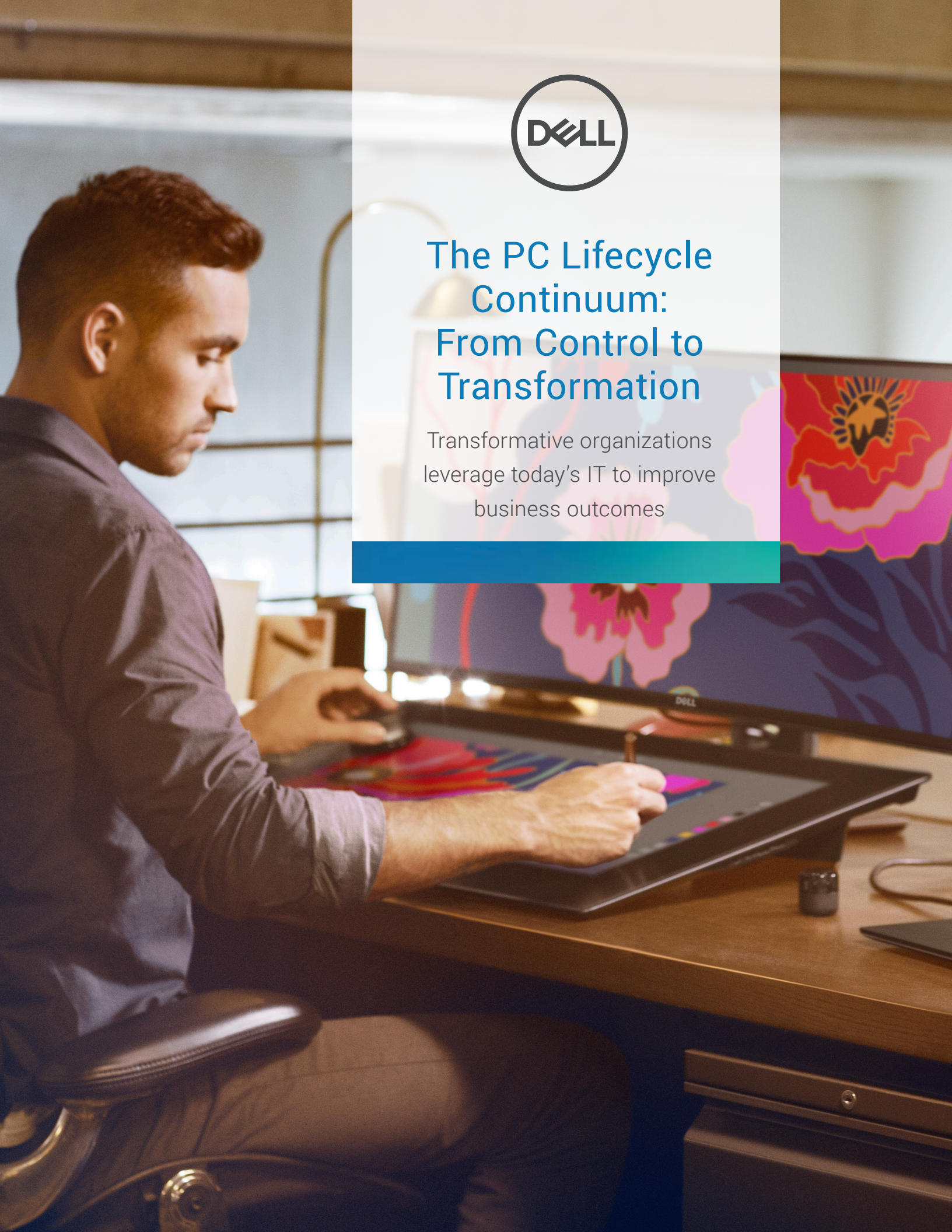


The PC Lifecycle Continuum: From Control to Transformation

Transformative organizations leverage today's IT to improve business outcomes

As diverse organizations seek to implement data-driven strategies, the personal computer in all its varieties remains the key workforce productivity tool. IT leaders must guide PC management across the entire PC lifecycle to enable users to work most effectively.

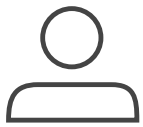
Today, IT leaders address the PC lifecycle across a continuum from control to transformation. Control is geared to optimization, while transformation focuses on the business impact of technology. Although different, the two approaches are not in opposition. According to the recent Forrester Consulting study, "Digital Transformers Innovate, Digital Controllers Optimize,"[1] both approaches strive for the same goals and face similar challenges.

To briefly summarize the findings from the paper, Control and Transformation are defined as follows:

- **Control.** Managers focusing on control pay close attention to efficiency, economy and security. As a result, they tend to standardize on a few PC configurations for their entire workforce. This approach simplifies deployment and management, and is usually carried out in a top-down manner. The result is usually conservation of budget outlays, which can maintain profitability and provide the fiscal flexibility needed to fund strategic initiatives.

- **Transformation**. Managers who seek to enable transformation place a premium on employees' ability not only to work productively, but also to innovate. They focus on individual users' needs, allowing them to express technology preferences. Then they match equipment and configuration to users' unique work tasks and needs, deploying advanced and emerging technologies to improve business outcomes.

Control is geared to optimization; transformation focuses on business impact.



When IT leaders stand in users' shoes, they learn what users need to do their work.

Meeting organizational needs across the PC lifecycle

Whether their PC lifecycle focus is primarily control or transformation, IT leaders must address four key organizational needs:

Systems Management – Because an organization's needs change often, IT needs scalable solutions to deploy, manage and support end-user devices across the organization. Management tools must be able to handle multiple device types and configurations, and they should streamline tasks so that managers are not consumed by day-to-day operations but can focus on the strategic use of the technology.

End-User Productivity – By placing themselves in the shoes of their users, IT leaders can understand what the users need to get their

1. "Digital Transformers Innovate, Digital Controllers Optimize," Forrester Consulting, February 2018.

jobs done. Enlightened IT leaders understand their responsibility is to tailor technology to different users' needs. For example, engineers and creative professionals often need powerful workstations, rather than business laptops, to run data-intensive, high-performance design and simulation applications.

Business Innovation – Advanced technology can be a powerful innovation enabler. For example, Internet of Things (IoT) and Artificial Intelligence (AI)/Machine Learning can unlock the innovative capabilities of the workforce's most demanding users, enabling them to achieve better outcomes both for the business and its customers.

Data-Centric Security – Data security is critical for all companies, but poor implementation of security technologies can hinder user productivity. For PC users, it is essential to secure data in motion and in use with data-centric encryption, digital rights management and advanced threat protection. The implementation should be seamless to users and should not impede their ability to access data, particularly from mobile devices, as needed.

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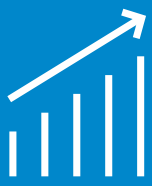


Dell IoT and AI/machine learning solutions

IoT – The Internet of Things is creating game-changing opportunities for businesses. Examples include the use of big data in the form of IoT sensor information to uncover predictive analytics insights ranging from consumer purchasing trends to factory floor optimization, to the **development of innovative product designs.**

The task of IT leaders is to build the infrastructure to enable the use of IoT data across the organization. Dell and Intel have partnered to create Dell IoT Labs to enable customers to explore, test and deploy IoT solutions and devices. A key IoT infrastructure component is the **Dell Edge Gateway 5000 Series,** which aggregates, secures and relays data from diverse sensors and equipment. The Intel® Atom™ processor provides capacity to perform analytics at the network edge, so only meaningful information is sent to the next tier, which could be another gateway, the data center or the cloud. The result is economical use of network bandwidth and reduced overall latency.

AI/Machine Learning – Artificial Intelligence and Machine Learning applications are taking hold in a broad range of industries, including healthcare, energy, agriculture, finance and manufacturing. AI/Machine Learning applications enable machines to acquire knowledge by studying patterns and recommending actions. Because the needs of companies in these industries vary widely, Dell works with partners across industries to deliver workstation configurations optimized for each. **Dell Precision Workforce Solutions** are powerful workstations that are ready for the most advanced AI, Machine Learning and cognitive applications.

Moving from control to transformation: Knowing when and how

Control is the baseline of PC lifecycle management. However, as organizations establish and prioritize business needs and outcomes, they will benefit from transitioning to a transformative approach to the PC lifecycle.

A control-based approach delivers many benefits. For example, systems management is inherently simpler because PC configurations tend to be standardized. However, overemphasis on control can lead employees to circumvent IT procedures, particularly when it comes to data-centric security. According to Forrester Consulting, poorly designed security controls can be intrusive and impede the productivity of the workers they are intended to protect. A **Forrester Consulting study** found that half (50%) of information workers say security restrictions and policies make them less productive, and 41% say they sometimes go around a company's security policies.[2]

The tendency of employees to do things on their own, known as rogue IT, leads them to make their own purchases of end-user equipment and services. When this happens, the benefits of control, particularly with regard to systems management, are unrealized and aggregate spending on user equipment is likely to increase (although the costs may not immediately show up on IT's budget). By listening closely to users and focusing on business results, IT leaders can pre-empt this behavior.

The maturation of PC lifecycle strategy from control to transformation should not take place in a vacuum. IT decision makers, functional buyers (business-focused non-IT buyers) and users should take a collaborative approach to technology acquisition, rather than engage in a battle of interests. Functional buyers in particular are a valuable source of information as to the needs of corporate users. According to a recent Forrester Consulting survey, 75% of functional buyers consider psychological factors among employees, particularly the amount of work required to use a device and the employees' perception of it. Overall, the survey found that functional buyers focus on a device's ease of use, adaptability and possible technology problems, along with its potential to boost productivity.[4] It follows that by listening to functional buyers, IT decision makers can better understand the tools that will be of greatest benefit to users.

IT leaders who focus on digital control get input from functional leaders, but they generally retain decision-making power. IT leaders

Dell security

Dell Data Guardian – **protects, controls and monitors data wherever it goes**. Secure data in-motion and in-use with encryption and Enterprise Digital Rights Management (EDRM).

Dell Endpoint Security Suite Enterprise – **integrated suite combining data-centric encryption and revolutionary advanced threat prevention** that proactively stops an overall 99.69% of malware.[3]

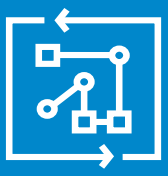
2. "Evolving Security To Accommodate The Modern Worker," Forrester Consulting, October 2017.
3. Results from Cylance Unbelievable Demo tour, Austin, Houston and Dallas, Texas, May 2015.
4. "The Shifting Face of Technology Buyers," Forrester Consulting, January 2017.

who focus on transformation tend to focus to a greater degree on collaboration, working with cross-functional project teams that embrace new technologies.

Placing users' needs first will deliver many benefits to the organization. End-user productivity will tend to increase, which will in turn increase employee retention. According to Forrester Consulting, technology purchases by digital transformers (55%) are more likely to improve employee retention than are purchases made by digital controllers (49%).[5] Employees are likely to feel valued and productive – and less likely to leave – when IT manages the PC lifecycle in a way that enables users to be productive and increase business innovation.

The refresh cycle: A transformational opportunity

Most organizations refresh their PC hardware on a regular schedule. When the time comes to refresh end-user equipment, IT leaders should seize the occasion to take stock of employees' needs and evaluate whether employees have the tools they need to achieve maximum end-user productivity and business innovation. The question might be asked, should a certain user get an incremental upgrade to a given system, or should the user get an entirely new system with advanced capabilities? These capabilities might include a high-resolution display when visualization is critical, 2-in-1 (laptop and tablet) capability when using a device on-the-go, a pen when quick annotation is needed, or even augmented



Transformational technologies take many shapes

There are many facets to a transformational approach to PC lifecycle management. When focusing on the business outcomes of technology decisions, IT leaders should weigh the workforce productivity and innovation that are enabled by advanced technologies. Here are a few examples:

Dell dual-monitor solutions – The most innovative workers often use multiple applications simultaneously. **Research shows that users are 18% more productive[6] with dual monitors rather than a single monitor.** A dual-monitor configuration enables users to view more information and move easily between applications without being hampered by screen clutter or excessive horizontal scrolling.

Dell Latitude 2-in-1 devices – By gaining the performance of a laptop and the versatility of a tablet, select users (based on usage profile) increase their productivity by 13% when using **2-in-1 devices**[7] compared to when using only a laptop.

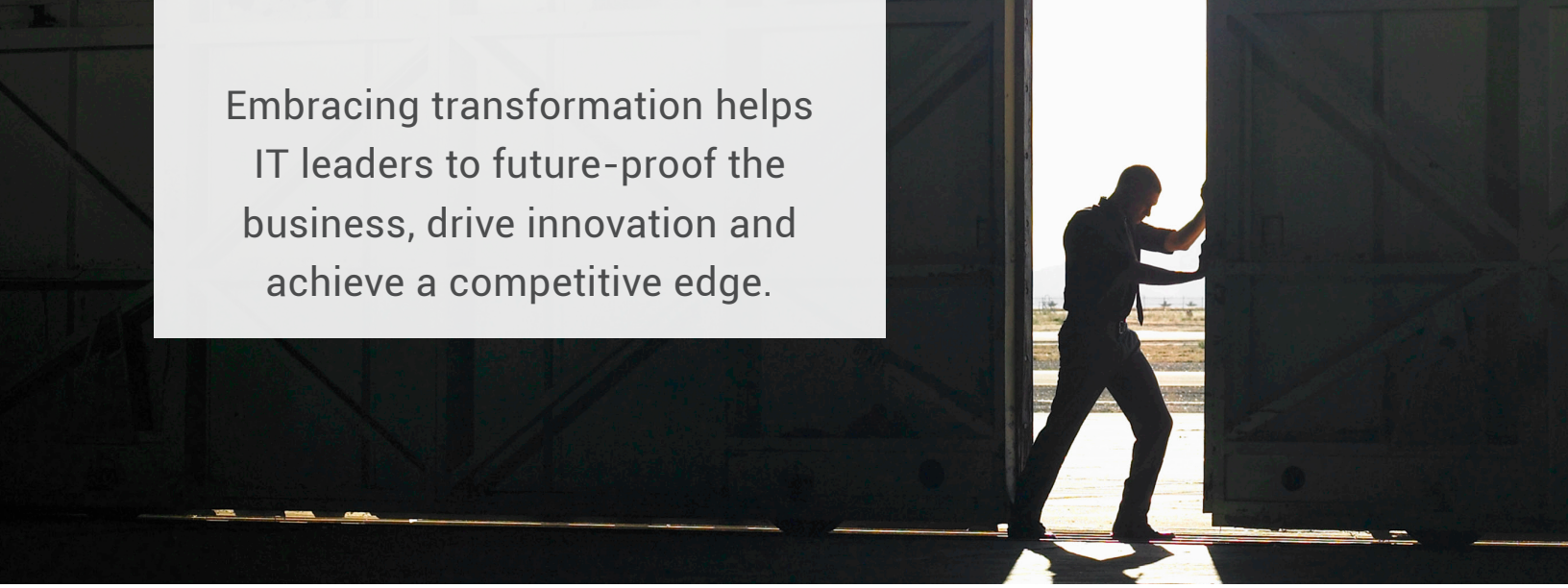
Dell Latitude Rugged Laptops – Field workers can be anywhere, at any time, and are often in locations where impacts, vibrations, or extremes in temperature and weather occur. **Latitude Rugged devices** are sealed from sand, dust and liquids, and meet military standards.

Dell medical-grade displays – Healthcare environments place unique demands on display equipment. Dell Medical Review monitors are created to handle DICOM-ready images for precise clinical review with consistent brightness and precise colors. They are also easily adjustable by medical personnel and can be cleaned with disinfecting agents.

Dell Client Command Suite – Managing client systems across the enterprise requires a number of tools that span such tasks as remote monitoring, configuration, deployment, updating, power management and integration with Microsoft System Center.

VMware Workspace ONE – To enable mobility across the enterprise, Workspace ONE is an endpoint management platform that provides identity management and application delivery so that users can access any application from any device from the cloud.

5. "Digital Transformers Innovate, Digital Controllers Optimize," Forrester Consulting, February 2018.
6. "Improving Employee Productivity with Dual Monitors," IDC InfoBrief, November 2015.
7. "Standing Position Productivity Study," Optimize User-Centric Research Group, September 2017.



Embracing transformation helps IT leaders to future-proof the business, drive innovation and achieve a competitive edge.

reality/virtual reality (AR/VR) for on-the-job training. The answer to that question might be discovered as IT leaders consider the roles of new technologies, such as IoT and AI/Machine Learning, and whether the user's PC can handle the demands of these new technologies.

Will a one-size-fits-all system refresh hamper innovation? Will more powerful tools increase end-user productivity, enabling employees to generate new products and services that deliver higher revenue or competitive advantage? As they weigh their choices, IT leaders should focus on the impact that happy employees have on business outcomes. "If you can help employees improve their own work performance through technology, they'll be happier," according to a recent Forrester Research report. And, the report found, companies with happier employees have 81% higher customer satisfaction and half the employee turnover compared with other firms.[8]

81%

Companies with happier employees have higher customer satisfaction and half the employee turnover compared with other firms

The benefits of embracing a transformational approach can be far-reaching. Doing so puts IT leaders in a position to future-proof their business, drive innovation and achieve a competitive edge. A partner that understands an organization's business goals and provides PC lifecycle services across a broad scale – from basic assistance with deployment and support to complete enterprise solutions like PC-as-a-Service (PCaaS) – can enable a transformational approach to the PC lifecycle while minimizing management tasks and keeping costs under control.

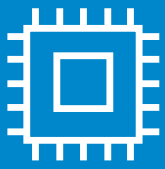
8. "Elevate Human Performance with Workforce Enablement," David K. Johnson et al., Forrester Research, May 2, 2016.

Conclusion

As IT leaders provide their workforce with the tools to carry out the corporate mission, they should develop a PC lifecycle strategy that encompasses the key organizational needs of systems management, end-user productivity, business innovation and data-centric security. They should also gain a full understanding of the PC lifecycle continuum, from the basics of control to the advanced levels of transformation, and where the needs of their own organization appear on that spectrum.

A control-based approach to the PC lifecycle that focuses on optimization is important for many organizations. However, when maximum business impact of technology is desired, transformation should become the goal of PC lifecycle management and should be considered for implementation on the established refresh schedule. A partner that understands and fulfills an organization's needs for both control and transformation will help IT leaders achieve their goals across the PC lifecycle continuum. Further, a partner that has a clear vision of digital transformation and how to achieve it will be able to guide an organization on the journey from control to transformation – and to the ultimate goal of becoming a digital business.

For more information, please click DellEMC.com/PCLifecycle



PC as a Service (PCaaS) fuels transition from control to transformation

By taking over the mundane and repetitive tasks of PC deployment and support, a PCaaS provider such as Dell can enable IT leaders to meet their control requirements while elevating their focus to transformation. A combination of hardware, software, lifecycle services and financing, **Dell PCaaS** meets the needs of users for productivity and innovation, but also fulfills IT's needs for security and management.

In one all-encompassing solution, Dell PCaaS provides a single, predictable price per seat per month. Dell Financial Services offers flexible financing and upgrade options. And to streamline the relationship, Dell assigns a Services Delivery Manager to be a single point of contact throughout the entire PC lifecycle.

By moving to Dell PCaaS, organizations will benefit from both predictability to assist budgeting and flexibility to serve users according to their different technology needs.