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**Authors:**

Ashish Nadkarni  
Matthew Marden

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## Business Value Highlights

**426%**  
five-year ROI

**51%**  
lower cost of operations

**9 months**  
to breakeven

**40%**  
more efficient to manage

**38%**  
lower hardware costs

**96%**  
less unplanned downtime

**51%**  
faster to run queries

**26%**  
higher data scientist  
productivity levels

**\$26.3 million**  
additional revenue  
per organization

# The Business Value of Cisco UCS for Big Data and Analytics

## EXECUTIVE SUMMARY

Digital transformation (DX) — a technology-driven business strategy — enables firms to gain or expand their competitive differentiation by embracing data-driven decision-making processes, whether for increasing operational efficiencies, developing new products and services, increasing customer satisfaction and retention, or getting a better intelligence on the market. Big Data and analytics (BDA) applications form the foundation for enterprisewide digital transformation initiatives.

BDA applications provide firms with the ability to generate actionable insights and deliver them to all the relevant stakeholders inside and outside the firm. With the opportunity to unlock the value of BDA to accelerate innovation, drive optimization, and improve governance comes the need to navigate expanding technology alternatives, recreate business processes, and ensure the availability of appropriately skilled staff. Accordingly, IT and line-of-business executives are placing BDA initiatives at the top of their agenda.

A crucial but often neglected requirement for firms to increase the quality of insight from data, and subsequently streamline the consumption of this insight in a timely fashion, is the infrastructure platform that the BDA applications run on. Platforms that have been optimized for BDA make it easier to implement, maintain, and manage BDA applications. Modern BDA architectures reduce time to value by matching the infrastructure platform such as Cisco UCS to exploration, search discovery, and intelligence gathering processes.

IDC interviewed firms that are running significant BDA applications on Cisco UCS to understand their experiences. Study participants told IDC that they are achieving substantial value with Cisco UCS by improving the performance and scalability of their BDA applications. Meanwhile, Cisco UCS also serves as a cost-effective and efficient IT infrastructure platform, enabling them to reduce operational costs associated with their BDA applications. IDC puts the average annual value study participants will achieve with Cisco UCS at \$1.21 million per

100TB in their Cisco UCS environments per year over five years (\$9.77 million per firm) by:

- » Scaling their BDA applications to meet demand from the business and generate additional revenue
- » Improving the performance and availability of BDA applications, which enables employees who rely on data and analytics to work more productively
- » Reducing the staff time needed to manage the infrastructure supporting their BDA applications and making their development teams more effective
- » Lowering the infrastructure-related costs of running BDA applications

## Situation Overview

### Big Data and Analytics Forms the Foundation for Digital Transformation

Digital transformation — a technology-driven business strategy — enables firms to increase competitive differentiation by embracing data-driven decision-making processes, whether for increasing operational efficiencies, developing new products and services, increasing customer satisfaction and retention, or getting a better intelligence on the market.

Taking a data-driven approach requires firms to conduct lightning-fast business transactions, analyze data gathered from such transaction in real time, and feed relevant and actionable information back into the business to improve the quality of customer engagement. Analyzing and managing unprecedented amounts and types of data in a cost-efficient manner can prove to be challenging:

- » Access and process the right data, anytime and anywhere. Deal with the amount, increased complexity, and diverse types of data.

**Objective:** Tackle the attributes of the data as a starting point for extracting information from it.

- » Collect and manage data for better customer engagement. Data spread out in “islands” across the firm makes it harder for the firm to get a complete picture of its customer engagement.

**Objective:** Take a holistic approach to data analytics to compete effectively.

- » Transform data into actionable insight in a timely manner. The inability to quickly determine what data is relevant and what can be discarded can hamper the quality and timeliness of insight.

**Objective:** Adopt new and open technologies that are designed for a modern and interoperable business analytics paradigm.

Big Data and analytics applications form the foundation for enterprisewide digital transformation initiatives. BDA applications provide firms with the ability to generate actionable insights and deliver them to all the relevant stakeholders inside and outside the firm. With the opportunity to unlock the value of BDA to accelerate innovation, drive optimization, and improve governance comes the need to navigate expanding technology alternatives, recreate business processes, and ensure the availability of appropriately skilled staff. Accordingly, IT and line-of-business executives are placing Big Data and analytics initiatives at the top of their agenda.

## Infrastructure Implications

A crucial but often neglected requirement for firms to increase the quality of insight from data, and subsequently streamline the consumption of this insight in a timely fashion, is the infrastructure platform the BDA applications run on.

Firms need to make deliberate infrastructure decisions that take into account specific workload requirements for their BDA applications. This requires an understanding of analytics and decision-making processes and the needs of specific internal and external users (including data scientists, business analysts, managers, and frontline employees as well as suppliers and customers). Data volume, variety, and velocity; query complexity; user concurrency; skills availability; and other variables influence infrastructure decisions and in turn determine the value derived from data.

The required infrastructure for BDA applications cannot simply consist of an extension of the firm's data warehouse because this approach lacks scalability and can cause an undesirable increase in capex and opex because of server sprawl. Growing small clusters of standard servers into large clusters is not efficient in terms of hardware costs (especially switches) and from a cluster management perspective. IDC research has shown that the server sprawl from growing standard servers into large clusters can cause opex spend to become much greater than capex.

On the other hand, a well-designed modern BDA architecture can reduce time to value by matching the infrastructure to exploration, search discovery, and intelligence gathering processes. This infrastructure is made up of platforms that have been optimized for BDA applications.

In addition, such infrastructure platform should be easier to implement, maintain, and manage. It must be high performing and highly available, must be highly elastic, and scale linearly and easily. Finally, it also needs to deliver a high utilization rate, and it has to be secure, including an ability to isolate sensitive application data in a shared infrastructure.

## Using Cisco UCS for Big Data and Analytics

Cisco UCS is a datacenter platform that unites computing, network connectivity, data persistence, and virtualization into a single cohesive system. It provides hardware and management software that unifies the infrastructure stack. Cisco UCS is based on a comprehensive, automated architecture that simplifies the operational complexity of managing BDA applications.

Compute in the system consists of x86-based rack-mounted and blade servers based on variants of Intel Xeon processors and Cisco-designed ASICs — the combination of which is designed for high-performance applications and lays the foundation for scaling the compute layer as business demands increase. Data persistence is provided with two key requirements in mind: to support performance and to support capacity. The performance-optimized approach provides solid state drives, whereas the capacity-optimized approach uses hard disk drives. The system facilitates data tiering for less frequently accessed data. Network connectivity is provided via UCS Fabric Interconnects, which are installed in pairs for redundant active-active connectivity. The system's performance and scalability advantages are directly related to the network design as the network acts as a single point of high-bandwidth, low-latency connectivity that provides IT with unified management of the entire system through UCS Manager. UCS Manager allows for very fast server configurations using service profiles, automated maintenance, and cluster health monitoring. The combined system increases agility by:

- » Simplifying scalability by supporting deployment options for custom and off-the-shelf BDA applications, which require low latency between cluster nodes
- » Streamlining operations by running multiple BDA applications on the same infrastructure
- » Helping unlock intelligence in the data by supporting large diverse data sets with rapid change rates and real-time or batch processing requirements
- » Boosting overall system performance with support for native tuning for off-the-shelf applications
- » Ensuring business continuity with support for most modern virtualization or bare metal clustering platforms
- » Delivering high availability and automatic failover support for custom or off-the-shelf applications and databases

Cisco UCS supports solutions from Cloudera, DataStax, Elastic, Hortonworks, IBM, Intel, MapR, MarkLogic, MemSQL, MongoDB, Pivotal, Platfora, SAP, SAS, and Splunk.

The solution is offered as reference architectures and Cisco Validated Design guides. Cisco Director Express Software supports end-to-end automation and management of major Hadoop distributions and Splunk.

## The Business Value of Cisco UCS for Big Data and Analytics Applications

### Study Demographics

For this study, IDC interviewed firms that have deployed Cisco UCS to support significant parts of their organizationwide BDA applications. Surveyed firms were asked various quantitative and qualitative questions about the impact of Cisco UCS on their IT operations, costs, and outcomes.

Study participants represented diverse experiences as shown in Table 1. On average, these were large firms with significant IT footprints. The average number of employees was 16,879, while the average revenue base was \$2.91 billion per year. The firms involved in the study were mostly United States based, with one company based in Australia. There was a good level of diversity among vertical industries, which included representation from the financial services, government, healthcare, manufacturing, professional services, and telecommunications sectors.

**TABLE 1**

Demographics of Interviewed Firms		
	Average	Median
Number of employees	16,879	2,000
Number of IT staff	887	150
Number of IT users	16,730	1,960
Number of business applications	78	50
Number of terabytes (TB) — BDA applications	1,973	500
Revenue per year	\$2.91 billion	\$700 million
Countries	United States and Australia	
Industries	Financial services, government, healthcare, manufacturing, professional services (2), and telecommunications	

n = 7  
Source: IDC, 2017

## Overview of Study Participants' Use of Cisco UCS for Big Data and Analytics

Surveyed firms reported running varied BDA applications on Cisco UCS but commonly described needing a server infrastructure that not only could deliver needed performance, agility, and reliability for BDA applications but was also cost-effective and efficient to operate. Study participants generally migrated to Cisco UCS from other traditional three-tiered infrastructure solutions, with one firm using it as a net-new platform for its BDA applications.

Interviewed Cisco UCS customers are all running structured data management, structured and unstructured data analytics, and business analytics applications on the platform. By use case, most are running operational intelligence, performance management/business intelligence (BI), and discovery applications. As shown in Table 2, this use sums up to significant BDA applications, with an average of 49 business applications and 808TB running on Cisco UCS. Further, these firms are running most of their BDA applications on Cisco UCS (70% on average).

**TABLE 2**

Cisco UCS for Big Data and Analytics Applications		
	Average	Median
Number of Cisco UCS servers	348	200
Number of business applications	49	30
Number of terabytes (TB)	808	500
Cisco UCS as percentage of total BDA applications (%)	70	75

n = 7  
Source: IDC, 2017

## Business Value Analysis

Interviewed Cisco customers reported leveraging UCS as a cost-effective and efficient infrastructure platform for supporting their varied BDA applications. In addition, they are realizing strong value from greater agility and scalability, which helps them meet changing demand from users and customers. Further, improved levels of performance and reliability for BDA applications help optimize business applications and enable them to generate more value through their BDA efforts. IDC puts the value these firms will achieve with Cisco UCS at an annual average of \$1.21 million per 100TB per year (\$9.77 million per firm) over five years in the following areas (see Figure 1):

- » **Business productivity benefits.** Study participants are realizing higher revenue by better leveraging BDA to address business opportunities and get products and services to market faster. In addition, employees who rely on BDA outputs are much more productive, thanks to improved performance and reliability. IDC puts the value of revenue and productivity gains at \$690,200 per 100TB per year (\$5.58 million per firm).
- » **IT staff productivity benefits.** Study participants are benefiting from the ease of deploying, managing, and extending their Cisco UCS infrastructure environments. In addition, application developers benefit from the ease of provisioning resources on platform and having a single consolidated platform for development. IDC calculates these Cisco customers will realize higher productivity for these teams worth an annual average of \$339,200 per 100TB (\$2.74 million per firm).
- » **Risk mitigation — user productivity benefits.** Study participants better ensure the continuity of applications and services running on their Cisco UCS infrastructure environments, reducing productivity loss costs associated with unplanned outages. IDC projects this value to be worth an average of \$106,200 per 100TB per year (\$0.86 million per firm).
- » **IT infrastructure cost reductions.** Study participants reported that Cisco UCS costs less than alternative approaches they considered, meaning that they spend less on hardware and associated costs such as maintenance, power, and datacenter space. IDC calculates that study participants will save an average of \$73,300 per 100TB per year (\$0.59 million per firm).

Note: IDC used terabytes as a way to normalize the results given that a common measure of size and complexity of most Big Data environments across multiple enterprises is the amount of data being used to analyze across the sum of all custom and off-the-shelf applications.

**FIGURE 1**

## Average Annual Benefits per 100TB



Source: IDC, 2017

### Better Performing and More Agile Big Data and Analytics Applications

The Cisco customers are realizing significant value from having a platform that ensures both improved performance and greater scalability for BDA applications. The result is that they can better meet changing demand related to BDA applications from users and customers. With Cisco UCS, analytical queries and processes are carried out faster (51% less time per query) and more effectively (25% more queries), while BDA applications' performance is improved considerably (49% on average) (see Figure 2).

Study participants provided examples of these benefits with Cisco UCS:

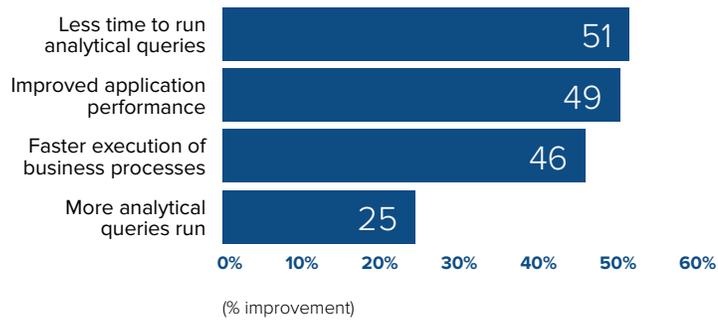
- » **Scalability supporting higher performance.** An IT services company said: *“Because it scales out more easily, Cisco UCS has a performance advantage. When you’re talking about building a system and joining hundreds of nodes together to all work on a single problem like you do with Hadoop, there’s an advantage . . . . I think we got something like eight or nine times better performance for application queries.”*
- » **Faster delivery of data.** A manufacturer reported: *“Cisco UCS is very important because our users get their data faster and they can make better decisions . . . . For example, a team had to make decisions on whether to spend money to address a business opportunity, and they decided to go forward with the investment. Without Cisco UCS, it would have taken much longer. But it just means we can do other things with our time now.”*

“Because it scales out more easily, Cisco UCS has a performance advantage. When you’re talking about building a system and joining hundreds of nodes together to all work on a single problem like you do with Hadoop, there’s an advantage . . . . I think we got something like eight or nine times better performance for application queries.”

“Cisco UCS definitely impacts the quality of our analytical outputs. The quality of the data is better because we have a lot higher performance, so we can do a lot more with Cisco UCS compared with a traditional server.”

» **Higher-quality analytical outputs.** A financial services company explained: *“Cisco UCS definitely impacts the quality of our analytical outputs. The quality of the data is better because we have a lot higher performance, so we can do a lot more with Cisco UCS compared with a traditional server.”*

**FIGURE 2**  
Performance Benefits of Cisco UCS for Big Data



Source: IDC, 2017

Meanwhile, improved agility for BDA applications with Cisco UCS is also of high importance. Data- and resource-intensive BDA applications require regular access to additional compute power and capacity as well as the ability to upgrade or make changes to software. Study participants reported that they have made their BDA applications more agile with Cisco UCS, and they need much less staff time to both deploy new servers and spin up virtual servers. One survey respondent from the telecommunications sector commented: *“Cisco UCS has greatly increased our ability to scale and changed the way we do business. For example, we needed some more capacity, and instead of having to buy equipment and storage, we just spun up an instance on Cisco UCS. We tied it into our database and, in less than 30 minutes, had a new server running and supporting customers. Before it would have been two weeks, even if we had the equipment.”*

Table 3 presents key metrics for improved IT agility, including a 47% improvement in the staff time needed to deploy both new servers and new virtual machines. This agility also benefits application development teams whose work intersects with BDA applications; study participants reported streamlining development cycles for new applications (36%) and features (34%) and increasing the productivity of developers working on Cisco UCS by an average of 15%.

TABLE 3

Impact of Cisco UCS on IT Agility and Development				
	Before Cisco UCS	With Cisco UCS	Difference	Benefit (%)
Staff time to deploy new servers (hours)	54.5	29.1	25.4	47
Staff time to deploy new VMs (hours)	3.6	1.9	1.7	47
Staff time to upgrade software (hours)	24.4	15.4	9	37
Development life cycle of new applications (weeks)	22.8	14.5	8.3	36
Development life cycle of new features (weeks)	12	8	4	34
Application development team impact (FTEs)	97	83	14	15

n = 7  
Source: IDC, 2017

“Because we can make business decisions faster and react faster with Cisco UCS and the performance is faster, everyone is more productive. I’d say we are making more revenue — \$2 million per year. This started happening within six months of deploying Cisco UCS.”

### Business and Operational Impact

Study participants talked about various ways that Cisco UCS infrastructure has improved their ability to leverage BDA applications to their advantage, ultimately resulting in higher revenue and operational efficiencies. Having the ability to process more data, and deliver it in a timely way, is vital for these firms as data volumes and business reliance on BDA applications continue to grow. Further, enhanced scalability supports consistent growth because study participants can extend their BDA applications with ease and in a cost-effective way to match demand.

The Cisco UCS customers benefit in several ways from these types of advantages. First, staff who rely on timely and high-quality analytical outputs to do their jobs are more effective. Thus data scientists and other members of business intelligence teams benefit from faster and more effective execution of data queries. This means that these team members can better support business operations, and it enables them to generate additional value for their firms. Study participants had an average of 95 staff members on these types of teams and reported that they are more than one-quarter more productive (26% on average) with BDA applications running on Cisco UCS.

Study participants also reported that Cisco UCS is helping them capture more revenue. Being able to make business decisions faster while targeting new opportunities generates additional revenue. As one survey respondent working in manufacturing commented: *“Because we can make business decisions faster and react faster with Cisco UCS and the performance is faster, everyone is more productive. I’d say we are making more revenue — \$2 million per year. This started happening within six months of deploying Cisco UCS.”*

Table 4 presents specific metrics on business operation impact including a 26% improvement in productivity. Table 4 also shows a significant annual revenue gain of \$26.3 million per firm resulting from better addressing business opportunities as well as additional revenue of \$59,444 per firm per year resulting from experiencing less unplanned downtime.

**TABLE 4**

Impact of Cisco UCS on Business Operations, Productivity, and Revenue		
	Per Firm	Per 100TB
<b>Higher productivity for Big Data scientists and business intelligence teams</b>		
Number of staff impacted	95	12
Increased productivity	26%	26%
Equivalent FTE gain	23.3	2.88
<b>Business and revenue impact from better addressing business opportunities</b>		
Total additional revenue per year	\$26.3 million	\$3.26 million
Total recognized revenue per year*	\$3.95 million	\$488,700
<b>Business and revenue impact of unplanned downtime</b>		
Total additional revenue per year	\$59,444	\$7,400
Total recognized revenue per year*	\$8,917	\$1,100

\*IDC assumes a 15% operating margin that is applied against revenue increases for purposes of the financial results shown in this study  
 n = 7  
 Source: IDC, 2017

### A More Reliable Big Data and Analytics Application Delivery Platform

Study participants also talked how deployment of Cisco UCS has resulted in greater reliability for BDA applications. This means fewer outages coupled with better continuity and the ability to leverage BDA to support line-of-business objectives. In addition, higher uptime for critical applications helps meet more internal and customer-facing service-level agreements (SLAs).

“Cisco UCS has helped in terms of SLAs for applications and has actually allowed us to increase uptime for some critical applications. We are meeting probably 98% of our SLAs versus 90% previously.”

With respect to SLA performance, one survey respondent working in the financial services sector noted: “Cisco UCS has helped in terms of SLAs for applications and has actually allowed us to increase uptime for some critical applications. We are meeting probably 98% of our SLAs versus 90% previously.” In terms of reliability, another respondent working in the professional services sector commented: “We have a statistical program that we use to crunch clinical data for our pharmaceutical clients. We’re using Cisco UCS to run that application, and we’re doing development as well because it’s easier and more efficient to do backup. That’s the biggest bang for the buck we get because if we have data issues or something crashes, it’s faster to restore. In my experience, it could be the difference between 24 hours versus 4 hours.”

These benefits are quantified in Table 5, which shows metrics for unplanned downtime including an impressive 82% reduction in the frequency of events and 96% less productive time lost overall to unplanned application and system outages.

**TABLE 5**

Impact of Cisco UCS on Unplanned Downtime				
	Before Cisco UCS	With Cisco UCS	Difference	Benefit (%)
Frequency per year	35.6	6.2	29.4	82
Time to resolve (hours)	6.2	3.4	2.8	45
FTE impact — lost productivity because of unplanned outages	12	0.5	11.5	96
Average hours of unplanned downtime per server per year	0.19	0.02	0.17	90

n = 7  
Source: IDC, 2017

### Cost-Effective Platform for Big Data and Analytics Applications

Study participants also reported that Cisco UCS is a cost-effective BDA platform from a hardware, operational, and staff support perspective. Software-driven features and unified management across Cisco UCS infrastructure environments mean less staff time for deployment and management. Meanwhile, fewer problems mean that less staff time is needed for keeping the lights on and support, and high performance and integrated compute, storage, and network translate to lower hardware and associated costs.

As one survey respondent working in the government sector commented: *“With Cisco UCS, there are probably 10 of us supporting the infrastructure, spending 10% of our time keeping the lights on. With a traditional approach, there would be 15 of us and we’d spend 20% of our time keeping the lights on. We’re avoiding hiring 5 staff members, and we’ve freed up our team’s time to support other contracts and other revenue streams.”* Table 6 shows metrics related to IT staff impact from using Cisco UCS as a BDA platform. Staff time needed to both deploy and manage showed significant levels of improvement, 67% and 40% less time with Cisco UCS, respectively.

**TABLE 6**

Impact of Cisco UCS on IT Staff				
	Before Cisco UCS	With Cisco UCS	Difference	Benefit (%)
<b>Deployment</b>				
Staff time required to deploy (FTEs)	18.7	6.2	12.5	67
<b>Management</b>				
Staff time to manage per year (FTEs)	24.3	14.5	9.8	40
<b>Support</b>				
Staff time to support per year (FTEs)	4.6	1.6	3	66

n = 7  
Source: IDC, 2017

“We’ve gotten four times as much compute with Cisco UCS, but it’s actually 50% of the overhead to operate it. We’ve gotten a lot more than we would have had, and we used a lot less resources to support it. And on top of that, our business processes are a lot better with Cisco UCS.”

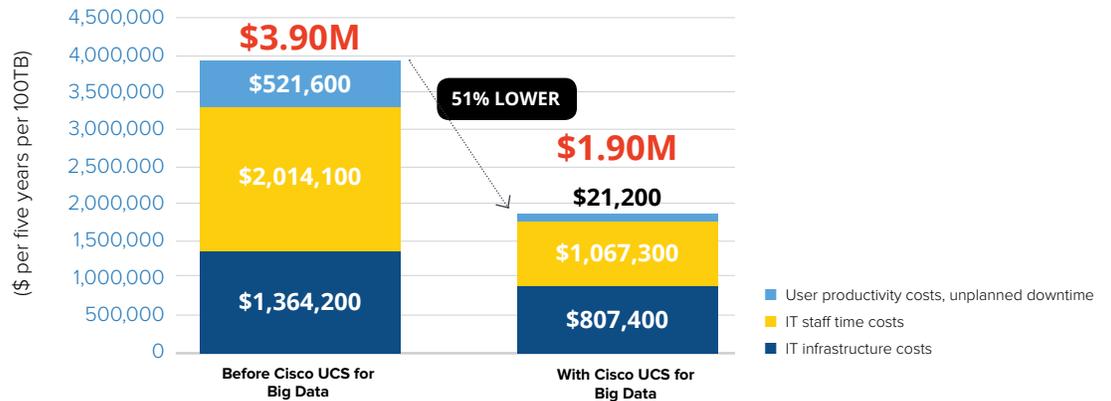
Interviewed firms also said that Cisco UCS serves as a cost-effective platform for their BDA applications. The cost efficiencies begin with purchasing hardware. Firms reported that Cisco UCS actually costs less than building out an equivalent infrastructure with an alternative approach. Firms surveyed reported needing fewer servers, less network hardware, and less storage.

One survey respondent in the financial services sector commented: *“We’ve consolidated our network hardware requirements to a significant extent with Cisco UCS. We’re reducing our switch count by probably half because we can deploy more servers in a chassis. This cuts down on the amount of uplink you give to your servers compared with a traditional approach and requires fewer network switches.”* In addition, a respondent from the IT services industry noted: *“We’ve gotten four times as much compute with Cisco UCS, but it’s actually 50% of the overhead to operate it. We’ve gotten a lot more than we would have had, and we used a lot less resources to support it. And on top of that, our business processes are a lot better with Cisco UCS.”*

Figure 3 presents the five-year cost of operations as measured by IDC for Cisco UCS compared with previous or alternative infrastructure environments considered by study participants, indicating a 51% lower overall cost with Cisco UCS.

**FIGURE 3**

### Five-Year Cost of Operations per 100TB



Source: IDC, 2017

### ROI Analysis

IDC based its ROI analysis on interviews with firms using Cisco UCS as an infrastructure platform for running significant parts of their BDA applications. Based on these interviews, IDC has calculated the benefits and costs to these firms of using Cisco UCS. IDC used the following three-step method for conducting the ROI analysis:

- 1. Gathered quantitative benefit information during the interviews using a before-and-after assessment of the impact of Cisco UCS.** In this study, the benefits included staff time savings and productivity benefits, increased revenue from better addressing business opportunities and improving the performance of BDA applications, reducing revenue losses associated with outages, and IT-related 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 Cisco UCS 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 firms' use of Cisco UCS over a five-year period. ROI is the ratio of the net present value (NPV) and the discounted investment. The payback period is the point at which cumulative benefits equal the initial investment.

Table 7 presents IDC's analysis of the benefits and costs of using Cisco UCS. IDC projects that study participants will invest a five-year discounted average of \$815,000 per 100TB (\$6.58 million per firm) in building out their Cisco UCS infrastructure environments. IDC calculates that in return, the firms will achieve benefits worth a discounted average of \$4.29 million per 100TB over five years (\$34.63 million per firm). These levels of average benefits and investment costs would result in a five-year ROI of 426%, with breakeven in their investment occurring in nine months on average for study participants.

**TABLE 7**

Five-Year ROI Analysis		
	Average per Firm	Average per 100TB
Benefit (discounted)	\$34.63 million	\$4.29 million
Investment (discounted)	\$6.58 million	\$0.82 million
Net present value (NPV)	\$28.05 million	\$3.47 million
Return on investment (ROI)	426%	426%
Payback period	9 months	9 months
Discount rate	12%	12%

Source: IDC, 2017

## Challenges and Opportunities

Leaders in many firms believe they have what it takes to harness the power of BDA for improving data-driven decision making and thus accelerate their digital transformation initiatives. And yet they are missing the competency or maturity to address the range of technology, staffing, process, and data requirements involved. With the opportunity to unlock the value of data comes the need to navigate expanding technology alternatives.

Cisco has an opportunity to play a continued critical role in enabling deployment of an ever-increasing number of custom and off-the-shelf BDA solutions. As the hype in the Big Data market has subsided, real-world issues about Big Data solution

performance, scalability, security, and support have surfaced for firms that were previously in the early stages of experimenting with some of the new Big Data management and analytics technologies. Cisco brings to the market a robust solution that can address a new set of customer needs and requirements.

At the same time, Cisco continues to face competition in the BDA infrastructure market and must therefore focus on demonstrating the value of its technology and customer support processes.

As BDA applications gain a level of criticality not seen before, Cisco is in a unique position — thanks to its historical networking expertise — to shift the focus from ever more and faster processing power to intelligently designed and managed networks. Significant benefits in speed, efficiency, utilization, and TCO can be achieved with this approach. Cisco has demonstrated itself to be ahead of the game with continuous innovation in Cisco UCS.

This also puts a burden on the company to stay ahead of developments in the BDA software market. IDC recommends that Cisco continue to aggressively expand its ecosystem with ISVs that provide open source-based and proprietary BDA solutions.

## Conclusion

The competitive advantages and value of BDA are now widely acknowledged and have led to the shifting of focus at many firms from “if and when” to “where and how.” With BDA applications requiring more from IT infrastructures and lines of business demanding higher-quality insights in less time, choosing the right infrastructure platform for Big Data applications represents a core component of maximizing value. This IDC study considered the experiences of firms using Cisco UCS as an infrastructure platform for their BDA applications. The study found that Cisco UCS contributed to the strong value the firms are achieving with their business operations through scalability, performance, time to market, and cost effectiveness. As a result, these firms directly attributed business benefits to the manner in which Cisco UCS is deployed in the infrastructure.

## Appendix

IDC's standard ROI methodology was utilized for this project. This methodology is based on gathering data from firms currently using Cisco UCS as the foundation for the model. Based on interviews with these study participants, IDC performs a three-step process to calculate the ROI and payback period:

- » Measure the savings associated with using Cisco UCS in terms of staff time savings and productivity benefits, increased revenue from better addressing business opportunities and improving the performance of BDA applications, reducing revenue losses associated with outages, and IT-related cost reductions.
- » Ascertain the investment made in deploying and running Cisco UCS.
- » Project the costs and savings over a five-year period and calculate the ROI and payback for the deployed solution.

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 purposes of this analysis, based on the geographic locations of the interviewed firms, 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 per year for non-IT staff members. IDC assumes that employees work 1,880 hours per year (47 weeks x 40 hours).
- » Downtime values are a product of the number of hours of downtime multiplied by the number of users affected.
- » The impact of unplanned downtime is quantified in terms of impaired end-user productivity and lost revenue.
- » Lost productivity is a product of downtime multiplied by burdened salary.
- » 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.

Because every hour of downtime does not equate to a lost hour of productivity or revenue generation, IDC attributes only a fraction of the result to savings. As part of our assessment, we asked each company what fraction of downtime hours to use in calculating productivity savings and the reduction in lost revenue. IDC then taxes the revenue at that rate.

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.*

#### **IDC Global Headquarters**

**5 Speen Street  
Framingham, MA 01701  
USA  
508.872.8200  
Twitter: @IDC  
idc-insights-community.com  
www.idc.com**

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