Integrity ★ Service ★ Excellence

Nimbis TSS Cloud Execution Environment

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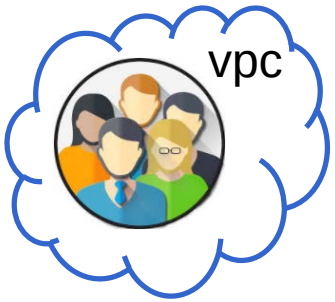
Why Cloud

Lower the Barriers to Entry

- Design environments preconfigured
- Dynamic, flexible storage and compute

Leverage IT Innovations at Commercial Timescales

- FGPA enabled instances
- GPU instances
- Deep learning APIs
- Multiple hi-performance database engines



Collaborative Environment

- Project members share a common workspace
- Individual access control to IP, foundry PDKs

Cloud Access to DoD Specific Resources

- Cadence Palladium Z1 Emulator

TSS Supported Cloud Environments

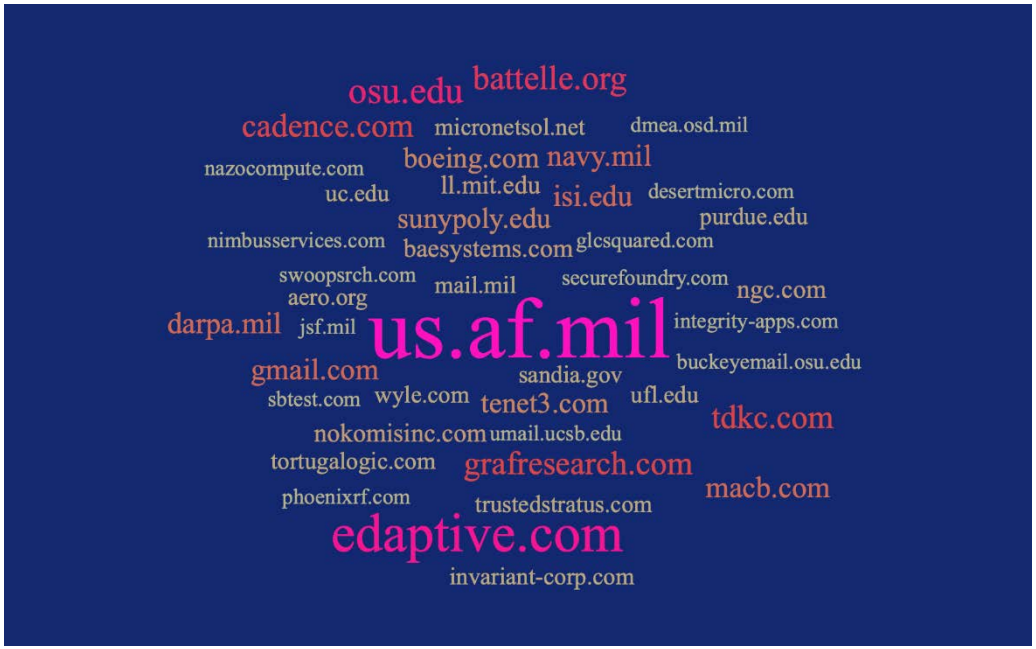
Public Cloud	Restricted Cloud	Government Cloud
Commercial and Academic Use	Developmental ITAR U.S. Persons Only	Government Operational U.S. Persons Only
www.trustedstratus.org	www.trustedstratus.com	www.trustedstratus.us

- Non-US Persons OK
- Two-Factor Optional
- Target Users
  - Academia
  - Commercial

- US Persons Only (ITAR)
- Two-Factor Required
- Target Users
  - Contractors
  - Commercial

- US Persons Only (CUI)
- CAC Card or Equivalent
- Target Users
  - Government
  - Contractors

TSS Current User Base



Growing User Community with increased maturity and awareness

Pilot Activity

- ~200 users
- 2 Multi-site advanced node tapeouts

Cloud Execution Environment

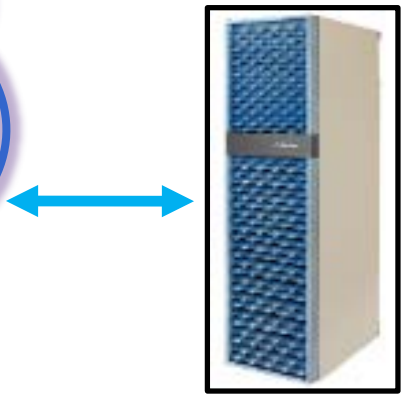
Multi-site collaboration

Dynamic resources

- Scale resources as needed for architectural trade studies
- Clone preconfigured development environments
- Instances with root (sudo)

Shared Environment

- Rapid cloud orchestration
- Isolated from other performers
- Shared elastic resources



Building Projects on the Cloud

(Cloud Orchestration)

Project Owner

- Create project
- Configure Licensing
  - Bring your own
  - Subscribe to existing
- Invite users to the project
- Provision shared resources
  - Elastic simulation farm
  - GIT server
  - Palladium Access

Project Members

- Accept invitation
  - Create account, if needed
- Create repos
  - Shared or private
  - Upload data to them
- Create instance(s)
  - Select machine type
  - Select drive size
- Attach repo(s) to instances
- Launch instances

Use Case: Dev Environments

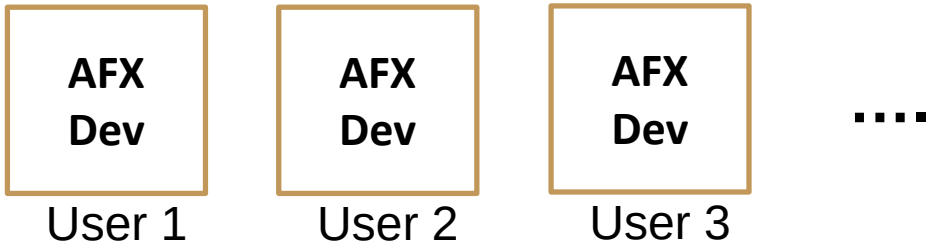
User configures a Gnome instance with root (sudo) rights

User customizes the instance for project development

Custom Tools + **OS Customizations**

Nimbis creates a snapshot of the configured environment

Project users can now launch this new image type from custom catalog



Performer Isolation

Is my data safe on the cloud?

Security & compliance is a shared responsibility

Performer

Nimbis

Customer applications & content

Platform, Applications, Identity & Access Management

Operating System, Network, & Firewall Configuration

Client-side Data Encryption | Server-side Data Encryption | Network Traffic Protection

Customers have their choice of security configurations **IN** the Cloud

aws

AWS Foundation Services

Compute | Storage | Database | Networking

AWS Global Infrastructure

Availability Zones

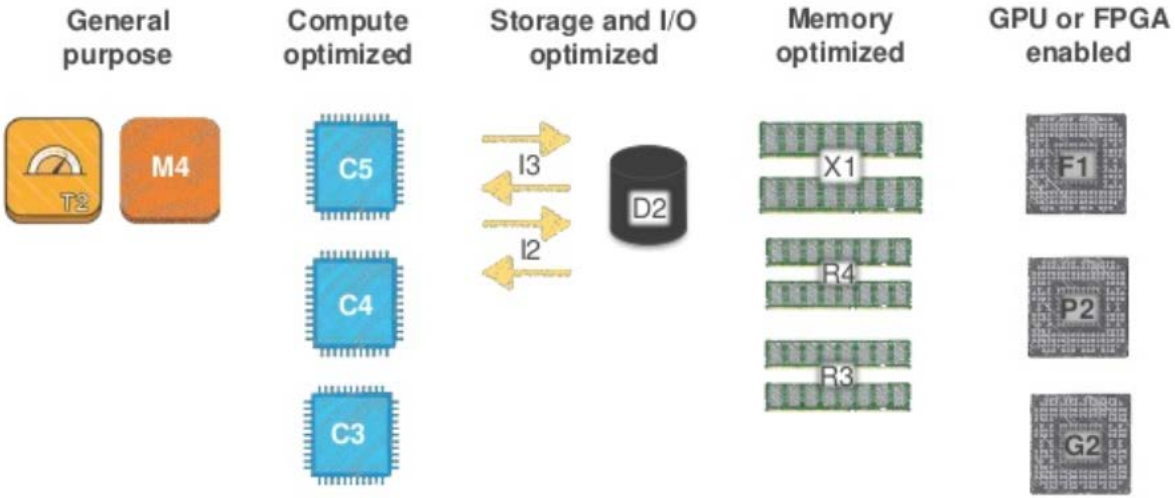
Regions

Edge Locations

AWS is responsible for the security **OF** the Cloud

Flexible and Elastic Resources

AWS Instance types



Subject to constraints from the project owner, users can spin up as many instances as needed, of whatever type best suits the job at hand, or take advantage of dynamically scalable compute farms.

Instances have varying combinations of resources

- # and type of cpus
- Amount of RAM
- Storage size, type, and speed

Nimbis Services

Questions?

AFRL