

## Tech By Category - TClub 101

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## T101.1 - Introduction

The Technology Age has arrived -- it has the potential to make our world a wonderful place -- unfortunately, as a small business person, until you get your arms around it it can stress you the f--k out. It's a minefield of epic proportions. Crossing deserts used to be hard. This makes that look like child's play

T101 is dedicated to the big picture and overview of Technology that you will need to use to make decisions about using it (or not using it) in your business.

1. Telecom (Phone and Fax Only)
2. Computer Hardware and Peripherals
3. Computer Software
4. Cloud Services
5. Computer Backup Systems and Services
6. Virtual Machines
7. Mobile Apps

If you get your arms around good solutions for everything listed above, you will still not have made any steps towards profitability nor business success. The items above are like the football uniform -- this is just the garb that is required to allow you to step on the field to compete...

## T101.2 - Telecom Services

Rumor has it Indigenous cultures used mirrors to communicate via visual Morse code in a network that stretched thousands of miles. And then came the Pony Express, the telegraph, the telephone and the fax machine.

Once the telephone and fax machine became a staple in offices, most serious small business people had a phone line for voice and a separate phone line for fax. With the advent of cell phones and the internet, everything has changed. The sections below are broad and short in an attempt to convey basic information as I've come to see it

1. Telephone -- Land Lines -- For Voice
2. Telephone -- Land Lines -- For Fax
3. Telephone -- Cellular Service -- For Voice
4. Internet Service
5. Cable TV Service
6. Comcast Commercial Services
7. Bundling Services

### 1) Telephone Land Line -- For Voice

If you don't really "need" a land telephone line for voice, go without it. Reasons to need a land telephone line might include:

1. Crappy cell coverage in your office
2. A monitored alarm system that you prefer to have hard wired to dispatch for cost or performance reasons
3. An office assistant who will be using your office phone as much or more than you

I recently reviewed phone options with two different health care providers (Sole Proprietors). After a little dialogue both realized if they wanted a dedicated line for their business, separate from their personal phone, a second mobile phone with a separate phone number was the way to go. They also realized if they wanted to have office support, they could always leave the business phone at work and there was a docking system to tie that phone into hand held sets.

#### **=== If you want/need a landline for voice avoid VOIP ===**

Voice over IP (VOIP) is a system which allows you to make phone calls using the internet bandwidth. In general, I find VOIP to be annoying as a listener on either end enough to discourage its use, even if it works well 90% of the time. A phone expense is not huge. Don't add to your expenses but try to save a little with quality sacrifice. I realize others may have had a different experience or opinion on this.

### 2) Telephone Land Lines -- For Fax

With a good, high speed scanner (like a Fujitsu Scansnap) you really have no need for a physical fax machine nor a fax telephone line. Zero. Zip. Nada.

- Inbound Faxes -- With a cloud based fax service, inbound faxes come to you via email with the fax attached in pdf form to the email. It is a communication dream.
- Outbound Faxes -- Sending faxes does not feel natural. I still miss the sounds and the confidence of an outbound connection. You scan your document. Save it in a good spot on your computer. Open your email. Create a new message. Attach the scanned document. Address email to xxxyyyzzzz@yourfaxservice.com (where xxxyyyzzzz represents the fax number of your recipient and the email is being sent from an account that has fax sending permissions).

For inbound faxes, a fax server is a dream. You can get your faxes instantly no matter where you are in the world. It really rocks. There are ZERO draw backs for inbound faxes, and only benefits.

For outbound faxes it's a different story. In the olden days, anyone could send a fax. Put it in the machine, dial the number and hit send. With this you have to put it in an auto-feeder and hit scan (similar), but then you have to be able to save the document to your file system and retrieve it from your file system. The benefit of sending with a fax server is a built in log of sent faxes, but when 1) the scanner is acting up or 2) the computer is acting up or 3) email is acting up or 4) your internet connection is acting up or 5) the email fax service is acting up there can be problems. See how many moving pieces just got introduced to the send side of this??

I will be the first to admit, there have been times when I was forced to send a fax, that I wished I just had a stupid land phone line, but those were few and far between. The benefits out weigh the costs.

If you really think you need a physical fax machine, my opinion is you need a dedicated phone line and a dedicated fax machine (not a multi-function printer) More details here...

We were using Fax87.com until September 2017 at which point they got consumed by eFax. It looks like they may have been forced out of business or forced to sell due to a lawsuit ( [https://insight.rpxcorp.com/litigation\\_documents/11946064](https://insight.rpxcorp.com/litigation_documents/11946064) ).

Efax is notoriously pricey and the service by them and the parent companies is typically challenging. Looking for new service providers now:

- <https://www.quora.com/What-is-a-good-alternative-to-eFax>
- [www.fax.plus](http://www.fax.plus) may be an option

### 3) Cellular Service -- Voice

I got rid of my landlines for home and office around 2005. My cell phone is my business phone and my personal phone. Keeping phone systems simple is critical. I realize there are virtual phone numbers and virtual services like Google Voice. I have experimented with a few. Having a single phone and a single phone number has simplified my life, as has the push to do as much relevant communication as possible via email.

I currently use an Iphone with Verizon Service. I have experience and opinions about phones and service providers. More details here...

## 4) Internet Service

You only need about 1.5mb to stream videos one at a time. With 3-5mb, you can stream for a house of 3 or so. The concept that says Comcast is offering 50 and 100 mb streaming is great, but few have that need right now (I don't know anything about gaming demands).

### === Land Based Service ===

Get land based service if at all possible.

### === Wireless Service - Not Cellular Phone Related ===

I've had four wireless internet service providers because of geographic issues. Three were a wi-fi type setup and one was a satellite.

The wi-fi setups were in Baltimore and California. One was with Clear Wireless, a national company that specialized in wireless service (and was bought out and shut down in 2015) and two were with local companies that specialized in the wireless services. Wireless services are "OK". If it is your only option, it will work fine, but there are more issues with them than land based services. Ironically, the service I got from Clear Wireless was more support free than that with the local companies, and it was a perfect solution for me as it was at my Baltimore shop which was intermittently operational and I could order service by the month.

The satellite service I have experience with was in 2012 in California. The speeds were not good for any major work, clouds were an issue, and it was expensive.

### === Wireless Service -- Cellular Phone Related ===

With the shuttering of Clear Wireless, I had to invest in a hot spot for my Verizon Phone/Account. The service is good. The ability to track data use is good. It is good for moderate to heavy email use. It can get pricy quick for any video streaming or social media.

They do sell house mounted antennas to use their service as a primary land based service. It is expensive compared to other non-cellular related wireless service (or at least it was as of 2015).

## 5) Cable TV Service

I no longer have Cable TV service of any kind in my primary residence. I've had Comcast and DirecTV. In 2016 I discontinued DirecTV in a switch back to Comcast at a fully furnished rental. There were intermittent dish and receiver card issues that made DirecTV annoying from time to time.

## 6) Comcast Commercial Services

Many people do not realize that Comcast offers commercial grade service for home offices. When I had it it was limited to the internet and phone -- you could not bundle it with a commercial TV service however. I got this for my home office in Baltimore at a time when I wanted to make sure i got top level support if there were internet issues. It was a slight premium over residential service but it was worth the premium to me at the time.

## **7) Telecom Bundles**

In general, I am not a fan of bundling unless I'm getting what I would choose separately together. I have paid small premiums over time to get what I've wanted from vendors who specialize in what it is they sell or provide.

## T101.3 - Computer Hardware and Peripherals

The sections below identify relevant topics and products I use or have used for decades to gain digital efficiency. Many of these are like paint brushes to a painter or tools to a mechanic. The sections below include:

1. Operating System - Windows/Mac/Unix/Chromebook
2. Computer - Laptop, Tower, Monitor/Machine combo
3. Monitors
4. Monitor Cabling
5. Keyboard
6. Mouse
7. Mouse Pad
8. Printer/Copier
9. Scanner
10. Wireless Router
11. External Hard Drive
12. External Hard Drive Dock
13. External Video Card Adapter
14. USB Hub
15. USB Memory Stick

### 1) Operating System

Windows -- I am a PC guy because I have been training on it since 1988. Microsoft's shift to hide the tree structure after Windows XP (so the interface looked more like a Mac) was infuriating and the young designers with nothing new to innovate have now started hiding stuff (like the Start button), making PC use painful on so many levels.

Mac -- As an engineer, I find the file management functions of a Mac to be infuriating. I also find many of their "intuitive" visual actions for various tasks to be very non-intuitive. The loss of Steve Jobs as the obsessive one ensuring user satisfaction is starting to show (as of 2016).

Unix -- Unix in any form other than Mac has never made consumer in roads.

Chromebook -- The wave of the future and the future is now! More on this later.

In general, the knowledge/skill most beginner and intermediate computer users lack is basic file system configuration and navigation, the ability to recover from OS and software related fubars, and our occasionally hellish wireless technology world.

### 2) Computer

There are three types of computers commonly available at this time.

Laptop

Tower

### All-in-one (Monitor-Computer combination)

I have always preferred to own a laptop. All laptops come by default with a video card that supports 2 monitors (the primary monitor and a secondary external monitor) and their mobility is second to none.

### Computer #1 -- Laptop

I currently own a Toshiba T520 which has a video card (2 monitors) and another video handling system which enables it to support 2 additional monitors with the support of the primary processor. (a docking station required to run the 4 monitors)

Screen Size -- I currently have a 15.5" monitor and the screen size dictates the physical size of the laptop. While smaller than the largest monitor available which are in the 17-18" range, it has a full size laptop keyboard and it does NOT have a number pad on the right, which I prefer as it minimizes the reach for the mouse.



External Keyboard -- I actually use the keyboard on my laptop. This makes the desk height and chair to desk height very relevant (and tricky) to avoid neck and shoulder issues. I have tried to use external keyboards and I typically revert to the laptop out of (bad) habit.

### Computer #2-- Tower

If you aren't going to use a laptop, I'd suggest getting one of the towers/mini-towers. I would NOT suggest the monitor/computer combo unless you know that is exactly what you want. A separation between the two enables you to re-purpose the computer as it gets old with larger or smaller monitors as desired.

### Computer #3 -- Monitor-Computer Combo

I like the all-in-ones. They are priced very high for what you get. They are really raking in the big bucks because of the form-function combination. If something goes wrong with either the computer or the monitor, repairs do not seem to be inexpensive at all..

## 3) Monitors

I prefer smaller monitors and the use of multiple monitors. The larger the monitors, the less you can use. I also don't need anything that has a resolution higher than what I use on my laptop. The 4:3 viewing ratio was replaced by 10:4 around 2008, so that is no longer an issue. The prior was in fact better for multiple monitors. Keeping your focal length about the same when using multiple monitors decreases eye strain. A monitor with a tilt is good, and one that tilts and pivots is better but more costly,. As long as they tilt, that works for me.

18" Monitor -- They make them, but max res is often limited to 1366x768

20" Monitor -- Ideal for three across (1600x900 resolution is pretty typical)

21.5" Monitor -- Ideal for two side by side. A little large for three across (IMO).

**Monitor #1**

20" Monitor -- HP w2082a (predated by 2071d and 2072a) -- \$90 -- at amazon



**Monitor #2**

21.5" Monitor -- Asus VS228H-P 21.5 -- \$110 -- at amazon



Amazon sells 2 monitors with an octopus type arm system for \$400 at the same link

## 4) Monitor Cabling

Likely the most confusing of all consumer cabling systems.

Mini-Display Port/Thunderbolt -- Most commonly found on Mac laptops. The preferred method of connecting an external monitor to a Mac Laptop. You will likely need a MiniDisplay Port to VGA adapter. (Possibly a MiniDisplay to DVI, but choose VGA for less headaches if monitor accepts VGA)


HDMI -- Primarily for connecting a computer to a TV versus a computer monitor. If you try to use an HDMI connector from a Mac to a monitor that supports HDMI, it likely will not work as the Mac doesn't have the power to drive the connection (for some reason). You will need to use the VGA/DVI port on the monitor.

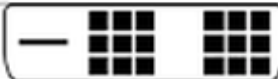
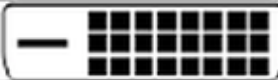



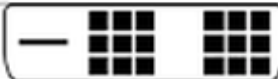
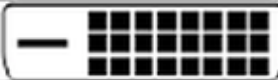



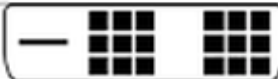
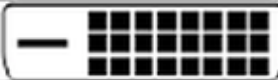




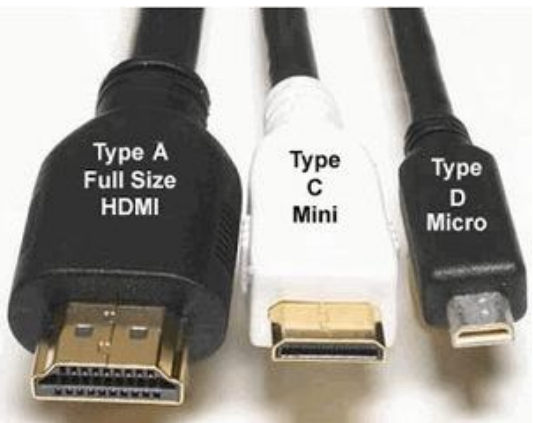

VGA to DVI adapters -- Not as straight forward as one might think as the DVI pin connections must always be correct for both ends of the DVI cable.

VGA to HDMI -- Not sure if they work

HDMI to VGA -- Ideally used for Mac laptops, but they don't work for Mac Laptops.

MiniDisplay Port/Thunderbolt to VGA -- The simplest, most guaranteed way to connect a Mac laptop to an external monitor.

<p><b>Monitor Cabling #1 - VGA</b>  VGA - the old stand by. Never fail. Often found on all towers, most PC laptops but no Mac Laptops.</p>	
<p><b>Monitor Cabling #2 - DVI</b>  DVI - Avoid using it if possible. There are multiple pin configurations. For modern monitor applications you will need a DVI-D single link or dual link configuration. This is one of those overthought engineering ideas that is ok in an engineering environment but not in a retail environment.  (DVI-D Single link shown in photo)</p>	

	<table border="1"> <thead> <tr> <th>DVI Type</th> <th>Connector</th> <th>Signal Type</th> <th>Max Resolution</th> <th>Bandwidth</th> </tr> </thead> <tbody> <tr> <td>DVI-D Single Link</td> <td></td> <td>Digital</td> <td>1920 x 1080</td> <td>4.59 Gbps</td> </tr> <tr> <td>DVI-D Dual Link</td> <td></td> <td>Digital</td> <td>2048 x 1536</td> <td>9.9 Gbps</td> </tr> <tr> <td>DVI-I Single Link</td> <td></td> <td>Digital/Analog</td> <td>1600 x 1200</td> <td>4.95 Gbps</td> </tr> <tr> <td>DVI-I Dual Link</td> <td></td> <td>Digital/Analog</td> <td>2048 x 1536</td> <td>9.9 Gbps</td> </tr> <tr> <td>DVI-A Analog</td> <td></td> <td>Analog</td> <td>1920 x 1080</td> <td></td> </tr> </tbody> </table>	DVI Type	Connector	Signal Type	Max Resolution	Bandwidth	DVI-D Single Link		Digital	1920 x 1080	4.59 Gbps	DVI-D Dual Link		Digital	2048 x 1536	9.9 Gbps	DVI-I Single Link		Digital/Analog	1600 x 1200	4.95 Gbps	DVI-I Dual Link		Digital/Analog	2048 x 1536	9.9 Gbps	DVI-A Analog		Analog	1920 x 1080	
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<p><b>Monitor Cabling #3 - HDMI</b></p> <p>HDMI is the latest in digital cabling most frequently found on new TVs to replace the old 3 wire RCA cables (red, white, yellow). Some newer monitors have HDMI ports.</p> <p>While we use the term HDMI to refer to the image at right, it actually comes in three flavors.</p> <p>Type A - Referred to as HDMI          Type C - Referred to as Mini          Type D - Referred to as Micro - This looks amazing similar to the Mini-Display Port patented by Apple. I can not find any reference indicating the two are in fact the same.</p>	 																														
<p><b>Monitor Cabling #4 - HDMI to VGA adapter at Amazon for \$10 - at amazon</b></p> <p>This is used on PCs and Chromebooks. Macs require the Mini Display port to VGA below... (for monopolistic reasons).</p>																															

### Monitor Cabling #5a - Mini-Display Port / Thunderbolt Port (Apple) Adapter

The Mini-Display Port (aka Thunderbolt Port on Apple products) is a small profile video out connector patented by Apple, found on their laptops. Since there is no such port on any Monitors, it is always part of an adapter. The image at right shows a 3:1 adapter -- at Amazon

NOTE: For MAC laptops, you should always plan on using the Mini-Display Port to VGA converters. The Mini-Display Port to DVI does not seem to work consistently with most monitors, likewise, the HDMI to VGA adapters also don't work for macs...

Picture



### Monitor Cabling #5b - Mini-Display Port / Thunderbolt Port (Apple) to VGA adapter at Amazon for \$8 -- at amazon

If you don't buy the 3:1 above for a Mac, you will want to buy something like this. While Macs have an HDMI port that you would think you can use instead of the Mini Display port, the HDMI to VGA adapters (as shown in the next section) do not typically work because Mac does not energize one of the power pins -- by behaving this way, you are required to buy this Mac specific product (see how this works?)



## 5) Keyboard

As indicated, I use a laptop, typically with the base keyboard. While the wireless items are great, I find the hassle of synching and charging to be a nuisance. If it was up to me, we just have wired keyboards and mice.

### Keyboard #1 - Mini Keyboard

I own this mini-keyboard. It's handy as a programmer who works on a laptop as it feels like a laptop and the motion to get to the mouse can be very short since there is no number pad. -- \$20 at amazon

(note there is a slightly cheaper one, but it does not have the same keys). The one I own actually doesn't have the usb ports built in.

Picture



### Keyboard #2 - Wired External Keyboard






Logitech K120

Inexpensive and Functional -- \$12 at amazon



## 6) Mouse

A two button mouse with a scroll wheel is critical for efficient use of a computer. The addition of a button that can be assigned to a back command is also highly recommended. The MAC mice are pretty, but not functional for major commercial use.

<p><b>Mouse #1</b> Logitech Performance MX Mouse -- rechargeable -- \$60 -- my favorite -- at amazon</p> <p>The ergonomics on this one are the best for my hand.</p>	
<p><b>Mouse #2</b> Logitech m705 -- \$34 (buy used for \$20) -- 3 year battery -- thumb back -- recommended low cost solution - at amazon</p> <p>Logitech m510 \$25 high thumb buttons (less desirable) Logitech m500 - less desirable</p>	
<p><b>Mouse #3</b> 3 button usb wired mouse -- AmazonBasics or Belkin -- \$7 (or comparable)</p>	 <p>AmazonBasics 3-Button USB Wired Mouse (Black) by AmazonBasics \$6.99  Prime Get it by <b>Monday, Aug 22</b> <a href="#">College Checklist</a> <a href="#">See more</a> ★★★★☆ 4,004</p>  <p>See Style Options</p> <p>Belkin 3-Button Wired USB Optical Mouse with 5-Foot Cord, Compatible with PCs, Macs, Desktops and Laptops by Belkin \$6.95 <del>\$7.99</del> <a href="#">Add-on Item</a> Add to a qualifying order to get it by <b>Monday, Aug 22</b>. More Buying Choices \$6.95 new (13 offers) \$6.99 used (3 offers) ★★★★☆ 346</p>
<p><b>Mouse #4</b> The Logitech Wired Mouseman was the best mouse every made. They discontinued it because no one would have bought anything else and they could not have sold the wireless products at a premium.</p> <p>It was soooo good, used ones on ebay go for \$120. (when they were \$20 new..). This is a</p>	 <p>Logitech MouseMan Dual Optical Mouse USB wired Model M-BL63B</p> <p>\$119.99 Free Shipping</p> <p><a href="#">Buy It Now</a></p> <p><a href="#">View Details</a></p> <p>Condition: Used </p> <p>Availability: 1 available</p> <p>Shipping: Est. Aug 27 delivery From Plano, Texas</p> <p>Seller: Sold by satorgema (98.5%)</p> <p>Returns: Buyer pays return shipping</p> <p>Guarantee: eBay Money Back Guarantee Get the item you ordered or your money back.</p>

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classic example of "product suppression for profit".	

## 7) Mouse Pad

Mouse Pad -- a \$5 item. Should it really be listed separate? Based on my experience in offices, yeah... you'd be shocked at how many times people don't have mouse-pads for all their mice and they don't have a mousepad in their travel bag!!

I personally have modified a mouse pad so it fits perfectly between 1) my computer 2)my monitor base and 3) Frankies feet (as you can see there is a very narrow alley for my arm to rest).

## 8) Printer / Copier

Printers are potentially one of the most frustrating devices of all peripherals.

Your options include:

Black and White or Color laser printers and color ink jet printers

Printer only or multi-function device

Wired, Wireless or Network printer

Ultimately, most sole proprietors end up with a color ink jet printer with a wireless option. These printers have the lowest up front cost and offer the most functionality. They printer companies make their money with proprietary ink dispensing systems and ink that will cost you around \$0.10 per copy. There is new printer technology that would destroy this Corporate market, but it has been duly suppressed. Brother and HP use to be market leaders in the 90's. I was an HP fan until they started packaging all kinds of bloat ware with their software. I've owned HP, Brother, Lexmark and several others. It's really pot luck. I'd suggest buying a printer that has been around a little while so if it has bugs, others have had the opportunity to be the guinea pig.

Finding one that has wireless printing that works without burps and hiccups is the secret, and it isn't always easy to find that. If you don't need to use wireless printing, avoid it like the plague and your life will be simpler.

Finding good reviews for multifunction printers are darn near impossible, because with so many functions, some one always complains about something.

If printing is critical to office function, it is advised to have 2 printers setup or a backup in waiting.

**Printer # 1 -- HP 8600 series / 8700 series**

I've recently worked in a small office that has two HP 8610 printers/copiers setup . They have performed amazingly well. Their wireless functionality sees no lags. As soon as you hit "print" it fires up, so you know quickly if there might be any problems.

\$130 -- at amazon

**9) Scanner**

Trying to run a modern day small business without a scanner is a pain in the butt. Trying to use the scanner on multi-function printers is often times very trying, time consuming and frustrating. As soon as you have the money to do so, invest in a scanner. If you had a telephone line for a fax, you will make up the savings by eliminated that phone line (and converting to a fax server for your fax needs).

Fujitsu has been the market leader in scanners for decades. I have had a few longevity issues with mine, and the support was very quick and very good.

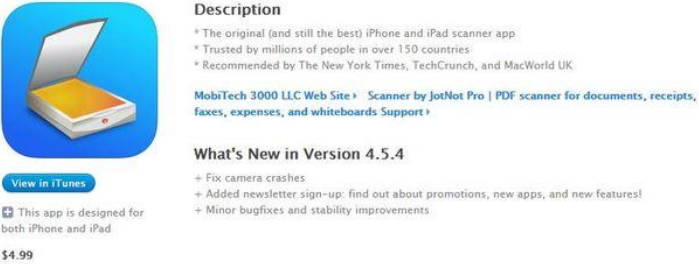
Picture

**Scanner #1 -- Fujitsu Scan-snap**

If you aren't familiar with these, as soon as you become familiar, you will likely start to see them at almost all higher production office work stations (most typically you will see them all over the health care work environments). The current model is iX500. I would not suggest going wireless with this unless you have to (I just don't go wireless with anything when I don't have to).

This device is typically around \$425.



<p>Update 12/19/2017 - we are testing the wireless functionality and we had some burps recently with one. See support section for details on this device.</p>	
<p><b>Scanner #2 -- Iphone App</b> For very scanning documents without dozens of pages, there are some really easy and good Iphone apps that make life a breeze. These should not be overlooked for someone who does very intermittent scanning. The apps are free to under \$10 and you own them for life?!  I own JotNot Pro. -- \$5</p>	

## 10) Wireless Router

When working they work great. When not, can be frustrating as heck.

Many commercial internet service providers (AT&T and Comcast) provide a Modem/Router combo with the password on the side of the router. Likely some of the easiest and most stable devices.

### Wireless Router #1 - Removable Antennas

I was turned on to TP Link devices when we had the need for a directional antenna. They have worked well and the added benefit of a directional antennae is huge.

This device has numerous upgraded features making it good for places like restaurant/bar locations.

TP Link TL-WR841-ND -- \$37 -- at amazon



### Wireless Router #2 -- Directional Antenna

This was the only low cost brand I found with simple directional antenna solutions



## 11) External Hard Drive

When buying an external hard drive, do not fall for any marketing tricks. All you need is a hard drive in a protective case. In fact, you are often times best buying a protective case and a hard drive separate to reinforce the simplicity of an external hard drive. If you own the cavalry retriever above, you can use un-encased hard drives in that device.

### External Hard Drive #1

Here's a popular one from Amazon - 1 TB drive with USB 3.0 -- \$50 -- at amazon

(USB cable and port not shown)



## 12) External Hard Drive Dock

An external hard drive dock can take raw hard drives and enable them to act as external hard drives. This is the simplest and cheapest way to maintain several/multiple external hard drives.

External Hard Drive Dock #1 - Cavalry Retriever  
Stick a drive in the dock and you will see it show up in your file manager. It works just like a USB memory stick but the memory stick is a hard drive.

Upon duplication, take the target drive and put it in the computer. If it works, you have created a bit for bit backup.

This device also acts as a hard drive duplicator. That functionality is explained in the Computer backup sections.

\$35 -- at amazon



### 13) External Video Card Adapter

With external video card adapters you can take any machine and add monitors. The additional monitors may not be great for gaming, but they are typically fine for low motion applications.

#### External Video Card Adapter # 1 - Plugable

Plugable is the market leader in external video card adapters. The near image shows a USB to DVI adapter. The far side is the VGA version. These come with different higher end resolutions too.

\$35 - VGA -- at amazon  
Picture



## 14) USB Hub

Picture

When buying USB hubs, there is nothing special to look for. Find one that is the correct size and shape for your application. These are basically dumb switches/devices.

### USB Hub #1

Example of a simple USB Hub from Amazon -- \$10 -- at amazon

(I use to think of these as being \$5. I cant find those anymore.)



## 15) USB Memory Stick

details coming...

## T101.4 - Computer Software

The digital world has dramatically changed all aspects of commerce. While there are some businesses that are only slightly affected by digital technology, like the old fashioned donut shop at the local strip mall, many others are dramatically affected. If you are going to utilize computers and technology in your business, it is often hard to decide what to use and how far to go.

The "Computer Software" I am referring to here is separate from your operating system and its various built in tools and utilities. Computer Software, also referred to more specifically as Computer Software Applications or Computer Software Programs, is installed on your computer and it does 'stuff' or allows you to do stuff and store data on your computer.

The following list details items that should be the first things loaded onto any new computer.

1. Required Software (at a minimum)
2. Other Software
3. Protection
4. Web Browser
5. Web Browser Extensions
6. Remote Access Client

NOTE: As of September 2016, I just worked on my first Chromebook, and that will make all of this obsolete for many computer user. I still feel each office should have at least one PC/Mac for the short term, but times, they are a changin'!

### 1) Required Software (at a Minimum)

- PDF Reader -- Adobe Reader / Foxit Reader
- Spreadsheet -- Microsoft Excel\*\*
- Word Processing -- Microsoft Word\*\*

\*\* -- an argument could be made that these are no longer needed as long as Google Drive (with GoogleDocs and GoogleSheets) is being used. While GSheets and GDocs are awesome and it's ability to convert .docx and .xlsx to Google Drive formats for viewing editing and saving, there are some things the Google products do not do well and likely never will compared to Microsoft's products. The marginal investment for Excel and Word is about \$75 each (\$125 on Mac). Your situation will dictate if and when you can discontinue buying this stuff.

### 2) Other Software

This is some of the software I use, have used, or have used on the behalf of others. Obviously this is an endless list depending on industry and interests.

- 2-D Drafting and Design -- Autosketch, CADLink (for cnc)
- Accounting Software -- Quickbooks (now available as cloud solutions as well)
- Audio Recording -- Audacity

- CNC Controller -- Torchmate Control Software
- Construction Estimating -- Exactimate
- Database -- MySQL, SQLServer, MsAccess
- FTP -- Filezilla
- Personal Financial Software -- Quicken (now available as cloud solutions as well)
- PDF Editor -- Adobe Acrobat, Foxit Phantom PDF
- Photo manipulation Software -- Photoelf and Snag it
- Screen Capture -- Snipping tool and Snag It
- Screen Recording -- BB Flashback Pro
- Text Editors -- PFE 32, Notepad++, MS Front Page
- Utility -- Search for large files -- Tree Size -- Tool for viewing directories by storage size
- Utility -- File Renaming -- Better File Rename, Bulk Rename Utility
- Utility -- Find files -- Agent Ransack
- Voice Recognition -- Dragon

### 3) Protection

- Malware Protection -- Malware Bytes, SpyBot (not running real time, intermittent scans only)
- Virus Protection -- Microsoft Security Essentials (running real time)

### 4) Web Browser

The Browser Wars are coming to a close. The following are the 4 major browsers still in production:

- Google Chrome
- Internet Explorer
- Fire Fox
- Safari

Since the 1990s, we have seen Internet Explorer (IE) battle Netscape. IE won. Then came Mozilla Firefox which greatly expanded the ability for programmers to create Javascript for websites, and Safari emerged as the powerhouse browser on Mac products. Then in the mid 2000's Google created Google Chrome. Google Chrome uses the same foundational engine as Mac Safari, and around 2012 Google Chrome surpassed IE for wide spread use. The Google Chrome Developer Console is a work of engineering glory, and for that reason alone, Google has locked up the Browser market indefinitely. Oh.. and the Chromebook thingy, that puts the cherry on top...

- Browser of choice for PC, Mac and Chromebook: Google Chrome (it is the only option on a Chromebook)
- Browser of choice for Mac Mobile Phone: Safari. Google Chrome for iphone is a good second.
- Browser of choice for Android Mobile Phone: I am not familiar but I would assume it's Google Chrome (android is generally considered a Google phone).
- Browser of choice for Ipad : Safari. I am not familiar with Chrome or others

### 5) Web Browser Extensions

Web browser "extensions" are to mini programs designed to run in a manner that is in conjunction with browser functionality to add functionality to your browsing experience.

- Password Vault -- Lastpass
- Browser Tab Utility-- Tabcloud (for Google Chrome for non-mobile devices)

**Lastpass** -- This extension is available for all major browsers. It's configuration is slightly different in each browser. To access your vault info via your phone, you will need to subscribe to the premium service for \$10/year. It's worth every penny

**Tabcloud** -- This turns your browser into a business system or a research tool of unimaginable power. My life would not be the same without it.

Others Extensions I use:

1. Google Mail Checker
2. Smooth Gestures/Gestures for Chrome
3. This frame Context Menu
4. Open Frame

### 6) Remote Access Client

LogMeIn

Team Viewer

## T101.7 - Virtual Machines

Virtual Machines's have been growing in popularity in the past decade. They also may be called "Virtual PCs" or "Virtual Computers".

1. You log onto a computer (Mac or PC or Unix or other)
2. You open up a web browser window and go to a specific web address
3. You login
4. You are presented with a complete computer desktop in an internet browser window
5. If you maximize the window, you may not realize you aren't working on your own computer
6. All your work is then done in that window and in fact, your programs and your data is all being served from cloud servers.

This example may be slightly oversimplified. I'm not sure if you can log in via a web browser or if you need to download a small software client that you have to use to log in. If it is the later, this later part is simply for greater security and/or data transfer speeds.

Virtual Machines are an exceptional solution for folks who struggle with managing and maintaining their own PCs or Macs.

- This eliminates all data backup issues
- Free or low cost computer support for your virtual machine
- Very low technical support needed for local machines
- Ability to purchase software licenses by the month and as needed (great for adding and removing employees)

This solution is typically more sought out these days by small businesses with a few to a few dozen employees as it eliminates the expensive and complex onsite support they would need to keep a bunch of computers running and up to date.

My recollection is a decent setup from a processing and storage perspective with a few licenses for popular Microsoft Office products may run you \$65 to \$135/month.

And while that may seem like a lot, onsite PC Support typically runs \$85-150/hour with a two hour minimum, so even if you are only getting help every 2 months, it would be cheaper to buy this setup and gain a lot in both flexibility and support.

If you shift much of your work flow to Google Office Suite products (GDocs, GSheets, etc), this really is not a benefit, but if you are committed to Microsoft Office products or other complex local software applications, and the world of computer maintenance and back up systems seems overwhelming, this is something that should be considered.

## T101.8 - Screen Sharing and Remote Support

This chapter has the following sections

1. Uses
2. Client-Server Lingo
3. List of Common Software Tools for Screen Sharing and Remote Access
4. Remote Desktop - RDP
5. LogMeIn
6. LogMeIn/Join.me
7. LogMeIn/GotoMeeting (previously Citrix) -- [preferred] <http://www.gotomeet.me/yourName>
8. Team Viewer [preferred]
9. Chrome Remote Desktop [preferred]
10. Summary

### 1) Uses

Screen sharing is used for several reasons

1. Seminars and Virtual conferences -- The seminar speaker typically designates a URL and other join in with or without a password
2. One on one Education and Training -- The teacher may want to initiate the conversation and grant access to his/her screen for the student, or it could be the reverse, which is more like a tech support session, where the teacher logs into the students computer
3. Real Time Tech Support -- When one person needs to help another, the person who needs help grants access to a person seeking access to their screen for support purposes. The helper may initiate that or the person being helped may initiate depending on the software used.
4. Remote Computer Management -- A person may be in charge of managing another computer. In this case, the software used needs to be able to gain access to the other computer even if there is no person at that other computer

### 2) Client-Server Lingo

In olden days there were two easily discernible parts to remote access software. There was client software and there was server software. Server software was also referred to as Host software. (So client is by itself -- server and host are interchangeable, and that's confusing because in the real world a server often times works for a host -- it is not comparable to a host..)

The machine being logged into would get the server/host software and the machine being used to log into the 'server/'host' was the client. If a machine was both a target machine (a server/host) and also used to log in to other machines (a client), it would/could have both the client and the server software loaded or you would load a version of the software that contained both of those components.

Server software "listens" for client requests. In order for it to work, it has to be active and running on the machine, and for that it is often times setup to run in the background -- and when it is, it's often referred to as a 'service'.

Some software, like Team Viewer, still has discernible client and server/host versions, but much is now fully browser based, and it is a little harder to see the moving parts of the client server paradigm, although they are all still in play.

### **3) List of Common Software Tools for Screen Sharing and Remote Access**

Please note, these are NOT in the order of recommended use. They are more in the order of historical relevance, and most that came first are now far less relevant (desirable) for various reasons.

1. Remote Desktop - RDP ( I use this for my managing my webserver only -- admin work only. I never log into another persons machine with this)
2. LogMeIn ( I don't use this anymore)
3. LogMeIn/Joinme ( I never used this -- I used Goto Meeting)
4. LogMeIn/GotoMeeting ( I use this for easy meeting - no digital white board)
5. Team Viewer ( I use this for logging into the machines of others and I could use it to log into my own machine if I was away from it )
6. Chrome Remote Desktop ( I use this for logging into the machines of others)

### **4) Remote Desktop - RDP**

Built into MS Windows is something called Remote Desktop (click start and type Remote Desktop to find it). Sometimes this is referred to as RDP (Remote Desktop Protocol). This by default is client software for logging into other Microsoft machines. In the client interface you would enter a web address like [remoteaccess.soulproppguide.com](http://remoteaccess.soulproppguide.com) or an IP address, and as long as the remote desktop software on the target machine was active in server mode (listening mode/host mode), you would be issued a login screen to use windows security to login. One problem with using this as a typically computer user is that your computer is likely on a small private wired or wireless network behind a router, and in order to connect to it from outside of that network, you'd also need to setup some pathways through your router. This is most commonly used by individuals in the technology field who use it to login to and manage web servers and virtual private servers, both of which are always accessible via IP addresses or web urls thus, the private network thing is not an issue.

### **5) LogMeIn**

Logmein.com was one of the first commercially available web based tools for logging into remote machines and logging into your own machine from a remote location.

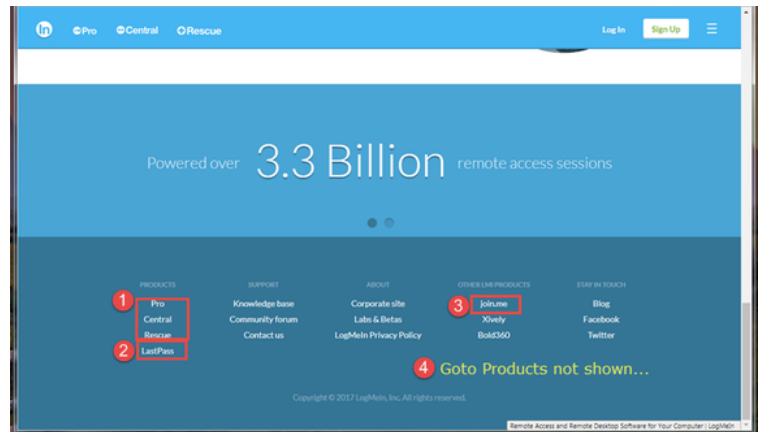
They mastered a simple interface and non commercial users got free accounts, so this was the industry standard for many years. Around 2012, they decided they no longer wanted to service the free users. The free users went bonkers and most eventually found their way to TeamViewer, which was a far more complex solution for comparable use.

### === Red Bullet 1 - LogmeinPro, Central, Rescue===

They had 4 primary product offerings -- Logmein (free software), Logmein Pro (paid version of logmein), Central and Rescue. As you can see in the box with the (1) they now only advertise 3 products. There is no free version anymore.

A) Logmein is about logging in from one computer to another. You could setup up multiple computers with the host/server software and then you could log into those from any other computer. This system works around the RDP shortcomings related to private networks and it was not limited to PCs.

B) Central is for administering to and managing a lot of computers on a networks



C) Rescue enables you/tech support folks to issue temporary server software to users to enable you to log into their machines for tech support purposes.

### === Red Bullet 2 - LastPass ===

They bought Lastpass in 2015. That likely isn't good for paying Lastpass users.

### === Red Bullet 3 - Join.me ===

They own join.me. Seemingly a competitor to GotoMeeting...

### == Pricing History ==

The pricing on Logmein has gone through the roof. Basically they got folks addicted to their interface and their tools, much like Apple and now they just keep upping the pricing. When the first ditched the free solution, a paid solution for up to 2 computers was something like \$99/year. Then it went to \$149/year and now it's at \$249/year, for 2 computers. Up to 5 computers is 600/year and up to 10 is 1100/year.

### == Summary ==

Logmein is a publicly traded company (LOGM) and they bought out the "GoTo" family of products in 2016. Unfortunately, it appears they are trying to monopolize on some aspects of the technology industry. Keep an eye on lastpass pricing as that will likely be affected and watch future acquisitions for further monopolization buyouts.

## 6) LogeMeIn / Join.me

At the bottom of the logmein website you will see they also own Join.me.

This is their competitive solution to compete against "gotomeeting" which they now own as well...

I saw an add indicating join.me had free accounts, but they make it hard to figure that out once there...

On their pricing and plans page, the only reference to free account is under the Pro ad where they say "All Free features plus..." See red bullet 1.

To view details related to their free account, click on the link to compare plans (see red bullet 2).

Their free account becomes active after a 15 day trial with their Pro account.

In general, these folks are a very "investor centric" company.

While their products are beautiful works of art, I'd encourage you to find other solutions as these folks are nothing but about monopolization based on my observations.

The reason I put these first is because Logmein is the name many still hang onto as the market leader, so I wanted to show you where they are prior to moving on to the others that I'd suggest using if at all possible.

The screenshot shows the Join.me pricing page. At the top, there's a banner with the text "WE PUT THE VALUE IN INVALUABLE." Below this, two pricing plans are displayed: PRO and BUSINESS. The PRO plan is highlighted with a "10% OFF" tag and shows a price of \$18 (down from \$20). The BUSINESS plan is priced at \$30. A red box highlights a link that says "Click here to compare all of our plans." Below the plans, there are lists of features for each plan. The PRO plan features include: All FREE features plus..., 50 meeting participants, 10 video feeds, Unlimited audio with international conference lines, and Customization. The BUSINESS plan features include: CONTACT SALES, All PRO features plus..., 250 meeting participants, User management, Feature management, and Enterprise authentication (SSO). A red circle with the number 1 points to the "All FREE features plus..." text, and a red circle with the number 2 points to the "Click here to compare all of our plans." link.

The screenshot shows a pricing selection dialog box from Join.me. The dialog has a title "Choose the pricing plan that works for you." and a subtitle "Once your 14 day PRO trial ends, you will have the option to continue using join.me FREE." Below this, there are three columns representing different pricing plans: FREE, PRO, and BUSINESS. Each column lists the features included in that plan. The FREE plan includes: Simple screen sharing, 3 meeting participants, 3 video feeds, Screen sharing, Internet calling, Look who's talking, Individual mute, File transfer, Mobile apps, 10 whiteboards (iOS only), and Email support. The PRO plan includes: Online meetings with productivity features, All FREE features plus..., 50 meeting participants, 10 video feeds, Unlimited audio with international conference lines, Customization, Screen & window sharing, Meeting tools, Unlimited whiteboards (iOS only), Recording, Meeting scheduler with Outlook & Google Calendar plugins, Meeting lock, Reporting, Share control, Includes stand-alone audio, NEW Optional toll-free numbers, No in-meeting ads for viewers, 5GB cloud storage, Email & phone support, and Developer APIs. The BUSINESS plan includes: Premium meetings with advanced management capabilities, All PRO features plus..., 250 meeting participants, User management, Feature management, Salesforce.com integration, and 5TB cloud storage. A red box highlights the "Click here to compare all of our plans." link from the previous screenshot, which is now part of the dialog's content.

## 7) Logmein / GotoMeeting...

Picture

Gotomeeting was a Citrix company until bought out by LogMeIn. We are now dealing in a very monopolistic marketplace.

There is a free version of this... see (1).

With the free version, you get a url...

<http://www.gotomeet.me/yourName>

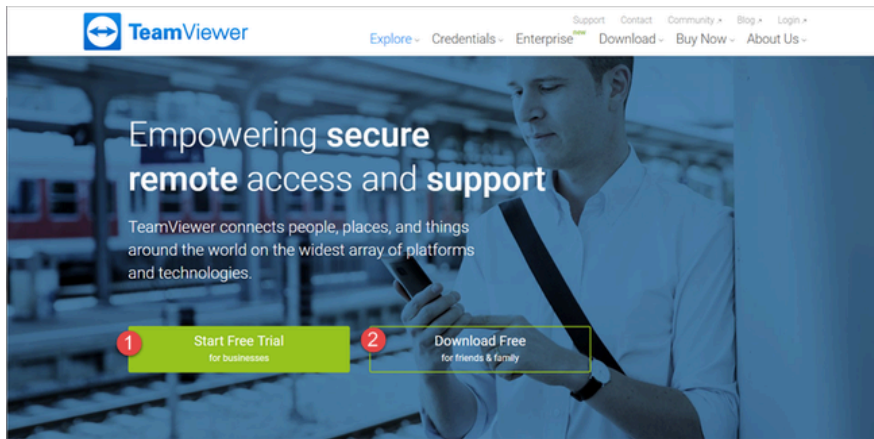
You can send folks there and they can click to join your in a meeting. You get desktop sharing, audio and chat. I don't believe you get any whiteboard tools which are really valuable.

I used logmein for many years. I finally canceled my account due to cost in 2017, and I used logmein so long, I can never remember the url for my own GotoMeeting account...

The screenshot displays the GotoMeeting pricing page. At the top, there are navigation links for FEATURES, PRICING, SOLUTIONS, RESOURCES, SUPPORT, JOIN A MEETING, and HOST A MEETING. Below the navigation is a search bar and a 'Try It Now' button. The main content area is divided into three columns representing different pricing tiers: Starter (\$19/mo), Pro (\$29/mo), and Plus (\$49/mo). The Pro plan is highlighted with a red border and labeled 'MOST POPULAR'. Each tier lists various features such as Web audio, Screen Sharing, 1-Click Meetings, Dial in conference line, HD video conferencing, Drawing Tools, Recording, Personal Meeting Room, Mobile Apps, Keyboard & Mouse Sharing, Call Me, Software Link, Active directory, and Sightboard. A red box highlights a link that says 'Want GoToMeeting Free? Sign up here' with a red circle containing the number 1 next to it. Below the pricing tiers, there is a 'PRICING FAQS' section with the text 'Get answers to all of your questions.' and a 'Show All | Hide All' link at the bottom left.

## 8) Team Viewer

Team Viewer is the vendor free LogMeIn users flocked to when LogmeIn announced the end of free use. Unfortunately, it was seemingly more setup for a Rescue and remote IT management application, so the most basic uses were not as intuitive, and just getting the proper client/server/host software loaded was very confusing



To be clear, it was/is an incredibly powerful tool, but they just didn't have the interfaces and download packages designed for non-technical user understanding.

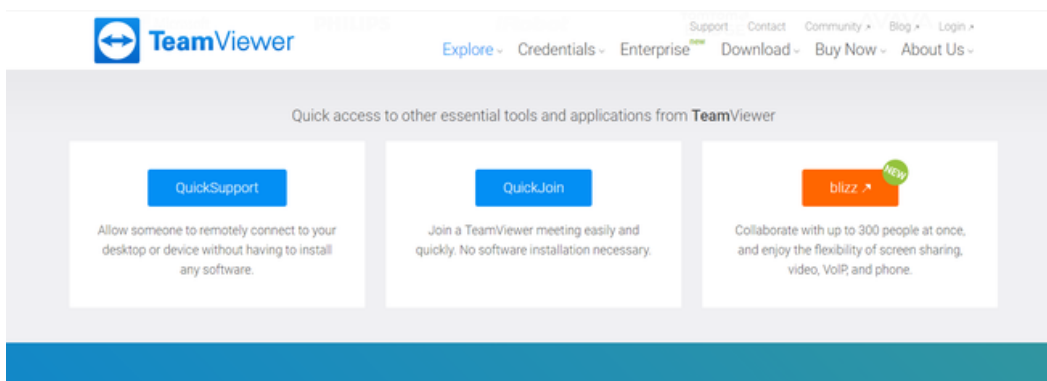
They have since upgraded/simplified their site/service. Truthfully, it still isn't as easy/intuitive as logmein, but they are more customer centric, and that wins out in this case for sure.

If you are looking for free version, you simply click on (2) and it will take you to a download  
Picture

### === QuickSupport and QuickJoin ===

If you scroll down the home page you will see this -- and this makes life much easier for those wishing to provide assistance to less technical folks as well as those seeking to have meetings with others.

Again, this is on the HOME page.. and it's view-able in PCs and Macs, but NOT on Chromebooks due to technical reasons.



If the person you are assisting clicks on quick support, a small server/host application will download -- they'll then be presented with info to be given to the person seeking to provide support and that will

provide access to their machine. If the goal is to load teamviewer onto someone else's machine for regular use/access, then this system can be used to gain initial access, and the remote admin can then download and install team Viewer in full.

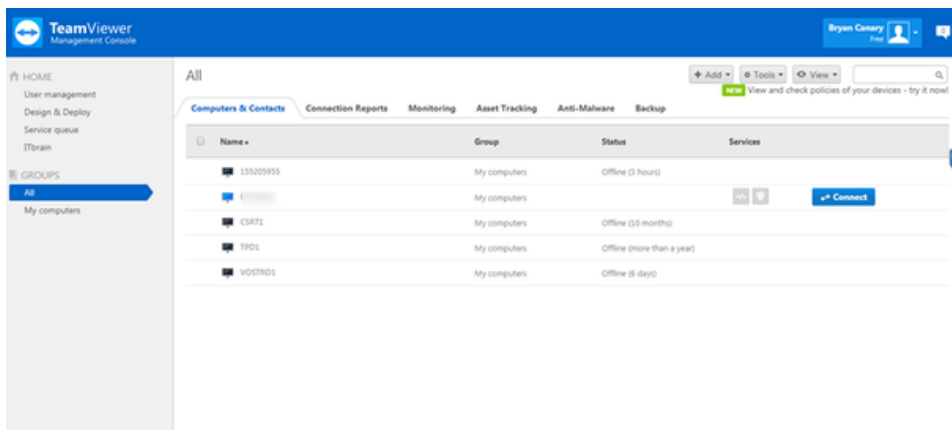
### === Blizz ===

Blizz appears to be a partnership between Team Viewer and Blizz to enable larger meetings (up to 300 people) as compared to team viewer max support (25 people). I don't have any experience with this at this time.

Picture

### === Web based Admin ===

This is the web based admin console for team viewer. Everytime I come to this I feel like I'm missing some functionality. I don't see things that I feel like I should be seeing because I am use to LogMeIn. Also the preference towards network admin throws me off as that is not what I use this for, but the functionality for that is everywhere.



### === More Confusion -- 2 Software Components (a host/client combo and a client only) on my Windows Machine ===

Below is an example of the type of confusion encountered with Team Viewer software components. When I go to my windows start menu and type "Team Viewer" I actually am seeing two options for Team Viewer. One says Team Viewer 12 and the other just says Team Viewer. I've opened both on the screen below.

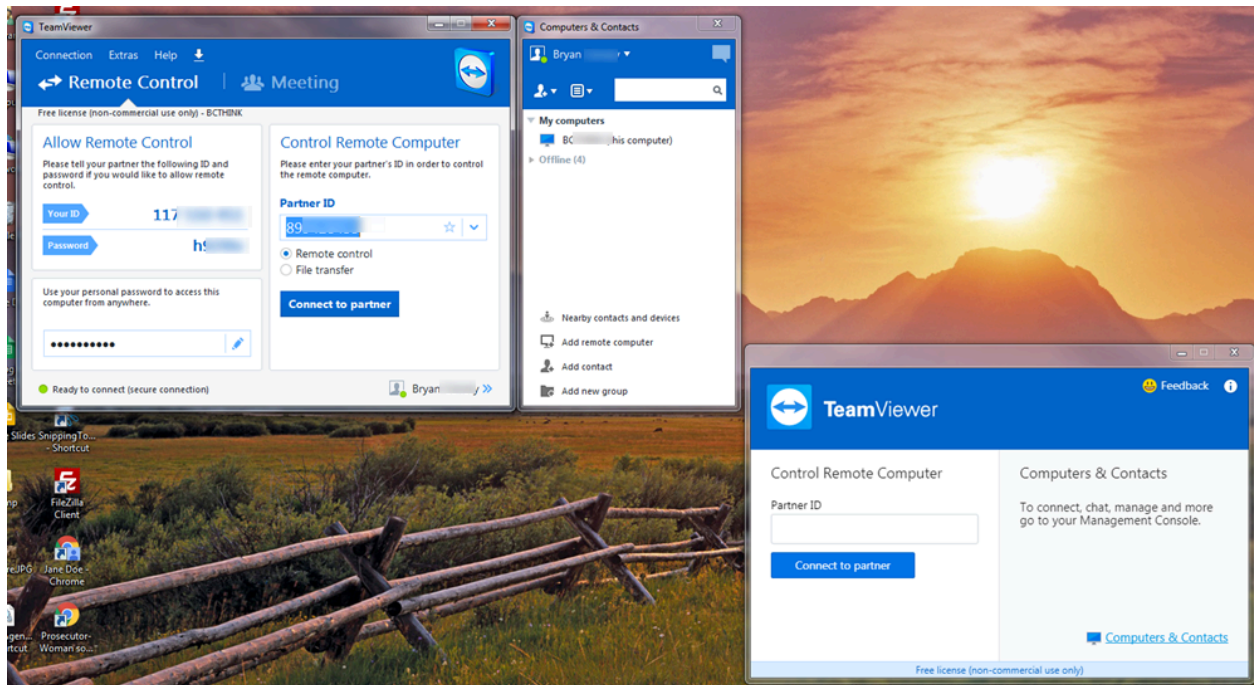
The one on the upper left (that looks like two windows teathered together) is a combination of Host and Client software interface.

The one in the lower right is a client utility only -- and it is on my machine because I have the team viewer extension loaded in Chrome...

The fact that they don't identify what these are from a vocabulary standpoint in both the menu options in Windows and the title bars of the windows themselves is incredibly frustrating. Even more confusing is the fact that only the utility in the upper left shows up in the Add/Remove programs portion of windows. If you have the other windows showing up and you want to get rid of it, start by removing

team viewer extensions from all of your browsers, as that may be how that one is being managed (not common for windows machines).

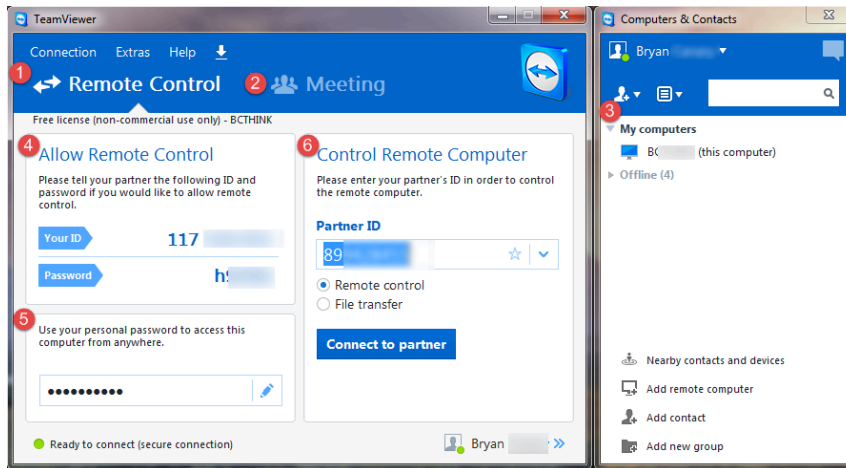
Picture



**=== Their master Server/Host - Client Software Interface -- Too much disconnected info in one view, but it works once you figure out what's what... ===**

I think one of the biggest problems i have with this interface is that these items all showing on this screen are typically found "on separate areas of a admin section" Most especially the box in the bottom labeled (5)....

- 1) The screen you are on (1) ...
- 2) Screen sharing admin interface (2) -- comparable to goto meeting...
- 3) A way to view computers in your account (but getting into your account is funky, and this window is shown and hidden via the >> symbol in the bottom right corner of the left window). It would be a lot more intuitive if this screen was shown and hidden from something in the top right corner of the left window... but they didn't ask me...



4) Host -- Attended Access -- This is your "Server/Host" Authentication Information for attended access -- When you want to allow someone to control your computer, this gives you a computer ID and password for that type of support. The other computer will reach out to the team viewer network and it will locate this computer with this info and it will use the password for authentication.

5) Host -- Unattended Access - This is the password you would use for unattended remote access -- -- this is a password you'd enter if you wanted to access this computer from another Team Viewer client -- but one confusing part here is that it makes you think you might need the computer ID to do that too.. when in fact, this is a password you'd use if you clicked "connect" from your own web console (I think...) This box has no header and while in theory it is related to Allow Remote Control, it is all rather confusing with their presentation of it (UPDATE: This has changed some in version 12)

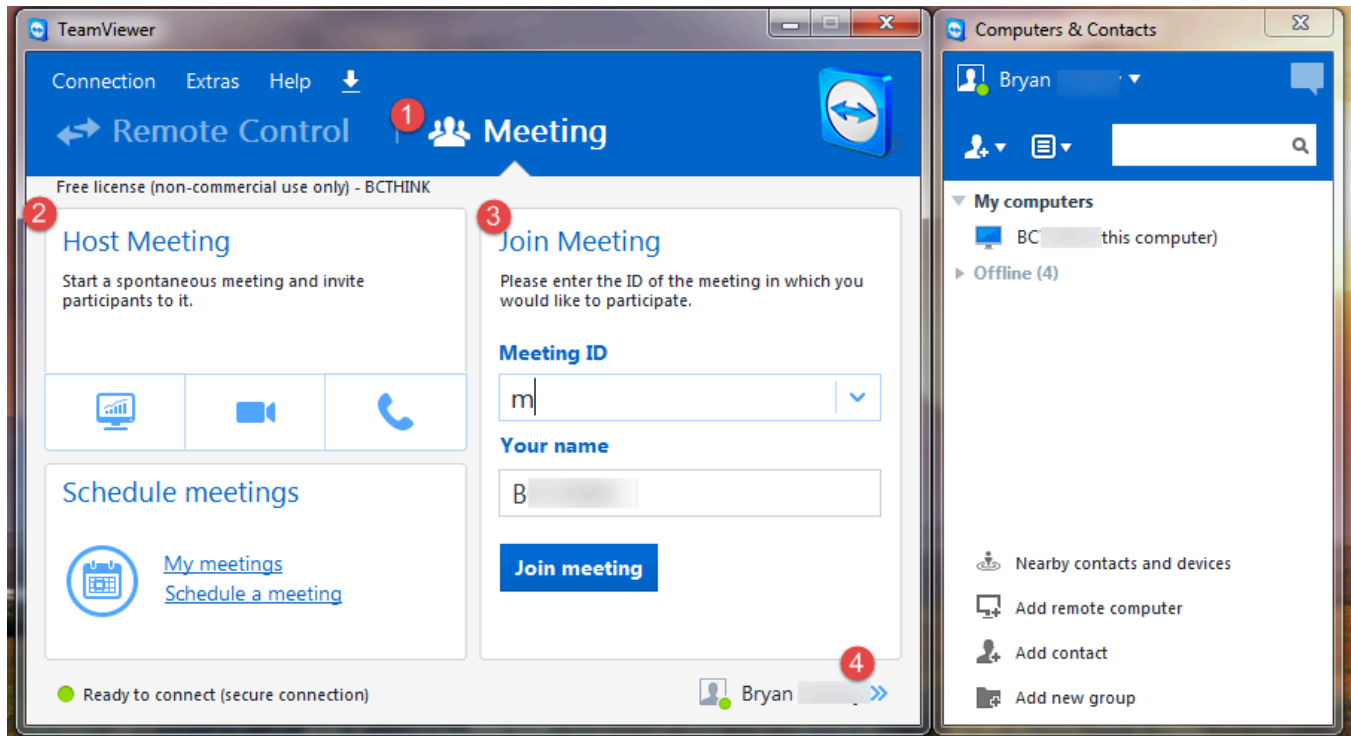
6) Client Interface -- This is their client logon interface

While it's nice all of this is "in front of the user" the design choices for information presentation are not inline with what most of us are seeing in fully web based programming, and that in fact makes it confusing in an odd way until you get the hang of it. Not using tech terms like Host Attended, Host unattended and Client interface for something like this in fact makes it more confusing as opposed to less in my opinion. (but again, nobody asked me)

### === Meeting ===

When you click on the Meeting Icon (1) below, you will see (2) Host Meeting and (3) Join meeting. Straight forward enough, but remember to join a meeting you can also just go to the homepage of their website too.

BTW, click on the >> where (4) is , and you will toggle that extra panel to the right on and off...  
Picture



### === Summary ===

This does everything logmein and rescue does combined. Incredibly powerful. It just takes a little getting use to the user flow.

This is where you need to be if you want to avoid the Logmein Monopoly.

### === Pricing ===

They have a very interesting business model that is not commonly seen with web services these days -- you pay one price for a license and you have it forever. That said, licenses start out at \$849... so this aint cheap, but they offer their free version for use, and they simply expect business professionals who are using this for commerce to allow karmic law to encourage payment.

## 9) Chrome Remote Desktop

Chrome Remote Desktop is a browser extension. Until you get use to the concept of Chrome Apps (and I still am not...) one of the hardest things with these kinds of tools is simply finding it in chrome...

see Google For Business extended for details on use -- at one point that was T107.2a

### Summary

My life was easier when LogMeIn had a free and affordable license. Everything I needed was in one place and bringing new people up to speed on all of this technology was very easy. It is not as easy now, but thankfully, folks like Team Viewer and Google are still supporting non-commercial users. That is something we should all really appreciate.

## T101.9 - Screen Capture

Screen Capturing refers to 1) taking still screen shots of all or part of your screen and 2) recording videos of your screen often referred to as Screen Recording

### Tools for Still Screen Shots include

1. Options Built into Windows (Mac has options too, I'm not familiar with them)
2. SnagIt By Techsmith
3. Chrome Apps/Extensions

Learning to very quickly take screen snapshots, learning how to annotate those very quickly is essential for communicating faster in the digital age. A picture is worth a 1000 words and when you can make pictures with a few notes with a few clicks, the efficiency increases are astounding.

### Tools for Screen Recording

There are a ton of tools for screen recording. There are free tools and there are paid tools. One popular one is Camtasia. I personal own a BB Flashback recorder. One of the problems with screen recording is editing and others are related to sharing and storing the recording due to file size. Google Chrome has been working on something called Screencastify which looks incredibly promising and integrates very well into Google Drive.

When something like Screencastify becomes mainstream, our ability to help each other with technical issues and with learning is going to skyrocket.

Please see the Knowledge Base the Tech Section of The Soul Proprietor Guide for more on this info. The details related to this information was included there because we broke out many of the offerings into their own pages for some more detailed tutorials, and we expect our coverage of the offerings in this area to grow significantly with time.

## T101.10 - Browsers, Websites, Search Engines, etc

This section was never originally built out...



## T101.11 - Mobile Apps

Mobile Apps are small software programs that are downloaded onto phones and tablets.

One thing that is confusing about mobile apps is that

- some simply provide information
- others provide local storage of data
- others aggregate data without user info
- others are a portal to stream audio and video
- and yet others are extensions of web based database systems and Cloud Software.

Basically an App (short for Application, short for Software Application) is a small program that can be designed to do just about anything that a mobile phone, tablet or website can do...

As an experienced cloud software developer one thing I find interesting is that while they use many of the same programming languages I'm familiar with, they use frameworks and programming ecosystems that are very different from website development as such, my background into the true details of how they are programmed is in fact limited at this time.

The list of apps is endless but the most valuable Apps for me include:

- Banking - Bank of America (the dark forces have the best IT)
- Cloud Drive -- Google Drive
- Cloud Backup -- Crash Plan
- Credit Card Payment Processing -- Square
- Location Services -- Around Me
- Music -- Pandora
- Office Suite -- Google Sheets, Google Docs
- Password Vault -- LastPass
- PDF Scanner -- JotNot
- Social Media -- Facebook, Twitter
- Photo Management -- PhotoSynch
- Podcast -- The Higher Side Chats
- Retail -- Amazon, Home Depot

## T101.12 - - My Google Bias - Intro To T102

If you've read the companion book with this, you understand that I have a google bias when it comes to cloud service and the wave of the future. If you haven't read that, please do so that you have a better picture of why I have a Google bias.

T102 is in fact simply all things Google as they relate to Technology/IT for a Sole Proprietor.

This is where your journey into your technology future begins...

## Appendix - Email Marketing

Constant Contact and Mail Chimp are the two most common.

VRBO forum has a lot of support for Mail Chimp and none for Constant contact. Most likely because Mail Chimp has free option for life for under 2000 subscribers and under 12,000 emails per month.

<http://rentmoreweeks.com/2016/11/07/mailchimp-vacation-rental-owners-beginners-guide/>

<https://www.lodgify.com/blog/vacation-rental-email-marketing-mailchimp/>