

Accelerating business transformation with desktop virtualization

Healthcare Sector Advisory



Improving patient outcomes while driving efficiencies in healthcare

There's no definitive "right way" to provide healthcare, but if you work within this sector, you're undoubtedly involved in projects and initiatives that are trying to yield the best possible outcomes for the greatest number of patients by the most efficient means possible. However, modern healthcare is highly complex and highly regulated, which makes it difficult to innovate and change course quickly when outcomes are uncertain. But with a growing and aging population, the drive for improved cost, quality, and delivery of patient care has become an industry imperative. There are many aspects to consider as your organization adapts to change, and in this advisory note we'll focus on just one of them: the digital workspace, the place where clinical, operational, and administrative work gets done.

Speeding up the digital healthcare revolution

Progress is being made in telemedicine, personalized diagnostics and wearable sensors, and mobile apps could transform the way we manage our health in the future too. But today, you're probably looking at your existing IT infrastructure and wondering if it's going to get in the way of the radical change required for these and other initiatives to develop at speed and at scale. Mobile devices have extended the reach and range of many systems used by healthcare professionals and administrative staff, but the familiar Windows desktop environment is still central to many workflows and activities.

Doctors, nurses, and other medical practitioners represent half the workforce in the healthcare sector, and like you, these professionals need to use a variety of devices, tools, and applications to get work done. Efficiency and effectiveness are undoubtedly linked to a variety of working practices and clinical arrangements, but if the desktop computing environment isn't up to scratch, or worse still, unavailable due to something like a ransomware attack, then the patient is likely to feel the impact.

Data is central to the future of healthcare, and the bar is about to be raised by data-savvy cloud-centric players entering the market with big ideas and big pockets. Google, Apple, and Amazon have already transformed the way that consumers interact with the digital world, and healthcare looks to be next. No one wants undue complication or burden when it comes to using information technology, but concerns surrounding cyber-security and the protection of patient data must be taken seriously.

Digital transformation in healthcare revolves around improving focus on patients, but there's usually a catalyst involved. Citizens gaining digital access to their medical records might be one such example. But whatever it is, new and different revenue streams are likely to emerge for those that are prepared and ready for change. The rise of enterprise mobility caught many organizations off-guard and serves as an important reminder that incumbent technologies can quickly become legacy impediments without thoughtful investment.

Virtualized desktops and applications can help healthcare providers adapt and scale

The design goal of a modern computing environment is to provide users with an easy-to-use, secure, and cost-effective desktop experience that can deliver the personalized applications and data they need, on any device they are likely to use, and from any location they happen to be. You're no doubt familiar with traditional desktop virtualization products, but consider the relevance of the following examples of modern desktop virtualization as you think about your organization's challenges:

- ◆ **Computational healthcare:** Using new graphics virtualization technologies, GPUs can be dedicated to virtual Windows desktops, enabling clinicians, radiologists, and other specialists to run workstation-grade visualization and computational applications on-demand, on any device.
- ◆ **Access systems from anywhere:** Multifactor authentication, resource authorization policies, and connection authorization policies control access to resources and sensitive patient data located within your business and clinical environments, enhancing security, compliance, and mobility.
- ◆ **Pre-configured, pre-integrated and pre-tested:** Vendors and system integrators are taking the pain away from deploying the servers, storage, network connectivity, and software required for on-premise desktop virtualization initiatives. And when cloud services make sense, modern remote desktop infrastructure is available here too, including Desktop-as-a-Service (DaaS).

Server session-based desktops continue to offer the most cost-effective route to a fully managed Windows PC, but with Windows Server 2016, Remote Desktop Services can also be configured to provide personal and pooled virtual desktops, or a combination of the two. Within these virtualization environments, IT admins can give employees access

to a fully-managed, modern desktop experience, complete with applications and productivity tools. Alternatively, users can access specific applications that are hosted/run on a virtualized system but appear as if they're running on their desktop like local applications. By combining these approaches, you can develop more adaptive, more creative working environments that are optimized for specific roles, locations, activities, and threat profiles.

Modern desktop virtualization solutions bring new benefits to the healthcare sector

Desktop virtualization isn't the first technology that people think of when they consider information security and data privacy, yet that's exactly how some industries use it. Server session-based desktops are a familiar site in many hospitals, clinics, and medical centers, but personal and pooled virtual desktops aren't as common. This is probably because the additional costs associated with virtual desktop infrastructure (VDI) were high when the technology was first introduced. However, it's worth looking at the current crop of vendor offerings, as prices have come down and functionality has increased, making VDI highly flexible, very secure, and eminently affordable.

Community-based general practice is the mainstay of healthcare, so it makes sense to push clinical and digital resources out to the edge where feasible and affordable. Fast internet connections can never be assumed, especially in rural areas, but connectivity usually flows to where the population is. With 5G right around the corner, and private/public cloud services maturing rapidly, secure online consultations and remote procedures could be common place in the next five years. However, centralized provision, management, and support are required to scale IT effectively, and this, of course, is the very essence of desktop virtualization. With these and other thoughts in mind, how might the matrix below look for your own business?

Modern Desktop Virtualization Benefits and Opportunities	Productivity and Business Continuity	Governance, Risk and Compliance	IT Efficiency & Efficacy	Digital Transformation Opportunity
Nursing Director, Chief Medical Officer, Healthcare Manager, Site Manager	✓	✓	✓	✓
GP Practice Manager, Patient Services Manager, Clinic Manager	✓	✓	✓	✓
Medical Advisor, GP, Radiologist, Surgeon, Consultant	✓	✓	✓	✓
Nurse Manager, District Nurse, Ward Manager, Practice Nurse	✓	✓	✓	✓
Medical Assistant, Services Administrator, Operations Assistant	✓	✓	✓	✓
Nursing Auxiliaries, Ambulance Crew, Care Workers, Home Carers	✓	✓	✓	✓

The bigger the tick, the more positive the impact

Implementation considerations

Digital transformation initiatives can be accelerated when business and IT leaders co-create solutions with experts in the field. System integrators and technology providers have already developed a range of offerings that span every aspect of desktop delivery strategy, from initial assessment right the way through to Desktop-as-a-Service (DaaS). However, there's plenty of scope for the healthcare sector to add its own layer of business value. Desktop virtualization isn't a panacea, but we think that delivering the flexibility required by a modern digital workspace is likely to be a lot harder without it.

Further Reading

The full paper 'Desktop virtualization as an accelerator of digital transformation: Fast-track creation of a modern digital workspace' can be downloaded from the Freeform Dynamics website [here](#).

About Freeform Dynamics

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Fujitsu provides desktop virtualization solutions based on best-in-class virtualization technologies, proven infrastructure products, and end-to-end lifecycle services from a single source. Customers benefit from rapid implementation and reduced risk resulting from Fujitsu's extensive project experience. Especially for VDI, several integrated Fujitsu systems give customers the choice of making a fast and easy move to virtual workspaces according to specific business needs, including applications and digital workspaces delivered as a service from the Fujitsu Cloud.

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