The SynchroNet

Puzzle Fun Book

Plus
(Almost) Everything You (Kind of)
Wanted to Know about IT
...but Not Enough to Ask

Contents of the Puzzle Fun Book

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Get Ready to Have Some Fun!

A tangram is a Chinese geometric puzzle consisting of a square cut into seven pieces that can be arranged to make various other shapes. Tangrams, just like bow-ties and fezzes*, are 'cool.'

We at SynchroNet chose a tangram for our logo because these ancient puzzle forms—like us—emphasize order and logic. As you flip to new pages in this booklet, you'll see a different Tangram to be solved on the left hand-side. On the right, you'll find some information that we think will be of use (if not entertaining) or entertaining (if not useful). Sometimes it may even be both.

Enjoy!

*This is a sly reference that sci-fi geeks can feel smug about getting. If it didn't ring a bell with you, check out the last question in the 'General Information' section.

This is the solution for the puzzle shown above.
The rest can be found at the back of the booklet.
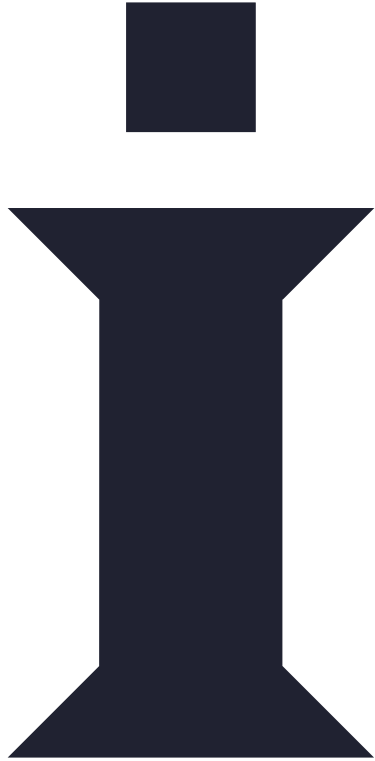
Commonly Asked Questions

General Information

What is RAM?

RAM is the acronym for random-access memory. When you open Excel, for instance, its functionality will occupy part of your computer's RAM. You need a lot of RAM to run many powerful programs at the same time. Electronic information, as well as capacity for an app to function, exists only temporarily in RAM—turn off your computer and (POOF!) anything there vanishes.

Which of course is why it's so important to save as you work... because who hasn't lost some valuable work and wished they'd just hit CTRL+S just once?

We haven't of course.

But it **does** happen ...

If your computer seems to hang when you open RAM-intensive applications (like Adobe Creative Suite, etc.), it may be time to upgrade your hardware. SynchroNet can help you determine your optimal configuation to ensure you get the most bang for your buck... especially as your technology ages!

What is a peripheral?

A peripheral is a machine (hardware) connected to a computer system (at its periphery, get it?) that:

- Enables/enhances user interaction (a keyboard or a mouse)
- Performs a specific function (such as printing or scanning and so on)
- Improves PC capabilities (like a second display)

Peripherals can be connected with or without wires depending on whether they are bluetooth or wi-fi capable ... and some seem to have invisible links with malevolent entities that can cause them to randomly act in bizarre and/or uncooperative fashions.

What is a storage device?

A storage device—in the context of computer technology—is anything capable of holding data or instructions in the form of electronic files. Storage devices can be a hard-drive (internal/external/network), a flash (thumb) drive, a CD or DVD, or server.

What is an I/O Device?

I/O stands for input and output. I/O devices facilitate the transfer of information in electronic form from one component in a computing system (including humans) to another. In a way, they are translators.

For instance, your computer keyboard (input) turns your typed words into binary code (ones and zeroes) that your system can understand. Your display then translates again and outputs the information on your screen in a form that you can understand.

01001111 01101011 01100001 01111001? (Okay?)
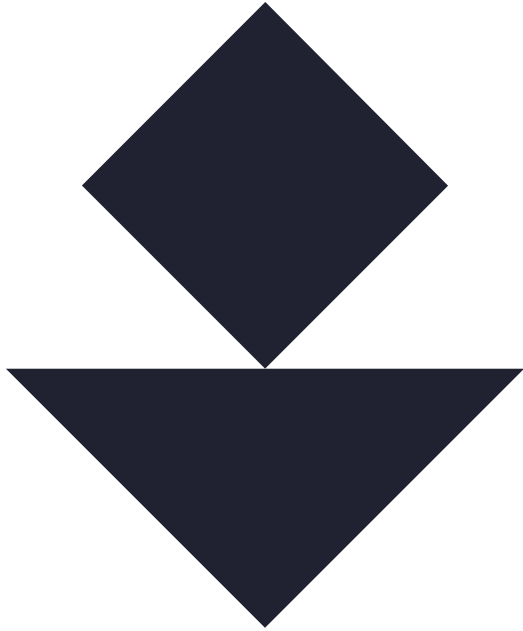
What is a broadband network?

Back in the ancient Days of Yore (1990s), before broadband networks, Internet users would connect to the World Wide Web via telephone modems. A gosh-awful noise would be followed by chiming sounds indicating you were connected and several hours later a Website would have assembled on your computer screen.

Broadband—cable (coaxial), fiber optics, or Digital Subscriber Line (DSL)—changed all that, enabling data to be transmitted at rates hundreds of times faster than the old dial-up modems. "Broadband" refers to the fact that these types of networks can hold different types of data traffic, traveling along different frequencies of the connection at differing speeds.

What is "The Cloud" and why (apparently) should I care?

Question not the Cloud, heathen! Okay, seriously, it's just a server (or several) somewhere **not** on your property that hosts your computer files or the applications you use. You access your files and use the apps via the Internet.

In lieu of buying hardware, software, and maintenance plans, you can subcribe to a Cloud service to provide the application and all necessary support and maintenance. The downside: the Cloud only works as well as your Internet connection and the integrity of the vendor's Cloud. As well, some people don't like putting their eggs in a third party's basket.

Turn to SynchroNet to help you decide what's best for your business. We'll discuss your growth plan, the needs of your mobile and in-house salespeople, your businesss application vendor offerings, and your plans regarding any large hardware or application upgrades. The net impact of this discussion could be lower IT expenditures and greater productivity.

So what about fezzes and bowties?

It seems you read the introduction but you aren't up on science fiction shown on BBC (British Broadcasting Corporation, sheesh!).

The Eleventh Doctor in the long-running British TV series, *Dr. Who* (1963 and still going!) had a penchant for trying out stylish new accoutrements which he would wear while proclaiming them 'cool.' A couple of his favorites were the fez and the bowtie. So now you know!
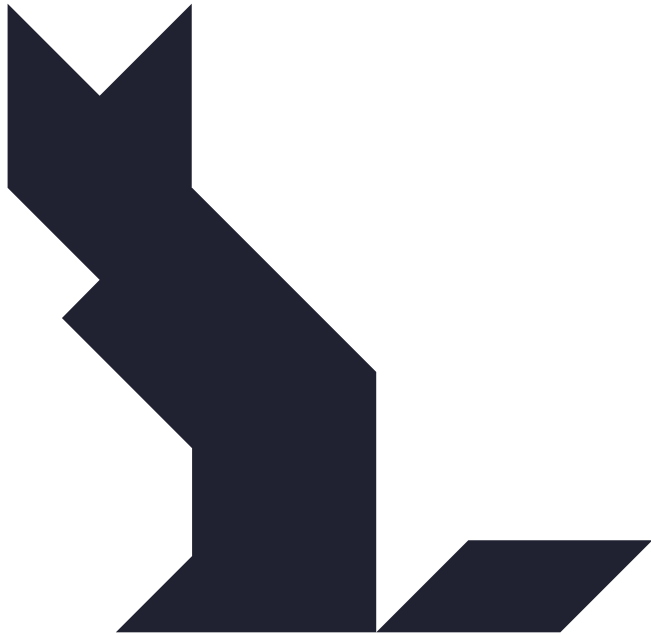
The Internet

What is a URL?

If you think of the Internet as a physical world, the URL (Universal Resource Locator) is a street address. Just like the address on the outside a piece of snail mail, the URL has different parts which refer to specific identifiers that narrow the address to just one out of billions. They are:

1. **The protocol or data source**
   (i.e., http://, ftp://, gopher://, news://, telnet://, WAIS://)
2. **The domain name**
   (for the Web server where the desired information resides)
3. **The port address**
4. **The directory path**
   (location of the Web page in the Web server's file system)
5. **The object name**
6. **The spot**
   (precise location within the file)
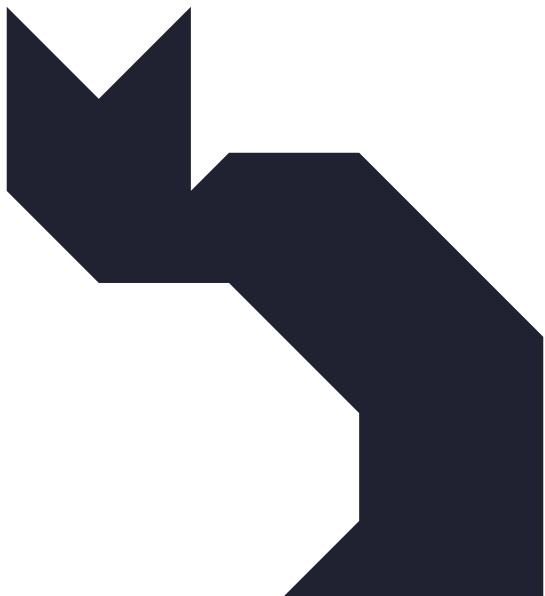
What is a domain?

In a classic episode of Seinfeld, George wins a contest between himself, Jerry, Kramer and Elaine in which he alone proves to be 'master of his domain'—literally and figuratively 'self-control.' (Sorry, we aren't getting more descriptive than that.)

Similarly a domain on the Internet is simply that little slice of the World Wide Web that one controls and where one can erect a Website. Domain names are those 'dotcoms' with which we are all so familiar. (And dotnets, dotcos, dotorgs, dot dot dot … wait, was that last bit redundant?)
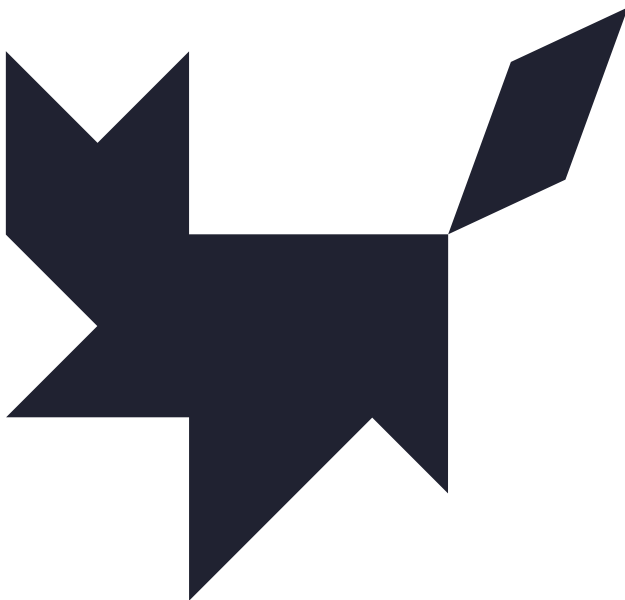
What does a "web browser" do?

A Web browser (Internet Explorer, Firefox, Safari, Chrome, etc.) is software that enables you to access information on the Internet. (A browser isn't to be confused with search engines like Google or Yahoo which comb the Web to list sites with the information you've "asked" about). Our most abbreviated explanation of what a browser does is to say that it sends a request to a site identified by a unique address (URL) to let you see what it has, and then the browser brings it back and plasters it across your computer screen.

What is an IP address?

Let's say you want to see YouTube's latest wildly popular video of a dog or kid being (gag) cute. You enter the URL (website address in case you haven't seen our "What's a URL" question) and it just appears on your screen. But what happened there? That video came streaming to your computer in the form of millions of bytes of information. How did the YouTube server know where to send that data? It read your absolutely unique IP (Internet Protocol) address and sent it straight to your computer. Cool, huh?

What does the term HTML mean?

You may occasionally be asked if you prefer to receive an email in HTML or text format ... which means do you want it fancy or plain. HTML (hyper-text markup language) refers to the structure of a Web or email document's content and properties that link it to other sources for display (like animations, sound, graphic images, etc.). The more elaborate an HTML document is, the more bytes of information are required and that can affect download and transmission speed.

What is a Portal?

There are literally trillions of Web pages. When you go online, a portal provides a place to start by combining information from news sites, calendars, images, weather information and other widgets to effectively create a front page for the Internet.

Organizations create portals to entice people to use them as a home page. If there's enough traffic to the site, third parties will pay to place ads there, ensuring that what you want to find on a particular portal will be obscured by a pop-up, or that audio—seemingly from nowhere—will cause you to jump out of your skin.

If you want to see a Portal in action, visit yahoo.com. (By the way, yahoo.com is simultaneously a browser because you can search from it... just in case you wondered.)

What is a blog?

It comes from 'Web log' (that's log as in Captain's Log, Star Date 2237) and refers to publishing personal ideas or observations on the Internet (Web). 'Blog' is believed to have been coined around 1999. With the advent of blogging platforms like LiveJournal and Blogger ... quickly followed by countless other online avenues for writers of varying levels of talent to express themselves on myriad topics, we soon had blogging all over the place. Yay.

What is Remote Access?

If you run a business, you may want your authorized employees or clients to access some of your internal network resources from a remote location. The trick is to make that information available to them but no one else. Remote access establishes secure connectivity between the remote party and corporate resources inside your firewall. It's sort of like being able to get into Hugh Hefner's Playboy Club except ... well, maybe not really.

There are a few different types of remote access, like VPN (Virtual Private Network), Citrix, Terminal Services, and etc. If you need secure Remote Access, SynchroNet can help you design and implement these services based on your current applications and goals.
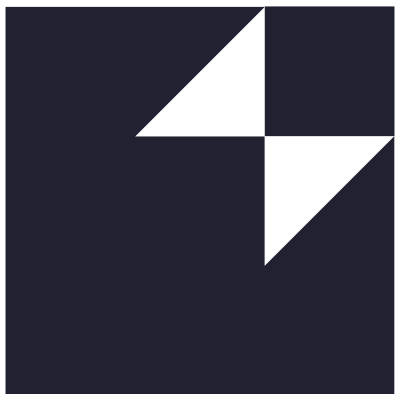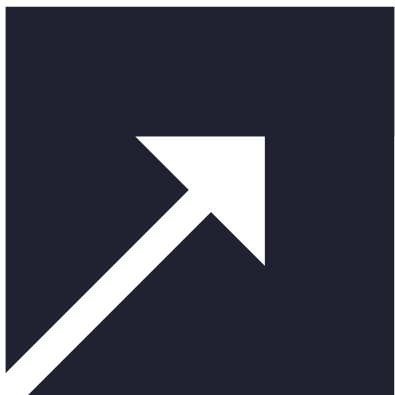
Security

How can I secure my laptop?

Best idea: Don't leave your laptop where someone can get at it. Obvious, right? However if criminal masterminds do overcome your extensive physical security measures (e.g. locking your car doors), you might still thwart them by wisely:

- Tagging your laptop to track it with a GPS device
- Encrypting your data with sophisticated software that will also erase the hard-drive if multiple attempts to access your files take place
- Relying on Remote Access (See the previous question, "What is Remote Access?") to ensre that your physical hardware does not contain any data but rather is used to retrieve that data. A quick password change and your data remains secure

How can data on my computer be protected from sneaky people?

Start with the password ... and not 1234 or your birthday and don't tape it to your computer. Try a combination of upper and lower case letters and numbers. Throw in a special character or two (like a "!" or a "%"). Try changing it from time to time, and don't use the same password everywhere.

If your data is really important (and not just because you work for the Department of Homeland Security), leverage Remote Access protocols. If you MUST keep local files, deploy an automated back-up service and install encryption software that:

- Prevents unauthorized access to specific files or to partitioned areas of the hard-drive as well as hide "secret" files and partitioned areas of the hard-drive so they don't show up in the directory
- Erases the hard-drive if an intruder tries too often to break the encryption

Avoid free public services like Dropbox or Google Drive.
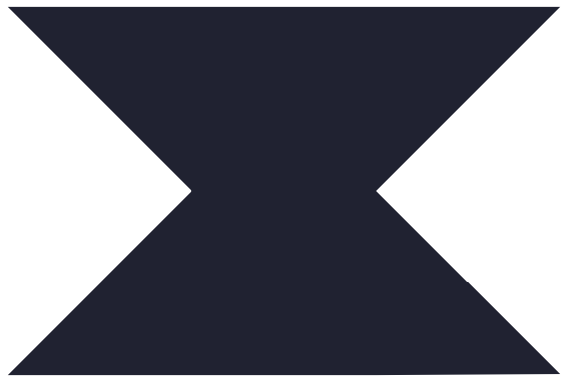
Is it remotely possible to locate my laptop (and other devices) remotely?

Yes! The best approach is to equip your laptop to be located via GPS tracking. The same system can let you remotely "lock up" your laptop to make it almost impossible for someone to use it. (We've also heard of psychics who allegedly have amazing abilities to find missing things, but frankly, we're skeptical.)

Apple users should make sure to install and set up Apple's "Find My" services, which are integrated into iPhones, iPads and Mac computers.

Android users with phones and tablets rely on Android's build-in Android Device Manager, as well as some powerful third-party tracking solutions.

Microsoft doesn't offer an integrated solution to track Windows PCs or Tablets, but there are third-party computer tracking solutions available.

What's the deal with Viruses and Trojans?

Viruses and Trojans are forms of malware ('mal' as in malicious). Virus programs copy themselves, infect computers, and spread—like the flu bug. They'll make your computer system 'sick' or even kill it. Trojans refer to the ancient Greek's big wooden horse that precipitated the fall of Troy. An app or program may look okay, but hidden inside is code that does something else—like giving a third party control of your computer.

Avoid malware by **never** clicking on unanticipated or unfamiliar links or attachments (even if the name looks cute and friendly like "Fido is rollerskating!"). Also skip items that are too good to be true (like that 'found' 64-GB thumb drive labeled 'Honeymoon Pics'). If Robert Heinlein emphasized anything, it's that 'there's no such thing as a free lunch'.

Bottom line: If it's too good to be true, it'll probably murder your computer. And we don't want any 'puters to be murdered.

Can a firewall protect me from a computer virus?

Only about as well as wearing sunglasses to keep mosquitoes away or putting a screen door on a battleship. Viruses can hitch a ride right through your firewall on an email or a flash drive. You can also get a nasty case of malware by visiting a sketchy Web site. In all of these cases, you've 'allowed' the virus in by opening an email or executing an app. On the upside, firewalls **do** combat hackers or worms (another kind of malware) that try to access your system when you're not watching or when you're on an unsecure network.

That's why you need Anti-virus software **and** a firewall to be safe. At SynchroNet, we have what's called The SynchroNet Way, which is an end-to-end process that includes all of the software and monitoring necessary to protect your computers and networks. Have questions? Why not reach out to SynchroNet for a more in-depth explanation?

Is it safe to use a free Wi-Fi network?

That's like asking if it's safe to go for a swim in the ocean. Maybe there are no sharks in the water, but then again? And don't feel safe just because the Wi-Fi provider requires a password; you're still potentially vulnerable from other people on the network who could want to steal your personal information. Take these precautions:

- Enable your firewall
- Don't visit websites that would cause you to enter a password
- Turn off sharing
- See if you can use Remote Access
- Turn your computer off when you're finished using it

Is it okay to do online banking using a public wireless Internet connection?

No, non, nein, nyet and in almost every other known language: ahneo, aï, aïlle, aita, aiwa, ala, ara, awa, bo, cha, déedéet, ei, ez, hayir, hindi, iié, illaï, jo, kadhu, kaore, kheyr/na , laa, le, lla, lo, ma hoke phu, mba, na, nae, nage, nahániri, nahin, naï, nann, nanni, não, ne, né, nẽ, nee, neen, nei, nej, nem, neni, nennin/nenn, nie, nò, nu, ohi, oya, pù shi, rara, siyo, te, thay, tidak, tla, tsia, ugui, votch, xeyir and yuk (especially yuk).

But whyyy, you ask? (Or were you just whining? For shame.) The short answer is that if you are on free Wi-Fi, you should assume that anyone with nefarious goals can know where you're going, what you're seeing, and what your passwords are for the duration that you're surfing the interwebs.

Save your important online work for when you have a private connection protected by your own firewall. The Internet cafe is not the place to log into your secure websites.

Do I really need to care about my privacy online?

Aside from things like passwords, Social Security numbers and credit card numbers, people don't seem too concerned about sharing information online. (Have you heard of Facebook?) But there are a few reasons to be concerned:

- Potential identity thieves – Don't give them a toe-hold for gaining access to your sensitive information.
- Snooping employers or potential employers – Is what you did at your last birthday party really their business?
- Snooping government agencies – Big Brother may not bother you, but civil libertarians have issues with this.
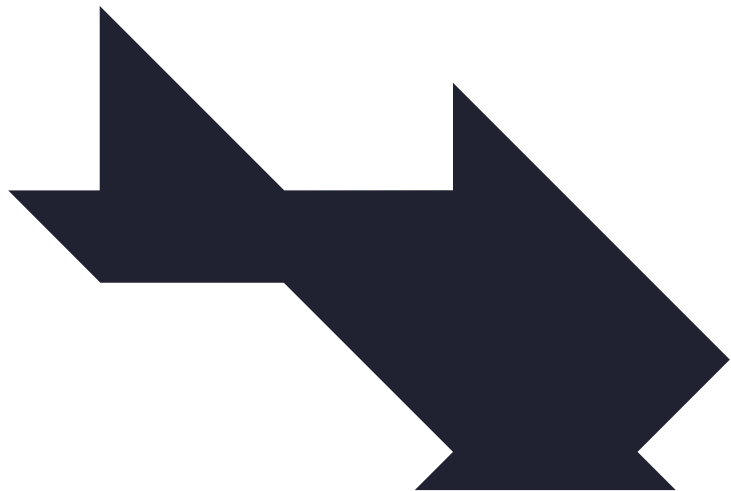
What's the difference between spam e-mail and phishing?

Spam (unwanted 'junk' email) is in the eye of the beholder, but 'phishing' email—which pretends to come from a reputable source to trick the recipient—is different. To spot phishing, check the URL of any link in the message by 'hovering' your mouse over it.

Any name **other** than a legitimate entity right next to the .com/net/etc. is to be distrusted. (Example: bff.com = ok; bff.stranger.com = **not** ok.) If it looks suspicious in any way, don't click on anything. If you're still interested in the message, and think it just might be legitimate, search the identified organization's true URL and go directly to the site.

The cost of phishing and other cybercrimes in the United States in 2013 was an estimated $113 billion. Email-security and spam-prevention applications and services can be helpful in keeping phishing attempts from your inbox, but ultimately your best defense is your own caution and care.

What happens when a site I use gets 'hacked'?

Unfortunately, we hear about this a lot more often than anyone would like. To a certain extent, you just have to hope for the best and trust the hacked company does everything possible to mitigate damages.

About the only step you can (and definitely should!) take is immediately change your password—something with at least eight characters and a mixture of letters (upper and lower case), numbers and special characters (i.e., %, ! or &).

We like to use super tough (and memorable!) passwords like these: **Hl@yk!** or **MOciaT!** Wonder how we made these?

Here's **l**ooking **@** **y**ou **k**id**!**

My **O**ther **c**ar **is** **a** **T**ardis**!** (Substituting a Zero for the "O" in other)

That said, if you haven't already, it's time to install a password vault. Ask us for our favorites; we'd be thrilled to advise you!

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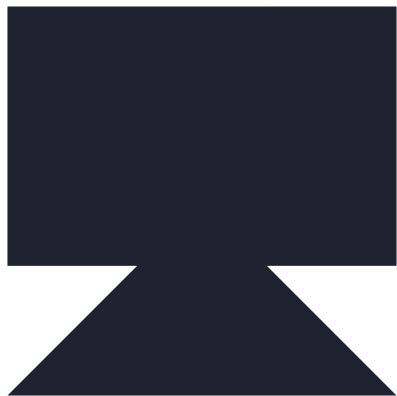
Commonly Asked Questions

Technical Issues

My computer is really slow. Should I get a new one?

Just because grandma is getting a little slow ... okay, so it's not nearly the same thing. Still, don't be too hasty about getting a replacement.

Malware or a faulty program could be slowing your computer down so you might be able to clear things up with inexpensive (or free!) software. If it's a hardware problem, repair might still be smarter than buying a new computer. A good rule of thumb: If repair is more than 50% of the cost of a new computer or if your current model is four years old then make the purchase.

Of course, almost any upgrade in technology offers the opportunity for at least a little improvement in how tasks and processes are completed. Yet other investments in your business may be a better bet for the near future—you simply have to weigh your options and check your budget. Ask SynchroNet to help you weigh the costs versus benefits of technology upgrades to make sure you maximize ROI from any *necessary* upgrades.

I'm getting a lot of error messages; do I have a computer virus?

Maybe, but not necessarily. Here are some more likely causes of an error message:

- A corrupt file
- A bug in the software
- Software conflicts (ironically this happens a lot with anti-virus software)
- A bad sector on your hard drive
- Memory error

Of course, it never hurts to run your anti-virus software from time to time, just to be safe! If a reboot doesn't resolve the issue, call us at SynchroNet; you may need assistance with patching your software or other more comprehensive fixes.

If I accidentally delete files, can I get them back?

Are they just in the trash can (e.g. computer's recycle bin) or has the garbage man already come (e.g. you emptied the recycle bin or 'Shift-Deleted' the files)? If they're in the recycle bin, no problem; just click on them and drag them out! If the files were 'permanently' deleted, there may still be hope but you'll probably need professional IT assistance. If you decide the files are worth the effort—and cost—to attempt recovery, immediately stop using your computer until after the work is done.

What makes my computer shut down for no good reason?

It may just be hot and need to take a break. That is, a computer in danger of over-heating may shut off in order to cool down. Take a look at the cooling fan and make sure it's not caked in dust (or cat hair... you know who you are). If so, a good cleaning is in order.

Other times, your computer may need to install essential patches. You'll usually get a warning that your computer needs to shut down. Instead of postponing again and again (because eventually your computer **will** just shut down!), why not save your work, reboot as requested, and then get back to work? That's better than risking a reboot when you were 90% through that really complex email to your vendor/customer/landlord/mother/etc. (Yes, that draft is gone. We're sorry.)

Finally, your computer may be infected with malware that is causing it to work too hard and potentially overheat. Ask us at SynchoNet to take a peek to help you diagnose the issue.

Why is my computer making a grinding noise?

It could be that a spindle is stuck or a head has gone bad. Some hard-drives are designed to 'notify' a user about such problems with this kind of sound. However, the better response may be, "Why are you still using it?" Seriously, when is an unexpected grinding noise a good thing?

Contact SynchroNet so that we can help you design an upgrade plan to improve your technology so that the squeaks of hamster wheels revolving in your skull are the only sound of your productivity. That's a much better sound anyway. So much more is getting done.

What causes the internet to be slow?

It's analogous to a highway being "slow" with similar reasons: too much traffic (either at a site's server or sharing your connection) or because of a disabled 'vehicle'.

You can't really do much about the first set of issues, but you can make sure your own system is operating at maximum efficiency by checking for viruses, spyware and other types of malware which often cause poor computer performance.

Why does my computer insist I eject a USB (flash) drive before removing it?

Computers are always doing things in addition to the task you actually want them to perform. In this case, it's called cache writing (ostensibly to improve performance). Ejecting the drive gives the computer time to finish up.

To use a politically incorrect analogy, yanking the drive prematurely is like a husband getting his wife to drive them to a dinner party and forcing her out of the car before she can check her makeup. The computer thinks you're being 'just awful' ... and will find an opportunity to make you suffer.
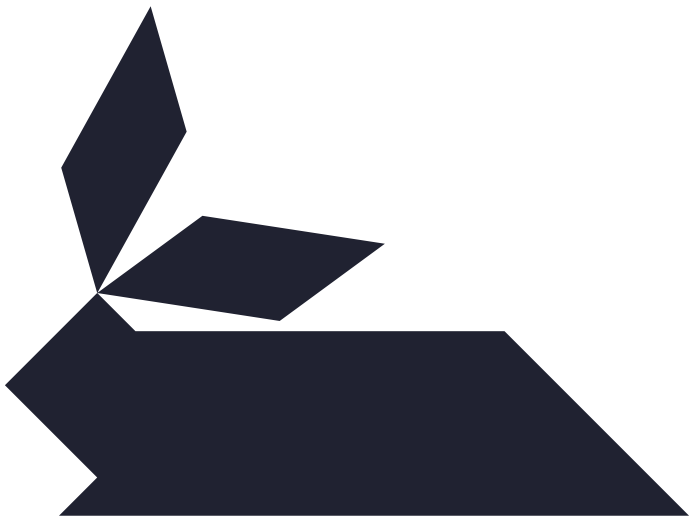
What does it mean if my web browser stops and I get a 'Flash has stopped working' message?

Either the Justice League is down a superhero, or the Flash Internet add-on (which enables some multimedia content like videos and animated ads to run) has thrown a figurative monkey wrench into your Web-browsing pleasure. Most browsers let you turn Flash off. If occasional crashing becomes too annoying try that, though disabling Flash will mean missing out on some of the Internet's bells and whistles. The good news is that alternatives to temperamental Flash are coming into widespread use.

Commonly Asked Questions

Advice

What questions should business owners ask before investing in a technology solution?

That's a good question, and one good question deserves eight more. We suggest:

1. Do the solution components come from reputable brands?
2. Who will support the solution?
3. What are TOTAL purchase and associated costs?
4. Will it integrate with my existing system?
5. Is it scalable to accommodate business growth?
6. What's the solution's track record?
7. Where/when will I see ROI?
8. Can I test it or see a demo in action?
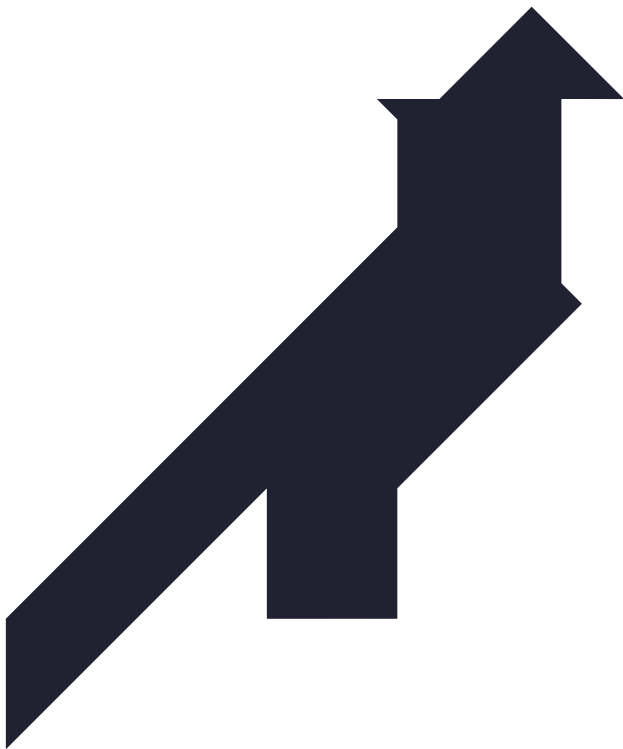
What should I consider before using a Cloud service to store my documents and important data?

Before heading off into the wild out yonder, here are three important things to keep in mind:

1. In addition to whatever fee you're being charged, you may also be hit with additional costs based on bandwidth usage, so be careful.

2. You must have an adequate and reliable Internet connection to access your files and apps when you need them.

3. Strong passwords and privacy settings are going to be critical to keeping your files as secure as they can be.

Did you know?
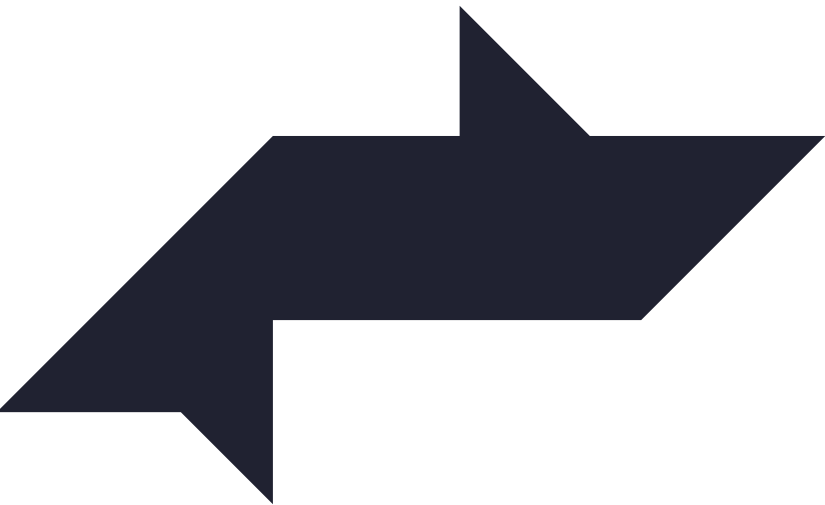
Oh Really?

GPS units sold for civilian use must deactivate if they travel faster than 1,200 MPH or are above 60,000 feet to prevent their use in intercontinental ballistic missiles.

More than 200 million tons of computers and other technological hardware are discarded in the United States each year.

About 50 billion emails are dispatched every day, of which 88 percent are junk/spam and about one percent are infected with viruses.

Yes, Really.

The average computer user blinks seven times a minute which is less than half the normal rate of 20.

Scientists in the UK are creating a smartphone app to test for STDs.

UFO sightings have reduced by over 80% since the introduction of smartphones and public access to HD video.

Origins

Uncommon Origins

Mechanically automated apparatus for making calculations date back to 100 B.C.

HP, Google, Microsoft, and Apple all started out in garages.

Dell Computers was started by 19-year old Michael Dell with only $1,000.

Rear Admiral Grace Hopper, the first female admiral in the U.S. Navy, was also a pioneering computer programmer. She came up with the term 'debugging' after removing a moth from a computer.

Historical Tidbits

The technology in a single Nintendo Game Boy unit in 2000 exceeds all the computing power used to put the first man on moon in 1969.

The first and still the oldest registered domain name is Symbolics.com, created on March 15, 1985.

The first computer mouse, invented by Doug Engelbart in 1963, was made of wood.

Connections

It took 38 years for radio to attract 50 million users, 13 for TV but the Internet did it in four.

More than one million new domain names are registered every month.

Of the 1.8 billion people who regularly connect to the Internet only 450 million of them speak English.

Solutions

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