Userful On-Premise Specifications v10

HARDWARE			
Certified and Supported PC models* *Note: Only supported models should be used for deployments	Up to 9 video wall displays and a single 4K video source • Lenovo, HP, or Dell business desktop or workstation with Skylake (6th-gen) i3 or i5 CPU or better • RAM: 8GB	Up to 40 video wall displays and 6k sources: • Lenovo, HP, or Dell business desktop or workstation with Skylake (6th-gen) i7 CPU or newer • RAM: 32GB	Up to 100+ video wall displays and 8k source • Contact Userful
	For more details, see Userful's system hardware guide available at support.userful.com		
Onboard GPU's supported for GPU acceleration	Intel Integrated GPU (Intel HD 530 or newer) GPU Acceleration is important for proper performance		
Cards supported for Nvidia Offloading Feature (Required for deployments over 9 displays and higher than 4k video source)	• GeForce GTX 1050Ti (recommended) • GeForce GTX 1070 and 1080 (for most demanding deployments) Other GTX 9 and 10-series cards are compatible. Cards below GTX 960 or 1050ti not recommended. 4GB VRAM recommended. Note: ensure the PC has sufficient PCI slots and power supply to support the card. In BIOS, default GPU should be set to Intel integrated GPU. Note this is an important feature and not all motherboards have this. DO NOT plug any displays into the Nvidia Offloading Card.		

Network zero client player devices	• No moving parts or operating system; expected lifespan of up to 10 years
	• Supported devices include:
	  • Centerm C75 (HDMI or VGA)
	  • ThinGlobal Minipoint Ethernet (HDMI or VGA)
	  • Thinglobal MiniPoint DS and DS Lite (HDMI)
	  • ViewSonic VMA-25 (VGA)
	  • Atrust M320 (VGA)
	  • and more		

Network Requirements	1Gbps NIC & 1gig uplink port on switch • Up to 25 displays on a video wall OR up to 12 independent displays playing 1080p sources (up to 30 with lower resolution): 10Gpbs NIC & 10gig uplink port on switch • Larger deployments		
Network bandwidth	Varies up to 7Gbps between Userful appliance and zero clients based on the type of session and source being played. Isolated network or subnet is strongly recommended for all zero client receivers.		
External capture cards supported	• DeckLink Duo2: SDI, 1080p (Full HD) @ 60fps, RGB, YUV (4x Inputs) • DeckLink Quad2: SDI, 1080p (Full HD) @ 60fps, RGB, YUV (8x Inputs) • DeckLink Mini Recorder: HDMI / SD, 1080p (Full HD) @ 30fps, RGB, YUVI • DeckLink Mini Recorder 4K: HDMI / SDI, 1080p (Full HD) @ 60fps / 2160p (UHD) @ 30fps • Note: add HDMI support to any of the above cards that use SDI with Blackmagic Micro Converter HDMI to SDI Note that while capture cards are not HDCP compliant but customers can use additional add on devices to deliver protected sources.		

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SOURCE AND PLAYBACK	
Scalability	Video walls of up to 100+ displays from a single PC (up to 24 on standard PC, up to 100+ on Enterprise PC)
Maximum Source Resolution	Up to 8k (7680x4320) on a Professional+ or Enterprise PC, 6k (6144x3072 pixels) on Standard PC. Note: upscaling allows each display to play source at the display's native resolution.
Supported External Sources	Real time video camera feed (RTSP), Live TV, Laptop or PC input, Media player, HDMI and SDI inputs, DVD, Gaming console
Desktop Streaming	Add VNC software to as many desktops as desired and stream multiple desktops onto the video wall in real time over the network. RDP client.
Supported Internal Sources	Video playlist, Interactive Desktop, Full screen browser, Image+video slide show, Desktop applications.

CMS's natively supported	• Browser HTML5 based CMSs
	  • Rise Vision
	  • PADS4 HTML5 Viewer
	  • Display 5
	  • TDM Signage
	  • Beabloo Player
	  • Support for Web-based players such as Appspace
	• Consult Userful about integration of other CMS's; any CMS can play using external player and HDMI capture

Supported Formats/ Containers	Video Codecs FLAC, AAC, H.264, H.265, DV, MPEG2, Theora, Vorbis, VPX, XviD Video Containers AVI, ASF, MKV, MPG, MP4, OGV, MOV Image Formats .gif, .pbm, .pgm, .png, .ppm, .qif, .qti, .tif, .tiff, .jpe, .jpg, .jpeg, .qtif, .webp Other Source Types Flash, HTML5, WebGL, 3d, RDP VNC, RTSP, RTP
Video Output	Maximum output 1920x1080 @ 60FPS (1080p60) per zero client receiver.
Frame rate	30 fps (recommended) 60 fps (increases network bandwidth and GPU resources)
Upscaling Options	Scaling can be done on the server side, on the display side or both. Server side scaling uses cubic lancos. Heavy scaling on the server side increases the number of pixels delivered through the network so may require 10gig NIC on PC and 10gig uplink port on the switch.

Sound Output	• Admin can choose to output sound to:
	  • the output jacks on the Userful host. This limits sound to one audio source.
	  • 3.5mm stereo audio output jack
	  • the display directly (via HDMI cable)
	• Admin can also designate which zero-client device outputs the sound.

Keyboard, Mouse & USB Device Support	Userful's Interactive Viewer feature can be used to control the mouse and keyboard of a video wall, zone or standalone display running an interactive (desktop, remote desktop, or web browser) session.
Supported Languages	• English (en) • French (fr) • Italian (it) • German (de) • Spanish (es) • Brazilian Portuguese (pt_BR) • Russian • Turkish (tr) • Japanese (ja) • Traditional Chinese (zh_TW) • Simplified Chinese (zh_CN) • Korean (ko) • Romanian (ro) • Persian (fa) • Ukrainian (uk_UA) • Thai (th_TH) • Vietnamese (VI) • Nepali (ne)
SETUP AND CONFIGURATION	
Setup	• Simple network zero client player attached to each display • Intuitive drag and drop browser GUI interface accessible from any device • Supports non-standard configurations — such as 1x4 or 1x9 video walls
Install Process & Media	• Downloadable ISO on DVD media or USB key. 20 min install process installs the full (Linux based) server appliance operating system
Server Location	• Userful host can be located anywhere within the LAN, such as in a server room • Userful host can be upgraded or replaced without touching endpoint devices
Software Specifications	Userful is built upon the latest release of CentOS/RHEL and receives regular updates via update tools built into the Userful Control Center web interface.
Displays	• Requires HDMI or VGA connection • Use any commercial or consumer display: LED, LCD, monitor, projector, rear projection display. Heterogenous mix of different sizes and aspect ratios and bezel widths is possible in artistic video walls.
Browser-based Control Center	• Solution is controlled entirely through the browser-based control panel • Intuitive video wall builder with ability to configure the size, bezel, and position of individual displays • Integrated LAN health and status monitoring • Accessible from smartphones and tablets as well as PCs and Laptops.