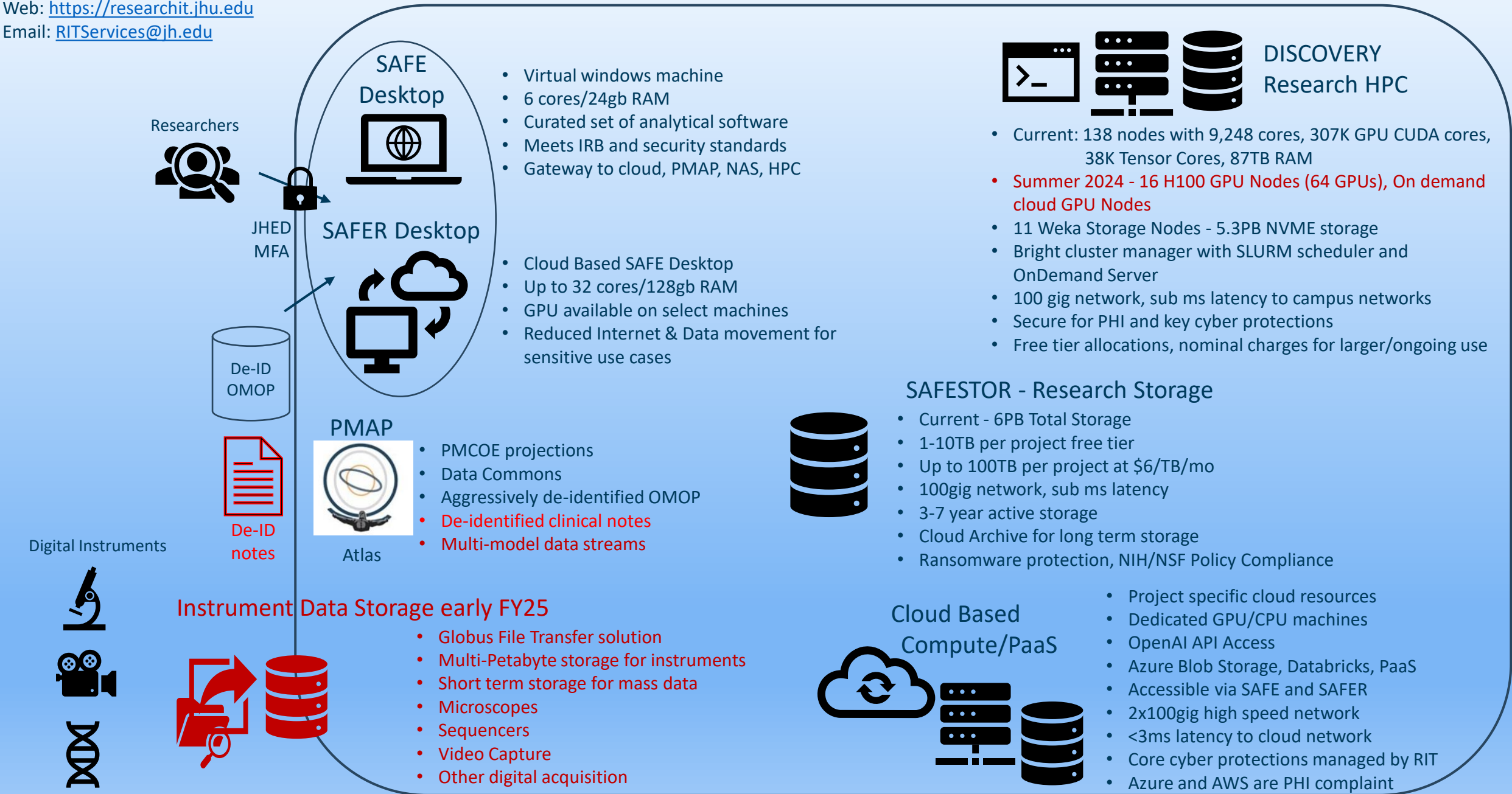


# Research IT Resources

Web: <https://researchit.jhu.edu>

Email: [RITServices@jh.edu](mailto:RITServices@jh.edu)

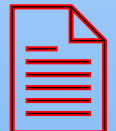
# Secure Research Infrastructure (NIST 800-171 Target CY 2024)



Researchers



JHED MFA



De-ID notes

Digital Instruments

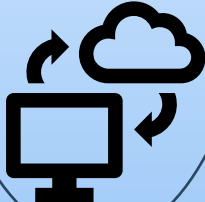


## SAFE Desktop



- Virtual windows machine
- 6 cores/24gb RAM
- Curated set of analytical software
- Meets IRB and security standards
- Gateway to cloud, PMAP, NAS, HPC

## SAFER Desktop



- Cloud Based SAFE Desktop
- Up to 32 cores/128gb RAM
- GPU available on select machines
- Reduced Internet & Data movement for sensitive use cases

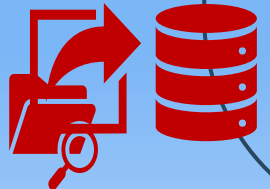
## PMAP



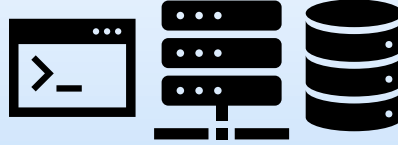
Atlas

- PMCOE projections
- Data Commons
- Aggressively de-identified OMOP
- De-identified clinical notes
- Multi-model data streams

## Instrument Data Storage early FY25



- Globus File Transfer solution
- Multi-Petabyte storage for instruments
- Short term storage for mass data
- Microscopes
- Sequencers
- Video Capture
- Other digital acquisition



## DISCOVERY Research HPC

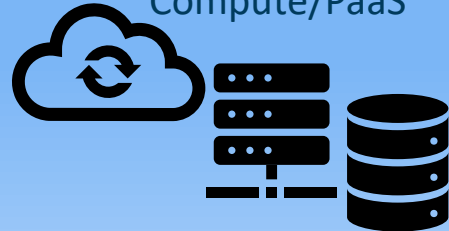
- Current: 138 nodes with 9,248 cores, 307K GPU CUDA cores, 38K Tensor Cores, 87TB RAM
- Summer 2024 - 16 H100 GPU Nodes (64 GPUs), On demand cloud GPU Nodes
- 11 Weka Storage Nodes - 5.3PB NVME storage
- Bright cluster manager with SLURM scheduler and OnDemand Server
- 100 gig network, sub ms latency to campus networks
- Secure for PHI and key cyber protections
- Free tier allocations, nominal charges for larger/ongoing use



## SAFESTOR - Research Storage

- Current - 6PB Total Storage
- 1-10TB per project free tier
- Up to 100TB per project at \$6/TB/mo
- 100gig network, sub ms latency
- 3-7 year active storage
- Cloud Archive for long term storage
- Ransomware protection, NIH/NSF Policy Compliance

## Cloud Based Compute/PaaS



- Project specific cloud resources
- Dedicated GPU/CPU machines
- OpenAI API Access
- Azure Blob Storage, Databricks, PaaS
- Accessible via SAFE and SAFER
- 2x100gig high speed network
- <3ms latency to cloud network
- Core cyber protections managed by RIT
- Azure and AWS are PHI compliant