EUC Score

DEX4DaaS - Measuring and comparing perceived remote desktop user experience in a Cloud PC era

E2EVC 2024, Madrid

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DEX4DaaS
Measuring and comparing perceived remote desktop user experience in a Cloud PC era
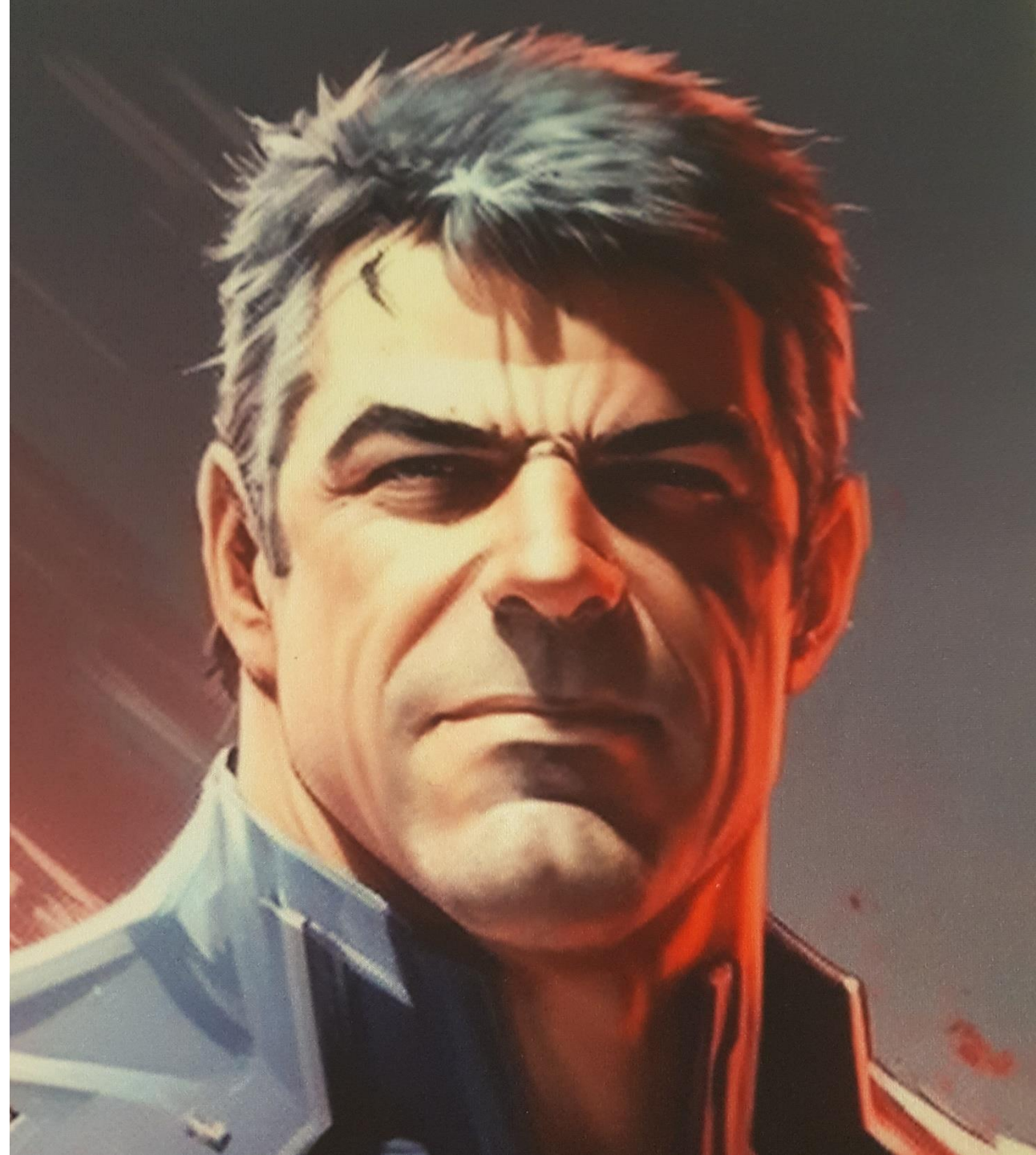
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EXPERTS 2 EXPERTS Virtualization Conference
www.e2evc.com

Prompt: Copilot, create an image of a DEX test lab

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EUC Score

Parallels®

GO-EUC

TeamRGE
Remoting Graphics Experts

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DE eUC FORUM

Experts 2 Experts Virtualization Conference
www.e2evc.com

Gartner defines Digital Employee Experience (DEX) as a strategy that focuses on employees, their **experience**, and their use of technology

DEX4DaaS
You can only score
and optimize what
you can measure!

From a User's Perspective: DEX Quality Criteria
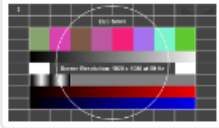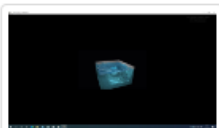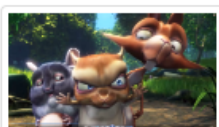
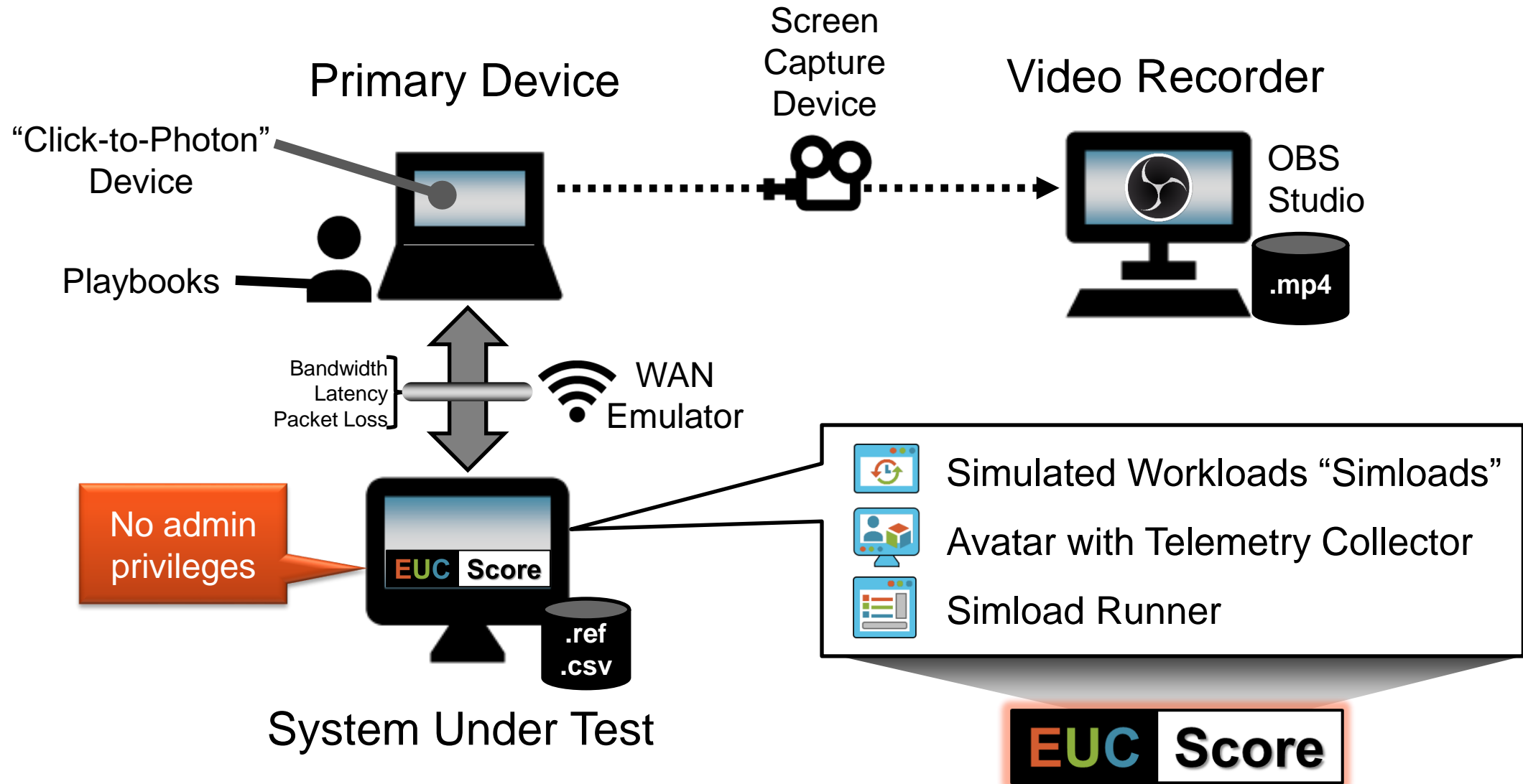|		
	Boot and logon duration	Measure boot time + logon time + user session load time until it is ready for user interaction. Includes identity management and authentication methods.
	Application and content load time	Measure time from user starting an application until the content appears and the application is ready for user input, including access to the storage system.
	User input delay ("Lag")	Measures responsiveness of graphical elements after user-initiated triggers = "time from mouse click to screen update" (lag, latency, system response time).
	Graphics APIs supported	Detect incompatibilities when running graphics applications using the DirectX, OpenGL, Vulkan and WebGL APIs.
	Media formats supported	Detect incompatibilities when opening media files, such as MP4, MPEG, MOV, WMV or AVI.
	Distortion of media	Measure media and screen output quality. Detect image, animation, and audio/video compression and decompression artifacts and anomalies.
	Screen refresh rate	Measure the number of times per second that the desktop or application can draw consecutive images on the screen and in the host frame buffer (frames per sec = fps).
	Endpoint specs and quality	Determine the number of pixels and density as well as the screen's visual dimensions – frame buffer requirements grow with resolution and screen number. Plus periphery!
	Application reliability and stability	Detect application hangs, freezes, crashes or unhandled exceptions. Measure consistency, dependability and robustness of applications.
	Session consistency and resilience	Preserving user state across subsequent sessions. Measure session disruptions, hangs, disconnects/reconnects, availability, timeouts and redundancy.

Build a DEX Test Lab with EUC Score

EUC Score Simload Gallery: https://eucscore.com/gallery.html
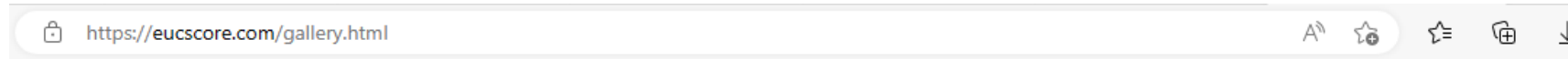
Thumbnail	Simload Type	Description
	System	**SL0-TestScreen** Open a test pattern screen and save system information.
	Primary Base	**SL1-NotepadEdit** Open Microsoft Notepad and start writing a novel with random type speed.
	Primary Base	**SL1-WordpadScroll** Open local DOCX file with PNG images in Wordpad and randomly move pages up and down every second.
	Primary JPEGView	**SL1-JPEGViewStatic** Open JEPG image in JEPG View. **NOTE:** This is the most basic Simload as it includes neither animations nor user interactions.
	Primary JPEGView	**SL1-JPEGViewAnim** Open animated GIF image in JEPG View.
	Primary WMPlayer	**SL1-WMPlayer480pWMV** Open local 480p WMV video in Windows Media Player, switch from windowed to fullscreen mode.
	Persona Base	**SL2-Base** **Foreground**: SL3-AppDialog **Background**: SL1-JPEGViewAnim

+ custom or manual Simloads with real user playbooks

Visual Data Analytics – Sync Player

Primary User Endpoint

User Experience

Remoting Protocol

System Under Test

Telemetry Data User Activities

Title

Specs Button

Maximize Button

Screen Video

System Under Test:
Azure West Europe, AVD NV6 VM, Windows 10 Enterprise for Virtual Desktops, Intel Xeon E5-2690 v3 6vCPUs @ 2.60GHz, 56GB RAM, Virtual HD ATA Device 340GB, NVIDIA M60 GPU (1/2 Card), 8GB VRAM
Connection:
EDIT PROTOCOL AND NETWORK CONDITIONS
Endpoint:
IGEL UD3 (M350C / LX-60) with IGEL OS 11.08.230, AMD Ryzen Embedded R1505G Dual-Core @ 2.0 - 2.7GHz, 4GB DDR4 RAM, 8GB eMMC, AMD Radeon Vega 3 GPU with 512MB shared memory

Activities

SL1-ChromeWaterWebGL on Azure AVD NV6 | IGEL UD3 | RDP UDP (15ms RTT)

00:00:01.000   Date: 2023/01/26 Time: 13:15:14.568 AppName: chrome.exe
00:00:03.776   App launch time: 1536 ms
00:00:04.028   Run action initiated
00:00:09.030   Press G key

Telemetry Charts

CPU|%

Memory|MBytes

Network Received|KBytes/sec

Network Sent|KBytes/sec

GPU 3D|%

GPU Video Decode|%

GPU Video Processing|%

GPU Memory|MBytes

00:00:38

00:00:45

Help

Report

Timeline and Video Controls

Report Button

EUC Score

Glossary – Screen Artifacts / Anomalies

- Block boundary – mosaicking, pixelating, quilting, checkerboarding
- Tiling, striping – rendering each section of an image grid, a tile, or a stripe separately
- Smear artifact – grime, smudge, airbrush effect
- Blurriness – out of focus, fuzziness, unsharpness
- Color artifacts – false colors, color bleeding, color lookup table errors
- Mosquito noise – edge busyness
- Ringing – echoing, ghosting
- Choppy – laggy, jumpy, jerky
- Floating – illusory motion in certain regions while the surrounding areas remain static
- Jitter – loss of transmitted data between network devices, irregular movement, variation, unsteadiness
- Flickering – fine-grain flickering and coarse-grain flickering, irregular or unsteady moves
- Slow motion – action appears to be slowed down
- Video stuttering ("micro stutters") – irregular delays between frames
- Freeze frames – a single frame in a video sequence forming a motionless image
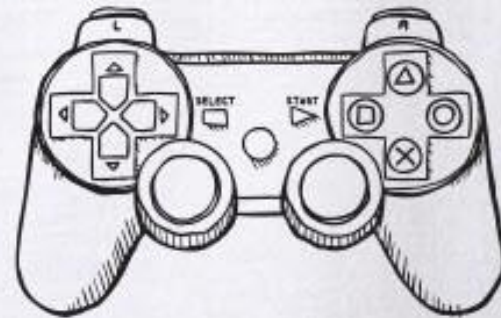
Show Time

Why would you want to use EUC Score?

Diagnose end-user pain symptoms and solve IT support sorrows with proactive synthetic testing

Identify potential pain
Pre-production capabilities, performance and load testing

Examine existing pain
Ad-hoc diagnostics in production environments

Prevent new pain
What-if analysis and comparison of system designs and migration scenarios

Quantify pain relief success
Before-after analysis of system optimizations and software updates

Measure chronic pain
DaaS and VDI service level agreement management

Deliver less pain by design
EUC software quality assurance and quality control

EUC Score Business Model

Community Edition

- EUC Score Toolbox subscription: €0 (yes, it's completely free)

- Requires license and registration

- The test results must be made freely available to the public

- No Simload SDK

- Discounted daily rate if my support is required (we share the results)

Business Edition

- EUC Score Toolbox subscription: €5,000/year or €1,500/quarter

- Requires license and registration

- The customer owns the test results exclusively

- Simload SDK included

- Full daily consulting rate (with or without extra equipment, such as frame grabber and WAN emulator)

Individual Commercial Edition (for Consultants): €495/year or €149/quarter

EUC Score Feature	Freeware Free Download	Community Requires Free License	Professional Individual Requires License	Enterprise Requires License
Base Simloads (single app)	√	√	√	√
Simple Personas (multiple apps)	√	√	√	√
Score Simloads	√	√	√	√
Simload Runner	√	√	√	√
Core Telemetry	√	√	√	√
Command-Line Automation	√	√	√	√
Shared Results	(√)	√		
For Community Usage	(√)	√		
Advanced Simloads (single app)		√	√	√
Advanced Personas (multiple apps)		√	√	√
Avatar (tray app)		√	√	√
Telemetry Collector (user mode)		√	√	√
Telemetry Collector GUI		√	√	√
PowerShell Object & Automation		√	√	√
Sync Player		√	√	√
Protected Results			√	√
For Individual Commercial Usage			√	√
Simload SDK				√
Online Training (2h/quarter)				√
For Enterprise Commercial Usage				√
Support	Community	Community	Email	Email

What's New in EUC Score Since Last E2EVC

- New Score Simloads SL3-UserProfileLarge and SL3-UserProfileSmall

- New SLX-ActivityRecorder Simload

- Language-independent core telemetry collection functionality in each Simload

- New Simload command-line interface

- Updated Simload Runner

- Introduction of 12-chart view in Sync Player

- New Sync Player templates: Template-Index.html, Template-VidRef-12Charts.html and Template-VidVid-12Charts.html

- New Sync Player build scripts: Convert-CsvFileByIni.ps1 and Create-Index.ps1

- Base Toolset freeware download at https://eucscore.com/freeware

Call to Action

If you want to learn more about EUC Score, send me an email

info@eucscore.com

EUC Score

https://eucscore.com
https://eucscore.com/results

NOTE: The EUC Score toolset is free for community benchmarking tests when the results are made freely available to the public

EUC Score Links

- Home page: https://eucscore.com/

- Test Results (Sync Player): https://eucscore.com/results

- Test Methodology: https://eucscore.com/methodology.html

- Toolset documentation: https://eucscore.com/docs/index.html

- Simload Gallery: https://eucscore.com/gallery.html

- Terminology (Glossary): https://eucscore.com/terminology.html

- Lab Equipment: https://eucscore.com/equipment.html

More E2EVC Sessions

- Saturday, May 4th, 11:55 - 12:35
  Hands-on - How to record and visualize Windows performance counters and screen videos

- Saturday, May 4th, 14:45 - 15:25
  Adding Joy to AVD with Parallels RAS

Thank You

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