SNS COLLEGE OF TECHNOLOGY

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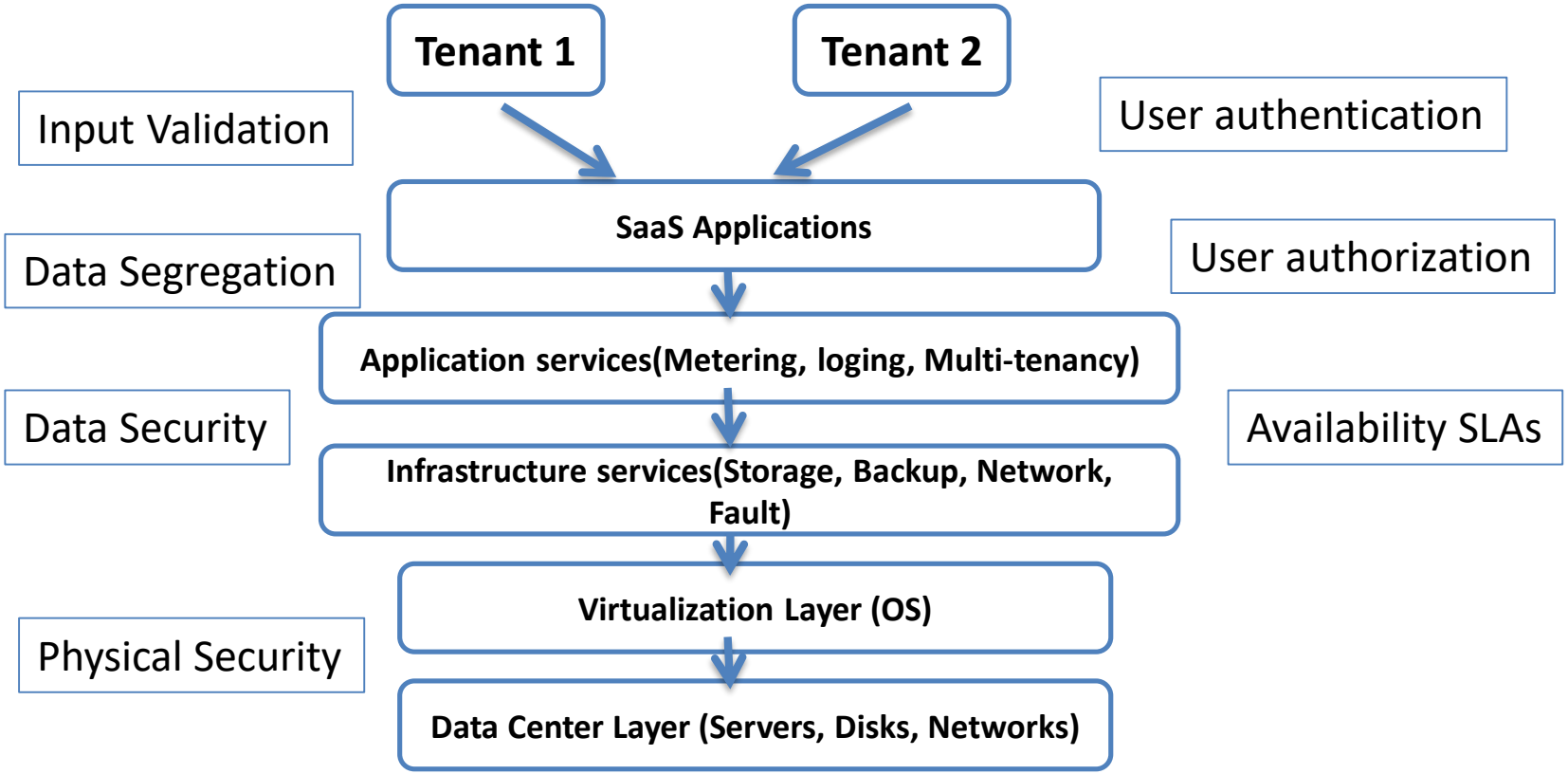
DEPARTMENT OF COMPUTER APPLICATIONS

COURSE	UNIT V	TOPIC	Semester
23CAE717 Cloud Computing	**Security in the Cloud**	Software-as-a-Service Security –Security Governance	II Semester / I MCA

Software-as-a-Service Security

- In this model, enterprise data is stored at the SaaS provider's data center, along with the data of other enterprises
- strong concerns about data breaches, application vulnerabilities and availability that can lead to financial and legal liabilities

Software-as-a-Service Security



Software-as-a-Service Security

- **Seven security issues to be discussed with cloud vendor by customer**

Security Issues

- **Investigative support**
  Does the vendor have the ability to investigate any inappropriate or illegal activity?

- **Regulatory compliance**
  Make sure that the vendor is willing to undergo external audits and/or security certifications

- **Data location**
  Does the provider allow for any control over the location of data?

Security Issues

❑ Data segregation

Make sure that encryption is available at all stages, and that these encryption schemes were designed and tested by experienced professionals

❑ Recovery

- Find out what will happen to data in the case of a disaster ?
- Do they offer complete restoration? If so, how long would that take?

Security Issues

- **Privileged user access**

  Inquire about who has specialized access to data, and about the hiring and management of such administrators

- **Long-term viability**

  What will happen to data if the company goes out of business?

  How will data be returned, and in what format?

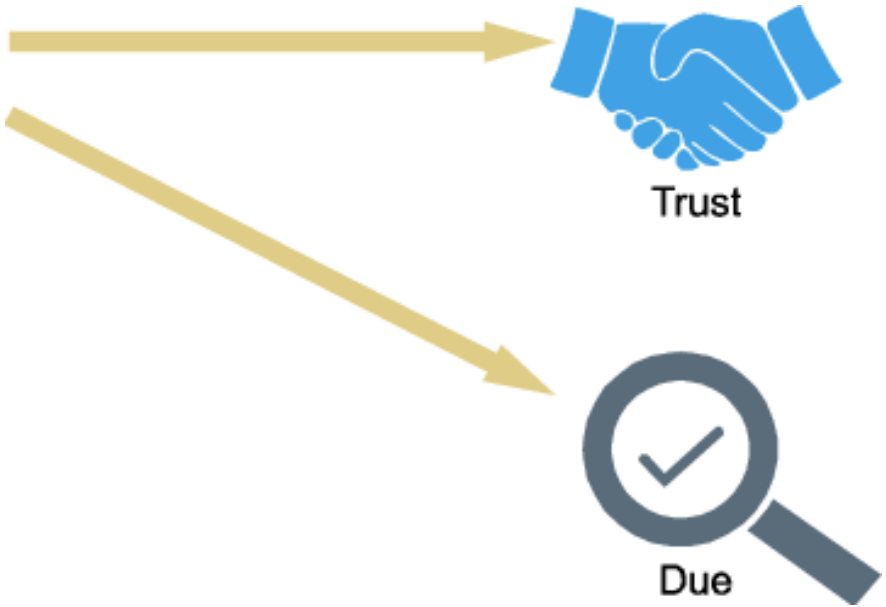
Security Issues

- To address the security issues, SaaS providers need to incorporate and enhance security practices used by the managed service providers

Security Management (People)

- develop a formal charter for the security organization and program
- a shared vision among the team of what security leadership is
- In aligned with the strategic plan of the organization or company the security team works for
- clearly defined roles and responsibilities, and agreement on expectations and skills

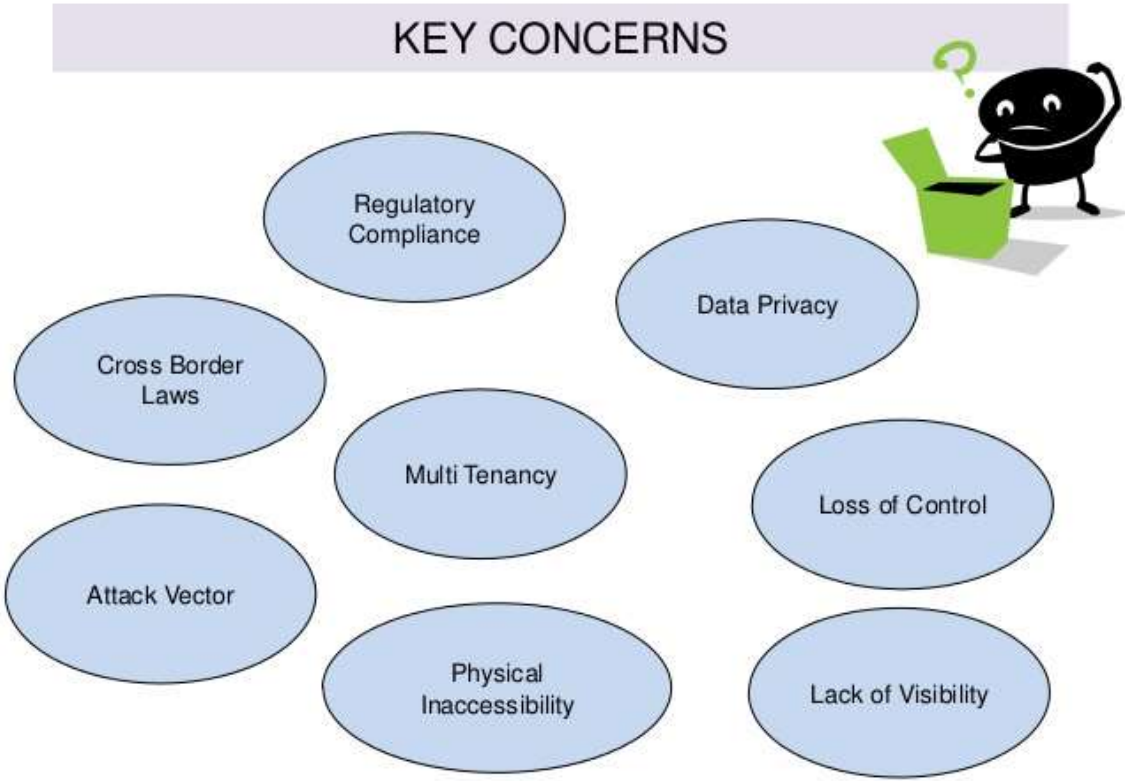
Security Governance



Security Governance

- A security steering committee with objective of focusing on providing guidance about security initiatives and alignment with business strategies
- Clearly define the roles and responsibilities of the security team and other groups involved in performing information security functions
- Security team is one of first deliverables from the steering committee.

Security Governance



Security Governance

- Start with People
- Audit compliance
- Identity and access management(IAM)
- Security information and event mgt (SIEM)
- Look for guidance, own security
- Governance framework

SWOT Analysis - Cloud

Strengths

- Cost effective, scaling
- Flexible, innovative
- Secured infrastructure
- Compliment facilities
- Fault tolerance
- Energy saving, environment friendly, better control, access

Weakness

- Post training
- Development of applications
- Increased dependency
- High speed internet connection
- Data transfer bottlenecks
- Lack of commitment in service
- Lack of physical control of data

Opportunities

- Pay for use
- Good chance of migration
- Scalable
- Standardized process
- Quick solution
- High tech work environment
- Modern information solution
- Data analysis

Threats

- Security concerns (data security)
- Lack of specific standard
- Difficulty from migration from one to another
- Hidden cost (backup, problem solving, recovery)
- Compatibility

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- Kai Hwang, Geoffrey C Fox, Jack G Dongarra, “Distributed and Cloud Computing, From Parallel Processing to the Internet of Things”, Morgan Kaufmann Publishers, 2012
- James E. Smith, Ravi Nair, “Virtual Machines: Versatile Platforms for Systems and Processes”, Elsevier/Morgan Kaufmann, 2005.
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