



Remote Worker Decision Guideline



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Introduction

Remote working has never been in so many individuals minds as right now! We have an unprecedented move to push our work force remote in a very short amount of time. To that end we are producing this paper to help guide you in your decision process and we hope you find it helpful. Should you need further assistance please email steam@fusion-it.net and we will be glad to assist you.

Step 1 – Can you even go remote?

Take a close look to see if you even **have the capability** to work remote if given the opportunity. You should begin with a review of your the hardware requirements needed to process information and support the applications you use.

Hardware

Here are some examples of hardware limitations that might prevent remote work:

- Heavy graphic environments (ultra-high resolution monitors and graphic boards) that rely on shared resources. CAD/CAM that leverage large files stored on local servers is an example of this type of extreme hardware dependency.
- Large CPU utilization, large memory requirements and use of solid-state drives as minimum requirements to run the applications.
- Specialized workstations requiring 3 or more monitors.
- Requirements for devices like scanners, plotters or specialized printers.
- Heavy local LAN based traffic , such as the need to constantly review large files or work with non-SQL databases.
- Computers tied directly to manufacturing systems (shop floor), data collection devices, security systems or other similar systems can impact the ability to go remote (especially when combined with some of the above requirements).
- Retail POS systems with cash drawers, credit card readers and the like.

Software

Just as hardware can be a limiting factor, software can even also be a constraint.

- Software requiring a local activation hardware device in order to run (i.e. a proximity key or fob) will limit where the application can used.
- Licensing limitations restricting software to a single machine. This is an issue that should be addressed on a case by case basis.
- Complexity of multiple software packages needing to be set up in order to run correctly. Having your ERP system connecting to your accounting system may require special considerations.
- Many software packages work extremely well over remote VPN connections. Items in the standard

Microsoft Suite (Word, Excel, PowerPoint), for example, all tend to work very well with remote storage.

- Cloud based software. If most of your core applications are cloud based, they will likely provide for an easy transition to the remote worker.

The Practical Averages

Fortunately, most business environments are built on standard computer systems that utilize the following:

- Single CPU (can be multiple core)
- Minimal memory requirements
- Standard drives (SATA – keep in mind that SSD replacement costs are minimal today)
- One to two monitors at standard VGA or HDMI resolutions.

After this initial review, you may discover that you only have a few systems that would have difficulty going remote. We can then concentrate on those which will allow you to leverage remote operations.

Step 2 – Ways of going remote

There are several ways of going remote with your staff. Let's cover these so you have a good handle on which way you want to go.

VPN

Using a VPN (Virtual Private Network) you are basically extending the “network cable” from your remote computer to the business network. The VPN provides for security in the remote connection.

Here are some of the pros and cons of a pure VPN (VPN where the remote computer is directly accessing the corporate resources but processing data locally).

- **Con - Bandwidth:** The amount of actual bandwidth available for the connection between the remote computer and the business network. Most home network connections are asymmetrical in nature where the download speed is much faster than the upload. Even with a good home internet connection, speeds may be 100Mb down and 10Mb up. It is the 10Mb up that becomes the limiting factor in data transfers and the ability to push data from the remote system to the business network.
- **Con - VPN Concentrator:** Even if there is a VPN appliance in place it usually has been designed for the casual remote worker as opposed to a massive change in work style (an entire organization working remote). The VPN concentrator may not be able to sustain the additional load of multiple VPN connections coming into the main business.
- **Pro – Security:** The security of a VPN allows for a safe connection from the remote computer to the main business office. Most VPN software is installed on company computers which also allows for proper security setup on the computer itself.

Remote Desktop

The Remote Desktop, often referred to as RDP (Remote Desktop Protocol), allows for screen and keyboard information to be sent back and forth from a business-based computer to a remote computer.

Here are some of the pros and cons of RDP.

- **Pro – Bandwidth:** Unlike a VPN, RDP usually requires under 1Mb in bandwidth.
- **Con – Security:** Security of the RDP protocol can be open to spoofing and is generally not considered a “secure” connection. Fusion IT’s position on RDP is to run the remote desktop session over the VPN. Security concerns are greatly reduced when coupling VPN and RDP in this way.
- **Con – Video:** High resolution monitors and video are limited under remote desktop and tend to become “choppy” or pixelated, especially when used over long periods of time.
- **Con – Remote Computer:** If the computer that is running the remote session is a corporately owned computer and is being managed within the corporate security policies, then security of the device is generally not an issue. However, if the remote desktop is utilizing a home computer system, it can inadvertently compromise the corporate environment, by exposing it to viruses, malware or even ransomware that may be present on the home system.

Step 3 – How long will you be working remote?

You must weigh out the costs of the investment in the remote worker. If this is going to be a long-term solution and the applications/environment is capable of remote operation, then the business may want to consider the use of a remote company computer operating over a VPN.

If this is meant to be a short- term or emergency-based solution, then the business might want to consider Remote Desktop may be an acceptable short-term option.

Step 4 – Cost Examples

Here are some example cases and general price ranges for the given solution. Please note that these are average estimates just provided to help give comparisons to assist you in making your decision. Ultimately please leverage a trained Solutions Expert to provide you with final numbers.

Pure VPN with Corporate Remote Computer Full Time

- | | |
|-----------------------------------|------------------------------|
| • Computer | \$1000 - \$2000 |
| • Monitors (1 to 2) | \$0 - \$500 |
| • Applications | \$0 - per computer |
| • Impact at Corporate (VPN Needs) | \$0 - \$100 per computer |
| • TOTAL | \$1000 - \$2600 per computer |

Pure VPN with Corporate Remote Computer Part Time

- | | |
|---------------------|-----------------------------|
| • Computer | \$1000 - \$2000 |
| • Monitors (1 to 2) | \$0 - \$500 |
| • Applications | \$150 - \$2000 per computer |

- Impact at Corporate (VPN Needs) \$0 - \$100 per computer
- TOTAL \$1150 - \$4600 per computer

Remote Desktop with Corporate Remote Computer FULL Time on VPN

- Computer \$1000 - \$1500
- Monitor Needs \$0 - \$400
- Applications \$0 per computer
- TOTAL \$1000 - \$1900 per computer

Remote Desktop with Corporate Remote Computer Part Time on VPN

- Computer (used) \$300 - \$500
- Monitors (1 to 2) \$0 - \$600
- Applications \$0 per computer
- TOTAL \$300 - \$1100 per computer

Once again, please note that Fusion IT does **NOT recommend** using the Remote Desktop method on home systems by themselves or even home systems with a VPN. The security concerns outweigh the cost in both scenarios.

The above costs are BEFORE implementation and ongoing support.

Step 5 – Make a decision!

There are many things that you need to take into think about when considering the move to a remote desktop solution for your work force and hopefully we have helped you determine some of the first steps. If you would like some assistance from our team of Solution Experts go to www.fusion-it.net/covid19 and Fusion IT will help you determine your preparedness!

Thank you,
Solutions Team
steam@fusion-it.net

