Today, the IT industry is abuzz with discussion of digital transformation. There are nearly as many definitions of digital transformation as there are firms looking to profit from the trend. Techaisle views digital transformation as the use and integration of organization-wide digital business processes, including modernization of current processes & supporting infrastructure to achieve previously unattainable or unimaginable business outcomes.
Digital Transformation for midmarket organizational success

Today, the IT industry is abuzz with discussion of digital transformation. There are nearly as many definitions of digital transformation as there are firms looking to profit from the trend. Techaisle defines digital transformation as integrating digitalized processes to achieve enterprise-wide automation spanning multiple functions - including modernization of current processes and supporting infrastructure - to achieve previously unattainable or unimaginable business outcomes. Today’s midmarket firms are expected to more with less, quicker and across geographies. But this virtual world is built with advanced physical products, from client devices to networking and servers. The vision of digital transformation described may seem ambitious, and even daunting: it requires a journey.

The aphorism attributed to Chinese philosopher Laoze, “a journey of a thousand miles begins with a single step,” is often used to encourage launch of this type of complex initiative. But the rebuttal of data scientist Randal Olsen – “Really, that’s not true. Every major journey begins with a plan”.

What is the midmarket map to a productive environment?

Many of the most powerful and compelling technologies in today’s business world seem almost magical in their abstraction from the physical world that we work in every day. If one is looking for information on technology, one finds cloud computing everywhere. For example, moving business to the cloud is a prevailing trend. In the process of evaluating cloud providers—or deciding between private, public, or hybrid cloud—decision makers can miss compelling on-premises solutions. Infrastructure solutions continue to evolve and address important business requirements. Many widely-touted cloud benefits—such as increased IT efficiency—build on underlying efficiencies of modern delivery platforms that are optimized and highly virtualized. Businesses that deploy their own virtualized modern gear internally can attain “cloud-level” benefits. Efficiency is a reflection of the compute platform.

A recent Techaisle global midmarket survey of 2075 firms revealed that although midmarket firms are currently investigating and investing in emerging technologies (left-side of the Figure 1), there is a deep-rooted belief and
position to continually invest in core modern infrastructure solutions (right-side of the Figure 1) to support these emerging technologies

Figure 1. Investments in business-critical physical infrastructure

Deployment of emerging technologies requires underlying business critical physical infrastructure

<table>
<thead>
<tr>
<th>Technology</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data Analytics</td>
<td>97%</td>
</tr>
<tr>
<td>Cloud</td>
<td>100%</td>
</tr>
<tr>
<td>Mobility</td>
<td>100%</td>
</tr>
<tr>
<td>Collaboration</td>
<td>100%</td>
</tr>
<tr>
<td>Unified Workspace</td>
<td>83%</td>
</tr>
<tr>
<td>Internet of Things</td>
<td>76%</td>
</tr>
<tr>
<td>Augmented Reality</td>
<td>34%</td>
</tr>
<tr>
<td>Artificial Intelligence</td>
<td>18%</td>
</tr>
<tr>
<td>100% PCs</td>
<td></td>
</tr>
<tr>
<td>100% Servers &amp; Storage</td>
<td></td>
</tr>
<tr>
<td>100% Networking</td>
<td></td>
</tr>
<tr>
<td>70% Converged infrastructure</td>
<td></td>
</tr>
<tr>
<td>80% Desktop Virtualization</td>
<td></td>
</tr>
<tr>
<td>100% Security</td>
<td></td>
</tr>
</tbody>
</table>

Percentages indicate midmarket firms currently using + planning to use

Source: Techaisle global survey of 2075 midmarket (100-499 employees) businesses

Core infrastructure: the physical roots of digital transformation

But what does it mean to invest in IT capabilities?

The answer depends on transformation readiness. For example, for some midmarket firms, digital transformation might start with the automation of critical business processes. A smart strategy will identify specific investments in IT solutions—such as a secure and scalable server and storage solution; integrated business-process-management, virtual-machine, and cloud-connected software; or high-performance, network-safe PCs - that support the business’ first step toward transformation. Other midmarket firms are poised for employee growth and look to digital transformation to help reduce operational costs. Rather than adding to the array of connected legacy systems, for instance, these businesses can leverage the latest energy-efficient, cloud-ready client solutions to enable their mobile and remote workforces—but won’t necessarily need to invest in private or hybrid cloud technologies, yet.

The roadmap to successful digital transformation begins with the creation of a sound physical infrastructure - the ‘building blocks’ or ‘foundations’ of business infrastructure. Digital transformation doesn’t start with a ‘set it and forget it’ approach to the core – it is organic, with evolution happening at
all levels of the business infrastructure. Core infrastructure devices need to be kept in sync with the requirements of digital transformation initiatives; servers and storage and networking and security need to advance with the needs of the organization.

*In the Techaisle survey of midmarket firms, data revealed that there is a difference in approach to investing in core infrastructure solutions between firms adopting organization-wide holistic digital transformation strategy vs. those with a siloed and sporadic approach.*

Figure 2. Difference in approaches – Holistic digital transformation midmarket firms are investing in core

**Midmarket firms:** Investment in core infrastructure solutions
Holistic vs. Siloed approach to digital transformation

<table>
<thead>
<tr>
<th></th>
<th>Holistic</th>
<th>Siloed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Virtualization</td>
<td>80%</td>
<td>69%</td>
</tr>
<tr>
<td>IoT</td>
<td>50%</td>
<td>31%</td>
</tr>
<tr>
<td>VDI</td>
<td>48%</td>
<td>31%</td>
</tr>
<tr>
<td>CI/HCI</td>
<td>45%</td>
<td>28%</td>
</tr>
<tr>
<td>SDN</td>
<td>41%</td>
<td>19%</td>
</tr>
</tbody>
</table>

*Source: Techaisle global survey of 2075 midmarket (100-499 employees) businesses*

Three of the most talked-about infrastructure solutions are converged infrastructure, hyper-converged infrastructure (HCI) and software-defined infrastructure. Cloud is the connective tissue but the survey
also shows that 52% of midmarket businesses connect internal systems with external clouds today. Those internal systems are increasingly migrating to converged infrastructure, as midmarket firms look for the best platforms to support virtualization, data center consolidation and private cloud initiatives. And software-defined is on the radar of many midmarket businesses as they look to increase the agility of their core platforms.

Each of these three solutions is quite different at a technical level and a comparison of reasons for deployment – such as that provided in Figure 3 – provides a fascinating perspective on advanced infrastructure technologies. It becomes obvious as to why and how they appeal to the IT and business managers for achieving organizational success.

Looking at the chart above there are a few themes that are common across these next-generation approaches:

- **Cost management**: “reduced cost and complexity” is the second-most important reason for using software-defined infrastructure, and it is the most important reason for use of converged infrastructure and hyperconverged infrastructure. In all cases, midmarket businesses believe that
up-front investment in advanced core infrastructure solutions will ultimately reduce the cost of IT service delivery and set it up for organizational success.

- **Scalability**: According to midmarket businesses surveyed by Techaisle, scalability is the single greatest advantage gained from software-defined infrastructure. Firms investing in converged infrastructure cite “efficient provision of resources” and “faster delivery of additional resources” as key scalability advantages. In all three cases, evidence shows that midmarket firms anticipate increasing requirement for IT resources and are looking for ways to scale-out resources to meet demand.

- **Security**: Midmarket firms see security as the second-most important benefit of converged infrastructure – likely because converged platforms support private clouds, which can be wrapped inside existing security policies and ‘shields.’ Organizations pursuing software-defined and/or seamless cloud connection strategies also emphasize the importance of cloud.

### Forward-facing digital transformation solutions

Clearly, core infrastructure has evolved to meet future digital transformation demands. How are midmarket organizations defining the benefits and impediments to the forward-facing solutions, like analytics, IoT, Artificial Intelligence and AR/VR?

There is a general sense that these advanced solutions will increase insight into and control over key aspects of the operation, and deliver these benefits in different ways, and to different ends (for example, safety and compliance in IoT, process and productivity improvement in analytics).

The key message from the infrastructure analysis is that there are various (and potentially complementary) paths to the single objective of building a capable and responsive IT service delivery platform, but the message changes at solution level: once a scalable, secure and cost-effective infrastructure platform is in place, it will be expected to support a range of digital transformation objectives through deployment of different, complex solutions.

### What is driving digital transformation within midmarket firms
Techaisle midmarket survey shows that digital transformation is a priority for 41% of midmarket firms & technology is an important part of the strategy

Techaisle survey data shows why digital transformation is so prominent in executive-oriented IT discussions within midmarket firms. For 41% of midmarket firms, digital transformation is a priority because it supports each of five critical corporate priorities.

1. **66%** see digital transformation as contributing to operational efficiency – streamlining processes within the business
2. **46%** believe that digital transformation contributes to employee empowerment, which is in turn viewed as important to productivity and to attracting and retaining millennial employees
3. **42%** say that digital transformation accelerates business agility
4. **35%** connect digital transformation with product innovation, positioning it as a means supporting innovation and improving output quality
5. **34%** view digital transformation as a key to developing customer intimacy, enhancing relationships with existing and new customers

Figure 4. Midmarket Digital Transformation drivers

Source: Techaisle global survey of 2075 midmarket (100-499 employees) businesses
It is clear that midmarket businesses at all levels of digital transformation adoption have common business issues. What separates the holistic with the siloed adopters are their varying focuses on key goals and infrastructure solutions. The most advanced and transformative midmarket firms are looking to improve IT sustainability – their ability to effectively manage IT delivery into the future – customer service, and IT’s speed and agility (which in context, translates directly into the speed and agility of business operations). And they are seeing better business outcomes than those which are not fully committed to the core physical infrastructure modernization. Survey data further shows that midmarket firms that are taking an enterprise-wide view of digital transformation built on core infrastructure solutions are experiencing better business outcomes.

**Holistic digital transformation adopters that are investing and modernizing their core physical infrastructure are experiencing better business outcomes**

Figure 5. Holistic digital transformation adopters are experiencing better business outcomes

*Source: Techaisle global survey of 2075 midmarket (100-499 employees) businesses*
Enabling the digital transformation technology stack

But where is the ‘glue’ in this system – the points at which the capabilities of core infrastructure connect to the promised benefits of digital transformation solutions? Let us take an example. Techaisle’s research finds that mobility with security is one of the key technology priorities for midmarket businesses. Survey data on the key factors that shape mobility solution selection criteria shows how mobility is the ‘glue’ that allows users to access sophisticated core infrastructure and drive digital transformation business initiatives, specifically, employee empowerment and customer intimacy:

- **Data security** is by far the most important factor in selecting a mobility solution; in fact, network and data security are also the top two inhibitors to enabling the mobile workforce. Midmarket firms need to know that users and data are protected, wherever they work.

- **Manageability** and **interoperability with other applications** are the second and third most important mobility solution selection criteria for midmarket businesses. Midmarket businesses typically have relatively small IT workforces, and expansive IT/digital transformation goals. In this environment, it’s essential that mobility solutions work seamlessly and without a great deal of hands-on management.

- **Support for location-based services** is the fifth (after Customer support) most important factor in midmarket firms’ evaluation of mobility solutions. Most companies don’t make extensive use of location-based services today, but this capability will be increasingly important in the IoT future. The inclusion of location-based services in the list of most important mobility evaluation criteria shows that midmarket firms are looking to deploy mobility solutions that are capable of handling current requirements and scaling to meet future needs.
Connecting today’s midmarket priorities with future needs

There is no simple way of building a comprehensive view of future IT requirements; that isn’t ‘like’ forecasting the future of business, it is forecasting the future! And that future requires – at both a business and technology level – a connection between back-end infrastructure, applications and collaboration technologies and client devices managed through an effective strategy, to obtain superior returns from interactions with customers and prospects, employees, shareholders and partners, and the market as a whole.
Personas and planning

It is unrealistic to expect that a top-down strategy will identify and connect requirements in all of the areas shown in Figure 7. As is often the case, though, there are frameworks that can help midmarket firms identify the issues and objectives that will be most important in your business context. Listed below are six ‘ personas,’ and some of the technologies that will be important to their success. If any of these profiles describes an important user population in your environment, you may want to orient your
infrastructure strategies towards deployment and support of the technologies that are most important to that group’s productivity and success.

Desk-centric workers

Firms that have a lot of desk-centric workers – staff that use desktop PCs for four or more hours per day – are likely reliant on a set of core internal applications. These firms will likely move towards connected applications and connected workspace solutions. Techaisle research has shown that just over half of businesses are interested in development of connected workspaces, in which office suites interact seamlessly with cloud-based applications and various communications technologies.

- Implications: Firms with desk-centric workers will need to address core technologies – client, connectivity (especially LAN) and infrastructure (including advanced on-premise and cloud-connected systems) to prepare for connected solutions that enhance productivity and reduce business process costs.

Corridor warriors

Do you often see colleagues moving from space to space within your office, connecting with customers, projectors, conferencing units and each other in a fluid stream of interactions? If so, you are in an environment where the “corridor warrior” shapes both culture and IT demand. Core infrastructure (especially client and connectivity) will need to support connected collaboration – an interwork platform approach that emphasizes the capacity for seamless person-to-person and person-to-technology connections.

IT staff who are successful in developing connected collaboration will likely get little credit for their success: there’s a sense in which connected collaboration should be transparent, a ubiquitous capability that supports users without their needing to understand the complexity of the access systems they rely on. There is likely to be some recognition of the platform later in the digital transformation journey, though, as new technologies are connected to existing systems through the underlying collaboration mesh.

- Implications: Firms that include – or as may be the case, are driven by – corridor warriors need to invest in capable core technologies at the client and access levels, and couple these with rich collaboration infrastructure that is capable of scaling with accelerating digital transformation requirements.

Remote workers

Remote workers are, statistically, the norm in business: research sponsored by Dell and Intel found that over half of the global workforce is remote for some or all of the work day. Remote work has been shown
to enhance productivity and can help employees to achieve greater work/life balance – but it requires IT to orient security and support strategies to include devices that are rarely (and sometimes never) in the main office.

- **Implications:** Monitoring, supporting and (especially) securing remote users and devices requires IT to deploy technologies that are designed for an extended enterprise. Midmarket IT managers will want to acquire reliable endpoint technologies equipped with systems that support remote troubleshooting and will need to deploy connected security solutions that can manage remote devices and access and which interlock with the systems used to protect core data and applications.

**On-the-go pros**

On-the-go pros are a specific subset of remote workers. Rather than work for a primary location away from the office, on-the-go pros work from wherever they are: in an airport, on a train, in a hotel room, in a coffee shop or lobby. Often, on-the-go pros juggle multiple devices, aligning different form factor attributes with the work at hand. These workers will benefit from connected workspace technologies that allow for resources to be accessed, updated and saved from and to any connected device.

- **Implications:** On-the-go pros place a substantial strain on midmarket IT resources. To successfully support on-the-go pros. As a bonus, many of the technologies that are adopted in support of on-the-go pros will also support IoT environments – meaning that investments made in supporting on-the-go pros today may help IT to deliver support to digital transformation technologies in the future.

**Field workers**

If on-the-go pros are a subset of remote workers, then field workers are a subgroup of both categories. Like remote workers, field workers need to access and provide input to corporate systems from remote locations; like on-the-go pros, these locations vary widely – in fact, a field worker is often found in places where technology needs to accommodate non-traditional environments that may be wet, cold, windy or otherwise inhospitable. In many cases, uploads from field workers come in the form of input to fixed forms and may require a significant level of security but not a great deal of bandwidth; however, these same workers may need access to large files, such as design blueprints or how-to videos, which will rely on a robust and reasonably high-speed connection.

- **Implications:** Midmarket IT departments that need to support field workers will likely invest in ruggedized client devices and some type of reliable wide-area access technology, such as mobile (cellular) data, to ensure that requests and uploads from field staff are supported and prioritized.

**Creatives and Engineers**
At first blush, creatives and engineers wouldn't seem to have much in common: creatives deal in colors and abstract concepts, while engineers deal in numbers and complex physical designs.

At a technology level, though, the two groups have more in common than might be expected. Both make heavy use of rendering, which translates information from vast data files into high-resolution images that can be manipulated by the user to fine tune or extend the core images. And both groups will benefit from future visual technologies, such as AR/VR, which are on the digital transformation roadmap. Engineers and creatives may not spend time at the same parties, but their requirements for powerful systems with advanced graphic capabilities may well look similar from an IT strategy perspective.

- **Implications:** At the core technology level, both creatives and engineers will require sophisticated clients (workstations or very powerful PCs) and high-powered back end servers connected to very fast storage to support image rendering and manipulation. Over time, these groups will need access to digital transformation technologies (AR/VR as mentioned), and also potentially analytics/AI, and to networking technologies that allow their large files to be shared with colleagues and customers.

**Concluding guidance**

Digital transformation promises to reshape the business environment by ushering in new digital capabilities. Our connected world will bring us information from everywhere and allow us to push information and actions out to a vast constellation of endpoints. Analytics and AI will allow us to make sense of unimaginably large data sets, and to deliver new processes, products and services in ways that we could not have imagined event three years ago – in many cases, ways that we can’t imagine today.

As compelling as these work and delivery models are, it’s important to understand that these new options will evolve rather than arrive: they will rely on a capable foundation, and advanced solutions and the technology on which it is built will need to evolve in lockstep with each other, with user and customer demands and in response to competitive pressures. The highly productive, digital future of organizational success is built on a physical IT foundation. Midmarket businesses will need to create roadmaps that align current investments in advanced component technologies with both mid- and long-term visions for digital transformation.
Techaisle is a global SMB IT Market Research and Industry Analyst organization. Techaisle was founded on the premise that Go-to-Market strategies require insightful research, flexible data, and deeper analysis. Understanding the value of data consistency across markets to inform strategic planning, Techaisle has remained holistic in its approach to Insights and provides globally consistent SMB and Channels analysis across geographies. To achieve its objectives Techaisle conducts surveys with SMBs and channels to understand market trends, opportunities, buying behavior, purchase intent, and IT priorities. Besides covering emerging technologies such as SMB cloud computing, managed services, mobility, social media usage, virtualization, business intelligence, big data, collaboration, networking its channel research coverage provides in-depth understanding of resellers and channel partners globally. Techaisle’s insights are built on a strong data-driven foundation and its analysts are conversant with both primary research and industry knowledge, which is a rare combination. Techaisle offers its clients: Syndicated Research, Custom Primary Research, Consulting Engagement, Competitive Intelligence, and Segmentation. For more information, visit www.techaisle.com

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