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The Business Value of Optimized PC Deployment

Business Value Highlights

Moving to dynamic from basic at the organizational level (per PC deployed):

40%
Lower cost per PC depoyed

40%
Lower IT staff time cost

48%
Lower user productivity cost

$351
Savings per PC in IT staff time costs

Moving to dynamic from basic by deployment activity:

67-75%
IT staff time cost efficiencies

IN THIS WHITE PAPER

Today's workforce is still heavily reliant on PCs to get work done and is often accompanied by the need to work anytime, anywhere. Companies need the ability for PCs to be delivered and fully configured for users quickly, wherever those users work. Users want minimal disruption when they get a new PC, and IT departments need to maintain the system's fitness, security, reliability, and efficiency over the life of that system. Relying on partners to assist in this space may be a prudent option for companies looking to focus on their business and not on mundane IT tasks.

This study analyzes how staff time and productivity costs change as companies optimize the steps associated with their deployment of PCs. On the basis of surveys conducted with 500 organizations around the world, IDC has classified these organizations into four categories based on how they carry out deployment activities (basic, standardized, rationalized, and dynamic). This study demonstrates that automating, centralizing, and integrating PC deployment activities lead to significant efficiencies. IDC found that organizations with the most optimized approaches (dynamic) to PC deployment across deployment activities incur an average of 40% less IT staff time costs and costs related to lost user productivity compared with those with the least optimized processes (basic) by:

- Relying on centralized processes to manage deployments and leveraging automation to deploy PCs in less time
- Giving users more control over applications and migration of files to new PCs
- Minimizing the frequency, duration, and impact of problems related to PC deployment

IDC's analysis shows that organizations achieve even more significant efficiencies when analyzed based on their level of optimization for each deployment activity. With IT staff time savings per deployment activity ranging from 67% to 75% as organizations move from the basic to the dynamic level, they can potentially lower costs associated with PC deployment to an even more significant extent by adopting more optimized approaches across activities.

Situation Overview

We live in a time where you can check your watch for email, use your tablet to reply to that email and/or possibly review information that has been stored in the cloud, and then use your PC and retrieve that same information. Work is done anywhere and on any device. Enterprises today struggle with ways to deploy, operate, and dispose off this myriad of assets efficiently and economically. Industries are looking for better ways to serve an increasingly mobile workforce, which is accustomed to consumerization, automation, and self-service, especially if that workforce is predominantly millennial in composition. The scale and scope of user demand is growing faster than ever, with each person using technology differently and with increasingly varied requirements. Most enterprise deployment, operations, and disposal programs and capabilities cannot keep up with the differing needs. This new style of workforce needs has broken the old way of deploying and managing end-user assets. The need for faster and more precise deployments and management on an as-needed basis is critical to keep users up and running and productive. The ever-expanding cloud landscape and cloud-based applications are challenging IT, ensuring all users have everything they need to be productive. These needs can differ not only between job types (e.g., sales, which is more mobile and may rely on different applications compared with accounting which will be an "in-house" employee with more secure application needs) but also by age (e.g., millennial needs — self-reliance versus traditional needs — higher touch).

When it comes to deployment and client management, enterprises should think of four key areas: image, applications, user data, and client fitness, with an overarching theme of security. The prime mission is to have the system ready for use as soon as the end users receive it, with zero downtime. The end users should be able to dock the new computer and go right back to work. The solution should incorporate, but not be limited to, the following:

- Security standards (patches, updates, and tools) must be applied before the computer arrives onsite.
- Security features must secure the user data and protect from threats ranging from malware and hackers looking to infiltrate new devices on a network.
- All user data and settings must be available on the new computer the first time the users boot it.
- The specific applications each user needs should be provided before the computer is deployed, minimizing work disruption for the user.
- Additional applications and new virtual operating environments should be available on an as-needed basis, incorporating tutorial and training if needed.
- Remote access should be available to continually support the device over time.

The goal is to provide a computer that is fully configured, secured, and ready for the end users as soon as it comes out of the shipping box. The idea is to accomplish all of this without additional staging, shipping legs, or facilities.

PC Deployment Areas of Focus

IDC and Dell EMC have developed an Optimized Deployment Model to help companies understand and evaluate the maturity of their PC deployment practices and learn how they can improve their practices. The six specific activities defined by the model are (see Table 1):

- Program management, which covers the planning and organization of deployments, including scheduling, tracking, reporting, and issue resolution
- Staging and logistics, which includes shipping, storing, and staging of the PC
- Imaging, which includes applying IT standards to new PCs — whether that is through a traditional image, a WICD provisioning package, or some other method (While the creation of image files is not included as a direct deployment activity [or cost] in the model, it plays a critical role in determining a company's optimization level for the image loading task.)

- Applications, which is the process of installing departmental and user-specific applications on each machine
- User data, which is the process of moving each user's individual data and settings from his/her old PC to the PC being deployed
- Client fitness, which includes keeping the system running at peak performance and security

TABLE 1 Overview of the PC-Optimized Deloyment Model

	Basic	Standardized	Rationalized	Dynamic
Program management	No centralized deployment, planning, or tracking	Deployment status manually tracked through general office software tools	PMO aggregates deployment task status into centralized monitoring tools	Automated deployment monitoring and reporting with proactive issue resolution
Staging and logistics	Multiple legs for warehousing and staging	Buffer stock warehousing only	PCs shipped directly from OEM to campus locations	PCs shipped directly from OEM to remote users
Imaging	Centralized image applied in the field	Image loaded as part of the PC build process	A dynamic cross-platform image loaded in factory	Extend onsite PC management to factory for imaging, domain join, and security updates
Applications	<25% of apps and updates automated and successful	50% of apps and updates automated and successful	90% of apps and updates automated and successful	Applications available in self-service store
User data	Files stored locally on the user's PC	Files stored locally; automated migration to new computers	Files stored locally; regular snapshots backed up to the network	User data lives in secure cloud and available to user on any device
Client fitness	Systems management <50% successful at maintaining IT standards	Systems management 75% successful at maintaining IT standards	Systems management 90% successful at maintaining IT standards	Integrated and proactive protection of devices, data, and identity

Source: IDC and Dell EMC, 2017

BUSINESS VALUE OF OPTIMIZING PC DEPLOYMENT

IDC surveyed 500 organizations located around the world to understand the impact of optimizing PC deployment activities. These organizations were roughly evenly distributed by size (100–249, 250–999, and 1,000+ employees) and region (North America, EMEA, and APAC) and represented the experiences of a variety of industry verticals. For additional details about survey sample, see the Methodology section. All interviewed organizations deploy PCs to employees on a regular cadence of at least one deployment per year.

Given the importance of PCs to everyday work and the resources devoted to ongoing deployments, the importance of making deployments efficient, timely, and seamless is self-obvious. IDC's analysis considered the following in evaluating the cost to organizations of deploying PCs:

- IT labor staff time costs involved in deployment activities (refer back to Table 1)
- User productivity costs calculated based on time that a user cannot use the PC because of deployment activities, including deployment-related problems and changes required

Deployment Cost Analysis by Organizational Optimization Level

IDC's top-line analysis informing this study is based on categorizing the level of optimization each organization has achieved for deploying PCs, given how they carry out PC deployment activities (see Figure 1). This analysis reflects the fact that survey participants maintain a variety of practices regarding PC deployment and are often more mature or optimized in certain deployment activities than others. Table 2 shows where these organizations fall in each of the deployment activities per their self-reported practices for each deployment activity, with certain activities having a higher relative percentage of organizations falling in the "dynamic" grouping (most optimized).

On the basis of respondents' reported practices for each deployment activity, IDC classified all surveyed organizations in terms of overall level of optimization, including "basic" (or least optimized), "standardized," "rationalized," and finally, "dynamic". Table 2 shows that about three-quarters of organizations were classified as either standardized or rationalized, with about one-fifth and one-tenth of organizations being classified as basic and dynamic, respectively.

TABLE 2 Organizational-Level Optimization Distribution Overall and by Deployment Activity

	Basic	Standardized	Rationalized	Dynamic	Total
Program management	11%	35%	35%	18%	100%
Staging and logistics	18%	29%	43%	9%	100%
Imaging	22%	36%	34%	8%	100%
Applications	13%	34%	46%	7%	100%
User data	16%	33%	36%	15%	100%
Client fitness	20%	34%	34%	12%	100%
Average*	18%	45%	29%	9%	100%

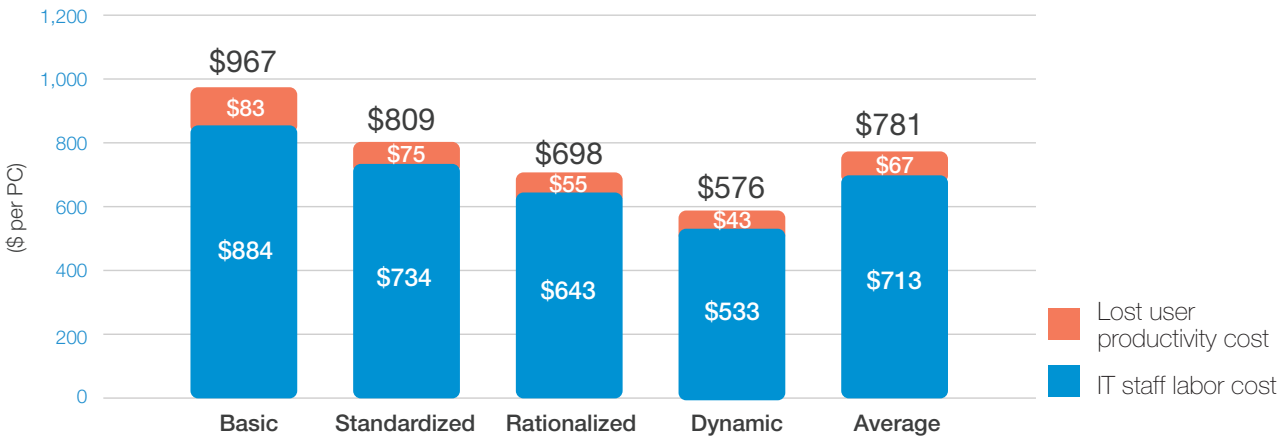
**Average percentage is based on organizational classification across deployment activities.*

Source: IDC, 2017

IDC's research shows that organizations that optimize the execution of more steps related to PC deployment incur much lower deployment costs in terms of IT staff time requirements and productivity losses. These efficiencies tie back to increased use of automation, leveraging centralized processes, and being able to give users effective and secure participation and/or control over more steps in the deployment process. As a result, the PC deployment process for more optimized organizations has fewer staff touch points and is less prone to error, thereby reducing the amount of productive IT staff and employee time required to complete PC deployments.

Figure 1 shows how organizations, as they move from the more manual basic level of maturity to the more automated, process-oriented dynamic level on a weighted basis across deployment activities, reduce the cost of deploying PCs. IDC's research found that a company at the basic level incurs an average cost of $967 per PC in IT staff time costs and lost user productivity costs. By moving to the standardized level, companies reduce that cost to an average of $809 per PC, which then falls further to $698 per PC for the companies in the rationalized group and $576 per PC for the companies in the dynamic group (average across all maturity levels of $781). In total, this represents a 40% lower staff time cost for companies at dynamic level compared with companies at basic level. As evidenced by Figure 1, costs associated with IT staff time constitute most of the overall costs associated with PC deployment at all optimization levels, reflecting the various activities IT staff must carry out to effectively deploy PCs.

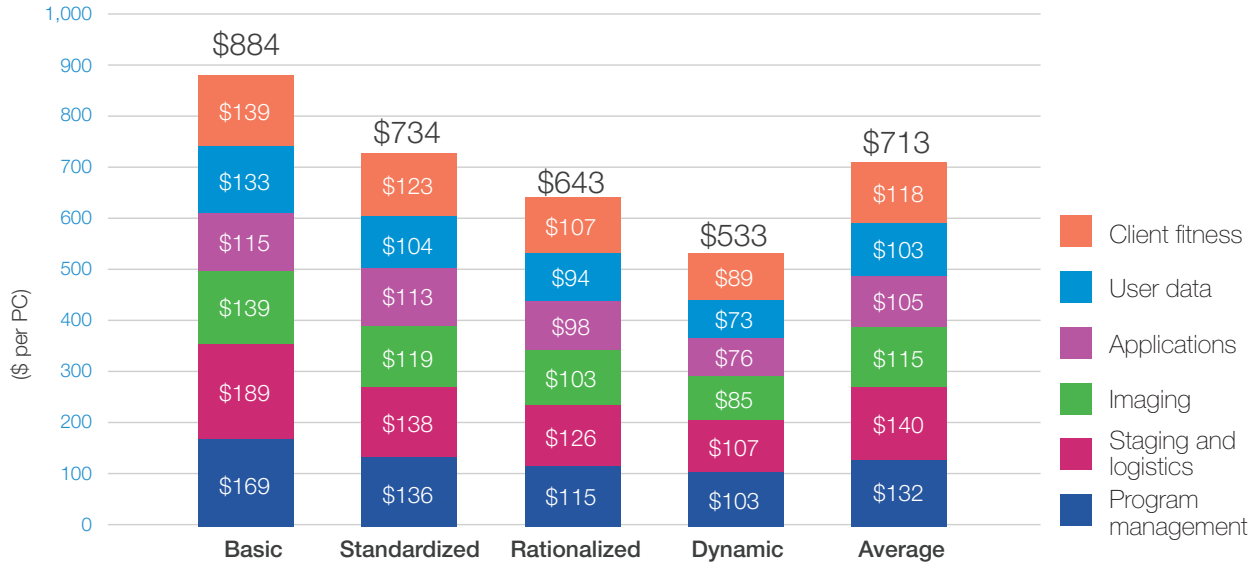
FIGURE 1 PC Deployment Cost by Organizational-Level Optimitation ($ per PC)



Source: IDC, 2017

Figure 2 offers insight into the distribution of IT staff time costs related to PC deployment activities covered in this study by organizational optimization level. It reveals both a relatively even distribution of IT staff time for handling these activities and consistent efficiencies across activities as organizations optimize their PC deployment capabilities, with the staff time cost for companies at the dynamic level coming in at 40% lower than that for companies at the basic level ($533 per PC versus $884 per PC). This underscores the extent to which organizations can take advantage of automation, centralized processes, and greater end-user involvement to minimize the burden of delivering PCs

FIGURE 2 IT staff Cost to Deploy per PC by Organizational-Level Optimization Achieved ($ per PC)



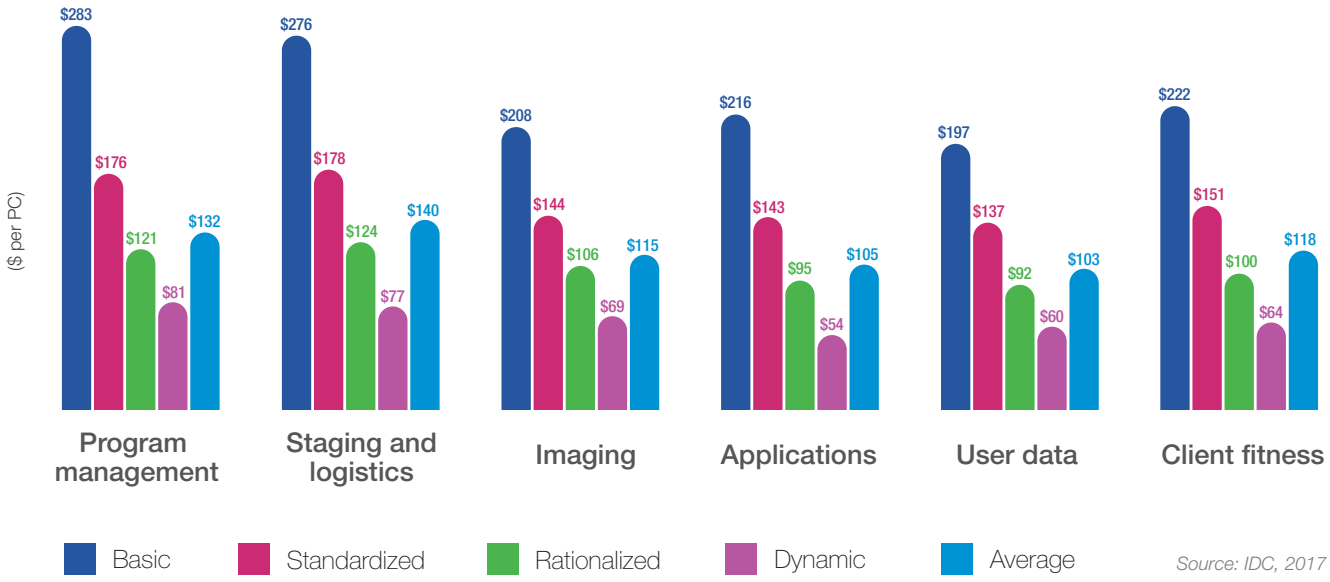
Source: IDC, 2017

Deployment Cost Analysis by Optimization Level for Each Deloyment Activity

IDC also analyzed the impact of increased optimization by deployment activity, (see Figures 3 and 4). This reflects the IT staff costs associated with activities based on the optimization level achieved for each PC deployment activity. As such, this analysis differs from the organizational-level analysis discussed previously (refer back to Figures 1 and 2) because it does not consider overall per company deployment costs for each survey participant.

The per deployment activity analysis demonstrates that organizations achieve even more significant efficiencies as they optimize their processes. Figure 3 shows the extent to which leveraging automation, standardized processes, cloud-based storage, and self-service capabilities can reduce human touch points required for these activities and thus lower IT staff time requirements. In turn, using averages of costs by activity, this reduces the cost of deployment from an average of $234 per PC at the basic level to $68 per PC at the dynamic level. As a result, based on these averages, an organization that has reached the dynamic level for all six deployment activities would have a cost of $405 compared with $1,402 for a company at the basic level in all activities.

FIGURE 3 IT staff Cost to Deploy per PC by Optimiztion Level Achieved per Deployment Activity ($ per PC)



Source: IDC, 2017

Figure 4 shows the relative cost efficiency in terms of IT staff time cost as organizations move from the basic to the dynamic level in each of the measured deployment activities. More advanced deployment practices have a noticeable impact across all activities tracked for this study, with organizations realizing IT staff time cost savings ranging from 75% for application-related activities to 67% for imaging-related activities. This demonstrates the extent to which organizations benefit in these PC deployment activities by taking advantage of automation where possible and leveraging standardized and centralized processes rather than relying on siloed approaches.

FIGURE 4 IT Staff Time Saved by Moving from Basic to Dynamic Optimization Level per Deployment Activity (%)

Source: IDC, 2017

Deployment Cost by Organizational Optimization Level: Segmented Analysis

IDC also investigated PC deployment costs by region and company size. Table 3 shows that the overall trend of significantly lower deployment-related costs for more optimized organizations holds by both region and company size. Relative savings for dynamic companies compared with basic companies by region ranged from 36% for North American to 44% for APAC and by company size from 25% for companies having 100–249 employees to 52% for companies having 250–999 employees. By region, the absolute differences in costs relate back to some extent to North America having the highest average labor costs, while the differences by company size may tie back to the smallest organizations, finding it more challenging to leverage automation and centralized processes to create greater efficiencies.

TABLE 3 PC Deployment Costs by Organizational-Level Optimization Achieved by Region and Company Size

	Region			Company Size			
	North America	EMEA	APAC	100-249 Employees	250-999 Employees	1,000+ Employees	Average
Basic	997	810	680	885	748	1,036	884
Standardized	849	656	527	865	633	686	734
Rationalized	790	543	512	732	609	609	643
Dynamic	642	469	379	667	361	564	533
Average	871	664	565	807	641	720	713
Basic to dynamic (cost difference) (%)	36	42	44	25	52	46	40

Source: IDC, 2017

As shown throughout this document, the more dynamic the deployment solution a company can create, the more efficient the company becomes in delivering PCs to its end users. To that end, Dell EMC solutions can enable customers to become more efficient and effective at delivery of PC assets.

Dell EMC Solutions

Dell EMC has developed the concept of the frictionless user experience, based on trends in what IT leaders are asking for, which include the following:

- Companies expect simplified, global, mobile, and remote deployment of PC assets.
- Companies expect that asset delivery will be flexible and have self-service capabilities.
- Companies want to eliminate end-user disruption during PC deployment.
- The experience of getting a new PC should be fun and exciting for end users.
- Utilizing a partner enables IT staff to stay focused on business improvement, not on mundane IT tasks.
- Companies want increasing internal employees' customer satisfaction with IT by providing the best user experience.

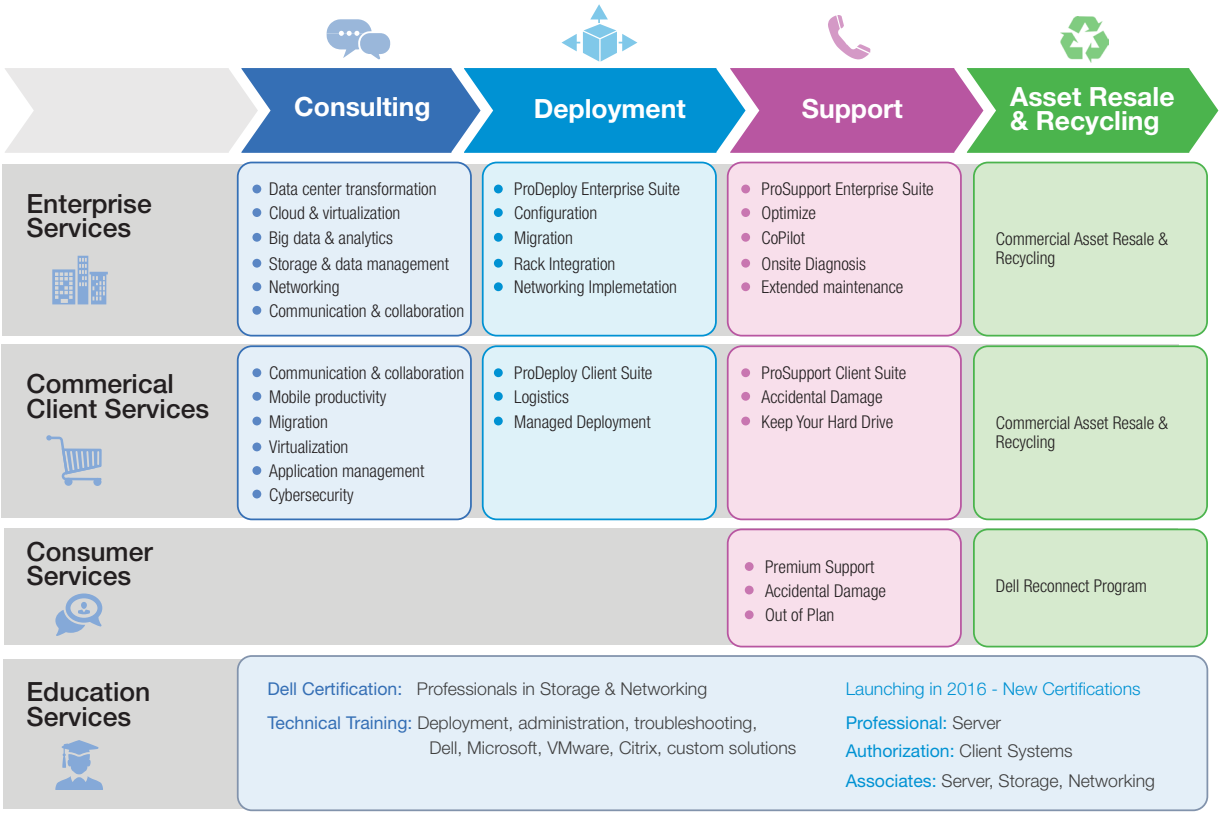
As a result of the efficiencies and costs savings listed throughout this document, it makes business sense to use a provider such as Dell EMC when deploying PCs and other IT assets. IDC believes that third-party deployment services should be used to help enterprises create an easy and cost-effecitive deployment process. Dell EMC's offerings can help enterprises stay focused on the most important business operational tasks and realize a cost-effective deloyment strategy.

Dell EMC offers end-to-end deployment and life-cycle services that are designed to provide optimized deployment and optimization of PC assets. Dell EMC's deployment and life-cycle services are managed by a highly experienced project management office, providing additional support to your enterprises' IT staff.

Figures 5 and 6 show the Dell EMC ProDeploy Suite of products.

Figure 5 shows the life-cycle suite of capabilities Dell EMC has to elevate the company's capabilities from basic to dynamic. Figure 6 illustrates the bundling of these services into three different offerings to allow for choice in the procurement process.

FIGURE 5 Dell EMC Services



Source: Dell EMC, 2017

FIGURE 6 ProDeploy Suite

ProDeploy Client Suite Feature comparison		Basic Deployment	ProDeploy	ProDeploy Plus
Pre-deploy	Single point of contact for project mamagement	●	●	●
	Self service portal for system configuration control and updates	●	●	●
	Deployment Engineer develops implementation plan		●	●
	TAM engagement via ProSupport Plus			●
Deploy	Distribution point SCCM configuration in factory			●
	Load a WIM or Ghost static image	●	●	●
	Change BIOS settings	●	●	●
	Asset Tag to each system	●	●	●
	Standard asset reports	●	●	●
	Onsite Installation of client units available 24x7		●	●
	Project documentation with knowledge transfer		●	●
	User setting & data migrated to new system			●
	Securely wipe data from retiring client system			●
Post-deploy	30 day post-deployment support			●
	Training credits for Dell Education Services			●

Source: Dell EMC, 2017

Dell EMC's deployment services enable businesses to work faster, accurately, and with minimal disruption to the IT staff, making the process easier and less overwhelming. The process of seemingly overwhelming tasks such as data migration, data transfers, imaging, and setting changes can be done quickly and correctly when utilizing Dell EMC's deployment services. IDC believes that the methodology used behind the deployment process proves to be strategic and cost effective for many enterprises.

FUTURE OUTLOOK

New Asset Life-Cycle and Consumption Models

Systems and software will become more aware, and intelligent asset life-cycle management will become more automated and simplified for the users. Enterprises will need to make investments to take advantage of these new abilities, and making the determination, if this is something they should invest in versus outsource, will be a very important question for the business to answer.

Consumption models are changing; recent IDC data shows that companies want to procure devices in an "as a service" manner, with a monthly utility fee that incorporates hardware, software, and services. IDC expects PC as a service (PCaaS) and device as a service (DaaS) to extend this utility model across many regions and into all company sizes and verticals. These service models help reduce the enterprise's exposure and may be more cost effective than owning or leasing the asset. As straight forward as the offering sounds, there are many moving parts that need to be sorted out before an offering of this complexity can be brought to the market. Among the most critical from an IT supplier's perspective are the implications for sales and channel partner compensation as well as the impact on existing maintenance/support/migration service revenue streams. The offering itself is very straight forward: package the system/device with software and services for a fair (predetermined) monthly fee. Dell EMC will be well suited to offer this service because of its robust relationship with ISVs and the ability of the services.

Scenarios

Windows 10 continues to gain in popularity, and companies will need to upgrade systems (PCs) to take advantage of new features and functionality and keep internal employees satisfied with IT. IDC's research shows transitioning to Windows 10 as the number 2 concern for IT professionals — proving that deploying these new assets is a bit more complex than deploying previous versions. Complexity arises in assessing applications for functionality and understanding the new OS and the imaging process. 90% of enterprises surveyed that have already migrated have stated that they are satisfied to very satisfied with the new OS, making this a to-do on many IT's agendas; hence working with a competent partner will be critical.

CHALLENGES/OPPORTUNITIES

Dell EMC faces two challenges with its services offerings. The first challenge is convincing customers of the value: the benefits of the offerings are cost savings resulting from reduced time demands on IT staff, which customers tend to value less than "hard" cost savings. In recent years, companies have taken a broader view of value when considering the benefits of upgrading technology. With millennials in the workforce on the rise and companies looking to provide users with a better IT experience, IDC sees value shifting from not just cost savings but also experience-related benefits. This means that Dell EMC will need to continue to emphasize not only IT resource efficiency but also a better overall PC experience.

Dell EMC's second challenge is continuing to meet and exceed customer expectations. With all services offerings, if customer demand increases dramatically, providers face the risk of not being able to deliver to expectations because of a shortage of resources. Dell EMC has positioned itself well to be able to meet this challenge by automating much of the process. This automation should be valuable if Dell EMC can convince a wide range of customers to adopt its offerings.

CONCLUSION

When deploying assets, organizations face many technical challenges as well as significant costs, many of which are not readily apparent. Enabling companies to upgrade to Windows 10 or other operating systems with less technician time invested and lower costs overall is what Dell EMC wants to accomplish. These services help not only reduce costs but also improve the chances of a successful deployment and ensures that companies make the most of their scarce resources while adopting new systems and capabilities.

This Dell EMC solution is predicated on the idea that having a robust deployment strategy — backed by highly automated processes — can help organizations dramatically reduce their deployment costs. This is exemplified by Dell EMC services through which customers can reduce the amount of time required to successfully deploy new PCs and use less skilled labor to conduct the deployment activity. More specifically, the Dell EMC Optimized Deployment Model can save up to 40% of the costs for deploying PCs using internal resources and potentially more as organizations reach optimization in more steps and activities of the PC deployment process.

METHODOLOGY

The research provided in this document is based on surveys conducted in February and March 2017, with 500 organizations from North America, EMEA, and APAC. Table 4 provides the details regarding the sample's splits in terms of company size, country, region, and industry. Companies were asked for information specific to their deployment of PCs. The research was designed to test Dell EMC's IT optimization model for PC deployment to determine the impact of optimized practices on the cost of deploying PCs.

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

TABLE 4 Study Participant Firmographics

	Quantity
Company Size	
100–249 employees	150
250–999 employees	200
1,000+ employees	150
Total	500
Country	
United States	200
France	50
Germany	50
United Kingdom	50
Australia	50
China	50
India	50
Total	500
Region	
North America	200
EMEA	150
APAC	150
Total	500

TABLE 4 Study Participant Firmographics

	Quantity
Industry	
Banking	35
Broadcast and communication services	20
Construction	21
Consumer and recreational services	8
Discrete manufacturing	34
Education	19
Government	16
Healthcare	24
Insurance	36
Life sciences	12
Oil and gas	11
Other	5
Process manufacturing	34
Professional services	35
Resources industries	13
Retail	42
Securities and investment services	30
Telecommunication services	16
Transportation services	24
Utilities	34
Wholesale	31
Total	500

APPENDIX

IDC's survey with 500 companies covered the PC deployment activities discussed in the sections that follow and asked the survey respondents to choose the best definition for how their companies deliver each of the activities.

Program Management

For program management, survey respondents were asked about whether they used centralized deployment planning or tracking and whether processes surrounding deployment status tracking were more manual or automated in nature.

Staging and Logistics

For staging and logistics, survey respondents were asked about the shipment of PCs to users and warehousing practices.

Imaging

For image loading, survey respondents were asked about when imaging was conducted in the deployment process, as well as the integration of security updates in imaging.

Applications

For application loading, survey respondents were asked about the levels of automation and success of application deployment and updates and the availability of self-service.

User Data

For user-state migration, survey respondents were asked about where user data resides and how it is migrated to new PCs.

Client Fitness

For post-deployment support, survey respondents were asked about their levels of success at maintaining IT standards and their ability to protect devices, data, and identity through integrated and proactive steps.

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