



Email in the Cloud

Most clients are stepping into the Cloud by first moving their email. As Microsoft's Exchange (email server) has gotten more complex to deal with and requires a lot of server resources, this solution makes sense for many. The migration process is time consuming, but fairly straight forward. To access your email, the user has several options, just as you do if you have a local Exchange server. If you are using Office 2007 or newer (newer is better), you can use your Microsoft Outlook client as you normally do, from your existing workstations. Your Outlook client will be redirected to the Cloud version of Exchange and it is business as usual. You also have the option to connect to your email via a web browser, and have full functionality without the need for the Outlook client.



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The Quanexus Newsletter

by Jack Gerbs



Welcome to 2016. I hope everyone had a great holiday season and wish you all continued success in the New Year. We are already off to an exciting beginning. As most of you know, we moved into our new office on December 17th. The move went very smooth. There were a few, little bumps in the road, but overall, I was impressed with most of the contractors we used. The Quanexus team really stepped up and went above and beyond their normal duties to make the transition smooth. A BIG thank you goes out the team!!! Now I'm left with our former facility to sell, which consists of two 3,000 square foot buildings. The main building is set up as mostly office space, and the rear

building is mostly warehouse. The property is approximately one acre with extensive parking in the front and back. If anyone out there knows someone looking for a building, please reach out to me for more details.

This newsletter has a strong focus on Cloud solutions, which has been a very hot topic for many of our clients. A Cloud solution can play a big role in an organization's business continuity program. We are mostly focused on the Microsoft Office 365 platform and our own Cloud backup solution. If you are considering migrating to the Cloud, your Internet access will be more critical and you may want to consider a backup Internet solution using 3G/4G.

WARNING: From Chris, the editor – If the Cloud is not of interest to you, you may want to skip the newsletter this month. Just saying!

The Cloud

There are a lot of options to consider before moving your data to the Cloud. We have been evaluating several solutions for ourselves and our clients, and it has been a real challenge to determine who would be the best partner. There are two major concerns that seem to be prevalent for our clients. The first concern is how safe is your data in the cloud, and the second concern is how do you access the data?

Data security, typically by the major tier Cloud vendors, is as good, if not better than the security implemented in the average small business environment. You do need to be very

cautious of small companies that are building their own Cloud solution in some large company's data center. Most small and medium sized companies don't have the ability to properly evaluate small Cloud service providers. At minimum, review the Cloud service provider's SASE-16 or ISO document. These documents are audit reports of the company's internal controls, that provide reasonable evidence that you are dealing with a trustworthy company to protect your data. Many small companies in the Cloud business claim they have an ISO

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Backup for Your Internet Access

With many organizations considering moving more of their server and storage needs to the Cloud, their Internet access is becoming the weakest link in the design. Internet access is required for Cloud solutions to work. Organizations that rely on Internet access should consider having a backup Internet solution. We recommend using a wireless solution that uses the Cell companies' 3G/4G technologies. Having two Internet solutions that use a combination of fiber and/or cable, both suffer from the same vulnerabilities. Typically, fiber and cable services are delivered via an underground trench or overhead poles. It is very likely that a pole can be knocked down by a car or truck, and underground trenches are likely to be dug up with a backhoe.



The Cloud

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or SASE-16 report, but what they are really telling you is that the data center has the reports. That is not good enough. The company you are dealing with should have the audit report. In plain language, a small company leases space at a data center and installs their equipment to host your solution. While the data center is secure, who knows what the small company is doing inside their space in the data center. Beware of these solutions.

The second big question is: how do I access my data? This question is anything but simple and has to be divided into a few sections. In other words, it depends. We have chosen to partner with Microsoft to offer their Cloud solutions. The following sections are more specific to Microsoft, but are similar for other vendors as well.

File Access in the Cloud: File sharing in the Cloud is typically accomplished with Microsoft's Cloud SharePoint product. Files are stored in SharePoint libraries and users are given access to the libraries, and folders in the libraries. The management of file access is different and will require some thought before implementation. User access to files is accomplished similar to how files are accessed on a local server. To the user, file access is transparent. The user will not know if the files are on a local server or in the Cloud.

SQL and other Lines of Business

Applications in the Cloud: SQL in the

Cloud can represent some challenges. Microsoft's Cloud server solution is their Azure platform, which provides virtual servers in the Cloud. From here, you can spin up a virtual Microsoft server and install SQL, and SQL based applications. SQL can be a sensitive product to work with and typically requires a very good connection (a better connection than the Internet at most companies). To resolve this issue, it is recommended that Microsoft's Terminal Server platform be used, which can also be installed on the Azure platform. Terminal Server is a remote desktop solution. The application needing access to the SQL Server will be installed on the Terminal Server. Users will remotely log into the Terminal Server, using a remote desktop connection (RDC or RDP) and run the application on the Terminal Server machine. All communications between the application and the SQL Server will be fast, because both systems are in the same Cloud. The communication between the user and the Terminal Server will also be fast, because the communications between them consists of only a keyboard, mouse and video traffic. Microsoft's Terminal Server product is used by many clients that allow remote access to their internal network and require a high level of performance. While all this might sound complicated, it is fairly straightforward and easy for users to access.

Many business solutions that are used to run your organization are now offered as a Cloud based service.

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The Cloud

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These applications include: accounting, medical practice, customer relations management (CRM), etc. Each application needs to be evaluated based on its own merits, to determine if an organization would benefit from specific Cloud hosting compared to a locally hosted solution.

A Few Things to Consider Before Moving to the Cloud:

Internet Access: Your Internet access is critical. Without Internet access, you will not be able to access your data in the Cloud. You may also want to consider a wireless Internet backup solution, if you move to the Cloud. (See Backup for Your Internet below)

Email Access: Regardless of whether your email is being hosted locally or in the Cloud, Internet access is required in order to receive new emails, so the same risk for email continuity exists in

both situations. Smartphones all have wireless Internet access (3G or 4G). If you permit your employees to have email access on their Smartphones and your email is hosted in the Cloud, users will continue to receive email if your Internet access is down via their mobile data package. This may be a viable way to provide email business continuity.

File and Application Access: With files hosted in the Cloud, users will not have access to their data if there is an Internet outage. Depending on your type of organization or your policies, users can move to a remote location with Internet access and be able to access files needed to perform their job functions. File access can be permitted from computers outside the organization via a web browser. The same is true for access to SQL and other lines of business applications.

Cloud and other Backup Solutions

When deciding on the best way to back up your data, there are many things that must be considered. There are two basic options.

File Based Backup: This is the most basic type of backup. It involves making a copy of your files, either locally or to a Cloud solution. There are some Cloud providers that focus on file backup solutions with varying features. This solution is quick, and they typically all let you have access to files via a web browser, should your system go down. File based backups provide a quick way to get access to your files, but there is no way to get a new server up and running quickly with all your files restored to the new server.

Image Based Backup: An image based

Backup takes an image of the entire workstation or server. This type of a backup requires more space than a file based backup, but it provides the ability to quickly recover a workstation or server, should there be a hardware failure. The challenge with replacing a server because of a failure is the time it takes to install the operating system, applying patches and installing all of the applications. An image based backup solution greatly reduces the amount of time required to get a new server on-line.

Ideally, if there are two physical host servers in the environment, and they are both capable of running virtual machines, many times we can take a

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Cloud and other Backup Solutions

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server VM backup image and install it on another physical host. This gets the failed virtual server on-line very quickly, possibly running in a somewhat diminished mode, but at least it is on-line.

Hyper V Replication: Hyper-V replication is a method to replicate virtual servers from one physical host to a different physical host. While this is not a true backup solution, it is an excellent business continuity solution. With Hyper-V replication, when the server hosting the virtual machine fails, the other host that has the replica of the failed machine can quickly be spun up to get services hosted on the failed machine back on-line.

When designing a backup solution, we are dealing with risk management and making tradeoffs. We make similar decisions when determining the amount of insurance coverage to protect ourselves and our assets.

Regardless of the decision to go with an image or file based backup solution, it is important that the backup data be stored locally and external to your facility. The reason for the local backup is to have rapid access to your data, should it be needed. The reason for the external backup is to be able to recover your data, should something catastrophic happen to your facility, and the local backup is destroyed with the server. Determining the distance between your facility and the Cloud backup facility becomes the next question.

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Cloud and Other Backup Solutions

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Quanexus has built our own Cloud solution to host image based backups for our clients. The data is housed here in the Miami Valley. We're sure to get some comments and questions about why we chose to have the data in this region, but our thought process was should a client have a catastrophic loss of a system or facility, we have quick access to the backup. With our solution, we have the ability to drive to the data site, get the image, and deliver it on-site to the client the same day, or as soon as replacement equipment becomes available. Because image based backups tend to be large, it is unreasonable to expect that an image

backed up outside of the region can be downloaded within a day. In fact, it could take 3 to 4 days to fully download an image from a Cloud server outside of the region. Even if overnighted, it could still take 3 days before you get your data. The likelihood of a disaster taking out a client facility and the data center we use to host backups is highly unlikely. So, we determined that the ability to have quick access to the data at a backup facility was more important than having the data stored in a different region of the country. However, if a client needs to back up their data in a different region, we can also provide that service through one of our partners.

Office 365 for Business

Office 365 for Business has three main components: the Microsoft Office Suite, Hosted Exchange (email), and Hosted SharePoint (file sharing and collaboration). Exchange and SharePoint can both be purchased as separate products, but the most economical way to fully migrate to the Cloud is with Microsoft's Office 365 E3 (Enterprise 3) platform.

Office 365 E3 includes all three components and users get to run the latest version of the Office suite on their workstations. There is also a web version of the Office suite available if you are away from your desktop. The Business suite does differ from the Home suite in how the Office product is licensed. With the purchase of E3, each user is licensed to run the software on up to five devices, but these devices must be used by the named user (the user's

desktop at the office, notebook, desktop at home, etc.). You cannot have five different users using the same license rights of one purchased seat (named user) of Office 365. We don't recommend that this be attempted as there will be issues with user rights and file access.

When an organization signs up for an Office 365 program, SharePoint is also included. At an organizational level, it is provided with 10GB of SharePoint storage and .5 GB of additional storage for each user that is licensed with an Office 365 account. If you are intending to use SharePoint to host all, or most of your organization's data, additional storage can be purchased.

Similar to the Home product, each user also gets 1 TB of OneDrive for businesses. This is similar to DropBox and Box.com. For more information

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about the benefits of OneDrive, see the previous newsletter.

Each purchased seat of Office 365 also includes a full Exchange mailbox with unlimited storage. This platform includes legal hold and e-discovery. This is a requirement for organizations under regulatory compliance.

