



RapidScale

Product Guide







Don't let your

Desktop control you

Because I can't live without



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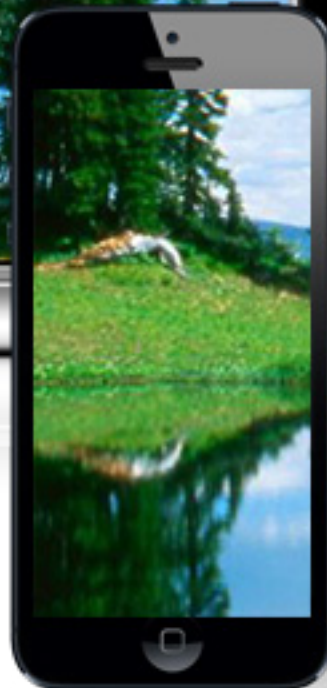


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Desktop







Desktop

Features

RapidScale is a global leader in Desktop as a Service. With RapidScale's CloudDesktop you can access your apps, on any device, globally. Let our CloudIntelligence team design the right CloudDesktop solution for you. We are the next generation computer.

With RapidScale's Desktop as a Service, you can get your applications on any device, anywhere. Take your CloudDesktop with you on your tablet, smart-phone, laptop, desktop, zero client, or almost any other device. Desktop as a Service is changing the way people do business in the workplace, as you are no longer chained to your computer.

Any Device, Anywhere

Access CloudDesktop via PC, Mac, Linux clients, tablets, thin clients, and smartphones. As long as there is an Internet connection, you are able to connect to your CloudDesktop. Desktop as a Service is changing the way people do business in the workplace, as you are no longer chained to your computer. You can access all your files and packaged applications on your virtual desktop.

Encrypted Data Transfer

RapidScale's infrastructure is secured through SSL encryption at 2048-bit. Our software applications are streamed and hosted through Citrix XenApp using 256-bit AES encryption.

Citrix Receiver

Citrix Receiver is an easy-to-install client software that lets you access your documents, applications and desktops from any of your devices including smartphones, tablets, and PCs. As an employee, we know that you use multiple devices on a daily basis and crave a way to get access to all your work content, to help you get your job done.

CloudPortal

The easy-to-use Web portal helps you manage your services and change options at your own time, any time.



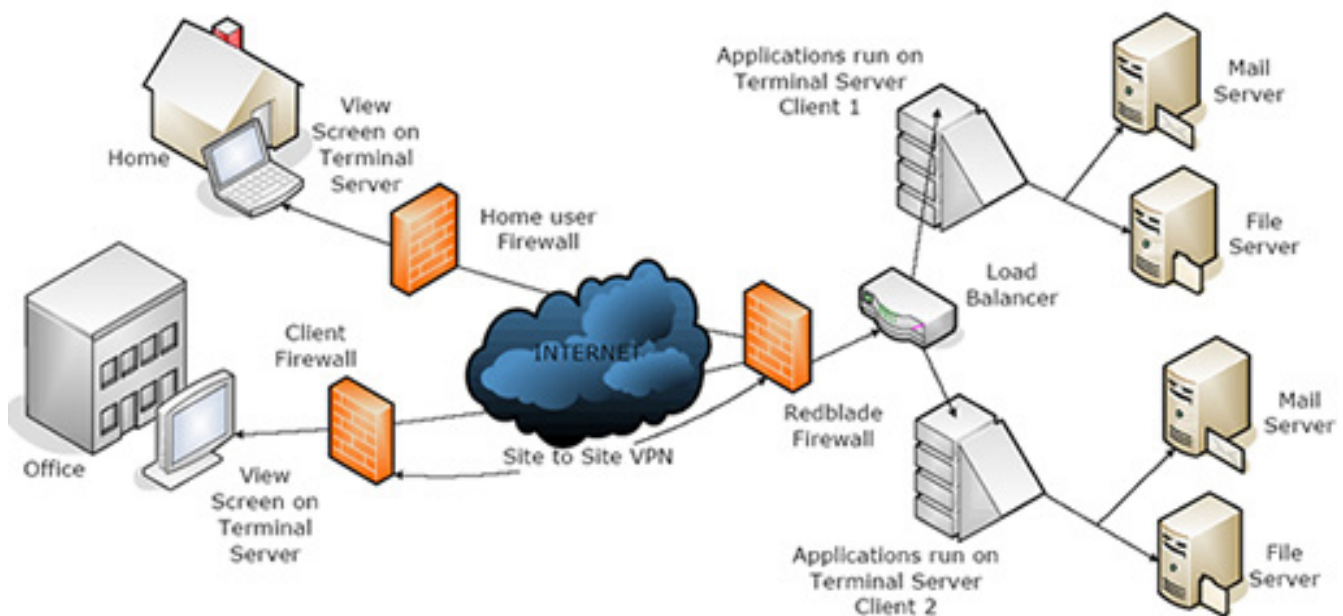
Dedicated Environment

Whether your industry requires a private environment to run your desktop or your applications are unique to your business, a private environment would be the best fit for you. RapidScale's CloudIntelligence team can design a private virtual desktop for your organization comprised of all your business applications. Your organization is in control of your private desktop and will be given permission to make changes to fit your needs. All your data is in a secure data center and can be accessed from any device with your authentication.

Multi-tenant Environment

This environment is perfect for SMB customers. Organizations will be in a multi-tenanted, locked down environment which will be designed for business needs. This environment includes typical business applications in a virtualized environment. Your desktop can be accessed through the Citrix Receiver on any device. Your information is stored safely and always encrypted.

Our enterprise security team and software will protect your business from viruses, malware, and rogue employees at an infrastructure level. Desktop as a Service is the most secure business computer solution for businesses of all sizes. We manage your Desktop as a Service as much as you want or as little as you want with 24x7x365 support at your fingertips. Our CloudPortal Services Manager allows IT teams to manage their end users' CloudDesktops in a private Cloud environment.





Tech Specs

Our CloudDesktop product is built to deliver a robust and flexible virtual desktop environment for your users to maximize security and mobilized productivity. Thanks to its modular and portable design, our engineers have the flexibility to build a powerful and robust platform under which your organization can carry out day-to-day tasks under a dedicated set of resources.

There are several layers to our CloudDesktop product set, most of which share a common genome with our CloudOffice product set. Our CloudDesktop infrastructure consists of the following layers from hardware to presentation:

- Physical Hardware: Blade servers, 10Gb fabric interconnects, border routers, SAN arrays
- Virtual Hardware: VMware hypervisor
- Operating Systems: Windows Server 2008 R2
- Application Orchestration: XenApp 6.5, ThinApp, and Numecent
- Applications: Word, Excel, Outlook, PowerPoint, Acrobat, etc.

Border Routers

We use Cisco routers as gateways into our infrastructure. Our border routers are specifically configured and templated for later use with the specific purpose of ensuring efficient communication as well as prevent and neutralize a variety of attacks from malicious organizations.

SAN Arrays

RapidScale's storage infrastructure is built completely on NetApp controllers and storage shelves. NetApp's unique and innovative file system allows for the highest level of performance available on the market by managing its own filing system and offloading administrative functions onto the SAN, thus freeing up compute on the rest of the infrastructure. We utilize SATA, SAS, and SSD storage platforms to allow clients to choose between performance driven or cost-effective solutions that best fits your applications. CloudOffice runs entirely on SATA which provides more than enough bandwidth for the application demands of this product.

Blade Servers

The vast majority of our infrastructure runs on Cisco UCS Blade Chassis. Cisco's unified computing solutions give us the control and flexibility we need to operate an enterprise-grade environment but still give us the flexibility to introduce different hardware vendors down the line when the hardware market changes. The CloudOffice cluster runs on dual octo-core Intel Xeon processors with at least 256GB or ram per blade.

Fabric Interconnects

Our entire virtualized infrastructure is tied together with Cisco 10 gigabyte fabric interconnects, specifically designed for tying high performance computing systems together. These are all managed through the Cisco UCS Manager, and by hand from a command line interface when necessary. Careful planning by our certified and experienced architects ensures that utilization never exceeds 80% of network capacity or any other resource, ensuring there is always plenty of capacity for your applications.

VMware Hypervisor

Just like the rest of the products we choose to run in our infrastructure, VMware dominates its industry in terms of flexibility and an intuitive management system that is persistently updated with widespread improvements with each iteration. VMware meets and exceeds our needs for a reliable and intelligent virtual server management system that gracefully integrates redundancy, failover, and high availability, even when spread out over large geographical areas. VMware gives us the ability to set reservation pools for dedicated performance or release your organization into our load balanced public resources cluster allowing for large bursts of performance when high demand is placed on the system.

Applications

The entire purpose of the previous layers is to host and maintain the final layer: the application layer. CloudDesktop comes with all of the typical add-ons needed for a traditional Windows experience including Java, Flash, Silverlight, AV and AM protection, etc. Thanks to recent improvements in application packaging technology, we have the ability to package complex applications with in-depth licensing procedures to allow a much wider variety of applications to be integrated into our environment. In the near future this will include plug-in streaming on a per user basis allowing for a truly emulated workstation environment.

Windows Server 2008 R2

The Windows operating system single-handedly changed the face of the computing industry about 20 years ago with the graphical user interface being deployed in an enterprise solution for businesses. To this day, Windows represents a common medium from which users can interact with systems and feel comfortable carrying out their daily tasks. Avoid sending them into culture shock by replacing that common look and feel with a proprietary operating system. By using Windows operating systems, we can ensure compatibility with the vast majority of enterprise application systems. Windows is already designed and built to provide secure and reliable enterprise-grade end user experience while providing the tools to ensure maximum productivity.

Application Orchestration: XenApp, ThinApp, and Numecent:

We utilize several tools for application management: XenApp application and desktop orchestration along with ThinApp and Numecent application packaging delivery platforms. For desktop access we use the Citrix ICA protocol which has developed a reputation as the most efficient protocol in the industry, providing a premium end user experience at just over 100kbps of network utilization. XenApp allows us to efficiently manage large application presentation farms. Citrix offers its own packaging solution that we use to stream different applications that are best suited to this utility. ThinApp and Numecent offer a more robust, in-depth packaging solution than the Citrix utility and have the ability to sandbox the “appdata local” folder and other folder data locations. Numecent actually takes things a step further by intercepting system calls and integrating applications at a kernel level.





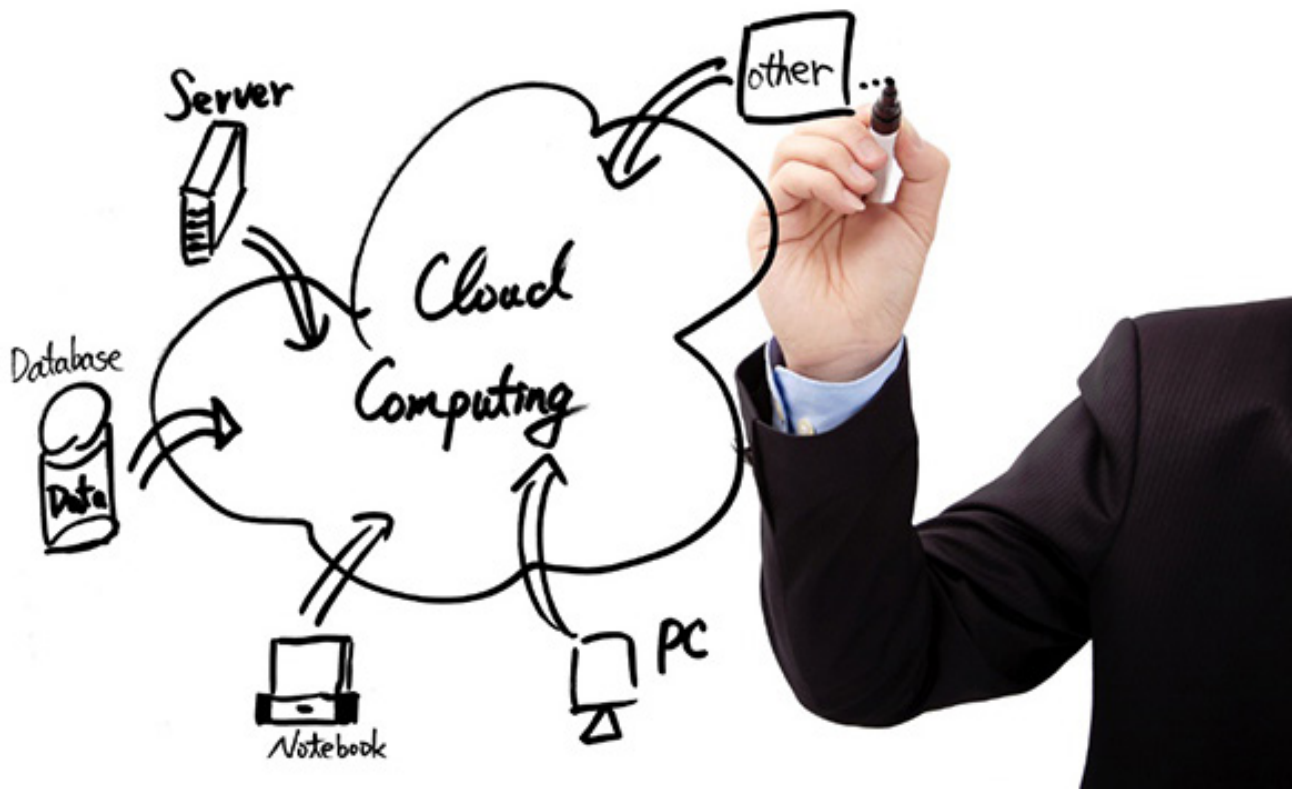
Desktop

Advantages

RapidScale is the global leader in Desktop as a Service. With RapidScale's CloudDesktop, you can access your apps on any device globally. Let our CloudIntelligence team design the right CloudDesktop solution for you. We are the next generation computer. With RapidScale's Desktop as a Service, you can get your applications on any device, anywhere.

Our enterprise security team and software will protect your business from viruses, malware, and rogue employees at an infrastructure level. CloudDesktop is the most secure business computer solution for businesses of all sizes. Desktop as a Service is changing the way people do business in the workplace. You are no longer chained to your computer.

RapidScale's CloudDesktop is scalable and dynamic based on your application needs. If you grow, we grow with you in a cost-effective way. We manage your CloudDesktop 24x7x365. Our CloudPortal Services Manager allows IT teams to manage their end users' CloudDesktops.



“CloudDesktop is the most secure business computer for businesses of all sizes.”

Cost-effective

One of the key benefits of virtual desktops is that Desktop as a Service can dramatically reduce the total cost of ownership (TCO) compared to traditional desktops. According to an IDC white paper, Desktop as a Service can reduce hardware Capital Expenditure (CAP-EX) by 56% annually and also reduce the Operating Expenditure (OP-EX) annually.

When deciding between CloudDesktop and refreshing traditional hardware, you will find that CloudDesktop costs 2 times less. Plus, it keeps PCs living longer due to its inability to get viruses, lack of a local hard disk, and reduced power consumption. When a new upgrade is available, our technical team tests and re-tests all upgrades before launching the latest version of the software to make sure there are no bugs or glitches. Avoiding expensive updates and upgrades are two of the most prevalent benefits to CloudDesktop.

Better Security

There is nothing worse than the fear of downloading viruses, getting hacked, or having your computer lost or stolen. CloudDesktop eliminates all risks because there is no sensitive information stored on any hard drives. If your computer gets hacked or stolen, no information can be at risk.

The biggest perk of CloudDesktop is that malicious files and viruses are not able to infiltrate virtual desktops. This means that using your CloudDesktop is not only more convenient, but it is also exponentially safer.

Mobility

Eliminate the adrenaline rush when you realize you forgot your USB stick with your presentation on it at home. When you leave home, hibernate your desktop and open it right back up once you step foot in the office. You will never have to worry about forgetting a file or project again.

You can access your CloudDesktop from any smartphone, tablet, laptop, desktop, thin client, or any other Web-ready device. This means that no matter where you are and what you are using, you are only a click away from your entire desktop. There is nothing more convenient than having whatever you need, right when you need it.

Flexibility

New CloudDesktops can be created, installed, and ready to use quickly. Instead of checklists, high costs, new software, uploads, downloads, and everything else that goes into setting up a new computer, you have the ability to create and be set up in a matter of minutes, not days. Plus, CloudDesktop is completely scalable without additional CAP-EX.

Disaster Recovery

Do not worry about your computer crashing or losing your sacred data. With CloudDesktop, you get the convenience and peace of mind of a disaster recovery plan that gets you up and running in no time. Plus, you reduce the need to manage your IT and worry about continuous backup being done.



Desktop

Setup

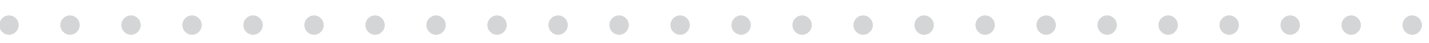
We guarantee personalized support from beginning to end during the implementation phase. Our customers receive a dedicated account manager to project manage installations and ensure everything is going smoothly.

Additionally, RapidScale includes 24x7x365 help desk support based in the US and provides a dedicated point of contact for premium customers.

Once orders have been processed and reviewed, our experts will coordinate time frames and put together a plan for provisioning services. Part of this process includes training regarding provisioning end users and services, supplying documentation, and more. Depending on the type of order, this may also include managed professional services by our Cloud Engineers.

RapidScale's installation procedure and setup recommendation is determined by the type of environment our clients are currently in and what makes the most sense to be configured in. Analyzing the business requirements helps us assess and indicate the type of environment to configure clients in, resulting in being set up in either a multi-tenant, private, or hybrid environment.

CloudDesktop provides a packaged solution, delivering applications specific to business requirements. We offer Enterprise or Custom application packaging as an approach to standardizing the Virtual Environment to meet customer expectations. Maintenance and management costs are immediately reduced and flexibility is limitless, whether choosing to have a locked down environment or customized accessibility.

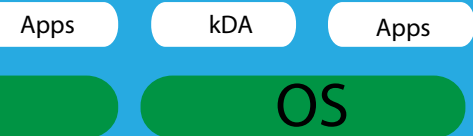


Part of RapidScale's installation procedure includes identifying and understanding our client's management requirements and how the business operates. This allows our professionals to determine which best practice approach is most beneficial and makes the most business sense. From a management perspective, RapidScale provides flexibility. We can create an administrative interface, known as Citrix CloudPortal Services Manager, which links to a front end interface and ties to our NetApp storage on the back end infrastructure.

From an auditing perspective, CloudDesktop is beneficial because it immediately enhances business security. Locked down environments prevent local desktop usage from bogging down Internet lines and force end users into a managed best practices solution. Customization is also scalable and Demo Accounts are available before purchase. Here are some advantages:

- No more hardware refreshes
- Applications are instantly provisioned
- Maintenance costs are substantially lowered
- User profiles can be recreated in minutes
- 24x7x365 help desk support covering all time zones
- US-based support instead of offshore support
- Documentation & tutorials provided
- License management replaced by RapidScale
- Dedicated support for premium clients
- Malware, spyware, viruses cleaned instantly in VDI
- Redundancy
- VDI accessible from anywhere with Internet

ktop-in-a-box



visor

ers



With CloudDesktop, RapidScale offers both private and multi-tenant environments as a solution to customers. The private environment includes additional application delivery customization to meet business preference, at an additional cost per application. In contrast, our multi-tenant environment includes delivering a standard application packaging solution based on our available enterprise applications.

Regardless of customer interest toward a private or multi-tenant environment, RapidScale examines business requirements to determine whether or not our solution is a fit for all candidates. The RapidScale Team also provides a cost savings analysis and will apply best practices based on analyzing business operations to help develop the foundation to application delivery.



Recovery







Recovery

Features

CloudRecovery: Our disaster recovery and business continuity services focus on securing your data and ensuring minimum downtime. We ensure that in the event of a disaster your business applications and data will be safe and accessible. RapidScale's CloudRecovery platform runs on top of our state-of-the-art and secure infrastructure located in data centers throughout the world. We securely replicate your information to our data centers.

Today's business environment is heavily reliant on technology and business applications — more so than at any point in the past. The inability to access key applications such as ERP or CRM solutions for a matter of days could put a company out of business!

The loss of these and other key applications even for a short amount of time can cause serious financial damage to a business. While most businesses believe they are equipped to handle a disaster, several do not have a formal disaster recovery or business continuity plan in place. Furthermore, of the businesses that do have plans in place, often they fail to review them on a regular basis to determine if the plan is still viable within their current business environment.

To assist businesses in being prepared in the event of a disaster or other technology impacting events, RapidScale provides multiple solutions that can be tailored to each business based on its specific needs and requirements. Real revenues are lost when a business is HARD down, without access to their data and applications.

Here is an easy formula to see the cost of a data loss or critical failure to a business network. If the annual revenue is around \$1 million per year and it is a 24x7, 7 days week, 52 weeks a year business model, dividing \$1 million dollars by the 8760 hours will give you the hourly revenue loss. If your annual revenue is around \$1 million per year and the business is an 8:00AM to 5:00PM, 5 day week, 52 weeks a year business model,

dividing \$1 million dollars by the 2080 hours will provide the hourly revenues loss (see below).

- Estimate downtime cost per \$1 million in revenue: Divide annual revenue by 8,760 for 24x7
 - \$114/hour/\$ per million for 24x7
- Estimate downtime cost per \$1 million in revenue: Divide annual revenue by 2,080 for 8x5 operations
 - \$480/hour/\$ per million for 8x5

These hourly losses do not include costs of delays in project time lines, diverted resources, regulatory scrutiny, employee stress, or lost customers, any of which can make the hourly losses seem insignificant.

CloudRecovery with Failover

Our premiere disaster recovery and business continuity product, CloudRecovery with failover, equips customers with the tools they need to ensure their mission critical applications are available to their users during any type of crisis — floods, fires, power loss, server failures, rogue employees, etc. —that can that can occur at the customer's premises.

These include natural disasters that can impact entire communities, cities, states, and even regions of the nation. Business server infrastructure can range from a single-server environment to businesses with dozens or hundreds of servers. CloudRecovery focuses on the key servers housing the applications that a business cannot survive without.

When initiated CloudRecovery can bring a business back up and in production mode within the RapidScale cloud in a matter of minutes or hours versus traditional backup and recovery services that can take hours, days or even weeks.

RapidScale's control panel gives the administrator access to the CloudRecovery services from any device with an Internet connection ensuring that if the time comes the business will be back up and running as soon as possible. RapidScale also offers 24x7x365 Help Desk support for our customers in geographically diverse centers. This provides another path to recovery if, by chance, the customer's IT team was unable to initiate the failover.

How it works

RapidScale will provision virtual servers in the cloud for each of the customer's critical applications. These servers are provisioned in a shadow or hot standby mode with minimal CPU (Computer Processing Units) or Cores and minimal RAM (Random Access Memory) resources to keep the costs down. Using software provided by RapidScale or the customer, the primary servers at the customer premises are set to replicate data to the shadow server(s) at a rate set by the customer to be within the guidance of the customer's Recovery Point Objective (RPO) which should be designated in the customer's Disaster Recovery and Business Continuity plan. The rate at which data can replicate is limited to the amount of bandwidth the customer has designated to this operation. Most customers use a low percentage of their bandwidth during their business hours for replication and then utilize a higher percentage of the bandwidth on off or slow hours to catch up with their data replication. This occurs most often in the evenings and over the weekends. There are those businesses where the RPO is extremely high, meaning the business requires that very little data will be lost in the event of an outage and they require real time replication. In these instances, the customer will designate separate bandwidth resources to provide full time data replications thus not impacting their normal need for bandwidth for other business operations. As the data passes through the shadow server(s) it is stored in RapidScale's SAN environment. All the customer's data resides within the RapidScale Cloud and is accessible by the shadow servers in the event of a major failure or disaster.

Once the decision has been made to failover to the RapidScale CloudRecovery service, either the customer's IT team or the RapidScale support team will log into the Control Panel and assign additional computing resources (CPUs and RAM) to the shadow server(s) and move them into production mode. This process takes an average of four to fifteen minutes to take effect. The next step is to re-point the end users to the Cloud by re-pointing the external DNS to RapidScale. End users are then able to initiate connections and authenticate with their user credentials to the virtual server(s) where they can log back into the system and resume work. End user performance will always be predicated on the bandwidth connectivity at the remote sites — satellite offices or employee homes. But once connectivity is established the ability to function is restored.

RapidScale's infrastructure resides in Tier 3, Class 1 data centers, which provide the highest level of availability. These facilities have fault-tolerant site infrastructure with electrical power storage and distribution facilities with expected availability of 99.995%. All cooling equipment is independently dual-powered with multiple independent power distribution paths. They also feature dual redundant UPS battery systems with multiple diesel generators to power the facility for seven days without primary power from utilities. We maintain priority contracts for diesel refueling (second only to hospitals, medical centers, first responders, and government agencies). These are just a few advantages over a customer-based or lower-tier data center.



Recovery

Tech Specs

What is Disaster Recovery Assurance?

Disaster Recovery Assurance is a methodology that guarantees the failover of business-critical applications and IT services when a data center experiences a severe disruption. More specifically, DR Assurance incorporates fully automated DR testing, as well as the automatic enforcement of Recovery Point Objectives (RPOs) and verification of Recovery Time Objectives (RTOs).

DR has existed for more than forty years. What is new about assuring DR?

In the virtualization/cloud era, IT infrastructure changes constantly and DR procedures become obsolete very quickly. Doing a DR test once or twice per year is simply not enough. Corporate boards, supply chain partners and sector standards are requiring IT to prove they comply with RPOs and RTOs at all times.

What is a Certified Recovery Point?

A Certified Recovery Point (CRP) is a complete production snapshot of an application or IT service that has been tested, and whose ability to be recovered has been ascertained according to a set of business rules. CRPs replace RPOs in the DR Assurance paradigm, providing coherent checkpoints from which applications and IT services can be restored with certainty and within a known and predictable amount of time.

What is a CRP Retention Policy?

CRP retention policies create and maintain multiple, certified snapshots of complete applications or IT Services at the DR site over time. This enables organizations to recover from rolling disaster scenarios, such as virus attacks or silent corruption, very quickly and easily, by rolling back in time to a known good certified recovery point.

What is a Recovery Sandbox?

A recovery sandbox is a Virtual Data Center (VDC) disaster recovery testing environment that is created dynamically by the DR assurance process and then removed, once testing is complete. You can think of it as an “on-demand” mini virtual data center where the ability of complete applications are recovered and IT services are tested, in isolation from the production environment, and where actual RTO and RPO can be measured and recorded.

What is a Service Dependency?

A service dependency occurs when an IT Service stores data within a “shared” back-end database, or is co-dependent upon a directory service, such as Microsoft Active Directory, which can make disaster recovery testing more complex and time consuming. CloudRecovery is able to accommodate complex IT service dependency scenarios, which simplifies and accelerates the disaster recovery testing process.



What DR tests can be run in the Recovery Sandbox?

Virtually any DR test that can be scripted using Windows PowerShell or Linux base can be run on any virtual server, application or IT service running within the Recovery Sandbox.

Does RapidScale CloudRecovery Support Failover and Failback?

Yes. RapidScale CloudRecovery enables servers, applications and IT services to be failed over and failed back between the primary and secondary sites at the push of a button. The ability to failover quickly and easily reduces downtime in the event of a disaster and when the time comes, significantly reduces the level of complexity and time required to restore systems back to the primary data center.

What is the impact of DR Assurance on the production site?

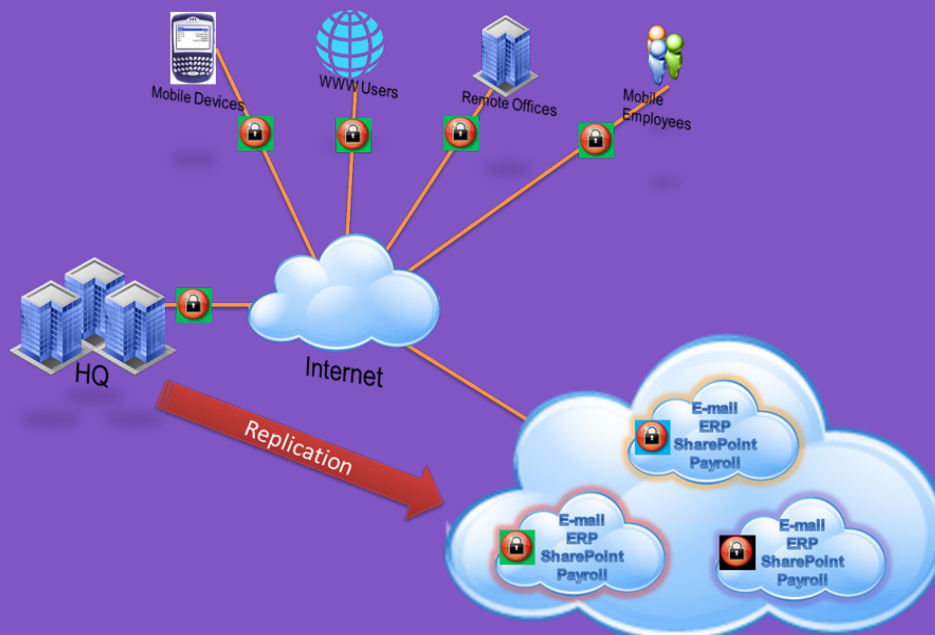
RapidScale CloudRecovery is totally agent-less and installs no VMs or any software whatsoever on the production site. When using hardware replication, it does not affect production performance or stability in any way, requires no DR windows and introduces no risk to the production systems.

Can RapidScale CloudRecovery orchestrate migrations?

Yes. CloudRecovery can be used to test if a planned data center migration can be carried out successfully, as well as perform the data center migration itself. With CloudRecovery, it is also possible to stage migrations so that each IT service can be DR tested in the target site and then failed over individually.

Can the RapidScale CloudRecovery Recovery Dashboard be accessed via a Web Browser?

Yes. The Recovery Dashboard can be accessed remotely using a Web browser, which enables in-house IT staff and managed service providers to monitor the recovery of business applications and IT services remotely. The Web Dashboard also enables in-house IT staff and managed service providers to access customer-centric reports of their recovery readiness and RPO/RTO SLA compliance over time and improves security. It removes the need to login to the CloudRecovery server management console directly.





Recovery

Back-Up

RapidScale's CloudRecovery (backup only) is a storage-on-demand, data storage solution that provides businesses with complete control over the storage, distribution and retrieval of data from any location, anytime, using our CloudPortal. CloudRecovery delivers a full range of benefits customers have come to rely on including rapid implementation, elimination of upfront capital expenditures on hardware and ongoing maintenance costs, and the ability to rapidly deploy additional storage on an as-needed basis.

It is designed to help mid-sized businesses easily implement cloud storage infrastructures that support key data protection functionalities such as replication, backup/restore, data archiving, disaster recovery, data & application mobility, data availability/security, and elastic capacity.

NetApp is used for CloudRecovery and offers IT efficiency, business agility and simplified management to our facilities. NetApp's SAN solutions increase storage efficiency, simplify management across heterogeneous environments, and lower TCO. This reduces backup time, improving data recovery and cutting infrastructure and administrative costs. Backups transfer only new or changed blocks to shrink backup windows, minimize network traffic and reduce disk capacity requirements by 90%.

CloudRecovery combines massive scalability and unparalleled flexibility with automated data placement, efficiently delivering content and information anywhere in the world through a standard interface.

Cloud Storage Attributes:

- Adaptive data storage that expands in real time to accommodate the amount of data inside
- Enterprise-grade network security features
- Predefined storage policies to control distribution of data
- Pay-for-what-you-use pricing that includes storage capacity, network, and security services
- Round-the-clock access to your data backed by a service-level agreement of 100% availability

Cloud Storage Benefits:

- Specify location of the data, which impacts performance objectives and regulatory compliance
- Avoid upfront capital expenditures on hardware and ongoing operating expense on maintenance
- Utilize additional storage capacity without additional planning or integration
- Meet peak demand without over provisioning
- Supplement your other storage systems for data retention

“CloudRecovery combines massive scalability and unparalleled flexibility with automated data placement, efficiently delivering content and information anywhere in the world through a standard interface.”

How it Works

RapidScale’s Cloud Engineers will work hand-in-hand with the customer and his or her IT support staff to ensure the correct amount of backup has been calculated. Based on the amount of data to be backed up and the bandwidth capacity at the customer premises, it will be determined if the backup can be completed in a timely manner over the wire (over the Internet) or if the data should be “seeded” and sent directly to the data center to be uploaded by a RapidScale Cloud Engineer. This is the most common practice.

If the backup can be done over the wire, the RapidScale engineer will work with the IT support of the customer to establish a connection and start the download. If the data needs to be sent to RapidScale, then the customer’s IT support will copy the data to a portable storage device such as a hard drive or an NAS. They will then FedEx the device to the desired RapidScale data center, typically on a Friday at the close of business. A RapidScale engineer will receive the device on a Saturday and download the data to the NetApp storage gear. Upon completion of the upload into the SAN, RapidScale will work with the customer’s IT support to ensure all changed data is cloned successfully from the source to the destination and that ongoing replication is taking place.





Server



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Server

Features

Infrastructure as a Service abstracts hardware (server, storage, and network infrastructure) into a pool of computing, storage, and connectivity capabilities that are delivered as services for a usage-based (metered) cost. Its goal is to provide a flexible, standard, and virtualized operating environment that can become a foundation for Platform as a Service (PaaS) and Software as a Service (SaaS).

Built in a private cloud environment with encryption, firewalls, and monitoring, your applications will be safe and secure. Additionally, moving your applications to the cloud allows you to receive the benefits of Disaster Recovery. CloudServer utilizes the best technology both HP and Cisco servers have to offer. We have also designed an easy-to-use control panel that will allow you to make changes to your servers on demand.

CPU and Storage

VMs are based on the number of CPU cores, amount of RAM, and amount of local storage that comes with each VM. Storage has virtually unlimited space and is available at different increments. Storage amounts can be increased on demand.

Licensing

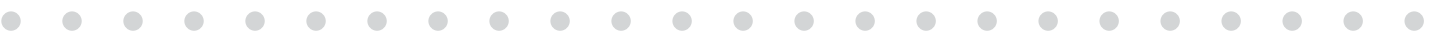
RapidScale is able to move all of your business critical applications to the cloud. RapidScale can use your existing licensing or help provide licensing on applications. In combination with moving your business critical applications, RapidScale will move all of the data associated to the application.

Design

Our high performance clouds and dedicated private clouds provide on-demand access to the infrastructure, applications, and data needed to satisfy your financial, operational, and IT objectives. We will take care of your installation and maintenance – backed by our usual 100% uptime SLAs on power and IP service.

Performance

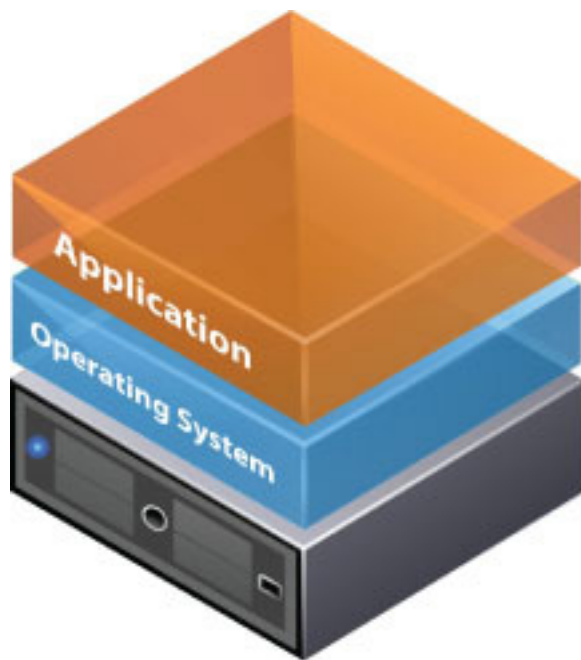
We support high-volume constant and bursting workloads across your network, disk, CPU, and bandwidth. Without oversubscribed CPU or RAM, backed by an all-10 Gigabit network, RapidScale's cloud offerings outperform the leading cloud offerings.



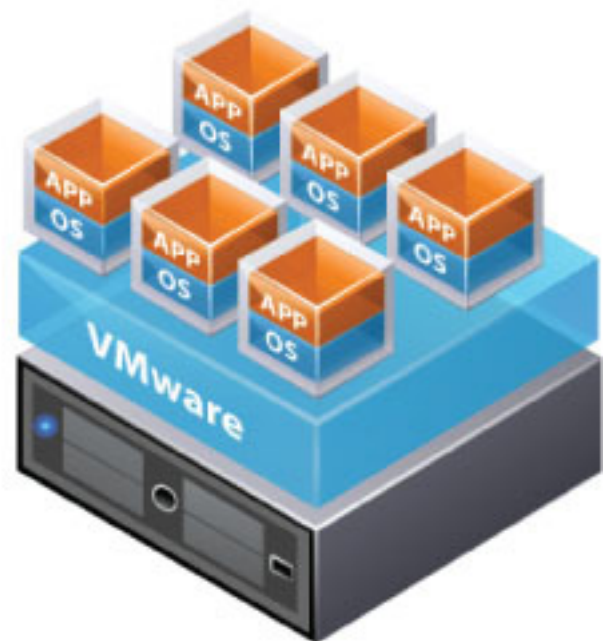
Virtual servers offer numerous advantages over physical servers. Manageability of virtual servers is easier because you can easily connect to the servers console remotely without the need for special remote access hardware. You can also duplicate virtual servers and create templates to quickly create new ones. Lastly, virtual servers all see the same virtual hardware (except for processors) regardless of the physical hardware they are hosted on. This ensures that your applications all run on similar hardware to eliminate problems that may arise from dissimilar hardware. On the other hand, virtualization does come with some performance hits, especially with I/O. For most server operations, CPU is not going to matter, and the benefit of

consolidation is going to outweigh the CPU overhead (especially since many servers would otherwise spend a lot of time idling). Processor-intensive operations (e.g. some financial calculations) or I/O heavy servers (e.g. databases) are often not good candidates for virtualization. You should also watch out for server sprawl when departments make too many VMs. Because it is so easy (and cheap) to create a new server with virtualization, departments tend to be less careful about requesting them. If you are not careful, you can end up with dozens of servers (or more) taking up disk space and need to be patched and updated. Preventing this is largely a procedural matter.

VMs do make for good test systems, too; the added flexibility makes it easier to test the system with different configurations. They can be a great way to move legacy servers to new hardware. Some legacy OSs or apps may not be able to run on newer hardware directly, but you can virtualize them and present them with an environment that looks to them like the old system.



Traditional Architecture



Virtual Architecture



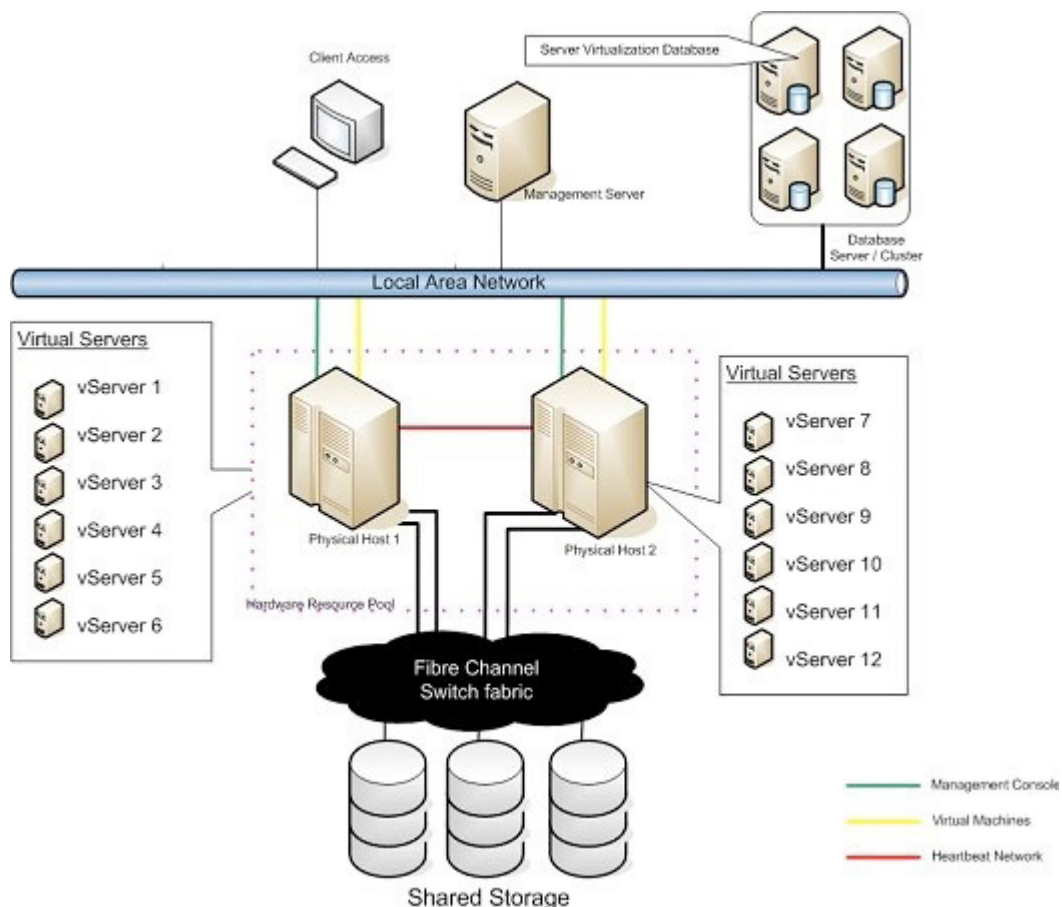
Server

Advantages

RapidScale wants to make moving to the cloud easy and cost-effective. We offer top of the line infrastructure as a way to solve the problems of managing, supporting, building, and paying for enterprise-grade Infrastructure as a Service. RapidScale has architected the infrastructure efficiently which has allowed us to pass discounts onto our clients.

With your servers and our Cloud, you will receive the best service in the industry. RapidScale gives you on-demand capacity with the best infrastructure tools and utilities in the industry. CloudServer is backed by vCloud hypervisor, NetApp storage, and Cisco UCS blade chassis.

Infrastructure as a Service lets you quickly seize new business opportunities and get projects up and running faster, without waiting for IT to be deployed. Scale your IT usage up and down to meet seasonal demands, project-based requirements or growth. A business is able to seize new projects and be up and running faster with minimum IT effort.



“A business is able to seize new projects and be up and running faster with minimum IT effort.”

Security

RapidScale's data centers feature top of the line security with on-premises security guards, exterior security systems, biometric systems including palm scanners, security scanners, and continuous digital surveillance and recording. Get 100% uptime guaranteed with HIPAA and PCI security compliance. Our data centers are enterprise-grade at a fraction of the price. We are one of few organizations whose infrastructure and security processes are at the Tier 3, Class 1 standards.

Reduce Risk

Owning your own infrastructure can be expensive, time consuming, and frustrating. With RapidScale's CloudServer, you reduce the risk of owning your own infrastructure and the efforts that come with it. Eliminate the hassle of capital expenditure that can be daunting, especially when RapidScale's CloudServer is on a pay-as-you-go model. When you have predictable, consistent monthly costs, you can simplify your budget and planning.

Eliminate IT headaches

CloudServer is accompanied by the best CloudIntelligence team in the industry to help you through any setup or questions. We can maintain as much or as little as you want and can help with all upgrades and updates.

Multiple Data Centers

RapidScale's infrastructure resides in multiple data centers domestically today and expanding globally in 2013. These data centers are fully redundant. In the event of a natural disaster, RapidScale's customers can be assured that their business-critical applications will be fully redundant in a different data center and can be redirected and ready to resume business as usual.

24x7x365 Support

RapidScale has two call centers with IT professionals staffed at any given time. This allows you to operate worry-free and know that you always have support. Whether it be after-hours maintenance and testing or changes in your infrastructure, you will always be able to know that this can be done with our assistance.

Enterprise Level Infrastructure

Leveraging the infrastructure in RapidScale's data centers for your business critical applications will allow you to operate like an enterprise-level organization. This will be done at a fraction of the cost it would be to own the gear and maintain it.



Server

Setup

With recent improvements in virtualization technology, deploying servers has never been simpler to do. From clustering and resource pooling to graphical Web GUI management interfaces, deploying and managing large-scale server infrastructures has become a breeze.

With a physical server deployment, the following steps need to be taken by yourself or the hosting organization:

- Source and acquire the hardware needed to run the infrastructure including:
 - Racks, servers, switches, routers, firewalls, PDUs, storage arrays, cabling, misc. hardware
- Assemble the necessary infrastructure.
- Configure the infrastructure.
 - Formatting servers, configuring the network, configuring storage, installing and configuring operating systems, linking the systems together, troubleshooting and optimization

Virtual Server Deployment

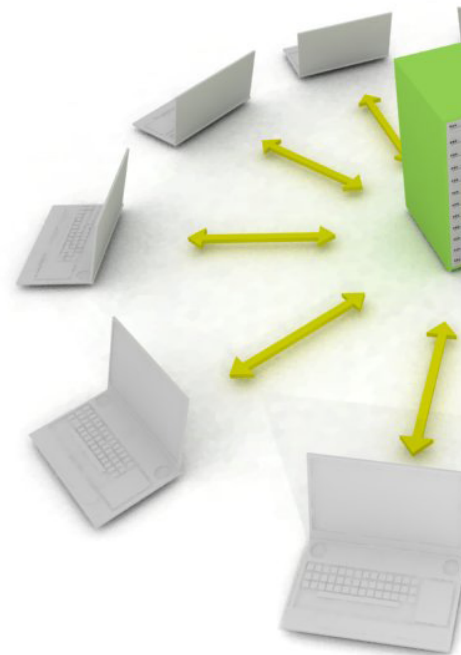
Thanks to virtualization, this has all been reduced to a number of a few short clicks to complete these tasks. Thanks to the vCloud director, the power of this technology has now been placed in YOUR hands. vCloud gives you the ability to spin up, spin down, configure networks and resources, reboot, repair, and control the console of new and existing servers without any action on the part of RapidScale staff.

Of course we can always take care of this for you, but for hands-on customers that do not want our staff to access to their systems, this option is always available.

Spinning up new servers is as easy as selecting one of our preconfigured vApps that contain all of the servers necessary for a technology and clicking deploy. All that remains is configuring the network and applications, and your server is up and running in the cloud.

Migrations and Cutovers

Any IT director who has managed or performed a migration knows that they are always a nightmare. The reality is that they are unavoidable. However, with recent improvements in virtualization combined with RapidScale's seasoned, experienced engineering staff, migrations have never been easier.



First our engineers will sit down with your staff and gain an in-depth understanding of your current infrastructure while addressing any weak points or existing issues that could potentially cause issues during the setup and migration process. Next, a migration road map is drawn up and followed to the tee. Once the sales and engineering quotes have been approved, operations will deploy the servers according to specifications. After the new servers have been deployed, provisioned, updated, and prepped for cutover, data replication can begin. This is typically done over the Internet for customers with high bandwidth and via USB hard drives for customers with low bandwidth. While data is being transferred, a cutover date is scheduled (and may be adjusted due to unforeseen complications) when services will be cut over to the new systems in the cloud. Below are several services that are typically migrated and how the process works for some of the most popular applications and data systems on the market.

Websites

Websites are typically on the easier end of the spectrum when it comes to migrations and cutovers. A physical to virtual migration is performed and flat files are copied to the new server. They typically operate on fairly common platforms and are relatively simple in nature. Most Web servers contain flat files that can be copied persistently at a flat file level and then cut over via DNS after the new server has been determined to be stable and ready for production.

SQL/Databases

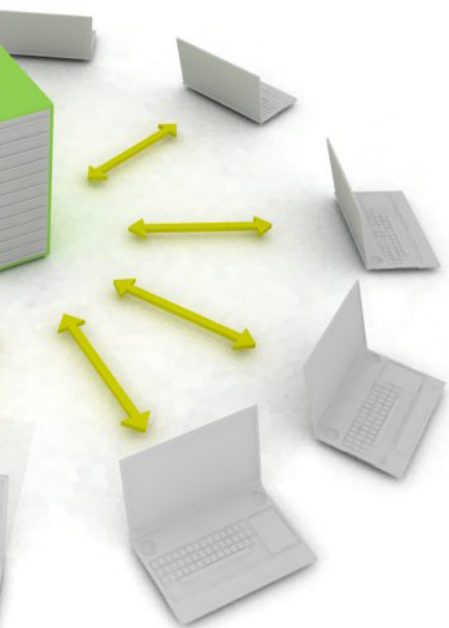
SQL Databases tend to be more complicated when it comes to cutovers as database backups. Restorations are typically used to cut over and involve downtime. They also participation of database administrators on the source side if this work is contracted out to a 3rd party.

Terminal Servers

Terminal servers operate in the same difficulty level as Web servers. For these we will almost always use a Physical for Virtual utility to literally capture an image of the hard drive and deploy it against virtual hardware in our data centers. This typically involves no downtime. For changed data, Robocopy or a similar utility is used to copy flat files from the source to the destination. Once this has been completed the DNS can be cut over to the new servers.

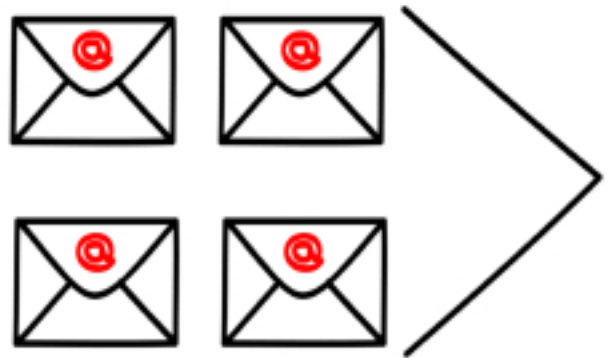
Print Server

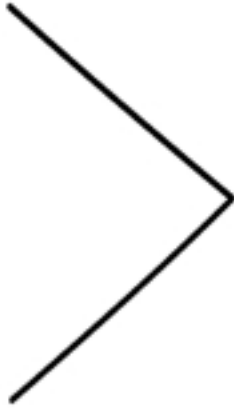
Print servers are equal to terminal and Web servers in terms of difficulty. Typically, they are virtualized and placed right into the data center and are cut over. Very rarely will any data replication need to occur between the P2V process and cutover.





Mail







Mail

Features

Microsoft Exchange Online provides business-class email, calendar and contacts to your PC, phone and Web browser. Delivered as a hosted service from Microsoft, Exchange offers a high standard of physical and digital security for your information while providing the control you want and the reliability your business needs.

For a monthly fee per user, you can run your email on RapidScale's globally-redundant servers, protected by built-in anti-virus and anti-Spam filters and supported by 24x7x365, IT-level phone support. Hosted Exchange has been designed specifically to meet today's business and IT challenges while delivering on the capabilities demanded by mobile workforces.

The Best Out There

Enjoy built-in protection from Spam, viruses, email spoofing and snooping, system downtime, and compliance risk. Get access anywhere to vital communications — such as email, voice mail, and calendars — from a variety of clients and devices. Experience operational efficiency to help optimize hardworking and networking investments and improve IT productivity.

Exchange 2010 makes it easier to protect both your data and messaging system. With Exchange 2010, you get:

- Automatic encryption at both the channel and message levels to help control access to data and ensure trusted communications both inside and outside the network
- Multi-layered anti-Spam filtering comes with continuous updates to help guard against increasingly sophisticated Spam and phishing threats

- To protect against malware, leading anti-virus solutions can be integrated throughout the Exchange 2010 network

No Separate Fees for Support

RapidScale offers 24x7x365 support as part of our CloudMail service. RapidScale also offers a Sr. Cloud Consultant to oversee your account. We realize the first move to the cloud is through Infrastructure as a Service including:

- CloudMail (Microsoft Exchange) and Disaster Recovery as a Service (CloudStorage)
- Low Density Storage, High Density Storage and CloudFailover – Automated Application Failover

Save Money

With RapidScale's Infrastructure as a Service solution CloudMail, our goal is to remove the budgeting burden from clients and enhance the end-user experience. Part of our service is to analyze our client's organizational needs and to provide suggestions toward improving budgeting.

At an affordable per user cost, your organization can benefit from the latest version of Microsoft Exchange and stay up-to-date with technology and licensing.

All of our hardware is patched with the latest security updates. All of our software is completely up-to-date. Eliminate the headache in your organization by coordinating upgrades, budgeting costs toward resources, completing upgrades/updates, receiving support, and freeing users to do their main role with maximum uptime.

We guarantee 24x7x365 uptime and provide 100% US-based support to our clients. Our Cloud Engineers and Sr. Cloud Consultants are all internal employees and are dedicated to providing you with first-class support. RapidScale's CloudMail differs from its competitors in that it not only helps our clients save short- and long-term costs, but also includes support with its services.





Mail

Details

Exchange 2010 makes it easier to protect both your data and messaging system. Plus, with a familiar Web-based experience, Exchange allows you to experience more flexibility and accessibility from wherever life takes you. Your inbox automatically updates with ActiveSync to keep your data up-to-date and accurate. Keep track of everything important with fast and accurate searchability accompanied with a smooth user experience.

Email holds much of the information businesses use daily, making the need to easily preserve and search this information essential. Exchange 2010 offers searchable, legally-compliant email archiving for all users. Plus, Exchange 2010 offers improved storage performance and new resiliency features so users can have bigger and more reliable mailboxes without an increase in cost.

- Encryption
- Anti-Spam
- Anti-virus
- Universal inbox
- Web enhancements
- Efficient interface
- Unified inbox
- Managed flexibility
- Simplified archiving
- Faster delivery
- Enhanced availability
- Improved administration
- More storage flexibility
- Policy management
- IRM policies and support
- Simplified task delegation
- Accelerated voice mail
- Proactive troubleshooting

Stay Secure

Exchange 2010 features automatic encryption at both the channel and message levels to help control access to data and ensure trusted communications both inside and outside the network.

Multi-layered anti-Spam filtering comes with continuous updates to help guard against increasingly sophisticated Spam and phishing threats. To protect against malware, leading anti-virus solutions can be integrated throughout the Exchange 2010 network.



Always Be Up-To-Date

Exchange 2010 supports a comprehensive mobile experience delivered by Exchange ActiveSync. Access a truly universal inbox on your mobile device that can include email, voicemail, rights-protected messages, calendar requests, RSS feeds, saved instant message conversations, and more. The service provides over-the-air sync on hundreds of compatible devices so email, contacts and calendar are always up-to-date. Experience greater control over device access with policy support and allow/block/quarantine lists, including exceptions down to the individual user level. No need to purchase or manage a separate system or buy additional licenses for mobile access — it is all included with Exchange 2010.

Archiving and Retention

Email holds much of the information businesses use daily, making the need to easily preserve and search

this information essential. Exchange 2010 offers searchable, legally-compliant email archiving for all users so they can easily access their own email archives within their Inbox. Plus, automatic archiving eliminates the need to monitor user archiving. Exchange 2010 is easy to search across multiple end-user mailboxes at once, which eliminates the need to purchase and maintain a separate email archiving product.

Flexibility

Whether deploying on-premises, in the cloud, or in a combination of the two, Exchange 2010 helps reduce costs and provides tools to simplify the deployment experience. Exchange 2010 allows you to drive down the cost of storage by offering additional storage architecture choices in on-premises deployments. Plus, use hardware virtualization to consolidate multiple under-utilized physical servers in on-premises deployments.

Exchange 2010 provides new tools and management approaches that give users more control and make your help desk more efficient. Plus, with unified messaging, you can save time and money while offering users more convenient access to voice mail messages.





Mail

Advantages

We guarantee 24x7x365 uptime and provide 100% US-based support to our clients. Our Cloud Engineers and Sr. Cloud Consultants are all internal employees and are dedicated to providing you with first-class support. RapidScale offers professional services to migrate customer data and provides a Cloud Concierge service to set up end users.

When paired with DaaS (Desktop as a Service), email management solutions have been enhanced with a user-friendly control panel. The Cloud Control Panel provides end-to-end administration for everything — desktops, email, file sharing, user/service provisioning, etc.

Reduce/remove fees with RapidScale

- Hardware & Software
- Maintenance
- Equipment Refreshes
 - Re-purchasing (conducted every three years on average)
 - Upgrades
 - Our hardware is patched with the latest security updates
 - Our software is completely up to date

Eliminate headaches in your organization with RapidScale

- Coordinating upgrades
- Budgeting costs toward resources
- Lack of support due to upgrade failures/issues, resulting in downtime
- Limiting users from their main role to complete upgrades

By moving to the Cloud, internal resources are allowed more focus on primary tasks and making business improvements.

“RapidScale offers professional services to migrate customer data and provides a Cloud Concierge service to set up end users.”

Low Cost

At an affordable per user cost, your organization can benefit from the latest version of Microsoft Exchange and stay up-to-date with technology and licensing.

Large Mailbox Sizes

At 25GB per mailbox, your employees will no longer have issues with mailboxes filling up.

Secure

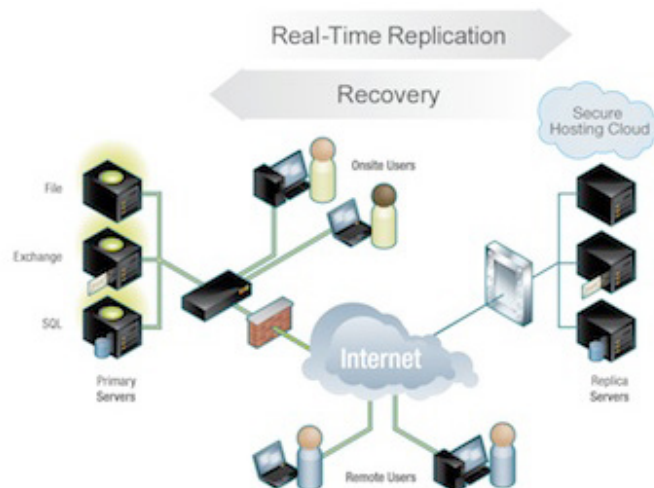
Secure and durable technology platform with industry-recognized certifications and audits. Microsoft Exchange combines built-in anti-spam and encryption technologies with an advanced anti-virus infrastructure for efficient management of a wide range of security threats.

Fast Deployment Time

Add users easily through our CloudPortal as needed. Initial migration and installation can be done within 30 days. Expedites are also available.

Eliminate Hardware Refresh

We provide pay-as-you-go pricing, which eliminates hardware acquisition costs and allows you to pay only for the capacity you need. We do all of the hardware management, so you can focus on higher-value activities rather than replacing hard drives.





Mail

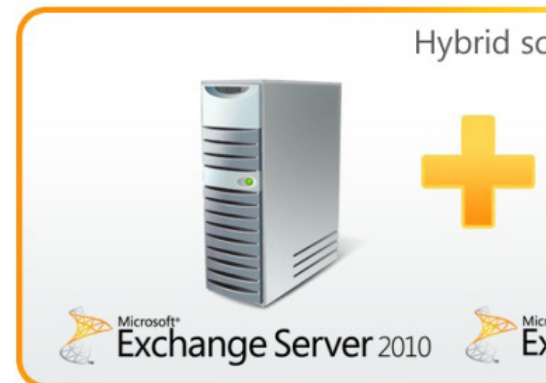
Setup

During installation, your CloudTeam is with you for support and setup from start to finish. The process begins once order processing is complete. We initiate with a kick-off call to establish guidelines, time lines, procedures, and order review. We verify that everything is correct including billing information, order licensing and customer worksheets to make sure migration is inclusive of the correct data.

Once all the open items are addressed, the provisioning segment is initiated. Each step of the process is guided and facilitated by the experts of our CloudTeam from beginning to end. At initiation of the project, a Go Live date is established.

RapidScale's IT staff follow a step-by-step procedure when provisioning services for clients, beginning with creating customer accounts in Citrix's CloudPortal interface previously known as Cortex and now called CloudPortal Services Manager.

The CloudPortal Services Manager is a one stop shop virtual management interface used for configuring applications and infrastructure for end users. This is a highly added value for all business environments, especially with available flexibility toward bulk administration and changes being able to be conducted from anywhere in the world, simply with an Internet connection.



Part of CloudMail’s service installation requires RapidScale professionals to identify the kind of mail configuration clients are transitioning from, whether it is POP3, IMAP, or Exchange and if insourced or outsourced. RapidScale uses one of the world-leading enterprise migration tools as a solution and will additionally provide assistance to customers’ IT staff. Also, we will often complete tasks required on the customers’ end such as changes to DNS records, etc. (with the appropriate credentials provided by the client).

As part of servicing end users, RapidScale provides all appropriate communication channels including documentation, dedicated account management, and 24x7x365 call centers with level 1 to level 3 engineers. Additionally, clients have the option to migrate mail data on their own at a lower discounted rate with limited support.

- Latest version of Exchange
- Spam filtering included
- Hardware redundancy to avoid disasters
- Encryption at a file-system level
- 25 GB per mailbox
- Unlimited bandwidth
- 24x7x365 US-based help desk
- Enterprise migration tool for migrating email data
- Project-managed mail migration
- Support documentation
- Optional professional services/turnkey solution
- License management



RapidScale professionals coordinate the CloudMail install from start to finish. Part of this process includes configuring DNS settings (adjusting MX records, CNAME records, etc.), certificates, decommissioning old Exchange servers (if customers are fully migrating to RapidScale’s Exchange Server), and more. We offer customers the option to either migrate data on their own for a lower cost or have RapidScale completely take over the process.

Migrating to RapidScale’s Exchange infrastructure is highly beneficial to customers in various ways. Our infrastructure is hosted in a Tier 3, Class 1 data center with redundancy. Exchange mailboxes come standard with 25GB (which is scalable and can be adjusted in minutes). Management interface is available depending on customer structure, webmail access, and more.





Office







Features

CloudOffice is an all-encompassing Cloud solution designed with the SMB marketplace in mind.

Small- and medium-sized businesses are leaders in adopting new technology and all too often that technology is priced out of their reach, but not any longer!

Trends such as Bring Your Own Device (BYOD) and Follow Me data are compelling businesses of all sizes to initiate solutions that can support collaboration and mobile workforces. In addition, these businesses need to ensure that their proprietary data stays secure and in some cases meets or exceeds compliance requirements. All of this tied around the ongoing need for traditional IT support of the desktops, laptops and server infrastructure creates a shift to a new paradigm in businesses everywhere.

CloudOffice is a secure and robust solution set combining RapidScale's four core products and services: Infrastructure as a Service (IaaS); Disaster Recovery as a Service (DRaaS); Desktop as a Service (DaaS) and Hosted Exchange. In order to provide a comprehensive solution, CloudOffice also includes Microsoft Office 2010, Exchange 2010 and Lync in its base offering. Optional products are available to enhance the solution set including Microsoft SharePoint, Citrix ShareFile as well as Wyse Zero/Thin clients. While the CloudOffice was designed with the SMB marketplace in mind, it can be utilized by businesses of any size depending on their application needs.

Unlike many competitive products, CloudOffice was built on a multi-tenanted Geo Load Balanced Active/Active architecture. This unique design offers several benefits to its end users but most importantly means that customers' virtual environments are built redundantly upon one another creating the ultimate design in Disaster Recovery and Business Continuity.

RapidScale's CloudOffice product replaces a client's physical IT infrastructure, moving all the customer applications onto RapidScale's enterprise-grade infrastructure eliminating the need for the client's IT team to maintain and support the physical hardware. This will also minimize the workload on the customer's finance department regarding procurement of IT hardware and associated maintenance contracts. RapidScale's consistent hardware refresh cycles ensure that customers' applications are running on reliable maintained equipment at all times.

The CloudOffice suite also provides users with virtual desktops also referred to as Virtual Desktop Infrastructure (VDI) or Desktop as a Service (DaaS). Until recently this product was available primarily to mid-market through enterprise-sized businesses due to the amount of hardware, software, expertise, and cost associated to the solution. RapidScale's affordable solution brings this technology to businesses of all sizes to improve portability, manageability and compatibility of desktop environments.

Employees can access their desktops from any device anywhere in the world with an Internet connection, increasing productivity and optimizing mobility.

CloudOffice also eliminates the need for customers to design and implement data backup procedures as well as Disaster Recovery and Business Continuity solutions around IT infrastructure and company data. By design the services are built in geographically redundant data centers in an active/active environment, meaning that if the primary site for the customer CloudOffice services were to go offline the secondary site would initiate and all users would be routed to that site. This architecture creates

an additional benefit to customers with multiple locations across the country as well as employees who travel for business. The service automatically routes the users to the data center that is closest to them geographically providing the lowest latency route possible.

Small and medium sized businesses can also depend on CloudOffice to provide them with the most popular products from Microsoft. The following products are included in the monthly subscription rate: Microsoft Office 2010 with Word, Excel, PowerPoint, Publisher, and OneNote; Microsoft Exchange 2010 for email access with dozens of features; Microsoft Lync for instant messaging (IM).

Document storage solutions are also available when RapidScale manages the licensing for the client for an additional monthly fee. Microsoft SharePoint, Citrix ShareFile and InfoPreserve are all robust document management systems that allow users to access their documents from any Internet enabled device anywhere in the world. These collaborative software solutions include customizable IT settings for document security and control as well as archiving and compliance.

Sales representatives can now work completely mobile and create documents, including contracts, alter these documents and in some cases acquire a digital signature to complete the deal. RapidScale is continually working to add or “package” the most popular software applications available to run in the virtual environment ranging from accounting and finance through sales and marketing touching on applications in each department of a business.

CloudOffice allows IT staff to better manage the company’s desktops, laptops, life cycle, maintenance and break fix. When all the computing power and storage is moved to the Cloud, traditional desktops become a passive devices just connecting through Internet to the virtual desktop. This can greatly reduce the amount of time and resources spent on keeping an aging desktop infrastructure running, not to mention the ease of implementing a new IT policy or application across the company’s desktops. From the control panel or through the RapidScale help desk, an administrator can enact a new policy or upgrade a program and immediately change all user profiles to comply. In the event that a user loses their laptop or their desktop implodes, no longer will that valuable data be lost nor will that employee be unable to do their job for several hours or days. The IT staff simply assigns a new laptop or desktop and the user logs back into their virtual desktop and they are up and running as if nothing has happened.

For businesses looking to lower their costs on purchasing new desktops or refreshing their existing assets, CloudOffice is perfect for converting to zero clients or thin clients. These devices are considered “dumb” terminals. They allow an end user to connect to the Internet and the virtual desktop as well as physically connect a monitor, keyboard, mouse and speakers. These devices range in price and performance mainly through graphical interfaces and the number of monitors and USB connections available. The typical life cycle on these devices is five to seven years. However, if one were to fail, they are very easy to replace. By keeping a spare or two onsite, businesses could greatly shorten downtime in the event of a failure.



Office

Tech Specs

Our CloudOffice infrastructure was designed and built from the ground up with the intention of spinning up and supporting hundreds of thousands of users. Thanks to its modular and portable design, our engineers have the flexibility to build a powerful and robust platform under which large volumes of organizations can all operate harmoniously, yet independently on a single set of resources.

There are several layers to our CloudOffice platform, most of which share a common genome with our CloudDesktop product set. Our CloudOffice infrastructure consists of the following layers from hardware to presentation:

- Application Orchestration: XenApp 6.5, ThinApp, and Numecent
- Applications: Word, Excel, Outlook, PowerPoint, Acrobat, etc.
- Physical Hardware: Blade servers, 10Gb fabric interconnects, border routers, SAN arrays
- Virtual Hardware: VMware hypervisor
- Operating Systems: Windows Server 2008 R2 operating systems

Blade Servers:

The vast majority of our infrastructure runs on Cisco UCS Blade Chassis. Cisco's unified computing solutions give us the control and flexibility we need to operate an enterprise-grade environment but still give us the flexibility to introduce different hardware vendors down the line when the hardware market changes. The Cloud Office cluster runs on dual octo-core Intel Xeon processors with at least 256GB of RAM per blade.

through the Cisco UCS Manager, and occasionally by hand from a command line interface when necessary. Careful planning by our certified and experienced architects ensures that utilization never exceeds 80% of network capacity or any other resource. There will always be plenty of capacity for your applications.

Fabric Interconnects:

Our entire virtualized infrastructure is tied together with Cisco 10 gigabit fabric interconnects, specifically designed for tying high performance computing systems together. These are all managed

Border Routers:

We use Cisco routers as gateways into our infrastructure. Our border routers are specifically configured and templated for later use with the specific purpose of ensuring efficient communication as well as preventing and neutralizing a variety of attacks from malicious organizations.

SAN Arrays:

RapidScale's storage infrastructure is built completely on NetApp controllers and storage shelves. NetApp's unique and innovative file system allows for the highest level of performance available on the market by managing its own filing system and offloading administrative functions onto the SAN, thus freeing up compute on the rest of the infrastructure. We utilize SATA, SAS, and SSD storage platforms to allow clients to choose between a performance or a cost-effective solution that best fits your applications. CloudOffice runs entirely on SATA which provides more than enough bandwidth for the application demands of this product.

VMware Hypervisor:

Just like the rest of the products we choose to run in our infrastructure, VMware dominates the hypervisor industry in terms of performance, flexibility and an intuitive management system that is persistently updated with widespread improvements with each iteration. VMware meets and exceeds our needs for a reliable and intelligent virtual server management system that gracefully integrates redundancy, failover, and high availability, even when spread out over large geographical areas. VMware gives us the ability to set reservation pools for dedicated performance or release your organization into our load balanced public resources cluster allowing for large bursts of performance when high demand is placed on the system.

Windows Server 2008 R2:

The Windows operating system single-handedly changed the face of the computing industry just about 20 years ago with the graphical user interface being deployed in an enterprise solution for businesses.

To this day, Windows represents a common medium from which users can interact with systems and feel comfortable carrying out their daily tasks and avoid sending them into culture shock by replacing that common look and feel with a proprietary operating system. By using Windows operating systems, we can ensure compatibility with the vast majority of enterprise application systems. Windows is already designed and built to provide a secure and reliable enterprise-grade end user experience while providing the tools to ensure maximum productivity.

App Orchestration: XenApp, ThinApp, and Numacent:

We utilize several tools for application management: XenApp application and desktop orchestration along with ThinApp and Numacent application packaging delivery platforms. For desktop access we use the Citrix .ICA protocol which has developed a reputation as the most efficient protocol in the industry, providing a premium end user experience at just over 100kbps of network utilization. XenApp allows us to efficiently manage large application presentation farms. Citrix offers its own packaging solution that we use to stream different applications that are best suited to this utility. ThinApp and Numacent offer a more robust, in-depth packaging solution than the Citrix utility and have the ability to sandbox the "appdata local" folder and other folder data locations. Numacent actually takes things a step further by intercepting system calls and integrating applications at a kernel level.

The entire purpose of the previous layers is to host and maintain the final layer, the application layer. Our default CloudOffice package comes with Microsoft Office 2010 Standard as our base package offering. CloudOffice also comes with all of the typical add-ons needed for a traditional Windows experience like Java, Flash, Silverlight, AV and AM protection, etc. Thanks to recent improvements in application packaging technology, we have the ability to package complex applications with in-depth licensing procedures to allow a much wider variety of applications to be integrated into our environment. In the near future this will include plug-in streaming on a per user basis allowing for a truly emulated workstation environment.

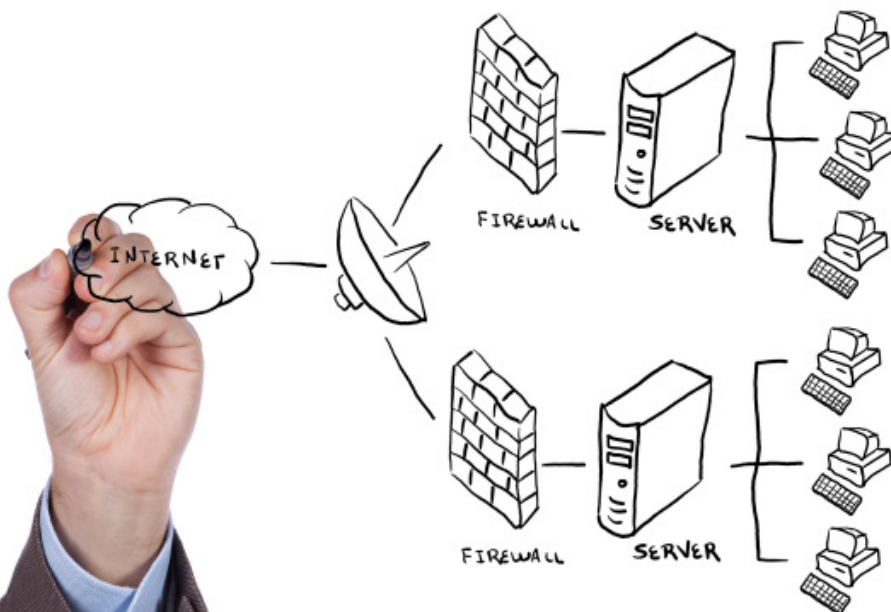


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- Desktop and data access from any device anywhere with an Internet connection
- Increased productivity and efficiency
- Stronger IT policies and ease of implementation
- Increased data security
- Monthly subscription service allows for easy scaling
- Microsoft suite of products most commonly used in business
- Reduced or eliminated software licensing management and software assurance



“RapidScale offers professional services to migrate customer data and provides a Cloud Concierge service to set up end users.”

How it Works

RapidScale will engage the customer and their IT support in an in-depth review of the customer’s current IT environment including server specifications, applications in use from a server and desktop environment, desktop and laptop inventory, data storage requirements, and connectivity to the site locations. Upon completion of the review, RapidScale and the customer will map out a migration and training plan agreed upon by all stakeholders.

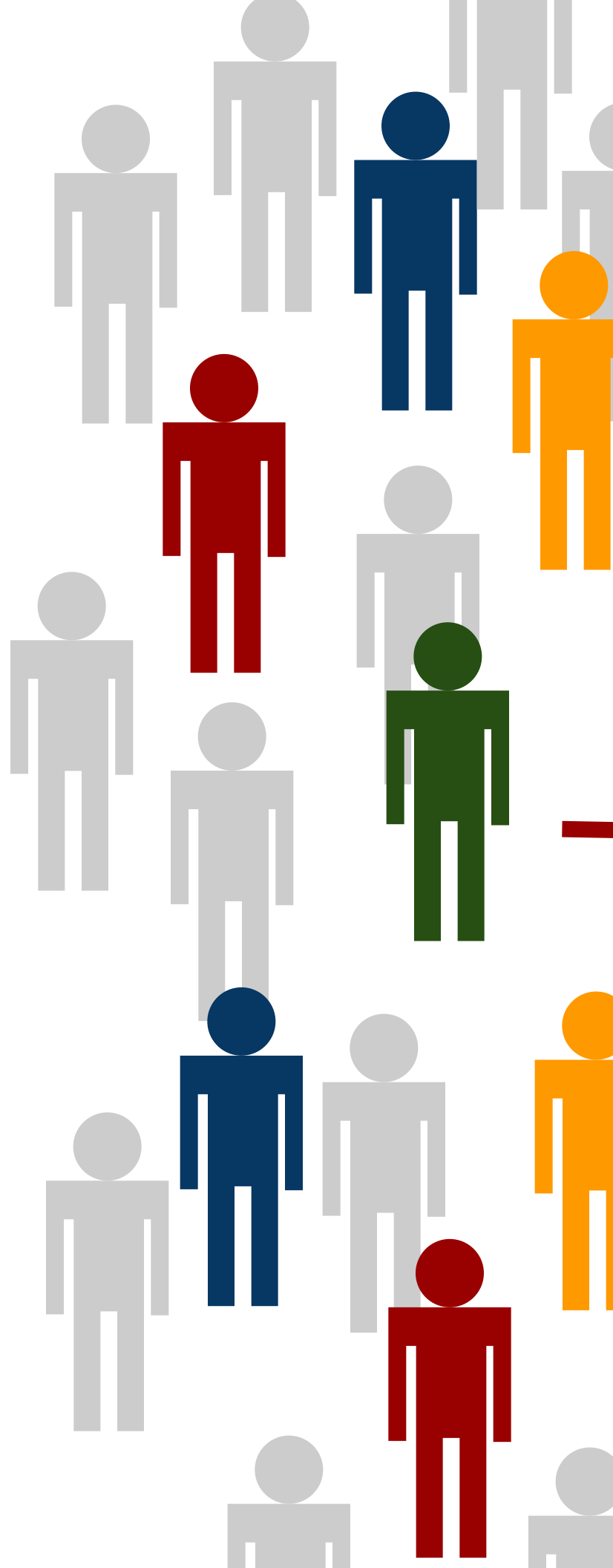
RapidScale provisions the users and services in the virtual environment and sends the user credentials to the predetermined customer lead or to all individual users. Upon receipt, end users install the Citrix receiver on their desktop/laptop/thin client/tablet/etc. and access the virtual environment via an Internet session. The desktop needs to be customized just as if the end user had been provided with a new workstation. The end user is now able to access preloaded applications and work as if on their physical laptop except their data is not yet available. At this point, end users can copy and paste their data from their physical desktop to the virtual desktop and begin working as usual.

Once all users have been set up in their virtual desktops, the customer and RapidScale will agree to a “go live” date when the customer’s email will be redirected to the RapidScale mail server and all email data will be migrated to new email server. RapidScale offers professional services to migrate customer data and provides a Cloud Concierge service to set up end users.





Files







Files

Features

RapidScale offers SharePoint, ShareFile and other document management applications to allow companies of all sizes to store, sync and share all their important content. The user experience is simplified and helps streamline common tasks and create sites to keep teams in sync.

CloudFiles can be used to provide intranet portals, document & file management, collaboration, social networks, extranets, websites, enterprise search, and business intelligence. It also has system integration, process integration, and work flow automation capabilities.

Based on your company's needs, RapidScale's CloudIntelligence team will recommend a document management application that will allow members of your organization to collaborate and work together.

Collaboration

This allows users to create, assign and track the progress of tasks effectively. Tools that will help your team collaborate include: creating and sharing calendars, meetings, XML or InfoPath-based forms, contact information, and custom lists.

Content Management

By easily sharing images or photos with your team, organizations can work together efficiently. You can easily search lists, libraries, content and documents for important information without wasting time locating documents.

Site and User Management

Our easy control panel provides you with an interface to add and remove users and manage your available space. You can create as many users as you need to get the job done at an easy per user per month rate. CloudFiles makes it easy to manage people and groups with permission settings. Disaster recovery backups are done daily to ensure the integrity of your content.

Customization Features

You can customize your site the way you want it with personalized themes. You can find application templates that suit your needs. Custom work flows can be built for different content types or libraries.



Files

Advantages

By using a CloudFiles solution, your team can quickly and easily access the business information it needs to get the job done. Users can easily locate documents and collaborate which give them time to get more work done.

Cut Costs

CloudFiles allows you to reduce costs by consolidating intranet, extranet, and Internet sites on a single platform while keeping everything in the Cloud.

With CloudFiles, you can take advantage of out-of-the box workflows for initiating, tracking and reporting common business activities such as document review and approval, issue tracking and signature collection. You can complete these activities without any coding. Tight integration with familiar client applications, email, and Web browsers provide you with a simple, consistent user experience.

Business Needs

CloudFiles has many great standard features, but it also allows you to easily create and secure customized solutions according to your business needs. Without coding any custom applications, you can use smart electric forms-driven solutions to collect critical business information from customers, partners, and suppliers through a Web browser. Built-in data validation rules help you gather accurate and consistent data that can be directly integrated into back-end systems to avoid redundancy and errors that result from manual data reentry.

Compliance

By specifying security settings, storage policies, auditing policies and expiration actions for business records in accordance with compliance, you can help ensure your sensitive business information can be controlled and managed effectively. It makes it simpler for employees to be aware of and comply with regulatory requirements.





Files

Tech Specs

To run a 64-bit version of SharePoint, your computer must have a 64-bit processor. If you do not know if your computer or server has a 64-bit processor and meets the minimum hardware requirements for SharePoint 2010, try the following steps:

1. Click on “Start” in the task bar at the bottom of your screen.
2. Click on Run or Start Search.
3. Type “winmsd.exe”. The “System Information” screen should appear.
4. Click on “System Summary”.
5. In the details pane, locate Processor under Item.
 - If the value that corresponds to Processor starts with x86, the computer has a 32-bit processor.
 - If the value that corresponds to Processor starts with EM64T, Intel64, or ia64, the computer has a 64-bit processor.
 - If the value that corresponds to Processor contains the words “dual” or “quad” and a number above 3 GHz, then your type of processor meets the minimum requirements.
6. In the details pane, locate Total Physical Memory under Item.
 - If the value that corresponds to Total Physical Memory is greater than 4 GB or 4,096 MB, then your hard drive meets the minimum requirements.
7. In the right pane, click on the + sign next to Components.
8. Next click on the + sign beside Storage.
9. Under Storage, click on Disks.
10. In the details pane, locate Size under Item.
 - If the value that corresponds to size is greater than 80 GB or 81,920 MB, then your hard drive meets the minimum requirements.

64 Bit Hardware

One of the greatest advantages of using a 64-bit version of SharePoint 2010 is the ability to access physical memory (RAM) that is above 4 gigabytes (GB) and up to 16 exabytes (EB). 64-bit hardware can also be more responsive when running several programs at the same time and switching between them frequently because they handle twice as many bits of information in the same clock cycle as a 32-bit system. With all the services SharePoint 2010 has to offer, such as Excel, Visio, Search, PerformancePoint, PowerPoint, Access, Business Connectivity, Word Automation, and InfoPath, you can understand SharePoint had to make the leap solely to 64-bit systems so that all the services could run together and have all the RAM they require for processing.

Topologies

Although your server or computer may meet the minimum requirements, this does not mean that your environment's performance is optimized. Even if your infrastructure at first meets performance expectations, growing numbers of documents, groups, lists, and sites may increase page load times and decrease satisfaction. SharePoint 2010 farm can be deployed on a single server or many servers to create different topologies. There are three deployment tiers you can use to create your SharePoint farm to meet your company's needs:

- In a single-tier deployment the SharePoint Server and the database server are installed on the same server or computer.
- In a two-tier deployment the SharePoint Server and the database are installed on separate servers. This type of deployment would be used to create a small farm.
- In a three-tier deployment there is a Web front-end server, an application server (SharePoint services like Excel, Search, etc.), and the database server, which are installed on different servers or computers. A three-tier deployment is commonly used for medium and large farms.

It is important to note that each deployment tier can have multiple servers. Often SharePoint deployments have multiple Web front-end servers, one database server and one application server. For more information about SharePoint 2010 topology visit TechNet's SharePoint 2010 Topology Technical Diagram, SharePoint 2010 Topologies, and SharePoint 2010 Deployment Scenarios.

Virtualization

Often SharePoint deployments require multiple servers to ensure efficiency, availability, and redundancy. It is possible to have multiple Web front-end servers, application servers, and database servers for production, staging, and development environments. This can quickly lead to an abundance of servers which may go unutilized or underutilized.

Virtualization consolidates multiple virtual environments within a single physical server sharing the hardware resources across the virtual machines. The benefits of virtualization are that it reduces hardware costs, allows for rapidly deploying new servers, increases server utilization, reduces facility costs, and extends the utility of the physical server.

Microsoft Hyper-V, Windows 7, Microsoft Virtual PC, and Microsoft Virtual Server can virtualize a SharePoint environment. Hyper-V is the preferred Microsoft virtualization software for SharePoint servers as it runs as a bare metal hypervisor that works between the physical hardware and the operating systems in each virtual environment for greater performance and security. It is important to note that the performance difference between a physical server and a virtual environment is minimal. For more information about SharePoint virtualization visit [Deploying SharePoint 2010 Hyper-V environment](#), [Setting Up the Development Environment for SharePoint Server 2010](#), [SharePoint Virtualization Performance](#), and [Native VHD Support in Windows 7](#).

To help predict and anticipate the most topology, hardware, and bandwidth requirements for you company, Microsoft released a SharePoint Capacity Planning Tool for IT administrators and professionals. The Capacity Planning Tool is a general purpose modeling tool that allows you to simulate and analyze different SharePoint deployment scenarios.



Files

Q & A

Question: What is “CloudFiles”?

Answer:

- Simple: RapidScale’s CloudFiles service uses different methods to share files across a centralized source. This allows for multiple devices (such as smartphones, tablets, PCs/laptops, etc.) to share copies of files in real time using our ShareFile solution or SharePoint as our collaboration tool.

- Technical: Our CloudFiles product set focuses on collaboration and sharing files through a centralized source. Both ShareFile and SharePoint are hosted on the back end on Windows Server 2008 R2 with Citrix XenApp v6.5 delivering the application to the chosen front-end interface (whether it is our Citrix Virtual Desktop or on your local environment). Additionally, daily snapshots are conducted and all maintenance and troubleshooting is included by RapidScale.

Sites

SharePoint 2010 Sites provides a single infrastructure for all your business Web sites. Share documents with colleagues, manage projects with partners, and publish information to customers.

Composites

SharePoint 2010 Composites offers tools and components for creating do-it-yourself business solutions. Build no-code solutions to rapidly respond to business needs.

Insights

SharePoint 2010 Insights gives everyone access to the information in databases, reports, and business applications. Help people locate the information they need to make good decisions.

Communities

SharePoint 2010 Communities delivers great collaboration tools—and a single platform to manage them. Make it easy for people to share ideas and work together the way they want.

Content

SharePoint 2010 Content makes content management easy. Set up compliance measures “behind the scenes”—with features like document types, retention policies, and automatic content sorting—and then let people work naturally in Microsoft Office.

Search

SharePoint 2010 Search cuts through the clutter. A unique combination of relevance, refinement, and social cues helps people find the information and contacts they need to get their jobs done.



“All your data is hosted at RapidScale’s Tier 3 Class 1 data centers and in a multi geo-load balanced environment for performance redundancy, minimizing disasters.”

Question: Why would I want to use ShareFile / SharePoint in the cloud?

Answer:

- **Offline Accessibility:** Sharing files across different devices is a very useful feature with today’s business requirements. Being in the cloud environment with CloudFile as a centralizing file sharing solution only enhances the end user experience by allowing for files to be accessed without an Internet connection. An example would be needing access to files while flying in an airplane, driving, or simply due to not having Internet accessibility.
- **Security & Redundancy:** All your data is hosted at RapidScale’s Tier 3, Class 1 data centers and in a multi geo-load balanced environment for performance redundancy, minimizing disasters. We operate out of Savvis facilities which maintain one of the highest levels of security in the industry. Comprehensive video surveillance, biometric mantraps, and 24x7x365 security personnel ensure no unauthorized or unsupervised visitors are able to access our operational facilities.. This means full redundancy from a facility perspective, end to end. Power, cooling, lighting, generators, UPS systems, PDUs, network, processing, and storage nodes all operate redundantly. Additionally, all virtual servers operate redundantly to ensure maximum availability and uptime.

Question: Are CloudFiles products encrypted?

Answer:

- Yes, RapidScale uses SSL for transmission & AES-256 bit for at rest.

Question: Are any of the CloudFiles products backed up?

Answer:

- Yes, RapidScale stores incremental backups every four hours.



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