

2017 CA Small Practitioners' Forum

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Outline

- ❖ The Future
- ❖ Top IT tips (its really not about IT)
- ❖ Computers, tablets and smartphones
- ❖ Operating systems and software
- ❖ Security



Annual technology budget

- ❖ 5+% of gross fees
 - ◆ Hardware
 - ◆ Software
 - ◆ Payroll
 - ◆ Maintenance
 - ◆ Other
- ❖ Strategic asset, enables increased efficiency
- ❖ Employee attraction and retention



The future

- ❖ Artificial Intelligence (AI)
- ❖ Self driving cars
- ❖ Virtual reality (VR)/Augmented reality (AR)



Artificial intelligence

CPA Magazine July/August 2017

- ❖ Artificial intelligence is based on the assumption that the process of human thought can be mechanized.
- ❖ Work started on this theory in the first millennium BC, including philosophers like Aristotle and Euclid
- ❖ First computers were the code breaking machines of World War II
- ❖ AI Winters 1974-1980 and 1987-1993
- ❖ May 11, 1997 Deep Blue beats Garry Kasparov at chess
- ❖ March, 2016 Alphago wins Go against top professional player.
- ❖ "almost 60% of all occupations have at least 30% of activities that could be automated"
- ❖ Four ramparts holding back AI
 - ♦ Judgement
 - ♦ Decision
 - ♦ Intuition
 - ♦ Consciousness
- ❖ Democratization of professional services due to dramatic increase in speed and reduction in costs



Impact on jobs

- ❖ New categories of jobs
 - ♦ Trainers to teach AI systems
 - ♦ Explainers to bridge gap between technologists and business people
 - ♦ Sustainers to ensure systems working as designed
- ❖ Generally not as many or as well paying as those replaces



Next step in AI revolution

- ❖ Capacity to instill AI with common sense
- ❖ Then AI could take the new jobs that it creates
- ❖ Could lead to the development of human-level AI
- ❖ Which in turn could lead to development of superhuman level of intelligence



Tax

❖ Tax Foresight

- ◆ Thomson Reuters and Blue J Legal
- ◆ Predicts the outcome of a court ruling for your fact scenario based on all previous cases, indicating a percentage of confidence
- ◆ Provides links to relevant cases, and generates tailored explanations of its analysis.
- ◆ “Results that could require up to 40 hours of research by a junior come up within 2 minutes”



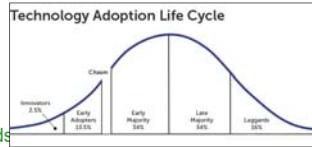
MindBridge

- ❖ Overview of what it can do
 - ◆ Can review all entries for “unusual” transactions
 - ◆ Spot irregularities, i.e. sequence gap in transactions
 - ◆ Statistical analysis of the data
 - ◆ Sample selection
 - ◆ Learns from your interactions and suggests better results as you use the system
- ❖ Accesses some accounting software data directly, otherwise CSV or Excel files
- ❖ Value
 - ◆ Risk reduction
 - ◆ Increased efficiency
 - ◆ Insights out of data
- ❖ 20 of top 100 firms using, none of big 4, some smaller firms
- ❖ Not inexpensive



Environment affecting practices

- ❖ Tax
 - ◆ CRA Connect, AI
 - ◆ Proposed changes to corporate tax
- ❖ Accounting
 - ◆ Online bookkeeping
 - ◆ Efficiency
 - ◆ AI
- ❖ Financial statements
 - ◆ Professional standards
 - ◆ Online bookkeeping, direct bank access
- ❖ Auditing
 - ◆ Online accounting
 - ◆ AI



Self driving cars

- ❖ Safety
 - ◆ 1.3 million people die per year in car accidents
 - ◆ 40,000 per year die in US
 - ◆ 2,000 per year die in Canada
 - ◆ 94% human error
 - ◆ Computers can see the entire road, pay attention all the time and react more quickly
- ❖ Accessibility
 - ◆ Handicapped
 - ◆ Aged
- ❖ Reduces cost of commercial drivers gives time to all other commuters
- ❖ Reduced congestion on the roads
 - ◆ Fleet vehicles
 - ◆ More effective driving
- ❖ Less expensive
 - ◆ Costs about 10,000 a year to own a car, excluding parking



Virtual/Augmented reality

- ❖ Virtual reality encloses and emmerses the person into an experience
- ❖ Augmented reality is a mix of the real world and computer generated images
 - Pokémon Go
- ❖ All the huge tech companies working on it
 - ◆ Microsoft - HoloLens
 - ◆ Apple - iPhone X
 - ◆ Google - Glass
 - ◆ Facebook - Oculus glasses
 - ◆ Amazon for retail stores



Top IT tips for practitioners

- ❖ IT is only an enabler
- ❖ It allows us to do things more efficiently
- ❖ Where should we focus first?



Spend time on the business rather than in the firm

- ❖ Culture
- ❖ Management – delegate
- ❖ Strategic plan, retreats
- ❖ Marketing
- ❖ Processes - delegate
- ❖ Budgets
- ❖ Delegation – partners and staff
- ❖ Client focus
 - ◆ Attitude
 - ◆ Services
 - ◆ Billing process
- ❖ Staff
- ❖ KPI's – what we can measure we can manage



Processes

- ❖ Effective vs Efficient
- ❖ Effective
 - ◆ “doing the right thing”
 - ◆ “degree to which objectives are achieved”
- ❖ Efficient
 - ◆ “doing the thing right”
 - ◆ “least time and effort”
 - ◆ The right/best/most efficient processes plus IT hardware and software to enable



Focus first on biggest processes

- ❖ Working paper preparation and statements
 - ◆ Revisit required documentation
 - How do you document – Narrative vs documents
 - ◆ Consistency among partners
 - ◆ Input from team members
 - ◆ Every file is unique
 - Planning meeting to clarify expectation
- ❖ Personal tax
 - ◆ What do we keep
 - ◆ How do we handle pre and post assessments
 - ◆ Have we changed since Connect
 - ◆ We revisit in detail every year



Top IT enablers

- ❖ Have the right hardware
 - ◆ It can run all our software
 - ◆ I am not waiting for the computer
- ❖ Have the right software
 - ◆ It enables me to do things in the most efficient way I can imagine
 - ◆ It is still supported
- ❖ Be in the correct environment
 - ◆ Cloud, network, stand alone remote access
 - ◆ Security
- ❖ Have the skills to use the tools
 - ◆ Regular training
 - ◆ Take time to learn, "Just do it"



Hardware you should have

- ❖ Laptop/2-in-1
- ❖ 2nd, 3rd or 4th monitor
 - ◆ 23" to 27" or 34"
- ❖ Telephone headsets
- ❖ Smartphone
- ❖ Wireless keyboard and mouse
- ❖ Tablet
- ❖ USB portable monitors



Best laptops of 2017

PC Magazine August 1, 2017

- ❖ Acer Aspire E15, \$350US
- ❖ Alienware 17 R4 (2017), \$1,280
- ❖ Apple MacBook Pro 13"(2017), \$1,274
- ❖ Asus Chromebook Flip HP, \$499US
- ❖ Dell Inspiron 13 7000, \$800US
- ❖ Dell XPS 15 Touch (2017), \$1,000
- ❖ HP Spectre x360 13 (2017), \$1,200US
- ❖ Lenovo IdeaPad Miix320, \$300
- ❖ Lenovo ThinkPad X1 Carbon, \$1322US
- ❖ Razer Blade (2017), \$1,900US



Best ultraportable laptops of 2017

PC Magazine August 1, 2017

- ❖ Apple MacBook Pro 13", \$1,274US
- ❖ Asus Chromebook Flip HP - \$499US
- ❖ HP EliteBook x360 1030 - \$1,269US
- ❖ HP Spectre x360 13(2017) - \$1,200US
- ❖ Lenovo IdeaPad Miix320, \$300US
- ❖ Lenovo ThinkPad X1 Carbon, \$1,322US



Best 2-in-1 convertible and hybrid laptops of 2017

PC Magazine August 2, 2017

- ❖ Asus Chromebook Flip, \$499US
- ❖ Dell Inspiron 13 7000, \$800US
- ❖ HP EliteBook x360 1030 G2, \$1,269US
- ❖ HP Spectre x360 13 (2017), \$1,200US
- ❖ Lenovo Yoga 910, \$1,049US
- ❖ Lenovo IdeaPad Miix 320, \$300US
- ❖ Microsoft Surface Pro, \$800US



Microsoft Surface Pro (new)

- ❖ 12.3" touch display, 2,736x1824
- ❖ Intel Core m3, i5 or i7 processor
- ❖ 4GB, **8GB**, or 16GB RAM
- ❖ 128GB, **256GB**, 512GB or 1TB SSD
- ❖ USB 3.0, microSDXC card reader, MiniDisplayPort
- ❖ 802.11a/b/g/n/ac Wi-Fi
- ❖ Bluetooth 4.1
- ❖ Windows 10
- ❖ 11.5" x 7.9" x .33"
- ❖ 1.7 lbs.
- ❖ From \$1,049 to \$3,449 Cdn, mine **\$1,999**
- ❖ Keyboard extra \$140; Dock extra \$181
- ❖ Extended 3 year warranty \$199



Tablets (Do you need one now?)

- ❖ Primarily media consumption devices
 - ◆ Books, newspapers, magazines, documents, internet, pictures, music
- ❖ Content may be dictated by device
 - ◆ Apple, Amazon, Google, Microsoft
- ❖ Really good for
 - ◆ Email
 - ◆ Web browsing
 - ◆ Reviewing and annotating documents
- ❖ Which ecosystem are you in?



The Best Tablets of 2017

PC Magazine July 19, 2017

- ❖ Amazon Fire HD 8, Amazon Fire OS, \$80US
- ❖ Apple iPad (2017), iOS10 (11), \$329US
- ❖ Asus Transformer Mini, \$3999US
- ❖ Lenovo Miix 510, Windows 10, \$600
- ❖ Microsoft Surface Pro, Windows 10, \$800US
- ❖ Some of these are 2-in-1 laptops
- ❖ iPad and Surface Pro have keyboards sold separately



Current iPad models

- ❖ 12.9" iPad Pro from \$1,049Cdn
- ❖ 10.5" iPad Pro from \$869Cdn
- ❖ 9.7" iPad from \$499Cdn
- ❖ 7.9" iPad mini 4 from \$549Cdn



Apple iPad Pro 10.5"

- ❖ 10.5" True Tone retina display, 2225 x 1668, 264 ppi,
- ❖ A10x processor
- ❖ Touch ID
- ❖ Rear camera
 - 12MP f/1.8
 - Optical image stabilization
 - 4K video
- ❖ Front camera
 - 7MP
 - 1080p HD video
- ❖ 3.5mm headphone jack
- ❖ 802.11 a/b/g/n/ac, Bluetooth 4.2
- ❖ Compatible with Smart Keyboard and Apple pencil
- ❖ No expansion slots
- ❖ 9.8" x 6.8" x .24"
- ❖ 1.03 lbs.
- ❖ 64GB - \$869Cdn, 256GB - \$1,049 Cdn, 512GB - \$1,299



Apple iPad (2017)

- ❖ 9.7" retina display, 2048 x 1546, 264 ppi
- ❖ A9 processor
- ❖ Touch ID
- ❖ Rear camera
 - 8MP f/2.4
- ❖ Video
 - 1080p at 30fps
- ❖ Front camera
 - 1.2MP, f/2.2
 - 720p HD video
- ❖ 3.5mm headphone jack
- ❖ 802.11 a/b/g/n/ac, Bluetooth 4.2
- ❖ No expansion slots
- ❖ 9.4" x 6.6" x .29"
- ❖ 1.03 lbs.
- ❖ 32GB - \$449 Cdn, 128GB - \$ 579 Cdn



iOS 11

- ❖ New features
 - ◆ Dock
 - ◆ Drag-and-drop
 - ◆ Files app
 - ◆ New Control Center
 - ◆ Slide Over as well as split screen
- ❖ Updates to built-in apps
 - ◆ Notes
 - ◆ PDF markup
 - ◆ Photos
 - ◆ iPhone can suppress texts when you are driving
- ❖ Some features designed for iPad, specifically Pro
- ❖ ARKit, augmented reality tools for developers
- ❖ Siri improved
- ❖ Need iPhone 5s, 5th gen iPad or newer



Best computer monitors of 2017

PC Magazine September 5, 2017

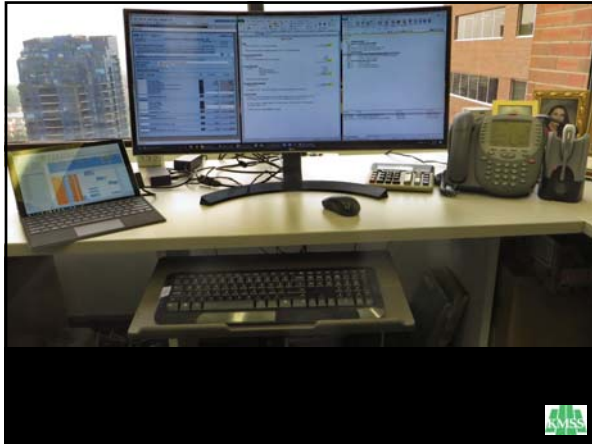
- ❖ Acer XR382CQK - \$1,035US
 - ◆ 37.5" curved
- ❖ Dell UltraSharp 34 Curved, \$880US
 - ◆ 34", curved
- ❖ HP Pavilion 32 - \$320



21:9 curved monitors


- ❖ My objective, to have 3 screens on 1 monitor
 - ◆ 16:9 monitors are too square
- ❖ Tried 3 LG curved models
 - ◆ LG 29UC88-B - \$480 was \$530
 - Not wide enough
 - ◆ LG 34UC79G-B - \$830
 - 2560 x 1080 resolution not good enough
 - ◆ LG 34UC88-B - \$950
 - 3440 x 1440 and it was just right
 - On Screen Control software splits screen in 3 or other





USB portable monitor

- ❖ Requires only a USB port for power and video
- ❖ AOC I1659FWUX 15.6" USB Portable LED monitor, \$228
 - ◆ 1920 x 1080
 - ◆ USB 3.0
 - ◆ 2.4 lbs.
- ❖ AOC I1601FWUX 15.6"
 - ◆ 1920 x 1080
 - ◆ USB-C
 - ◆ 1.9 lbs.
- ❖ ASUS MB 169B+ 15.6" Portable LED monitor, \$265
 - ◆ 1920 x 1080
 - ◆ USB 3.0
 - ◆ 1.8 lbs.



Best smartphones

ZDNet September 5, 2017

- ❖ Samsung Galaxy Note 8
- ❖ Apple iPhone X
- ❖ Samsung Galaxy S8/S8+
- ❖ Apple iPhone 8/8+
- ❖ LG V30
- ❖ HTC U22
- ❖ LG G6
- ❖ Blackberry Keyone
- ❖ Google Pixel/Pixel XL
- ❖ Moto Z2 Force

Samsung DeX (desktop experience)

- ❖ Turns phone into a desktop computer
- ❖ Dock for Samsung Galaxy S8/S8+, \$250 Cdn
- ❖ Ports
 - ◆ 2 USB ports for keyboard, mouse, storage
 - ◆ Ethernet
 - ◆ HDMI
- ❖ Requires a monitor
- ❖ Microsoft Office apps optimized
- ❖ Other apps may not work,
- ❖ Doesn't work with VMWare and Citrix yet
- ❖ Not ready for mainstream use
- ❖ Microsoft Continuum, not as good



Smartwatches

- ❖ Common features
 - ◆ Health
 - Pedometer, calorie counter, heart rate monitor
 - ◆ Notification
 - Phone, mail, text, events
 - Facebook and tweets
 - ◆ Control smartphone
 - Talk and listen
 - ◆ Pictures and video
 - ◆ Music
- ❖ Link to smartphone
- ❖ Battery lasts for one day
- ❖ Most use Android Wear OS
- ❖ Complex to access features
- ❖ Apple Watch Series 3 has cellular connectivity



Best Gadgets at IFA 2017

consumer electronics show, Berlin

- ❖ Best Desktop: Acer Aspire S24
- ❖ Best Gaming: Asus ROG Chimera
- ❖ Best Laptop: Lenovo Yoga 920
- ❖ Best Tablet: Acer Switch 7 Black Edition
- ❖ Best Big-Screen Phone: LG V30
- ❖ Best Small-Screen Phone: Sony Xperia XZ1 Compact
- ❖ Best Smartwatch: Fitbit Ionic
- ❖ Best Fitness Watch: Samsung Gear Sport
- ❖ Best Fitness Tracker: Garmin Vivomove HR
- ❖ Best Smart Home Device: Neato Botvac D7 Connected
- ❖ Best Speaker: Sony LF-S50G
- ❖ Best AR: Lenovo Mirage and Star Wars: Jedi Challenge



Block, smartphone blocker

- ❖ Put up to six phones in it
- ❖ “Recent studies show that even having your phone visibly nearby will distract you from real-life social engagement and tasks.”

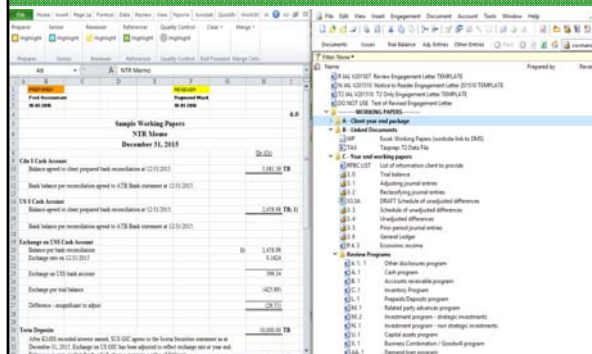


Window 10 Fall Creators Update

- ❖ Available October 17 2017
- ❖ Windows Inking
 - ◆ Ink directly onto PDF's
 - ◆ Find my Pen
- ❖ Photos app updated to included remix capabilities
- ❖ OneDrive will allow the download files on demand only
- ❖ Game mode, PC will work like an Xbox game console
- ❖ Windows Defender updated
- ❖ Eye Control, lets you type and operate a mouse using just your eyes (Lou Gehrig's disease)
- ❖ Windows Mixed Reality
 - ◆ With or without a mixed reality headset, starting at \$299
- ❖ Link your phone and PC to continue working
- ❖ Your people icon on task bar to easily connect



Aero Snap



Chrome OS

- ❖ OS that only runs Chrome browser
 - ◆ Runs apps in the cloud
- ❖ Google Docs allows storage locally
- ❖ Can multi-task
- ❖ No malware
- ❖ No printer drivers
- ❖ Generally inexpensive
- ❖ This year will start to run Android apps



Best Chromebooks of 2017

PC Magazine September 5, 2017

- ❖ Acer Chromebook 14 - \$287US
- ❖ Asus Chromebook Flip HP - \$499US
- ❖ HP Chromebook 13 G1 - \$504US



Top IT enablers - software

- ❖ Working paper software
- ❖ Paperless working papers, tax files
 - ◆ Scan paper
 - ◆ Prepare mostly electronic
 - Excel, Jazzit
- ❖ Financial statement templates
- ❖ Tax preparation software
 - ◆ T1, T2, T3, T4, T5013, Forms
- ❖ Practice management software: time, billing and AR
- ❖ Workflow software
- ❖ Client accounting software



Financial statement templates

- ❖ Jazzit
 - ◆ More complete suite of working papers, and checklists
- ❖ Keystone Templates
 - ◆ More customization of financial statement
- ❖ Accounting for Practitioners, Pendock Mallorn Ltd.
 - ◆ Excel based
- ❖ Benefits
 - ◆ Cut prep time in half
 - ◆ Automate financial statement prep
 - ◆ Maximize efficiency of firm time
 - ◆ Expand your services to your clients
 - ◆ Generate more revenue from existing clients
- ❖ CA Magazine looks at working paper software by Ray Desjardin
 - ◆ www.pendock.com/ca-magazine



Smartphone smarts

- ❖ Complex password
- ❖ Backup
 - ◆ iCloud, 5GB free
 - ◆ Google Drive 15GB free
 - ◆ Windows Phone Backup
 - ◆ BlackBerry Link
 - ◆ There are also third party apps
- ❖ Find my device
 - ◆ Find My iPhone
 - Can wipe data
 - "Send Last Location"
 - ◆ Android Device Manager
 - Can't wipe data
 - ◆ Windows Find My Phone
 - ◆ BlackBerry Protect
 - ◆ There are also third party apps



Laptop security

- ❖ Current antivirus software
- ❖ Ability to remotely secure if stolen
- ❖ Don't email sensitive info and encrypt messages
- ❖ Regularly back up
- ❖ Use strong passwords
- ❖ Use wired vs. wireless network
- ❖ Use secure hotspots, WPS/WPA2
- ❖ Don't leave unattended
- ❖ Don't save sensitive docs on hard drive
- ❖ Use a good case to carry



Kevin Mitnick Security Awareness Training

- ❖ Shows how bad guys try to trick you
- ❖ Seven areas of an email that can contain red flags
- ❖ Danger Zone exercises
- ❖ Showed how easily hackers can intercept Wi-Fi
- ❖ 45 minutes on line
- ❖ From \$16US per user 25-50 users
- ❖ Know Be4.com



Virtual Private Networks (VPN)

- ❖ There are many inexpensive/free tools to hack Wi-Fi
- ❖ VPN software creates a secure, encrypted tunnel to a server the VPN company controls
- ❖ Anyone snooping will see only unreadable cipher text
- ❖ Trackers only see the IP address of the VPN server you are connected to
- ❖ The cellular networks are encrypted and although they can be attacked they are far less common
- ❖ Appropriate for computers, tablets, smartphones and routers
- ❖ Some impact on performance
- ❖ The closer the server the better the performance
- ❖ The more servers the better
- ❖ **“A VPN is a fundamental tool that everyone should have at their disposal-like a password manager or an online backup service”**
- ❖ From \$3US/month



VPN Services

- ❖ Most allow 5 devices with a single account
- ❖ Some top rated services
 - ◆ NordVPN
 - ◆ PureVPN
 - ◆ Private Internet Access VPN
 - ◆ KeepSolid VPN Unlimited(what I use)



Strong passwords

- ❖ Most common
 - ◆ 123456(7)(8)(9)
 - ◆ Password
 - ◆ Qwerty
 - ◆ Abc123
 - ◆ 111111
 - ◆ 123123
- ❖ How long would it take to break yours
- ❖ Sites to test passwords
 - ◆ www.microsoft.com/security/pc-security/password-checker.aspx
 - ◆ www.grc.com/haystack.htm
 - ◆ <https://telepathwords.research.microsoft.com/>



Two factor authentication

- ❖ Something you know, password
- ❖ Something you have
 - ◆ Biometrics
 - ◆ Dell Defender Soft Token
 - ◆ RSA Data Security, SecurID
 - ◆ Smartphone, Securevov
 - ◆ Verisign
 - ◆ Yubikey
 - ◆ USB drive
- ❖ Supplier sends a passcode to device
- ❖ Cost free, one time or annual
- ❖ Companies using

| | | |
|---------|----------|-----------|
| Amazon | Facebook | Microsoft |
| Apple | Google | Twitter |
| Dropbox | LastPass | CA Firms |



Password management

- ❖ Captures and replays log-in data
- ❖ Database with encrypted information
- ❖ Form filler
- ❖ Types
 - ◆ Desktop
 - ◆ Portable
 - ◆ Web based
- ❖ Risk if master password compromised
- ❖ Some have two factor authentication
- ❖ PC Magazine article
 - ◆ Get Organized: Why Aren't You Using a Password Manager Yet?



Password management software

- ❖ LastPass 3.0
 - ♦ Free
 - ♦ No longer require premium version for smartphone
 - ♦ Premium version \$12/year
 - ♦ What I use
- ❖ Dashlane 3
 - ♦ Free on single device
 - ♦ \$40/year for multiple devices
- ❖ LogMeOnce Password
 - ♦ \$39/year
- ❖ Sticky Password Premium
 - ♦ \$15/year



Keyboard shortcuts

| General | Excel |
|--------------------------|---|
| ♦ Windows key–Start menu | ♦ Ctrl+S Save |
| ♦ Windows+D - Desktop | ♦ Ctrl+Home Top of worksheet |
| ♦ Windows+E – Explorer | ♦ Ctrl+End End of worksheet |
| ♦ Windows+L – Lock | ♦ Ctrl+PgDn Go to next worksheet |
| ♦ Ctrl+F – Find | ♦ Ctrl+1 Format cell dialog box |
| ♦ Ctrl+A - Select all | ♦ End+arrow Go to to end of section |
| ♦ Ctrl+S – Save | ♦ Ctrl – With row or column highlighted deletes row or column |
| ♦ Ctrl+C – Copy | ♦ Ctrl Shift + Inserts row or column |
| ♦ Ctrl+V – Paste | |
| ♦ Ctrl+X – Cut | |
| ♦ Ctrl+B - Bold | |



Summary

- ❖ Spend some time working on the business rather than in the firm
- ❖ Your biggest productivity gains will be from re-engineering processes
 - ♦ Planning meetings
 - ♦ Totally electronic WPs
 - ♦ Financial statement templates
- ❖ Hardware
 - ♦ Consider alternative setups
 - ♦ Headset
- ❖ Software
 - ♦ Workflow
 - ♦ Online bookkeeping
- ❖ Security
 - ♦ Security awareness training and then action
- ❖ Continuous learning of hardware and software