

OPTIMIZE IT INFRASTRUCTURE TO MAXIMIZE WORKLOAD PERFORMANCE

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Report Highlights

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An aging IT infrastructure is the top data center and IT pressure facing businesses.

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Over the last 12 months, the Best-in-Class are 25% more likely to have updated their data center server infrastructure.

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The Best-in-Class are 40% more likely to have implemented dynamic workload balancing.

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Best-in-Class organizations reduce overall IT costs at three times the rate of Followers.

Many businesses continue to rely on outdated IT infrastructures to run the extremely demanding workloads of today. Not surprisingly, these businesses are facing increasing complexity and challenges. However, by taking the important step to adopt next generation infrastructure hardware, leading organizations are gaining a great opportunity to meet the challenges of these workloads with a reliable and optimized environment that delivers the services that customers demand, and brings significant benefits and returns on investment.

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By utilizing a server and management platform that is built for versatile workload performance, leading businesses are able to build a reliable and high performing foundation that is optimized to react quickly to the needs of the business.

Cutting edge technologies are bringing exciting new capabilities and benefits to businesses everywhere, and successful IT departments are ensuring that they have built data centers that are set up to implement and profit from the many advantages that these technologies bring. But trends like the move to mobile and the use of big data bring new complexities, as well as more demanding workloads that are significantly different than those of the past. And when organizations try to take advantage of these trends, but implement them on the infrastructure of yesterday, they are setting themselves up for failure.

Aberdeen has identified businesses that are successful at implementing new technologies, at handling the high demand workloads of today and at delivering top performing and reliable services that leave end-users satisfied and coming back for repeat business. How are these organizations succeeding? By taking the approach of ensuring that their hardware infrastructure is as cutting edge and next generation as the services they are implementing on it. By utilizing the right server and management platforms, these leaders are able to build a reliable and high performing foundation that is optimized to meet any need, from daily and common services to high-demand and business critical applications.

In this report, we'll look at some of the top pressures that organizations are facing when it comes to optimizing their infrastructure for modern services and workloads, analyze the strategies taken by successful businesses and offer key recommendations for those organizations looking to become leaders in high performing IT infrastructures.

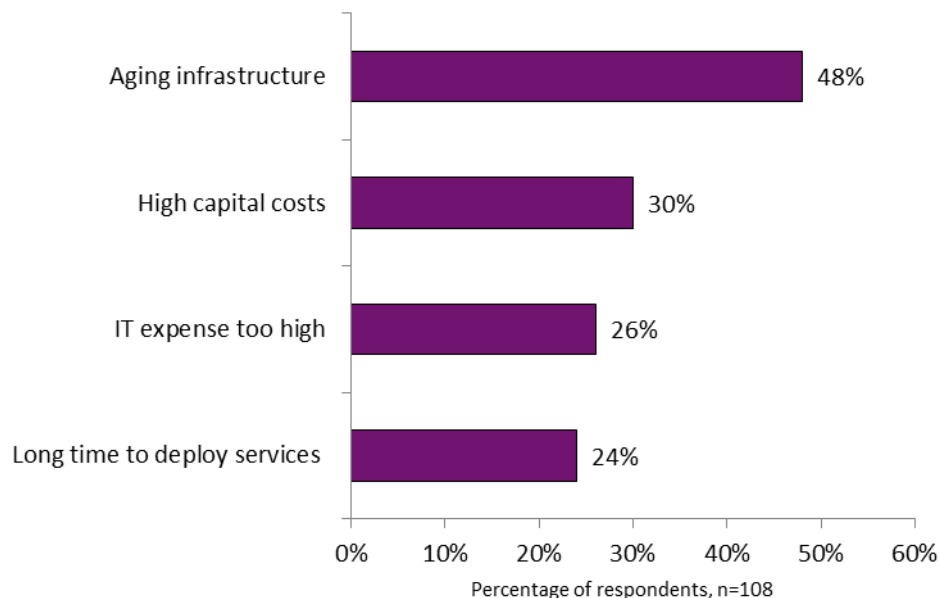
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Building the Modern IT Infrastructure Foundation

Imagine that you're building a modern high end skyscraper. Would you build this skyscraper on the foundation of an old 1960s office building that's already showing its cracks? Of course not, but this is exactly what some businesses are doing in their IT infrastructure by attempting to meet the workload and service requirements of the modern business, while running it on an antiquated IT infrastructure that is the "technology years" equivalent of a fifty-year-old building foundation.

We see this clearly when looking at our research into data center infrastructure and the pressures that organizations are reporting when it comes to meeting the current requirements of their business.

Figure 1: Top Data Center and IT Infrastructure Pressures



Source: Aberdeen Group, December 2014

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Definition of Best-in-Class

Aberdeen's 2013 State of Servers survey included feedback from **103 industry professionals**. Those respondents were measured against 3 key performance indicators:

- Spend on application deployment and support
- Server concentration rate
- Time to deploy applications

Respondents were scored against those 3 metrics and fell into the following categories:

- **Best-in-Class** - Top 20% of all respondents
 - **Industry Average** - Middle 50% of all respondents
 - **Laggards** - Bottom 30% of all respondents
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The number one pressure, cited by nearly half of all organizations, is aging infrastructure. These organizations recognize that, while their old hardware provided value in its day, trying to implement today's highly demanding workloads on yesterday's hardware is only increasing the complexity and costs of IT. Both the number two and three pressures deal with cost, which is always a concern but, interestingly, the fourth highest pressure that organizations face is the long time it takes to deploy services. This is clearly tied back to pressure number one, as attempting to implement IT services, whether it is day to day applications like email or cutting edge trends like big data and cloud, will be more complex and demanding when relying on an out-of-date infrastructure.

Optimizing Infrastructure from End to End

When faced with the issue of an aging infrastructure, the solution is clear: implement a new hardware foundation. In fact, **Best-in-Class organizations are 25% more likely than all others to have updated their data center server infrastructure** to take advantage of key workload optimizations and high performing and reliable hardware. With this upgrade, the supporting line of business benefits from improved infrastructure for critical services and applications. They also gain the opportunity to leverage this modern age infrastructure to boost all of their non-critical, but often essential, business systems and applications, and they now have a foundation that is ready to handle future demands.

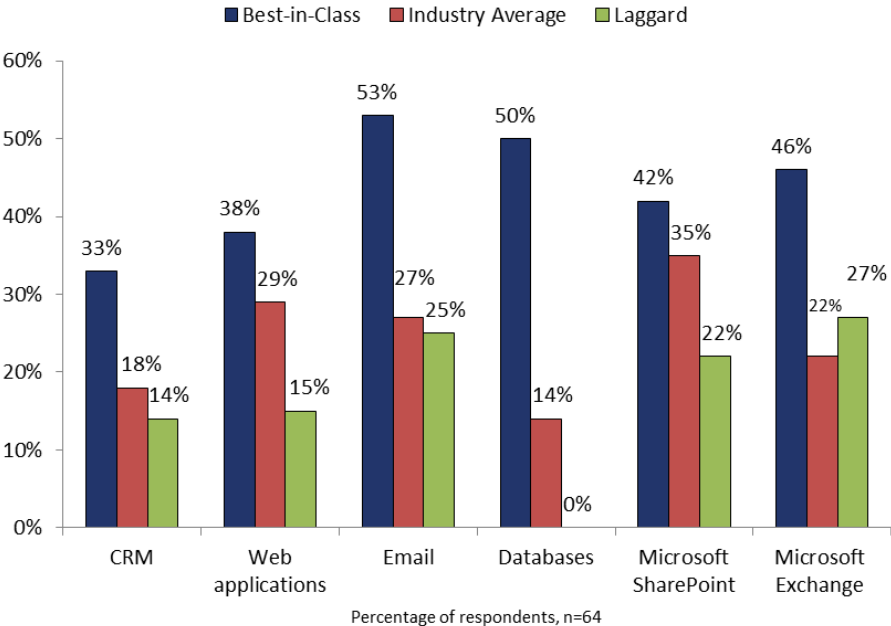
Organizations regularly integrate applications like business intelligence, collaboration and databases into their day to day business. In order for these tools to be adopted by end-users, the infrastructure must be able to deliver a reliable and optimized experience for all workloads. While SaaS and cloud computing have changed the landscape somewhat, IT is still responsible for

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servicing applications to the business side of the organization, which makes it important to be able to get the most out of their infrastructure.

In Figure 2, we see some key applications and services that businesses are deploying on new and improved servers (based on server features and capabilities).

Figure 2: Workloads Deployed on Next Generation Servers



Source: Aberdeen Group, December 2014

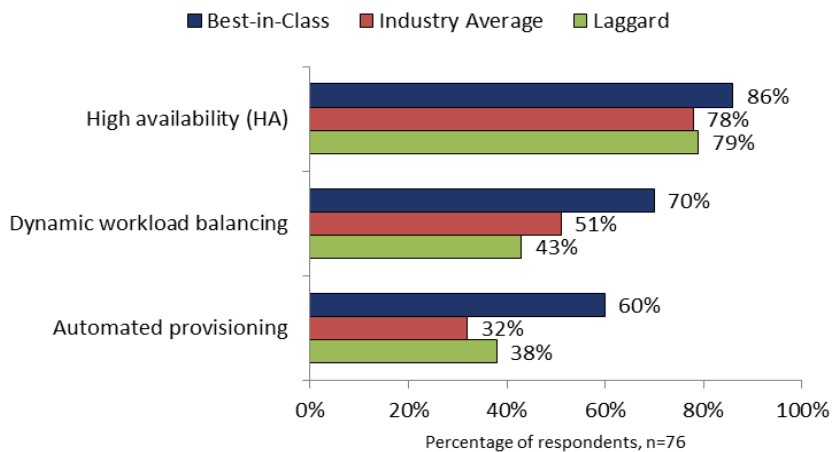
Looking at this data, we see that the Best-in-Class leverage next generation server hardware for key applications and services across the business spectrum. On the business critical enterprise service side, they are using next generation hardware to deploy CRM, databases and Microsoft SharePoint at considerably higher rates than Industry Average and Laggard organizations. But we also see a much higher usage of next-generation servers for email and web applications as well. Leading organizations recognize that if a service is used for business purposes, then the

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hardware it runs on needs to be optimized to meet all workload and usage requirements.

The Best-in-Class are not solely relying on better hardware. They are also ensuring that they are leveraging key capabilities to enable an automated and converged infrastructure that can dynamically adjust to workload demands, ease management complexities and keep services running at a high level. In Figure 3, we see how the Best-in-Class compare to others when it comes to leveraging these important capabilities.

Figure 3: Best-in-Class Optimize for Performance



Source: Aberdeen Group, December 2014

The Best-in-Class have a clear edge when it comes to ensuring a high performing and reliable infrastructure that avoids downtime and keeps key services up and running. They are also much more likely to take advantage of vital management features, such as dynamic workload balancing (at a more than 40% higher rate than the Industry Average) and automated provisioning (doing so nearly twice as much as the Industry Average organizations do).

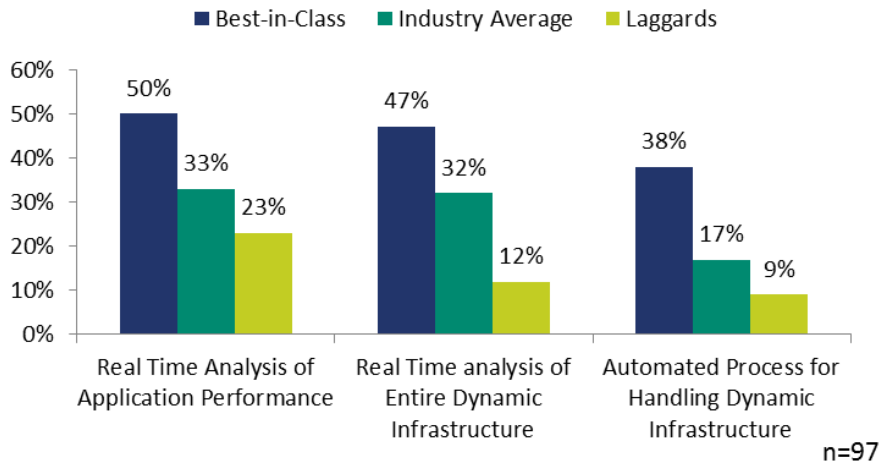
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IT executives are evaluating technology trends that can help them balance their workloads across their infrastructure, while ensuring optimal delivery of applications to the business. Business intelligence platforms and collaboration tools, like email, conferencing, real-time communications and Microsoft SharePoint, are becoming increasingly more critical for driving business value across the business. This, combined with the fact that 92% of organizations are embracing an enterprise mobility strategy, shows that IT infrastructure will not only need to service more applications, but also more devices than ever before.

Best-in-Class businesses are more likely to be deploying tools to monitor both their infrastructure and services, which makes it possible to ensure that they are serving the business at the highest level. In order to provide a high level of service, 50% of the Best-in-Class are making use of real-time application performance analysis tools (more than twice the deployment rate of Laggard firms), which allow them to understand how their infrastructure is serving end-users at the application level. Additionally, 47% are implementing a tool that does analysis of their infrastructure to provide them insight into the performance and efficiency of the entire system (Figure 4). The Best-in-Class take advantage of this capability at four times the rate of Laggard organizations.

Average cost per hour of downtime

- All Companies \$163,674
- Small Companies \$8,580
- Medium Companies \$215,637
- Large Companies \$686,250

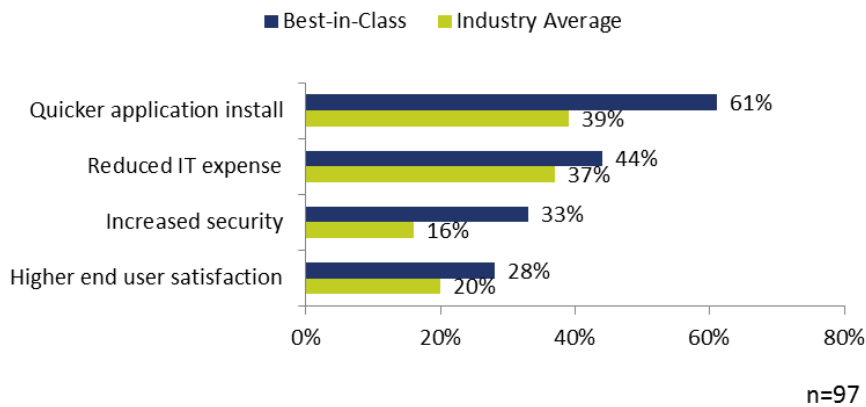
Figure 4: Best-in-Class See It All

Source: Aberdeen Group, December 2014

New technology is exciting and transformative, but at the end of the day, it is the results that it produces which organizations truly care about. The Best-in-Class organizations that leverage these tools are seeing significant reductions in the cost of IT. They are gaining these benefits by getting the insight they need to ensure that they are maximizing their compute capacity, and that they have the correct server and management platforms for their organization. In addition to cutting costs, these companies are able to deploy any IT service, workload or application to the line of business, whether a mobile service or the latest database, faster than other organizations because they have a better understanding of their infrastructure. According to Aberdeen's research, 61% of Best-in-Class IT organizations see a benefit of faster application install times after optimizing their infrastructure, which is more than 58% higher than what the Industry Average achieves (Figure 5). The Best-in-Class also have a 15% advantage when it comes to reducing IT expense.

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Figure 5: Best-in-Class Optimize IT Infrastructure



Source: Aberdeen Group, December 2014

New and Improved Benefits of Next Generation Hardware

Clearly, no IT department wants an aging infrastructure and, given the choice, all would prefer to have cutting edge hardware and next generation servers. But are the Best-in-Class deploying these new and improved infrastructures simply to have the latest and the greatest, or are there clear business benefits as well?

Looking at Table 1, we see the Best-in-Class benefits of utilizing a next generation hardware and server infrastructure.

Table 1: Reduced Costs, Less Downtime for Best-in-Class

Key Performance Metric	Best-in-Class Edge
Three or less business service interruptions in last twelve months	73% of Best-in-Class, 18% performance edge over Laggards
More than a 10% reduction in overall IT costs	30% of Best-in-Class, three times what Laggards experienced
More than a 10% reduction in overall server downtime	43% of Best-in-Class achieved this top-line goal, more than 2.5 times the rate of Laggards

Source: Aberdeen Group, December 2014



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Looking at the data in Table 1, we see that by leveraging next generation hardware, the Best-in-Class are able to gain a key advantage in reduced downtime and in cutting down overall IT costs, which were top pressures reported by IT organizations. Deploying the latest IT hardware infrastructure isn't about having new toys. Leaders leverage this high performing hardware, couple it with improved management capabilities and automation, and create a high performance environment that provides real benefits to the overall organization.

Key Takeaways

Any time an IT hardware infrastructure becomes out-of-date, your business could be facing some serious problems, both in its inability to handle modern workloads and to take advantage of key emerging technologies.

IT managers are constantly looking for ways to better serve the business side and provide the applications they need. One powerful way to achieve this is to boost the capabilities of their IT infrastructure. As IT organizations look to optimize their hardware, in order to realize the same benefits that Best-in-Class organizations have already gained, there are a few critical steps to remember:

- **Embrace the leading trends.** As IT continues to become more mainstream, it is increasingly important that IT organizations pay attention to the technology trends that are helping to improve the quality of technology infrastructures. With initiatives like private and hybrid cloud becoming more and more prominent, it is critical that companies take advantage of these opportunities in order to help optimize service delivery to the business and ultimately the customer.

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➔ **Understand your application delivery from end to end.**

As infrastructure continues to become more complex, it is critical that IT organizations are able to understand and identify all of the moving pieces, especially when there is a hiccup with an application. Application downtime not only frustrates the business, but it also costs organizations money in terms of lost time and resources spent addressing the issue.

➔ **Get a “real-time heartbeat” on your infrastructure while automating processes.** Best-in-Class organizations are leading the charge when it comes to making sure that their IT infrastructure is optimized in a dynamic and automated way. This capability keeps the services that the company relies on optimized, which in turn saves the business money. Automating their dynamic infrastructure enables them to realize the value of their application and infrastructure investments faster.

➔ **A rising hardware tide lifts all applications and services.** Critical enterprise applications and IT services can be obvious drivers for improving the IT infrastructure, but improved uptime, performance and workload management need not end there. All IT services are critical in their own way (just ask any business that has had to deal with prolonged email or website outages). The Best-in-Class ensure that their IT hardware brings benefits across the company.

Organizations today have to deal with a number of complex issues that don't have easy answers. An aging IT infrastructure, the top data center pressure of businesses today, is not one of them. By deploying next generation server and management platforms, companies can reduce downtime, improve their ability to meet workload demands and reduce costs in order to

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increase service delivery to the business, relieve pressure on IT and ultimately deliver greater value to the customer.

For more information on this or other research topics, please visit www.aberdeen.com.

Related Research

[*Visibility, Automation and Analysis: A Winning Combo for Reliable Networks*](#); November 2014

[*Optimize Your Virtual Environments With Capacity Planning*](#); October 2014

[*Best-in-Class Performance for Business Critical Applications*](#); July 2014

[*Effective Private Clouds Phase in Richest Features First*](#); July 2014

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