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UniverSelf
Cloud Management Session

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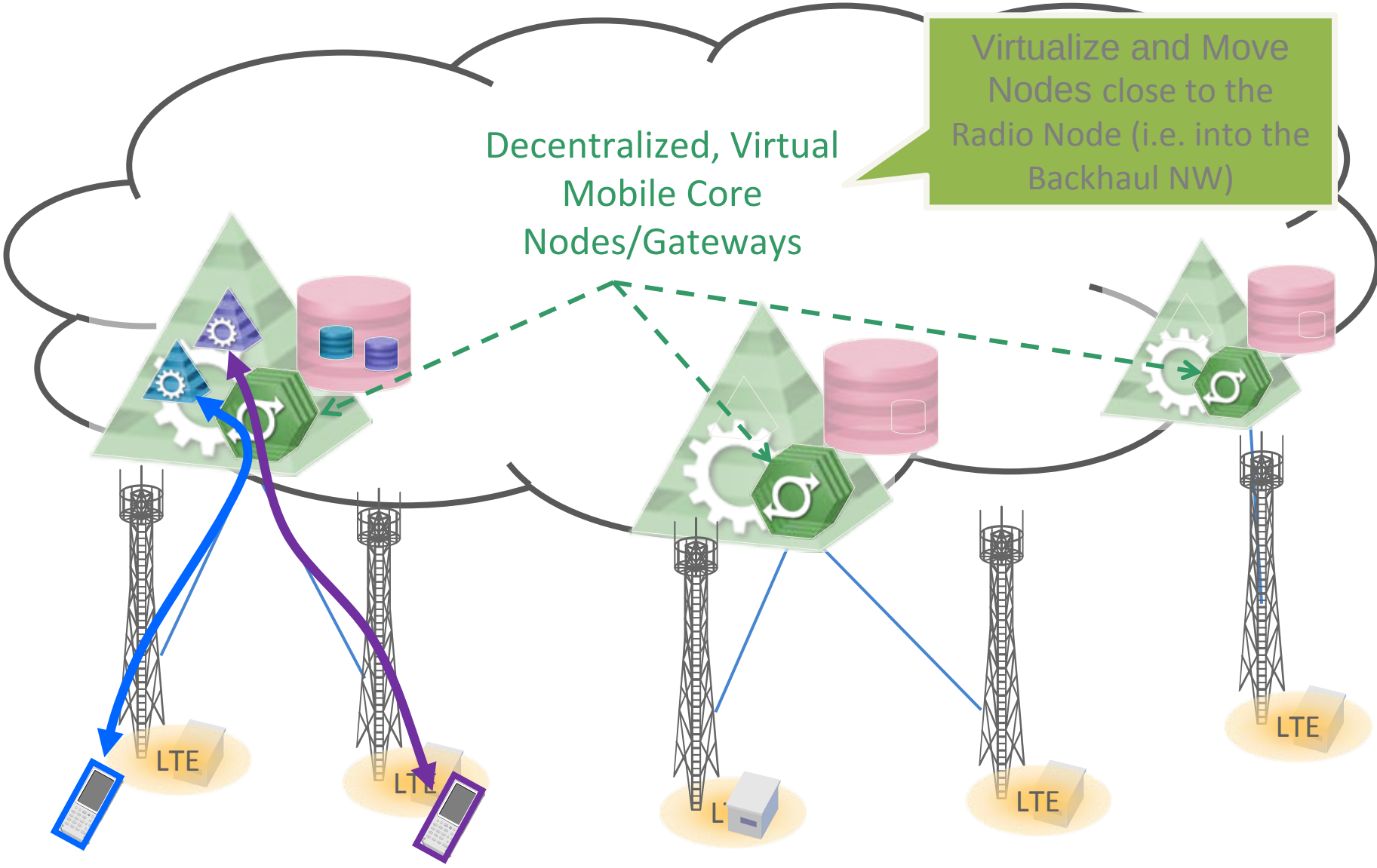
UniverSelf's view

UniverSelf is developing (autonomic) network management and control solutions

UniverSelf can provide enablers for cloud networking management

- **Algorithms / Network Empowerment Mechanisms**
  - **Optimization, learning, decision-making…**
- **Interfaces for "management" of the infrastructure**
  - **Focused on the Telco operator processes**
  - **Governance (service lifecycle and cloud resource management)**
- **(partly) Exercised on use case (see ex. on next slide)**

Dynamic Virtualization and Migration of Contents and Servers use case



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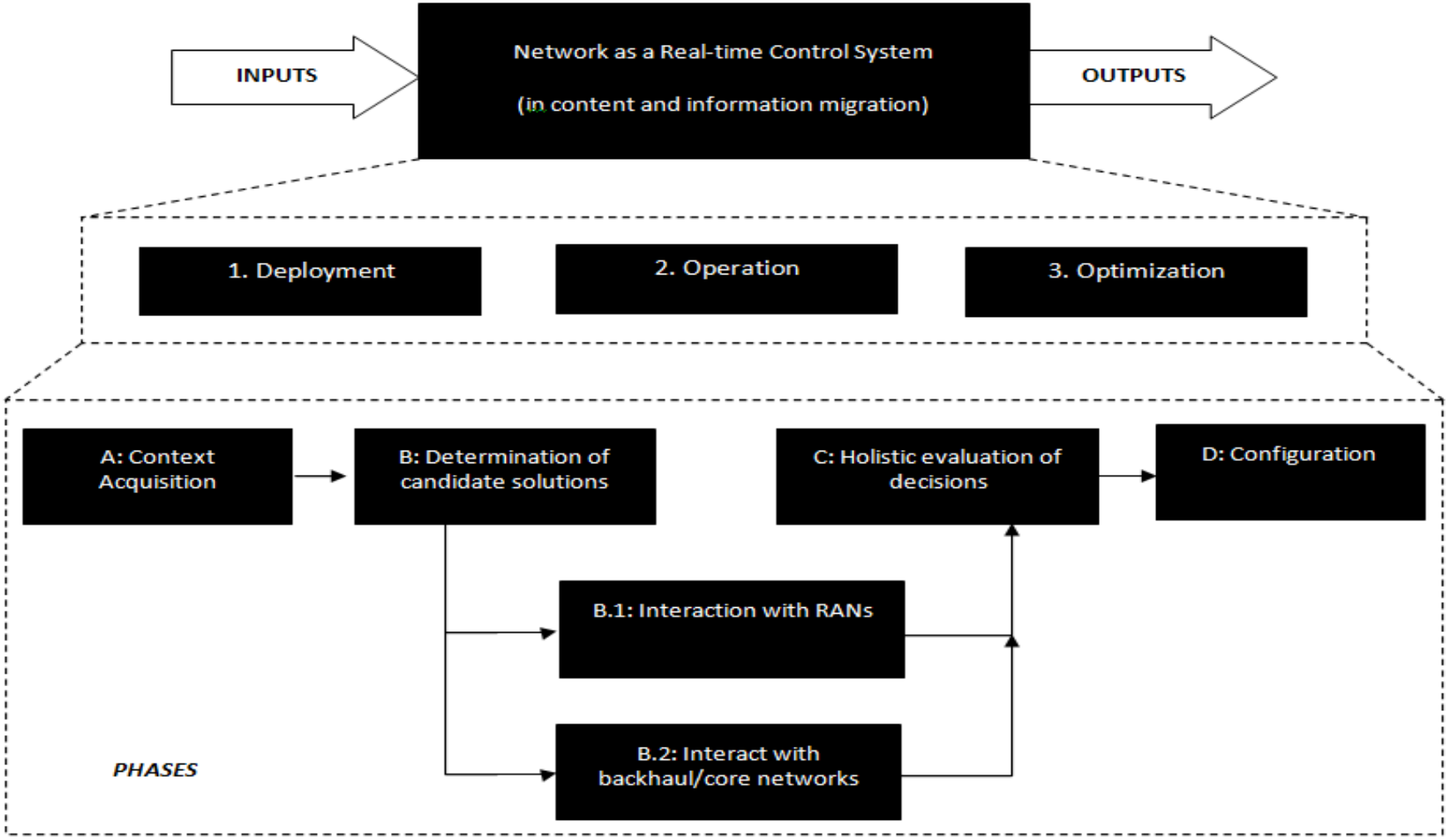

Dynamic Virtualization and Migration of Contents and Servers use case

- Technical Impacts
  - Architecture (traffic offload, local access to services, route optimization)
  - Mobility (mobility management, mobile sockets, function/content mobility)
  - SON (content/service migration, load balancing, self-restoration, energy saving)
- Business Impacts
  - Reduced network load – efficient resource exploitation
  - Decentralized, cheaper hardware – reduced CAPEX
  - Self-organization (load balancing, content/service migration) – reduced OPEX
  - Content management by operator – additional revenue stream

UniverSelf's questions

Are there new, additional, changed requirements specific to cloud computing|networking ?

- for the "control and management"
- scalability, stability, mobility, security/trust…
- resource discovery, inventory
- actors and their relationships, the associated (automated) processes/workflows
- Information/knowledge
  - At the network/service levels
  - Across technical and administrative domains
  - Notion of semantics and (meta-)modeling

ADDITIONAL MATERIAL

Unified Management Framework
Release 1

A common substrate to enable autonomicity composed of

- Interfaces, patterns and enabling functions “around” Network Empowerment Mechanisms (NEMs)
- Deployment guidelines

which describes/specifies the rights and duties

when designing and developing UMF-compliant systems (HW and/or SW)

to guarantee (via standard specifications)

  - Interoperability b/w UMF-compliant systems (i.e. autonomic systems)
  - Compliance to “autonomic principles/rules”
  - Trusted (labeled) design, implementation, deployment, and operation environment
  - Stable execution
  - Performances on par with network management BCP (outside self-* specificities)

Goal = achieve a design capable of accepting new use cases/application domains without re-engineering the whole stuff

  - New/extension of NEMs, adaptors, policies…