Server Upgrade Cycles: Why Faster Is Better

Stephen Belanger   Ashish Nadkarni

EXECUTIVE SNAPSHOT

FIGURE 1

Executive Snapshot: Faster Server Upgrades

Digital transformation (DX) initiatives and the proliferation of next-generation applications require new infrastructure to support organizational demands. IDC conducted multiple surveys to analyze the various benefits that can be achieved through faster server infrastructure upgrades.

Key Takeaways

- IDC research finds organizations achieve broad benefits from upgrading servers at a regular cadence.
- Organizations that upgrade servers more frequently can substantially reduce server-related costs, including server costs and maintenance, power, facilities, and support costs.
- More frequent server upgrades were also found to produce application performance improvements such as reduced time to run batch processes.
- IT staff time requirements and costs were also significantly reduced through server upgrades, enabling IT to focus resources on higher-value tasks.

Recommended Actions

- Implement regular server upgrade cadences such as twice in a six-year span as opposed to once in a six-year span to help reduce costs, improve agility, and support transformation initiatives.
- Create detailed internal processes to analyze system requirements, performance, and return-on-investment (ROI) objectives to justify server upgrades.
- Identify business requirements and implement clear communications between IT and LOB leaders to help facilitate server investments.

Source: IDC, 2018

SITUATION OVERVIEW

Introduction

Digital transformation (DX) continues to headline business initiatives as companies look to remain competitive in the rapidly changing IT landscape. Organizations are increasingly investing in and implementing next-generation applications and architectures such as software-defined IT and hybrid IT to drive higher levels of efficiency and agility. These modern technologies and architectures, however, also require organizations to evolve their underlying infrastructure to support new capabilities and demands.

Recent strength in the server market, which continues to operate in a marketwide refresh cycle, illustrates the growing demand for new infrastructure. 1Q18 marked the server market's fifth consecutive quarter of both shipment and revenue growth and represented a fourth consecutive quarter of year-on-year ASP growth, as customers continue to replace aging server infrastructure with more powerful and efficient systems that leverage the latest platform developments from processor suppliers.

With the importance of upgrading and maintaining new servers becoming even more critical to realize transformation initiatives, IDC sought to analyze the key benefits and value of performing server upgrades at a regular cadence via multiple surveys and interviews.

Server Life Cycle Overview

While there is no standard timeline for replacing servers, IDC's 2017 *Server and Storage Workloads Survey: Understanding 3rd Platform Usage* found that the mean life cycle for servers in operation was 5.15 years, as shown in Figure 2. Data from IDC's workloads survey was fairly consistent with survey results from the prior two years. Further, survey results were also fairly consistent among respondents from different company sizes and verticals.

As shown in Figure 2, respondents to IDC's 2017 *Server and Storage Workloads Survey* expect to use a majority of servers purchased during 2016 at least 5 years before upgrading. On average, across the various on- and off-premises traditional and cloud deployments, respondents estimated that 60.2% of servers would be kept in operation either 5 or 6 years. Of the remaining 39.8% of server infrastructure, respondents estimated that 26.1% of servers would be kept in operation for 4 years while 13.7% would be used for 3 years or less.

When looking at the trends over a longer period of time, it becomes clearer how server life cycles are changing. As shown in Figure 3, the percentage of servers upgraded after a five-year life cycle was much larger in 2010 at 48.7%. By 2016, the number of servers expected to have a five-year life cycle declined to 32.9% of total servers. 2016 also had the highest percentage of servers expected to have four-year life cycles, which indicates that the average server life cycle may be shortening. IDC expects a continuation of this trend as customers understand the advantages of more regular server upgrades.

FIGURE 2

Server Life Cycle by Segment, 2016

Q. *Approximately how many years do you estimate that your servers will be kept in operation?*
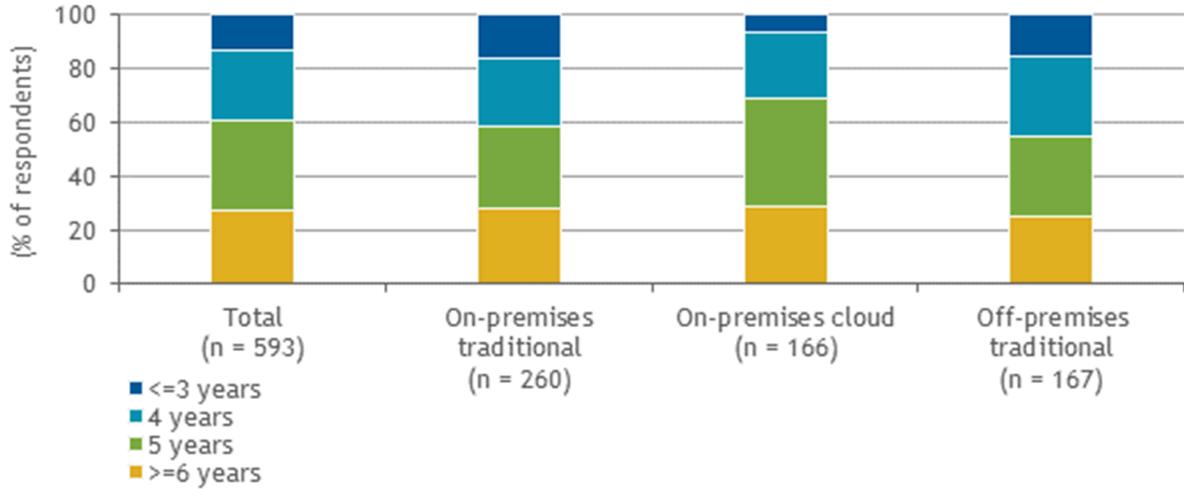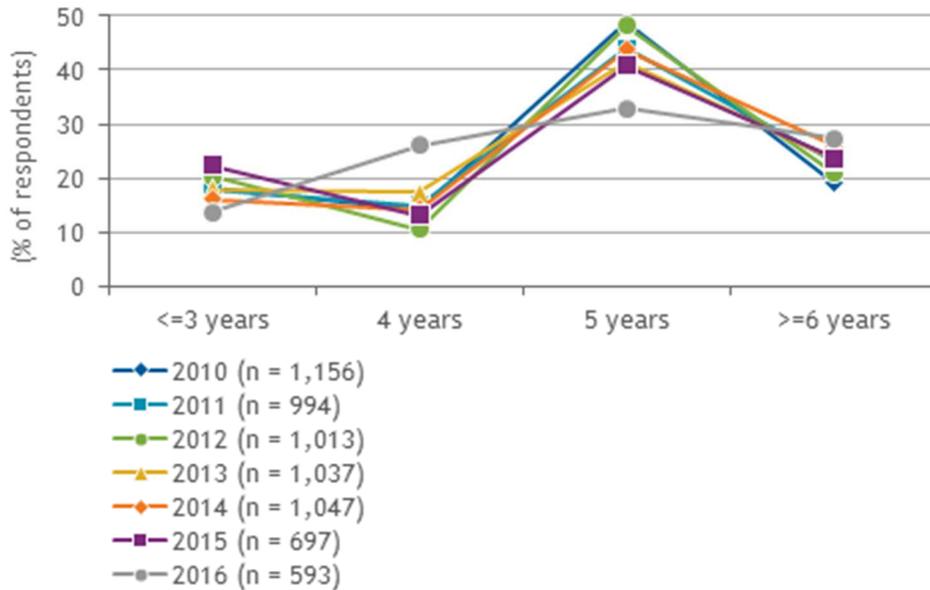

Note: Mean life cycle = 5.15 years

Source: IDC's *Server and Storage Workloads Survey: Understanding 3rd Platform Usage,* May 2017

FIGURE 3

Server Life Cycle, 2010-2016

Source: IDC's *Server and Storage Workloads Survey: Understanding 3rd Platform Usage,* May 2017

Why Do Companies Upgrade Servers?

Reducing costs and driving operational efficiencies are two of the primary reasons organizations upgrade server infrastructure. As servers naturally age, they typically become costlier to maintain and support. Business productivity can also be adversely impacted by older servers, which tend to require more IT staff time and come with a greater risk of unplanned downtime. IDC research finds that the costs associated with aging servers like warranties, IT staff time, and downtime can often exceed the cost of buying new servers and upgrading infrastructure, particularly as servers extend past optimal life cycles. There is a strong case for organizations to upgrade their servers at a more frequent cadence. IDC recently conducted a Business Value study with Dell (see *Accelerate Business Agility with Faster Server Refresh Cycles,* IDC #US42505917, July 2018) and found that organizations achieved the following cost and operational efficiency benefits from upgrading servers:

- Cost benefits:
  - On average, total server-related costs, including server costs and maintenance, power, and facilities costs, were substantially reduced over a three-year period with a server upgrade.
  - Cost of operations was more than halved on average over a three-year period.
  - Unplanned downtime occurred much less frequently on average over a three-year period.
- Operational efficiencies:
  - On average, IT staff went from spending the majority of their time to less than half of their time "keeping the lights on" after upgrading servers.
  - IT staff time spent on deployment, management, and support (help desk) was all significantly shortened on average over a three-year period.

In addition to cost and operational advantages, regular server refreshes enable companies to consolidate IT footprints onto a fewer number of more powerful systems. This can translate to an array of other IT benefits including greater performance, agility, and efficiency. A more powerful, agile, and efficient IT environment can ultimately help companies achieve business goals like improving customer service or accelerating time to market. Some key findings from IDC's recent Business Value study with Dell (see *Accelerate Business Agility with Faster Server Refresh Cycles,* IDC #US42505917, July 2018) regarding IT efficiency, performance, and IT agility improvements from server upgrades are as follows:

- IT efficiency:
  - Organizations surveyed required a fewer number of physical servers on average after server upgrades.
  - VM ratios (number of VMs per virtualized server) more than doubled on average.
  - The number of business apps per physical server substantially increased among survey respondents.
- IT agility:
  - Both staff and calendar time required to deploy new physical servers decreased.
  - Staff time required to carry out server upgrades was nearly halved on average.
  - Application development life cycles and deployment times were both considerably shortened.

- Performance:
  - More than one-third of respondents were able to reduce the average time needed to run batch processes.
  - More than one-fourth of respondents improved application performance and the execution of business processes by upgrading servers.

According to IDC's Business Value study with Dell (see *Accelerate Business Agility with Faster Server Refresh Cycles,* IDC #US42505917, July 2018), performance and agility improvements stemming from server refreshes translated to additional business worth an average of more than $100,000 per server across survey respondents. Companies' performance requirements will only increase as next-generation workloads such as machine and deep learning and cognitively enabled applications continue to see intense interest and growing adoption.

Despite clear business benefits, next-generation workloads and applications can also create compatibility issues and new performance demands. Server hardware becomes obsolete and due for an upgrade when it is no longer compatible with the software applications or operating systems that need to run on it. Compatibility also comes into play when organizations want to update servers to meet new hardware requirements and there are no compatible components available.

While simpler factors, expiring warranties, and service contracts are also key drivers of server upgrades. Support and warranty costs associated with aging servers can quickly exceed the cost of upgrading to new infrastructure. Regular refreshes ensure servers remain covered under warranties and service contracts, enabling companies to avoid maintenance and support costs associated with aging infrastructure as well as free up IT staff to focus on higher-value initiatives.

Another straightforward driver of server refreshes is leasing refresh cycles. Leasing is an alternative to buying servers and retiring them after the useful life span. When leases come to an end, servers are returned, and refreshes are necessary to prevent any unexpected disruptions or downtime. One respondent to IDC's Business Value study with Dell (see *Accelerate Business Agility with Faster Server Refresh Cycles,* IDC #US42505917, July 2018) noted, "Because of lease refresh cycles, we typically refresh every three years."

Inhibitors of Server Upgrades

Despite the numerous drivers and benefits associated with upgrading infrastructure, many organizations still prove hesitant when it comes to server upgrades. The following challenges can often deter regular upgrades:

- **Budgetary limitations and lack of financial analysis:** Customers that struggle to clearly outline TCO and ROI for new infrastructure can push investment budgets to more pressing opportunities, particularly for organizations that have an "if it is not broken, don't fix it" view. Lacking in these areas can also make decision making between IT and LOB challenging.
- **Compatibility issues with new hardware:** While new application demands often drive the need for new infrastructure, legacy software may not be compatible with newer systems or already run reliably on current infrastructure. This can cause companies that rely on legacy applications, particularly for business-critical use cases, and are unable to find alternatives to continue to use servers beyond optimal life spans.
- **Available IT staff resources:** Organizations with limited IT resources may not have the necessary personnel to drive initial implementation of upgraded servers, particularly in small

organizations. Upgraded systems with newer capabilities also may require new skill sets that may not be in-house.

ADVICE FOR THE TECHNOLOGY BUYER

There are clear benefits to updating servers in a timely fashion. Organizations can reduce costs, improve IT agility, and increase operational efficiency by refreshing servers on a regular cadence. IDC research indicates that there are certain best practices that companies should follow to justify server upgrades and maximize their return on investments:

- Identify business requirements, including by working with business-centric personnel like LOB leaders, to ensure business needs are met.
- Determine key infrastructure attributes and requirements based on the specific workload, application, and/or solution area that will run on new servers.
- Ensure compatibility with new operating systems and applications.
- Use available technical and financial information to make data-driven decisions, including financial modeling processes, and to estimate ROI.
- Analyze budgets to ensure appropriate funding for new infrastructure.
- Review and adjust IT staff as necessary to gather required resources and expertise.
- Implement procedures to accurately measure ROI against expected ROI.
- Assess past server refresh projects to determine future best practices.
- Proactively plan for future upgrade cycles.

IDC'S POINT OF VIEW

IDC research definitively shows that regular upgrades of server infrastructure can yield a wide array of benefits from both IT and business perspectives. From an IT standpoint, server refreshes can improve agility, flexibility, and efficiency as well as reduce operational costs and support requirements. Companies are placing greater demands on IT to drive business results and competitive differentiation. Regular server refreshes can help companies achieve business goals by more effectively meeting the requirements of 3rd Platform technologies and DX initiatives.

Despite the clear, tangible benefits of regular server upgrades, IDC research indicates that a segment of customers is hesitant or unable to upgrade servers on a regular cycle. This happens for several reasons, the most common of which include budgetary limitations and poor information and planning. These companies should recognize that the cost of infrastructure increases over time and can hinder business results by monopolizing staff time and creating unwanted disruptions.

There are certain best practices that companies should follow to fully realize the benefits of regular server upgrades. For example, it is critical to first determine business requirements and key infrastructure attributes for the workload or application being deployed. Given that the cost of servers escalates over time, it is key for companies to perform detailed ROI analysis and look at TCO in addition to up-front cost requirements. Server suppliers can better support customers and differentiate by providing tools and services to support ROI analyses for potential server purchases.

Related Research

- *1Q18 Worldwide Server Market Update Presentation* (IDC #US43975218, June 2018)
- *Worldwide Server Forecast, 2018-2022* (IDC #US42981218, May 2018)
- *Worldwide Server Market Shares, 2017: Emerging and Updated Technologies Drive Record Growth* (IDC #US42980818, May 2018)
- *IDC's Worldwide Computing Platforms Taxonomy, 2018* (IDC #US42981318, March 2018)
- *AI/Machine Learning: Prepare Your Computing Environment* (IDC #DR2018_T5_PR, February 2018)
- *IDC's Worldwide Semiannual Server and Enterprise Storage Systems Trackers: Workloads Taxonomy, 2017* (IDC #US42924417, August 2017)

Methodology

IDC conducted multiple surveys and interviews with organizations across the world to analyze the benefits of server refreshes and costs related to aging server infrastructure.

Synopsis

This IDC Perspective discusses the various benefits that organizations achieve through server upgrades and shorter server life cycles.

"Building and maintaining up-to-date infrastructure is becoming ever more critical to organizations looking to support next-generation applications, architectures, and digital transformation initiatives," said Stephen Belanger, senior research analyst at IDC's Infrastructure Platforms and Technologies group. "IDC's research outlines the clear value that regular server upgrades can have for organizations looking to achieve higher levels of efficiency and agility."

About IDC

International Data Corporation (IDC) is the premier global provider of market intelligence, advisory services, and events for the information technology, telecommunications and consumer technology markets. IDC helps IT professionals, business executives, and the investment community make fact-based decisions on technology purchases and business strategy. More than 1,100 IDC analysts provide global, regional, and local expertise on technology and industry opportunities and trends in over 110 countries worldwide. For 50 years, IDC has provided strategic insights to help our clients achieve their key business objectives. IDC is a subsidiary of IDG, the world's leading technology media, research, and events company.

Global Headquarters

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