TOSCA
Topology and Orchestration Specification for Cloud Applications

An Open Standard for Cloud Application Portability

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AGENDA

- What is TOSCA?
  - How it addresses critical Cloud challenges

- Growing TOSCA eco-system

- Dev-Ops enabled by TOSCA

- Flexible and Portable TOSCA Applications
  - Empowering business choice in Cloud
What is TOSCA?

- TOSCA is an important new open cloud standard, that is enabling a unique eco-system, supported by a large and growing number of international industry leaders...

TOSCA defines the interoperable description of applications; including their components, relationships, dependencies, requirements, and capabilities....

...thereby enabling portability and automated management across cloud providers regardless of underlying platform or infrastructure thus expanding customer choice, improving reliability, and reducing cost and time-to-value.
TOSCA addresses critical cloud challenges

1. Speed and accuracy moving apps to Cloud

2. Agility adapting to change (Business and IT)

3. Consumer Choice of Cloud vendor and technology
The collective knowledge of application and infrastructure experts are captured as reusable TOSCA models

Containment and Connectivity concepts support Composition & Reuse

These concepts lead to an application-centric, holistic, unified model

- **Reusable models** extend investments by making it easy to compose more valuable and complex apps from existing apps
- Models can be **validated by automation** to ensure app-aware, policy-aligned configuration, deployment and operational semantics
TOSCA enables an eco-system where service providers can Compete and Differentiate to add value to Your Applications

TOSCA supports automated matching of application requirements to provider capabilities

- TOSCA Apps can be designed to be portable to any cloud (including hybrid) that meets the application’s requirements
- Avoid the “lowest-common denominator” approach...

Each cloud provider competes by offering their “best fit” of unique capabilities, features, and services that match the application’s requirements
TOSCA eco-system vision successfully demonstrated @Eurocloud

OASIS Sponsored Multi-Company Interop. Demos of SugarCRM, SAP CRM and SAP ERP application portability

Participating Companies:

- Fujitsu
- HP
- Huawei
- IBM
- SAP
- Vnomic
- Zenoss
- Cloud Managers
  - Fujitsu FlexFrame Orchestrate
  - HP Cloud Management and Automation
  - Huawei Telco Cloud Solution
  - IBM Cloud Orchestration
  - Vnomic Supported Clouds

Design Tools
- Vnomic Service Designer
- IBM Workload Deployer
- Zenoss Cloud Monitoring

Service Marketplaces
- TOSCA eco-system
- multiple marketplaces (conceptual)

Cloud optimization tools

Different partner cloud orchestration engines & tools seamlessly modeling, deploying, and running the same TOSCA service templates on different clouds.
TOSCA Enables Holistic Application Lifecycle Automation While Ensuring Integrity, Security, and Compliance

Architects: Model services, policies & requirements

Development Teams: Develop, unit test scripts, plans & artifacts for planned releases, patches, fixes

Operations: Deploy, manage & monitor application lifecycle

QA Teams: Build & Test releases, updates & configurations

TOSCA Templates Agnostic to Cloud Infrastructure Changes

TOSCA Templates Communicate and Drive App-Centric Dev-Ops and Continuous Delivery
TOSCA reduces application complexity by expressing application requirements independently from cloud provider capabilities...
TOSCA enables flexible movement *between different clouds*

TOSCA Cloud Service Templates enable ...

- Cloud providers to match application requirements *while still offering unique solutions*

- Automated application movement between Clouds *without typical migration pains*

**Freedom to respond to changes in business needs and regulatory demands**
TOSCA eco-system is rapidly growing with support from industry leaders

... and open source partners

✔ TOSCA Version 1.0 Specification approved as an OASIS Standard (Nov 2013)

✔ Government and Corporate Awareness:
  - OASIS: 600+ member organizations.
    5000+ participants spanning 65+ countries
  - TOSCA TC: 150+ members, 35+ companies & orgs.
  - International Standards & Research: ETSI NFV liaison, EU FP7, etc.
  - Industry Analysts: Forrester names TOSCA as a top four cloud open standard (Mar 2014)

✔ Multi-company Interoperability Demonstrated:
  - EuroCloud 2013 (Oct 2013): IBM, SAP, Fujitsu, Huawei, HP, Vnomic, Zenoss and others
  - Open Data Center Alliance: TOSCA Application Portability in the Enterprise Cloud PoC (Jan 2014)

✔ Open Source:
  - OpenStack, Eclipse, getcloudify.org, celar
Find out how TOSCA can empower your Cloud business

TOSCA enables application **portability** and **automated management** across cloud providers regardless of underlying platform or infrastructure thus expanding customer **choice**, improving **reliability**, and **reducing cost** and **time-to-value**.

- In implementing your Cloud strategy TOSCA enables unique solutions to your key challenges
  - *Speed and accuracy moving apps to Cloud*
  - *Agility adapting to change - Business and IT*
  - *Choice of Cloud vendor and technology*

- Talk to your vendors and platform providers about their TOSCA support
• TOSCA Technical Committee Public Page
• TOSCA v1.0 Specification
  – http://docs.oasis-open.org/tosca/TOSCA/v1.0/TOSCA-v1.0.pdf
• TOSCA v1.0 Primer
  – http://docs.oasis-open.org/tosca/tosca-primer/v1.0/tosca-primer-v1.0.pdf
• TOSCA Simple Profile in YAML v1.0 in early, committee-approved draft form
  – http://docs.oasis-open.org/tosca/TOSCA-Simple-Profile-YAML/v1.0/TOSCA-Simple-Profile-YAML-v1.0.pdf
• OASIS YouTube Channel
  – https://www.youtube.com/user/OASISopen

• Contact the Technical Committee Co-Chairs:
  – Paul Lipton, paul.lipton@ca.com
  – Simon Moser, smoser@de.ibm.com
ODCA Forecast Kiosk video features...

OASIS TOSCA TC Members showcasing their support of the “TOSCA Ecosystem”

See the latest TOSCA Ecosystem in our video

Developed by the TOSCA Marketing & Education WG
Questions?
Join the Cloud Standards Customer Council

An end user advocacy group dedicated to accelerating cloud’s successful adoption and drilling down into the standards, security, and interoperability issues surrounding the transition to the cloud.

The CSCC is where emerging standards and user needs intersect.

Become a member:
www.cloud-council.org