What is Your Perspective?

Social Business Networking
According to Wikipedia, business networking is a socioeconomic activity by which groups of like-minded businesspeople recognize, create, or act upon business opportunities.

For many years now Technology First has hosted the CIO and CEO Councils who meet monthly to discuss a topic of interest related to their like-minded line of work. For the CEO Council, the discussion centers on a topic important to this peer group running and building a business. The ability to share information can be timely and sometimes essential. Recent sessions have allowed CEOs to learn from experts how the new healthcare act will impact their employees or to question peers about inspiring the innovation process within their companies.

Members of the CIO Council must not only manage the current IT environment but also keep an eye on emerging technologies that could impact their company. IT shops are no longer universally mainframe and thin client but can be hybrid combinations of SaaS, cloud, VDI, or VoIP - not to forget the endless number of product vendors and solution providers. Navigating decisions requires a strong network of like-minded professionals faced with the same situation.

During strategic planning discussions this summer, the Board of Directors wanted to bring this interactive, peer sharing opportunity to all professionals interested in technology. Peer Perspectives is a new quarterly forum creating an environment where technologists can discuss issues important to the industry.

For the first event in October, visual aids will foster an interactive discussion on the future of Internet infrastructure during this facilitated event. Were you an Internet early adopter? Today the Internet connects billions of people and machines, so, in your opinion how vulnerable is the Internet? What - if anything - should be done?

Technology is rapidly changing and peer information sharing is more critical than ever. Please come join the CIO Council, CEO Council, and area technologists for this first-time event. What is your perspective?
Effective technology is essential for small businesses looking to increase the productivity of their people and business. Introducing technology such as computer networks can help them to stay competitive by increasing productivity and by reducing hardware costs. Even simple networks make sharing information and resources easier, provide better security and enable easy backup facilities for any small businesses.

### Why a Network is Essential for Your Small Business

One of the primary challenges small business owners face is to get the right technology into their business. However, getting the most of this technology investment is still a big challenge for many small businesses. For example, the business may have started with a single computer and printer but as the business grew, more PCs and other peripherals were added. As a result, the demand for printers and other hardware devices increases and sharing becomes more problematic. Rather than purchasing separate hardware peripherals for each computer, a network provides the solution for a single printer to be shared among computers. Networking of computers is essential as the business grows larger. If the small business has more than one computer, networking the computers can make the difference in smoother operations. In fact, a network becomes the foundation for a productive and secure small business operation.

### What is a Network?

A network is a system containing any combination of computers, printers, fax machines, data storage, audio or visual display devices, or telephones interconnected by cables used to transmit or receive information.

### Two Types of Networks: Peer-to-Peer and Client/Server Peer-to-Peer Networking

A peer-to-peer network is the most basic type of network that allows multiple users to share information or resources such as printers and scanners. In a peer-to-peer network, each computer is connected directly to the other computers with each treated equal on the network. Each computer can share resources or information with any other computer on the network without a centralized computer or server. In this type of network, each connected computer has an equal responsibility and role.

### Client/Server Networking

In a client-server network, all computers are connected to the server or centralized computer. A single computer called a server is used to manage the entire network and stores shared information in a central location. Servers are run with specific server software designed to manage the computer network and serve as a central place to store data. The clients in the network can be an individual computer, printer, scanner or any other device. The server software performs specific tasks such as file sharing, printer sharing, connecting multiple users to the internet or sending and receiving e-mail for each of the network’s client.

### Peer-to-Peer vs. Client/Server Network

Both of these networks serve the same purpose of allowing multiple users to share and exchange information and resources with each other. But the functions and benefits differ widely.

(continued on page 4)
(continued from page 3) Small Business Networking, cont.

Peer-to-Peer networks are simple to configure, easy to install and certainly a low-cost solution but are very limited in the functions they can perform. For example, peer-to-peer networks have no centralized location to store the information because the information and resources are shared from one computer to another. In the event one computer shuts down, other computers cannot access the data stored in that computer.

One major downside of this type of network is that it has no centralized security safeguards so it is relatively insecure. Anybody connected to the network can get access to the PCs and few security concerns. In case more than five or so PCs are connected to the network it has the tendency to go slow.

Client/server network can remarkably improve the business performance because of the different functions it can perform. The server can back up information saving time and preventing data loss as well as providing security for information. A server acts as a single centralized unit for the whole of the network so internet connection can be easily monitored and controlled. Another advantage is that performance of computers improves because computers don't perform functions such as storing large amounts of data for other computers. This allows the client computers to run faster. Besides this, in client/server network there is single point of access for the entire network so users are not dependent on each other's computers as they are in a peer-to-peer network. Servers also increase the security of the vital data like financial information by allowing controlled access to different users. Hence if the small business has more than five computers then centralizing the network on a server allows the small business owners to have tools and services that can help to attain impressive time and cost savings.

6 Ways a Network Can Influence Small Business Performance

1. **Collaboration**: A network allows employees to share and exchange information. A network provides access to a variety of tools by which employees can communicate with each other. Besides this it also offers collaboration features and allows multiple users to contribute to a single document which is otherwise not possible with individual computers.

2. **File sharing**: A network makes it possible to access a file stored on another computer. Multiple users can share same files so it eliminates the need of creating and managing multiple versions.

3. **Printer/Fax sharing**: Several computers can share the same printer or fax machine if computers are connected through a network. As a result, there is no need to buy and connect separate printers and devices to every company computer.

4. **Data protection**: Backing-up data is essential for a business to prevent loss of valuable business information. With a network it becomes routine and secure to back up the company data ready for retrieval when necessary.

5. **Shared Internet access**: With a network it becomes possible to share a single internet connection among multiple computers. In-house e-mail systems can also be easily implemented with client/server network.

6. **Increases the productivity, reduces costs and saves time**: When a small business has a computer network it increases the productivity of employees and reduces costs. With a network, multiple employees can share the company resources such as printers, fax machines or any other hardware device. Multiple users can access the internet at the same time. Consequently the hardware costs of the company are reduced and productivity of employees is increased. A network also helps save time by providing easy back up solutions.

Payback Period of Network

Small business owners can reap enormous benefits by networking their computers. But sometimes concerns about hardware, software and installation costs of networks (particularly client/server networks) became a main deterrent in adoption of this technology. But the network technology starts paying quickly in form of increased employee productivity and reduced operating costs. According to a study conducted by Forbes, small business owners are quickly recovering investments and realizing enormous benefits from server technology. Small businesses using server networks find that their employees can now perform an average of 20 percent more revenue-producing tasks. The study has shown that average payback period of server network ranges from 2.4 to 4.9 months. Most small businesses were able to recover their hardware and software investments in less than 2.5 months. The survey concluded that server networks are helping smaller firms extend their geographic reach, find new customers, and increase revenues while holding costs steady or decreasing them.

Conclusions and Recommendations

In conclusion, peer-to-peer network is cheaper and easier to implement and maintain, but client/server network can be much more useful for a small business as it leads to greater productivity, security and lower costs.
Recommendations:

Check out the following before you go for network solutions:

- A network can make a difference if your small business has more than one computer and your employees feel the need to share printers, scanners etc., share an internet connection and computer files.

- It would be more feasible for you to establish peer-to-peer network if you have five or less than five PCs in your office.

- If you have more than five PCs, the client/server network is likely suitable for your company.

Windows Small Business Server 2008 can be an affordable network solution for establishing client/server network in your company, if you have two to seventy five computers in your company. It provides you file and printer sharing facilities, internet connection-sharing capabilities, secure internet connectivity, support for your mobile devices, easy backup and restore facilities and many other advanced features.

NetGain Information Systems:
220 Reynolds Avenue, Bellefontaine, OH 43311
Phone: 937-593-7177
Fax: 937-593-4282
Email: sales@netgainis.com
Web: www.netgainis.com

Why Planning a Horizontal Approach to Network Forensics is Best

By: wildpackets

We've talked about the practice of network forensics multiple times on this blog. As we've discussed in the past, forensics is a great way to identify security breaches, monitor user activities, pinpoint intermittent performance issues, and perform business transaction analysis. There are two approaches to network forensics: the vertical approach, which uses a single box to capture all of the data for analysis from a single, centralized data feed, and a horizontal approach, which captures and analyzes data at edge points to gather real-time statistics.

If you are in the process of implementing network forensics – or maybe you already have – we highly recommend using the horizontal approach. Let's take a look at why.

Single Point of Failure

First and foremost, a vertical approach creates a single point of failure because it is only using a single box for capture. If for some reason your box isn't working, then your ability to capture and later examine data is non-existent. With a horizontal approach you can distribute storage of the data, so if one point breaks, you still have enough points to recreate and examine where the problem lies.

Massive Amount of Data to Sift Through

In addition to this, having a single point of capture also forces the network admin to sift through a ton of data with limited organization. A horizontal approach allows more granular visibility per network segment, so you can easily shuffle through data, determine the problem and go from there. Think of it as if you are storing your clothes in a pile on your floor or organizing them in a closet; yes you’ll still have to look in your closet, but it’s a much more organized way to find what you want.

Expensive to Scale

As more companies move to 10G, 40G, 100G (rose 62% from 2012) and server virtualization expands, the data on networks continues to grow exponentially. A vertical approach to network forensics can be extremely expensive to scale as this growth begins to rise, and may even be impossible, depending on the utilization of the centralized data capture point. A horizontal approach allows for greater flexibility in the data you capture, and could be less expensive if there are certain areas that don’t require analysis.

A horizontal approach to network forensics just makes sense. It not only helps save time and eliminates errors, but it provides flexibility and helps you scale your solution to meet the demands of your network, both today and in the future. Planning ahead and beginning to employ network forensics horizontally now will save you a ton of headaches and put your company’s network ahead of the curve.
Key Phases of Software Development Projects

By: Irma Azarian, Segue Technologies

The Software Development Life Cycle (SDLC) can be defined differently by any organization, but it usually consists of the following activities that work together to mature a concept into a software product: Requirements Gathering and Analysis, Design, Development, Testing, and Production Implementation. Segue has defined these steps within our development methodology - the Segue Process Framework - to ensure a phased approach with iterative cycles for development and testing. Based on my experience as a software developer, the following key phases should be included in any software development effort, regardless of the development methodology used.

**Requirements Gathering and Analysis**

During the requirements gathering and analysis phase, it is very important that most of the major requirements are captured accurately. It’s best to have as many meetings as necessary to make sure the client’s needs are understood. When analyzing the requirements, you should try to identify any risks and offer strategies for risk mitigation. All requirements should be documented clearly and should be provided at meetings to keep track of what has been discussed to help ensure that everyone is on the same page. If possible, provide demos of the future application via screenshots and/or prototypes to make sure requirements are met successfully.

**The Design Phase**

In the design phase, the requirements will be broken down further to be able to forecast the project’s timeline and estimate the level of effort and amount of resources needed. During this phase, you will also want to identify any specific designs and workflows for the application. You may want to design specific pages and provide more details of what will be created. If the application will be data driven, you will want to discuss what database(s) will be used and create a data model. You also want to identify what tools and software will be used to create the application. For instance, you can create a web application using ColdFusion and a SQL Server database. Once most of the design is identified, the development phase can begin.

**Beginning Development**

If you have your requirements clearly detailed and have identified your resources, the development effort can begin. You will be able to assign specific tasks to each individual and provide them with the necessary documentation of the requirements and designs. Usually during this phase, development tasks will be broken down into release efforts so the application can be completed in parts and the client can preview what has been done during the process. Breaking up the development effort is crucial in order to provide interim results to customers. Otherwise, you may find out later that what has been developed does not meet your client’s needs. It’s best to keep the client involved during the entire process to ensure the application is on the right track.

**Testing**

The testing phase commences after a development release has been completed. Usually the application will be released to the Quality Control (QC) group, which will test all the functionality in the application. After a release has been completed, the development and testing phases are performed iteratively as issues are found, corrected, and retested. After completion of QC, the next critical testing activity is User Acceptance Testing (UAT), which is performed by the client. Typically, the client will identify a group of users to test the new application. UAT testers often find issues that are not obvious to QC testers, who may not fully understand the application or its data. It’s always best to allow time for UAT testing before approving an application for production implementation.

**Production Implementation**

Once all the other phases are completed, you will want to prepare for the production implementation. For a first time deployment, you can deploy the entire database and code repository, but going forward, you will only want to deploy the specific changes for all future release efforts. To keep track of these, it’s best to use software tools. If possible, you will want to package or export your database for deployment on the production server. For the application code, you could create a build or zip file of the entire application to deploy, or you can copy the top directory or files manually.

In the different organizations I have worked for, they have all had different SDLC processes but all ultimately accomplished the same goal. In my experience, it’s always best to invest the necessary time in each phase in order to deliver a high quality product that meets or even exceeds your client’s expectations.
The Midwestern Migration: How the Heartland is Corralling IT Companies with Unbeatable Value

By: Michael Hodge, Research Analyst, Lighthouse Technologies

The Rural Renaissance:

Bustling cities, towering skyscrapers, the “concrete jungle”... when one thinks of the typical settings of the IT industry, these are the thoughts that normally come to mind—a far cry from the pastoral landscapes synonymous with the Midwest. Yet, as salaries have continued to rise overseas, “Rural Sourcing”— also known as “Rural Outsourcing”— has emerged as an onshore alternative to outsourcing, seeing traditional offshore locations eschewed for the agrarian settings of America’s heartland. So what is it about rural America that technology giants find so enticing? The truth is that the Midwest offers a unique combination of education, industry growth, and value— making it a prime target for forward thinking CIOs intent on IT decentralization.

Let’s face it— Middle America certainly doesn’t exude glamour, yet there’s an IT revolution brewing underneath its stoic exterior. With two of the Fortune’s top five “Fastest Growing Cities for Tech Growth” in the area, it’s obvious that the region has begun to shed its tired “Agriculture and Industry” image. Couple this with three of the top ten programs in US News and World Report’s Best Undergraduate Engineering Programs and two of the top ten programs in their Management Information Systems Rankings, and you have a region that is brimming with growing cities filled with well trained, technically proficient people.

Though the Midwest’s renaissance is definitely a feel good story, its cost of living— or relative lack thereof— is what’s really putting the full-court press on IT departments. While the cost of living continues to climb in traditional IT strongholds like the Northeast and West Coast, Middle America continues to remain much more reasonable— half its states rank in the bottom 16 for overall cost of living. As traditional offshore locations, such as India, continue to see salaries and turnover rates skyrocket, the Midwest has become an ever more appealing sourcing destination— offering a workforce with competitive wages and convenient proximity, as well as the famed stability and work ethic seemingly ingrained in their roots.

Here at Lighthouse, we’ve noticed this “Rural Sourcing” trend firsthand, seeing our hometown of Dayton, Ohio reap the benefits of this “Midwestern Tech Boom.” As companies continue to look toward this area for IT support, we beg the question, “Why not software testing?” In the same way that “Rural Sourcing” has made an effective onshore IT solution, “Rural Testing” can provide the same comprehensive quality control your company expects at a much more affordable rate. Due to the vast disparity in cost-of-living, Lighthouse can offer testing services for up to 36% less than more traditional IT locations like New York, Boston, or the Silicon Valley— compelling, for sure, but even more so considering that we’ve maintained the same trademark quality that we continue to stake our name upon.

Tech Companies Descend Upon Dayton:

Dayton, Ohio. Let’s face it; the name alone doesn’t exactly conjure romantic images of a glistening, cutting edge utopia fostering the development of America’s technological future. In fact, you’d be hard pressed to find many people who really know much more than it merely being a city in western Ohio. Though it’s long been a home of innovation, from the Wright Brothers to NCR, much of that reputation has faded to the archives of history. Yet beneath its relatively anonymous identity beats the heart of a city rich in innovation, a high-tech center bolstered by research and development, a place where information technology is flourishing.

While the city’s aforementioned Midwestern location is a definite advantage— heck, it’s the primary factor allowing us to offer our software quality assurance and software testing services for up to 36% percent less than more traditional “Tech Strongholds” like Seattle, Boston, New York, and the Silicon Valley— a low cost-of-living isn’t Dayton’s only asset. Lying within a 500 mile radius of Atlanta, Chicago, St. Louis, and Washington DC, the city’s Western Ohio location allows easy access to almost half of the country’s population; making it an ideal location for homegrown IT onshoring (also known as “Rural Outsourcing”). Due to this vast accessibility to the American market, the city was named the third “Most Favorable Business Location” by Three Scale Research in 2011.

Though its proximal benefits are noteworthy, Dayton’s high-tech renaissance has largely been a byproduct of the people and places that it encompasses— itself the result of a rich tradition of innovation stretching back 150 years. Taking its name from two of the city’s most prominent families, Wright-Patterson Air Force Base has long called Dayton home; and aside from being one of the largest research centers in the country, it’s also drawn a wealth of other technological companies to the area. As the technology sector has grown beyond the air force base— spurred in part by the rise of onshoring and local development and fed by a wealth of college graduates— Dayton has seen a massive influx of jobs, and is now home to one of the largest IT clusters in the entire country, as well as sporting an equally large grouping of advanced manufacturers. This rapid growth has not gone unnoticed, either, as the city’s been named to numerous prestigious rankings, including the top ten “American Cities of the Future” by fDi Intelligence, the top twenty “Best Cities for New College Grads” by Businessweek, and the top ten “Best Cities for High-Tech Jobs” by MarketWatch.

As a Dayton business from the beginning, Lighthouse feels a deep sense of pride in the newfound enthusiasm for our city as the same factors that set us apart— people, progress, proximity, and price— are distinguishing it on a national stage. We consider our location to be one of our greatest assets; it truly gives us the best of both worlds: software testing by Dayton people at a Midwest price. What’s not to like about that?

If your company is looking for alternatives to outsourcing software testers, consider onshoring with Lighthouse. Contact us or call us to learn more about Rural Outsourcing and how Lighthouse can save you time and money.
Windows 8.1 and Server 2012R2 Coming Soon

By: Jack Gerb, Quanexus

Windows 8.1: Before the end of the year Microsoft will be releasing Windows 8.1 and Server 2012R2, here is a brief dive into what you can expect. Windows 8.1 (W8.1) and Server 2012 R2 are both available as free preview downloads. Windows 8.1 will be released in 4 flavors, Basic which will be called Windows 8.1, Pro, Enterprise and RT which is used on their mobile platform. Both W8.1 and Server 2012 R2 are available for download today in Preview Edition. Microsoft is doing something new with W8.1, you are allowed to upgrade your Windows 8 machine to W8.1 Preview, and then once the Release To Manufacturer (RTM – full released product) comes out, users will be allowed to upgrade to the RTM product. Microsoft has never supported upgrading from a Preview Edition to the full RTM version. Server 2012 R2 is not intended or permitted to be used in production mode, and there is no upgrade path from Preview Edition to RTM. Microsoft will also be charging for upgrades to Server 2012 R2.

First, let’s start with one of the biggest complaints about Windows 8, the missing “Start Button”. It is not coming back but there will be a button at the bottom left side of the screen that will provide some features of the “Start Button” and Microsoft is not calling it the “Start Button.” You will also be able to customize your task bar to give you some of the features of the traditional “Start Button.”

Tip: Windows 8 already has some “Start Button features” if you right click the Windows Tile Icon on the bottom left-hand side of your desktop you will get a pop up that allows you to go to the control panel, command prompt and more. In Windows 8.1 the power off feature has been added.

Finding your files and programs has been another big complaint with Windows 8. Windows 8.1 has a very robust search feature that includes finding files and programs on your external devices and services as well as on the web and search filters such as install date, have been included. Windows 8 currently has a decent search feature that is typically not used.

Tip: If you need to find a program or file, go to your Tiles Screen and just start typing the program or file name anywhere on the screen, and matching items will start showing up. Example, you want to open your control panel, just type control, or if you want to start your accounting program such as QuickBooks, type QuickBooks etc.

BitLocker is a software program that allows you to encrypt your system, and is currently included in the Pro and Enterprise versions of Windows. While your system requires you to type in a user id and password to access the files on your system your files are not really protected. If your computer is lost or stolen, the hard drive from your system can be removed and placed in another system which would allow full access to your files. If your hard drive is encrypted, your files are (within reason) protected. Windows 8.1 (Basic) now includes device encryption which allows the user to encrypt their boot drive C:, it won’t encrypt other devices such as thumb drives and SD cards etc. Pro and Enterprise will still contain the full version of Bitlocker.

Tip: If you want to encrypt other devices consider using TrueCrypt which has previously been written about in past newsletters.

Windows 8 uses the corners and edges to perform different functions. By moving your mouse to the right side of the screen you can open up a set of options such as settings. In 8.1 you can modify the corners and edges.

Security in 8.1 is greatly enhanced. According to Microsoft W8.1 is 6x more malware resistant than Windows 7 and 21x more secure than Windows XP with the latest updates. This is accomplished with trusted signing of the OS and core drivers. If the signatures of these files don’t match, the system is prevented from booting up. Windows 8.1 also performs a deep scan for malware.

Biometric devices have created boot problems for several of the larger notebook manufacturers. As operating system updates were released, driver conflicts have caused these systems not to boot. As part of the core driver signing initiative, Microsoft is incorporating these drivers into their OS to make it easier for manufacturers to integrate biometric devices.

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Server 2012 R2: There are many new features that are being added to the server product and they are fairly technical in nature. This section is intended more for the technical reader but will also provide non-technical readers an overview of some of the benefits that can be gained by moving to R2.

- The ability to have non-Windows devices registered to the Domain.
- Work Folders allow data on the server to be synced with non-Windows device. Between the Work Folders and the ability to register non-Windows devices with the Domain, an organization can allow users to have data on their mobile devices, and when they leave the organization, they will be able to delete that information from the non-company device.
- Tiered Storage is an enhancement to Storage Pools. It allows the use of mixed devices such as SSD (Solid State Drives, high speed non-spinning) drives and traditional spinning drives. With this feature data that is frequently accessed will stay in the SSD space, and important application data and data bases can be pinned to the higher speed storage, while less used data will be stored on the slower speed storage.
- The ability to connect and manage Hyper-V Virtual Machines has been enhanced with RDP over MVbus (Gen 2 VMs).
- The ability to do a live migration of VMs from 2012 to R2.

Microsoft Office on iOS and Android

Microsoft recently released MS Office for iOS and the Android platform. The product is officially called “Office Mobile for Office 365 Subscribers.” If you have an Office 365 account you can install the app on your mobile devices for free. A valid Office 365 subscription is required. Office 365 users are licensed to run the app on up to 5 devices. University subscribers can only install the mobile app on two devices.

A feature I am finding handy is the ability to have full access to files stored on our SharePoint Team sites. The application is the same as the application on the Windows phone. They are optimized for editing, viewing and creating Word and Excel documents.
Five Useful Apps That Are Worth the Money

By: Lonnie Waugh, Web Developer/Programmer, Bitstorm Web

I am a huge proponent of Open Source software and there is indeed a huge number of amazing applications out there that do not cost a dime. However, there are also a large number of paid applications that deserve a good hard look as well.

There can be advantages to commercial software, such as:

- Commercial software usually, but not always, provides better customer support options.
- Commercial software is usually easier to understand and work with.
- Sometimes the free alternatives are simply not on par with their commercial counterparts.
- There is not always a free alternative available.

So having said that, here is a list of five commercial applications that I think are worth your consideration:

**1. Fences (windows) and Desktop Groups (mac)**

If you're like me then you no doubt have a lot of icons on your desktop. These can be a bit of a hassle to keep organized. Recently I came across an application called **Fences** by Stardock which does an excellent job of corralling those icons into easy-to-manage groups that can be segregated and organized nicely on your screen. Similarly, there is a software package called **Desktop Groups** for those of you on a Mac.

**Fences** as a standalone application will run you about $9.99 at the time of this posting or you can get it as part of the Object Desktop package with a multitude of other software included. **Desktop Groups** comes in at a little cheaper price of $6.00 via the iTunes store.

**2. Display Fusion**

As a Software Developer and Linux Administrator, I am prone to having many windows open at the same time. This can get a little awkward to manage. **DisplayFusion** is specifically intended to make things a bit easier to handle when you find yourself in this situation.

You can configure each display to have its own wallpaper, task bar and start button, along with an array of other very useful options including separate hot keys for each display.

**DisplayFusion** offers a free version with a very limited feature set, but the full version with all of the bells and whistles will set you back $25.00.

For those on a Mac, there is a similar tool called **MultiMon** for $10.00 which has a smaller feature set but is still quite useful.

**3. CrashPlan**

In my spare time, I am a musician. Nearly two years ago, I learned the hard lesson related to maintaining regular backups of critical data. Who has not experienced this situation? Come on, admit it. I learned the hard way, by losing about 6 months’ worth of music that I had been diligently working on for an upcoming project! That is when I discovered **CrashPlan**.

Out of the box, **CrashPlan** will let you back up your data to an external hard drive at no cost. This is a benefit I make use of, in addition to using their cloud services. The particular plan that I use is called **CrashPlan** unlimited which, as the name states, provides unlimited storage space that can be used to back up your important files.

For those who are not in need of unlimited storage, you can go with **CrashPlan+** which includes 10gb of storage for about $2.00 per month. This amount of storage should be plenty for backing up family photos and important documents.

If you have a group of friends you want to share space with, then you also have the option of creating your own “cloud” for free. You and your friends can share a certain amount of your extra disk space for backup purposes. This has the advantage of allowing your data to be distributed among your circle of friends in case you suffer a system crash and need to restore it quickly and easily.

**4. Breevy Text Expander**

A lot of my time is spent in e-mail as well as in Word typing up long documents. **Breevy** is an application for Windows that allows you to set up common abbreviations for long words which will automatically get expanded to the full version as you type. This is something that smartphone users are already familiar with by now, but with Breevy, this convenience is now available on the desktop.

Another nice feature that Breevy has is that it’s able to sync to **DropBox**, which means you can set up your abbreviations and have them available on both your home and office computers.

**Breevy** comes with a 30 day free trial and the full version runs $34.95.

**5. WinAutomation**

This last entry in the list is probably not for everyone but I know in my case it’s been a life saver. With **WinAutomation** you can record your mouse and keyboard clicks to automate repetitive tasks in Windows. In addition to being able to record macros, you can also use the Macro Designer to custom build a macro that can detect when something specific is visible on the screen and then take...
designated actions. You can also set up scheduled actions to do routine maintenance such as empty your recycle bin or initiate a backup.

The most common use I've found for WinAutomation in my case however is the Web Recorder which has tons of uses. For example, I have a Macro that is capable of loading a website and checking for a response, if there's a problem, I can then have the Macro automatically take steps to correct the issue without my having to be involved. You can even compile your Macros as windows software so that you can execute them on other computers that don't have WinAutomation installed.

WinAutomation comes in two flavors, the Professional edition which runs $285.00 and the standard edition for $149.00.

Take advantage of commercial software to make your life easier, protect the data on your computer and save time and money. As I stated in the beginning, I am a huge proponent of Open Source software and there is indeed a huge number of amazing applications out there. While the majority of applications I use are free, there are a number of paid applications that satisfy my needs on a daily basis.

You may want to give some of the paid applications a good hard look next time you are in need of a specific solution. One of them just might be the most economical and effective way to go.

Lonnie Waugh is a web developer/programmer for Bitstorm Web, a division of TDH Marketing, Inc., headquartered in Dayton, Ohio. Bitstorm Web offers award-winning custom website design and custom apps to attract and impress visitors. The division also provides 2D and 3D illustration, CAD visualization and digital animation used to visually explain complex engineered products and processes, entertain consumers or train employees and customers for greater retention. Mr. Waugh has extensive hands-on experience and a thorough understanding of both front-end and back-end website design and development using all the latest technologies. In addition, he has broad based Linux Systems administration and centralized configuration, systems integration, process automation, biometrics and authentication/security expertise. Besides his technical expertise, Mr. Waugh has a proven track record as being a client focused problem solver with strong organizational abilities, accuracy and speed, that he gained providing Tier 3 technical customer service and support. Visit www.BitstormWeb.com
Cedarville University Goes Google

By: Mark Mazelin, Director of Web Development, Cedarville University

Cedarville University celebrated 20 years of CedarNet, the campus computer network, in the fall of 2012. What started in 1992 as a collaboration between the university and IBM to provide servers in the network operations center and workstations in offices and dorm rooms, has morphed over the years into a pervasive network with an emphasis on technology that campus users rely on every day.

The original platform of token rings, Novell NetWare, and WordPerfect products has varied over the years as technology matured. The IPX world gave way to IPv4, Windows Servers became necessary and pervasive, and email and document storage started to become commoditized. Software applications that were once novelties and difficult to use gave way to innovative and collaborative tools.

The proliferation of mobile devices--smartphones and tablets--introduced the need for information technology to provide access to these critical tools from a multitude of devices. Emails and calendar entries required synchronization across devices and documents needed to be accessed and collaborated on no matter where the user was.

Synchronization and collaboration are not easy—they are complex by their very nature and prone to problems. Synchronization to Cedarville’s Novell network began with using ActiveSync and IntelliSync on early portable devices, such as an iPaq (not to be confused with an iPad).

As both software and hardware matured, Novell developed a new mobility solutions package that was to be the key to synchronization across any and all devices. Unfortunately Cedarville’s growing usage and reliance upon the synchronization software began leading to a growing frustration. Calendars were out of sync between devices. Troubleshooting issues on devices too often required mobile software and profiles to be deleted and recreated. The synchronization server often had to be restarted when its processes simply hung up or email was hours behind. Users were getting frustrated when unsynced appointments were missed and important emails were not on their mobile device.

During this time the IT department leadership was having serious discussions of potential solutions. How can we solve the mobility synchronization issue? How can we better support mobile devices? How can we increase collaboration? Is there any way to eliminate servers that we directly manage? What cost savings can be realized with a change? Does outsourcing make sense?

Researching and testing of GroupWise alternatives began in late 2010. At the time, we discovered that over 60% of our peer institutions already outsourced their email. Two overarching goals began to form: the selection of an email and calendaring platform that supported a wider variety of mobile devices and a system that was fully functional in a Web environment, including generous file storage space and easy collaboration.

As we began to whittle down the choices, outsourcing became the clear choice. Both Google and Microsoft offer free suites to higher education institutions—Google Apps for Education and Microsoft’s Live@EDU (now known as “Office 365 for education”). Both companies offer basic service at no charge to higher education institutions. We developed a comprehensive list of features for comparing the two platforms, including evaluation criteria for email, calendar, collaboration, documents, and administrative capabilities.

To perform the evaluation, we talked to peers, read articles, sat through webinars, brought in vendor spokespersons. We set up trial versions of both systems for our domain. We assemble a group of testers with various degrees of technical prowess. We developed a checklist of items to be evaluated by the test users. And finally, we laid out the choices before the Technology Advisory Council--various members of the IT community from around the country--to get their input into the matter.

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The decision was not easy, and we wrestled with it for many months. Faculty, staff and students have various, and sometimes differing, needs for email, calendar and collaboration systems. Within the staff, administrative assistants often have even more diverse and demanding needs. We needed to ensure that the needs of all groups, to the extent that we could, would be met.

In the end, we decided on Google Apps for a number of reasons. Both our testers and advisory council members favored Google. Various testing criteria brought Google to the top of users’ lists: cross-platform support (Android, iOS, Mac, Windows), market leader in higher education, various apps available that integrate with the platform, frequent enhancements, searching speed and accuracy, and extensive archiving. It offers email and other basic applications such as documents and spreadsheets in a method that is easy to use and is familiar to most students. And since Google also offers similar free, personal products, there is an amazing amount of help available on the Web. Not only does Google maintain a learning site, but many other sites on the web have information on using Google Apps.

In early April 2012, the announcement was made to the campus that Google had been selected as our new email and calendaring provider. The Google Apps environment was touted as being contemporary, feature-rich, and responsive to changing technology environments. For some, the change felt like it was long time coming. For others, the move was a significant change from the status quo and quite stressful. The director of user services at the university began a series of newsletters and emails to help communicate the change and hopefully diffuse some of this anticipated anxiety before it bloomed into something bigger. Communication was made with alumni (email-for-life), incoming and current students, faculty and staff.

As part of the campus communication, several significant reasons were highlighted as impetus for the change:

- To provide more reliable support for mobile devices
- To offer increased email and file storage space
- To eliminate the automatic purging of older email messages
- To facilitate document sharing
- To move alumni email-for-life to a more robust email system

Shortly after this public announcement, Cedarville’s IT department staff converted to Google as the first pilot group. The transition was not seamless for the staff as they had both their GroupWise and Google email accounts operational at the same time. Emails were being forwarded from one system to the other, causing a bit of confusion and extra work during the transition period. Yet, being early adopters was important as the IT staff used this time to become familiar with Google. This information was then passed along to users and used to design the necessary training classes for faculty and staff. In addition, the user services staff began composing computer help pages to answer questions and help other staff with the tasks they perform most often. One major objective of the help pages was to show users how processes they performed in the old system (GroupWise) worked in the new Google system.

After the initial pilot with IT, students made the move to Google next. Since they are more resilient to change, we decided to move them during the summer of 2012 even though they could not take any conversion training classes. A few campus departments were converted in July to expand the testing and to meet some specialized needs, while alumni started self-converting through an online process during the summer.

Since moving faculty and staff was typically a more challenging process, we moved a department or two just about every weekend throughout the fall. The conversion would take place on a Friday night and the department members were offered training classes on the new system on Monday and Tuesday of the next week. Many people took advantage of the training opportunities. This conversion-then-training rhythm really helped smooth the transition. The Google conversion was completed by the end of November.

At the end of June 2012, nearly 1,200 mailboxes had been created or moved to Google Mail. By the end of November, that number had increased by a factor of five to 6,000. Our latest statistics show our mailbox count now sits at over 6,600, along with 10,000 Google Docs, 82,000 uploaded documents, and nearly 1,100 mobile devices connecting. In addition, 55 Google Sites and 140 Google Groups have been created.

In conclusion, the move to “Go Google” has been a good change for the university. As with any significant change, some resistance and potholes developed along the way, but with communication, training and experience, most of the issues have been resolved. We are still learning to do some things the Google way and look forward to how the platform will develop and the innovative ideas our users may have to move us forward in this space.

About the Author: Mark Mazelin serves as the Director of Web Development at Cedarville University. As part of the information technology team at this private institution of 3,400 students, his team oversees the design, development and programming efforts for the university’s web sites and mobile application. Working closely with Marketing, Mark helps ensure the branding of the website and mobile app, as well as guide their future direction and develop the implementation plan for new technologies. As a self-proclaimed lifelong learner, he enjoys dabbling in the latest gadgets and seeking ways to improve processes. www.linkedin.com/in/markmazelin/
Tech Expert Q&A – Businesses Run On Forms  

By: Leah Seymour, Document Solutions

Question: Our employees use many different forms to run many parts of our business. However, we have constant problems with people using the wrong version of the form, and have trouble reading handwriting on the forms. What advice do you have to reduce these types of form problems?

Answer: Great question! There are likely several different answers, depending on:

- Who uses these forms?
- Who fills out the forms?
- Are they in the office when they are completed, or in the field?
- Do external clients or customers need a copy of the completed form?
- Is the form used to kick off a workflow once it is completed?

The answers to these questions shape the solution that will streamline, and improve your forms processing workflow. For example, field workers can use smartphones and tablets to complete forms in the field and submit them back to the office in seconds. Office workers can complete the forms on mobile devices or from the comfort of their desktop computer and initiate an approval process. We utilize solutions that can integrate electronic, fillable forms directly into any office workflow. The forms can then be routed from one approval stage to the next and archived into an electronic filing system. This type of automation allows you to effectively manage the entire forms workflow process from beginning to end. In addition, you will have the management tools in place to ensure that the correct version of each form is always available.

For more information about the products and services Document Solutions, a Division of Modern Office Methods can help your office with, visit our website at www.docsol.com.
Microsoft SharePoint Site User — Fri, 09/27, 8:30am-5:00pm, $650 — This 1-day course provides a strong understanding of SharePoint’s many features and capabilities. It will allow you to work more efficiently and effectively with SharePoint, and with the documents and data stored in SharePoint. The course also promotes effective use of new social networking capabilities that will allow you to identify, track and advance issues and topics most important to you, and collaborate with colleagues more effectively. The lesson topics are reinforced with structured hands-on practices.

Salesforce.com for Sales Representatives — Fri, 10/11, 8:30am-5:00pm, $595 — Enable your marketing and sales teams with this 1-day course. Improve collaboration, campaign management, lead generation, lead nurturing, and closing ratios. Meet and exceed sales targets. Users of Salesforce.com will be much more productive, more informed, and have better morale when they fully understand the system that they are working with. More importantly, training is a critical adoption driver. A company purchases Salesforce.com for two main reasons: 1) To drive significant increase in sales by improving sales team efficiency, workflow, and data management, and 2) To improve management visibility over the pipeline so that they can make better decisions. Users that don’t understand the system don’t use the system - and neither goal is realized. This course is Live Instructor-led Online.

CompTIA Security+ Module 9 for CEU’s — Th, 10/3, 8:00am-12:00pm, $199 — This half-day CompTIA Security+ Module is for those professionals who want to gain continuing education units (CEU) in order to renew their certification. The CompTIA Advanced Security Practitioner (CASP) course introduces you to advanced security implementations and strategies use for full enterprise implementations. It is also the main course you will take to prepare you for the CAS-001 exam. As an IT professional, you may have experience in networking, network security, network administration, as well as implementing basic security services on any type of computer or network. As an Advanced Security Practitioner, you must be able to apply security across all levels of an organization, not just at the networking and hardware levels. Security measures and controls must be implemented with business objectives in mind, and should align with a business’ strategic goals.

Administering Microsoft SQL Server 2012 Databases — Mon, 10/14-10/18, 8:30am-5:00pm, $695 — This 5-day instructor-led course provides students with the knowledge and skills to maintain a Microsoft SQL Server 2012 database. The course focuses on teaching individuals how to use SQL Server 2012 product features and tools related to maintaining a database. This course is comparable to 10775A and helps you prepare for the Exam 70-462. This course is Live Instructor-led Online.

Coding for Healthcare Professionals (ICD-10-CM) 1-Day Workshop — Thu, 10/17, 8:30am-4:30pm, $750 — 2-Day Workshop — Thurs, 10/17-10/18, 8:30am-4:30pm, $1,000 — This workshop is designed for the healthcare professional who is knowledgeable and experienced with ICD-9-CM and needs to understand the basic structure, guidelines and coding protocols of ICD-10-CM for diagnosis coding. The federal government has mandated that ICD-10-CM will replace ICD-9-CM for coding in all types of healthcare services, effective October 1, 2014. ICD-10-CM is significantly different in structure, definitions, coding guidelines, and coding conventions. Healthcare professionals need to understand how to correctly code in ICD-10-CM in order to receive timely and correct reimbursement. Understanding the coding system structure will also allow the healthcare organization to identify the clinical data that will be necessary in order to code correctly.

VMware vSphere: Install, Configure, Manage [V5.1] — Mon, 10/21-10/25, 8:30am-5:00pm, $3,445 — This 5-day instructor-led, hands-on training course explores installation, configuration, and management of VMware vSphere®, which consists of VMware vSphere® ESXi™ and VMware® vCenter Server™. This course is based on pre-release versions of ESXi 5.1 and vCenter Server 5.1. Completion of this course satisfies the prerequisite for taking the VMware Certified Professional 5 exam.

Android 4 Application Development — Th, 10/31-1/2, 5:30pm-9:30pm, $1,465 — This is an introductory course to the newest release of Android OS. Would-be mobile app developers will learn what they need to know to program for the latest Android smartphones and tablets. The class concentrates on the Android 4 OS which is a single solution for both smartphones and tablets, so what you learn will help enable students be successful developing for both devices. From using activities and intents and creating rich user interfaces to working with SMS, messaging APIs, and the Android SDK, you will gain what you need to know in this class.

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Workforce Development also has a state-of-the-art facility that would be great for your next training event! The facility’s five computer training labs are fully-equipped with the latest technology, including the region’s only hands-on Cisco and Oracle Network Labs. Each room includes 24-26 networked student PC workstations with a flexible infrastructure to meet client’s needs. Or check out our flexible meeting rooms, perfect for your next off-site meeting. We invite you to experience the superior client service, state-of-the-art facility and exceptional catering that is Workforce Development at Miami Valley Research Park! Conveniently located just minutes from I-675 and SR-35 in Kettering, Ohio, clients may reserve the facility for their own programs or partner with Workforce Development to provide targeted training solutions for their organization’s unique needs.

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937.512.5758 • lillian.sullivan@sinclair.edu

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