



How Healthcare Organizations Can Use Parallels RAS to Provide Continuous Patient Care Throughout the Pandemic

White Paper | Parallels Remote Application Server

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Introduction

COVID-19 has driven healthcare organizations to adopt new methods that allow them to operate while minimizing the risk of contamination among physicians, patients and hospital staff. These methods are accelerating both telemedicine and Virtual Desktop Infrastructure (VDI) adoption. In this white paper, we discuss why telemedicine and VDI are so closely intertwined and how they're helping healthcare organizations provide secure, cost-efficient and reliable clinical services despite the pandemic.

If you're familiar with the healthcare industry, you likely already know about telemedicine. But what is VDI, and how does it figure into the current situation?

What is VDI?

VDI is a technological solution wherein virtual applications, virtual desktops and data are hosted in a datacenter or a cloud infrastructure and then delivered remotely to endpoint devices like laptops, PCs, tablets, thin clients, and smartphones.

In this white paper, we'll be focusing on Parallels® Remote Application Server (RAS), a cost-efficient, secure and easy to use VDI solution that supports not only VDI per se but also similar technologies like Remote PC, Remote Desktop Session Host (RDSH), Desktop as a Service (DaaS) and Windows Virtual Desktop. As such, we'll be using "VDI" as a catch-all term that includes all these similar technologies.

Remote PC: A remote PC can be a regular physical desktop computer in a hospital/clinic that's accessed remotely from an endpoint device. This functionality can come in handy when remote healthcare workers need to access files and applications on their onsite computers, but they happen to be at home or in another offsite location.

RDSH: Remote Desktop Session Host, or RDSH, is a component of Windows Remote Desktop Services (RDS) that provides session-based resource sharing so users can access desktops and applications simultaneously from a single instance of Windows Server. Since multiple user sessions may share a single host (physical or virtual machine, or VM), fewer resources (e.g., CPU, memory and storage) are consumed per desktop than pure VDI.

VDI: In contrast to RDSH, pure VDI assigns each desktop to a single VM. This allows each desktop (and consequently, the user of that desktop) to consume all the CPU, RAM and storage resources allocated to that VM instead of sharing it with other desktops. VDI is best suited for use cases that require more security as well as resource-intensive workflows, such as those that involve medical imaging or visualization.

Windows Virtual Desktop: Windows Virtual Desktop is a desktop and application virtualization service delivered from Microsoft Azure. It enables businesses to utilize Desktop as a Service (DaaS) capabilities and use Windows 7 with free Extended Security Updates, among other capabilities.

Telemedicine and VDI Go Hand in Hand

When you hear the word “telemedicine,” the first thing that probably comes to mind is an off-site physician conducting a video conference with a patient. Although video conferencing tools are certainly a staple in telemedicine sessions, they are by no means the only tools used.

In reality, most remote healthcare practitioners and hospital staff often also need access to software applications such as Electronic Health Records (EHR) and other medical databases, medical diagnostics, medical imaging, medical billing and hospital management solutions, among others.

While some of these tools can be installed on a remote worker’s personal laptop or desktop, most of those devices aren’t designed for that. In addition, doing so would mean storing sensitive patient or financial data on personal employee devices. This would put organizations at risk of a data breach and, in some places, violate data protection laws like the U.S. Health Insurance Portability and Accountability Act (HIPAA).

Furthermore, tech-savvy medical practitioners might be more inclined to use mobile devices such as smartphones and tablets, and thus prefer to access those software tools from there. Unfortunately, almost all the medical tools and applications mentioned earlier aren’t designed for that.

This is where a VDI solution can come in handy. A VDI solution like Parallels RAS can make it possible for remote healthcare practitioners and hospital staff to access the applications they need from their device of choice the moment they need to. And because data isn’t stored on the devices themselves, they can do so without compromising data security.

Essentially, the more a healthcare organization engages in telemedicine, the more practical VDI usage likewise becomes for that organization.

How COVID-19 Is Accelerating Adoption of Telemedicine and VDI

As COVID-19 infections surged in Q1 and Q2 of 2020 and then once again at the [onset of winter](#), hospitals and other health facilities grappled with the overwhelming influx of patients. To minimize transmissions in hospital premises, some doctors and hospital staff were asked to self-isolate and work remotely whenever possible.

During those critical times, the effective combination of telemedicine and VDI became the go-to solution that allowed doctors to continue providing health services while avoiding direct contact and minimizing the risk of contamination. This proves that telemedicine and VDI can play a critical role in protecting medical staff, many of whom are at the forefront of the battle against COVID-19 and have suffered heavy casualties throughout the pandemic.

Now, with the majority of their time and resources devoted to serving the rapidly rising number of cases, healthcare organizations may wish to consider being more circumspect in their choice of telemedicine and/or VDI solutions. Solutions that are overly expensive can siphon too many resources, and those that are highly complex can take too much effort and time to deploy.

Parallels RAS fits the bill perfectly. With its simplified architecture, Parallels RAS eliminates the need for healthcare organizations to send out IT staff for training, hire expensive third-party specialists and/or wait weeks or months before deploying desktops and applications. Instead, desktops and applications can be delivered to remote physicians and hospital staff within hours or days, ensuring prompt resumption of medical services.

These factors, coupled with the affordable (and simple) licensing model that Parallels RAS offers, translate to a much lower Total Cost of Ownership (TCO). The savings available to hospitals from such lower TCO could give them the financial flexibility they may need for prioritizing other essentials at this time, which include hiring more healthcare workers, stocking up on PPEs and procuring critical medical equipment such as artificial respirators, ventilators, etc.

Reinforcing Healthcare IT Initiatives with Parallels RAS

Many companies and organizations, including Healthcare organizations, have begun to implement remote-work options based upon recommendations and guidelines from the World Health Organization and local Government recommendations as a way to minimize the spread of COVID-19. These initiatives are mainly focused on the following key areas:

- Constructing a cyber security support model
- Establishing fast and secure authentication
- Leveraging VDI for primary care

Let's take a closer look at each.

Cyber Security Support Model

For ten straight years now, healthcare has had the highest average data breach cost among all industries. In Ponemon's latest edition of its annual [Cost of a Data Breach Report](#), the average cost of a data breach in healthcare was estimated at \$7.13 million—over 10% higher than what it recorded in the previous (2019) edition. A large part of 2020 has not yet been included in the report and yet 70% of respondents already said they expected the rise of remote working to increase the costs of a breach.

Indeed, the increased adoption of digital workflows and remote work in this pandemic have broadened the attack landscape of healthcare organizations' IT systems, leaving them more exposed to data breaches and other cyber incidents.

Parallels RAS can help organizations reinforce these initiatives through its robust stack of security functions that include SSL/TLS data-in-motion encryption, multi-factor authentication, advanced filtering, FIPS 140-2 encryption and more, all of which secure the delivery of virtual applications, desktops and data to end user devices.

Fast and Secure Authentication with Single-sign-on (SSO)

In the medical field, prompt delivery of patient care is paramount. Patient care should never be delayed because medical workers can't access the application or data they need as soon as they need it.

Unfortunately, medical staff are often bogged down by the incessant need to login to multiple systems — a perennial problem that [has prompted the UK government to invest £40 million in SSO technology](#) just to address the inefficiency caused by multiple logins.

Parallels RAS addresses this by making all applications accessible on a single device and authenticating users through fast, SSO-enabled logins. SSO makes it possible for medical staff to login just once to access all the applications they need for the entire shift. In addition, the solution's Artificial Intelligence (AI)-based session pre-launch functionality cuts down log times significantly by analyzing user login habits and then pre-launching sessions based on those habits.

Leveraging VDI for Primary Care

Convinced of the security, operational and economic benefits of VDI, forward-thinking healthcare organizations have started rolling out virtual desktop initiatives that would enable General Practitioners (GPs) and other healthcare staff to work remotely through a Bring Your Own Device (BYOD) arrangement.

The UK's National Health Service (NHS), for example, has already done a [proof of concept](#) for a VDI environment that can provide access to several applications used by primary care staff, including: EMIS Web, TPP SystemOne, Vision, Docman 10, AccuRx Chain, Microsoft Office, Adobe Acrobat, Internet Explorer and Chrome.

Parallels RAS excels in supporting BYOD environments through its ability to deliver practically any application (even legacy applications) to any endpoint device. It also offers one of the best user experiences (UX) on touch screen devices with its ability to support native touch gestures like swipe, drag, tap-to-click and zoom in, along with Parallels-specific features such as the Lock'N'Go Magnifying Glass, all of which enable medical practitioners to work more efficiently on their phone or tablet.

Conclusion

With the continued fight against the COVID-19 pandemic, healthcare organizations are facing one of the most challenging periods in their existence. Now, more than ever, they must strive to innovate to ensure continuous patient care delivery while keeping medical staff safe. With its ability to provide secure, reliable and fast remote application delivery to any device, Parallels RAS can significantly help healthcare organizations in these endeavors so they can focus on their number one priority: providing care to patients in need.

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