# Secure Research Computing

Key Benefits:

- **Delivers compliant virtual data centers in minutes:** Researchers spend more time on research, less time waiting for compliance certifications.

- **Expand resources easily throughout the life of a research project:** Use existing hardware or add additional resources with the click of a button.

- **Provide a safe and secure environment for researchers:** Create secure enclaves for research and remote learning.

- **Protect and Retain Data for a Compliant IT Infrastructure:** Customized data protection and retention strategies for each VDC without sub-silos.

- **Recover your Data After Disaster:** Make it possible to bring researchers/departments data back online within minutes after a site failure.

Top 4 Reasons to Choose VergeIO for Secure Research Computing:

1. **Serve Research Grants:**
   Verge.IO's VergeOS enables you to segregate resources, billing, security, and compliance requirements by creating different tenants for each research grant.

2. **Improve and Simplify Compliance:**
   VergeOS allows you to create secure enclaves in minutes that are compliant with standards such as HIPAA, CUI, FISMA, and more.

3. **Lower Capital Expenditures:**
   VergeOS lets you scale simply by adding compute nodes or storage servers, independently as needed.

4. **Disaster Recovery:**
   Verge.IO snapshots and multi-site synchronization are inherent in the architecture. Failover an entire virtual data center, including public IP addresses, DR, backup.

Security without Silos

VergeOS offers a secure solution with its Virtual Data Center (VDC) technology. Similar to how a virtual machine encapsulates a physical server, a VDC encapsulates an entire data center stack. By utilizing VergeOS, customers can establish a VDC for each research enclave, research project, or research group, meeting all the compliance requirements for protection, retention, and disaster recovery needs. Each VDC has its own access controls, authentication processes, and user management functions.
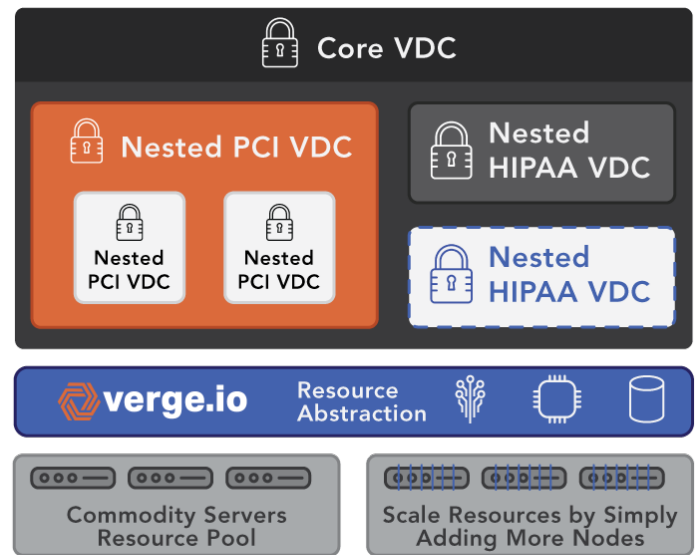
Create multiple nested compliant virtual data centers with VergeOS

The Power of Virtual Data Centers

VDCs also allow for allocating specific computing and storage resources to particular departments, preventing other departments from accessing those assets. IT can create a unique compliant IT Infrastructure for each department as needed. Plus, the VDC provides flexibility to reallocate resources when the department or workload no longer needs them, and IT can allocate more resources as a project ramps up. Organizations can create a highly compliant VDC for regulated functions and a more general-purpose VDC for other use cases.

Protecting and Retaining Data for a Compliant IT Infrastructure

With VergeOS, you customize data protection and retention strategies for each VDC, with built-in tools to meet the unique needs of every department. VergeOS's IOclone, combines the best capabilities of snapshots and clones by leveraging unique Global Inline Deduplication technology. IOclone enables each snapshot to be independent of the VM or Virtual Data Center it is copying. Because of the deduplication process, these copies are made in milliseconds and are space efficient. IOclone snapshots are also immutable so that nothing can alter them, which is often another compliance requirement.

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