Secure Cloud Computing: A Research Perspective

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About ICS

- Founded in 2007
  - Major commitment to secure cloud computing from the beginning

- Pursue PhD level world-leading research with real-world impact
  - 13 PhD graduates, 2010-2015
  - 13 PhD students currently in process

- Two major laboratories
  - FlexCloud
  - FlexFarm

- Any high tech company (which is basically all companies) need 10% PhDs on their staff
NIST Cloud Computing 3-4-5 Definition

5 Essential Characteristics

- On-demand self service
- Broad network access
- Resource pooling (multi-tenant)
- Rapid elasticity
- Measured service

3 Service Models

- Software as a Service (SaaS)
- Platform as a Service (PaaS)
- Infrastructure as a Service (IaaS)

4 Deployment Models

- Public
- Private
- Community
- Hybrid

2009-2011
16 versions
Secure Cloud Computing Research

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- Platform as a Service (PaaS)
- Infrastructure as a Service (IaaS)