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SLACC
SLA Support System for Cloud Computing

Guilherme Sperb Machado

Department of Informatics IFI
Communication Systems Group CSG
University of Zürich

Contextualization
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Summary and Conclusions

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Contextualization

- X-as-a-Services:
  - Infrastructure-as-a-Service
  - Platform-as-a-Service
  - Software-as-a-Service
  - Network-as-a-Service
  - Others… Human-as-a-Service?
- Cloud Computing is being widely adopted
  - Small and Medium Enterprises
  - Big Enterprises
  - Not only for testing and developing purposes, but also for on-production applications

Problem

- Cloud Providers do not offer/guarantee
  - ***SLA specification tailored to Cloud Users' interests***
  - WHY ?!

- The estimation of specific SLA parameters tends to be inaccurate due to:
  - Huge size of Cloud Providers IT Infrastructure
  - High complexity with multiple inter-dependencies of resources (physical or virtual)

Problem

- Just “Service Availability”
  - Amazon EC2, S3, SimpleDB
  - Salesforce
  - Google Apps (Gmail, Docs, …)
  - Rackspace (Sites and Files)

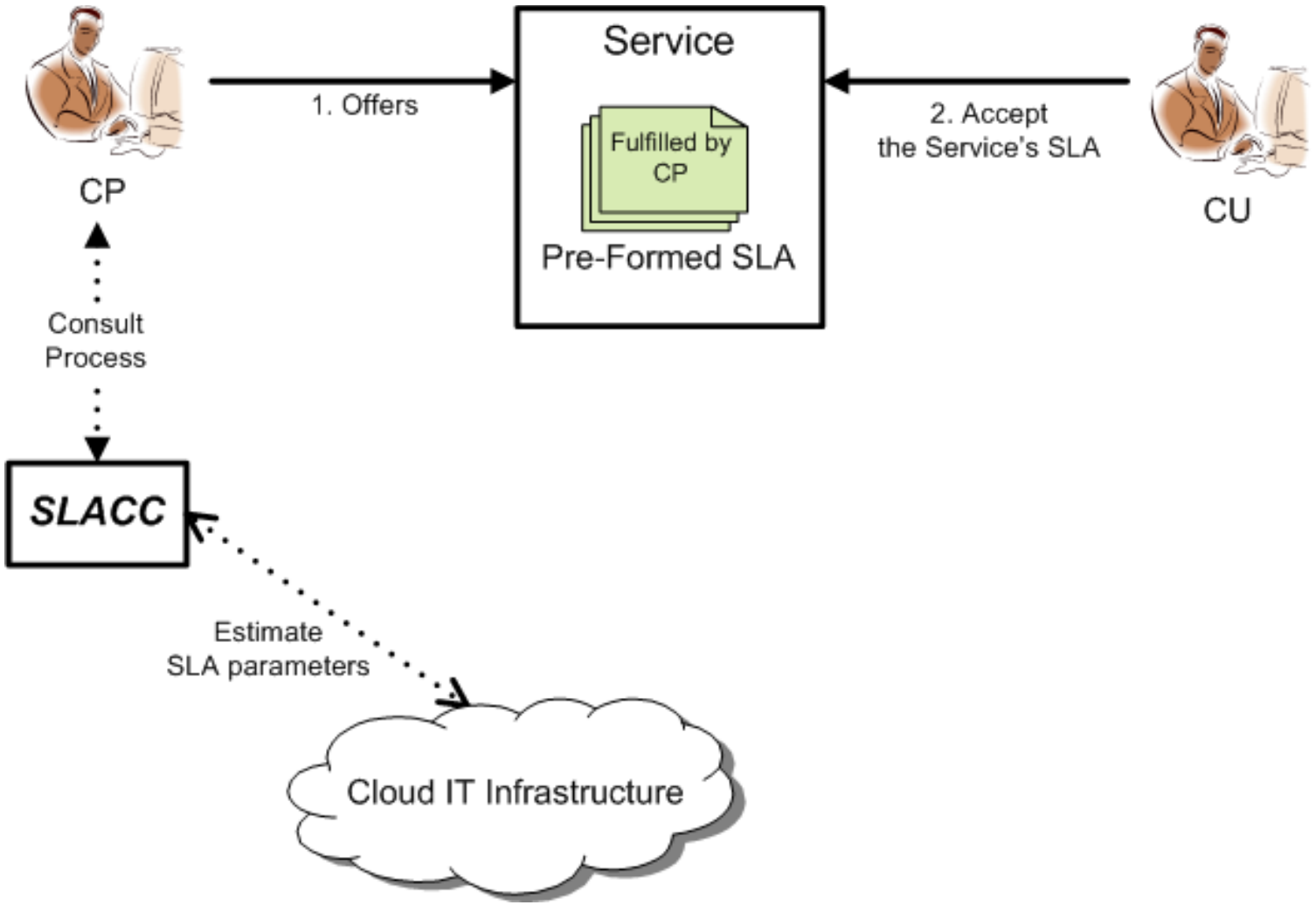
- What about, for example, ***performance*** parameters?
  - Hard to estimate

SLACC System

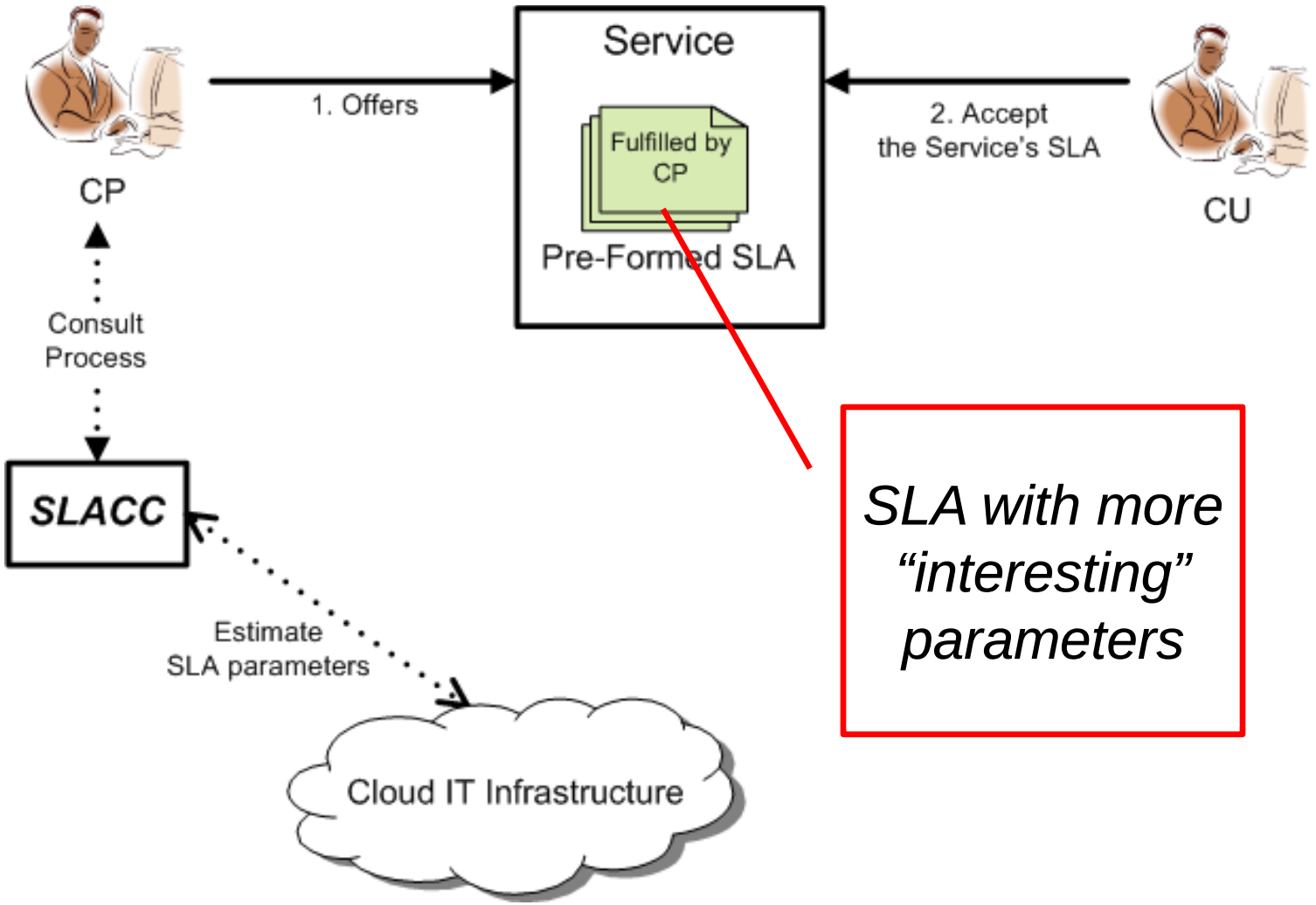
- SLACC: SLA Supporting System for Cloud Computing
  - Estimate SLA parameters (KPIs and SLOs) in a formalized methodology based on the CC infrastructure as a whole

- The benefits…
  - Enhance the level of SLA specificity
  - Diminish the probability of penalties
  - Decision support in SLA negotiation processes (CPs)
  - Better knowledge of IT infrastructures' capabilities

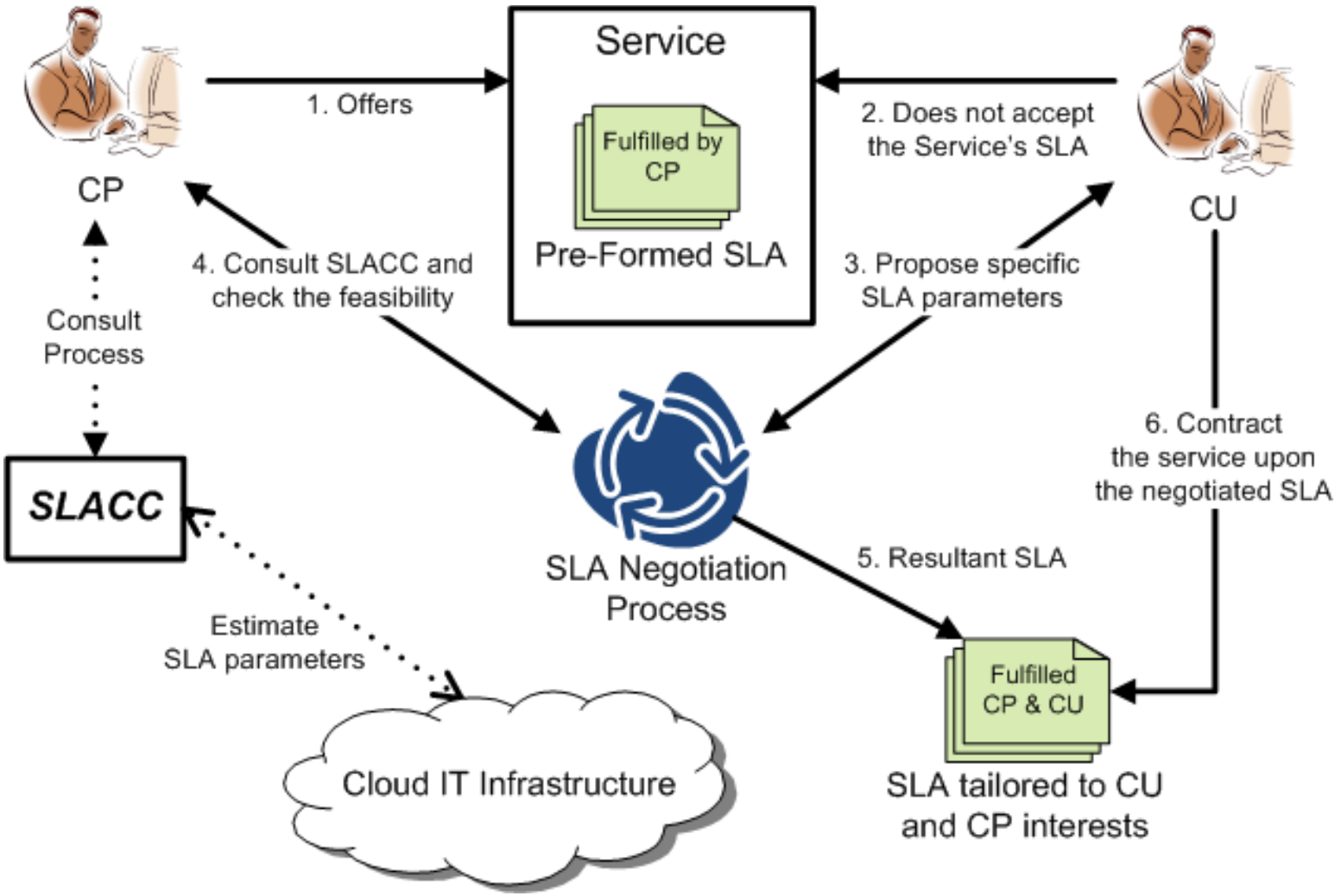
SLACC System



SLACC System



SLACC System



Requirements

- The need of models to represent
  - SLA
  - IT Infrastructure
- Fair estimation algorithm
  - What are the factors that matter for a successful instantiation of a virtual machine template?
  - How much time does it take to deploy and start a new VM instance?
  - How these factors can be summed/balanced to come up with *numbers* (KPI/SLOs)?

Summary and Conclusions

- Estimate SLA parameters in order to evaluate ***what Cloud Providers will be able to offer/accept as SLOs or KPIs***
  - Not just analyzing historical data, but current information

- Decision Support System
  - It aims to be part of the system without interfering in the current Cloud IT architecture
  - Work with well-defined SLA and IT infrastructure models (interfaces)
  - Service-Oriented