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Legal Compliance in Commercial Service Provisioning Across Administrative Domains

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Key Issues



- Commercial value added service provisioning
 - Internet design principles
 - Competitive context
- Legal compliance
 - Support mechanisms for business transactions (A4C)
 - Contract formation (commerce law)
- Multi-domain environment
 - Territorial realm of legal determinations
 - Lacking notion of location in the Internet

Fundamental design gap
→ menace to commercial service provisioning

Agenda

Contract Formation Process

Conflicts of Laws

Internet Organization

Problem Statement

Prerequisites

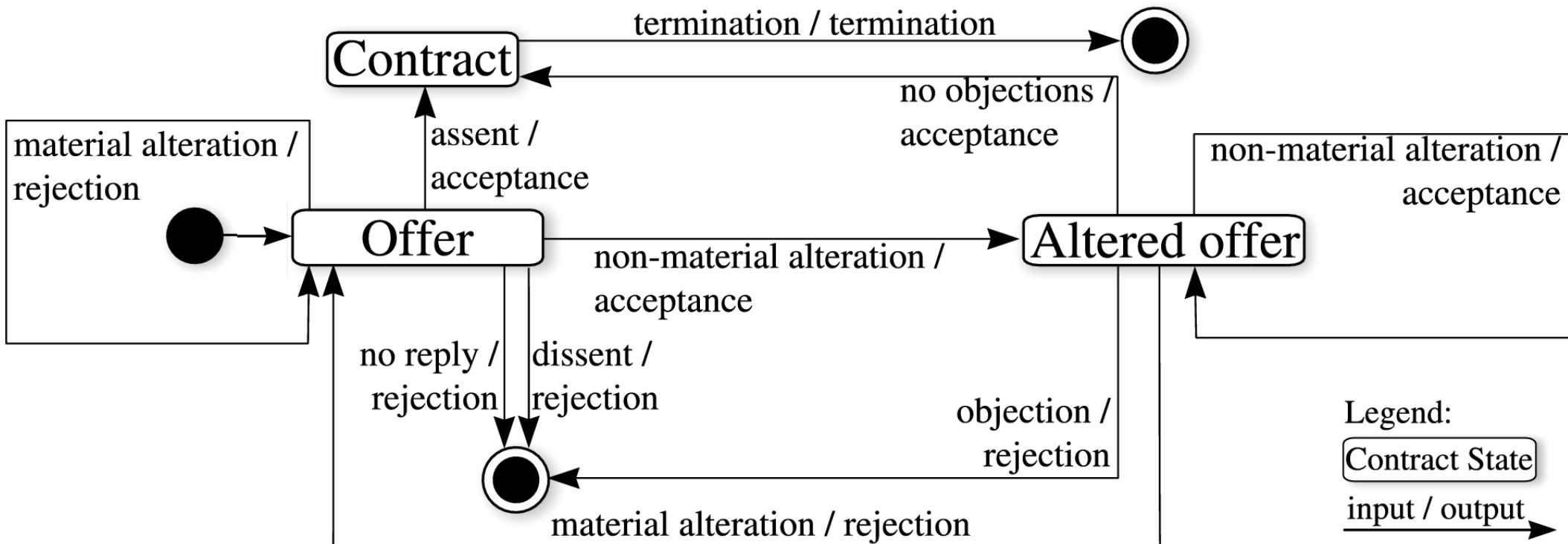
Solution Approach

Conclusions

Contract Formation Process (1)

- International context
 - Various international agreements, conventions, ...
 - UN Convention for the International Sale of Goods (CISG)
- Bilateral contract formation roles
 - Offerer (issuer)
 - Offeree (receiver)
- **Material** changes
 - Price
 - Payment
 - Quality and quantity of goods
 - Place and time of delivery
 - Liability determinations
 - Dispute settlement

Contract Formation Process (2)



Conflicts of Laws

- Diverse legal systems
 - Chthonic (customary)
 - Religiously inspired
 - Western law
- Private international law
 - Commerce law differently covered
 - Potential for **unresolvable conflicts**
- Open issue in **legal** domain
 - Ignorance (today)?
 - Roman approach?
 - Specific Internet law?



<http://www.droitcivil.uottawa.ca/world-legal-systems/images/eng-afrique.gif>

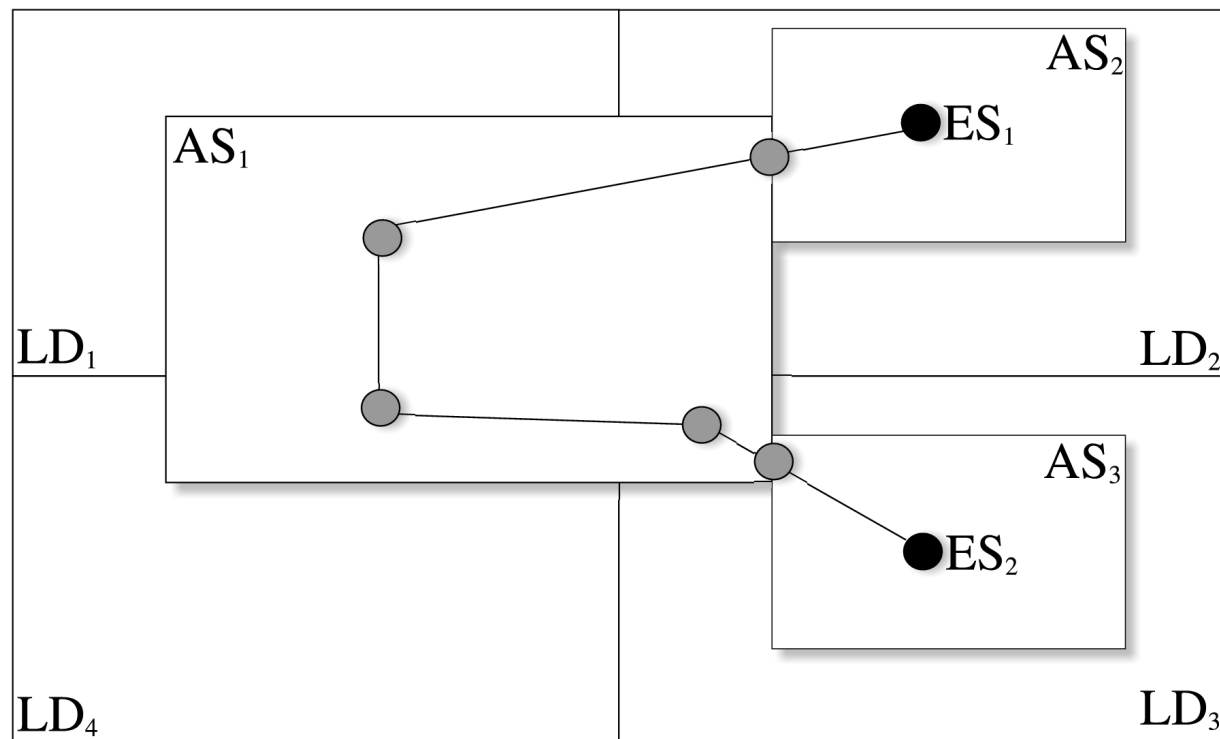
Internet Organization

- Network of networks
 - Administrative/routing domains
 - AS numbers as ID
 - IGP, EGP

- Two-party contracts
 - ES represents party
 - Number of ISes
 - Non-stable associations

- **Ambiguity** in mapping
 - ES/IS $\rightarrow$ LD
 - AS $\rightarrow$ LD
 - Mobility increases issue

- Example: TV series over IP
 - Limited broadcast (DRM)
 - Regulations on advertisements collide in LDs



Legend:

LD: Legal domain

AS: Autonomous System

ES: End System

● Intermediate System

Problem Statement

- Commercial offerings in the Internet base on contracts
- Technical representation: SLAs
 - SLO: Refined metrics in Service Level Objectives
 - SLS: Technically interpreted SLA with assigned SLOs
- QoS parameters
 - Material technical contract characteristics (partly existing)
 - Material legal contract characteristics (mostly missing)

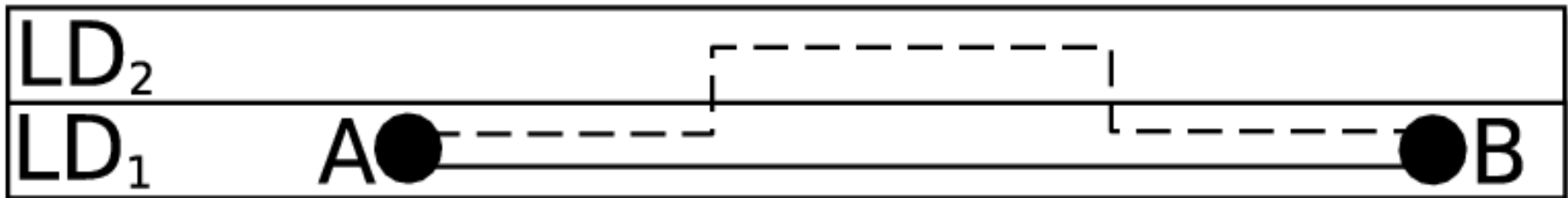
① For given parties and a given electronic service to be provided, a decision has to be taken, if **at all** and under which **governing law** a contract can be concluded.

② Once a contract was agreed upon, the **service provisioning** itself needs to be legally compliant with the governing law in question.

Prerequisites

① A mapping mechanism
from AS to territories is needed.

② Guaranteed **associations** between
contractual partners need to be taken.



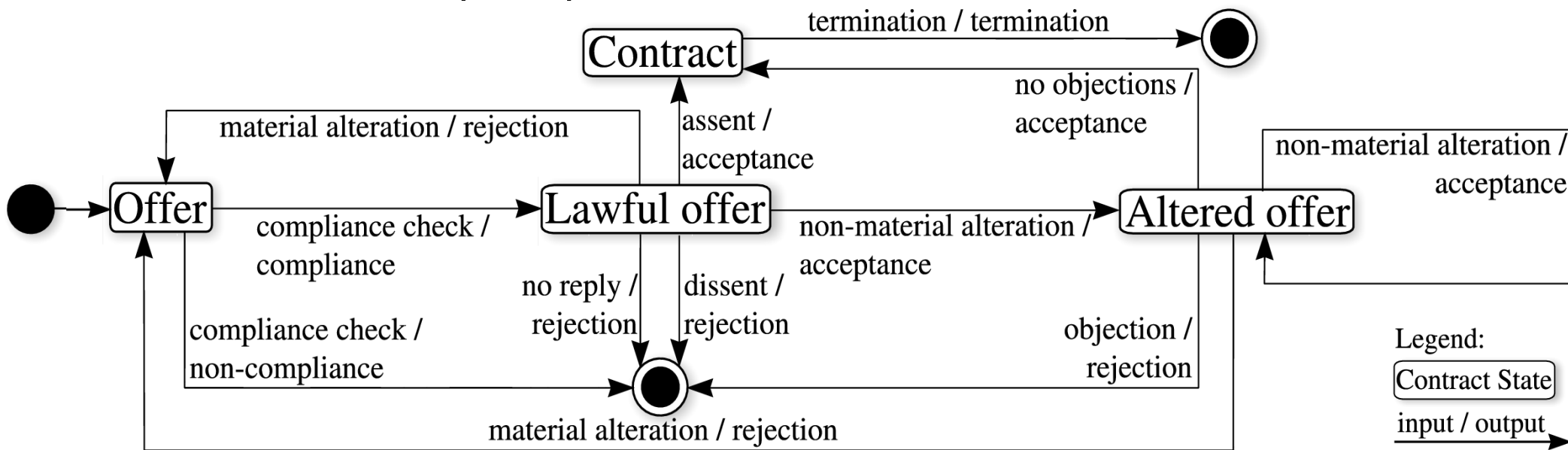
Solution Approach (1)

- Phases per activity



- Problem I (Contract conclusion): Phases 1 & 2

- Integration options for major legal traditions ✓
- Conflicts of law processes study
- Choice of law principle



Solution Approach (2)

- Problem II (Service provisioning): Phases 1 & 2
 - Regulatory issues for mobile grid services in Europe ✓
 - Follow-on study focusing on value added services
- Prerequisite 1 (Mapping AS territories): Phase 1
 - Candidate selection
 - Infrastructure: Location certified by network operator (mobility?)
 - TCP/IP stack (preferred):
 - WHOIS, traceroute (latency measurements)
 - Mobile IP approach: Care-of address
 - Application:
 - Self-announcement (trust?)
 - Out-of-band verification (credit card, ...)
- Prerequisite 2 (Guaranteed associations): Phase 1
 - Candidate selection
 - Multi Protocol Label Switching (MPLS)

Conclusions



① Conflict of Laws acknowledged as unsolved issue in legal domain

② Distinct problems and prerequisites identified, in exploration and (partly) design phase

**③ Choice of law concept as a promising remedy
→ Core focus for problem I**

Thank you

for your attention!

