The VINCI Workspace for Beginners

Tim Trautman

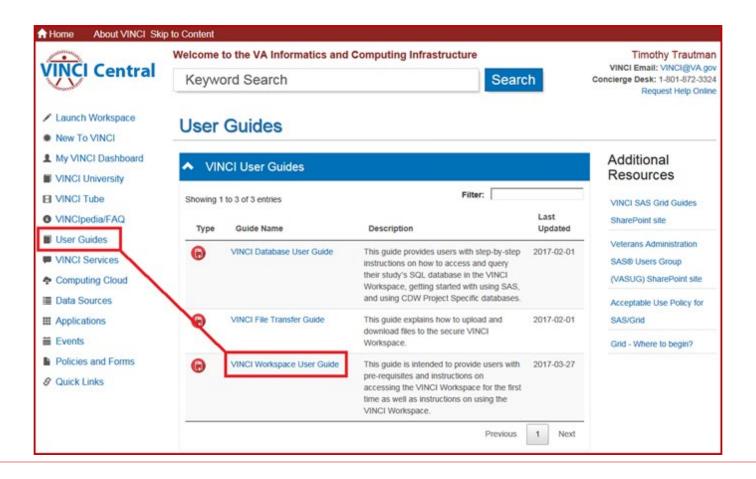IT Senior Project Manager
& Research Assistant

VA Informatics &
Computing
Infrastructure

VINCI Workspace User Guide

On VINCI Central under User Guides

About the VINCI Workspace

- The VINCI Workspace is a FREE high-performance computing environment that serves research and operations business intelligence communities
- Firewall provides enhanced data security
- Access to computing power, software tools, databases, SAS/Grid, file and data storage
- Can be accessed from outside the VA through VA VPN solutions of Rescue and CAG
- The VINCI Workspace and shared project folders allow for national collaboration in a research group

About the VINCI Workspace

- Comes in two variations

- **Standard Workspace**
  - Standardized environment
  - Shared resources
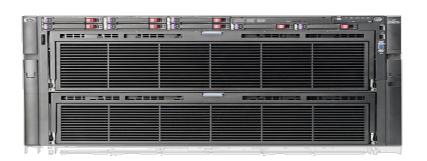 - Fixed software package

- **Development Workspace**
  - Special purpose usage
  - Custom coding
  - Use of non-standard [TRM approved software](#)

VINCI Standard Workspace

- Windows Server 2012 Enterprise R2 x64 SP2 Operating System on 3 load balanced servers
- No elevated (administrative) permissions
- Fixed software package
- 4 shared CPUs totaling 32 cores
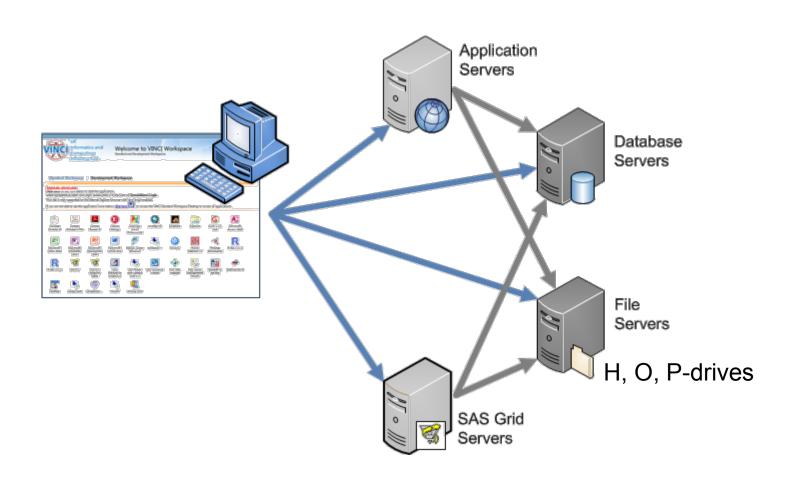- Shared 128 GB RAM
- No Internet access

VINCI Development Workspace

- Windows Server 2012 Enterprise R2 x64 SP1 or Linux Operating System
- Elevated permissions allowed*
- Install additional software yourself
- 1 processor core
- 4 GB RAM
- No Internet access

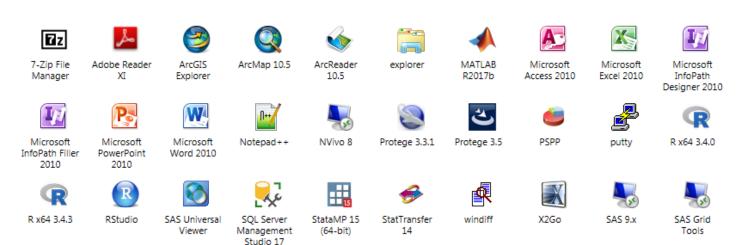* VINCI does not provide elevated access approvals - see your ISSO.

VINCI Workspace Architecture

Application Servers

Database Servers

File Servers

H, O, P-drives

SAS Grid Servers

VINCI Workspace Software

- VINCI provides ArcMap, STATA, R, SAS, PSPP, MATLAB, NVivo, SSMS, and other software for FREE

- Additional and updated software added when funded

Poll Question #1

What is your level of experience with the VINCI Workspace? (select all that apply)

- ❑ I have not used it
- ❑ I would like to use it
- ❑ I am a beginning user
- ❑ I am an intermediate user
- ❑ I am an advanced user
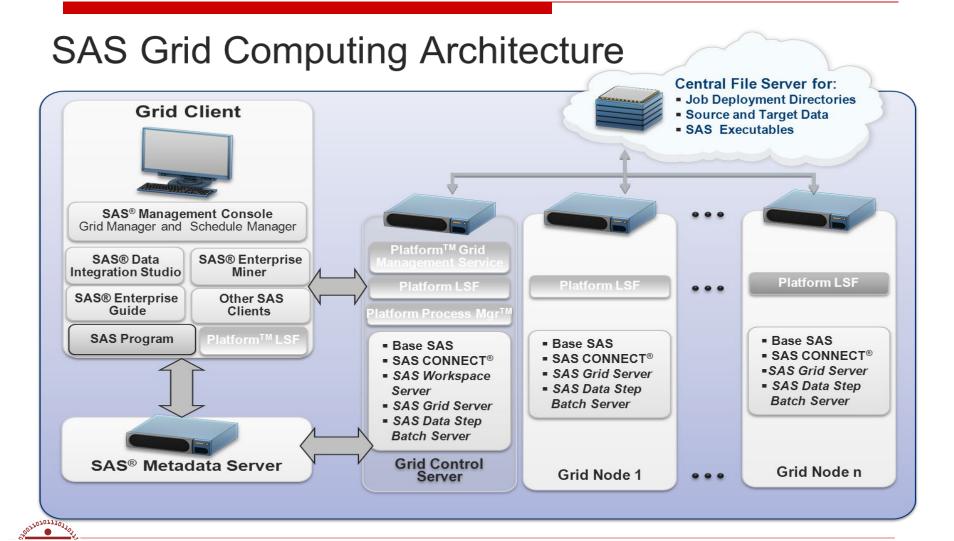
VINCI SAS/Grid Environment

- Maintain and Support two SAS grids: Operations and Research

- Over 2 million compute minutes per month

- Leading VA in authentication using AD on Linux Platform

- PIV Card Support

VINCI SAS/Grid Environment

- Distributed management of SAS jobs
- 3 clustered Linux servers (RHEL 7 as O.S.)
- Hybrid server solution of physical blades and smaller Virtual Machines
  - 2 physical blade servers each having 1024GB of RAM, 16 CPUs and 150 job slots per server
  - 1 VM server with 256GB of RAM, 8 CPUs and 50 job slots
- 40GB Ethernet connection to CDW/VINCI data servers
- Latest SAS9.4 release (T94M5)

SAS Grid Tools

VINCI SAS/Grid Environment

SAS Grid Computing Architecture

Central File Server for:
- Job Deployment Directories
- Source and Target Data
- SAS Executables

Grid Client

- SAS® Management Console
  Grid Manager and Schedule Manager
- SAS® Data Integration Studio
- SAS® Enterprise Miner
- SAS® Enterprise Guide
- Other SAS Clients
- SAS Program
- Platform™ LSF

SAS® Metadata Server

Grid Control Server
- Platform™ Grid Management Service
- Platform LSF
- Platform Process Mgr™
- Base SAS
- SAS CONNECT®
- SAS Workspace Server
- SAS Grid Server
- SAS Data Step Batch Server

Grid Node 1
- Platform LSF
- Base SAS
- SAS CONNECT®
- SAS Grid Server
- SAS Data Step Batch Server

Grid Node n
- Platform LSF
- Base SAS
- SAS CONNECT®
- SAS Grid Server
- SAS Data Step Batch Server

VINCI SAS/Grid Environment

- SAS Enterprise Miner is very robust and easy to use. It also allows rapid, efficient data mining and modeling with a minimal amount of programming (parameter inclusions). Proc IML (**I**nteractive **M**atrix **L**anguage) also allows the inclusion of R into the SAS world.

- SAS Enterprise Guide is a point-and-click, menu and wizard-driven tool that empowers users to analyze data and publish results.

SAS Grid Tools

VINCI SAS/Grid Environment

- Why use SAS/Grid over regular SAS?
  - Load-balanced, parallel-processing in a very robust venue
  - Greater NetApp storage arrays
  - All statistical procs reside on the Grid, not the Desktop
  - More efficient OS venue
  - Greater security
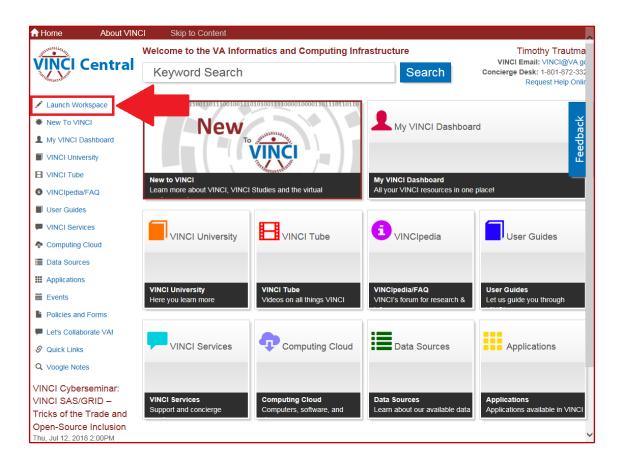 - SAS Display Manager (desktop) no longer updated

SAS Grid Tools

Poll Question #2

What is your level of experience with the VINCI SAS/Grid? (select all that apply)

❑ I have not used it

❑ I do not need to use it

❑ I would like to use it

❑ I am a beginning user

❑ I am an intermediate user

❑ I am an advanced user

Accessing the VINCI Workspace

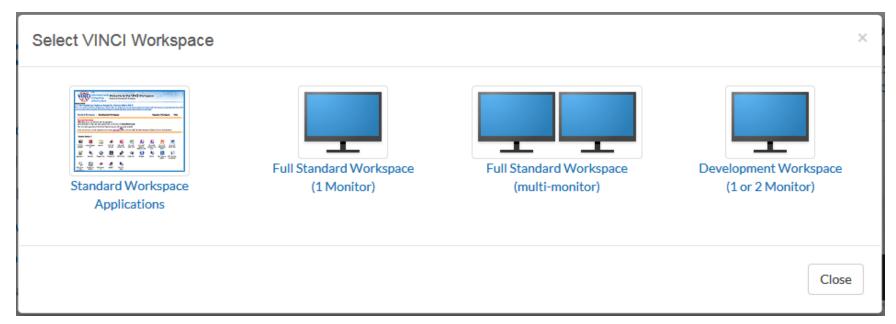- On VINCI Central, click **Launch Workspace**
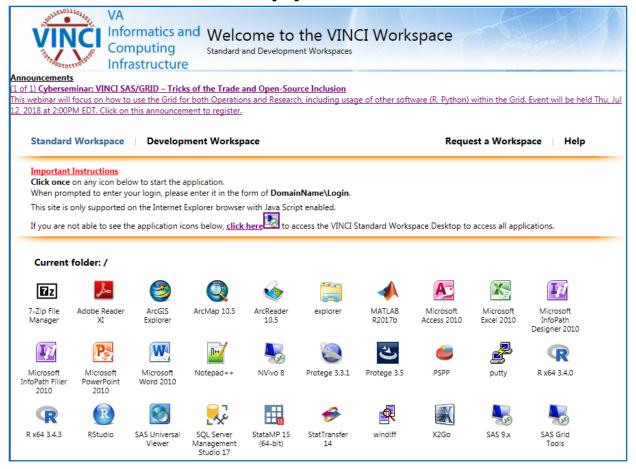
Accessing the VINCI Workspace

■ This gives you 4 options:
- Standard Workspace Applications (launch one at a time)
- Full Standard Workspace (1 monitor)
- Full Standard Workspace (multi-monitor)
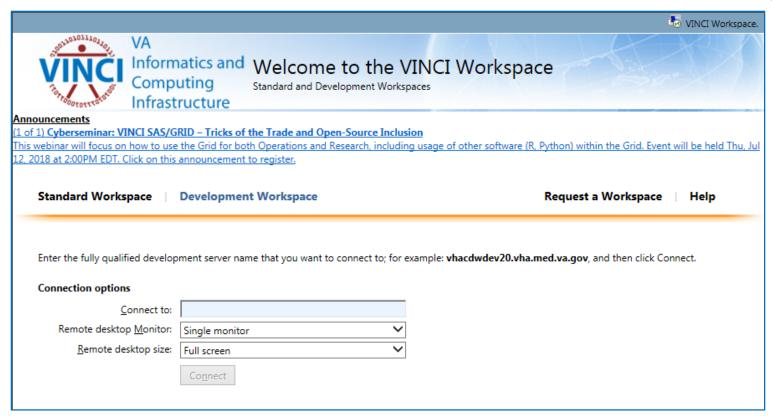- Development Workspace (1 or 2 monitor)

VINCI Workspace Web Interface

To launch one application at a time

VINCI Workspace Web Interface

- Development Workspace Login
- Connect to **vhacdwdwhdevXX.vha.med.va.gov**
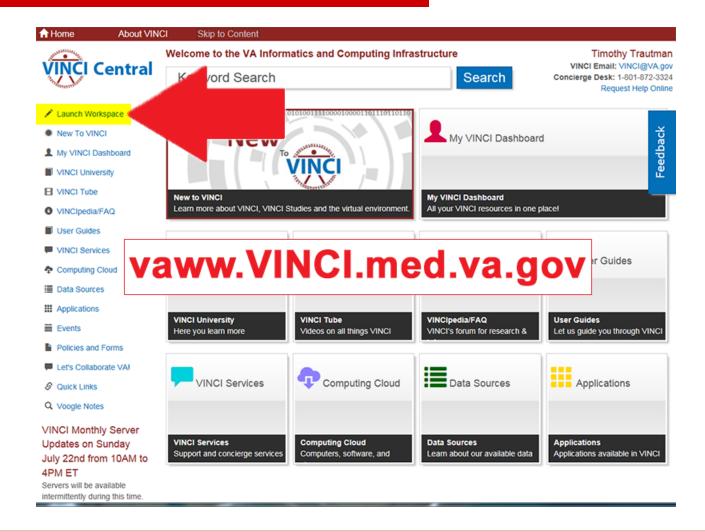
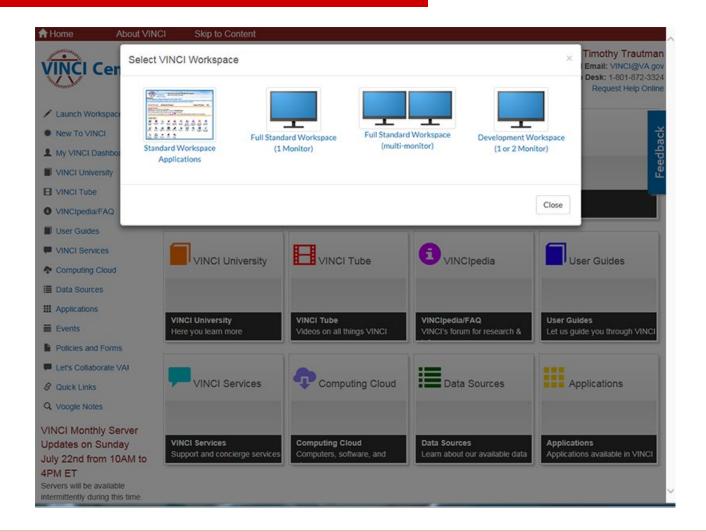# Logging into the VINCI Workspace

CANNED DEMONSTRATION

VINCI Videos
Logging into a VINCI Workspace Application
Logging into the VINCI Standard Workspace
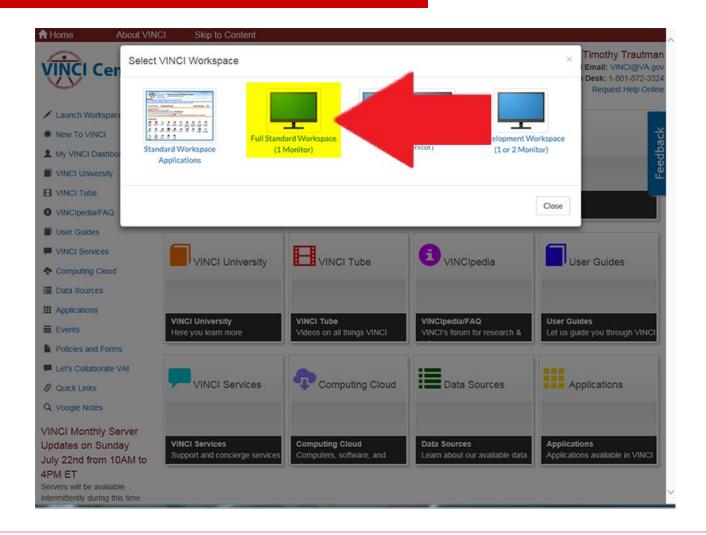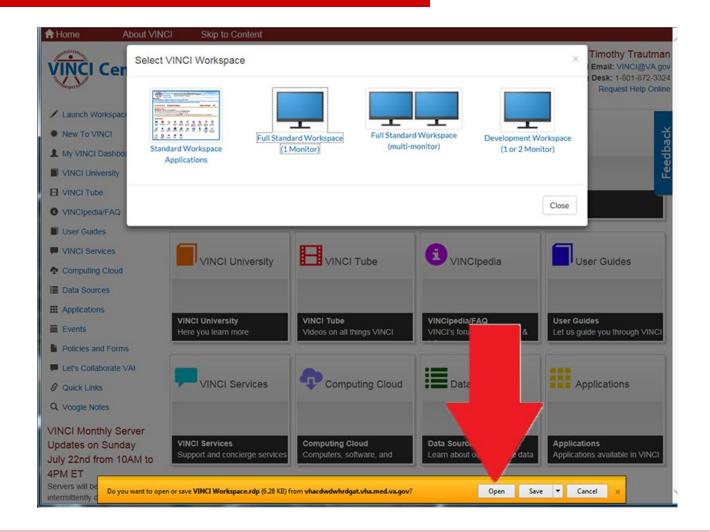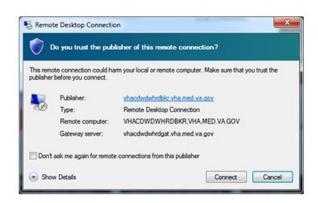Logging into the Development VINCI Workspace

Logging into the VINCI Workspace

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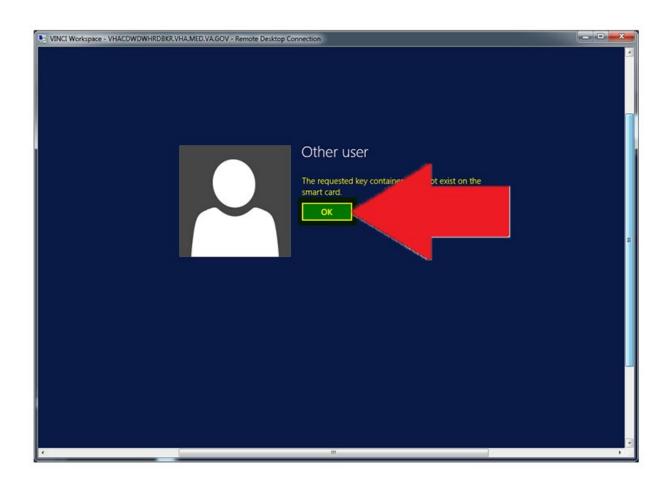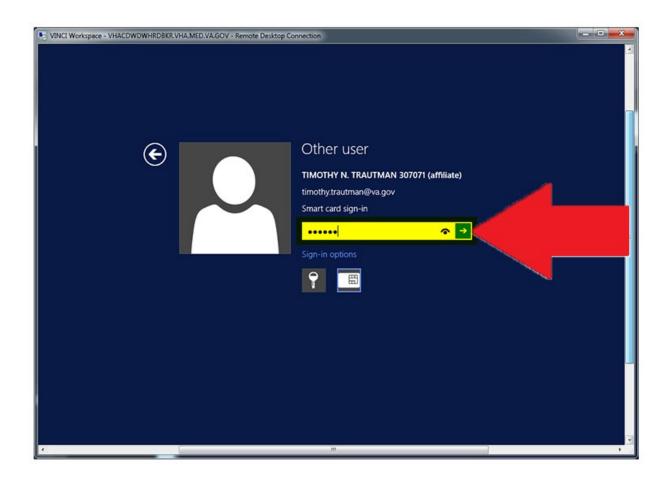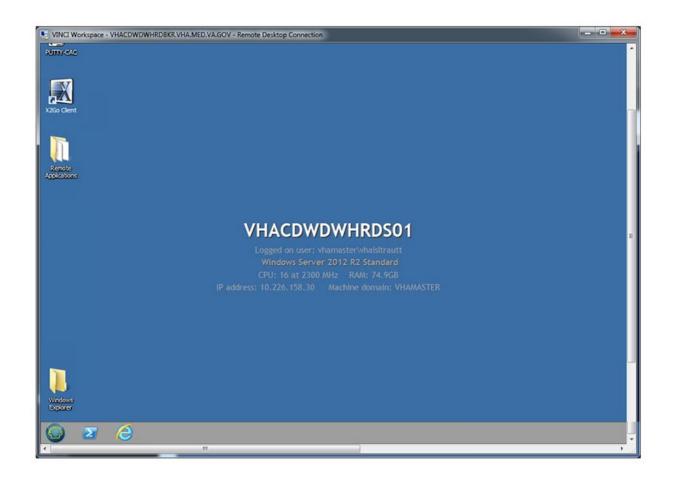
Logging into the VINCI Workspace

VINCI Workspace Applications
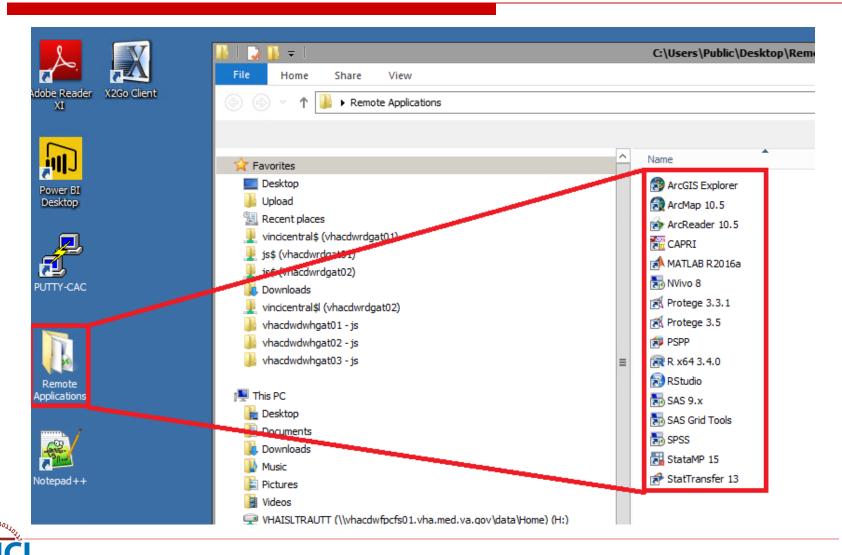
VINCI Workspace Restrictions

- No Internet access (for data security)
- Cannot copy and paste to/from workspace
  - Can save info as a file and download/upload within regulations
- Copy and paste between applications in the workspace is restricted as applications run from several different servers
  - Same server - can copy and paste
  - Different server - cannot copy and paste

VINCI Workspace Storage

- **H-Drive Personal Storage**
  - 10 GB standard size
  - For personal file storage only
  - **NOT** for storing study data

- **O and P-Drive Project Folders**
  - 100 GB standard size
  - Intended for storage of shared project files
  - Access is controlled and limited to study staff
  - Specifically intended for study file storage
- **Microsoft SQL 2014 server study database**
- **Tape and Disk backup**

VINCI Workspace Storage

LIVE DEMONSTRATION

VINCI Video
Understanding VINCI Workspace Drives

VINCI Workspace Databases

- VINCI creates study databases that are accessible within the VINCI Workspace
- The particular location depends on study's data needs (static vs. live data) and the space available on the server

- Databases (FQDN)
  - Static data – vhacdw**rb01**.vha.med.va.gov
  - Live data – vhacdw**rb02**.vha.med.va.gov
  - Live data – vhacdw**rb03**.vha.med.va.gov

- Use SQL Server Management Studio 2017 to access your study database

Accessing VINCI Workspace Databases

LIVE DEMONSTRATION

VINCI Video
Accessing VINCI Databases using SQL Server Management Studio 2017

VINCI File Transfer Tool

- **VINCI File Upload Tool**
  - Can transfer one file at a time (ZIP multiple files together into one)
  - Limited to 2GB per transfer
  - Available from VINCI Central

- **VINCI File Download Tool**
  - Can transfer one file at a time (ZIP multiple files together into one)
  - Available from VINCI Central

VINCI File Upload Tool

- VA Intranet-based utility application for copying files into the workspace
- Copies to either your H-drive or project folder per your selection
- Creates an "Upload" folder for the contents
- VINCI File Upload Tool:
  https://vaww.vinci.med.va.gov/WebApps/VCFileTransfer/Upload

VINCI File Download Tool

- VA Intranet-based utility application for copying files from the workspace
- Copies files from your H-drive or project folders per your selection
- File Audit Process
  - Copies of transferred files are archived
  - Copied files from IRB Research studies are audited for PHI, PII, and SI
- VINCI File Download Utility:
  https://vaww.vinci.med.va.gov/WebApps/VCFileTransfer/Download

Using the VINCI File Transfer Tool

LIVE DEMONSTRATION

VINCI Video
Using the VINCI File Transfer Tool
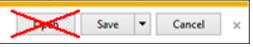
File Download Restrictions

- **Operations Project Users**
  - Can transfer files out without permission
    - Identifiable PHI/PII/SI data
    - Aggregate data
    - Documents - papers, analysis, presentations
- **IRB Research Study Users**
  - Can transfer some files *without* permission
    - Aggregate data
    - Documents - papers, analysis, presentations *without* PHI/PII/SI
  - Can transfer out *with* data steward permission
    - Data containing PHI/PII/SI
    - To local secure server, not desktop or laptop

VINCI

File Download Restrictions

- Before downloading any file, familiarize yourself with HIPAA and VHA definitions of PHI and PII; [VHA Handbook 1605.1](#), Appendix B, is a good resource
- If you are not sure whether you may download PHI/PII for your project, read your Research Request Memo
- Once you have selected the "Download" link, be aware that browsing to and opening any file will cause the file to be downloaded. Do not use "Open" in utility. If you open a file and then close the utility without saving the file, it will still be written to your local temporary internet files folder in violation.

Do you want to open or save **announce.txt** (364 bytes) from **vaww.vinci.med.va.gov**?

File Download Restrictions

- Pay attention to the warning that is displayed as soon as you select the "Download" link, which advises you to select "Save As" and not "Save" when downloading the file. Selecting "Save" will copy the file to your "Downloads" folder in violation. "Save As" will allow you to copy the file to your local secure server.

- Remind your team that they are each responsible for ensuring only data approved for download by the data steward may be transferred out of VINCI and that the data is downloaded to your local VA server.

VINCI Workspace Resources

- **VINCI Central**: http://vaww.vinci.med.va.gov
- See **VINCI User Guides**:
  - VINCI Workspace User Guide
  - VINCI Database User Guide
  - VINCI File Transfer Guide
  - VINCI Development Workspace Software Install Guide
- See **SAS User Guides**:
  - 21 various SAS user guides from A Grid Primer - Where to Begin? to SAS Coding Considerations using the Linux-based Grid
- Under **VINCI University**, see **VINCI Cyberseminars**
- Under **VINCI Tube**, see **VINCI Videos**

Questions?

VINCI Support: VINCI@va.gov
SAS Support: VINCISASAdmins@va.gov

Before VINCI

After VINCI