PUBLIC PROJECT INFORMATION FACTSHEET TClouds

The TClouds project - a brief overview

The TClouds project aims to develop a secure and resilient cloud infrastructure with focus on privacy protection. It allows virtualized computing, network and storage resources over the Internet to provide scalability and cost-efficiency. This factsheet outlines all the public information available to date within TClouds in a brief list containing short descriptions of each item. Further information on the project and its public content is available on the TClouds website: www.tclouds-project.eu.

Public Deliverables

All public deliverables are available on the website:

http://www.tclouds-project.eu/index.php/published-results/public-deliverables

1st Project Year - Public Deliverables:

D1.1.1: Draft Scenario and Requirements Report
This deliverable provides a literature-based discussion of cloud computing and possible development trajectories. The aim is to define specifics and economic challenges and opportunities of cloud computing as well as to serve a basis for the scenario building activities.

D1.1.3: Exploitation Roadmap
It provides a roadmap for the exploitation of the TClouds infrastructure including the two ICT scenarios, home healthcare and public lighting.

D1.1.4: Final Scenario Framework
D1.1.4 provides a framework for the development of cloud computing scenarios including concepts of business models, business model risks as well as the methodology for the scenario building process.

D1.2.2: Cloud Computing: Legal Analysis
D1.2.2 identifies critical issues of cloud computing with respect to the current European data protection legislation. It presents the legal foundations of European privacy and data protection as well as additional challenges and conclusions.

D1.3.1: Cloud-Computing: Business Requirements Analysis
D1.3.1 provides cloud computing requirements from the business perspective. Also, the influential factors, impacts, opportunities and challenges are discussed.

D2.1.1: Technical Requirements and Architecture for Privacy-enhanced and Resilient Trusted Clouds
D2.1.1 describes requirements for a trusted cloud infrastructure, analyses shortcomings and develops new approaches and building blocks.

D2.2.1: Preliminary Architecture of Middleware for Adaptive Resilience
D2.2.1 presents the TClouds architecture and describes a number of components for adaptive resilience, to be developed in the project.

D2.3.1: Requirements, Analysis and Design of Security Management
D2.3.1 describes requirements, approaches, concrete interfaces, protocols and verification methods for managing secure and trustworthy cloud resources.

TClouds at a glance

Project number:
257243

TClouds mission:
- Develop an advanced cloud infrastructure that can deliver computing and storage with a new level of security, privacy and resilience.
- Change the perceptions of cloud computing by demonstrating the prototype infrastructure in socially significant application areas, like energy and healthcare.

Project start:
01.10.2010

Project end:
30.09.2013

Project duration:
36 months

Total costs:
EUR 10.536.129

EC contribution:
EUR 7.500.000

Consortium:
14 partners from 7 different countries.

Project Coordinator:
Dr. Klaus-Michael Koch
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Technical Leader:
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Project website:
www.tclouds-project.eu

D2.4.1: TClouds Prototype Architecture, Quality Assurance Guidelines, Test Methodology and Draft API

D2.4.1 includes quality assurance guidelines, common use cases, initial architecture, preliminary API and test methodology for the integrated proof of concept prototype.

D3.1.1: Trust Model for Cloud Applications and First Application Architecture

D3.1.1 analyses the home healthcare application. Technical requirements and legal issues are identified and preliminary reference architecture and middleware architecture are provided.

D3.2.1: Smart Lighting System Specification

D3.2.1 covers general specification for the Smart Lighting System application. The solution should include a set of management capabilities like on/off commands, real time status, energy consumption and schedules update.

D3.2.2: Smart Lighting System Design

D3.2.2 discusses the Smart Lighting System Design. The purpose of this deliverable is to serve as the basis for an actual implementation of the system.

D4.1.1: Plan and Initial Report on Dissemination, Training, Standardisation and Exploitation

D4.1.1 reports on the progress and further plans of the project partner for their dissemination activities, standardisation and exploitation of project results, and project internal/external education and training.

D4.2.1: Project website and internal IT communication infrastructure

D4.2.1 describes the tools provided within the IT infrastructure to facilitate cooperation and coordination.

1st Periodic Report according to EC regulations of the model contract - Publishable Summary

This summary is the public part of the 1st periodic report, which outlines all activities carried out, deliverables submitted and milestones reached in the first period of the project.

2nd Project Year - Public Deliverables:

D1.2.3: Cloud Computing: Solutions and Enablers

D1.2.3 identifies solutions and enablers to lawfully make use of cloud computing. The risks are mitigated on the politically, contractually and technically levels as well as measures and approaches on the three levels are described.

D1.3.2: Cloud Computing: Business Impact Analysis

D1.3.2 includes the services of a representative selection of IaaS cloud providers. Furthermore, it explores the impact of trust-related aspects on cloud-computing business models.

D2.1.2: Preliminary Description of Mechanisms and Components for Single Trusted Clouds

D2.1.2 consolidates and analyses the requirements for building a trusted infrastructure cloud. The research and developments are categorized into the following areas: trust, confidentiality, resilience and audit.

D2.2.2: Preliminary Specification of Services and Protocols of Middleware for Adaptive Resilience

D2.2.2 describes a revised architecture and how dependable services can use adaptation on the cloud. Numbers of components and algorithms developed during the first two years of the project are also described.

D2.2.3: Proof-of-concept of Middleware for Adaptive Resilience

D22.3 describes how to run and develop a first fault-tolerant service using BFT-SMaRt. The configuration parameters as well as a description on how to use them are defined.

D2.3.2: Components and Architecture of Security Configuration and Privacy Management

D23.2 presents components and architectures for distributed security management, management of large-scale and complex cloud systems as well as establishment of trust in cloud services.

D2.4.2: Initial Component Integration, Final API Specification, and First Reference Platform

D24.2 includes and reports three prototypes, outcome of the first round of integration of subsystems developed within the other Activity 2 work packages.

D3.1.2: Application API and first specification on application side trust protocols

D3.1.2 describes a concept as Healthcare Trustworthy Platform as a Service by defining and describing its use cases, platform architecture and security components. The objective of Health T-PaaS is to provide a secure and resilient cloud environment for healthcare service enhancement.

D3.1.3: Draft proof of concept for home healthcare

D3.1.3 describes the accomplishment during the development of the Home Healthcare Draft Proof of Concept as a Trusted Platform as a Service, on a commodity cloud.

D3.2.3: Smart Lighting System Draft Prototype

D3.2.3 describes the accomplishment during the development of the Smart Lighting System Draft Prototype, hosted on a commodity cloud.

2nd Periodic Report according to EC regulations of the model contract - Publishable Summary

This summary is the public part of the 2nd periodic report, which outlines all activities carried out, deliverables submitted and milestones reached in the first period of the project.

3rd Project Year - Public Deliverables:

The following deliverables, will be made available after the final review meeting in October 2013:

D1.1.5: Extended Requirements Report

D1.2.4: Cloud Computing: Privacy Impact Assessment

D2.1.4: Proof of Concept Infrastructure

D2.1.5: Final Report on Requirements, Architecture, and Components for Single Trusted Clouds

D2.2.4: Adaptive Cloud-of-Clouds Architecture, Services and Protocols

D2.3.3: Implementation of Security Configuration and Policy Management

D2.3.4: Automation and Evaluation of Security Configuration and Privacy Management

D2.4.3: Final Reference Platform and Test Case Specification

D3.1.5: Proof of Concept for home healthcare

D3.2.4: Smart Lighting System Final Prototype

D3.2.5: Smart Lighting System Final Report

D3.3.3: Validation Protocol and Schedule for the Smart Power Grid and Home Health Use Cases

D3.3.4: Final Report on Evaluation Activities

D4.1.2: Updated Dissemination, Training, Standardisation and Exploitation Report

D4.1.3: Final dissemination, training, standardisation and exploitation report

Factsheets (TCloudlets)

The following factsheets contain high-level descriptions of some components, prototypes and use cases developed within the TClouds project. They explain the advantages of TClouds technology in an easily accessible way. Each document is available on the TClouds website:

- **Trustworthy Openstack Prototype**
- **Access-Control-As-A-Service**
- **Cryptography-As-A-Service**
- **Trusted Infrastructure Cloud**
- **Secure Logging**
- **Ontology-Based Reasoner**
- **Remote Attestation Service**
- **Tailored Key/Value Store**
- **CheapBFT: An Efficient BFT System**
- **RBPEL: Reliable Workflow Execution**
- **BFT-SMART - State Machine Replication**
- **Cloud-Of-Clouds Storage Service**
- **Security Assurance In Virtualized Environments**
- **Smart Lighting System**
- **Healthcare Scenario**

Scientific Publications & Leaflet

TClouds related scientific publications and the official TClouds leaflet can be found on the TClouds website:
http://www.tclouds-project.eu/index.php/component/jumi/publications

Blog & Twitter & LinkedIN

On the TClouds website there is also a blog for related facts of the TClouds project. Furthermore, TClouds has a Twitter and a LinkedIn account.   www.twitter.com/tclouds_project

Linked in

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