mr. Jassy frequently holds relationship-building meetings. In recent years though, the demand from large customers to meet with Mr. Jassy "outpaces hours in the day," the person said.

One of Mr. Jassy's first big moments in the spotlight arrived in 2012, during AWS's first re:Invent conference. The event has become an annual customer jamboree in Las Vegas that now attracts

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partiferships and cameds by representatives of high-prome customers.

One AWS partner got a glimpse of a hard-nosed side of Mr. Jassy at that 2012 event. Mr. Jassy invited Sanjay Poonen, then an executive at the German software maker SAP, to join him during his keynote to announce that more SAP applications would run on AWS.

Moments before Mr. Poonen walked on stage though, Mr. Jassy announced a new AWS product called RedShift, a data-warehousing service that signaled Amazon's entry into a market in which SAP was already established. Mr. Poonen said he was surprised by the timing of Mr. Jassy's revelation, which gave him a keener understanding of Mr. Jassy's ability to put business concerns first. "I joked, Andy, you could have picked another point in the sequence of the keynote to introduce me," said Mr. Poonen.

There were no hard feelings. Mr. Jassy, whom Mr. Poonen described as a friend, told him the timing of the RedShift announcement wasn't intentional. Later, Mr. Poonen, now chief operating officer of VMware, worked with Mr. Jassy on a partnership between his new employer and AWS.

### **Competition With Customers**

As AWS has expanded to serve more customers, its parent company has become one of the most admired and feared in business, with a ravenous appetite for entering new markets, from supermarkets to smart speakers. One challenge for Mr. Jassy is that a growing number of the companies Amazon competes with are also his customers.

Not long before Amazon began competing with Netflix in the streaming video business in 2011, Mr. Jassy made a pilgrimage to Netflix's headquarters in Los Gatos, Calif., where he gave a private presentation to Netflix employees outlining the business strategy of AWS, said a former Netflix employee who was present.

As Mr. Jassy explained that AWS—which Netflix was using to enable its own streaming service—only gets into new markets where it feels consumer needs aren't being met, a voice from the audience chimed in. "You mean like video streaming?" Netflix CEO Reed Hastings asked, the former employee recalled.

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into the premium video streaming market, although Amazon hadn't yet informed Netflix or announced its plans publicly.

"Hollywood is leaky, so we knew they were coming," said the former employee.

While it is common for companies in the tech industry to cooperate in some areas with competitors, Amazon's seemingly boundless ambitions have sharpened concerns that working with AWS could mean enriching a company that might one day become a mortal threat. Some privately worry that Amazon could gain useful insights into their businesses if it holds their data in AWS. AWS has denied that it does any such thing.

One of the most complex parts of Mr. Jassy's job has become maintaining relationships with customers that compete either directly with AWS or its parent company, which he has done successfully in high-profile cases. Netflix, for instance, has long served as proof that Mr. Jassy could keep AWS customers happy even as Amazon invested heavily in a competing service—in this case, Prime Video, the streaming offering that it bundles with its Prime membership program. Industry analysts believe his effectiveness in keeping Netflix as a customer has convinced other AWS competitors to use AWS.

Since becoming a customer in 2009, Netflix has spent billions on AWS services, and its appetite for them continues to grow along with its subscriber base. After spending around \$390 million on AWS services in 2017, Netflix, as of October, was on track to spend around \$500 million in 2018, according to a source with direct knowledge of the numbers.

A Netflix spokesperson declined to comment.

Mr. Jassy hasn't prevented other AWS customers from bolting. Walmart and Target, which are in an intense battle with Amazon in the retail market, stopped using AWS in recent years and moved to competing cloud services from Microsoft and Google. Walmart has reportedly exerted pressure on its suppliers to ditch AWS.

GlaxoSmithKline, meanwhile, has shifted most of its computing from AWS to Microsoft's Azure

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Microsoft's Azure shortly after she joined Glaxo in July 2017, the person said. Ms. Terrell spent six years as chief information officer at Walmart. In an email, a GSK spokesperson didn't say whether the company has moved off AWS, but said GSK uses Google Cloud and Microsoft Azure. Ms. Terrell didn't respond to an email seeking comment.

Amazon has growing ambitions in healthcare and pharmaceuticals, including a partnership with Berkshire Hathaway and JPMorgan Chase to form a new healthcare company and a \$1 billion acquisition of online pharmacy PillPack last June.

#### War of Words

It is one of Mr. Bezos' cardinal rules for Amazon employees: focus on customers, not competitors. Asked to publicly discuss a rival, most Amazon executives will invariably change the subject.

And yet, there was Mr. Jassy last November during his keynote speech at re:Invent taunting Larry Ellison, the founder and chief technology officer of Oracle. On a slide showing the market share of various cloud services, Oracle's tiny sliver of the business was denoted by a cut-out of Mr. Ellison's head.

Earlier that month, Mr. Jassy had sought to tweak Mr. Ellison further with a tweet that began "In latest episode of 'uh huh, keep talkin' Larry" and then disclosed Amazon's plan to move its consumer business almost entirely from Oracle databases by the end of 2018 to Amazon software running on AWS. Mr. Ellison, at a company event in August, reportedly said he didn't think Amazon could move off of Oracle's database software by 2020.

It isn't clear why Mr. Bezos has permitted Mr. Jassy to take such an openly adversarial stance against a competitor. In 2016, Mr. Bezos named Mr. Jassy CEO of Amazon Web Services and Jeff Wilke, another longtime executive, the head of Amazon's consumer business. The move may have given Mr. Jassy more latitude to make his own decisions.

But Oracle has also taken dramatic steps to undermine AWS as their competition has intensified.

The company has been the loudest voice of dissent over the Pentagon's decision to award a cloud

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Oracle has filed a protest with the Government Accountability Office and sued the federal government in an attempt to prevent the deal from going to AWS. In early 2017, Oracle CEO Safra Catz also reportedly complained about the deal directly to President Trump at a dinner meeting. According to a **report** last month, a dossier from an unknown source began circulating in government circles last year, alleging that AWS used unethical tactics to influence the Pentagon's decision.

The bad blood between the companies goes back years. Around 2010, Oracle sent a business development team to meet with AWS salespeople to discuss ways the companies could work together, said a former AWS employee. In 2013, Mark Hurd—then Oracle's president and now its CEO, sharing that title with Ms. Catz—visited Amazon's Seattle headquarters for a meeting with Mr. Jassy, the person said.

AWS executives went into the meeting hoping to form a partnership with Oracle, but the talks went poorly, said a person briefed on the meeting. Mr. Hurd was dismissive of AWS, telling Mr. Jassy that Oracle's customers weren't asking about the Amazon cloud service, the person said. An Oracle spokesperson didn't have a comment.

There is much at stake in the battle. Oracle is the dominant provider of databases, and has made little progress in transitioning its business to the cloud. For AWS's part, usage of cloud databases produces a significant portion of its profit, according to multiple people who do business with AWS. It is time-consuming and expensive to switch databases, so customers are generally loathe to change providers after they've chosen one.

A former AWS executive believes there is a strategy behind Mr. Jassy's put-downs of Mr. Ellison, which helps advertise to business customers that Amazon offers alternatives to Oracle's products. "Ellison has invited it, and Andy is happy to continue poking the bear," he said. "It also reinforces with customers that there is a choice."

—Nick Wingfield, Priya Anand and Amir Efrati contributed to this article.

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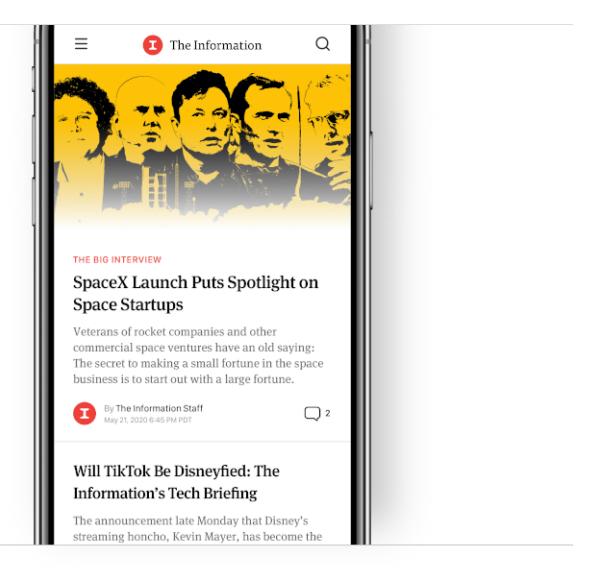
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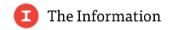
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By Zoë Bernard Sept. 16, 2019 7:02 AM PDT • Comments by Itai Tsiddon, Scott Armanini and 2 others

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Marc Andreessen, cofounder of Andreessen Horowitz.

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