Oracle Cloud Infrastructure Delivers High Business Value, Enables Organizations Through Cost-Efficient and Flexible Cloud Infrastructure and Applications

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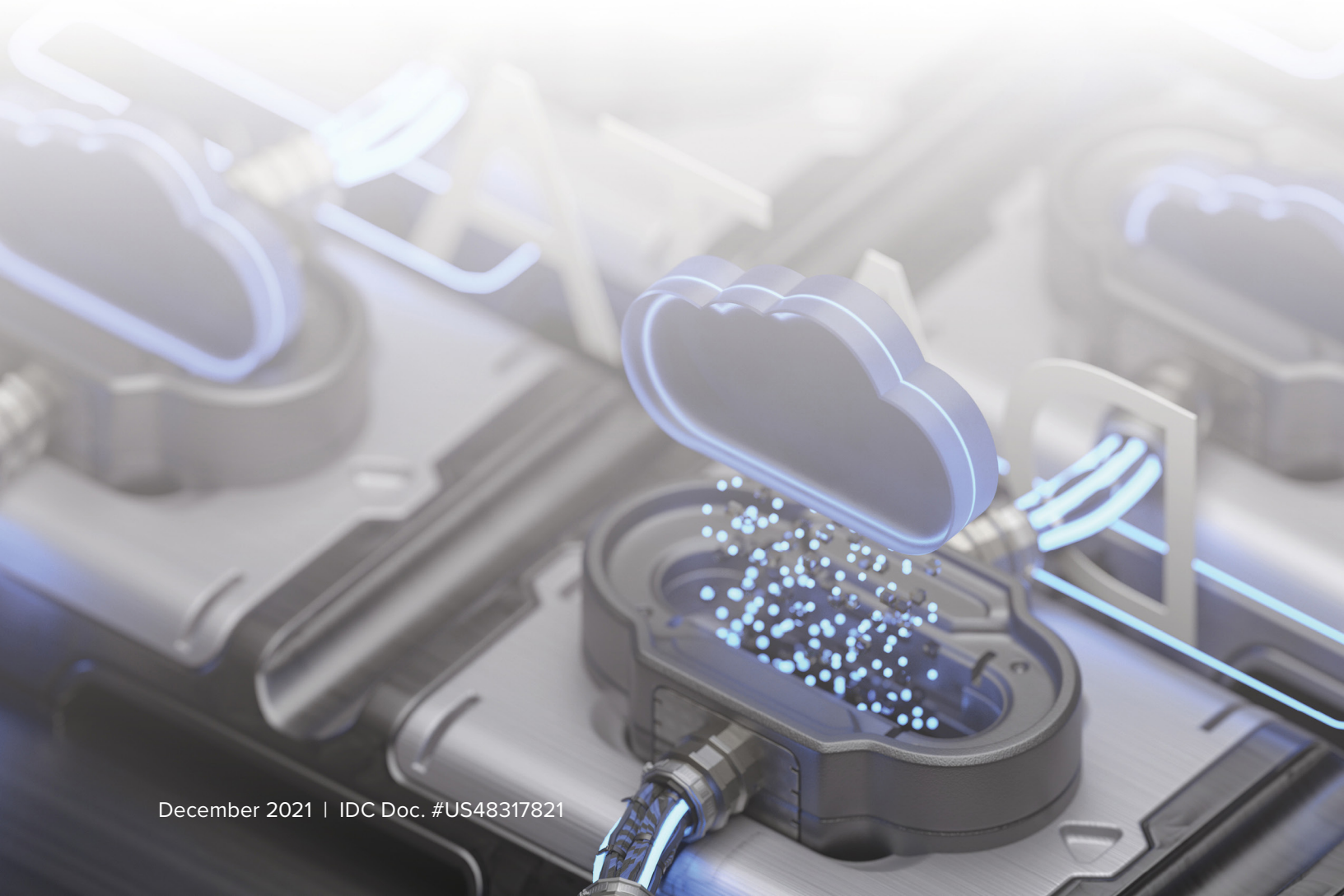

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BUSINESS VALUE HIGHLIGHTS

Click on highlights below to navigate to related content within this white paper.

474%
five-year ROI

53% reduced
total cost of operations

9 months
to payback

35% more
efficient IT infrastructure staff

36% more
efficient data protection and backup staff

138% increase
in time spent on innovation or other activities

40% decrease
in time spent on "keeping the lights on" tasks

87% reduction
in unplanned downtime

24,500 productive
end-user hours gained

Executive Summary

Cloud infrastructure has fundamentally changed the way organizations approach technology. It is a key enabler of digital transformation, accelerating the pace of innovation by providing resources that can be provisioned quickly and securely scale on demand. IDC predicts that by the end of 2021, 80% of enterprises will put a mechanism in place to shift to cloud-centric infrastructure and applications.

Oracle Cloud Infrastructure is a broad platform of public cloud services designed to help customers build and run a wide range of applications in a scalable, secure, and high-performance environment. IDC conducted research that explored the value and benefits for organizations of using Oracle Generation 2 Cloud Infrastructure (OCI) to support their information technology (IT) and business operations. Based on its analysis, IDC created a model that expresses the value and costs for these organizations of utilizing OCI for workloads and applications. IDC interviewed multiple Oracle customers using the service and found that they realized significant benefits.

Based on IDC's calculations, these organizations realized *discounted benefits worth $5 million per organization per year by:*

- **Increasing the productivity of IT infrastructure teams** including data protection and backup teams
- **Optimizing IT team tasks and processes** to free up time for tasks that directly support the business
- **Providing better support to lines of business (LOBs)** by improving application development and delivery
- **Reducing IT infrastructure costs**
- **Reducing the effects of unplanned downtime** on business users

Market Overview

IDC defines public cloud infrastructure as a service (IaaS) as the aggregate of compute, raw storage capacity, and the associated networking capability delivered through a cloud deployment model. Cloud technology and cloud-centric operations have grown to become integral components of the modern IT environment.

Cloud deployment models describe how a cloud IT service is built and delivered to consumers of the service. The factors that determine the cloud deployment model are:

- The physical location of the hardware infrastructure systems on which the service is running
- Whether or not the service is dedicated to one organization or shared across multiple independent organizations
- The owner of the hardware infrastructure systems on which the service is running

At the broadest level, the types of deployment models for cloud services are public and private:

- **Public cloud services** are shared among unrelated enterprises and/or consumers, open to a largely unrestricted universe of potential users, and designed for a market, not a single enterprise.
- **Private cloud services** are shared within a single enterprise or an extended enterprise, with restrictions on access and level of resource dedication, and defined/controlled by the enterprise beyond the control available in public cloud offerings.

Cloud services can be characterized by six key attributes (see **Table 1**), which apply across both public and private deployment models, although the specifics about how each attribute applies may vary depending on the type of service.

TABLE 1

Attributes of Cloud Services

Attribute	Remarks
Shared, standard offering	Built for massive scale, automated deployment
Delivered as an all-inclusive service	Pre-integrated and manages/updates all required resources
Elastic scaling	Dynamic, rapid, and fine-grained
Elastic pricing capability	Tied to resource consumption or number of users
Self-service	Self-service provisioning and administration options
API/published service interface	Programmable access via open/published APIs

Source: IDC, 2021

Public cloud IaaS solutions are critical to modern digital enterprises. The market has grown significantly over the past five years, with services revenue now forecast to exceed $200 billion in 2025. Public cloud services providers are expanding their physical and technological capabilities to serve customers better in hybrid cloud and multicloud environments that combine public and private cloud resources deployed in a variety of locations such as on-premises datacenters and edge locations including factories, warehouses, and retail stores. Hybrid cloud and multicloud architectures increasingly deliver a more distributed cloud experience that can meet customer needs for accessibility, scalability, and security.

Oracle Cloud Infrastructure Product Overview

Oracle Cloud Infrastructure combines the elasticity and utility of the public cloud with the granular control, security, and predictability of on-premises infrastructure. OCI is designed to run critical enterprise applications with high performance, scale, and availability while lowering costs.

Compute

OCI provides secure and elastic compute capacity in the cloud that ranges from flexible virtual machines (flex VMs) and high-performance bare metal servers to high-performance computing (HPC), graphics processing unit (GPU), container orchestration, and management. Available on demand, compute instances provide developers with the choice, scalability, and economics required for enterprise workloads ranging from traditional back-office to modern cloud-native applications. Customers can choose from Intel, AMD, and Arm-based compute shapes.

Oracle Autonomous Linux is a self-tuning operating system with advanced capabilities such as automatic zero downtime patching, known exploit detection, and a high-performance kernel. It can reduce complexity and human error associated with system administration.

Storage

Cloud storage includes high-performance object, file, block, and archive services. Available local non-volatile memory express solid state drive (NVMe SSD) storage provides low-latency and high-performance flash-based storage, which is ideal for workloads that benefit from high-throughput local storage.

The available Oracle Cloud Data Transfer Appliance allows customers to securely move large volumes of data into and out of OCI, reducing data migration times from weeks or months to just hours.

Networking

Oracle virtual cloud networks (VCNs) provide a customizable and private network in Oracle Cloud Infrastructure. Just like a traditional datacenter network, the VCN provides administrators complete control over the network environment. This includes assigning private IP address space, creating subnets and route tables, and configuring stateful firewalls.

Other networking services include emote direct memory access (RDMA) cluster networking, FastConnect for dedicated connections, site-to-site VPN, load balancing, domain name system (DNS), and service gateway for private access between on-premises networks and VCNs.

Database

Oracle database services offer customers cost-optimized and high-performance versions of Oracle Database, a converged, multimodel database management system, as well as in-memory, NoSQL, and MySQL databases. Oracle Autonomous Database, available on premises via Oracle Cloud@Customer or in the Oracle Cloud Infrastructure, enables customers to simplify relational database environments and reduce management workloads.

Hybrid Cloud and Multicloud

Oracle Dedicated Region Cloud@Customer brings Oracle's complete portfolio of public cloud infrastructure, fully managed cloud services, and Oracle Fusion SaaS applications into on-premises datacenters. It enables applications to run faster and lowers costs using the same high-performance capabilities, autonomous operations, and low-cost subscription pricing found in Oracle Cloud Infrastructure. The latter is achieved while maintaining complete control to address data sovereignty, security, and connectivity concerns.

Oracle Exadata Cloud@Customer combines the performance of Oracle Exadata with the simplicity, flexibility, and affordability of a managed database service in on-premises datacenters. It is a simple way to move existing Oracle databases to the cloud because it provides full compatibility with existing Exadata systems and Exadata Cloud Service.

OCI also offers a comprehensive set of multicloud solutions in the form of specialized deployments, database services, extensive monitoring capabilities, and strategic partnerships. This includes Oracle Cloud and Microsoft Azure Interconnect, which provides <2ms latency between clouds with no data egress charges, allowing customers to deploy applications that leverage the best of OCI and Azure. In addition, the FastConnect program consists of over 50 partners that can provide connectivity to Amazon Web Services (AWS) and Google Cloud.

Additional OCI Services

OCI also contains the following services:

- **Oracle Analytics Cloud:**
  A comprehensive analytics platform that incorporates machine learning into the analytical process
- **Oracle Fusion Analytics:**
  A prebuilt data warehouse and analytics solution optimized for Oracle Fusion Cloud applications
- **OCI Data Science:**
  A managed and open environment that enables data scientists to build, deploy, and manage machine learning models using Python and open source libraries
- **Oracle Integration:**
  A combination of prebuilt connectivity to SaaS and on-premises applications, run-ready process automation templates, and a visual application builder
- **Oracle Observability and Management:**
  A comprehensive set of management, diagnostic, and analytics services for managing multicloud and on-premises environments
- **Oracle Cloud Native:**
  Cloud tooling and automation for Kubernetes, Docker, serverless functions, application programming interfaces (APIs), and Kafka as well as DevOps tools for the entire software development lifecycle

To complement OCI, Oracle offers a suite of enterprise applications for business functions such as enterprise resource planning, enterprise performance management, supply chain management and manufacturing, human capital management, advertising and customer experience, and customer relationship management). These packaged applications include E-Business Suite, PeopleSoft, JD Edwards, Siebel, and Hyperion.

The Business Value of Oracle Cloud Infrastructure

Study Demographics

IDC conducted research that explored the value and benefits for organizations of using Oracle Cloud Infrastructure to optimize their IT infrastructure operations. The project included 13 interviews with organizations using the cloud-based service that had experience with or knowledge about its benefits and costs. During the interviews, companies were asked a variety of quantitative and qualitative questions about the impact of the solution on their IT operations, businesses, and costs.

Table 2 presents study demographics and profiles. Organizations interviewed had a base of 13,694 employees, indicating the presence of several large companies. Most employees (12,844) were using IT services, supported by an IT staff of 268. IT teams were responsible for 106 business applications serving 1.3 million external customers. (Note: All numbers cited represent averages.)

There was diverse geographic representation among study participants including the United States, Argentina, Australia, Denmark, India, Mexico, the Philippines, and Singapore. In addition, there was a good mix of vertical industries represented including the manufacturing, information technology, professional services, healthcare, financial services, education, and government sectors.

TABLE 2

Firmographics of Interviewed Organizations

Firmographics	Average	Median	Range
Number of employees	13,694	7,000	20–54,000
Number of IT staff	268	80	1–1,500
Number of IT users	12,844	700	20–54,000
Number external customers	1.3M	5,000	0–15M
Number of business applications	106	20	2–500
Revenue per year	$3.6B	$780.0M	$3.5M to $15B
Countries	United States (6), Argentina, Australia, Denmark, India, Mexico, the Philippines, and Singapore		
Industries	Manufacturing (4), information technology (2), professional services (2), healthcare (2), financial services, education, and government		

Source: IDC interviews, June 2021

Choice and Use of Oracle Cloud Infrastructure

The companies surveyed described usage patterns for Oracle Cloud Infrastructure as well as providing a snapshot of their overall IT and business environments. They also discussed both the value proposition and rationale behind their choice of the Oracle offering. Customers cited many benefits including having the flexibility to cost-effectively increase or decrease demand capacity on an as-needed basis. They also noted increased scalability for growing and extending into new markets and highlighted improved data access.

Cost reduction based on moving away from on premises was also cited, as well as having an easier pricing model and enhanced security:

- **Easier pricing model that helps the business sell more products (information technology):**
  "So we go to market with our product, which is a cloud product, and sell our product to our customers, who often ask us to also provide a hosting platform. We found the pricing computations from our existing cloud provider were very complex. So in order for us to give simplicity to customers we found Oracle, a much simpler engagement. It made it easier for us to price the products, and easier for us to sell our products. That was really the primary reason."

- **Needed to manage data more effectively (healthcare):**
  "OCI is primarily used internally for our HR information and things like that because there are laws around the information we deal with our clients to securely manage that in-house versus having it in the cloud. The move came because using our datacenters to store HR information became a little confusing for a lot of our team as we carry the same information internally that we do for a lot of other companies. So it was best for our company to use one system for just our internal employees and our contractors and have a separate system to host our external client data."

- **A desire for a more modern IT system (education):**
  "We had the computer center technical obsolescence as a challenge, and the cost of upgrading was cost prohibitive for an education institution. We also had challenges with the architecture of the system and the warranties were running out, becoming obsolete. There was also use of different programming languages, which were really growing and piling up. The overall system was pretty slow regarding access and user participation, and our budget was very limited regarding IT investments. All of this led me to do my own research looking for an infrastructure in the cloud that was solid and efficient and had technical support with an affordable cost."

Table 3 (next page) describes Oracle Generation 2 Cloud Infrastructure use and other IT factors that characterized the 13 surveyed companies. On average, there were 16 geographical regions involved in platform use. The IT resources associated with OCI supported the use of 22 applications and 37 databases on behalf of 4,201 internal users. Nearly half (46%) of average revenue was directly tied to the Oracle platform.

TABLE 3

Organizational Usage of OCI

Oracle Gen 2 Cloud Infrastructure Use	Average	Median
Number of sites/branches	54	20
Number of geographical locations (countries)	16	11
Number of business applications	22	6
Number of databases	37	5
Number of internal users	4,201	700
Number of terabytes (TB)	236	50
Revenue (%)	46	35

Source: IDC interviews, June 2021

Business Value and Quantified Benefits

IDC's Business Value model expresses the quantified benefits for organizations using Oracle Cloud Infrastructure to support their infrastructure and workloads. Survey data from Oracle customers was applied to this model to arrive at an array of quantified post-deployment benefits. Using this methodology, IDC found that these customers realized significant value and were able to maximize their return on investment (ROI) in the platform.

These benefits fostered more efficient IT infrastructure by increasing the productivity of IT infrastructure teams including backup and data protection teams. Optimizing IT team tasks and processes served to free up time for tasks that directly supported the business and improved application development. Other benefits centered on reducing IT infrastructure costs and minimizing the effects of unplanned downtime on users, thereby contributing to greater productivity and faster time to market. In aggregate, these benefits ensured that IT resources helped LOB units operate more effectively in pursuit of business goals.

Study participants discussed how they are using the Oracle platform to achieve these benefits:

- **More predictable capital expenditure allows for more innovation (business services):**

  "The way that our use is progressing right now is really because we're now using Oracle Cloud as an innovation platform, meaning that we have enabled our people to start thinking more innovative ideas for their day to day and for originating more business. So I think the differentiator will really be because we're using it as an idea platform. Therefore our use of Oracle Cloud will continue to grow. The reason that I like the model that we have now is because we can grow because we're not constrained by capex-based growing; we can grow as we need to. If we needed more power, we just apply more credits."

- **Applications fit their needs (manufacturing):**
  "The main benefit for us is the use of, and access to, their first-party applications, not for building our own applications on there. It's the value they provide with the particular tools they have incorporated like Chat and CrowdTwist"

- **Improved storage opens up business opportunities (healthcare):**
  "A lot of storage space was alleviated in our own datacenter by moving this internal load to the cloud, and that created business opportunity to help with expansions, as we constantly upgrade servers and stacks. So it made sense to store as much information as we possibly can in the cloud for our HR and internal information."

- **Easier to manage solution due to automation (business services):**
  "The online tools allow us to manage the whole infrastructure stack rather than just the compute. Tasks that previously required a service request are now self-service. We've been able to build tools for our own team that leverage the OCI API so that they can start, stop, clone, and destroy their own dev and test machines. Integrating compute from our OCI environment with GitLab CI pipelines has allowed us to increase our level of automation in the DevOps cycle."

- **Pricing model means reduced total cost of operations (business services):**
  "The annual flex billing is significant to spread the use of the system and the annual credits we pay across the 12-month period and being able to ramp up and ramp down with the usage of the system—instead of having credits on a monthly basis, where, if you haven't used them one month, they're gone. This billing has actually enabled us to reduce our costs by 84%, and that is a massive reduction. As we continue to expand, we'll keep realizing that cost saving, which is great."

As shown in **Figure 1** (next page), IDC quantified the value that study participants are achieving through their use of Oracle Cloud Infrastructure at an average of $5 million per year per organization ($119,600 per 100 internal users) over five years.

This can be broken out into the following areas:

- **IT staff productivity gains:**
  Interviewed organizations have substantially improved IT and team productivity levels. IDC calculates that they have realized annual value of $2.1 million on average per organization ($49,800 per 100 internal users) in higher productivity.

- **Risk mitigation — user productivity benefits:**
  By deploying a more robust and reliable platform, interviewed customers reduced the impact of outages on their users and businesses. IDC quantifies the value of this form of higher productivity at an annual average of $1.4 million per organization ($34,400 per 100 internal users).

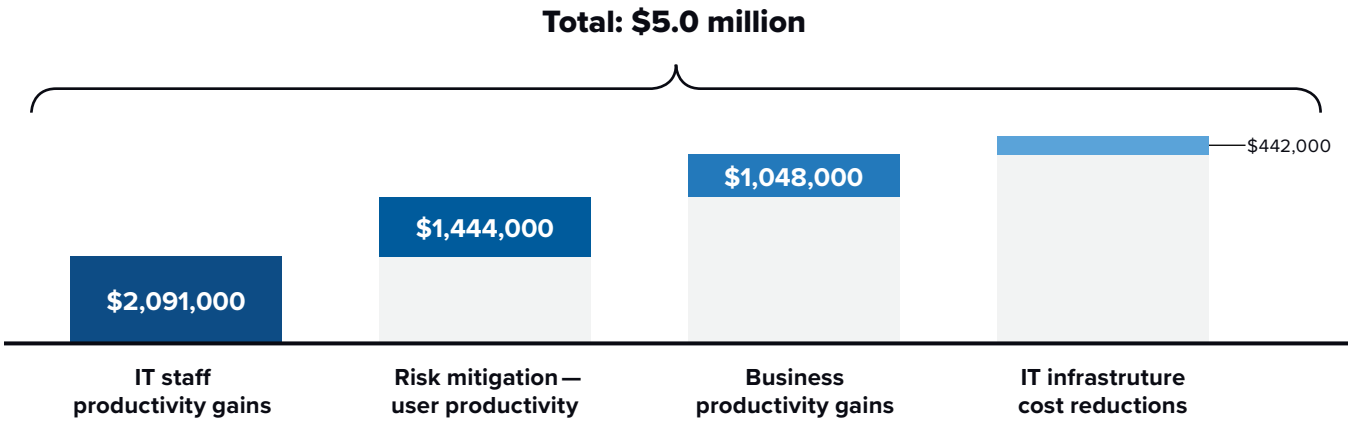
- **Business productivity benefits:**
  Study participants have improved productivity levels for employees, which over time contributed to better business results. IDC puts the value of higher revenue and increased productivity at an annual average of $1 million per organization ($25,000 per 100 internal users).

- **IT infrastructure cost reductions:**
  Interviewed organizations were able to operate more efficiently and lower the cost of operation. IDC calculates that they will realize annual value of $442,000 on average per organization ($10,500 per 100 internal users).

FIGURE 1

Average Annual Benefits per Organization

($ benefits)



n = 13, Source: IDC interviews, June 2021

Improvements in IT Efficiencies and Performance

Study participants reported that Oracle Cloud Infrastructure made it easier to manage their IT operations in part because maintenance intervals were reduced and patching/upgrading was automated. This resulted in more reliable operations. They also appreciated how OCI was able to more easily integrate with their existing environments and stressed both the cost effectiveness and better scalability offered by the platform.

Study participants elaborated on these and other benefits:

- **Easier for IT to manage (healthcare):**
  "One of the big things was less downtime, maintenance intervals were reduced, patch and upgrades were automated, and there were checks and balances to ensure that compliance was being followed. When we did have an outage, we always had the option of moving to our mirroring techniques, so we could change to a different server very quickly if we were in a jam. So reliability increased."

- **IT can integrate existing environment with OCI (government):**
  "Well, the integration services we use are connected to OCI. We've actually done pretty significant integrations with Salesforce and others. The integrations have been helpful especially with the security components that we've added on."

- **Easier to scale up or down as needed (business services):**
  "It's been an overwhelmingly positive reaction for OCI. Previously with our platform, we only had access to manage elements of the platform, so we were at the mercy of the support teams from the vendor. We quite often met scenarios where we could be waiting hours or days to get support to change up, scale up, or scale down certain elements of the platform."
- **More integrations, global reach, and manageable costs (information technology):**
  "OCI features have been very helpful, especially the capability for us to integrate into their data warehousing and their analytics platform, etc., which can happen very easily. That is very attractive to us. Secondly, under a single contract, we can host across multiple datacenters and save on data transport costs between those centers, [which] is also very attractive to us. With our other cloud provider, whenever we transferred data between two datacenters, we were charged extra, and I think we had a schedule of a certain number of backups."
- **Reduced costs means it is easier to approve (business services):**
  "To do this on premises, I would probably need 10 servers. Those would cost a lot. Prior to doing this, prior to doing cloud, I was actually purchasing a lot of servers, and those were very tough to get approved. That's probably one of the reasons I like the cloud, because right now, the capex approval is terrible, but with the opex approval, it gets through. Each server costs 300,000 (in local currency) plus all the additional supporting costs."

IDC quantified improvements for IT staff. **Table 4** shows the accrued benefits for IT infrastructure management in terms of productivity impacts using equivalent full time equivalents (FTEs) as the primary metric. As shown, overall productivity showed a substantial improvement (35%). This resulted in an annual business value of $855,000.

TABLE 4

IT Infrastructure Management Impact

	Before Oracle	With Oracle	Difference	Benefit
Management of IT infrastructure productivity impact—equivalent FTEs	25	16	9	35%
Salary cost per year per organization	$2.5M	$1.60M	$855,500	35%

Source: IDC interviews, June 2021

Study participants reported that these efficiencies helped IT teams spend less time on day-to-day tasks while shifting their efforts to other projects that could more directly support business innovation. As one study participant noted, *"The efficiency is driving the ability for us to deliver innovation at a far more rapid pace. In the last five months, we have delivered nine projects to the client that probably would have previously taken us at least 12 months or more. This has actually resulted in a new contract from them to extend us for three years."*

IDC quantified these benefits as shown in **Figure 2**. After adoption, interviewed companies were able to spend 40% less time "keeping the lights on" while increasing the time spent on innovation and direct business support by a very significant amount (138%).

FIGURE 2

IT Staff Impact

(% improvement)

n = 13, Source: IDC interviews, June 2021

Organizations also noted that after deployment they were able to scale up and down easily to respond to changing business needs. As shown in **Table 5**, there was a 54% improvement in the ability to deploy compute and storage resources.

TABLE 5

IT Agility Impact

	Before Oracle	With Oracle	Difference	Benefit
Compute deployment				
Time per compute deployment (hours)	6	3	3	54%
Staff time per compute deployment (hours)	4	2	2	60%
Storage deployment				
Time per storage deployment (days)	7	3	4	54%
Staff time per storage deployment (hours)	4	2	2	60%

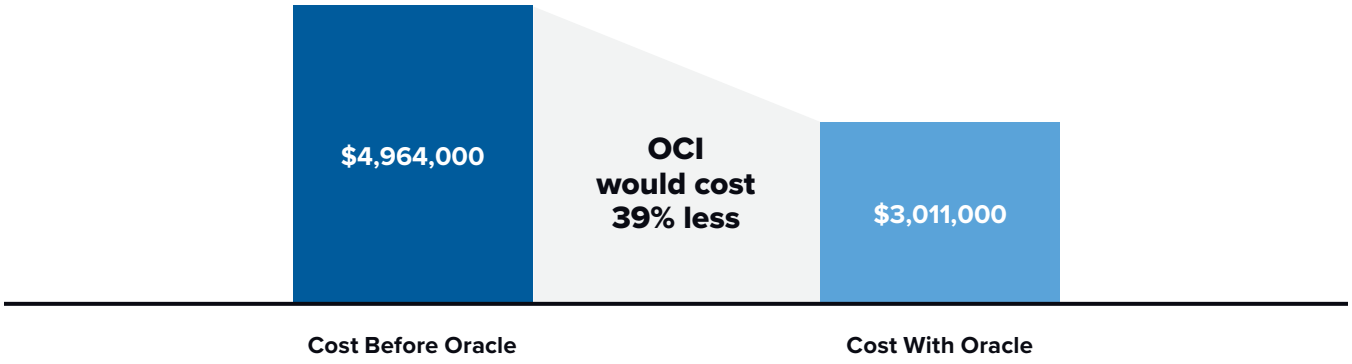
Source: IDC interviews, June 2021

Organizations appreciated OCI's more flexible licensing model, which reduced their costs significantly, as shown in **Figure 3** (next page). IDC projects five-year cost savings of almost 40%.

FIGURE 3

IT Infrastructure Cost Savings over Five Years

(Infrastructure costs — OCI/alternative approach)



n = 13, Source: IDC interviews, June 2021

Study participants also reported that data protection and backup operations were improved after deployment of OCI. IT staff were able to improve operations by 36%, as shown in **Table 6**.

TABLE 6

Data Protection and Backup Impact

	Before Oracle	With Oracle	Difference	Benefit
FTEs	3	2	1	36%
Salary cost per year per organization	$267,100	$171,300	$95,800	36%

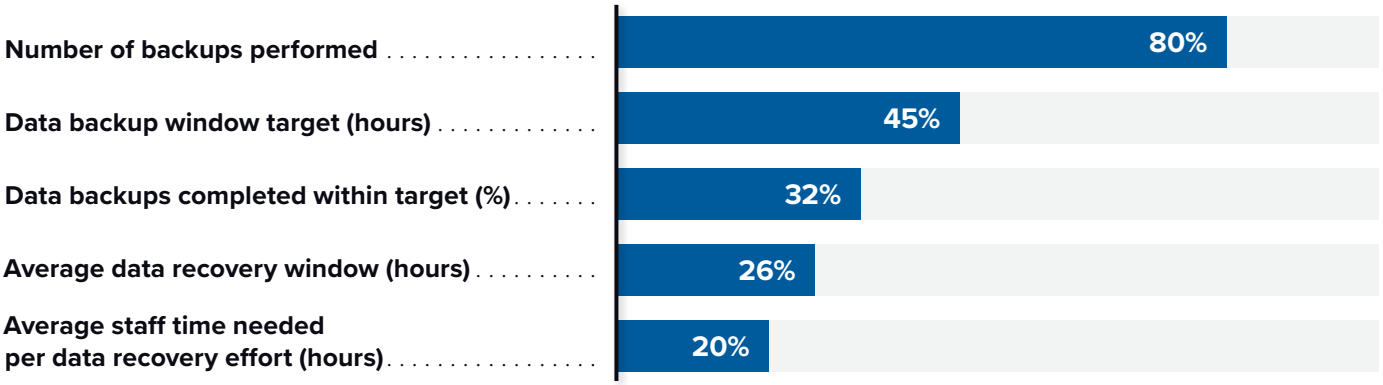
Source: IDC interviews, June 2021

IDC drilled down further on backup and recovery improvements and found, as shown in **Figure 4** (next page), the number of backups able to be performed was increased significantly (80%). In addition, data window backup targets were improved 45%.

FIGURE 4

Data Recovery and Backup Metrics

(% improvement)



n = 13, Source: IDC interviews, June 2021

Business and Productivity Benefits

Interviewed companies discussed how using Oracle Cloud Infrastructure led to optimized support for their business operations, leading to higher levels of employee productivity and better business results. They reported that their application developers were more productive and that software-driven workflow was improved. They also described how the Oracle platform led to better quality projects for customers and an improved onboarding process.

Study participants elaborated on these benefits:

- **Application developers are more productive (financial services):**
  "We can build more applications because of the OCI features. For example, of the things we can do, our developers can put more apps out because they need to build fewer of of the components. When we started it was two to three apps per year, but maybe now we roll out five apps per year as an average."
- **Entire business can improve process flow (healthcare):**
  "We were able to add greater efficiency and development of new applications like deploying new AI-related applications that we would not have had the ability to do. There were some intangible benefits like being able to respond more proactively and quicker to customer needs, back orders, and spikes in demand. Operationally, we were able to improve our business flows."
- **End users do not feel constraints to expand (financial services):**
  "Right now, our users, they don't feel constrained about capacity. If they have an idea, they'll say, 'Hey I need this, can you do this?' I'd say 'Yes, here's an environment, go ahead and play with it.'"

- **Better quality projects for customers and easier to onboard (business services):** *"The fact that we've been so successful in delivering quality projects with OCI for a key client, and we're now expanding to other markets, the client is bringing more business to us. We are actually growing our footprint in terms of the DevOps team. The key thing from the OCI perspective is that it's far more seamless for us to actually bring people onboard into our processes and have them up and running in the OCI environment compared to our previous environment because there are far fewer limitations. Over the course of the next 12–18 months, we'll probably grow from 30 people to 50."*

- **Can repurpose cost savings to other aspects (education):** *"We saved from spending $300,000 on the IT budget for the servers on premises, and we are now only paying $50,000 a year for the better services. We are government supported and managed so the savings go back into the demand of resources; maintenance of our 20 buildings; benefits for the population, the students, the teachers, and administration; and so many other factors that belong to the support of the whole architecture."* Refer to **Table 10** for quantified benefits for business end users after companies engaged with Oracle Cloud Infrastructure. On average, there were about 100 users affected across all organizations. As shown, these users gained 6,000 hours of productive time. When quantified in monetary terms, this resulted in an average gain of $225,000.

Interviewed companies spoke to IDC about the impacts of Oracle Cloud Infrastructure on unplanned downtime and business productivity. They described how, as a result of improved performance and uptime, end users have improved access to the applications and workloads they need to perform their day-to-day work. They reported that they were able to reduce the incidence of unexpected outages, as shown in **Table 7**. As shown, the number of annual outages were reduced by 57% while the average total additional revenue per year was calculated at $1.6 million.

TABLE 7

Unplanned Downtime — User Productivity Impact

	Before Oracle	With Oracle	Difference	Benefit
Number of outages per year	9	4	5	57%
MTTR (hours)	9	3	6	70%
FTEs — lost productive time per organization per year	27	4	23	87%
Hours per user of lost productive time per year	4	1	3	87%
Value of lost productive time per organization per year (based on FTEs)	$1.9M	$241,800	$1.6M	87%

Source: IDC interviews, June 2021

Interviewed organizations tied the use of Oracle directly to their application development teams. These teams, tasked with delivering highly functional software, require timely and cost-effective access to IT resources to develop, test, and deploy new applications and releases. IDC quantified these benefits as shown in **Table 8**. The data shows that after deployment, 20% more applications and 18% more features were able to be developed annually.

TABLE 8

Application Developer Impact

	Before Oracle	With Oracle	Difference	Benefit
Application developers—equivalent FTEs	65	75	10	15%
Salary cost per year per organization	$6.5M	$7.5M	$995	15%
New applications, new logic				
Number per year	2	3	1	20%
Development lifecycle (weeks)	21	17	4	20%
New features				
Number per year	3,015	3,550	535	18%
Development lifecycle for new features (weeks)	5	4	1	20%

Source: IDC interviews, June 2021

Table 9 shows the business user impacts that helped companies operate more efficiently. With Oracle Cloud Infrastructure, interviewed companies enjoyed a revenue boost of $256,000 annually after deployment.

TABLE 9

Business Operations and User Impact

	Per Organization
Business impact—reduced operation expense	
Total additional revenue per year	$256,000

Source: IDC interviews, June 2021

Various user teams benefited from having access to the compute and storage resources and Oracle applications they needed. **Table 10** quantifies these benefits.

TABLE 10

End-User Impact

Enhanced User Productivity	Per Organization
Number of users impacted	151
Average net productivity gains (%)	9
Productive hours gained	24,500
End-user impact—FTE equivalent per organization per year	13
Value of end-user time	$913,200

Source: IDC interviews, June 2021

ROI Summary

IDC's analysis of the financial and investment benefits related to study participants' use of Oracle Cloud Infrastructure is presented in **Table 11**. IDC calculates that on a per-organization basis, interviewed organizations will achieve total discounted five-year benefits of $17.6 million based on IT staff efficiencies, increased user productivity, improved cost of operation, and other factors as described. These benefits compare with projected total discounted investment costs over five years of $3.1 million on a per-organization basis. At these levels of benefits and investment costs, IDC calculates that these organizations will achieve a five-year ROI of 474% and break even on their investment in about nine months.

TABLE 11

Five-Year ROI Analysis

	Per Organization	Per 100 Internal Users
Benefit (discounted)	$17.6M	$419,400
Investment (discounted)	$3.1M	$73,100
Net present value (NPV)	$14.6M	$346,300
ROI (NPV/investment)	474%	474%
Payback (months)	9	9
Discount factor	12%	12%

Source: IDC interviews, June 2021

Challenges/Opportunities

In a market dominated by Amazon Web Services, Microsoft, and Google, OCI has formidable competition. Many enterprises are already running workloads in one or more of these public clouds, creating a market perception that OCI is only a viable option for those with Oracle databases and applications. To break this perception, Oracle has thought differently about how to build and deliver cloud services, and the company has been on a journey to create differentiation in technology and commercial strategy as part of its Gen 2 Cloud.

Last year, the company launched Oracle Dedicated Region Cloud@Customer, which is a completely managed cloud region that brings the entire set of Oracle's public cloud services into a customer's datacenter, helping address performance and data sovereignty concerns. None of the other major cloud providers have this level of service parity in their hybrid solutions. In addition, Dedicated Region Cloud@Customer uses the same billing model and is covered by the same service-level agreements (SLAs)—uptime, manageability, and performance—as the OCI public cloud.

In addition to OCI, Oracle has extensive expertise in business applications (enterprise resource planning, supply chain, human resources, and customer relationship management). All these SaaS applications run on OCI and take advantage of OCI's breadth of services across application development (Oracle Container Engine for Kubernetes and Oracle APEX), applied software (Oracle Data Science and Oracle Digital Assistant), databases (Oracle Autonomous Database and Oracle MySQL Cloud Service), integration (Oracle Golden Gate and Oracle Integration), management (Oracle Observability and Management), and security (Oracle Identity and Access Management and Oracle Autonomous Linux).

More recently, Oracle announced its Cloud Lift Services program, which provides customers with guidance from cloud engineers on planning, architecting, prototyping, and managing cloud migrations. This new program is available at no additional cost to both existing and new Oracle Cloud customers worldwide. The combination of business guidance, solution architecture, and hands-on help has the potential to remove the most common inhibitors to cloud adoption.

Another recent innovation to improve ROI is Support Rewards, which can be used to reduce the support bill for products such as Oracle Database and Oracle WebLogic. For every dollar spent on OCI, customers earn $0.25 in support rewards. Customers with an unlimited license agreement earn at a rate of $0.33 per dollar. The program is available for all Oracle customers with tech license support, including renewals.

When combined, these two programs provide Oracle customers significant business value. For example, customers can bring Oracle Database licenses to the Oracle Cloud and pay a lower rate on their license renewals. They can also use included services from Oracle Cloud Lift to help design and migrate their packaged applications that use Oracle Database, such as E-Business Suite or PeopleSoft, at no additional cost.

These are just a few examples of how Oracle is thinking differently about cloud services. When you factor in other technology announcements such as Arm-based Ampere A1 Compute and pricing advantages such as Universal Credits and the ability to reduce costs by matching compute to workload profile with preemptible and burstable instances, Oracle is giving customers a differentiated cloud experience.

Conclusion

The results of this study highlight the ways Oracle is delivering value to its customers. The company's unique approach to cloud infrastructure is reducing the total cost of operations while significantly increasing the time that IT staff can focus on innovation and other value-added activities. Perhaps most important is the reduction in unplanned downtime, which improves productivity across the entire organization.

Oracle customers interviewed for this study told IDC that they appreciated Oracle's blend of performance and the key Oracle applications that are available for use as part of OCI. This helped lead to key business results, such as faster time to market for services or products or cost savings that could be repurposed somewhere else. Between these business benefits, and aforementioned IT staff productivity and unplanned downtime benefits, IDC determined these customers were achieving a nearly 6:1 return on their investment into OCI.

To determine the benefits of OCI for your organization, consider the following areas:

- For independent software vendors, understanding the underlying cloud costs for a SaaS application or platform services is critical in developing pricing that protects margins and achieves profitability. When comparing cloud providers, look for pricing consistency across global regions and understand data egress charges. Taking this step will enable more efficient introduction of new products/services and lower customer acquisition costs, in addition to greater profitability.
- For enterprises, hybrid architectures will be common for the foreseeable future to maintain legacy investments and comply with data sovereignty requirements. When choosing a hybrid cloud solution, ensure that the same services offered in the public cloud can be deployed on premises with comparable billing and SLAs.
- For multicloud strategies, a collaborative model that includes interconnecting major cloud providers' platforms will support public and private organizations in addressing the challenges of digital transformation. Oracle's unique partnership with Microsoft enables customers to innovate using the best of OCI and Microsoft Azure with low-latency performance and seamless interoperability.
- Cloud services should make IT staff more productive by automating administrative tasks and using AI to detect potential issues before they impact operations. This enables a shift from reactive troubleshooting to proactive remediation, improving the overall availability of the environment. These features should be natively embedded in cloud services.
- Challenge the status quo. Just as organizations use cloud services as a basis for innovation, cloud providers must also innovate to maintain a competitive advantage. With OCI, Oracle is charting its own course for how cloud services are designed, sold, and supported, making it a compelling choice.

Appendix

Methodology

IDC's standard ROI methodology was utilized for this project. This methodology is based on gathering data from current users of Oracle Cloud Infrastructure as the foundation for the model.

Based on interviews with organizations using Oracle, IDC performed a three-step process to calculate the ROI and payback period:

1. **Gathered quantitative benefit information during the interviews using a before-and-after assessment of the impact of Oracle.** In this study, the benefits included staff time savings and productivity benefits, and operational cost reductions.
2. **Created a complete investment (five-year total cost analysis) profile based on the interviews.** Investments go beyond the initial and annual costs of using Oracle Cloud Infrastructure and can include additional costs related to migrations, planning, consulting, and staff or user training.
3. **Calculated the ROI and payback period.** IDC conducted a depreciated cash flow analysis of the benefits and investments for the organizations' use of Oracle Cloud Infrastructure reports over a five-year period. ROI is the ratio of the net present value and the discounted investment. The payback period is the point at which cumulative benefits equal the initial investment.

IDC bases the payback period and ROI calculations on a number of assumptions, which are summarized as follows:

- Time values are multiplied by burdened salary (salary + 28% for benefits and overhead) to quantify efficiency and manager productivity savings. For the purposes of this analysis, based on the geographic locations of the interviewed organizations, IDC has used assumptions of an average fully loaded salary of $100,000 per year for IT staff members and an average fully loaded salary of $70,000 for non-IT staff members. IDC assumes that employees work 1,880 hours per year (47 weeks x 40 hours).
- The net present value of the five-year savings is calculated by subtracting the amount that would have been realized by investing the original sum in an instrument yielding a 12% return to allow for the missed opportunity cost. This accounts for both the assumed cost of money and the assumed rate of return.
- Further, because IT solutions require a deployment period, the full benefits of the solution are not available during deployment. To capture this reality, IDC prorates the benefits on a monthly basis and then subtracts the deployment time from the first-year savings.

Note: All numbers in this document may not be exact due to rounding.

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Harsh V. Singh is a Senior Research Analyst for the Business Value Strategy Practice, responsible for developing return-on-investment and cost-savings analysis on enterprise technological products. Harsh's work covers various solutions that include datacenter hardware, enterprise software, and cloud-based products and services. Harsh's research focuses on the financial and operational impact these products have on organizations that deploy and adopt them.

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Dave McCarthy is a Vice President within IDC's worldwide infrastructure practice, where he leads a team of analysts covering shared (public) cloud, dedicated (private) cloud, and edge strategies. Benefiting both technology suppliers and IT decision makers, Dave's insights delve into how hybrid and distributed cloud platforms provide the foundation for next-generation workloads, enabling organizations to innovate faster, automate operations, and achieve digital resiliency. His research is available via syndicated research programs (subscription services), data products (IDC Trackers) and custom engagements.

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