Solutions White Paper

100% Web-based Easy Remote Desktop Access & Virtual NOC Co-Display using SitScape

Access, Command and Control, Visualize and Co-Display a mixture of multiple remote desktops, plus any other type of content in a visual User-Defined-Operating-Picture web-environment for virtual distributed Network Ops Centers

Business Challenges

There are a few remote desktop access and pixel-level display challenges facing today's business:

1. How to access a remote desktop from a Web browser easily?
2. How to access a remote desktop located inside an internal network using a basic Web browser outside of the network and firewall?
3. How to access and co-view multiple remote desktops concurrently in a single common operating picture / dashboard view using a web browser for command and control or analysis?
4. How to co-display those concurrently in a big display such as a Video Wall in a Network Operation Center (NOC) or Security Operation Center (SOC)?
5. If a corporation has multiple locations; or multiple organizations at different locations want to collaborate and share information, how to mix remote desktops from different locations into a single virtual aggregated operating picture, and can view, co-display and control each remote desktop with a standard Web browser and no software download?
6. How to mix those remote desktop display-based views with other types of local or web content such as web applications, streaming video, Web pages, analytics charts, pictures, maps, documents in a single virtual User-Defined Operating Picture (UDOP)?
7. How to easily share and collaborate over that virtual environment across multiple users with fine-grained security?
8. How to support mobile access, command and control and display on mobile devices such as iPad, iPhone and Android device of those remote desktops and other content?

Limitation of Current Approaches in the Market

While there are a number of technologies on the market, they all have some serious limitations.

On the aspect of NOC Pixel Aggregation and Visual Display on large video wall:

1. The majority of traditional technologies for big video wall display are A/V centric, and require heaver-duty A/V specific hardware to mix outputs of various PC display into a new A/V source and then display that into a video wall. It has a big footprint, is proprietary and generally not flexible.

a. Those technologies, by nature, are less IT friendly due to their A/V-centric legacy. They are not very compatible with today's TCP/IP network, so they are very much display-centric and have less access and control capabilities.

b. Those technologies are also more location specific, for example limited in a single NOC or Watch Floor by default; they are not very flexible to support multiple locations or mobile access.

c. It usually uses a lot of hardware and proprietary software, and not web-based.

2. There is a new-generation technology emerging that is more IT or software-centric.

a. It generally involves installing special PC software on each and every remote host computer to grab the display pixels on PC screen; it then uses another PC on the network to do the aggregation of those pixels from multiple PCs, manage the visual layout of the mixed desktop pixels, and do final display on a big screen.

b. It also requires an installation of special software on the main display PC for display-mixtures and final display purpose.

c. This approach has a smaller hardware footprint, and is more IT and TCP/IP network friendly.

d. Its main drawback is that it requires installing proprietary software on each and every source PC and on the co-display-management PC. It is not Web-based for source mixture, remote access and display, which makes it very hard to access from other PC/device unless you also install the special software on each accessing device/PC, and they need to be on the same local area network by default. As it is not Web-based, it is also not firewall-friendly, and hard to support remote access from outside of the local network, and also hard to support mobile access.

e. This technology is very focused on and limited on just aggregating pixels from multiple remote desktops into a new console co-display. It cannot add additional own live content into the final display and does not add much more intelligence either. For example, it cannot create own data analytics visualizations and add them into the overall operating picture big co-display by itself.

On the remote access aspect:

1. Traditional remote-access technologies are not web-based, and require you to install remote access software both on each remote host and on accessing PC/device.

2. Those types of remote access software are mainly focused on accessing just one remote host at-a-time. They are more for use-cases such as trouble-shooting, web-meeting and quick remote access. They are not designed to aggregate the display and screen from multiple remote hosts for visual comparison, visual co-display and visual situational awareness purpose.

3. They cannot create a user-defined-operating-picture (UDOP) from multiple sources, can only aggregate remote desktops' pixels, cannot add various internal or external web applications (e.g. cyber, network monitoring tools, SharePoint, service desk, reports etc.), various web sites, video feed, weather feed, analytical charts, documents, images and maps etc. So if the remote desktops are down, nothing will show on the final big display due to its limitation on pixels of other computers only

SitScape's Solution

SitScape provides a simple, light weight and elegant solution to address those challenges.

1. The customer just needs to install the SitScape Server software, which is Apache Web-server based and lightweight. It is possible to use cloud as an alternative.

2. For each desktop that needs to be remotely accessed or displayed, the user just needs to enable either RDP or VNC for Windows or VNC for UNIX. No special software is needed. No RDP or VNC traffic goes outside of your firewall.

3. Using a standard web browser, you can then just connect to those remote desktops, and added them into a Web-based common-operating-picture environment. No software download or special plug-in is needed.

4. You can either just do remote access from a PC or mobile device's browser, or can project this flexible common operating picture on a high resolution video wall for on-going monitoring and display purpose.

5. Any of those remote host PCs can also be virtualized, e.g. can install VMware's VM WorkStation with multiple operating systems in a single virtual environment. The accessing user from a remote location with a web browser can have full access and direct control of those multiple operating systems on that host PC.

6. This solution supports easy, quick remote access and control from any device with a Web browser, including a Mobile device.

7. It also supports visual aggregated *co-display* of any number of remote desktops from multiple locations.

8. Further, it can incorporate and integrate and correlate *any other type of other native data or content* such as any web applications (e.g. cyber or network monitoring tools), live camera feeds, documents, maps, images, data analytical charts etc. and it is not limited to just those pixels of remote desktops only, which is the case for pretty much all other alternatives out there.

9. It is highly collaborative and secure based on SitScape's award-winning UDOP technology

Architecture Overview

SitScape's server software can be deployed (1) in the internal network, (2) on a DMZ or (3) in the cloud, and is very flexible. The diagram below illustrates the DMZ case.

There is no need to install other software on remote desktops/hosts, or on the accessing PC/devices. It works out of the box using standard Web browsers both inside the network and outside of the network.
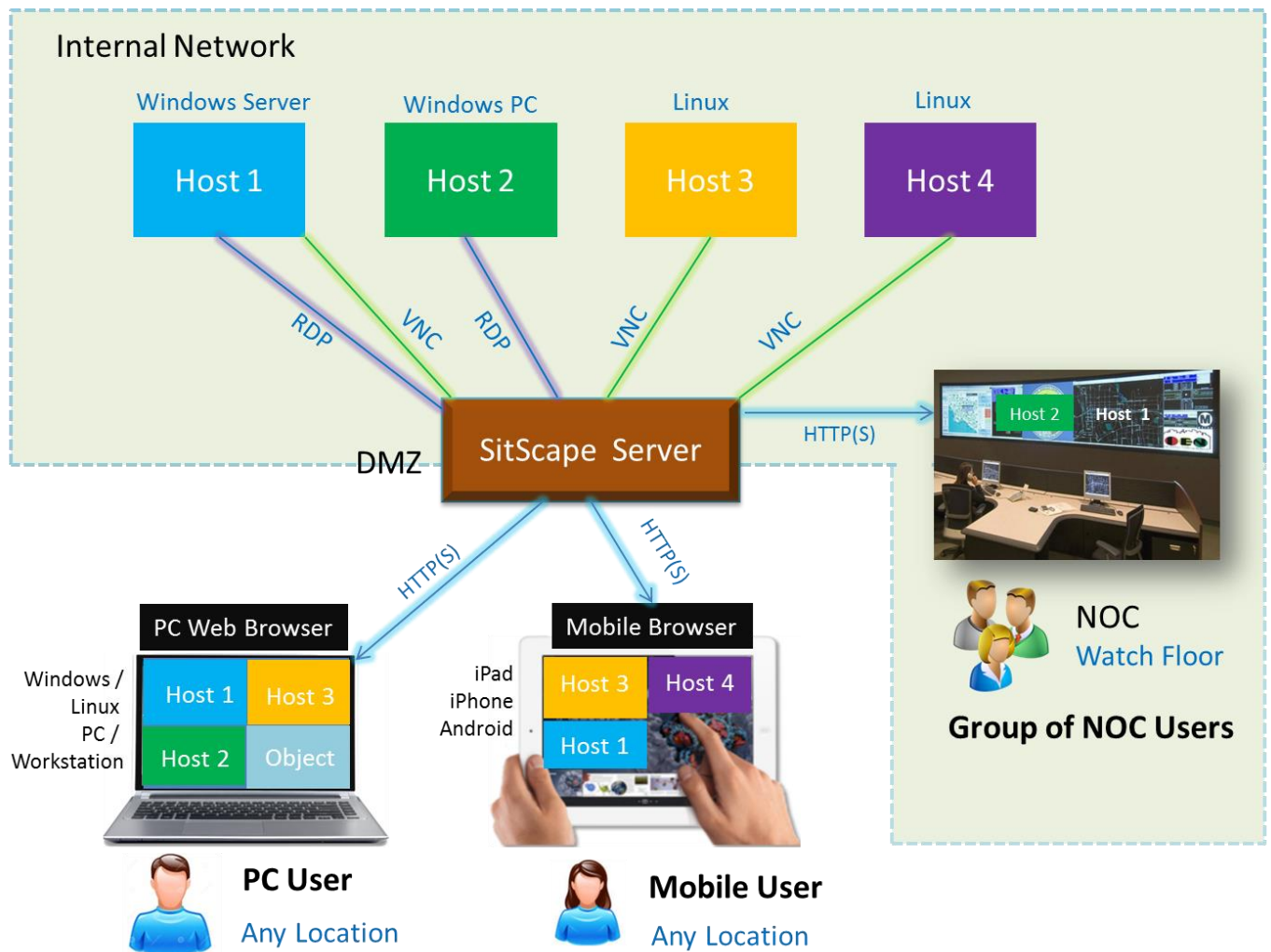

Diagram 1: Overview of the Solution

If there are multiple internal networks on different locations such as from multiple organizations, it is also easy to mix displays and content from multiple networks as well as native content from other sources such as from the Web, or from internal applications or databases using SitScape (note the "Object" area of the screen as a place holder), and support visualization, display, access, command and control, analysis, collaboration and sharing in a single integrated Web environment of SitScape.
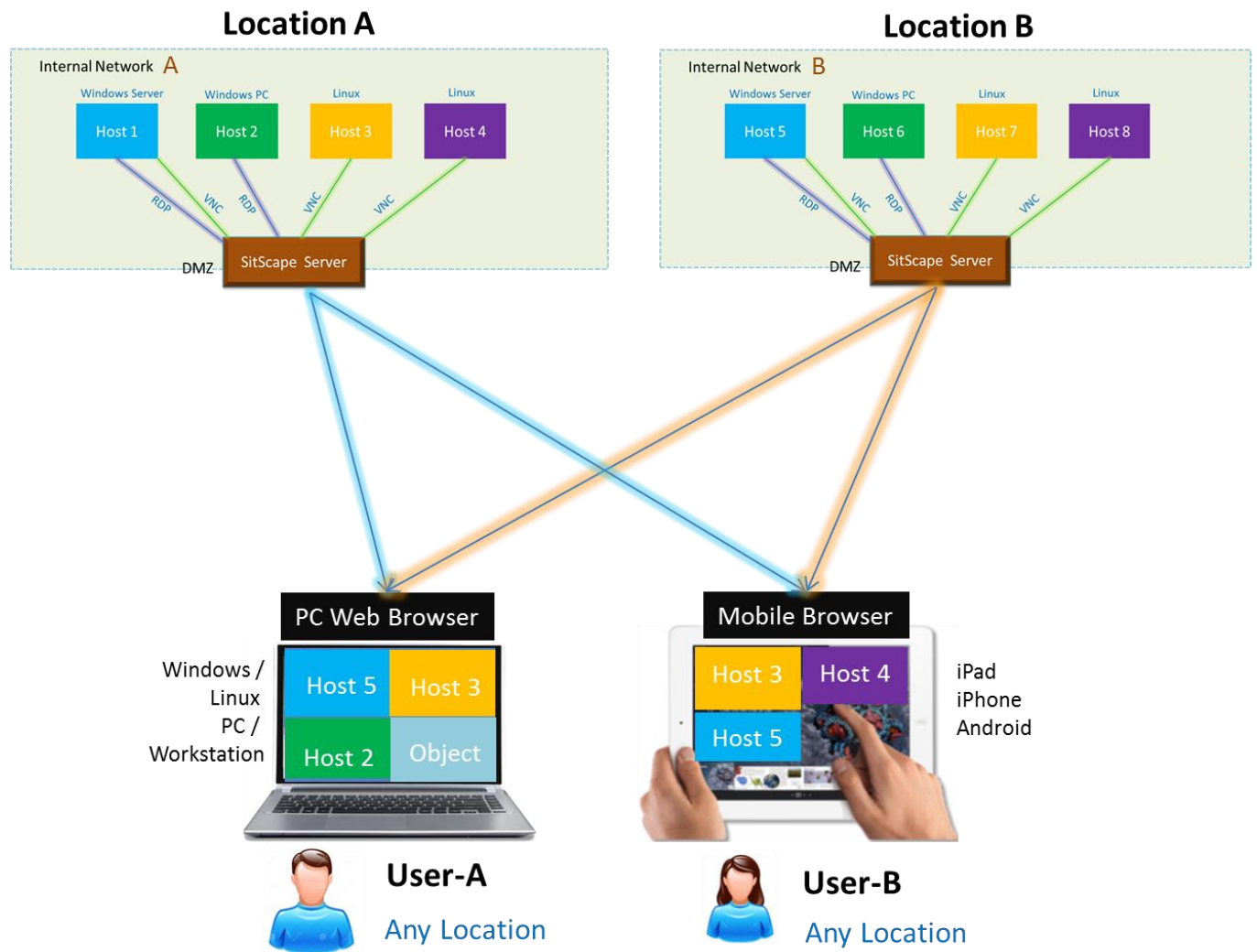

Diagram 2: Access & Co-Display Remote Desktops on Multiple Locations

Learn More

To learn more about how SitScape's technology solutions can help you increase your situational awareness, optimize your analytics-based decision making, improve your secure information sharing and real-time collaboration capabilities, please contact us at info@sitscape.com, or call us at 888-762-6562, or visit our web site at http://www.sitscape.com.

About SitScape, Inc.

SitScape Inc., the recognized leader of software solutions for Intelligent Digital Operations, is trusted by the Federal government and various Fortune 500 organizations for real-time collaboration, agile data correlation, continuous monitoring, analytical visualizations and flexible straight-through-processing (STP) automation. Our solutions support critical decision making at real-time with our self-service, easy-to-use, highly collaborative User Defined Operating Pictures (UDOP) graphical user interface, and the underlying engines with unmatched data correlation, analytics, monitoring/alerting and process automation capability for the next-generation digital operations.