Cloud Security Architecture

ACS REGISTRARS
ISO 29990

ACS REGISTRARS
Quality Assurance
ISO 9001

ilm
Approved Centre

PMI
Registered Education Provider

Project Management Institute

bci
Business Continuity Institute
Corporate Partnership

Transforming
Business *for* Good

Course content

Why Attend

Cloud computing is a new concept using old technologies. It has quickly become a vital tool in organizations across all industries as an Internet-scale computing infrastructure. Nevertheless, despite Cloud computing's increasing relevance and popularity, there is a lack of understanding of the security risks associated with Clouds and optimal approaches for migration into Clouds. This course covers these from a practical angle; specifically, it covers Cloud computing architecture, management services, and security challenges. It also discusses Cloud migration planning and the main requirements to move current Cloud untrusted infrastructure to a trustworthy Internet-scale Cloud critical computing infrastructure.

Course Methodology

This course is highly interactive and includes group discussions, case studies and syndicate work. It also includes practical exercises that allow all participants to use the knowledge they gained to demonstrate their skills in cloud management and security.

Course Objectives

By the end of the course, participants will be able to:

Understand cloud strengths and misconceptions, and discuss its benefits and weaknesses
Explain cloud structure, properties and management services
Set a cloud adoption strategy
Discuss the main requirements to move current cloud untrusted infrastructure to a trustworthy internet-scale cloud critical computing infrastructure
Analyze the major risks associated with the different cloud services and deployment models
Discuss the main principles, mechanisms and best practices for treating cloud risks
Demonstrate the discussed concepts using practical case studies, business models and industrial tools

Target Audience

IT and infrastructure leaders, decision makers (CxO), risk analysts, strategic planners, architects, administrators, software and business developers, and project managers

Target Competencies

Cloud management
Identity management
Access management
Security risks management

Course content

Course Outline

Cloud overview

Cloud definition, misconceptions and evolution
Cloud services and deployment types
Challenges

Cloud management

Cloud structure and its properties
Virtual and application layer management services
Cloud dynamic nature and its challenges
Application development and integration within clouds
Security best practices for automating cloud infrastructure management
Clarifying the concepts using industrial platformsß

Establishing trust in clouds

Defining cloud trustworthiness
       Its properties
Assessing cloud trustworthiness
Establishing trust in:
       Private
       Hybrid
       Community
       Public cloud deployment types
Establishing trust in:
       IaaS (Infrastructure as a Service)
       PaaS (Platform as a Service)
       SaaS (Software as a Service)
Clarifying the concepts using openstack management platform

Identity and access management

Authorization
Access management
Federated access management
Insiders vs attackers
Insiders analysis and management
Related industrial tools:
       Cloud insider treatments
       Cloud strong authentication

Provenance in clouds

Definition and attributes
Challenges faced
Security risks mitigation using provenance
Case studies for using provenance:
       Forensic investigation
       Trustworthy operational management
       Proactive and predictive management
       Bill assurance
Related industrial tools

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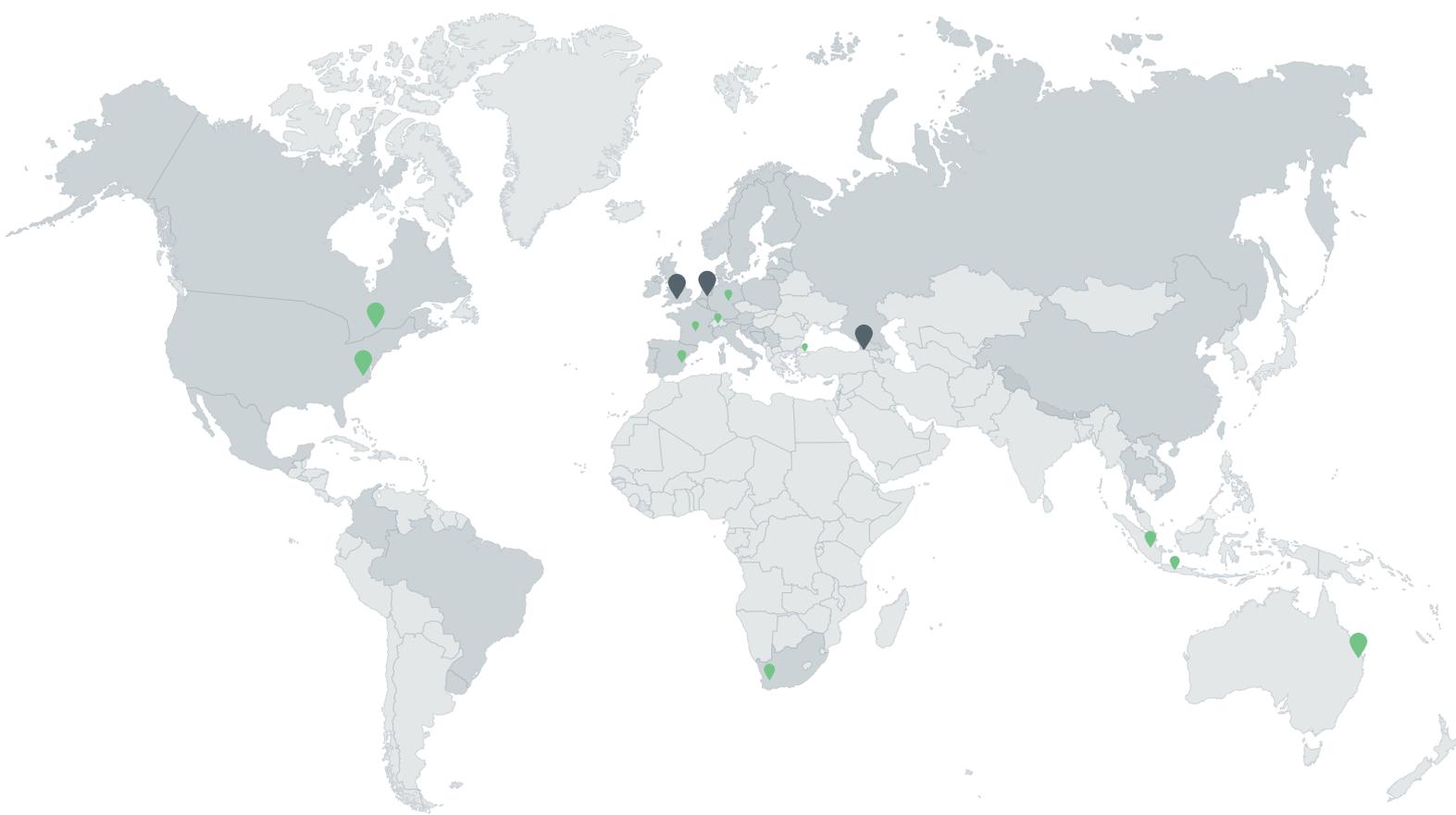
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