

# White Paper

## End User Computing for Healthcare Sector

---



## Contents

<b>1 Introduction</b>	<b>3</b>
1.1 The Tipping Point: Desktop as a Service	3
1.2 Fujitsu's Solution	4
1.3 Benefits for Healthcare	4
<b>2 Enhanced Healthcare Services</b>	<b>5</b>
2.1 The Mobile Workforce	5
2.2 Fast and Secure Access	6
2.3 Graphics Intensive and Public Cloud Options	7
2.4 Unified Communications and Virtual Care	7
2.5 Shared Services	7
2.6 Working through a Disaster	8
2.7 Benefits of GoDaaS	8
<b>3 Improved User Experience</b>	<b>9</b>
3.1 Benefits of Standardised and Centralised Desktop Environment	9
<b>4 Cost Savings</b>	<b>10</b>
4.1 Shift Capital investment to a Pay as You Go model	10
4.2 Reduce Support Costs	11
4.3 Desktop TCO Model	11
4.4 Reduce Software Licensing	12
4.5 Cost Modelling Scenarios	12
<b>Next steps</b>	<b>13</b>

# 1 Introduction

*“In the next 10 years, data science and software will do more for medicine than all of the biological sciences together.”*

Vinod Khosla, Founder of Khosla Ventures

Healthcare is undergoing a revolution where more services are being provided to more people in farther and wider locations every day. Having the right information at the right time is the vital ingredient to ensuring the best possible patient outcomes, which becomes no less challenging as healthcare IT is under continuous pressure to provide more with less. IT in healthcare is constantly evolving to enable access to ever-richer data sources and services, whilst maintaining a consistent and reliable experience for the diverse user base.

Increasingly, healthcare providers are looking to combine forces and collaborate with one another to reduce duplication, reduce costs and provide new and improved services to their communities. The future of healthcare will see the adoption of more cloud based and commoditised IT services allowing providers to focus on delivering effective treatment rather than buying and running IT systems. This change is being realised in technology with a shift in focus from the provisioning and management of devices and desktops, to the availability of applications and information that can be accessed from anywhere on any device, at any time.

Traditionally, the technology industry (including internal IT departments) has counted and managed desktops. A hospital may have 3,000 physical desktop computers and therefore the focus has been on how to distribute applications to those desktops. However, the real goal isn't how to put applications on 3,000 desktops, the goal is how to get the applications and information to staff, contractors and external partners so they can access them where, how and when they want, safely and securely.

Fujitsu's global vision is focused on a concept we call the "Human Centric Intelligent Society." This aligns with the future of healthcare as it places the human (end user) at the centre of the picture, a concept which seems obvious, but until now the technology industry has placed the device at the centre of its focus.

This is all about to change.

## 1.1 The Tipping Point: Desktop as a Service

The advent of Desktop-as-a-Service offerings in the market provides the opportunity to review how applications and information can be delivered to end users, freeing us from a device based world, to a world in which applications and information become the focus.

Whilst not all Desktop-as-a-Service (DaaS) services are equal, they do have key elements in common:

- A platform that allows application delivery to be scaled according to demand;
- Options for desktop and/or application delivery; understanding that a 'one size fits all' approach is no longer required nor appropriate;
- Delivered 'as-a-service' meaning customers only pay for what they consume without the cost of owning and managing the delivery platform; and
- A flexible and deterministic operational expenditure (OpEx) based consumption model.

Comprehensive DaaS providers go even further delivering:

- Self-service, often including full automation, to reduce operational overhead;
- The ability to manage both traditional and virtual desktops with a seamless roaming experience;
- A platform that offers users multiple operating system versions to best meet the device and application being used at any given point in time;
- Integrated and connected services delivering end-to-end managed desktop services;
- Options for a wide range of usage scenarios, catering to everyday staff access, kiosks, and speciality role-based power users with individual hardware requirements; and
- Options for availability and disaster recovery.

Healthcare, with its wide range of user types with differing demands and requirements for access, mobility, connectivity and devices is a key sector where a comprehensive, managed DaaS solution can add real value and drive real benefits. This whitepaper describes how such a service can be used to reduce operational costs, increase productivity, improve end user experience, and ultimately provide the best patient care and health outcomes possible.

## 1.2 Fujitsu's Solution

Fujitsu's DaaS offering (Government DaaS or GoDaaS) is a complete application and desktop solution. It provides an entire range of services typical of an end user computing environment, including published applications, virtual and traditional desktops, application packaging, device procurement and full support.

GoDaaS also includes a fully automated self-service portal to help streamline service requests, increase productivity and reduce manual administrative effort and cost.

GoDaaS has been developed as an "as a Service" model; enabling services to be scaled to meet a customer's changing needs without locking in unnecessary capital expense. The platform is 'evergreen', meaning that virtual desktop operating systems are continuously updated and that the latest tools and services are available for uptake as required. This flexible and scalable model allows services to be selected that work best to meet business requirements as well as providing options for the future.

## 1.3 Benefits for Healthcare

Healthcare has a wide range of end user computing scenarios. With a flexible DaaS platform the requirements for how users access their data and applications can be aligned to the options that best suit their working style. For example:

- Roaming users can use traditional and virtual desktops to work from any location with a consistent user experience;
- Clinical staff requiring lightning fast access to information can use kiosks with anonymous logon to published applications which are "pre-launched" for instant availability;
- Administrative staff can make use of low cost shared desktops or thin client devices to drive down cost; and
- Dedicated virtual desktops can provide a more flexible solution for Picture Archiving and Communications Systems (PACS) to provide high compute and hardware accelerated graphics (GPU) capability without the capital expense of purchasing high-end devices.

Use of a platform such as GoDaaS allows healthcare providers to broaden and diversify the range of service options available to their end users without increasing operational costs - in fact the reverse may be true as Fujitsu is accountable for ensuring the platform is available, secure and resilient. This helps reduce the need for IT staff to be involved in the day to day operations of the desktop environment, freeing up valuable resource to focus on delivery of business projects.

This whitepaper explores three potential drivers for change that may benefit healthcare providers:

1. Enhanced healthcare services;
2. Improved user experience; and
3. Potential cost savings.

## 2 Enhanced Healthcare Services

Healthcare is unique in the variety of different demands coming from the various units and challenging environments they work in within a hospital setting, not to mention the range of proprietary hardware and software in use. IT within this setting caters for the communities they serve along with many external alliances and relationships with third party providers and government agencies.

Medical professionals can spend a lot of time trying access the information needed to make decisions, often requiring the need to consult with colleagues and medical specialists in different departments. As certain staff move from location to location, maintaining access to the same information and the same experience regardless of where users are sitting is a great benefit. Clinical staff usage generally varies as they may use stations in different locations for dedicated tasks, where fast kiosk-style access could be more appropriate.

One-size-fits-all might work in some businesses, but not healthcare. The key is to provide a flexible approach to end-user-computing that adapts with the user and the working conditions they find themselves in. This applies equally whether you're a clinician in a busy ward, a radiologist reviewing scans, an administrator admitting patients at A&E, a midwife performing home visits, or potentially even a doctor providing virtual care to a patient remotely.

Using GoDaaS presents the opportunity for healthcare providers to easily meet the diverse and rapidly changing demands of its businesses, expanding the services it provides and reaching the wider community through the use of new technology. Below are some key examples of how this can be achieved.

### 2.1 The Mobile Workforce

Availability of the right information, from any location, on any device, all within the right security context is truly a utopian scenario for many a healthcare provider. The good news is that the technology exists to provide this today. Doctors no longer need to walk with a clipboard – a lightweight tablet can easily provide direct access to all the same applications available on a desktop, re-factored appropriately for the tablet touch interface.

Due to the varying requirements of different units, hospital IT systems can become fractionated, sometimes creating islands under a single roof. Furthermore, many healthcare staff are frequently working out in the community such as midwives and other consultants who don't have access to the systems and information they need without returning to base. This often results in duplication of

effort where paper based information is transcribed into IT systems - activities which could have otherwise been achieved in the field, in real-time.

GoDaaS is a centralised end user computing model built on Citrix technology designed from the ground up to perform over constrained low bandwidth and high latency network connections. Secure internet-based remote access is a native feature of GoDaaS and permits staff in locations without corporate network access to use healthcare applications and resources. Healthcare consultants are able to use portable tablet devices in the field to directly access healthcare applications and data using GoDaaS remote access, and avoid the need to return to base. Where additional security is required for remote access, Fujitsu offers multi-factor authentication as a service or can interface with existing multi-factor systems.

As all compute power is contained within the GoDaaS datacentres full desktops can be replaced by cost effective, easily managed thin client or Chromebook type solutions that eliminate the need to manage desktops and applications on site and reduces the amount of data 'in the wild,' and the consequential risk of data loss.

Thin client or Chromebook type devices are recommended for two reasons, (1) they do not require additional OS licences and (2) the cost of the device makes it more suitable for management as a consumable rather than an asset with warranty and maintenance costs. Both of these factors also allow the device to be quickly swapped out in the event of failure, increasing productivity.

For roaming users need to work offline or have other special requirements, traditional desktops can be provided. GoDaaS does provide a seamless user experience moving between virtual and traditional desktops for roaming users as a result of our Advanced User Environment Management system. Further extending your offline capabilities, an offline file access and synchronisation service is also available, making documents available for viewing, annotation, and editing from any mobile device without an internet connection.

Providing access for mobile users whilst simultaneously adhering to security policies and ensuring a cohesive end-user experience is a challenge given the potential for different application delivery mediums – traditional Microsoft Windows applications, the web, published apps and desktops, not to mention native mobile apps. This falls under the banner of Enterprise Mobility Management, incorporating mobile device and application management, and has now become an essential part of a complete end user computing strategy.

## 2.2 Fast and Secure Access

Kiosks are another attractive option within a clinical environment. These systems allow clinicians to walk up to any terminal, connect instantly, update records and walk away knowing that they have been automatically and securely disconnected leaving the kiosk available for the next user. Applications can be configured to "pre-launch" half an hour before users arrive at work, ensuring that applications are available immediately after logging on.

For environments with the same need for speed, but with more demanding security, next-generation biometric authentication based on Fujitsu PalmSecure offers a fast, easy to use, hygienic, and extremely high security solution for end-user access to computer systems, buildings, or both. SmartCards can also be used to achieve the same goal with a lower security posture. With biometrics or SmartCards in place, implementing single-sign-on to applications will generally be the next logical step towards providing quick, seamless, end-to-end access to applications without keying in a single username or password.

## 2.3 Graphics Intensive and Public Cloud Options

In addition to the general purpose virtual desktops, there may be specialist requirements such as interactive PACS that often require high end desktop hardware to run. This more demanding type of workload can also be virtualised, un-tethering radiologists and other staff using graphically-intensive applications from working in specific locations, enabling use of software for a wider range of end users at almost any location with a network connection. This is achieved by equipping a pool of virtual desktops within GoDaaS with high-end GPUs combined with effective use of the Citrix HDX protocol.

Public cloud services such as AWS and Azure are gaining significant interest in healthcare circles with the benefits that can be reaped from simple cost savings measures by moving mail online to Office 365, by leveraging pay-as-you-go server resources in the cloud, through to big data analytics and machine learning for advanced clinical analysis and development of personalised medicine. GoDaaS is fully compatible with AWS and Azure including Office 365, and can provide an effective value-added hybrid service where applications and/or desktops hosted in the public cloud are fully managed by Fujitsu, providing a one-stop-shop for your end-user computing needs.

## 2.4 Unified Communications and Virtual Care

Fujitsu is actively working to integrate cloud offerings such as Skype for Business with GoDaaS which introduces the possibility of consuming unified communications and telephony as a service, facilitating collaboration between both internal and external parties, with the added benefit of enabling a brand new virtual care facility. The “as-a-Service” model frees up the healthcare provider from having to develop integration and support skills or spend time and resource on maintenance.

Virtual care for out-patients can be made a reality within GoDaaS in the form of video consultations using Skype for Business. Virtual care is already happening in the USA, with Mercy Virtual Care Center in Chesterfield, Missouri as one of the first facilities in the world dedicated to providing care virtually. This digital health centre uses audio and video technology to monitor and treat patients anytime and anywhere. Going virtual allows healthcare providers to reduce their costs, while expanding their business globally.

## 2.5 Shared Services

Coalition of healthcare within local geographic areas provides opportunities for healthcare providers, in particular for community hospitals, to share common resources, reduce overlapping capabilities, specialise in delivering specific services and ultimately provide new and improved services at lower cost. IT services are no exception with many IT functions and costs being duplicated between hospitals including deployment and management of desktops and access to applications, information and resources for staff and contractors.

GoDaaS is a virtual workplace that provides standardised and commoditised ICT infrastructure services that can be easily deployed to enable local area shared services and allow healthcare providers to collaborate more effectively and support shared IT services without diluting the unique identity of each. Local area shared services can be as simple or as comprehensive as the collaborating providers wish. GoDaaS supports each healthcare provider's unique applications and backend systems through a common desktop management platform so that they can continue to provide services specifically required for their communities.

GoDaaS provides the platform to support transition and consolidation of services over time, and support sharing of information and resources between the different organisations. Providers can

operate as independently or as closely with one another as they wish, while benefitting from the cost efficiencies that usually come from sharing a common standardised virtual workplace.

Healthcare providers can reduce the overhead and cost of running and operating non-core business functions and reinvest and focus on providing the right services at the right cost to their communities that are more agile and flexible,

Fujitsu's strength comes from our global experience with government and healthcare providers' organisations and expertise in establishing shared service organisations and helping clients realise benefits for healthcare organisations from Australia through to Canada to the UK.

## 2.6 Working through a Disaster

Disaster recovery, and the ability to continue functioning in the face of unprecedented disaster such as earthquakes, tsunamis, or 'dirty building' events where work premises are compromised for some reason, is a risk many healthcare providers are faced with. The expense of providing DR capability which may never be used is often viewed as 'dead' money, and money that is better invested in providing core healthcare services.

GoDaaS virtual workplace is just that, a virtual workplace, built across two geographically isolated data centres with built-in disaster recovery capability and full remote access features to provide ongoing availability of virtual desktops and applications from anywhere at any time. For example, if hospital buildings are deemed unsafe following an earthquake, users' desktops and applications will continue to be available remotely from the GoDaaS data centres allowing hospitals to continue functioning in a way that is traditionally difficult and costly to achieve. If a GoDaaS data centre fails users can continue to work from the alternate GoDaaS data centre with minimal interruption.

Of course virtual desktops and applications are nothing without data and information. Healthcare providers can take advantage of the data centres that host GoDaaS to provide a remote facility for replication of business critical data. GoDaaS also supports a number of network connection types including OneGovt and GNet which means that healthcare providers can potentially locate their data at any OneGovt connected location and have it available via GoDaaS.

GoDaaS is a key enabler for healthcare providers to pursue disaster recovery and business continuity planning initiatives while limiting the need for large scale investment to prepare for something that may never happen.

## 2.7 Benefits of GoDaaS

All of the benefits described above can be achieved by delivering end user services through GoDaaS virtual workplace to provide virtual desktops and applications consistently and reliably. Staff receive identical applications, data and user experience (i.e. combination of apps, data, IDEs, databases, etc.) as they would in a physical desktop environment, and they can do this from any location. The only device requirements are a suitable combination of screen-size, keyboard and mouse and a device capable of running Citrix Receiver. This provides healthcare providers the opportunity to offer a range of devices such as BYOD, thin clients, low cost devices such as Chromebooks - or any combination thereof.

In summary, the solutions afforded through the use of GoDaaS to deliver additional, more flexible virtual workplaces can lower the cost of delivery with a simple, scalable, transparent pay-per-unit commercial model and allow healthcare providers to focus on core business functions for the communities they serve.

## 3 Improved User Experience

Healthcare providers often use decentralised models with the unintended consequence of user data and information, sometimes business critical, being stored on the desktop PC, and often leaving the user to make decisions about where to store their files. Applications are deployed to the device in a traditional fat client model, and users are often granted local administrator rights allowing them to install software themselves.

This desktop management model provides a high degree of user freedom and sense of autonomy over their desktop, however is considered an expensive model to manage - particularly if the end-user demands support for any element they have self-installed.

Some of the key challenges with a decentralised model are as follows:

- Risks of data loss due to local storage of files on devices - if a device fails or a file is deleted there is no centralised backup and restore system to recover from.
- Chained to a specific device - as a user's files, settings and applications are all located on a specific device the user is unable to work with any degree of success on any other device. This may not appear to be a problem if staff are predominantly desk bound and have no need to use other devices, however does limit the ability to collaborate or work from anywhere without taking their device with them (increasing risk of damage or loss). This may impact any future innovation on resource management and mobility models an institute wishes to deploy.
- "Wipe and rebuild" support model - the only cost-effective way to provide support of a decentralised, locally administered PC is to wipe the device and rebuild it back to a default state. This leaves the issue of reinstalling all of applications, data (assuming the data was backed up) and reconfiguration of personalisation. VIP users (and often wider groups) expect this to be provided by IT which can be very expensive as it requires a lengthy desk-side visit. Alternately, it has a productivity cost if the user has to do this themselves - typically also resulting in a level of frustration degrading any end user satisfaction model reporting.
- Lack of remote access - the users have no access to their files or applications unless they have access to their device, therefore working away means lugging laptops and related peripherals around, even if it is just to work at home.

While the decentralised model may seem preferable to users under normal circumstances, the limitations above will eventually become evident and lead to user dissatisfaction. Our experience has found that as long as local storage is available and file redirection isn't in place, users will default to saving files into the local My Documents folders, leaving them exposed to a loss of data.

The industry best practice for desktop environments is to have no volatile or business data stored on the device, wherever possible limit local deployment of applications, and restrict local administrator access to IT support personnel.

### 3.1 Benefits of a Standardised and Centralised Desktop Environment

Moving to a centralised managed desktop model as provided by GoDaaS, can allow for the following benefits to be realised to provide an improved customer experience:

- Instant application provisioning - using the GoDaaS self-service portal users could self-provision a range of applications and/or virtual desktops and have them available almost immediately (subject to approval workflows).
- Fully backed up data storage - using either the healthcare provider's own storage system or cloud storage such as Microsoft's OneDrive (or a combination of the two), all user data is stored centrally and backed up.
- Mobility - users would no longer be tied to a specific device, they would have full access to their data and applications from any device. This would apply to both traditional PC devices and virtual desktops. GoDaaS also provides full remote access so that users can work from anywhere.
- User centric support - using the ability of GoDaaS to roll back individual application settings to a last known working condition, the requirement to reset user profiles would be largely eliminated. Even in the catastrophic event that a device did need to be fully rebuilt a user could simply work from any other device with no loss of data or applications whilst it was being done.
- Off-line file sync – GoDaaS includes an optional file synchronisation service (OLS) for offline users. OLS ensures that on-line files are available off-line and are then automatically and appropriately synced to the latest version when back on-line. This is particularly useful for roaming users who can continue to be productive without network connectivity and is available on a wide range of GoDaaS and non-GoDaaS traditional physical devices such as laptops and tablets.

So while some users may initially feel that the loss of 'their' desktop is a negative, the benefits gained from a centralised managed model and the ability to logon from any device from any location at any time quickly outweighs the emotional attachment to the device they use and local administrative rights.

## 4 Cost Savings

There are several ways in which GoDaaS could reduce costs for managed desktop services, however cost savings are not the primary driver for organisations considering a managed desktop service. Depending upon the current investment and service levels it may be that a managed desktop service incurs a neutral or slightly increased cost from an in-house decentralised model but equally can afford opportunities to increase productivity and efficiency.

The areas in which GoDaaS could be used to help reduce or minimise costs and/or increase productivity time include:

- Rationalised capital investment;
- Reduction in support costs;
- Managing the full desktop TCO model; and
- Reduction in software licensing.

### 4.1 Shift Capital investment to a Pay as You Go model

Use of GoDaaS provides an opportunity to move capital expenditure (CapEx) into an "as a service" OpEx model. This isn't simply about switching from CapEx to OpEx as this can be achieved through leasing and financing, it is about moving from a fixed upfront investment to a flexible "pay as you go", consumption based model.

Under a CapEx model an upfront investment is made based on a defined capacity of users. As the actual number of users changes, the CapEx investment will either be too low, in which case the healthcare provider may not be able to maintain the expected level of service for their staff to meet demand, or too high in which case deployed resources will be underutilised. This is particularly relevant for the high-end workstations used for graphics intensive workloads such as 3D modelling and PACS as they both require a significant CapEx investment and a finite capacity resource that determines the maximum number of users at any given time.

Under an "as a Service" model there are two ways to address this; the first is to rent the hardware on a monthly basis, allowing capacity to be flexed up and down as demand changes. The second is to shift from purchasing expensive high-end workstations to low cost multi-purpose thin-client devices, reducing the amount of CapEx required, and enabling the healthcare provider to purchase surplus capacity for peak times with minimal CapEx.

These two options can be combined, and can even be blended with the traditional CapEx and high-end workstation approach. For example, if the healthcare provider already has a desktop fleet, at least a third of which will likely be current, and a third will probably be due for replacement (based on a 3-year refresh cycle) the devices due for replacement could be replaced with thin-clients. 70% of the desktop fleet might be purchased outright (as this will usually be the most cost effective means of buying an asset for long term use), 20% could be leased on a 12-month period, and 10% rented month to month.

## 4.2 Reduce Support Costs

The cost of supporting a decentralised desktop often appears to be minimal but the *real* cost is commonly unquantified and unknown particularly in relation to business impact and lost productivity. Many desktop related problems are dealt with by wiping and rebuilding end-point devices and erasing users' identities and personalisation through profile resets which in turn generate a range of follow up issues to be resolved. When a mass change is required, such as an OS upgrade (e.g. from Windows 7 to 8.1 or 10), the cost can be far higher than a centralised model due to the need to manage every device individually.

In addition, as noted in the 'wipe and rebuild' support model, a decentralised model is often very expensive to run if the end user expectation is still that all fault resolution is responsibility of IT, regardless of whether IT installed or approved the change. Such incidents can often take considerable time and effort to resolve, as well as time required with the client to establish the chain of actions which caused the incident. Scheduling and re-scheduling time can cause significant frustration and loss of productivity for both parties.

GoDaaS helps reduce both issues by using a remote management solution that allows for desktops to be regularly patched as well as remotely controlled for resolving issues on-line with the end-user. Where possible, this will be the first point of action for Fujitsu's GoDaaS service desk. If a desktop does need to be rebuilt the native separation of user data from the desktop provided by GoDaaS also eases the process considerably.

## 4.3 Desktop TCO Model

When comparing the cost of a virtual desktop with a managed traditional desktop, one cost may seem higher than the other. However, to really understand the cost of each desktop type, the total cost of the desktop must be considered. This can include:

- Use of concurrent virtual desktops - instead of paying for a desktop per user, healthcare providers can pay for a pool of virtual desktops which are then consumed as people require a desktop but are not counted when they do not. We have seen a drop of up to 50% in desktop fleets when using concurrent virtual desktops rather than the one-to-one requirement for traditional or dedicated virtual desktops.
- Choice of hardware with thin clients and lower end laptop/tablets such as Chromebooks and iPads not requiring expensive OS licences to run makes the cost of devices to run virtual desktops cheaper than traditional desktop devices. This then balances the perceived higher cost of virtual desktops.
- Selecting low-cost hardware can also reduce hardware support costs with devices becoming 'consumables' i.e. they are swapped out by courier and the user and then repaired only if cost effective, with the cost of additional spares often being cheaper than warranty and maintenance costs.
- Standardisation of desktops and application installation controls reduce support calls and prevents additional downtime for the end-user. Virtual desktops, due to their centralised and standardised nature, are much easier and quicker to troubleshoot and resolve associated issues compared to traditional desktops - again leading to better productivity for end users as well as reduced support costs.

It is evaluating and understanding all these factors that can provide a balanced view of true total cost of ownership of desktops, and where the best cost efficiencies can be made.

## 4.4 Reduce Software Licensing

While some applications are covered by enterprise or government licences that allow unlimited deployment within an environment, many applications are still licensed on a per device basis. In a traditional desktop PC model the applications are installed on the device when the user requests it, but very rarely are they removed or de-licensed when the user no longer needs it, or when the device is moved to a different user. This lack of license tracking and software harvesting often leaves organisations exposed to a license deficit or carrying far more licences than they are actually using.

Healthcare providers may benefit from the use of published applications to reduce software licence wastage. By delivering applications virtually as published applications there is no software installed on the device, therefore no risk of software wastage or unexpected compliance costs through uncontrolled use.

## 4.5 Cost Modelling Scenarios

Four cost scenarios are proposed to enable a comparison of GoDaaS operational costs to the traditional CapEx/project investment. These scenarios are:

- **Refresh desktop fleets.** Compare the TCO of continually refreshing and managing desktop computers versus delivery of the same applications and information using virtual desktops from cost effective thin client and low cost devices.
- **Refresh high-end workstations.** Compare the TCO of refreshing static high end workstations in fixed locations to high end virtual workplaces available to more users in more locations.
- **Refresh of hospital owned desktops.** Compare the TCO of refreshing a group of hospital owned PCs with virtual desktops delivered via new thin-clients or converting the aging desktops into thin-client devices.
- **OS or Applications upgrade across large number of desktops.** Compare the TCO of a project to upgrade the OS from Windows 7 to Windows 10 across 100 devices in a traditional decentralised model, versus a virtualised desktop model.

## Next steps

If you would like to discuss GoDaaS in more detail, arrange a face to face meeting or see a demonstration of the solution, please contact Tristan Faint, Fujitsu New Zealand Business Development Manager on the following:

Email – [Tristan.faint@nz.fujitsu.com](mailto:Tristan.faint@nz.fujitsu.com)

Mobile – 021 193 4894

Landline – (04) 460 2433