



Common Cloud Definitions

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Center for Secure Communications



About Georgetown

Founded 1789

Carnegie Category I Research University

One of the leading government, law, and business schools in the nation

February 19, 2013

2



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Georgetown Center for Secure Communications

- Enabling secure enterprises to communicate securely with other secure enterprises
- Typical work:
 - Cyber threat information sharing
 - Telepresence interoperability
 - Inter-cloud security and trust interoperability



Security and Software Engineering Research Center (S²ERC)

- NSF Industry / University Cooperative Research Center (I/UCRC)
- Standing facility for MIPR and IIA: simple affiliation agreement for government/DoD/IC
- Multi-Institution
- 33 Affiliates





Buzz Word of 2000's: CLOUD

NIST SP 800-145 Definitions (2011)

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5



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Basic Definition

- Cloud computing is a model for
 - enabling ubiquitous, convenient, on-demand network access
 - to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services)
 - that can be rapidly provisioned and released with minimal management effort or service provider interaction.

Service Models

- Infrastructure (IaaS)
 - Provider offers raw materials
 - Customer provides images, often down to the operating system
- Platform (PaaS)
 - Provider offers application platform
 - Customer builds application in framework
- Software (SaaS)
 - Provider offers soup-to-nuts application
 - Customer might configure application



Private Cloud

- Cloud technology
- Cloud “billing”
- Physically separate infrastructure
 - On premises
 - Off premises
 - Hosted



Community Cloud

- Intra-enterprise or closed community group private cloud
- Exclusive access to underlying infrastructure
 - On a member's premises
 - Off premises
 - Hosted



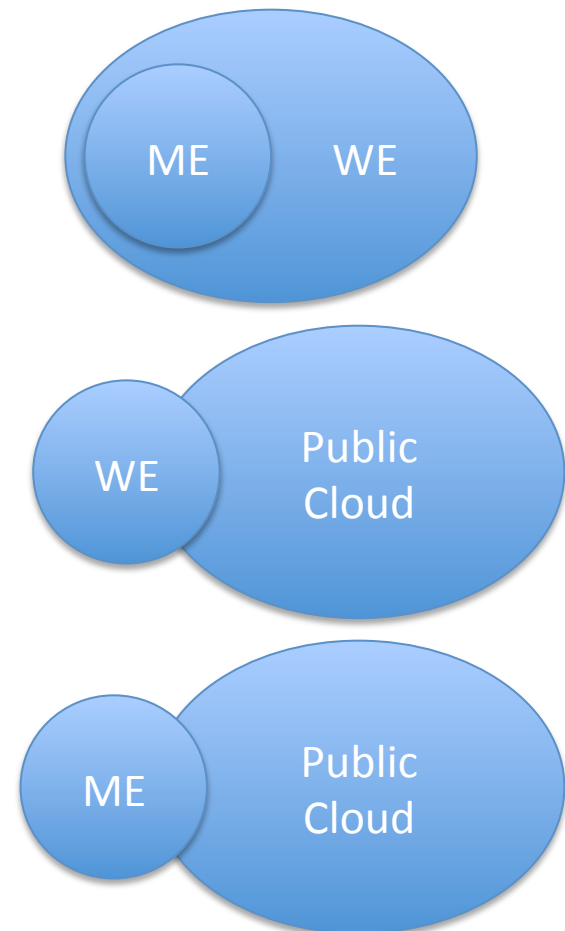
Public Cloud

- Infrastructure open to public
- Often the business of the provider
- Infrastructure on provider's premises



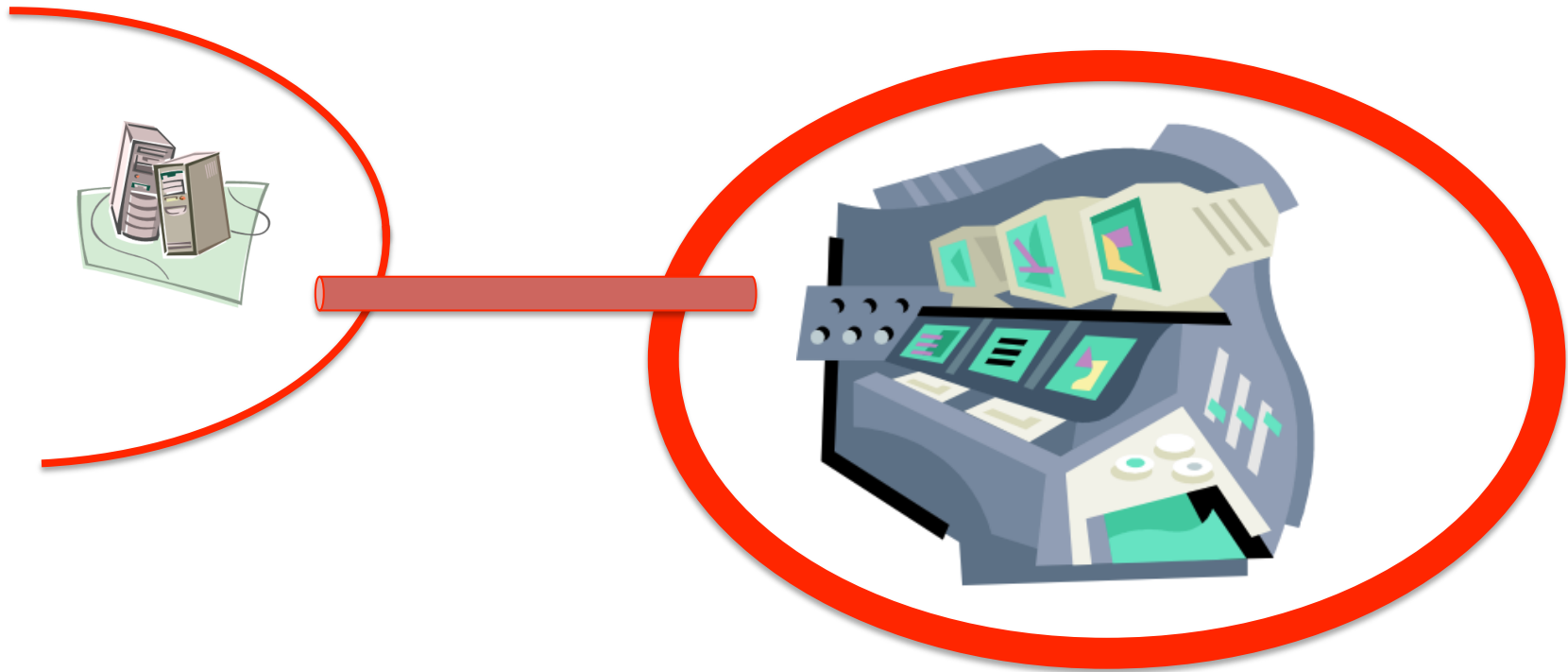
Hybrid Cloud

- Combination of public, community, or private cloud
- XaaS on-demand scale
 - Otherwise, just cloud point solution



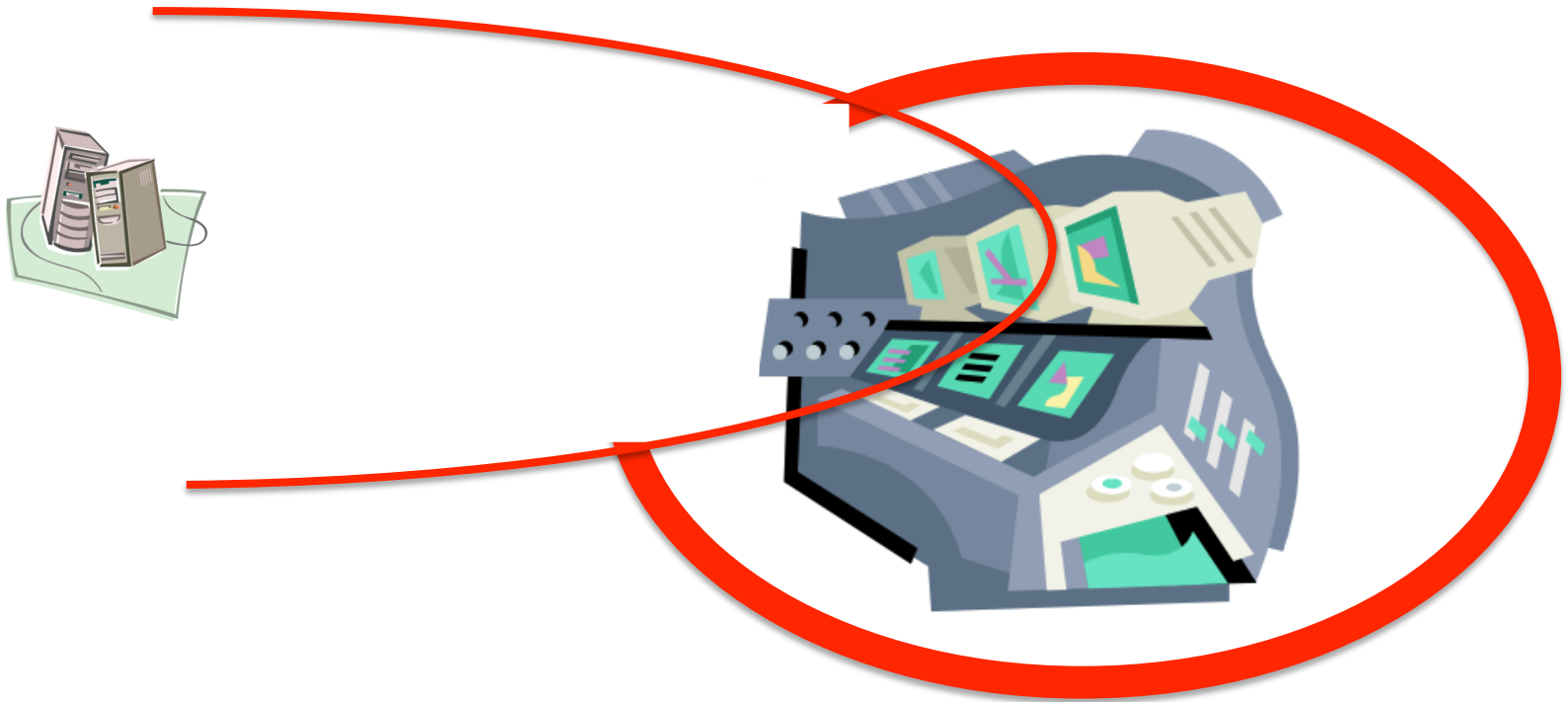
Cloud Computing Today

Private / Community Cloud

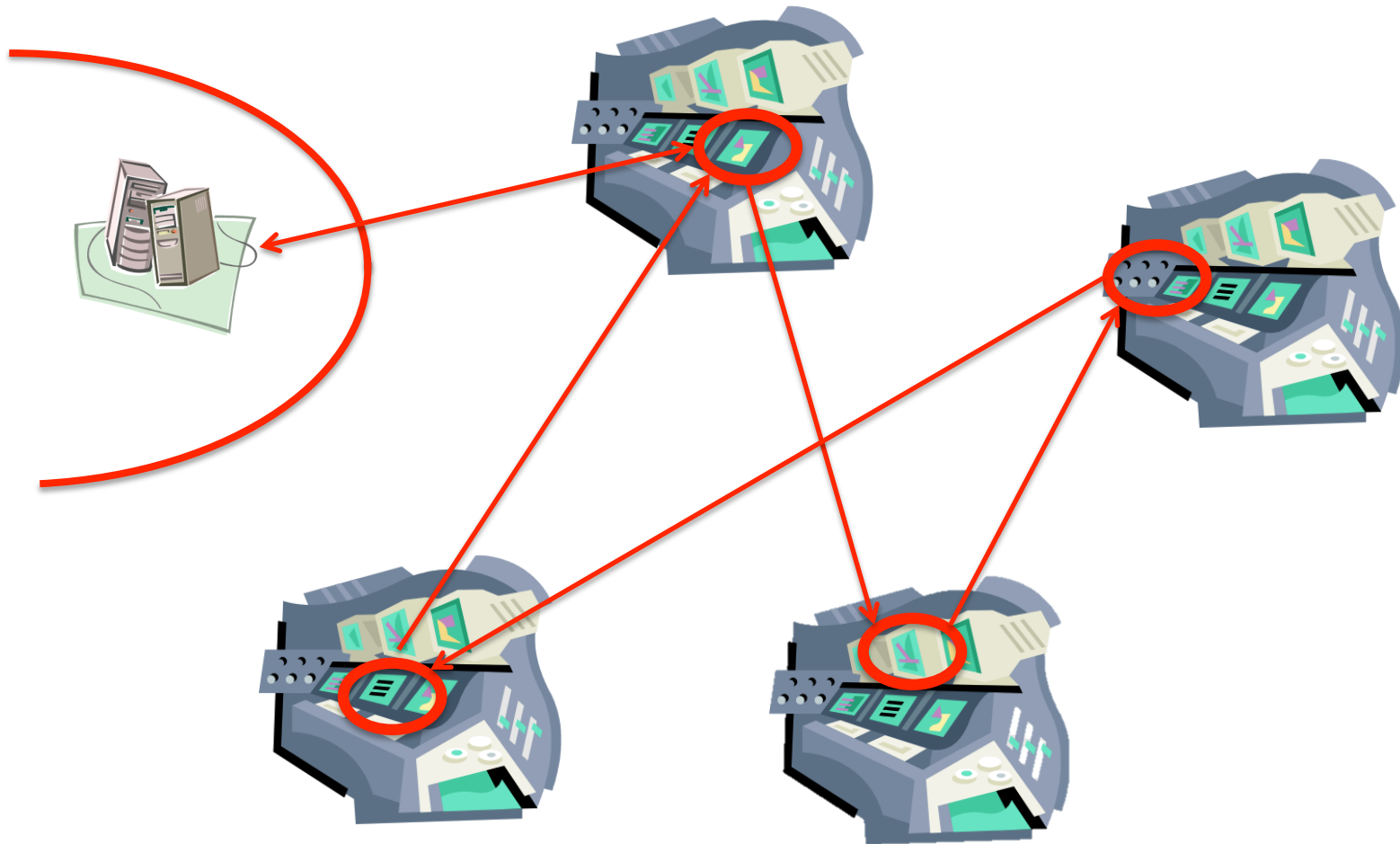


Cloud Computing Today

Hybrid Cloud



Desired State: The InterCloud (Current Georgetown Research)





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