

1. – Overview

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1.1 – Features

SparkView is a RDP, VNC, SSH, TELNET, SMB2, SFTP proxy (gateway) with HTML5 client. It uses WebSocket, Canvas, Web Audio, local storage and more HTML5 features to implement the Remote Desktop (RDP), RFB (VNC), SSH, SMB2 protocols. It has following advantages compared with traditional (native) clients:

- Zero installation on client side, no Java, no flash, no ActiveX, only HTML and JavaScript.
- Zero maintenance and management on client side. You don't need to worry about if the user has installed the newest version of SparkView, JRE or flash player.
- Same interface and experience for final users.
- One solution runs on almost all platforms: Windows, Linux, Mac, iOS, Android, BlackBerry and Playbook OS etc.
- Better performance. It's even faster than the native RDP client.
- More features like session recording, printing, session shadowing with multi-cursors etc.
- Control resource access and redirection in one place (gateway).
- OAuth2, Active Directory, LDAP, RADIUS and Okta integration.
- Connect to Hyper-V console.
- RDP connection pool. Connect to your desktop and RemoteApp instantly. No waiting any more.
- Supports RDP, RFB(VNC), SSH, SFTP, Telnet and SMB2
- Seamless integration with many firewall vendors like F5, Fortigate, Pulse Secure, Sophos, Array Networks, Cisco, Juniper, Dell SSL VPN.

RDP features implemented in SparkView:

- TLS (SSL over RDP) and NLA (Network Level Authentication). CredSSP version 6 (Microsoft CredSSP updates for CVE-2018-0886)
- RemoteApp: it's the first time that you can use RemoteApp everywhere (on a Mac, iPad, Android etc)
- RemoteFX (LAN only)
- Touch remoting on current Windows and Windows Server versions.
- Seamless clipboard redirection which supports plain text, Bitmap, JPG, WMF, RTF and HTML formats.
- Easy printing, don't need to install drivers for client side printers.
- Bring sound to local or leave it on remote computer.
- Remote audio recording.
- File downloading and uploading; Gateway side directory sharing.
- Smart card redirection.
- Lossless bitmap compression, give you the best quality you can get.
- Supports Remote Assistance.
- Client side IME support. You can use client side IME directly (even Microsoft RDC cannot do that)

- International keyboard support.
- VirtualBox RDP video redirection support.
- Supports Multi-Monitor.
- Supports camera redirection.
- Supports scanner redirection.
- Supports native RDP shadowing.

1.2 – Architecture

SparkView basically consists of two components:

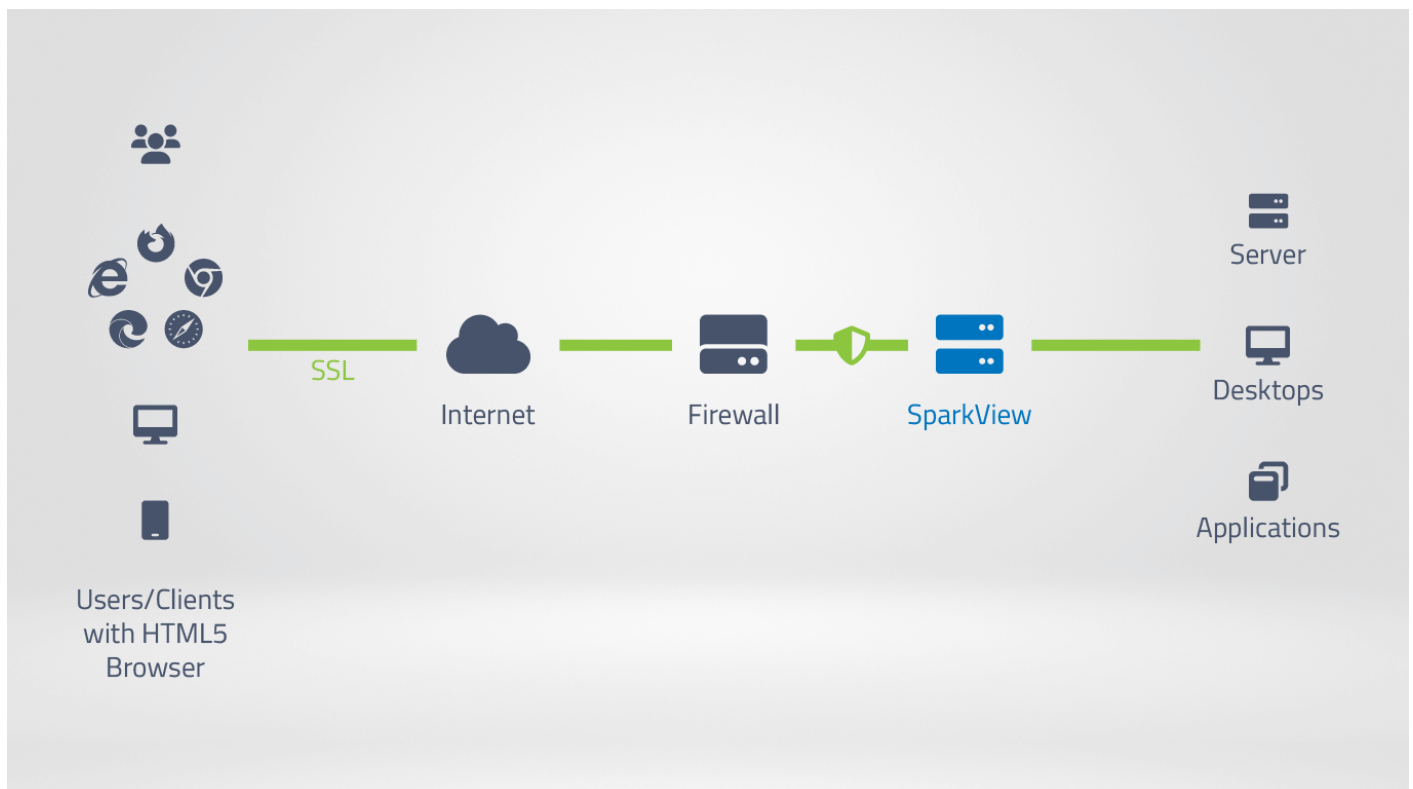
1. **Gateway**

A web socket server and simple web server that is used as a basis and connection node.

2. **Web resources**

The resources are used by the gateway for display and data supply and consist of HTML, CSS, Javascript and JSON files as well as images. The files are installed on the gateway by default, but can also be installed on any web server.

This diagram describes how the components of SparkView work together:



1.3 – What's the difference

SparkView is quite different compared with other similar solutions:

- It is designed to be a replacement of native client, not a complementary solution.
- It is designed for speed. It's even faster than our Java applet.
- It is feature rich, not feature less compared with native clients.
- SparkView only features:
 - RemoteApp (not start program on connection)
 - Session Recording/Playback
 - Session Shadowing
 - Hyper-V console connection
 - Network Level Authentication
 - Current Windows and Windows Server versions with touch remoting support
 - XRDP (Linux) support
 - RD Web Access Portal Integration
 - OpenID integration
 - Support both PostScript and PCL printers.
 - Support more audio encodings. 80% less bandwidth usage (when playing audio) compared with other HTML5 solutions.
 - Client side IME support. You can use client side IME directly (Microsoft RDC doesn't support client side IME).