Course ID
CLOUD-STND
Course Duration
3-5 days

Course Title
Cloud Computing Standards and Protocols

Related Courses

- Cloud Computing Business and Technology Briefing™ (CLOUD-BRIEF, 1 day)
- Cloud Computing Market Briefing (CLOUD-MKT, 1 day)
- Cloud Computing Application Case Studies (CLOUD-APP, 1 or more days)
- Cloud Computing Architecture and Implementation (CLOUD-AI, 3-4 days)
- Cloud Computing Security (CLOUD-SEC, 3-5 days)
- Cloud Computing End-to-End (CLOUD-E2E, 1 day)

Aimed At

Persons responsible for the implementation and/or ongoing support and troubleshooting of cloud computing environments, either from the service provider or user side, will benefit most from this course.

Group Size

5-25

Prerequisites

Knowledge of operations of packet based networks is a pre-requisite. Prior experience with the open source WireShark™ network traffic analyzer is also beneficial.

Course in a Nutshell

The underlying protocols, message formats, and exchanges are what make the architectures work. This course will review the predominant protocols, their standards, and operation using a detail-level presentation on cloud computing standards and protocols.

Customize It!

This briefing can be scheduled as a full three, four or five day standalone course or as a part of a larger curriculum with other courses.

Learn How To

- Identify and differentiate all major Cloud Computing standards and protocols
- Choose the right standards and protocols for specific tasks and applications
- Implement lower and upper layer standards
- Differentiate Cloud-only standards and protocols from standards and protocols which may be used in non-cloud applications
- Specify and implement user-side and cloud-side protocols

Course Outline

Standards and Protocols Introduction

A high level overview of the topic and the briefing.

Standardization Landscape

- National Institute of Standards and Technology (NIST)
- ANSI/ INCITS
- Cloud Security Alliance
- Cloud Standards Customer Council
- Distributed Management Task Force (DMTF)
- European Telecommunications Standards Institute (ETSI)
- Open Grid Forum (OGF)
- Object Management Group (OMG)
- Open Cloud Consortium (OCC)
- Organization for the Advancement of Structured Information Standards
- IEEE
- Internet Engineering Task Force (IETF)
- InfiniBand Trade Association (ITA)
- Information Standards (OASIS)
- Storage Networking Industry Association (SNIA)
- The Open Group
- Association for Retail Technology Standards (ARTS)
- TM Forum

Lower Layer Standards

- 8Gig Fibre Channel (8GFC) [ANSI/INCITS]
- Open Virtualization Format (OVF) [DMTF]
- Convergence Enhanced Ethernet (CEE) [IEEE]
- Fiber Channel over Ethernet/Data Center Bridging (FCoE/DCB) [IEEE]
- Priority Flow Control (802.1Qbb) [IEEE]
- End-to-End Congestion Notification (802.1qau) [IEEE]
- Shortest Path Bridging (802.1aq) [IEEE]

- Enhanced Transmission Selection (ETS) (802.1Qaz) [IEEE]
- TRILL (Transparent Interconnect of Lots of Links) [IETF]
- InfiniBand [ITA]

Upper Layer Standards

- Standards Acceleration to Jumpstart Adoption of Cloud Computing (SAJACC) [NIST]
- Cloud Computing Use Cases [NIST]
- Open Cloud Computing Interface (OCCI) [OGF]
  - Open Cloud Computing Interface Core Specification
  - Open Cloud Computing Interface Infrastructure Specification
  - Open Cloud Computing Interface HTTP Rendering Specification
- Cloud Infrastructure Management Interface (CIMI) [DMTF]
- Cloud Data Management Interface (CDMI) [SNIA]
- The Role of Representational State Transfer (REST)

Standards and Protocols Review and Summary

A review of the briefing topics and summary of the program.

How You Will Learn

- A seasoned instructor will present this course in interactive lecture format.
- Along with the lecture, we will use exercises to enrich the instruction and drive home the essential points. The course can be optionally taught as a hands-on workshop at no added cost.
- If you already know something about the technology, we will build on that. We'll compare and contrast what's familiar with what's new, making the new ideas easier to learn as well as more relevant.
- If your background is less technical, we will use meaningful examples and analogies to simplify the complex subject matter.
- You will receive a printed Participant Handbook which will help you remember and retain what you learned in class and apply it on your job.

Revised *November 2f, 2011*