

# Harnessing Technology

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To Create a Modern Service Office

# Creating a Foundation

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Every workstation should have a computer  
– networked, connected to the web and  
secure.

First decision:

What type of network to setup?

# What is a Network?

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- Can be as simple as two computers linked by a crossover cable sharing information and resources.
- Can be as complicated as the World Wide Web.
- Defined by size, protocol, hardware, security.

# Benefits of a Dedicated Server

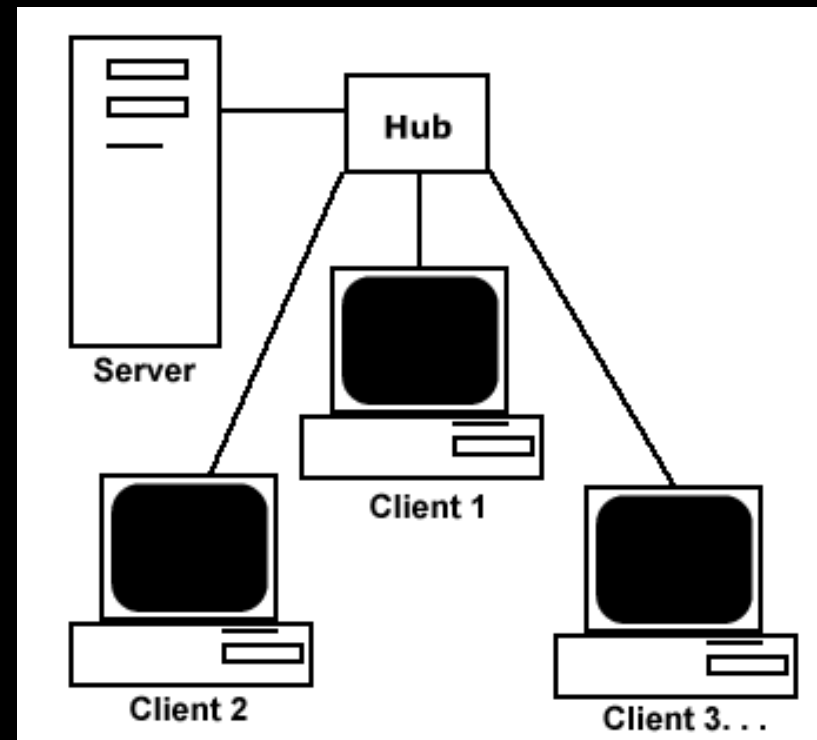
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- Server hardware is designed to serve requests from the client quickly.
  - Faster input and output
  - Fast network cards
  - Support larger amounts of data
- Varying levels of security can be enforced.
- Redundancy.
  - Data copied across multiple hard drives.
  - Hot-swappable drives can be switched out while machine is running.

# Client/Server

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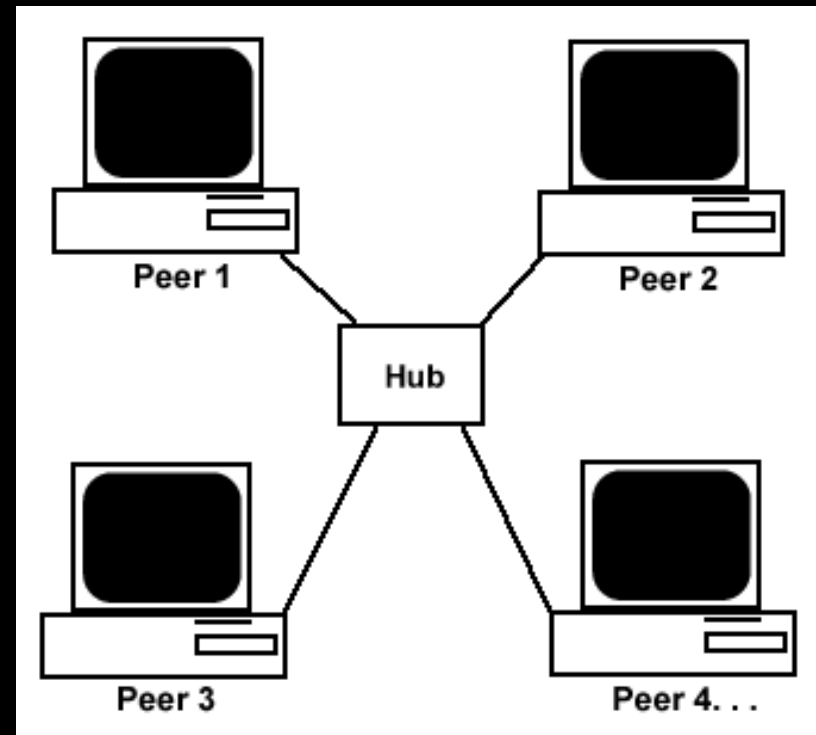
- A group of computers connected through a dedicated server running a Server Operating System.
  - Higher cost
  - Can be very complex
  - Controls communication (acts as a dictator)
  - Better security



# Peer-to-Peer

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- A group of computers connected through a router or network hub, sharing resources, files, etc.
  - Lower cost
  - Relatively simple
  - No central security
  - Should be limited to less than 15 machines



# What Type of Network?, continued

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## Wired vs. Wireless?

|                             | <u>Wired</u>  | <u>Wireless</u>  |
|-----------------------------|---|--|
| <b>Ease of Installation</b> | More difficult as wires must be ran through walls, under floors, etc. | Less difficult   |
| <b>Total Cost</b>           | Less expensive hardware; professional installation can be costly.     | More expensive hardware; do-it-yourself installation.        |
| <b>Reliability</b>          | Excellent   | Limited by distance away from access point                   |
| <b>Performance</b>          | Fast Ethernet can be up to 1GB  | 802.11g WLAN can support up to 54 Mbps (802.11n coming soon) |
| <b>Security</b>             | Firewall security on router, protection on computers                  | WEP vs. WPA security, explicit MAC addresses                 |

# What Computer to Buy?

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- PC vs. Mac
- Computer specs may depend on your network choice (i.e. need a wireless adaptor if you are using a wireless network)
- Mail order, warehouse, local supplier
- Shop around for the best bargain. Check what kind of tech support is included or can be purchased.
- Average price: \$400 - \$700 (includes average monitor)
- File server doesn't have to be a "server".

# Suggested Minimums

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- Processor: 2GHz, Dual Core, 1MB L2 cache, 800MHz FSB (higher numbers make for faster multitasking)
- Hard Drive: 80 GB; 160 GB if storing pictures
- RAM: 1 GB
- CD Burner or DVD Burner?: CD Burner, minimum; DVD Burner on machine doing backups.
- Type of monitor: Widescreen digital flat panel

# Monitors

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- Older CRT Monitors vs. newer LCD and flat panel.
- Consider where the monitor will be placed
  - many monitors are now highly reflective.

# Input Devices

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## ■ Keyboard

- Standard vs. ergonomic
- Wired vs. wireless

## ■ Mouse

- Wired, wireless or trackball
- Tracking: roller ball, laser
- Scroll wheel, thumb buttons
- Some optional features may include magnification, instant viewing

# Adding Peripherals

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## ■ Printers

- Ink Jet
- Dot Matrix
- Laser, monochrome or color
- Networked copiers
- Add-ons: Multiple trays, larger trays, duplex capabilities, memory
- Connections: Parallel ports, USB, Ethernet, Bluetooth

# Peripherals, continued

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## ■ Scanners

- What are you scanning?
  - Flatbed vs. sheet fed
  - Resolution, color depth, speed, scan area
  - Software
  - Connections: USB, USB 2.0, FireWire
  - Add-ons: automated document feeder
- ## ■ Multifunctional machines (all-in-ones)

# Security – Basics

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Need to protect your:

- Network
- Computers
- Files

# Security – Threats

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- Viruses – spread from one computer to another when host is taken (emailed, downloaded or transferred on a medium such as CD, portable drive) to an uninfected computer
- Worms – self-replicating computer programs that use the network to send copies of itself to other computers
- Trojan Horses –files that appear harmless until executed. May or may not be malicious, but usually install backdoor program exposing vulnerability to true viruses and worms.

# Security – Threats, continued

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- Rootkits – allow unauthorized user to take control of the computer's OS and act as system administrator
- Spyware – can collect various types of personal information, interfere with the control of the computer, redirect to websites, install software.
- Adware – advertising supported software automatically plays, displays or downloads ads after installation or during use. (e.g. Weather Bug, Hot Bar) Some are not malicious just annoying. Often part of freeware with an option to purchase a version without the ads.

# Security – Strategies

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- Use a properly configured firewall.
- Install and run an Antivirus/Antispyware program (e.g. System Suite, AVG).
- Set strict policies on downloading.
- Set policies on web browsing.
- Use your computer as a “user”. Only log in as administrator when you need to do administrator work.
- Use your work email address for work only.
- Don’t open email suspicious attachments.
- Avoid “forward this message” scams.

# Security – Internal Threats

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- Set complex passwords, keep them confidential and change them 2-4/year.
- Monitor and/or block employee surfing. (Can be done via firewall or other programs such as Google Web Security.)
- Keep server rooms, backups, other critical equipment secure.

# Security – Backups

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- Run daily backups.
- Consider more frequent backups of critical (frequently changing) files.
- Take backups off-site.
- Develop and implement a recovery strategy.
- Be cautious about purchasing software online. (If your computer crashes the vendor may not allow you to re-download the software.)
- Store your software in a secure location.

# Getting Online

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|                     | <b>Speed</b>  | <b>Cost</b>    | <b>Medium</b>     |
|---------------------|---------------|----------------|-------------------|
| <b>Dial-up</b>      | 50 Kbps       | Free - \$15    | Phone line        |
| <b>DSL</b>          | 384 K – 1.5 M | \$30 - \$60    | Phone line        |
| <b>Cable</b>        | 1.5 - 8 Mbps  | \$30 - \$80    | Coaxial cable     |
| <b>Fiber Optics</b> | 1.5 – 8 Mbps  | \$40 - \$60    | Fiber-optic cable |
| <b>T1 or T3</b>     | 1.5 - 30 Mbps | \$350 – \$1000 | Fiber or cable    |
| <b>Satellite</b>    | 700 Kbps      | \$400 / \$60   | Satellite         |

\* Note: Download speeds are faster than upload speeds. (Kb⇒Mb⇒Gb)

# You're Setup and Secure...Now what?

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- Parts Lookup
- Technical Research
  - Manufacturer Websites
  - Google, Wikipedia, About, Ask
- Purchase Parts, Supplies
- Host a Website
- Email

# Building Your Personal System Suite

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- Service Management
- Financial
- Office Productivity
  - Word Processing
  - Spreadsheet/Analytical
  - Presentation
  - Database
  - Email
- Web Design
- Graphics

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# Service Management

# Non-Purpose Designed vs. Service Specific

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- Non-Purpose Designed Options: QuickBooks, Microsoft Small Business Management, FileMaker Pro
- Service Specific Options: ServiceDesk (by Rossware Computing), Swiftlink (by Marccone), LogiServ (by Creative Logistics)

# What Should a Service Software Do?

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- Call taking and call management
- Scheduling and dispatch
- Job performance
- Parts ordering and inventory
- Maintain customer history, job history, etc.
- Provide reports and/or exports

# What Else Could It Do?

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- Point of Sale
- Accounting
- Statements/Billing
- Automate with 3<sup>rd</sup> parties for claims, dispatches, etc.
- Automate customer communications
- Provide a mobile service for techs

# Service Management Software

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## ■ ServiceDesk

- Base price \$6K, discounted for smaller offices.
- 12 month money back guarantee.

## ■ Swiftlink

- Leased rather than purchased
- \$275 startup, monthly fee varies from \$49 to \$288

## ■ LogiServ

- \$1300 single user, \$1500 networked; Support \$300/\$468 annually.
- 30 day money back guarantee

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# Financial

# Accounting Software

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## What Can You Do?

- Payroll
- Taxes
- A/P
- A/R
- Invoicing
- Inventory
- Time on Job
- Point of Sale
- Credit Cards

## Options

- QuickBooks, \$99 (basic, single user)
- Peachtree, \$69 (basic, single user)
- Microsoft Office Accounting, \$200
- Microsoft Dynamic GP (formerly Great Plains), price depends on setup, licenses, etc.


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# Office Productivity

# Why Microsoft?

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- MS Office products provide standard “language” most businesses use for sharing information.
- What is included in Office suites?

|  | Microsoft Office Basic 2007  | Microsoft Office Home & Student 2007 <sup>1</sup> | Microsoft Office Standard 2007 | Microsoft Office Small Business 2007 | Microsoft Office Professional 2007 | Microsoft Office Ultimate 2007<br><i>NEW!</i> | Microsoft Office Professional Plus 2007 | Microsoft Office Enterprise 2007<br><i>NEW!</i> |
|--|--|---|--------------------------------|--------------------------------------|------------------------------------|---|---|---|
| Microsoft Office Word 2007   | ●  | ●   | ●                              | ●                                    | ●                                  | ●   | ●                                       | ●   |
| Microsoft Office Excel 2007  | ●  | ●   | ●                              | ●                                    | ●                                  | ●   | ●                                       | ●   |
| Microsoft Office PowerPoint 2007   | ●  | ●   | ●                              | ●                                    | ●                                  | ●   | ●                                       | ●   |
| Microsoft Office Outlook 2007  | ●  |   | ●                              |                                      |                                    |   | ●                                       | ●   |
| Microsoft Office Outlook 2007 with Business Contact Manager <sup>2</sup>         |  |   |                                | ●                                    | ●                                  | ●   |   |   |
| Microsoft Office Accounting Express 2007 <sup>3</sup>                            |  |   |                                | ●                                    | ●                                  | ●   |   |   |
| Microsoft Office Publisher 2007  |  |   |                                | ●                                    | ●                                  | ●   | ●                                       | ●   |
| Microsoft Office Access 2007   |  |   |                                |                                      | ●                                  | ●   | ●                                       | ●   |
| Microsoft Office InfoPath 2007   |  |   |                                |                                      |                                    | ●   | ●                                       | ●   |
| Microsoft Office Groove 2007   |  |   |                                |                                      |                                    | ●   |   | ●   |
| Microsoft Office OneNote 2007  | <b>Varies</b>  | ●   | <b>\$400</b>                   | <b>\$450</b>                         | <b>\$500</b>                       | ●   |   | ●   |
| Microsoft Office Communicator 2007 <sup>4</sup>                                  |  |   |                                |                                      |                                    |   | ●                                       | ●   |
| Integrated Enterprise Content Management <sup>5</sup>                            | <b>** Typically allowed to install on one machine plus one personal portable device. Consider Microsoft volume licensing if needed for more than 5 machines.</b> |   |                                |                                      |                                    | ●   | ●                                       | ●   |
| Integrated Electronic Forms <sup>6</sup>   | <b>** Typically allowed to install on one machine plus one personal portable device. Consider Microsoft volume licensing if needed for more than 5 machines.</b> |   |                                |                                      |                                    | ●   | ●                                       | ●   |
| Advanced Information Rights Management and Policy Capabilities <sup>7</sup>      | <b>** Typically allowed to install on one machine plus one personal portable device. Consider Microsoft volume licensing if needed for more than 5 machines.</b> |   |                                |                                      |                                    | ●   | ●                                       | ●   |

# Microsoft Office vs. Alternatives

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## ■ Installed Applications

- Corel WordPerfect (Corel) – \$300
- StarOffice (Sun Microsystems) – \$100
- OpenOffice (Sun Microsystems) – Free
- Lotus Symphony (IBM) – Free
- ThinkFree (ThinkFree Corp.) – Free
- Works (Microsoft) – Included in Operating System

## ■ On-line Applications

- ThinkFree Online – Free
- Zoho – Free
- Google Docs and Spreadsheets – Free

# Word Processing

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- What Can You Do?
  - Letters
  - Memos
  - Faxes
  - Invoices
  - Training Manuals
  - Newsletters
  - And more!

# Spreadsheet/Analytical

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## ■ What Can You Do?

- Organize information
- Analyze performance
- Compare datasets
- Create charts
- Create pivot tables to help you answer multiple questions
- Filter datasets to see just the information you need

# Presentation

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## ■ What Can You Do?

- Sales Presentations (e.g. show pictures, graphs, etc. to sell your company to a prospect)
- Training (e.g. demonstrate step by step process; give your employees a handout for notes)
- Educate (e.g. create a presentation to show new employee benefits options)
- Reporting (e.g. create a presentation to report sales, growth, etc. to Directors/Management)

# Database

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- What Can You Do?
  - Manage your inventory
  - Manage employee data
  - Organize major projects

# Web Design

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Do I need web design software?

## Software Options

- Adobe DreamWeaver (\$400)
- Microsoft Expression Web (\$300, \$600 suite)
- Microsoft Front Page 2003 (varies)

## Online Options

- Microsoft Office Live Small Business (Varies, basic is Free)
- Yahoo (\$12/month)

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# Graphics

# Do-It-Yourself? Or Hire a Pro?

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## What can you design?

- Yellow Page Ads
- Logo
- Business Cards
- Letterhead
- Truck Signage
- Web Art

An average Graphics Designer will run approximately \$70/hr for 10 – 12 hours of work. They will sit down with you, learn about your company and then design a logo for you.

## Software Options

- Corel Draw (\$429)
- Adobe Illustrator (\$600)
- QuarkXPress (\$800)
- Microsoft Expression Studio (\$600 – includes Expression Web)

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# Email

# Installed vs. Web Based

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## Installed Programs

- Outlook
- Outlook Express
- Windows Live
- Eudora
- Thunderbird

## Pros

- Can be accessed by programs that automate emails.
- Long term storage of emails.
- Can access multiple boxes through one program.
- Stores sent items for review.

## Cons

- Can't be accessed from anywhere without VPN or other program to access computer.

## Web Based Email Programs

- Hotmail
- Gmail
- Yahoo
- And many others.

## Pros

- Can be accessed anywhere
- Easy to get

## Cons

- Not usually branded with your company name.
- Can't be used with programs that automate emails.
- If you have multiple email accounts, must log into each one.
- Usually can't review sent items.

# Web Presence

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- Every company should have a web presence.
- Studies show 88% of consumers research online before making a “real live” purchase.

# Getting on the Web

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- Obtain/register a domain name.
- Find a host.
- Point your domain to a name server.
- Cost varies.
- Create your site.
- Test your site in different browsers. (IE, Firefox, Lynx, Safari)
- Upload to your host.

# Do-It-Yourself? Or Hire a Pro?

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## Do-It-Yourself Investments

- Up Front
  - Software
  - Learning Curve
  - Time Involved
- Long Term
  - Optimization
    - Create clear, information-rich sites
    - Create descriptive title and alt tags
  - On Going Maintenance

## ■ Why Hire a Pro?

- Expertise
- Experience
- They know SEO
- They can help you create a “brand”
- Know how to leverage AdWords, blogging, free press, etc.
- Can provide measureable results

# Mobile Technology

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## ■ Equipment Options

- Laptop
  - Standard
  - Tablet
  - UMPC (ultra mobile)
- PDA
  - Windows Based
  - Palm
  - Blackberry
- Smart Phones
- iPhone

## ■ Peripherals

- Digital Camera (stand alone or built into PDA or laptop)
- Printer
- Credit Card Processor

# Mobile Connection Options

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|   | PROS   | CONS   |
|---|--|--|
| WiFi – Creates wireless LAN using access points.  | <ul style="list-style-type: none"><li>■ Can be free in hotspots.</li></ul>                         | <ul style="list-style-type: none"><li>■ Hotspots can be hard to find.</li></ul>                                  |
| Cell Phone – Connects your PC to the internet via Bluetooth (older phones: infrared or cable) | <ul style="list-style-type: none"><li>■ Cell phone and internet in one.</li></ul>                  | <ul style="list-style-type: none"><li>■ Service only as good as the cellular service you subscribe to.</li></ul> |
| Cellular Air Cards  | <ul style="list-style-type: none"><li>■ Easy to use.</li><li>■ No need to find hotspots.</li></ul> | <ul style="list-style-type: none"><li>■ Service only as good as the cellular service you subscribe to.</li></ul> |

# How Can I Connect Remote Users?

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- LogMeIn
- GoToMyPC
- PC Anywhere
- Windows Remote Desktop
- Server Version of Windows with Remote Desktop Licenses
- Citrix

# Other Technologies

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- Skype
- VoIP
- Fax via web

# Common Terms

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- LAN: Local Area Network (i.e. computers connected in your home or office)
- WAN: Wide Area Network (i.e. the internet)
- WLAN: Wireless LAN
- USB: Universal Serial Bus

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**Thank you!**

**Rossware Computing**

**800-353-4101**

# Data Sources

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- Wikipedia
- TechSoup
- EarthLink
- AT&T
- PC World
- About.com