



RAS Solution Guide | Parallels Remote Application Server

## IT Infrastructure Solution Guide for Banking and Finance Institutions

### Who Is This Guide Intended For?

This guide is designed for IT managers and other professionals who administer the IT network infrastructure at a banking, financial services, or insurance company (BFSI). It will provide information to IT administrators who are looking for an application and desktop delivery solution that is cost-effective, reliable, and meets requirements set by government regulations.

This solution needs to allow the team of IT professionals to increase network security and take control of everything that is happening across the infrastructure and workforce. At the same time, an application and desktop delivery software must provide employees instant and easy access to the data they need to provide a first-class experience for customers.

### Why Are BFSI Institutions Investing in Cloud Computing?

Parallels understands the challenges financial services organizations face. BFSI organizations are under immense pressure to respond to new compliance mandates and cybersecurity threats while implementing technologies that support the business. As mobile technology continues to transform the way customers interact with businesses, innovation is crucial to attract and retain customers. Online banking, contact centers, and mobile apps are touch points customers expect; however, adapting current systems to be web- and mobile-ready is no easy task, especially for tailor-made or legacy systems.

On the other hand, providing customers and employees with anytime access to internal and customer-facing resources promotes flexibility. IT innovations in fields such as mobile, the cloud, the Internet, and security are supporting the way people work and how consumers interact with services at banks, stock brokerages, investment funds, insurance companies, consumer credit organizations, and other financial sector companies. The challenge is to make these innovations available without affecting the business or requiring significant investment on the part of the BFSI institution.

Therefore, BFSI institutions must invest in their IT infrastructure to remain competitive in the marketplace. Cloud computing allows these institutions to easily set up a secure network and centrally control all the branches' activity. At the same time, a private cloud provides employees the ability to access corporate data in a secure fashion from anywhere, anytime. Application and desktop delivery is a technology that leverages the cloud so financial services organizations can achieve this high level of sophistication while reducing costs and delivering mobile availability.

To adapt to new customer and employee expectations, financial services organizations must feature an application and desktop delivery solution that:

- **Protects business and customer data** from breaches, while reducing risk and guaranteeing compliance.
- **Is easy to use and maintain**, thus allowing them to reduce the systems administration overheads and costs.
- **Delivers business and legacy applications to major devices** across all channels, including web, mobile, and desktop.
- **Reduces IT infrastructural costs and complexity**, both through a cost-effective license plan as well as through after-purchase value by growing with the business easily.
- **Ensures business continuity for both customers and employees**, with no interruptions, crashes, or abrupt cessations of service.

Below are some of the benefits to any BFSI institution when IT departments invest in modern virtualization IT infrastructure:

## Security and Centralization of Data

Security is the largest concern for BFSI institutions. To address this concern, advanced IT solutions are built with security at the forefront. Further, today's top-quality networks allow IT managers to set up a private, secure cloud where they can centralize and protect all of the organization's sensitive data. They also support robust authentication mechanisms with all the tools that are needed to control who can access what and at what time. Last but not least, a current IT solution encrypts all user connections, making sure that connections are not vulnerable to man-in-the-middle attacks. The current IT solution must be protected from within the local and wide area network.

## Scalability and Control

Scalability is a mandatory requirement for BFSI institutions. The majority of banks and finance institutions have multiple branches across various states and often in foreign countries. Advances in technology have resulted in software that can be easily scaled up without breaking the budget. When investing in an IT solution, BFSI institutions must be able to scale up the network with minimal effort to keep up with today's changing business demands, while retaining control of every asset along the way.

## Reduce Overhead

BFSI institutions want a secure and scalable IT system, but they still need affordable and straightforward administration controls. Fortunately, there are many ways to achieve these requisites that don't require setting up high-end servers or investing in massive on-site infrastructure.

Modern technology and virtualization allows more efficient use of hardware. Institutions can set up a system that provides enterprise features, such as load balancing, without requiring significant physical hardware or maintenance. Furthermore, a virtualization IT solution allows administrators to connect remotely to a users' devices and walk them through any issues they encounter. As a result, IT staff do not need to physically touch the individual devices to address network issues as they arise, which allows them to assist employees in less time.

## Guarantee Business Continuity

BFSI customers want access to their accounts anytime, anywhere. Advanced IT infrastructure solutions have all the necessary features to build a high-availability software solution that not only ensures maximum uptime, but also the available resources to enable users' and customers' broad access to data when connected to the system.

## Out-of-the-box BYOD to Support Mobile Solutions

Many bank employees leave the office on a regular basis to meet with prospects. These employees need access to their organization's data while on their mobile device to provide top-notch customer service. Traditional IT infrastructure solutions make this a difficult task, mainly due to hardware compatibility issues and the security of the connection. Moreover, customers expect mobile banking services such as online banking, contact centers, and mobile applications. The financial institution's IT infrastructure needs to support these services even for legacy line-of-business applications.

## Scaling Up the System to Meet Demand

Large institutions need to be able to scale up their systems easily and efficiently to continuously cater to the demands of their customers. Yet, many of the legacy IT solutions were not designed to be scalable; financial firms often have to spend a fortune to build custom and complex workarounds to scale up their existing IT operations.

## Avoid Expensive Hardware Bills

Large financial institutions have hundreds or thousands of employees. These institutions have to run the latest, most secure operating systems because of compliance and security concerns. Modern operating systems are resource-hungry, which means the hardware has to be replaced frequently at a high cost to the institution. Desktop VDI delivery can transform old machines into thin-client-like machines with modern operating systems and updated security features. This allows the IT department to continue running older machines for a longer period of time.

## Take Advantage of Windows Server 2016 Updates

Microsoft made a significant investment in Windows Servers 2016 to bring their infrastructure up to date in the modern era of cloud computing. In turn, this is pushing many IT administrators who rely on Windows OS further down the path to investing in private cloud capability. Windows Server's latest iteration includes support for containers and tighter integration with Microsoft's Azure cloud service. It also includes more security for Hyper-V virtual machines and improvements to Remote Desktop Services, which is also now interoperable with Azure. Moreover, Windows Server 2016 adds layers of protection to guard against emerging cybersecurity threats. However, Microsoft's Windows Server 2016 and RDS aren't complete solutions on their own, and they still require third-party applications to simplify and improve performance.

## **Recommended Cloud Solution for Banks and Financial Institutions**

### **Parallels Remote Application Server**

Parallels Remote Application Server (RAS) is an industry-leading solution for virtual application and desktop delivery. With its impressive, native-like mobile experience on iOS and Android devices, Parallels RAS is popular among financial institutions. Not only does it require minimal effort, but it is also easily scalable and works with Microsoft RDS and all major hypervisors. Parallels RAS makes financial and banking IT challenges easy to overcome by:

- **Setting strict safeguards** for corporate and customer data transfer to mitigate risk and adhere to government regulations.
- **Delivering a brilliant, multi-platform-supported customer experience** that will meet and exceed client expectations, no matter what device they're on.
- **Allowing employees and managers immediate mobile access to apps, desktops, and data**—with a native-like experience even when they're away from the office.
- **Optimizing the IT department budget's ROI** through increased infrastructure efficiency and lower IT staff overhead, thanks to highly streamlined management and advanced control options.
- **Boosting business responsiveness** through a high availability network that includes effective, easy-to-configure load-balancing to ensure the service is provided without interruption.

Following a lightning fast installation, Parallels RAS provides reliable, easy-to-scale IT infrastructure that centralizes and protects sensitive data on a secure private cloud with features such as two-factor authentication support, an end-to-end encrypted connection, remote control of end users' sessions, and built-in resource-based load balancing, among several others. Parallels RAS is the most suitable fit for financial institutions who are looking to replace their legacy, high-maintenance IT system with an advanced, user-friendly, cloud-based IT solution.

### **Why Do Banks and Financial Institutions Adopt Parallels RAS?**

#### **To Improve IT Infrastructure Security**

Security is a top concern for BFSIs. As a result, Parallels RAS includes strict security features and controls. When installing and configuring the setup, IT administrators create a private cloud where all of the business' critical data is centrally stored and secured. Centralizing all of the data in a private cloud guarantees the data is protected and that a compromised terminal does not contain any sensitive business data. Further, the Parallels RAS advanced filtering features allow IT administrators to easily control who has access to certain data and at what time. On top of all that, Parallels RAS features an end-to-end SSL encrypted connection and DMZ deployment options as a final security layer against malicious users on the web.

#### **To Create More Robust Authentication**

The Parallels RAS solution can also be integrated with third-party, two-factor authentication servers such as SafeNet, DeepNet, or RADIUS, allowing implementation of more robust verification mechanisms. With two-factor authentication, all employees login by using one-time token generators to make sure there won't be any intruders penetrating the system. As an example, two-factor authentication keeps the network safe in the event an employee's personal computer is stolen or compromised by a cyberattack.

#### **To Centralize Data for Reliable Backups and Management**

By centralizing all the data in the private cloud, IT staff can ensure that no data is stored on end users' terminals. When backing up data with Parallels RAS, all data will be copied to a central location. This differs from traditional networks, where most of the data cannot be backed up because the end user terminal is unavailable or inaccessible. In addition, because the private cloud has a single point of entry (through the Parallels RAS infrastructure), IT staff can easily keep track of who accesses what resources through the managed connections.

#### **To Reduce Hardware Costs**

The benefits of implementing a modern virtualization IT solution are multifold:

##### **Use All the Resources Available**

As opposed to having dedicated hardware for every server, in which the hardware resources are never fully utilized, virtualization allows multiple servers to run on a single hardware unit. Therefore, virtualization requires less hardware by making more efficient use of the resources available.

## **Extend the Life of End User Terminals**

By using the desktop replacement features in Parallels RAS, IT staff can change the typical desktop computer into a stripped down, thin-client-like operating system. The desktop replacement features require fewer resources than a full-blown operating system and result in reduced costs by re-purposing older computers on the network.

## **To Lower IT Administration Overheads**

Parallels RAS is straightforward to configure and launch. It's not necessary to spend days planning the IT infrastructure, and reading through a stack of documents to understand the product. For example, Parallels RAS wizards allow IT staff to set up a private cloud with application and virtual desktop delivery capabilities within moments. Most of the terminal server and VDI management tasks can easily be automated. Enterprise features, such as universal printing and load balancing, do not require additional configuration and are ready immediately following the initial installation.

## **To Implement Unrestricted BYOD/CYOD and Device-Independent Policies**

The Parallels RAS Client can run on iPhone, Android, iPad, Chromebook, Mac, Linux, Windows, Raspberry Pi, and thin-client devices. Thanks to its broad compatibility features, IT staff using Parallels RAS deliver a seamless user experience to anyone on the network. This makes a Bring-Your-Own-Device (BYOD) or Choose-Your-Own Device (CYOD) policy easy to implement, regardless of scale, employees, or customer device preferences. In addition, support for such a wide range of operating systems means the department isn't restricted to buying specific, expensive hardware.

## **To Allow Workers to Access Their Data Anywhere, Anytime**

By supporting a wide range of operating systems, workers who are not located in the office can access their data anytime, from anywhere. This means that BFSI remote workers can now provide a superior customer service experience, because they have all the information they need at their fingertips.

Parallels RAS revolutionizes the use of mobile phones for business. Any Windows application on iOS and Android devices will be fully functional and feel like a natively developed mobile app. Employees can use familiar touch gestures to select, copy, and paste text precisely, making pushing a small desktop button or dragging a picture effortless.

## **To Provide Multisite Support from a Central Console**

Multisite support allows IT network operators to connect with all the different Parallels RAS sites under one farm and manage them from a central console. It's an ideal support feature for institutions that have multiple branches in various geographic locations. Administrators can also allow users to connect and access resources of sites to which they are not directly connected, creating an efficient system where resources are distributed with ease in a timely, balanced, and secure manner.

## **To Implement Multi-administrator roles**

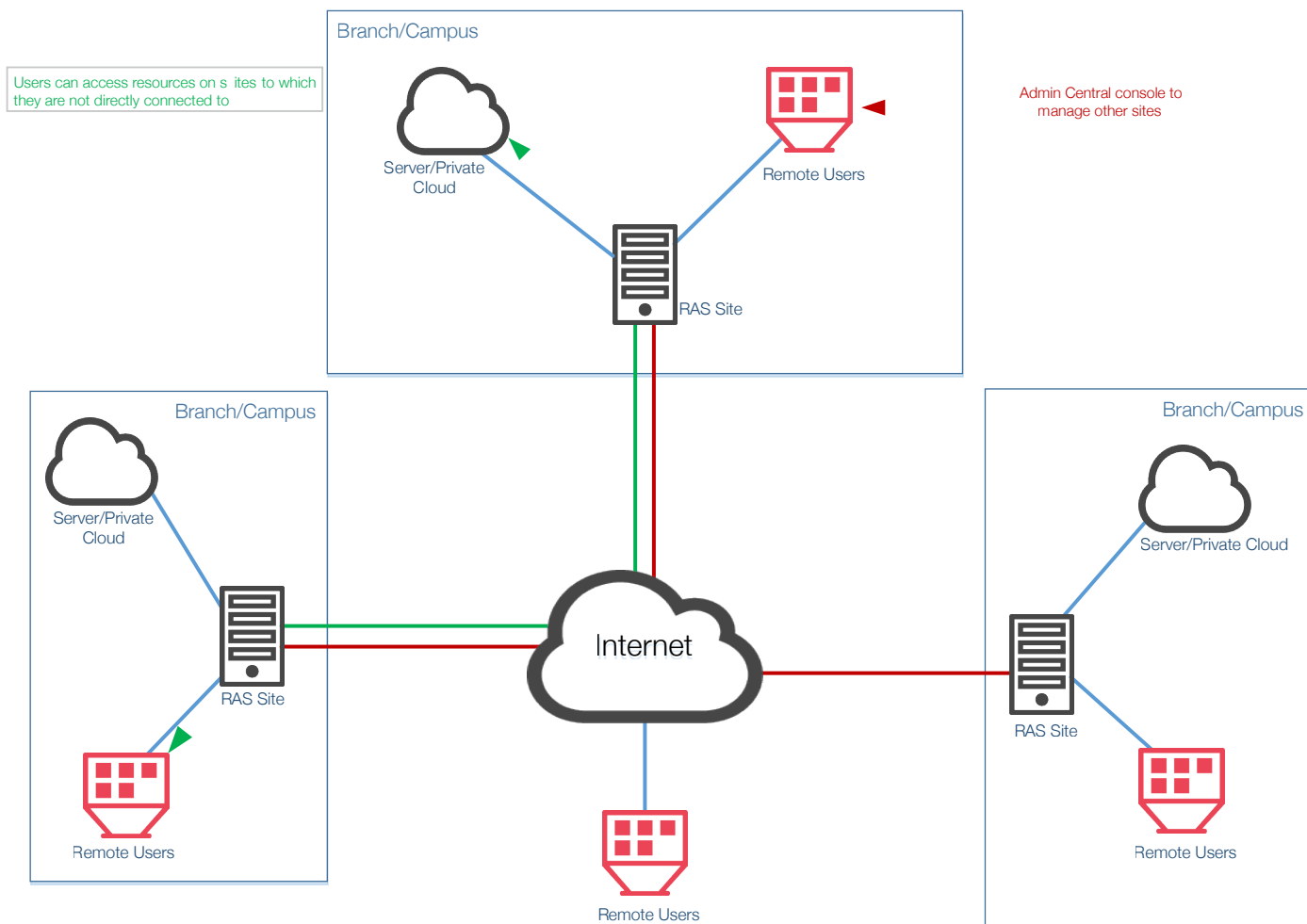
To complement multisite support, administrators can also implement multiple administrator roles and granular permissions that allow delegation of certain tasks. For example, one administrator can be responsible for all the operations, or a just a section of the operations of a single site. This allows the CIO and higher level IT managers to concentrate on the operation of the global IT infrastructure.

## **To Improve Windows Server 2016 and Microsoft RDS**

Parallels RAS enhances Windows Server 2016 and RDS infrastructure to provide the functionality and flexibility that businesses need. While it takes advantage of Microsoft's improved cloud-based protocols, Parallels RAS is a cost-effective and time-saving alternative that is easy to manage and scale up. Using both its own proprietary protocol and Microsoft Remote Desktop Protocol, Parallels RAS brokers the connection between RDSH applications and desktops to client devices. As a result, the graphic and performance improvements of OpenGL available in WS 2016 are automatically implemented. When using Parallels RAS, the complex Microsoft RDS framework is overhauled into a streamlined, comprehensive solution with exceptional end-user experience, a straightforward, easy-to-use command console, among other improvements.

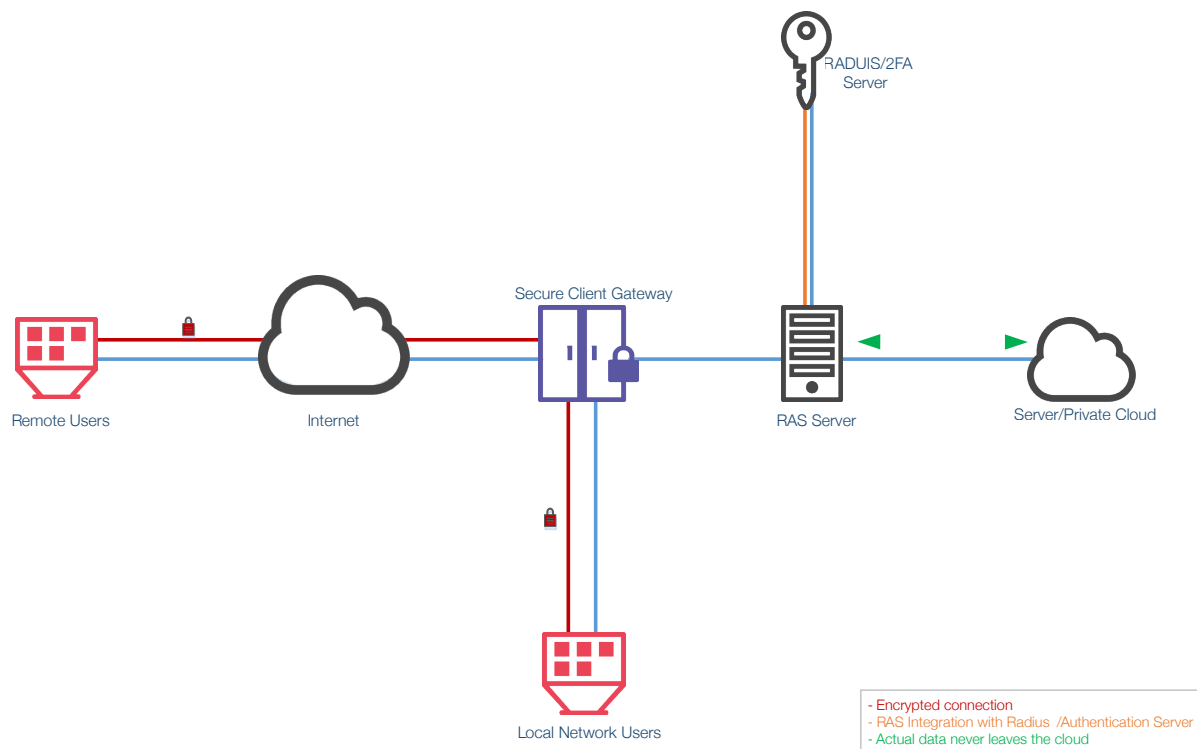
## Centrally Manage IT Infrastructure of Dispersed Campuses

After the IT department administrator sets up the infrastructure, the next step is to install a Parallels RAS site in each branch so that all of them can be centrally managed and their published resources shared. In this setup the IT staff can be granted permission to access published resources on sites they are not directly connected to, allowing IT administrators to use their resources more efficiently.



## Delegate the Management of the Sites

IT managers should also create multiple administrators accounts and configure granular permissions to delegate administrative and maintenance tasks to subordinates. This will allow the managers to continue focusing on the operations of the global IT infrastructure.



## Improve Infrastructure Security

Security is a number-one priority at any BFSI institution, so it's important to enable end-user connections encryption.

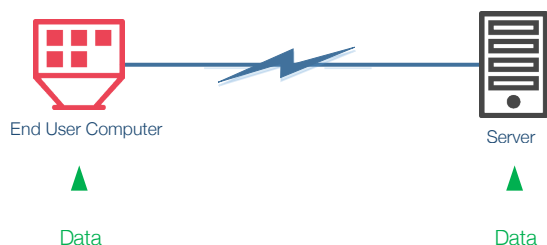
Ideally, to implement stronger verification mechanisms, IT managers should also integrate Parallels RAS with two-factor authentication such as Safenet, Deepnet or any other type of Radius authentication server. Parallels RAS supports Smart Card authentication for both Windows and Linux, which can be used to bolster the entire IT system security protocol.

## Use Desktop Templates and Allow Students to Experiment More

As part of their learning process, students like to experiment and break systems down into their components. However, allowing students to take such an approach can be costly in terms of security maintenance for organizations in the education industry, especially in computer labs. Furthermore, each time a student infects an operating system with malware from the internet, or renders it unusable, the lab technician has to spend a few hours re-installing the OS.

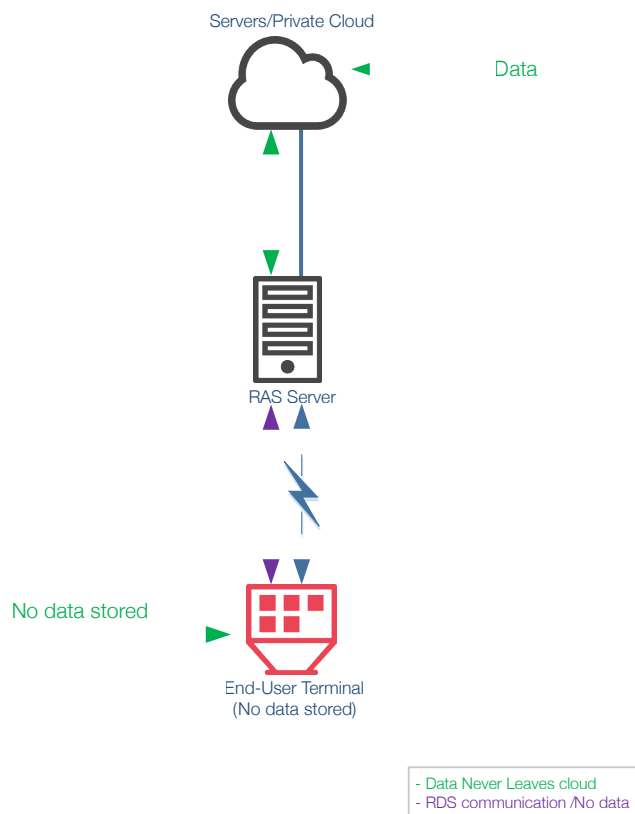
With virtualization IT staff can provide students the freedom they need to experiment, without incurring any costs on the organization. Use the Parallels RAS Desktop Templates to generate virtual clones of guest machines on the fly. IT administrators can provide a new and fully working operating system to every student, whenever needed, within minutes.

### Typical Network Setup



VS

### RAS/Private Cloud Setup



## Deliver and Centrally Manage Line-of-Business Applications

Custom-made LOB software applications often have high overhead and many shortcomings such as limited mobile support or security flaws. Use the Parallels RAS to install line-of-business applications on a virtual desktop instance uploaded to the private cloud. By doing so, IT managers can centrally manage the applications, making sure they're backed up and allow the staff to access it from their mobile devices rather than only their office computer.

By centralizing these type of applications, IT managers also reduce the maintenance requirements. For example, during upgrades the manager only has to perform a single central installation, instead of manually upgrading every instance of the application.

