

2005 Technology Update

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Tulsa, Oklahoma



Goals of Today's Presentation

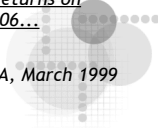
- Give a view of the office of the future
- Specifically will deal with
 - Podcasts
 - Security Issues
 - Windows forever?
 - Your "Vistas"
 - Future changes
 - Paperless office



Problem of Predicting

- Sometimes the crystal ball is cloudy (courtesy of a post by Joe Anthony to a Yahoo Group)
- ...In the course of one generation, most traditional write-up functions provided by CPAs have disappeared--new cash registers compute sales tax and perform inventory control, and mass-merchandized software and outside service companies can do company payrolls. ***Pundits predict that most individuals will be doing their own tax returns on their PCs and filing them electronically by 2006...***

The Practicing CPA, March 1999



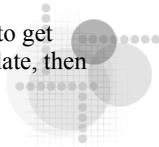
Disruptive Technology

- Refers to the tendency of a new technology to arrive that forces change
- Nature of a disruptive technology is that it rarely arrives from an expected source
 - Photocopier
 - Desktop PCs
 - Laser printers
 - Internet



Disruptive Technology

- Rarely arrives from an established source
 - Many cases dominance relies on the installed base
 - Installed base sticks with known source due to fear of change
 - As well, new system would cannibalize old system, which is a steady source of revenue
- Even when established company tries to get control, they tend to lose it (IBM was late, then got in control, then lost control again)



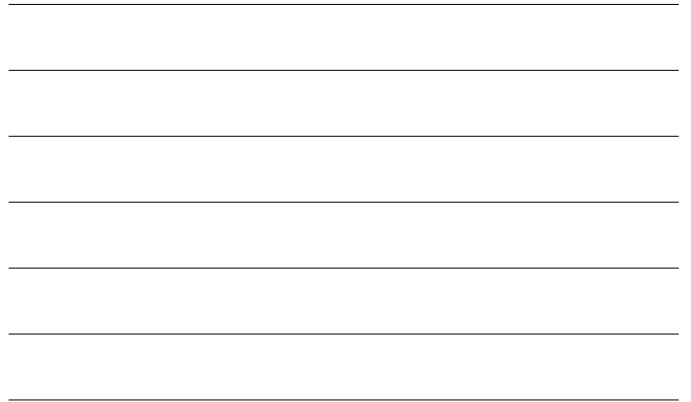
Today's Main Topics

- Media Meets PC
- Security (including disaster planning)
- Windows Vista (Is this our future?)
- Paperless Office
- Virtual Office
 - Telecommuting/High Speed Home Access
 - Wireless access (and security)
 - Widespread wiress (EDVO, WiMax, other options)



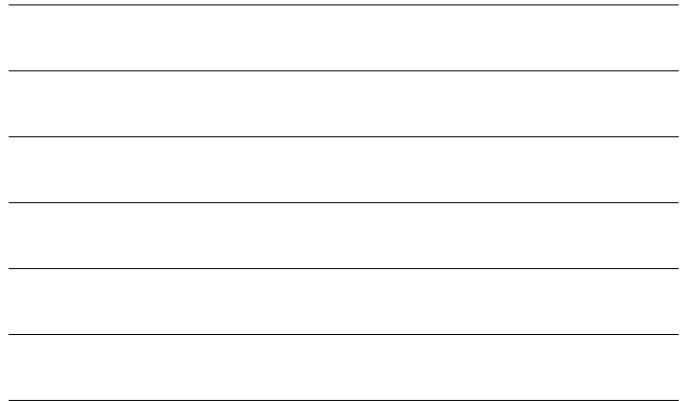
Media Meets the PC

- High bandwidth allows for rich media
- PC used to obtain audio and video images
- Changing access to information and/or type of information transmitted

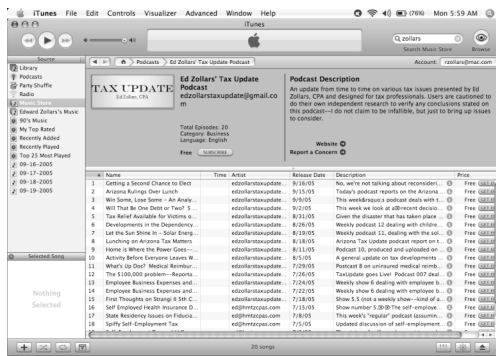


Podcasting

- Audio meets RSS
- Delivers audio files downloaded to your machine (traditionally MP3 files)
- Name comes from the fact that the audio files can be downloaded to portable audio players—like the Apple iPod
- Hit the mainstream with release of Apple iTunes 4.9



iTunes



Ed Zollars' Tax Update

- <http://www.edzollarstaxupdate.com> (actually redirects to <http://ezollars.libsyn.com>)
- I prefer to work with voice than sitting at the keyboard
- Trying to post weekly on tax matters
- Have a web page if don't want to use a pod catcher
- 32 podcasts on site as of now



Ed Zollars' Tax Update

Ed Zollars' Tax Update Podcast

Dedicated to those of us who get excited about boring things (with apologies to Don Farmer for stating that one).

Player

Getting a Second Chance to Elect
Ed Zollars, CPA

Categories

Archives

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Search

Navigation

This Week in Tech

- Currently most popular podcast
- Found at <http://www.twit.tv>
- Deals with weekly discussion of issues related to technology & current developments



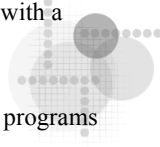
Security Now

- Find at <http://www.grc.com/securitynow.htm>
- Steve Gibson (Gibson Research) and Leo Laporte (Call for Help)
- Deals with technology matters impacting security of systems



Future of RSS

- Standard can be used to deliver things other than web text and audio
- Can send
 - Documents (PDFs)
 - Video
- Offers a way to communicate directly with a selected group
- No need for “junk mail” filter
- Some RSS readers integrate with mail programs



Security

- Pushing to a higher priority
- Law is imposing responsibility for privacy of information on organizations
- Is a major issue for internal control
- Higher level of automation increases the payoff for those who compromise security
- Cannot be an afterthought—it will not take care of itself



Security Risk

- Highest security risk are people
- Security inherently “gets in the way” since it impedes access to information
- Your staff (and managing partner) always has an incentive to evade security procedures and
- Your IT advisers have a reason to soft peddle security



Disaster Planning

- How to Get Working After a Disaster
- Key Issues
 - Data Backup
 - Systems



Data Backup

- Data is the Key
- Media
 - DVD or CD for small amounts
 - Tapes
 - Hard Drives
 - Online Backup (but check privacy policy)



Data Backup

- Consider physical issues—will common disaster take out systems and backups
 - Geographic separation
 - Likely major disasters (think New Orleans)
 - Theft or fraud loss
- If using online, find out where the server is (don't want to discover it's next door)



Disaster Planning

- Hardware needs—what do we need to get back up and running
- Where are our original program disks?



Passwords

- The problem with passwords
 - Memorable passwords are easily broken
 - Tough to break passwords are impossible to remember
- Security rules can become counterproductive
 - “Don't write down your password”
 - “Must use password that passes system driven security test”
- Security Now podcast on developing password system



Software that Hides

- Spyware
 - Via browser add-ins
 - Via email
 - Through holes in OS (ZOTOB)
- Rootkit Technology
 - Hides entirely from OS
 - Gets OS to lie to you
 - Sony creates a gift for product liability attorneys



Sony's Saga

- Concerned about music being ripped and traded
- Placed software on audio CDs to autostart installation routine when placed in machine
- Installed software as a rootkit
 - Hid any file that started with "\$sys\$"
 - Didn't have to be the rootkit's file (oops!)
 - Trojans written for it
- One foot in mouth



Sony's Saga

- Stonewalled initially
- Put software on website to remove
 - Required installing ActiveX component in Internet Explorer (something I generally do not allow)
 - Forgot to remove it—allows code to be executed by rogue website
 - Rogue websites now exist
- Second foot in mouth
- Waiting for third move



What to Do?

- Control what's installed
- Warn your users about CDs
- Save a file to desktop with "\$sys\$" and see if it disappears
- Find out if anyone uninstalled Sony's rootkit and don't use IE on that machine until Sony fixes the fix



Wireless Security

- Wireless network access—or how Best Buy can let your receptionist compromise your network
- Easy to connect to most networks and start using
- But has problems



Wireless Insecurities

- No physical access needed
- Many systems set up without security at all
- First generation systems had lousy security options
 - MAC Address Filtering
 - SSID Broadcast Hiding
 - WEP
- Still many devices only have 1st generation capability (though most routers can be upgraded)



The Problem with WEP

- Security designed by engineers, not security professionals
- Fairly easy to break the code
- Hit network early in the day



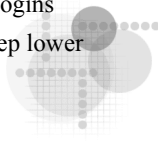
Second Generation Security

- WPA Security
 - Second generation, much stronger
 - Shared key versions
 - Need solid, hard to guess, long password
 - Not good for businesses due to employee turnover
 - Good for home
 - Radius Servers for business
- Gibson's podcast has a pair of programs on the issues—go listen to them if you run wireless



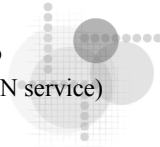
What About 1st Generation Devices?

- If can't use WPA, then isolate those items as much as possible
- Limit number of connections allowed to as low as possible
- Be sure to use WEP (better than nothing)
- MAC Filtering just to stop accidental logins
- SSID Broadcast suppression just to keep lower profile for casual snoopers



Road Use

- Unsecured Networks
 - Presume all third party networks unsecured
 - Hotels
 - Public Wireless Points
- Open Sending of Passwords
 - Hotels may use hubs rather than ports
 - Everyone on wireless network can snoop
- Consider VPN (including 3rd party VPN service)



Windows Vista

- Microsoft's update to Windows
- Current scheduled ship date is by November 15, 2006 (though dates do slip)
- Major upgrade to Windows XP



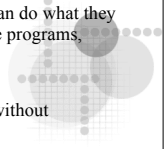
Microsoft's Challenges

- Security problems in Windows are severe and getting worse (ZOTOB & Sony Rootkit)
- Current dominance based largely on inertia (avoid transition/compatibility problem—however, it was largely the reason ZOTOB spread)
- Solving security is going to involve breaking things (most likely fare worse than XP Service Pack 2 did)
- Opens the door for change



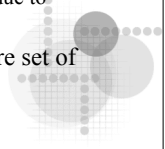
Microsoft's Challenges

- Reason for Security Issues
 - Sheer market dominance (not correctable unless MS market share drops—then would shift to new leader)
 - Windows base insecurity
 - Problem is the DOS heritage and single user, stand alone machine of the 1980s
 - DOS/Windows programs tend to presume can do what they want—so securing the system will break the programs, upsetting users
 - Great setting for malware
 - Windows doesn't work well with accounts without administrator privileges



Microsoft's Challenges

- In terms of features, Windows XP is behind other operating systems and components that could potentially be competitive
 - Linux (security—growing in the server market)
 - Mac OS X (security—and an Intel version is coming)
 - Firefox (browser market share growing due to security concerns)
- Microsoft is borrowing from the feature set of those OSs and applications



Challenge to Microsoft

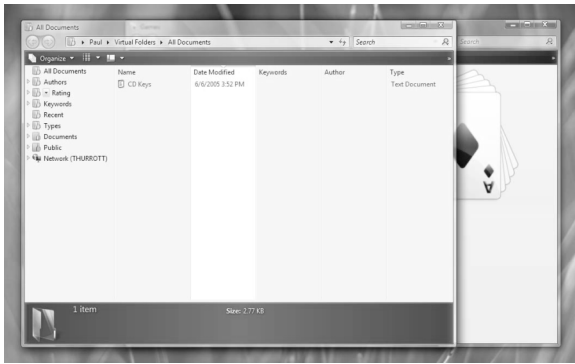


Windows Vista Hardware

- Graphics—raster rather than bitmapped, video memory needs to be higher (256MB)
- CPU—Dual Core Processor good idea
- RAM—64 bit system, double the RAM plus, 2 Gigabyte
- Hard Drive—SATA drives
- Bus—fast, bidirectional bus (PCI Express)
- Display—for hi-def need HCDP compatible monitor (none now exist)



Vista Windows



Vista Security

- In Beta 1 not many changes in defaults, however scheduled to adopt Linux/Mac OSX style security as the default
- Normal account will not be the administrator account
- Will ask for confirmation for “dangerous” activities and require password to execute
- However, in Beta 1 turning on this option creates large number of prompts



Vista Security

- Two problems
 - Old programs were not written assuming they'd be subjected to such scrutiny—so tend to do multiple “dangerous” things when installing
 - Microsoft has been burned—so they are being very conservative
- However, given Window's old code legacy, will be a question of whether this can really be implemented



Vista Security Screen

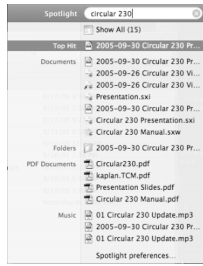


Search Capability

- Similar to an expanded version of the Google, Yahoo and MSN search option for Windows XP
- Close to Mac OSX's Spotlight feature
 - Integrated into the operating system
 - Has ties to next feature

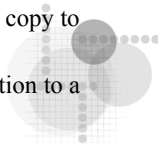


Spotlight Example

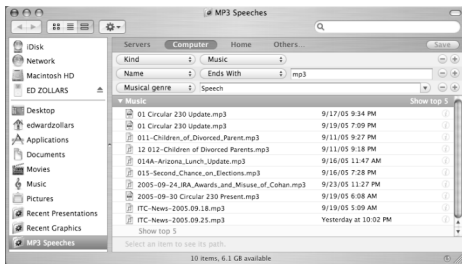


Virtual Folders

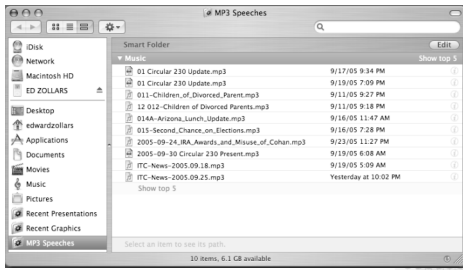
- XML based “non-folder” that contains links to files based on criteria
- Similar to Mac OSX Tiger “Smart Folder”
- Currently the default for documents, pictures and music on the Start menu
- Cannot copy to these folders—have to copy to actual folder
- If not changed, note this for any migration to a new machine from an XP machine



Spotlight Example



Smart Folder Example



Internet Explorer Update

- Abandoned Idea of “subsuming” Internet Explorer into Vista
- Developing Internet Explorer 7 with team put back in place
 - IE team first developed the “version with no name” in XP Service Pack 2
 - Work on upgrade—and now say will release an XP version
- Have included a “safe” version
- Feature competitive with Firefox

Internet Explorer 7



New Internet Explorer Features

- “Locked down” version of IE to allow you to fix problems caused by spyware and the like
- Tabbed browsing (can open pages in tabs, and rapidly switch between them)
- RSS Support (see the red button)
 - Will display the page
 - Can subscribe to them (added as a favorite)



Internet Explorer 7



Alternatives Possible

- Apple going to Intel processors
 - OSX has been ported to Intel (and initial release hacked to run on regular PC boxes)
 - While Apple still says will block loading OSX on other boxes, Apple boxes will be capable of running Windows XP
- Linux
 - Still no traction on desktop—but Windows Vista may be an “OS/2” event
 - Server is a bigger problem for Microsoft—especially web servers



Paperless Office Operations

- Has converted to a real world situation—arguably not the future but the present
- Method of handling paperless office systems varies by firm size
- Process of implementation is important to a successful system



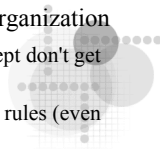
Paperless Office Operations

- Advantages of paperless
 - Reduces storage area needed for the firm
 - Can find files (every touch isn't a chance to misfile the document)
 - Retrieve files quickly and remotely
- Issues
 - Security
 - Training
 - Dual monitors



The People Part of the Process

- People are the key to making a successful system
- Be sure you understand the paper system before you replace it
 - Need to ask how different people use documents
 - Gives a chance to standardize
- Will need buy-in from the top of the organization
 - If those in charge don't support the concept don't get drafted to do this
 - All members of the firm must follow the rules (even managing partners)



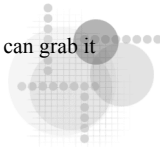
Hardware For Paperless Operations

- Storage
- Backup Devices
- Scanners
- Desktop Hardware



Storage

- Has become much cheaper in recent years
- Few reasons for archival storage—get enough to store your data
- However, cheap storage poses a security risk
 - USB hard drives that can soak up your data quickly are extremely cheap and easy to use
 - “Bad guy” with access to the file system can grab it all quickly



Storage

- Hardware obsolescence planning
- You will need to plan for new and different storage options—and an eventual transfer
 - Won't be on this OS forever
 - Other storage options may emerge, meaning will need to transfer
- Archival storage is a major problem
 - Can go “bad” without anyone noticing
 - Can become obsolete below the radar if not careful



Backup Devices

- Backup become crucial
- Hard drive crash can now wipe out your entire office file structure much like a fire with a paper system
- Numerous options available
 - Tapes
 - Mirrored hard drive
 - Online systems



Backup Devices

- Remember to consider a disaster scenario
 - Backup should exist offsite as well as on
 - Offsite should be geographically separated enough to reduce risk of common disaster
- As well, remember physical security of backup media
- Be sure to check regularly to assure you can restore the data
- Be sure you have all tools necessary to restore



Scanners

- Available from under \$100 to \$20,000 or more
- Key differences of import to us
 - Speed of scanning
 - Automatic document feed
 - Ability to deal with odd sized originals
 - Dedicated vs. Multi-purpose device
 - Directly Networkable vs. Attached to computer



Desktop Hardware

- May want a desktop scanner for “quick and dirty” scanning even if you want to centralize main scanning
- Dual monitors
 - Pretty much a requirement for “full” paperless office
 - Flat panel monitors make it possible without the huge amount of desk real estate needed presently



Software for Paperless Operations

- Requirements here vary based on firm size
- The larger the firm, the more likely you will need document management to avoid chaos
- Vista Features may impact the issue at some firms
 - Virtual folders—multiple views of the same files
 - Search capability—ability to rapidly find documents without navigation
 - Document management systems may need to integrate Vista style features to stay competitive



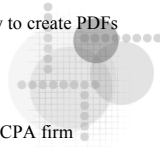
PDF Software

- PDF clearly the standard for document storage
 - Much software not from Microsoft now has PDF export built in (MS has a “not invented here” worldview on this one)
 - Governmental agencies have standardized on it for various forms and documents
- PDF Tools
 - Adobe Acrobat (full package)
 - Basic document management features
 - Annotation features



PDF Software

- PDF Tools
 - Adobe Acrobat (full package)
 - Basic document management features
 - Annotation features
 - Document features
 - Office menu options Microsoft forgot
 - Professional version (major feature is ability to create PDFs that Reader users can annotate)
 - Other print to PDF options
 - Many available
 - However, many lack features for full use in CPA firm



Document Management Software

- Deals with two key issues
 - Imposes filing standard on all users
 - Handles security issues
- Availability
 - Accounting firm suite vendors (CCH & Thomson)
 - Generic storage solutions
- Issues
 - Vendor “lock in”
 - Orphaned product syndrome



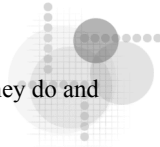
Office Procedures

- Documenting Pre-Paperless Procedures
- Designing Paperless Procedures



Documenting Pre-Paperless Procedures

- Need to first figure out what really is happening now
- May discover needs that no one has articulated
- Look at and document
 - How data is currently captured
 - What data is captured
 - How data is used
- Take a look at both what people say they do and what they are really doing



Designing Procedures

- Take information obtained from getting information about what you really do now
- Take as a chance to critically evaluate
 - What you capture now that never is used
 - Quite often we are the “why the auditor crossed the road” punch line
 - Procedures, once added, tend to not go away
 - What you fail to capture that perhaps should be captured
 - Cost/benefit formula is changing
 - Need to evaluate both directions



Designing Procedures

- Also consider document retention issues
 - Don't forget regulatory issues
 - Electronic makes it easier to actually implement the policy
 - However, electronic makes for a very persistent trail due to all the places the material gets copied to



Designing Procedures

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Designing Procedures

- Issues to consider in procedures
 - Capture data initially and work paperless from start?
 - Theoretically pure answer
 - “Markups” electronically captured and searchable
 - Capture data at the end of working with paper?
 - Helps bring over the slow to adopt
 - Paper does have certain advantages in portability (tablet PCs aren't quite ready for prime time)
 - Somewhere in between?



Designing Procedures

- Issues to consider in procedures
 - Nature of files to capture
 - Source program file format generally not good except when item in process
 - Subject to editing, so not easy to lock down
 - Upgrades to software sometimes changes results
 - Changing programs creates obsolescence
 - Archival file formats
 - Generally best for locking down
 - Be sure to verify it really is the same as worked with



The Virtual Office

- Office of the future is a misnomer—we may not have one
- Rather, our office may be wherever we are at the moment
- Technology is advancing to give us access to our information and files from anywhere at anytime



High Speed Access

- Home High Speed Access
- Hotel Access
- Public/Subscription WiFi



Home High Speed Access

- Has become the normal method of access
 - Cable modem
 - DSL
- Speeds are increasing
- Security issues
 - ZOTOB lesson
 - Infected machine on employee's home LAN—it's inside the firewall
 - Link together routers



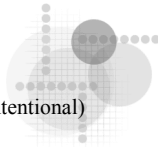
Hotel Access

- Virtually everywhere these days
- Speeds a bit slower than best home speeds, but still darned good
- Remember you are on someone else's network—and you don't know their security
- Need software or hardware firewall



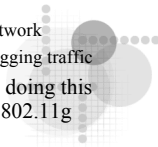
Public/Subscription WiFi

- In many cities, virtually anywhere your computer is going to “find” wifi access
 - Sometimes intentional (coffeehouses, hotel meeting rooms, etc.)
 - Many times not (the unsecured networks)
- Also have “pay for access”
 - Not terribly successful to date
 - Coverage spotty
 - Tough to compete with free (even if unintentional)



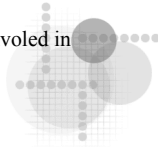
Public/Subscription WiFi

- Security key issue
 - Most free networks unsecured
 - Most email clients still configured to connect sending text unencrypted
 - As well, if taking whatever signal is there have the problem of the host network
 - Exposed to problem machines inside that network
 - Don't know if your friendly host might be logging traffic
 - Need to educate your staff (some may be doing this telecommute bit on their neighbors open 802.11g router)



High Speed Wireless

- Developing solutions to provide high speed (or at least higher speed) everywhere
- Competing options at the moment
 - EVDO (Verizon Wireless in 45 cities, Sprint rolling out)
 - WiMax (802.16) (Sprint testing)
 - 802.20 (Qualcomm acquired company involved in rollout in western Virginia)



EVDO

- Evolution Data Optimized (you can see why they abbreviated it)
- Theoretical speed up to 2.4 Mbps
- Typical speed 300-500 Mbps
- Verizon Wireless offers it in 45 cities
 - Phoenix is in
 - Roanoke isn't



EVDO

- Uses card that plugs into laptop
- “Unlimited” access \$59.99 month
- Enables access anywhere (as long as anywhere is in Verizon's EVDO network area)
- Single source for connection makes security implementation easier
- Also makes it more expensive (you can't have everything)



EVDO

- Allows user to connect on the move, using like a cell phone
- Verizon Wireless promises security on the system



WiMAX

- A proposed standard for giving broad coverage of wireless signals
- Base standard does not support roaming (that is, moving from base station to base station)
- In theory can work for up to 31 miles or without a direct line of sight (but don't combine the two ideas)
- Being pushed as a "last mile" solution to deliver high speed internet



Remote Access

- Windows XP Pro Remote Desktop Connection
- GotoMyPC Option (Citrix Hosted)



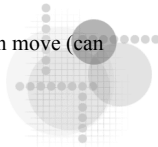
Windows XP Remote Desktop

- Host mode built into Windows XP Professional
 - A limited version of Windows Terminal Server
 - Allows remote control of host PC
- Client computer can be running any version of Windows back to 95
- Have to open up port on router
- Must access by IP or domain name
- Can be more complex to setup



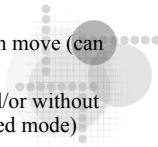
GotoMyPC

- Citrix now owns the company
- Offers remote access via website
- Easier to set up
 - No ports to forward on router as host machine connects to Citrix's website every so often to see if someone wants in
 - Host address not an issue—it actually can move (can be useful for software support)



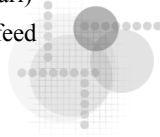
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 - Host address not an issue—it actually can move (can be useful for software support)
 - Can run on non-Windows equipment and/or without code download disabled (though in limited mode)

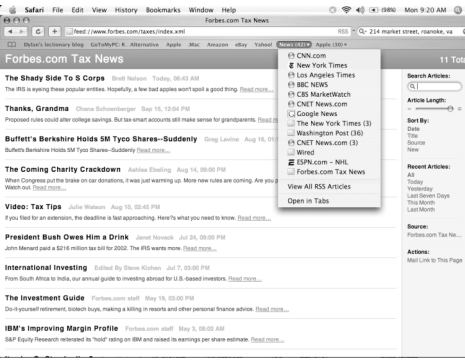


RSS Feeds

- Standard for getting content automatically to your machine
- Unlike email, outsiders can't force their way into the program
- Microsoft promises will be added to Internet Explorer 7 (already in Firefox and Safari)
- Most news organizations now offer a feed



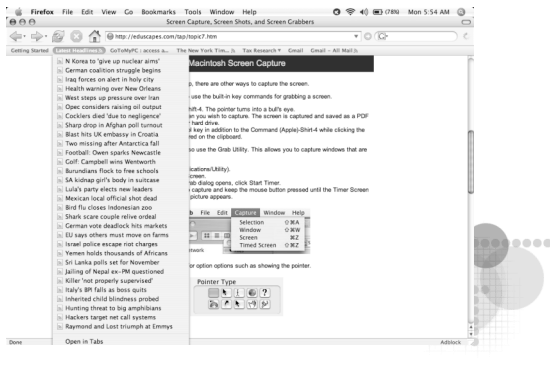
RSS Feeds



RSS-IE 7 (Beta)



RSS Firefox



The Feed Standard

- XML based standard to send data out
- Your reader queries the site every so often and brings down data
- Many different ways to present the data



Blogging

- Quick and dirty way of updating a text based website
- Now tends to be linked to an RSS feed to notify readers of new material automatically
- Are actually useful sites for various types of information

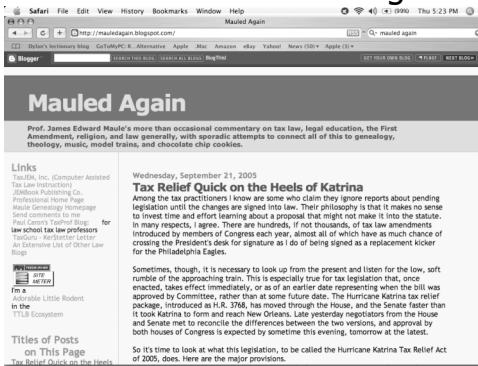


James Maule Tax Blog

- <http://mauledagain.blogspot.com/>
- Author for BNA's Portfolios on partnership issues
- Note it contains other commentary in addition to tax matters, but can be extremely useful



James Maule Tax Blog

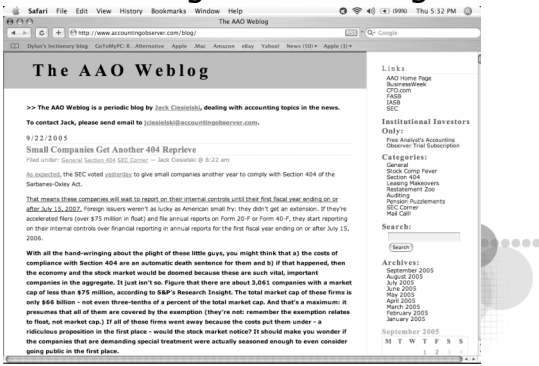


Accounting Observer Blog

- <http://www.accountingobserver.com/blog/>
- Discussion on various accounting topics
- Seems to concentrate on SEC issues and accounting topics in the news



Accounting Observer Blog



Podcasting

- Audio meets RSS
- Delivers audio files downloaded to your machine (traditionally MP3 files)
- Name comes from the fact that the audio files can be downloaded to portable audio players—like the Apple iPod
- Hit the mainstream with release of Apple iTunes 4.9

iTunes



Ed Zollars' Tax Update

- <http://www.edzollarstaxupdate.com> (actually redirects to <http://ezollars.libsyn.com>)
- I prefer to work with voice than sitting at the keyboard
- Trying to post weekly on tax matters
- Have a webpage if don't want to use a podcatcher
- 21 podcasts on site as of now

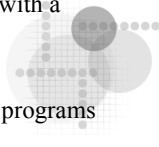


Ed Zollars' Tax Update



Future of RSS

- Standard can be used to deliver things other than web text and audio
- Can send
 - Documents (PDFs)
 - Video
- Offers a way to communicate directly with a selected group
- No need for “junk mail” filter
- Some RSS readers integrate with mail programs



Questions?

Email me at
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