



A SURVEY ON REMOTE ACCESS AND SUPPORT SYSTEMS

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ABSTRACT

Remote Access Software System is used to provide access and support a remote system. It is also used to provide assistance to any issues in the client system remotely. The newest systems uses GPU (Graphics Processing Unit) unlike the existing remote access systems that use CPUs. It uses Windows Media Foundation Software Development Kit which is available in the Windows Operating Systems to utilize GPU in order to utilize the maximum computational power of the system. Additionally, the DirectX Application Program Interface and in-built Video Processor by the Windows Media Foundation are also used by the system to improve the utilization of hardware resources of the system. To utilize GPU, it uses hardware-accelerated encoding and decoding scheme is also employed. The system simplifies the remote access and reduces the CPU utilization over the existing systems.

INTRODUCTION

The remote assistance or remote support is a service that allows repairing and diagnosing of computer systems through the internet. In the case of software tool vendors, remote support refers to a resource that is provided at the user's request. This service allows technicians to access their customer's systems to provide various services such as tool updates, patch installation or application performance evaluations. Remote access is the ability for an authorized person to access a network or a computer from a geographical distance through a internet connection. Remote access enables users to connect to the systems they need, whenever they are physically far away. This is extremely important for employees who work at branch offices, or telecommute or traveling to work. Remote access enables remote users to access files and other system resources on any devices or servers that are connected to the network at any time, increasing employee productivity and enabling them to better collaborate with fellow associates around the world.

REMOTE ACCESS SYSTEMS

TEAMVIEWER

Team Viewer is a proprietary software application for remote control, desktop sharing, online meetings, web conferencing and file transfer between computers. The software is distributed by the German company TeamViewer AG, which was founded in Göppingen, Germany in 2005. As of 2018, TeamViewer has local representations in Australia and the United States.

TeamViewer and similar services have been used to commit technical support scams via telephone calls. People are called, either at random or from a list, by criminals claiming to represent a computer support service that has identified the victim's computer as being infected by malware, most often using the name of companies such as Microsoft. They then ask the victim to give them access to their computer by installing a remote control service, which can allow the attacker to infect the computer with malware or to delete or copy personal files or to pretend to have removed malware for which they charge a fee.

ANYDESK

AnyDesk is a German proprietary remote desktop application distributed by AnyDesk Software GmbH. The software program provides platform independent remote access to personal computers and other devices running the host application. It offers remote control, file transfer, and VPN functionality. AnyDesk uses a proprietary video codec "DeskRT" that is designed to allow users to experience higher-quality video and sound transmission while reducing the transmitted amount of data to the minimum.

With its three megabyte total program size, AnyDesk is noted as an especially lightweight application. AnyDesk can be installed on computers and smartphones with full administrative permissions, if the user chooses to do so and can therefore be used to gain full access to a device via the internet.

CHROME REMOTE DESKTOP

Chrome Remote Desktop is a remote desktop software tool developed by Google that allows a user to remotely control another computer through a proprietary protocol developed by Google unofficially called "Chromoting". It transmits the keyboard and mouse events from one computer to another, relaying the graphical screen updates back in the other direction, over a network. This feature therefore consists of a server component, for the host computer, and a client component on the computer accessing the remote computer.

The Chrome Remote Desktop client was originally a Chrome extension from the Chrome Web Store requiring Google Chrome; the extension is deprecated, and a web "portal" is available at remotedesktop.google.com. The browser must support WebRTC and other unspecified "modern web platform features". The client software is also available on Android and iOS.

If the computer is to host remote access, such as for remote support, a server package is downloaded. Chrome or Microsoft Edge must be used as both support chrome extensions. This is available for Microsoft Windows, OS X, Linux and Chrome OS.

TIGHTVNC

In computing, TightVNC is a cross-platform free and open-source remote desktop software application. Constantin Kaplinsky developed TightVNC, using and extending the RFB protocol of Virtual Network Computing (VNC) to allow end-users to control another computer's screen remotely. TightVNC uses so-called "tight encoding" of areas, which improves performance over low bandwidth connection. It is effectively a combination of the JPEG and zlib compression mechanisms. It is possible to watch videos and play DirectX games through TightVNC over a broadband connection, albeit at a low frame rate. TightVNC includes many other common features of VNC derivatives, such as file transfer capability.

SPLASHTOP

Splashtop, previously Splashtop Remote, is a family of remote-desktop software and remote support software, developed by Splashtop Inc. Splashtop enables users to connect to and control computers from desktop and mobile devices. Unlike products using Microsoft's Remote Desktop Protocol, Splashtop uses its own closed, proprietary protocol. Splashtop remote desktop applications map the screen of the mobile device to the screen of the remote computer, so that users can interact with the remote computer. For desktop computers, the keyboard and mouse of the client computer will control the same functions on the server computer.

Where a mobile device controls a desktop computer, Splashtop uses touch-to-click controls and zooms using the pinch gesture. Gestures are used to replace mouse and keyboard controls. For example, a two-finger drag gesture is used to scroll within windows, generally mapping to the mouse wheel controller. Splashtop uses a modified version of the mobile keyboard which includes special keys, such as Ctrl, Alt, or Delete.

GOTOMYPC

GoToMyPC is remote desktop software that allows users to access computers remotely using a web browser. It was developed by ExpertCity and launched in 1998. Citrix Systems acquired ExpertCity in 2004 and maintained the GoToMyPC brand and services. Citrix spun off the GoTo products, which were acquired by LogMeIn in early 2017. There are three versions: "Personal", "Pro", and "Corporate".

GoToMyPC required Microsoft Windows on both ends, but ExpertCity planned to release versions compatible with Linux, Macintosh, Palm, Solaris, and Windows CE. The company also planned to create an "infrequent flier" plan for users who only need access during occasional travel times.

APPLE REMOTE DESKTOP

Apple Remote Desktop (ARD) is a Macintosh application produced by Apple Inc., first released on March 14, 2002, that replaced a similar product called Apple Network Assistant. Aimed at computer administrators responsible for large numbers of computers and teachers who need to assist individuals or perform group demonstrations, Apple Remote Desktop allows users to remotely control or monitor other computers over a network. Prior to version 3, ARD encrypted only passwords, mouse events and keystrokes; and not desktop graphics or file transfers. Apple therefore recommended that ARD traffic crossing a public network should be tunnelled through a VPN, to avoid the possibility of someone eavesdropping on ARD sessions.

ARD 3.0 has the option of using AES 128 bit, the same as a basic SSH server.

LITEMANAGER

- LiteManager is remote desktop software for Microsoft Windows for remote control of computers over the Internet or remote administration in a LAN. LiteManager provides remote access from one PC to another PC.
- LiteManager consists of two separate modules:
 - The Server module (LiteManager Server): needs to be installed on the computer which you want to access remotely.
 - The Client module (LiteManager Viewer): needs to be installed on the computer which you want to use to access remote computer.
- NOIP program is designed for connecting the client module Viewer and server module Server by ID. The program is available free of charge and comes in a package along with the client side Viewer.

CONCLUSION

In addition to the remote access and support, Unattended access support is also provided by the software. Unattended Access enables a Viewer to access the system Without client's Presence at the client machine. Also One Viewer to Multiple Clients Support is also achieved by the software. Video Conferencing, Meetings, Remote Monitoring and more features are also provided by the Software. As a result of DirectX, GPU Utilization is increased. Even Zero latency is achieved .Includes features like Pause, Play and Viewer Reconnection Support.

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