

REPORT REPRINT

The computational legacy is Oracle's cloud opportunity today

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THE 451 TAKE

We believe Oracle has a place in this market, specifically in lift-and-shift, enterprise-grade, data-intensive high-computational workloads. More importantly, it has identified and is focusing on this key market opportunity, in particular its existing user base, which wants the benefit of cloud without the hassle of redeveloping mission-critical legacy workloads. It is unlikely Oracle Cloud will ever have the volume of customers of its hyperscaler competitors, but it might - one day - have a greater average income per customer, as a result of large enterprises with data-intensive workloads. This was its overall message at OpenWorld: 'There is still a huge amount of legacy out there, and we are the provider to port and develop it on the cloud.'

CONTEXT

No cloud provider can thrive in today's public cloud market by emulating Amazon Web Services. AWS is the market leader, with a vast array of cloud services consumable at low cost and, when correctly architected, turned into reliable, powerful and scalable applications. To copy AWS, which has such an early advantage, would be foolhardy.

Both Oracle and Google initially made this mistake. Microsoft realized early on that its niche would be providing a single hybrid experience primarily aimed at its existing - and huge - user base. Google, late to the market with IaaS, provided little context about why it was anything other than an AWS copycat. However, it has started to find its niche in providing the technology that powers its own vast search and indexing infrastructure as a service, such as machine learning, containers and data warehousing.

Oracle has also made significant progress in finding its niche. When it dipped its toe into the cloud waters with Oracle Cloud v1, this niche wasn't clear and there were concerns from enterprises about Oracle's commitment to cloud. After all, Oracle had once said that it didn't believe cloud was going to change anything.

However, in 2016 Oracle announced Oracle Cloud Infrastructure. The company wanted to build a new cloud, having learned from the mistakes of its past - and of its competitors. This 'cloud 2.0' would have better network connectivity, security built-in, bare-metal servers, more consistent performance, and a range of SLAs that cover availability, manageability and performance. The idea was that enterprises would demand performance and quality as paramount, and thus a cloud built for enterprise workloads would be attractive to Oracle's huge incumbent user base. Furthermore, with newer, denser technology, Oracle claimed to offer better performance at a lower price. The company bolstered this commitment with the hiring of talent from AWS, Google and Microsoft. 'It's not your father's Oracle' is a phrase we heard in reference to the company's evolution.

From the outset, this seemed a sensible strategy. The issue of performance is a recurring theme in public and private cloud economics at the moment, and is a major gap in today's market. Oracle is among the minority (18%) of public cloud service providers that offer an SLA on performance, which is cited as a challenge for 37% of enterprises according to recent Cloud Price Index and Voice of the Enterprise analysis. This suggests that Oracle is targeting enterprise demand and demand that isn't being delivered today by the market.

Initially, we wondered if Oracle - despite having a good plan - was simply too late to stem the flow of workloads to AWS. But over the past few years, Oracle has honed its message and identified its niche: the lift and shift of computationally intense enterprise workloads from dedicated infrastructure to cloud. This is a smart move: Oracle has thousands of customers that want to be more scalable and less asset-heavy, but can't face the cost and huge complexity of rearchitecting back-end applications to be cloud-native. This is the low-hanging fruit for Oracle, and this year at its OpenWorld event in San Francisco, the company was clearer on this message than it has been in previous years.

OPENWORLD

About 60,000 people attended OpenWorld this year – a sign that Oracle is still heavily embedded in IT today. The event swallowed up multiple venues in downtown San Francisco, and whole streets were converted into exclusive thoroughfares, eateries and relaxation for attendees. Other providers do similar things at their events, too, but the point we're making is that, while Oracle might not be the cool kid on the block right now, at least when it comes to cloud, it has the resources and budgets to organize such an event, and the pull to attract tens of thousands of people. Such scale is invaluable to being a real cloud player.

Its messaging this year focused on the enterprise market, and it concentrated on the area where it is already dominant – data – with a focus on cloud 2.0 architecture, as well as cloud versions of its specialized data technology, such as Exadata database appliances, autonomous databases, HPC, GPUs and verticalized solutions. Professional services back up the story. The company claims 52% month-over-month OCI platform growth and 150% Q/Q, to Q1 FY19, but it has recently changed its financial reporting, which has made assessing growth in IaaS difficult.

During meetings with enterprises, it was interesting that most were using Oracle because they weren't ready to migrate to cloud-native, but they wanted to have the scalable and asset-light approach to cloud. Exadata – Oracle's database appliance – was a key reason for migration of on-prem deployments to the cloud. Considering Exadata is used by 80% of the largest financial institutions in the world (according to Oracle), this is a sweet spot. We believe its autonomous database and specialized hardware (such as HPC and GPU) further reinforce its position as a specialist in data-heavy workloads. Such capability can also be deployed on-prem through Oracle's Cloud@Customer managed private cloud service.

Oracle has made investments aimed at providing value at the top of the stack while reaching out to developers and startups to juice its cloud-native credibility. CEO Mark Hurd declared that Oracle is going to win the 'applications cloud,' noting that the winner is unlikely to have more than 25% of the market. The company has seen a big shift into applications, with sales growing at double-digit rates for the past few years. Hurd pointed out that if Oracle moved all of its software to SaaS deployments, its share of the cloud applications market would double, from \$12bn to \$24bn.

But Oracle Cloud Infrastructure – which sees itself as a startup within the larger company – underpins all these applications, and in cloud the infrastructure and data platform benefit from being tightly linked together. The OCI design is focused on security, price performance and automation. To those ends:

- The company is expanding from Intel-only core CPUs to AMD chips, which will allow it to offer compute at half the price – only \$0.03 per core-hour CPU.
- It announced plans to add 12 OCI regions globally within the next year, including Sao Paulo, Mumbai and additional Asia-Pacific locations.
- Oracle is building a cloud-first network for ultra-low latency (less than 2ms) using high-performance cluster networking, with 100Gbps throughput and fast inter-node hops made possible with bare-metal RDMA (remote direct memory access) – the same technology that underlies Exadata.
- Oracle also announced higher-clock-speed CPU instances, which can address HPC workloads that require ultra-low latency node communications, like computational fluid dynamics.
- For security, the company has rearchitected OCI to isolate the control code (which lives in a private, encrypted backbone) from customer environments, and vice versa, creating an attack-resistant barrier around the entire cloud, as well as around individual customer zones, with the ultimate goal of having autonomous bots to detect and extinguish threats to customer data.
- The company has launched a web application firewall and DDoS protection; however, among US-based service providers, 40% are already providing both of these basic security features (Voice of the Service Provider Q1 2018). Oracle is playing catchup here. It also launched a Key Management Service and a Cloud Access Security Broker (CASB).
- Oracle ramped up its attacks on AWS price performance. This is potentially a dangerous game, considering many of Oracle's customers are likely AWS customers, too. Could Oracle be a loss leader in infrastructure to win high-value services? We will address this in a future report.

The company said it was saving most of its cloud-native announcements for KubeCon in December, but highlighted its new managed Kubernetes service (OKE, launched in May), platinum-level membership in the Cloud-Native Computing Foundation and growing support of open source projects (e.g., Fn, a functions project; Terraform for Oracle Cloud orchestration) as evidence that it has turned over a new, developer-friendly leaf. Oracle acknowledges a credibility gap with developers, but notes that it is at the start of making a transition similar to the one Microsoft has largely accomplished. As part of this effort, it may pursue acquisitions that give it access to customers that will help change Oracle's image and shift the culture within the company (perhaps similar to what IBM is hoping to accomplish by buying Red Hat).

COMPETITION

AWS is Oracle's biggest threat, and it has the largest market share, the largest portfolio of products, the greatest amount of global locations and the biggest mindshare. AWS frequently hints at its event that it wants to attract enterprises that previously were focused on Oracle. Microsoft is runner-up to AWS, focusing primary on its huge incumbent user base of Windows users, and aiding a unified cloud experience across public and private clouds. IBM is a big player here, too, but the user experience across its range of IaaS, PaaS and SaaS – plus its wide array of hardware and software – can be a confusing melting pot of technologies. IBM's acquisition of Red Hat might aid the unification of the hybrid story, as should its recent announcements to support multi-cloud deployments. Google continues to bolster its credentials with enterprise case studies and, although relatively small today, it has a play in data analytics, an area upon which Google's core business is based. Rackspace still plays in cloud, but now focuses on managing third-party infrastructure instead of its own public cloud. Other providers include Century-Link, Fujitsu, NTT, Virtustream, DigitalOcean, Huawei, Alibaba and Tencent.

SWOT ANALYSIS

STRENGTHS

Oracle has a large incumbent user base of hundreds of thousands of customers and a reputation for powerful data management built upon mission-critical capabilities.

WEAKNESSES

There is no question that Oracle is playing catch-up, and the company isn't yet fully in the minds of buyers considering their cloud options.

OPPORTUNITIES

Our data points suggest that enterprises demand performance, security and support to the extent that they're willing to pay for them. A premium cloud could prove popular.

THREATS

Oracle is behind on IaaS while AWS, Azure, IBM and Google are far ahead. Oracle needs to convince end users that there is value in using its infrastructure over that of another company. AWS will consider entering any area of product development, and if it needs to develop new capabilities to beat Oracle, it will.