TECHNOLOGY CONFERENCE CP

S5445 BUILDING THE BEST USER EXPERIENCE WITH CITRIX XENAPP & NVIDIA GRID

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WHO AM I

- Thomas Poppelgaard,
- Technology Evangelist
 Poppelgaard.com
- SME in Remote Graphics, Visualization (VR/AR)
- Awarded "CTP" Citrix Technology Professional in 2013, 2014, 2015
- Awarded "RSVP" RES Software Valued Professional
- Worked with Citrix HDX 3D Pro since 2008, Worked with NVIDIA GRID since 2012





CITRIX XENAPP ANO 2015



WHAT IS CITRIX XENAPP

- WinFrame Server
- Citrix Metaframe Serv
- Citrix Presentation Se
- Citrix XenApp



Citrix.

letar

The product is an application virtualization product that allows users to connect to their corporate applications from a wide range of computer systems and mobile devices. XenApp can host applications on central servers and allow users to interact with them remotely or stream and deliver them to user devices for local execution. Learn in this session customer cases, how and why NVIDIA GRID provided the best user experience. Learn how to build better user experience with application such as Google Earth, Adobe Reader, MS Office in a Citrix XenApp with NVIDIA GRID



XENAPP: INFRASTRUCTURE









Virtual Applications





XENAPP 7.6 ON BARE METAL



Software

GPU TECHNOLOGY CONFERENCE

NVIDIA GRID K1 COMBINED WITH CITRIX XENAPP 7.6





SOLUTION OFFERING NVIDIA GRID[™] vGPU[™] with Citrix XenApp & Vmware vSphere 6

NVIDIA GRID vGPU with Citrix XenApp & Citrix XenServer 6.5

GPU TECHNOLOGY CONFERENCE

SESSION SHARING (GPU, MEMORY, CPU, RAM) Haswell CPU's for more user density

- If apps uses single thread use high clock frekvens CPU's
- If apps uses multi thread CPU use CPU with many cores (8-14) Best practices is to use high clock frequence CPU with highest cores
- Memory is best practice using min. DDR3 or DDR4 and dedicate min.
 50 GB memory for each XenApp
- Storage is best practice to use Allflash or if possible in memory for highest performing iOPS



ANY DEVICE - FOLLOW ME USER EXPERIENCE



PUBLISHED APPS VS PUBLISHED DESKTOPS



NVIDIA GRID GPU PASS-THROUGH VS VGPU

- When to choose
- Case scenarious (1. Maximum servers, 2. Maximum density, 3. Maximum user experience)
- Multiple GPU pass-through of GPU's to 1 XenApp
- Does applications support GPU pass-through
- Single thread CPU vs Multi thread CPU



MICROSOFT OFFICE

- Which apps utilize GPU (DirectX / OpenGL)
- Hardware acceleration





POWERPOINT IMPACT ON GPU





INTERNET BROWSERS (IE, CHROME, FIREFOX...)

- Hardware acceleration is enabled by default in physically virtually servers. With non GPU environments... look at impact
- With GPU enabled look at user experience, look at impact of CPU cycles
- IE, Chrome and Firefox are "Heavy" using GPU why, HTML5, WebGL, Flash, Video





ADOBE READER

Which apps utilize GPU (DirectX / OpenGL)

Hardware acceleration





GOOGLE EARTH + PRO

- DirectX / OpenGL, which option do you choose?
- Hardware acceleration or not, what is the answer

Google Earth is one of the applications that have enable Multihook and this disallows the application to be running in a RDS/XenApp environment. I fixed this together with fellow CTP Remko.

Use case VDI is not the answers, some like just XenApp to simplify user experience and image management

HINT Come to Citrix Synergy and see our session with CTP Remko and Magnar @GPU virtualization version 2.0



Jul 2010

Jun 2005

Google Earth 3.0

(KML 2.0)

Jun 2006

Google acquires Keyhole Google Earth 4.1

Nov 2007

Google Earth 4.0 Google Earth 4.3

(KML 2.1)

May 2007 (KML 2.2)

KML 2.2 submitted to OGC

Apr 2008

Aug 2004

Keyhole Viewer 2.2

Oct 2003

Oct 2004

Jan 2002 Keyhole NV 1.7.2

Keyhole Viewer 1.6

Kevhole Viewer 1.4

Jul 2001

Keyhole Viewer 1.0 Feb 2003

Google Earth 5.2

(gx:Track ext added)

Mar 2011

Google Earth 6.0

KML 2.2 OGC standard

Nov 2009

Google Earth 5.1

May 2009 Google Earth 5.0

(KML 2.2 + ext)

Jun 2008

Browser plugin released

Apr 2013

Google Earth 7.

Dec 2012

Google Earth 7.0

Oct 2011

Google Earth 6.1

Apr 2012

Google Earth 6.2

LEARN MORE AT CITRIX SYNERGY IN MAY 2015 HOW TO BE SUCCESSFUL WITH GPU VIRTUALIZATION V2.0

- Joined session with fellow CTP Remko Weijnen and good GPU friend Magnar Johnsen
- How to fix applications that are not working for SBC environments, case study Google Earth
- How to scale, test and monitor virtual 3D applications

GPI

• About time-saving tools and the pitfalls to watch for in GPU virtualization projects



METHOLOGY FOR SUCCESSFULL INTEGRATING YOUR APP IN XENAPP WITH NVIDIA GRID



Lakeside
 Systrack

• Uberagent

Application analysis • AppDNA

POC/Scale test

• Login VSI

Validation

Lakeside Systrack
Uberagent EUC test

 User validation



- Monitoring Tools
- Lakeside Software
 - SysTrack





DEPLOY, MONITOR, AND MANAGE

- Monitoring Tools
- Monitoring Tools
- Splunk with UberAgent

Average GPU compute usage per process (top 10)

	splunk>	App: uberAgent						heige *	Messages *	Settings *	Activity *	Help *
										.	uberA	gent
	Single Machi	ne GPU Usage A	ctions +									
	Single I	Machine GPU	Usage									
	This deshbo	ard displays informat	tion about the GPU usage or	n a single machine o	ver time.							
	Machine: RDS-2		GPU name(s): Microsoft Rem	oteFX Graphi	ics Device -	GPU count. WDDM 1						
	Time range	Custom time	GPU: Microsoft R	emoteFX Graphica De	rvice - WDDM							
	Ava. comp	ite usage per GPU e	ngine over time									
	100 75 10 75 8 8 50 25								Engine 0 Engine 1 Engine 10 Engine 11 Engine 2 Engine 3 Engine 4 Engine 5 Engine 6			
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	Avg. memo	Arg, memory usage per GPU over time										
2 14	M 10	~									— De	dicated
/		10:00 PM Thu Feb 6 2014	10:10 PM	10	20 PM	10:30 PM	10:40 PS	1	10:50 PM		- Sha	ured

Time





USER

From Road Trip via 3G (80-400MS latency) to datacenter in Denmark Driving 80-100 mph access real-time HDX3DPro



QUESTIONS?



THANK YOU

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