Plenary Panel on Cloud Security and Privacy: What is new and What needs to be done?

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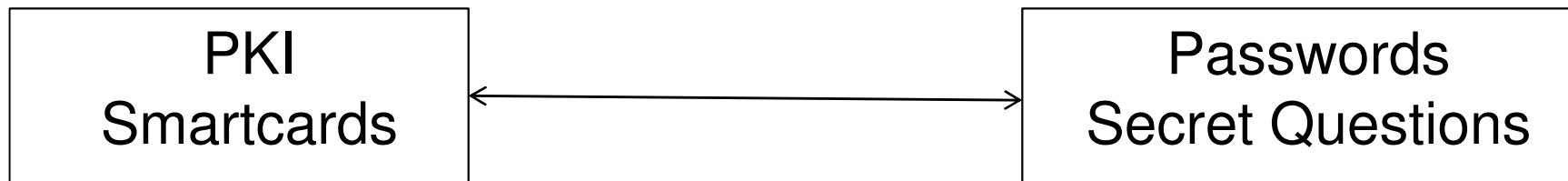ravi.sandhu@utsa.edu, www.profsandhu.com, www.ics.utsa.edu

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What is Not New

- ➢ **Attractions of Cloud Computing:**
  - ❖ Economics
  - ❖ Productivity
- ➢ **Concerns About Cloud Computing:**
  - ❖ Dependability
  - ❖ Security
- ➢ **Guess who wins?!**

What is New

Cyber security has evolved

❖ Computer security

❖ Computer security + Communications security

  ▪ Consider ACM Computer and Communications Security (CCS) Conference founded 1993

❖ Information security

❖ Information assurance

❖ Mission assurance

  ▪ The cloud, or any other cyber infrastructure, by itself cannot guarantee mission assurance.

  ▪ Cyber security then becomes a piece of the larger goal of mission assurance.

Understand the Problem

➢ Internet authentication:

| PKI Smartcards | ←——————→ | Passwords Secret Questions |

➢ Data security in the cloud:

| Homomorphic Encryption | ←——————→ | Something Simpler?? |