Overview

- ❏ **About ETSI and TC Grid**
- ❏ **ETSI Grid Component Model (GCM)**
- ❏ **Grid & NGN**
- ❏ **Survey of ICT stakeholders and grid IOP gaps**
- ❏ **Grid Interoperability Testing Framework**
- ❏ **Grids, Clouds & Service Infrastructures event**
  - ➤ **See separate presentation**
  - ➤ **http://www.etsi.org/plugtests/GRID09/GRID.htm**

About ETSI and TC Grid

❑ **ETSI is the European Telecommunications Standards Institute**

  ➢ **SDO in area of information and communication technology**

  ➢ **Unites almost 700 member organizations, including manufacturers, network operators, administrations, service providers, research bodies and users**

  ➢ **Active member of the grid community for a number of years**

  ➢ **(Co)-organized numerous Grids@work events of the past years**

  ➢ **All published ETSI standards can be downloaded for free**

❑ **TC Grid is an ETSI Technical Committee**

  ➢ **Works on investigating and producing standardized solutions for using, integrating and deploying grid & cloud technology in existing and future telecommunication networks**

  ➢ **Collaborates with other organizations active in these areas**

About ETSI GCM Standards

❑ **Goal is to abstract use of existing infrastructure interfaces for resource reservation and application deployment**

  ➢ **Applicable to infrastructure that offer direct (e.g., cloud computing) as well as indirect (e.g., grid middleware or clusters) resource access**

  ➢ **Main idea is that existing interfaces offered by infrastructures today do not have to be changed but are adapted instead**

❑ **Grid Component Model (GCM) is a collection of ETSI standards**

  ➢ **Deployment Descriptor (DD) [TS 102 827] describes resources and their access within infrastructures as XML schema**

  ➢ **Application Descriptor (AD) [TS 102 828] describes the deployment different types of applications based on a GCM DD as XML schema**

❑ **GCM Fractal Abstract Description Language**

 ➢ **Allows description of more complex, composed applications**

Relation of ETSI GCM and infrastructures
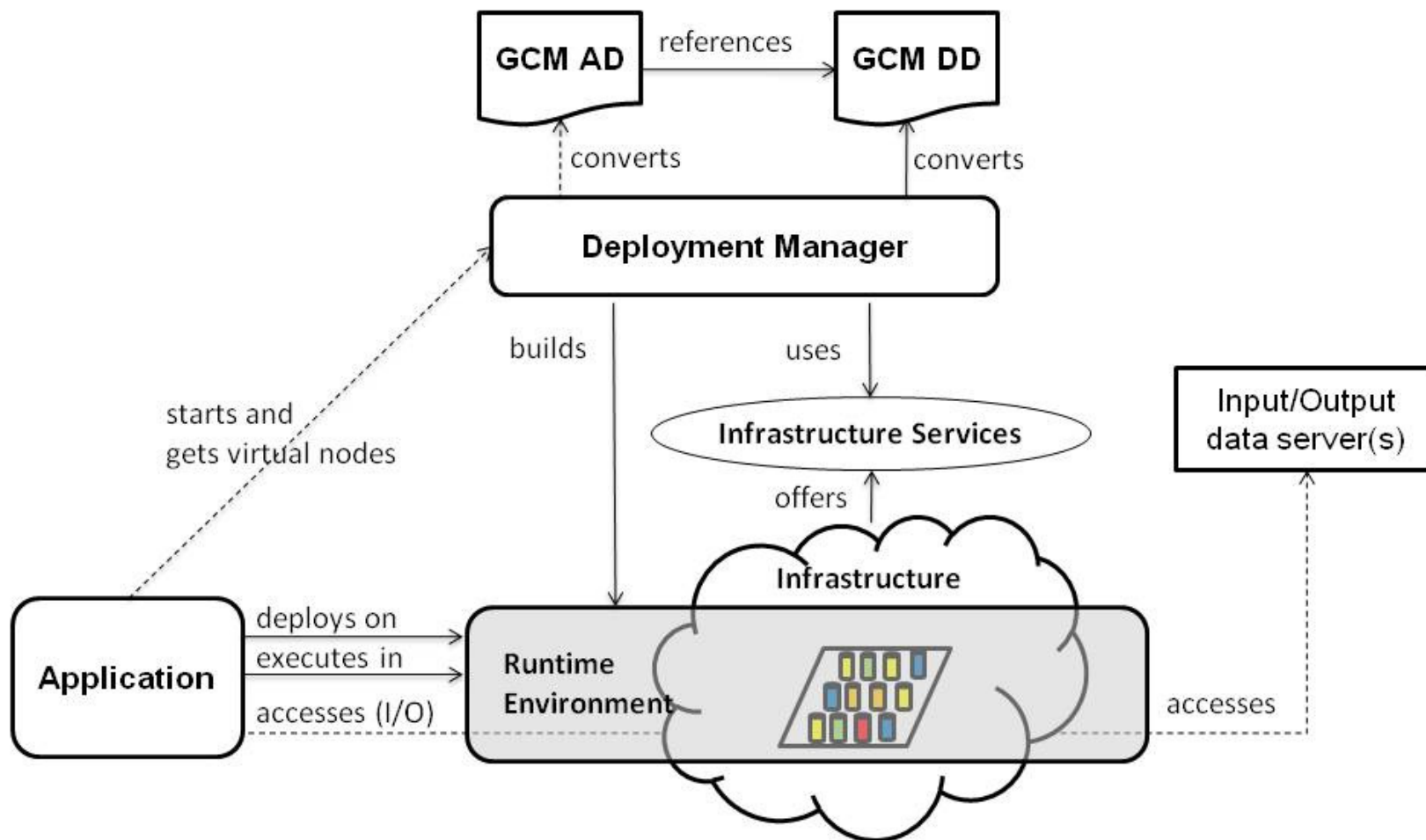
About ICT survey & interoperability gaps

❑ **Inventory on current ICT stake holders (mainly) in grid technology [ETSI TR 102 659-1]**
  ➢ **Gave birth to ETSI's grid conceptual model (based mainly on OGSA)**
  ➢ **Key players in standardization domain**
  ➢ **Example grid infrastructures and key projects**
  ➢ **Commercial players and open source initiatives**

❑ **Report on grid interoperability gaps [ETSI TR 102 659-2]**
  ➢ **Focus on SLA, security, charging, and service discovery**
  ➢ **Case studies on Online Media and Entertainment, IEM, HPC, e-Health, Collaborative Film Production**
  ➢ **Collection of issues, gaps, overlaps, and proposed solutions**

❑ **Late addition of cloud computing to document**
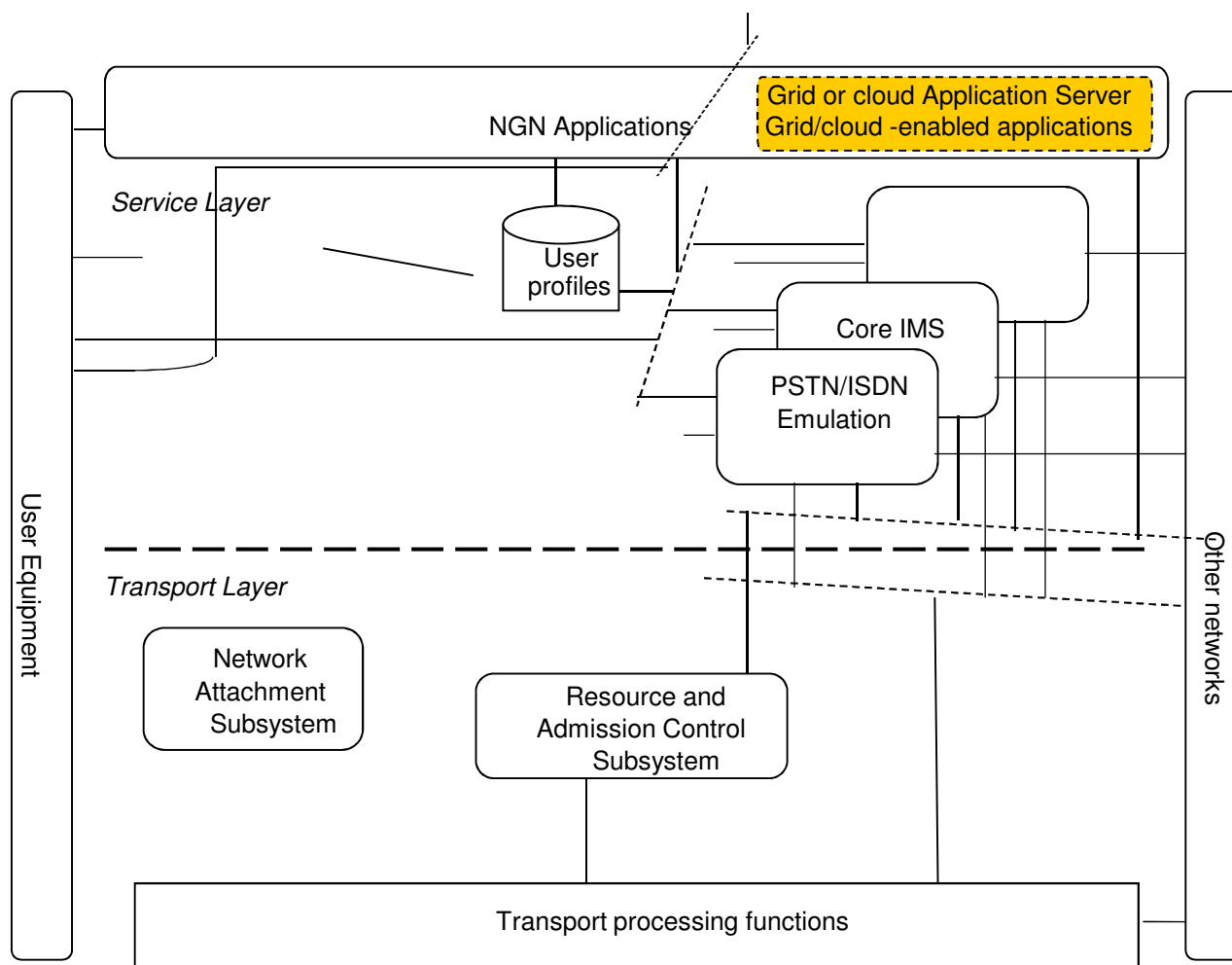
ETSI Grid Conceptual Model
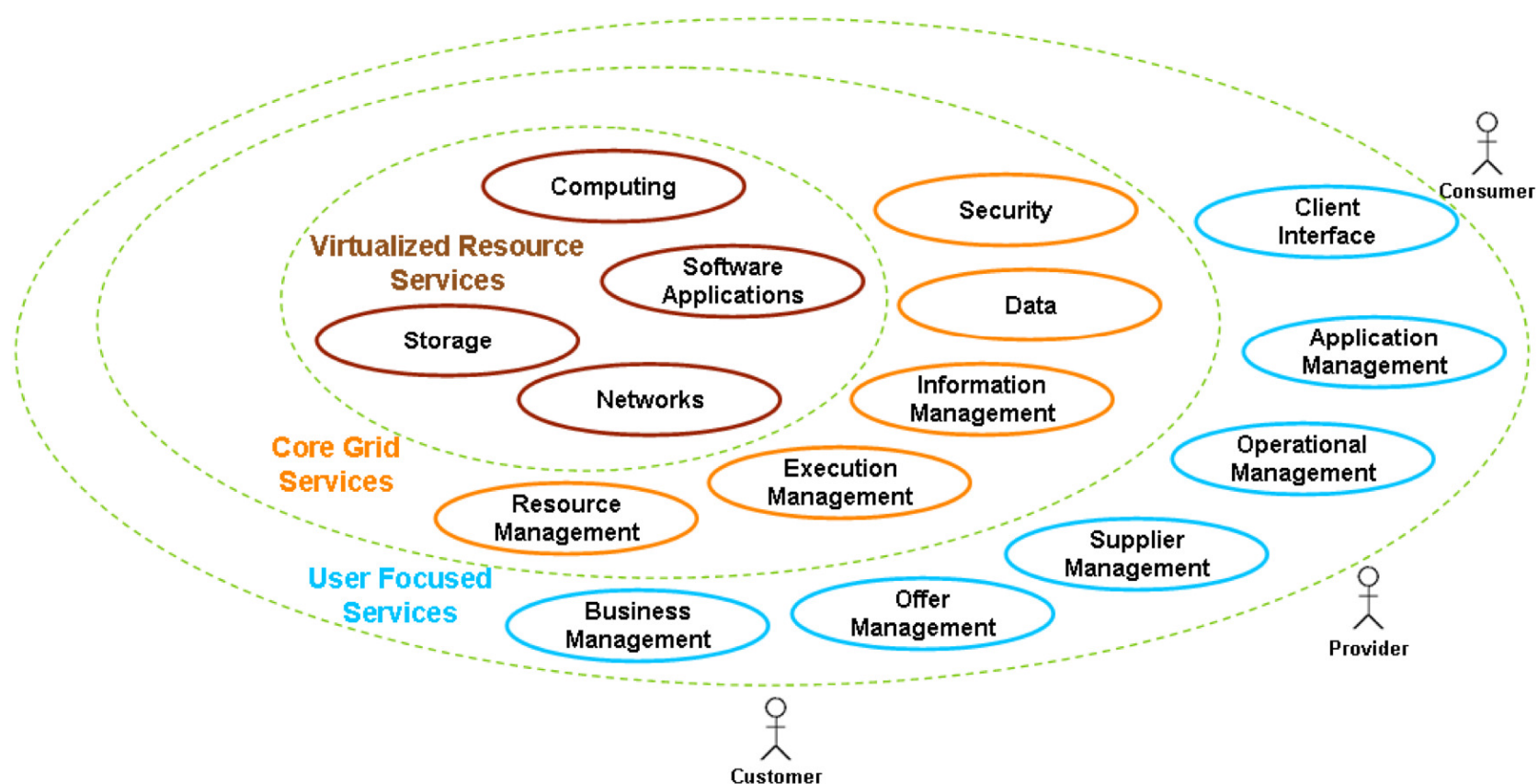
TC Grid and NGN

❑ **Technical report on options for using grid and cloud technology in ETSI's Next Generation Network (NGN) architecture [ETSI TR 102 767]**

  ➢ **Grid/cloud-enabled NGN applications**

  ➢ **NGN subsystems offering grid and cloud services**

  ➢ **Grid & cloud technology for implementing NGN functionality**

❑ **More information can also be found in**

  ➢ **"Grid and Cloud Computing: Opportunities for Integration with the Next Generation Network",** *Journal of Grid Computing*, **Aug 2009**
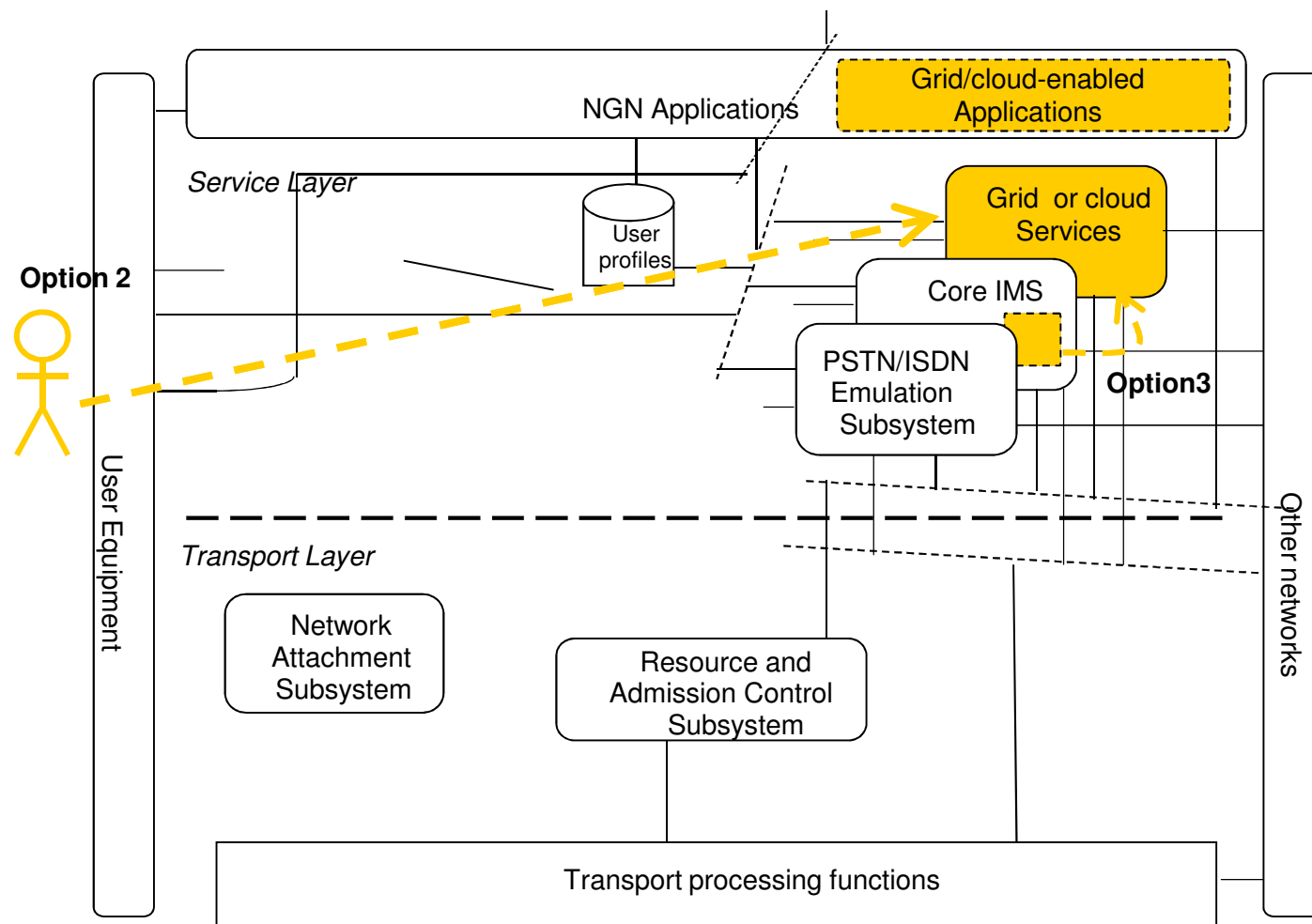
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Grid/cloud-enabled NGN applications)

TISPAN NGN overall architecture

Grid and cloud NGN subsystems

NGN Applications

Grid/cloud-enabled Applications

Service Layer

User profiles

Grid or cloud Services

Option 2

Core IMS

PSTN/ISDN Emulation Subsystem

Option3

User Equipment

Other networks

Transport Layer

Network Attachment Subsystem

Resource and Admission Control Subsystem

Transport processing functions

TISPAN NGN overall architecture

World Class Standards

Grid & cloud technology for implementing NGN

TISPAN NGN overall architecture

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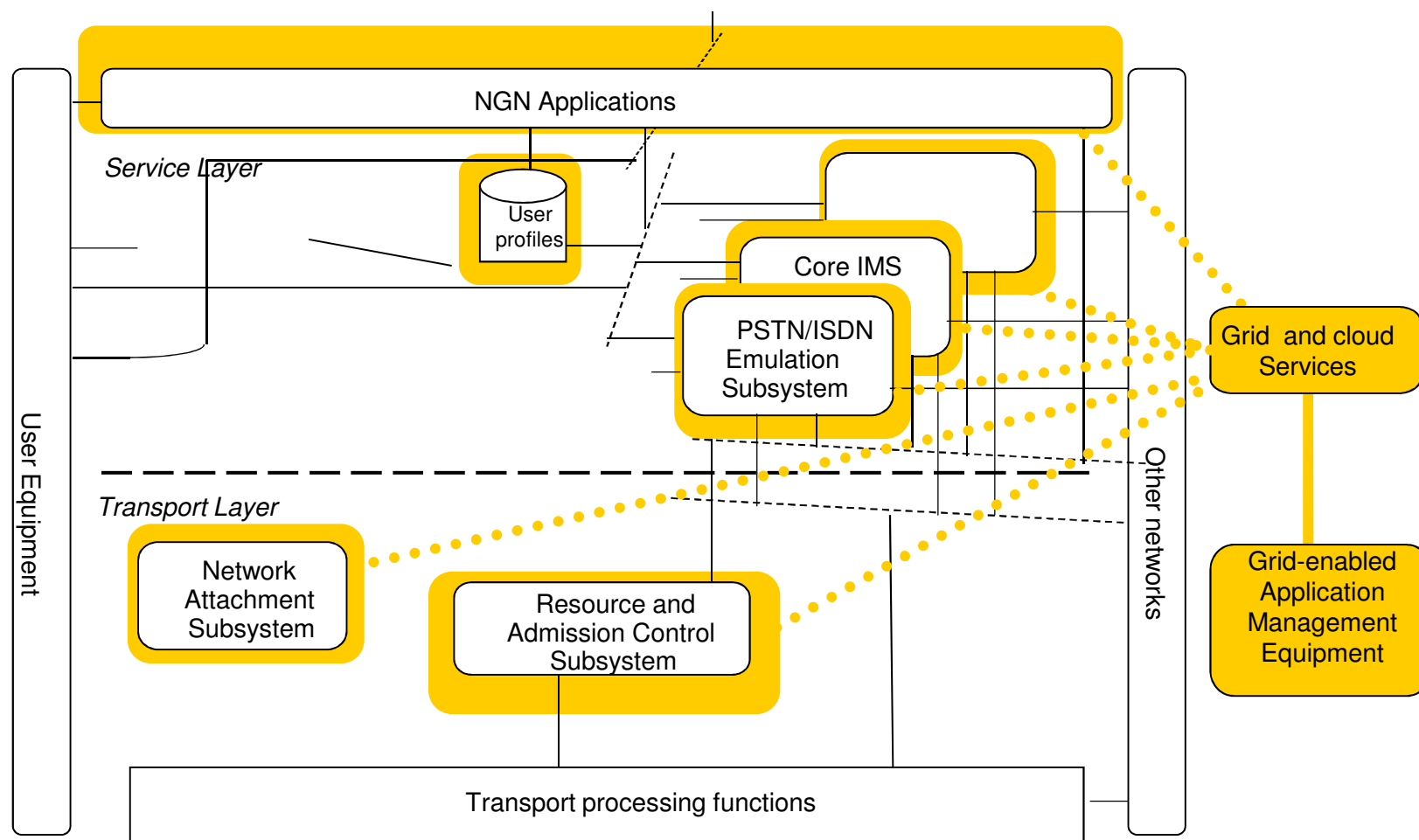
About ETSI Interoperability Testing Framework

❑ **Study of existing grid interoperability approaches [ETSI TR 102 766]**

  ➢ **User driven**

  ➢ **Parallel deployment**

  ➢ **Gateways**

  ➢ **Adapters/Translators**

  ➢ **Standardized interfaces**

❑ **Survey of existing grid interoperability initiatives**

  ➢ **OGF, ETSI, ETICS**

❑ **Proposal of a testing framework for GCM interoperability testing**

  ➢ **Based on GCM architecture**

  ➢ **Approach for test purpose and test description definition**

  ➢ **Basis for test specification used to evaluate resource reservation and application deployment demonstrations at ETSI GCSI event**

Thank you!

Questions?

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