IT10985: Protecting CAD/CAM Intellectual Property with Virtual Desktop Infrastructure

Fred Devoir

Manger – IT Infrastructure & Sr. Architect, TEXTRON Inc.

Twitter: devoirf

Who am I?

Fred Devoir

Manger – IT Infrastructure & Sr. Architect
TEXTRON Inc.

MIS, EMCCAe, ITILv3

Relevant Experience:

- Citrix HDX 3DPro development team member on the customer side NASA/Boeing (2008 – product was released GA in 2011)
- Delivered Citrix VDI solution for astronauts on the NASA international space station (2009)
- NASA Ames Research Center – NASA Nebula's Nova/Rackspace Swift -OpenStack Cloud project team member (2009)
- NVIDIA VGX development team member on the customer side NASA/Boeing (2009 - This became NVIDIA GRID and was released GA in 2013)
- Citrix XenDesktop 6.5 GPU pass-through solution for NASA Engineering Directorate at JSC (2010)
- Citrix XenDesktop 7.6 GRID K2 enabled vGPU solution for Bell Helicopter (2014)
- Presenter Citrix Synergy 2014 – Power is the last problem for VDI
- Published "*NVIDIA GRID™ vGPU™ Deployment Guide for Citrix XenDesktop 7.6 on VMware vSphere 6*" – NVIDIA Tech Pubs (2015)
- Presenter NVIDIA Graphics Technology Conference - Design Considerations for VDI & Protecting Intellectual Property
- Keynote Citrix Synergy 2015 – Citrix Workspace Cloud product announcement (May 2015)
- Special Guest Speaker - Citrix Workspace Cloud product release (Aug 2015)
- Nomination to the Citrix CTP program (Oct 2015)

Class summary

Explore the various components to protecting intellectual property using virtual desktop infrastructure. Learn about tiered security zones and today's technology tools that enhance the capability of securing proprietary CAD/computer-aided manufacturing (CAM) data in a virtual desktop infrastructure environment.

Key learning objectives

At the end of this class, you will:

- Have an understanding of the perimeter security capabilities available for virtual desktop Infrastructure
- Have an understanding of available virtual-desktop security policies and controls
- Have an understanding of how native tools in the Windows operating system can be used to enhance the security position
- Have an understanding of which third-party tools can enhance the overall security posture

What is Virtual Desktop Infrastructure (VDI)

Company data stays in the datacenter!

Dedicated Capacity

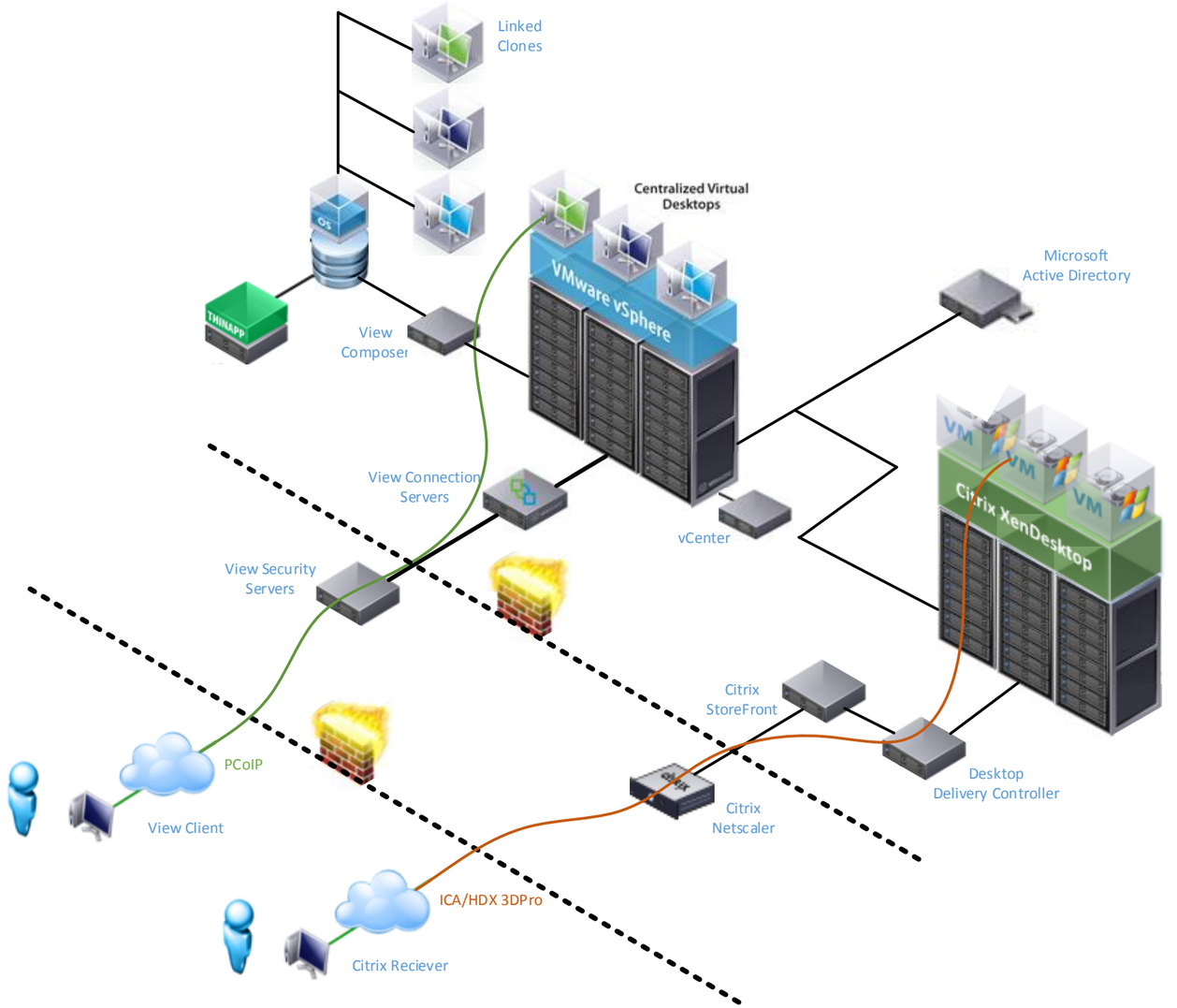
No data on these!

How do you Protect Intellectual Property

- Prevent data from leaving the data center while still enabling secure remote collaboration
- Heighten protocols around authentication and access control
- Develop a policy based approach to security
- Isolate resources into security zones
- Application and Environment management

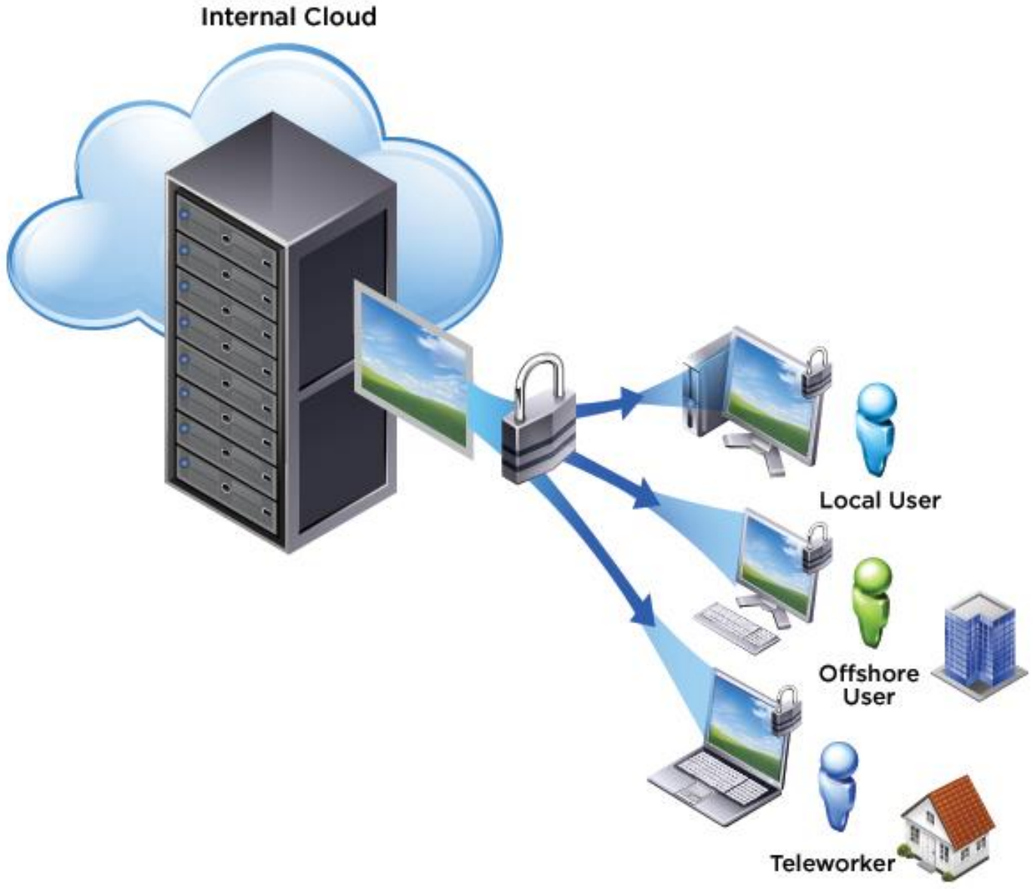
Perimeter Controls - Enabling Secure Remote Collaboration

- Ubiquitous VPN-less connections
  - Security Appliances
    - Reduced risk
    - Client platform agnostic
    - BYOD enablement
    - Multi-factor authentication
    - Compliance Requirements
      - FIPS 140-1,2
      - NIST SP 800-53
      - NIST SP 800-171
- Data leak prevention (DLP) Built-in
- Security policies for device pass-through



Authentication & Access Control

- Who is connecting?
  - Contractors, Business Partners, Employees, Customers, etc.
- Why are they connecting?
  - Teleworkers, Sales & Marketing, Contractors, etc.
- Where are they connecting from?
  - LAN, MAN, WAN, or Internet (home country or offshore)



Policy Based Restrictions

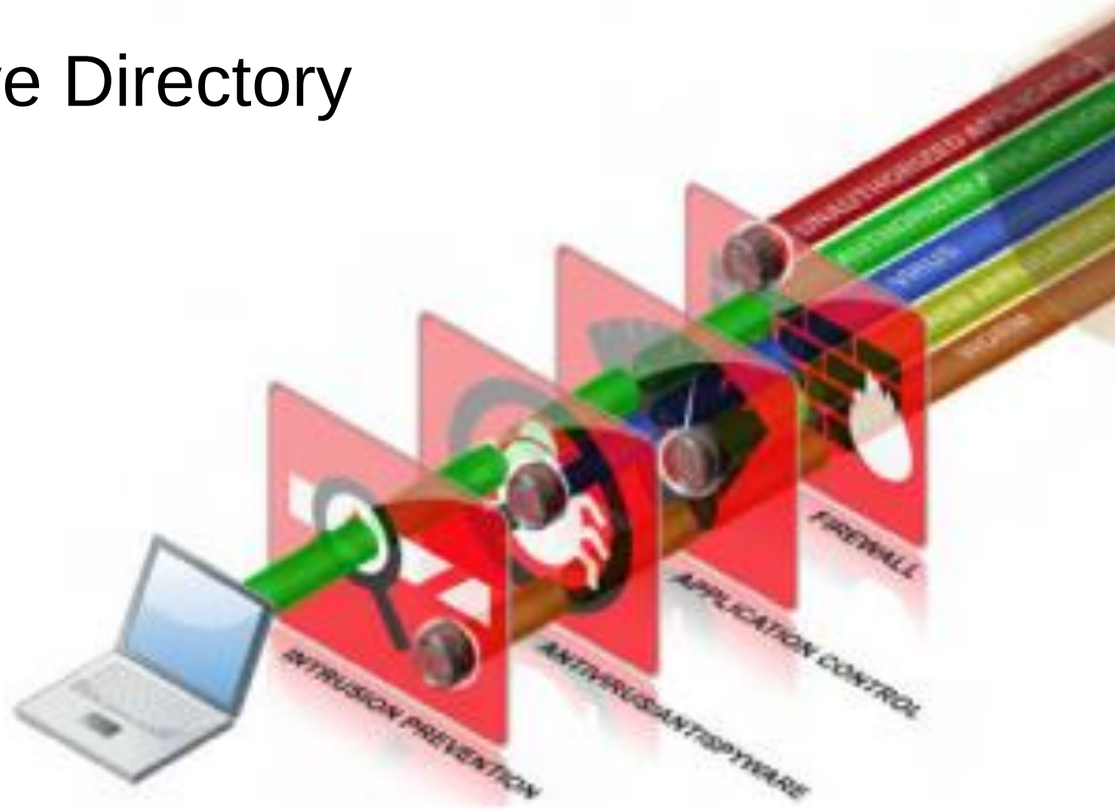
- Credential pass-through
- Copy & Paste (Clipboard)
- Local disk and USB drives
- Printing
- Screen printing
- Location dependencies
- Group or role dependencies

Containerization of Resources

- Physical Containers
  - Datacenters, cages, PODS, & racks
    - Biometrics/Card readers - limited human access
  - Storage frames
    - Shelves, disk groups, RAID sets
  - Network
    - Routers, switches, firewalls, & load balancers
  - Compute nodes
    - Servers & appliances
- Logical Containers
  - Storage pools and LUNs
  - Network VLANs and vSwitches
  - Compute resource
    - VM pools and HA policies
    - Affinity groups and policies
    - Availability sets

Application & Environment Controls

- Windows 7+ Operating System & Active Directory
  - Access based enumeration
  - AppLocker
  - Bitlocker (Trusted Platform Management)
  - Digital rights management
  - Domain local groups
  - Group policy objects
- Virtual Desktop Infrastructure
  - Non-Persistence/random pools w/ auto rollback
  - Persona management
  - Hypervisor based virus scan introspection
  - Image version control/application release cycles
- Third Party
  - Intel vPro, McAfee Application Control (SolidCore) , AppSense Environment Manager, etc.



Demo: Greenlee – Autodesk Revit Plugin development and testing

GREENLEE®
A Textron Company

Expo Hall #1111

Greenlee BendWorks™

OS: Win32 and 64

This app optimizes electrical conduit modeling and splitting Based on Greenlee benders. Output files may be loaded into Programmable benders, or printed for traditional Nonprogrammable benders.

CITRIX® Windows Server NVIDIA AppSense WYSE

Questions

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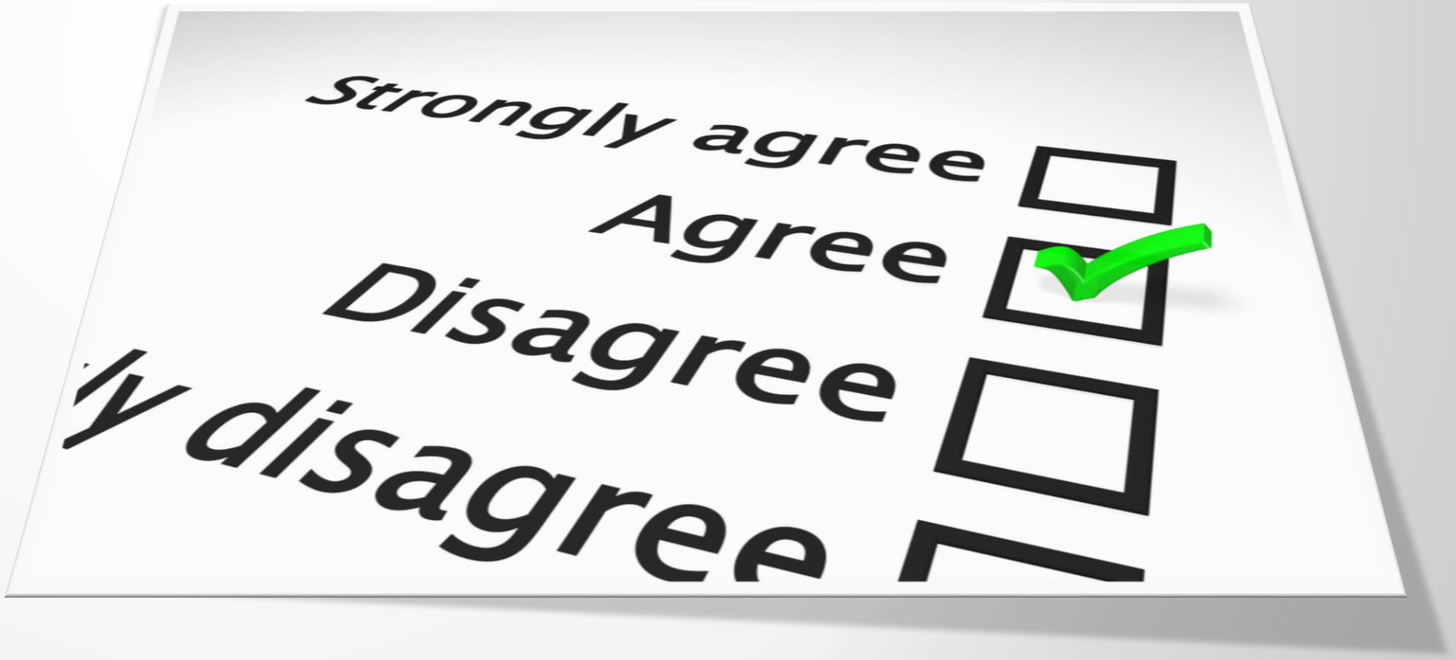

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