

IRTF-RG

Authentication Authorisation and Accounting ARCHitecture Research Group

chairs:

C. de Laat

J. Vollbrecht

Content of this talk has contributions from many persons including:

**B. de Bruijn, C&K Dobbins, S. Farrell, G. Gross,
L. Gommans, D. Spence, E. Verharen, T. Verschuren,
T. Zseby**

- **Applications**

- **Network Access**
- **Bandwidth Broker**
- **Authorization of resources living in many administrative domains**
- **Budget system**
- **Library system**
- **Computer based education system**
- **E-Commerce**
- **Micro-payments**
- **Car Rental**
- **Daily life**

Physics-UU to IPP-FZJ => 7 kingdoms

– Netherlands

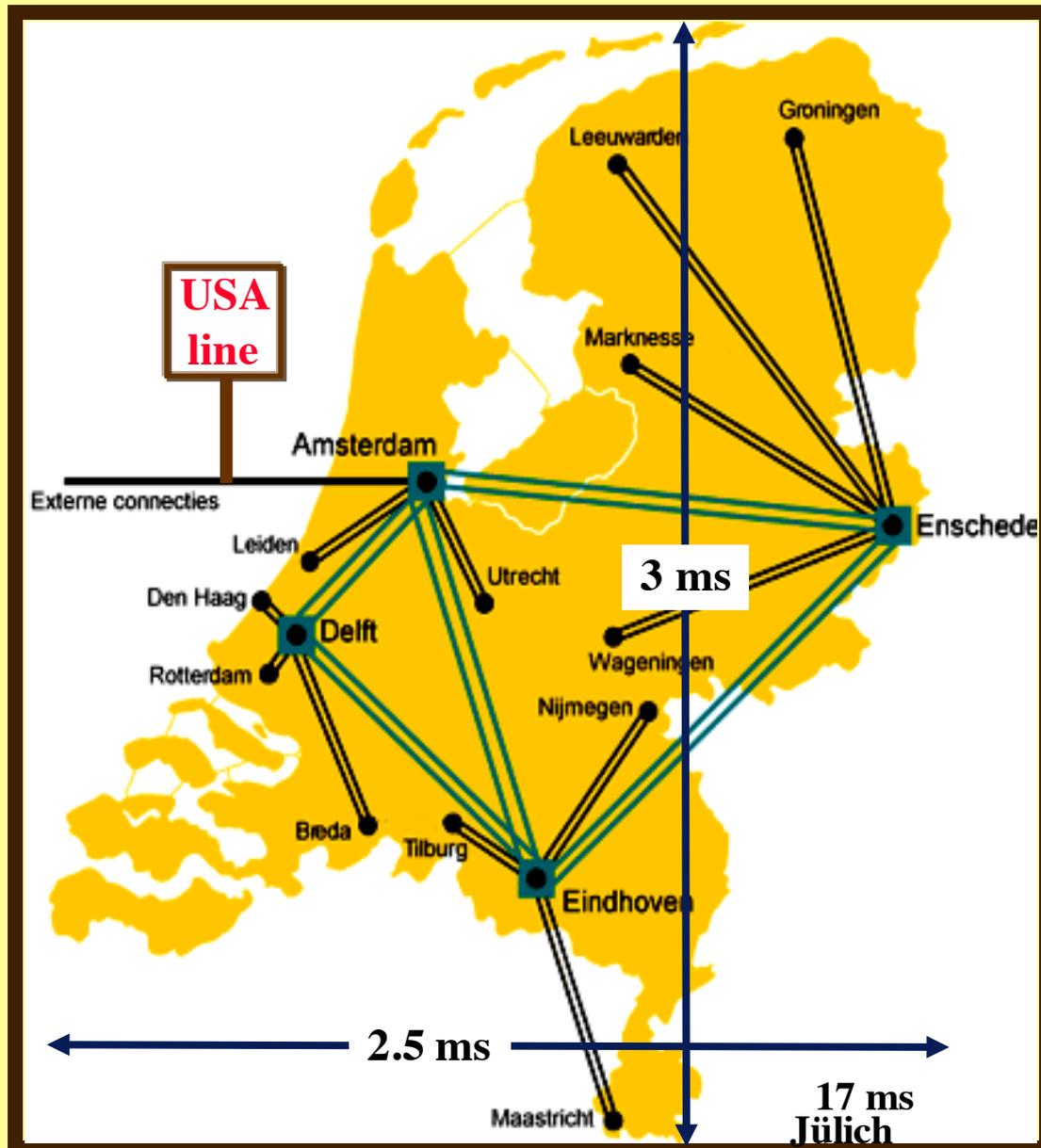
- » Physics dept
- » Campus net
- » SURFnet

– Europe

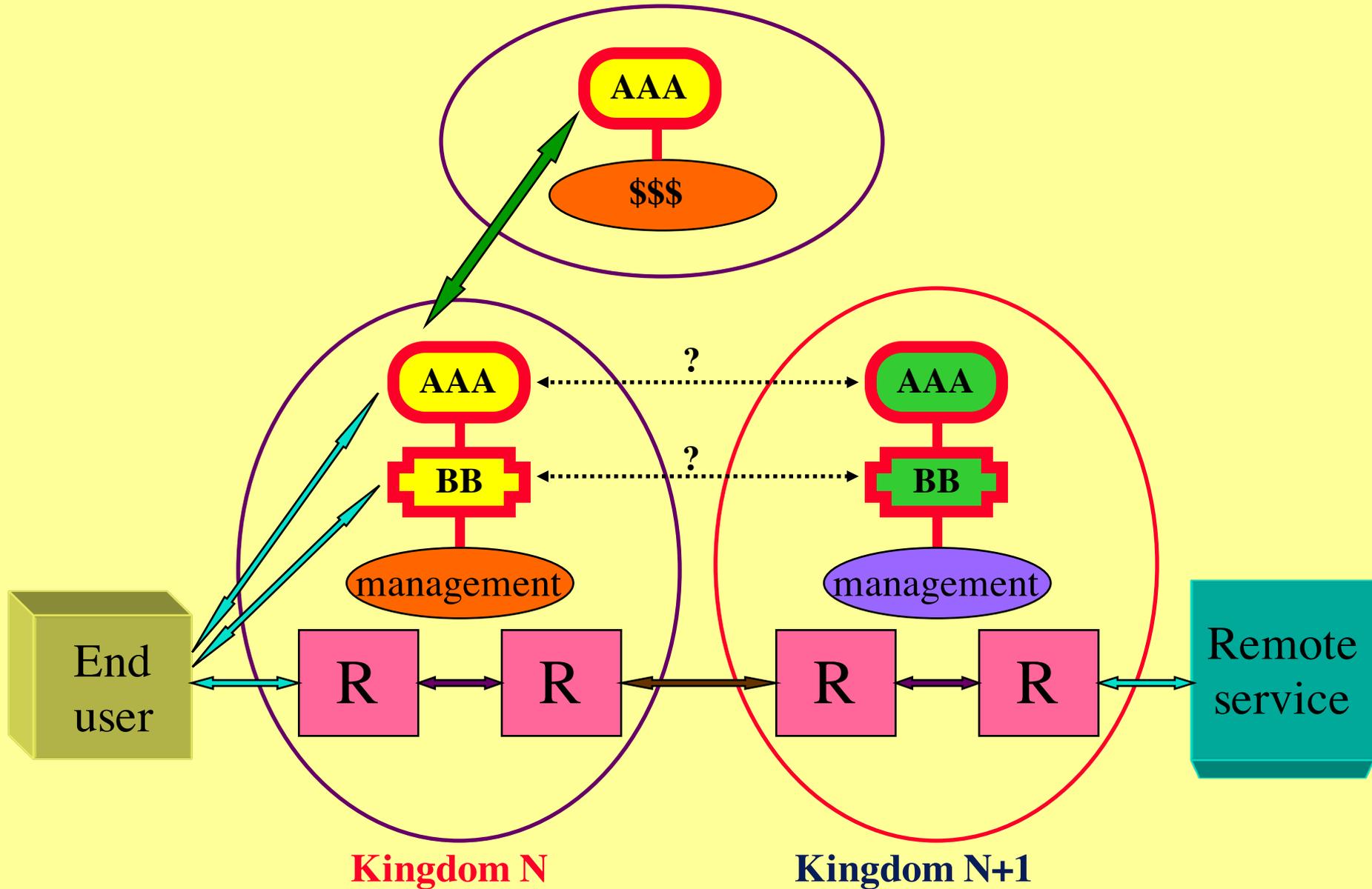
- » TEN 155

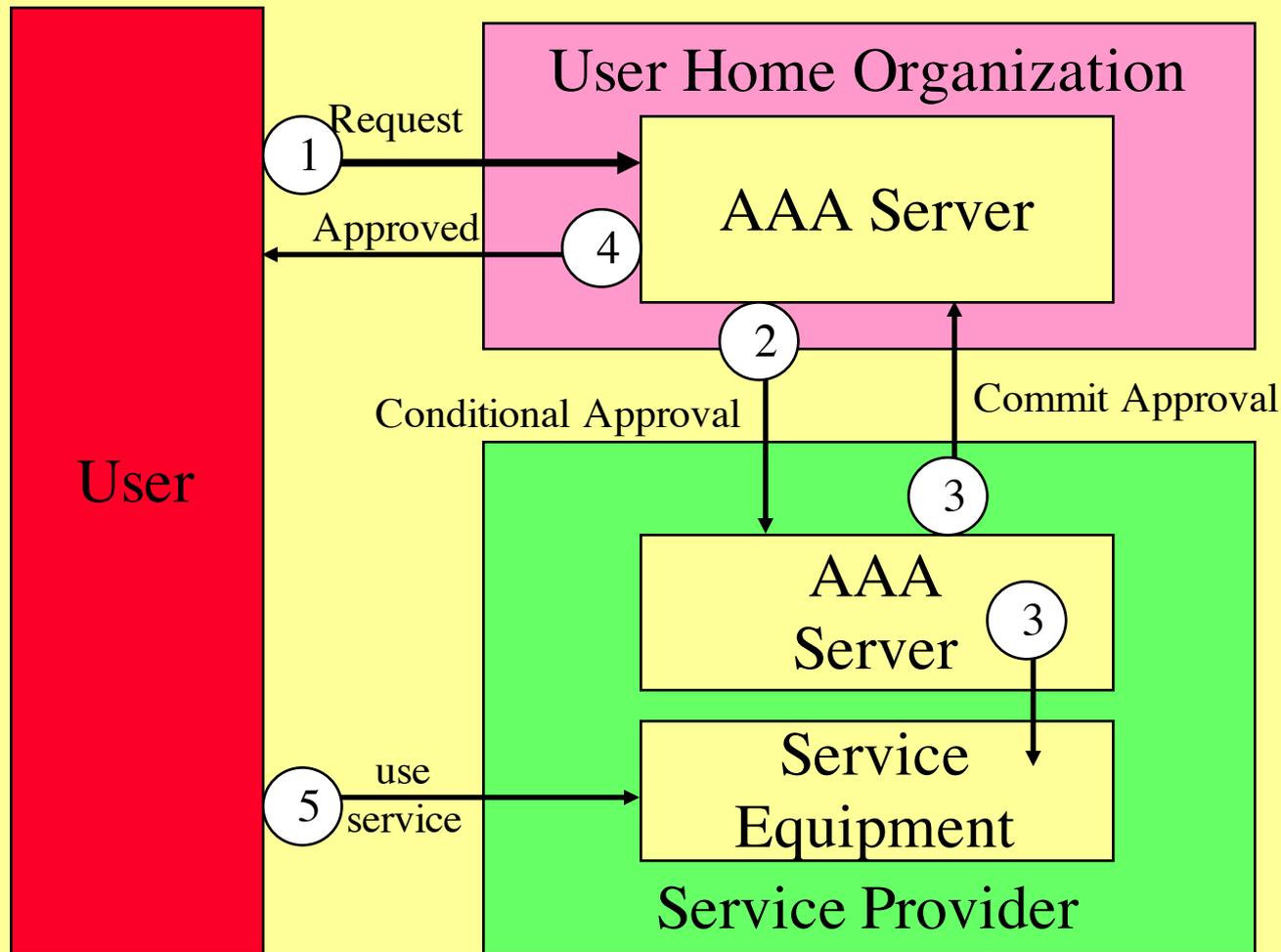
– Germany

- » WINS/DFN
- » Juelich, Campus
- » Plasma Physics dept



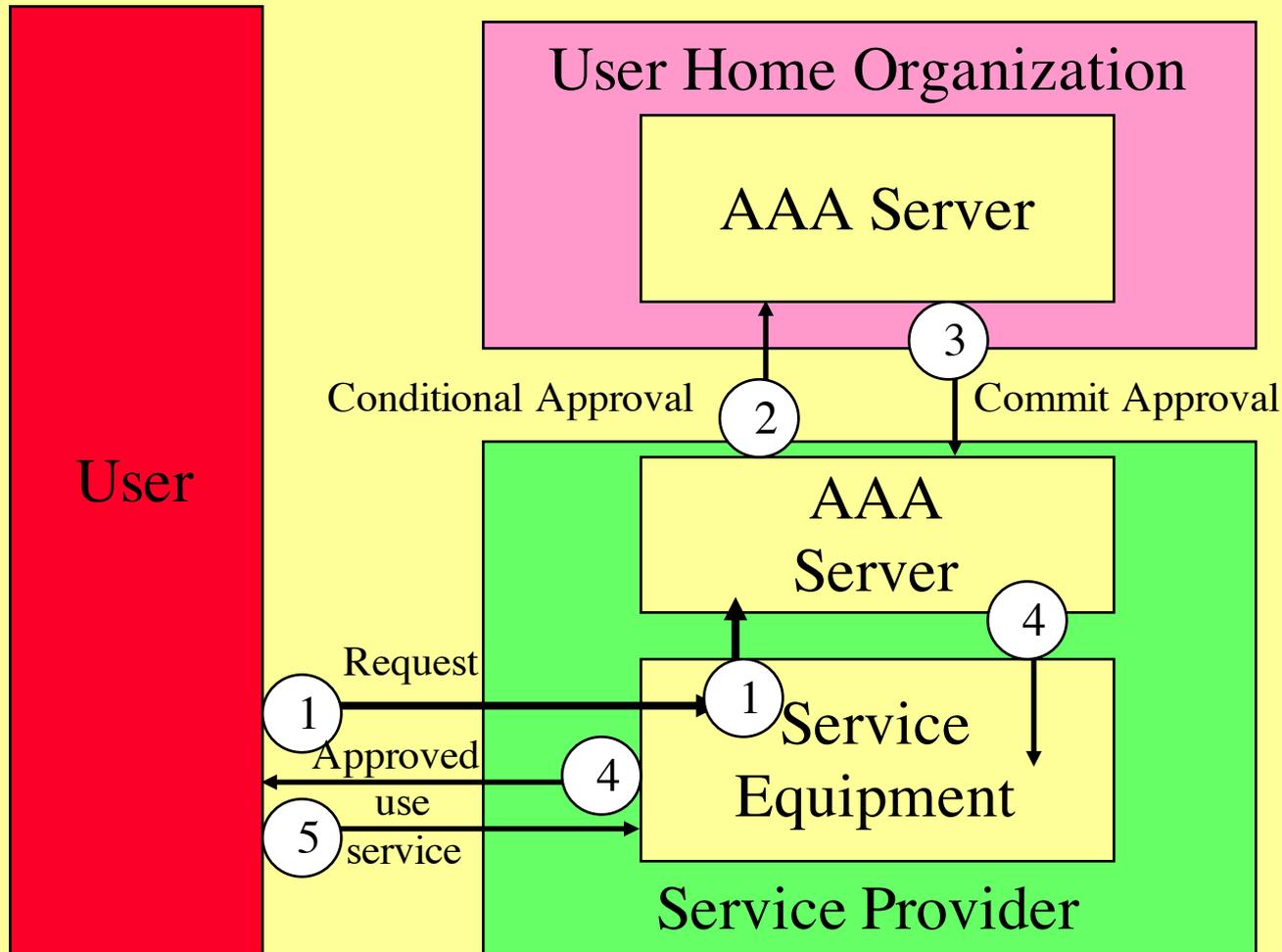
The need for AAA





Example application: bandwidth brokerage at Enterprise/Service Provider boundary

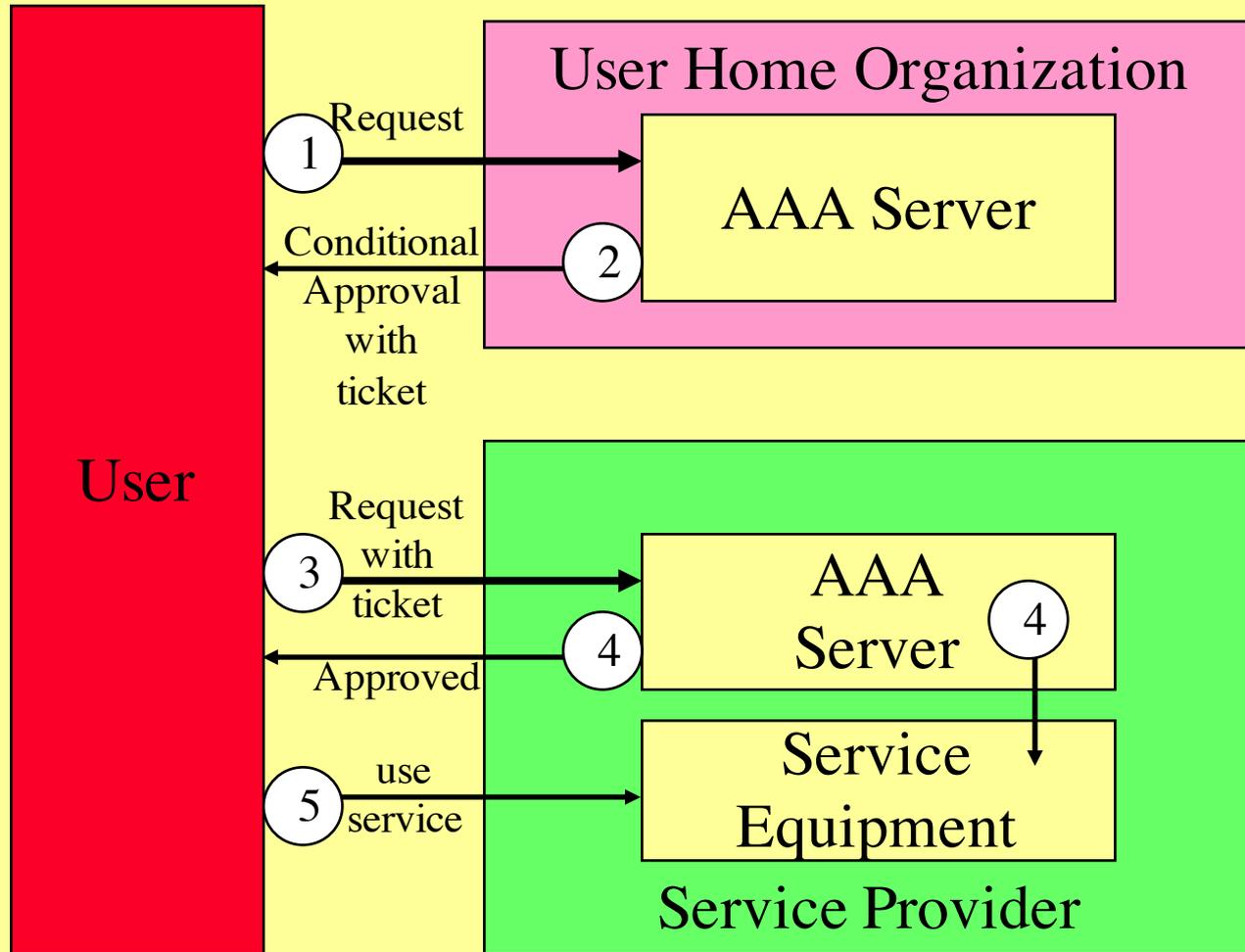
Roaming "Pull" Authorization Model



Example applications: Mobile IP, PPP dial-in to NAS



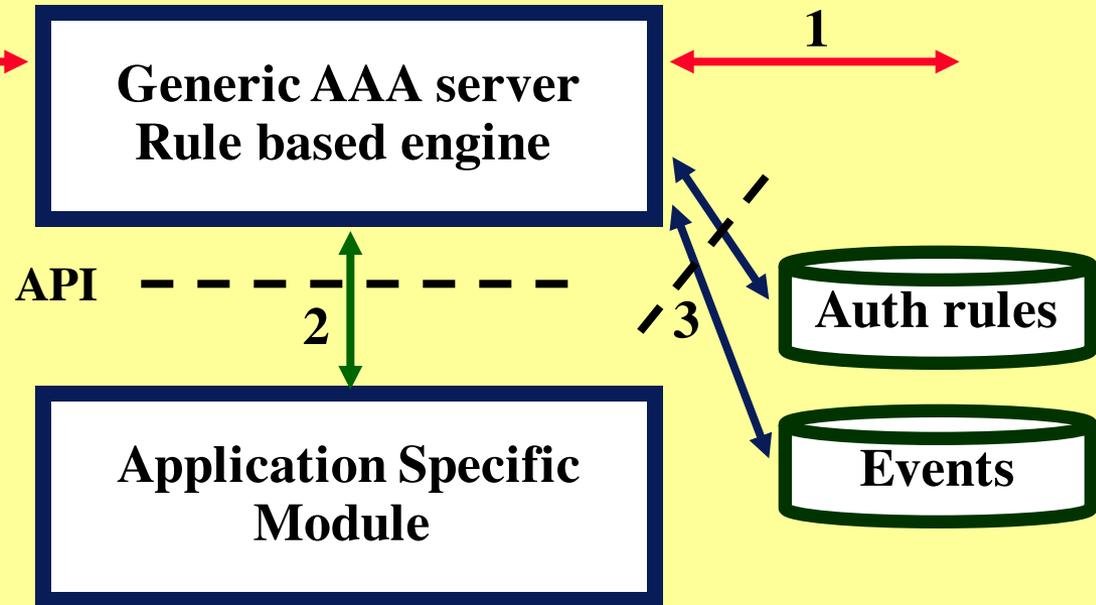
Roaming "Push" Authorization Model



Example application: Internet printing, where file and print servers are in different admin domains

Rule example: **Auth_A = (B>9) .or. C .and. D**

USER



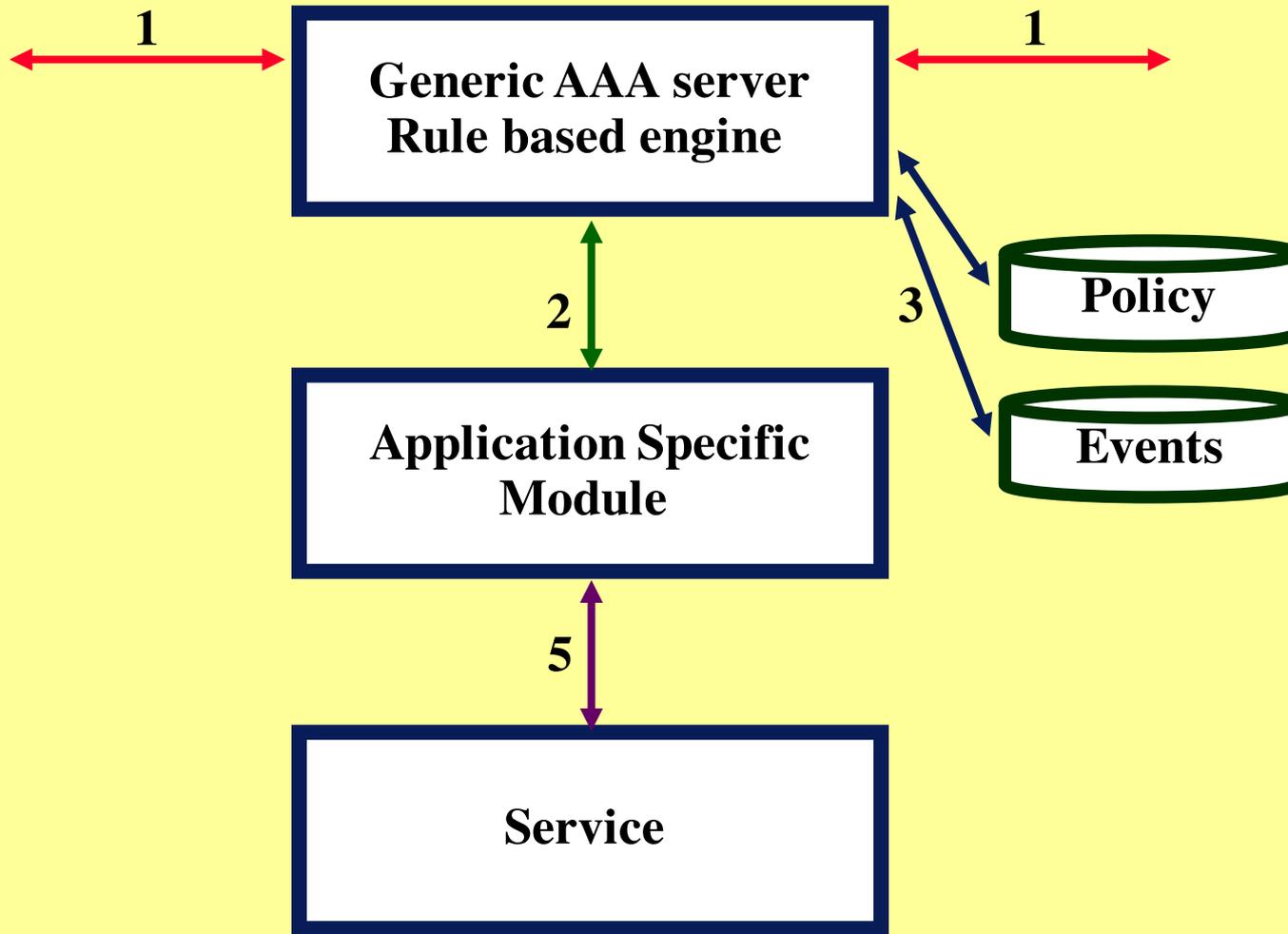
Types of communication:

1: "The" AAA protocol

2: interface (API) to app specific module (addressing!)

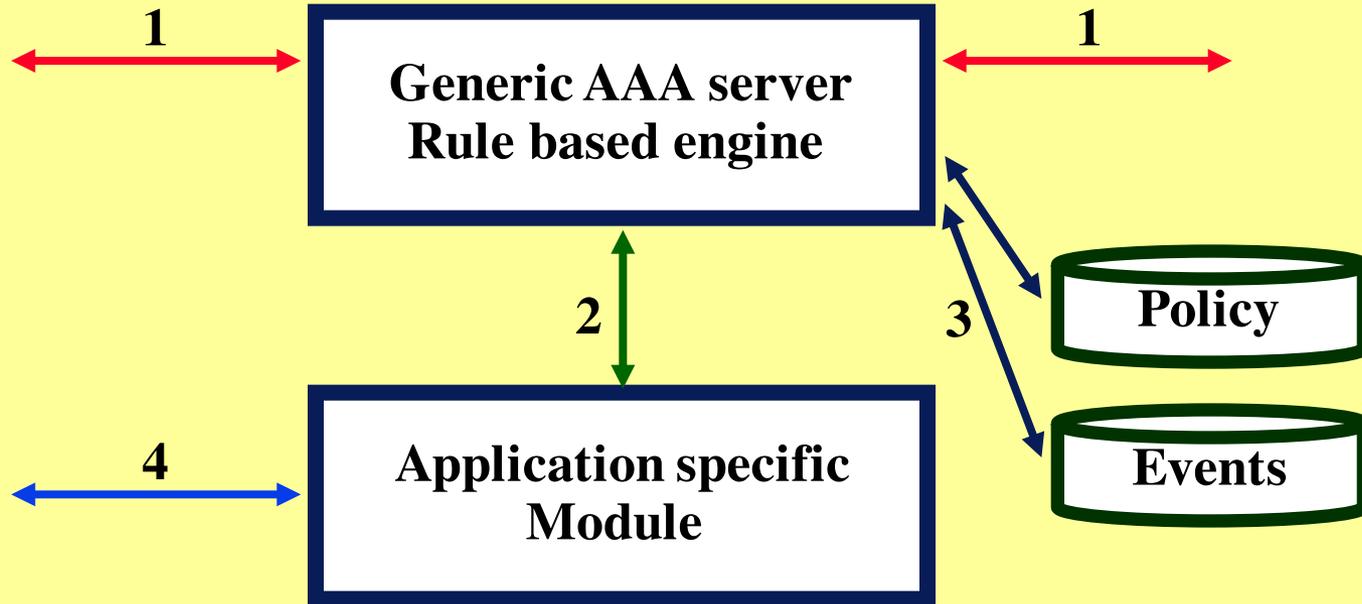
3: interface (API or connection) to repositories (e.g. LDAP)





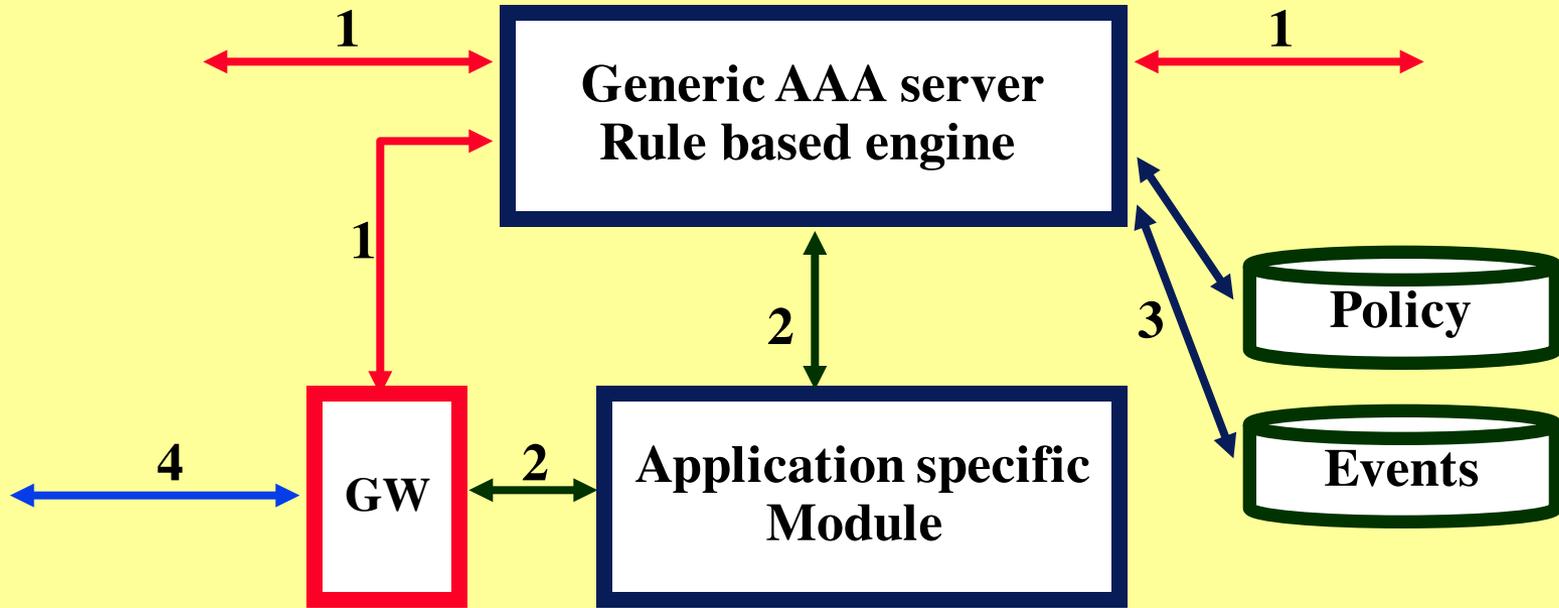
Types of communication:

5: Towards service (f.e. COPS, CLI, SNMPv3)

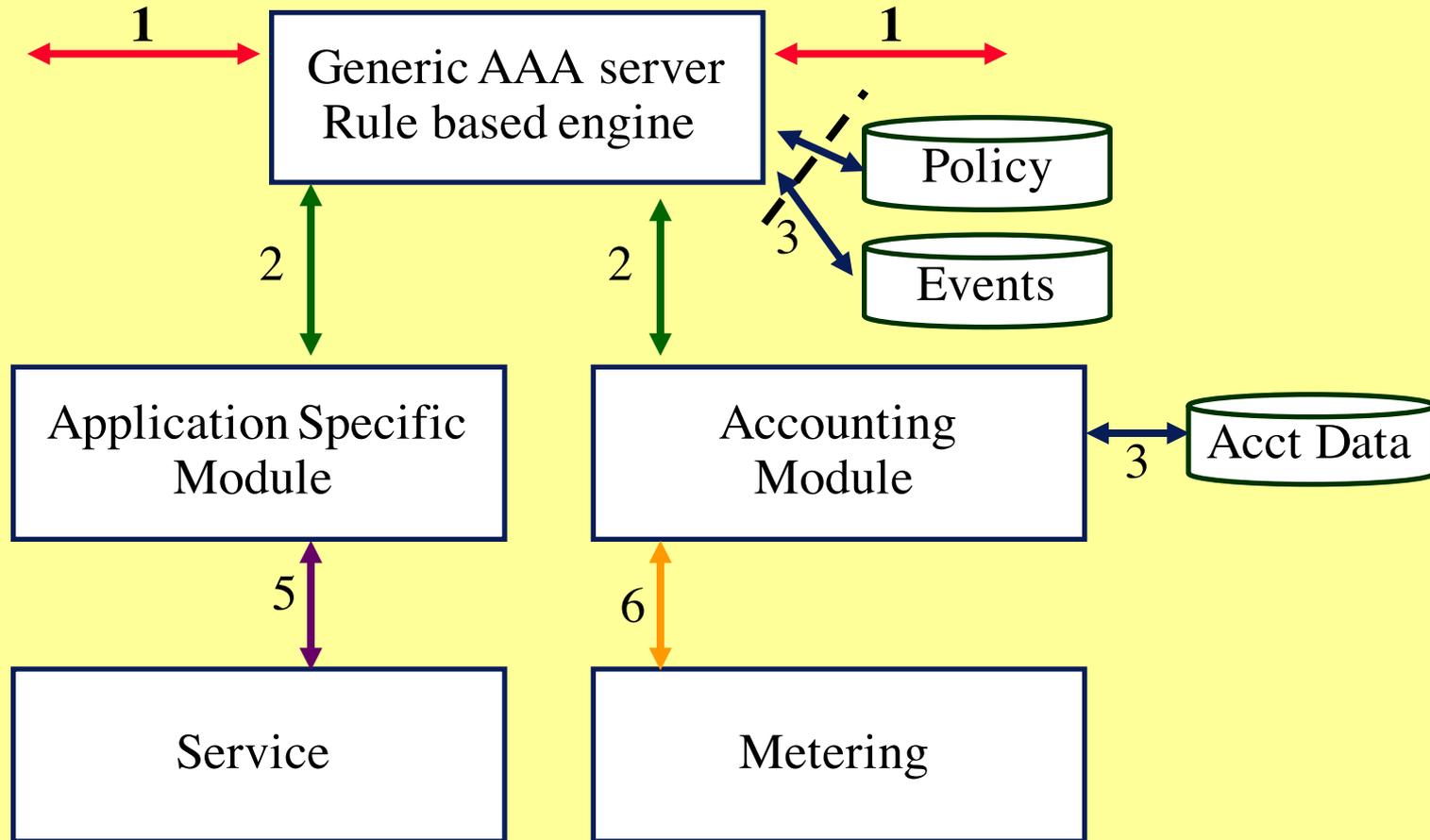


Types of communication:

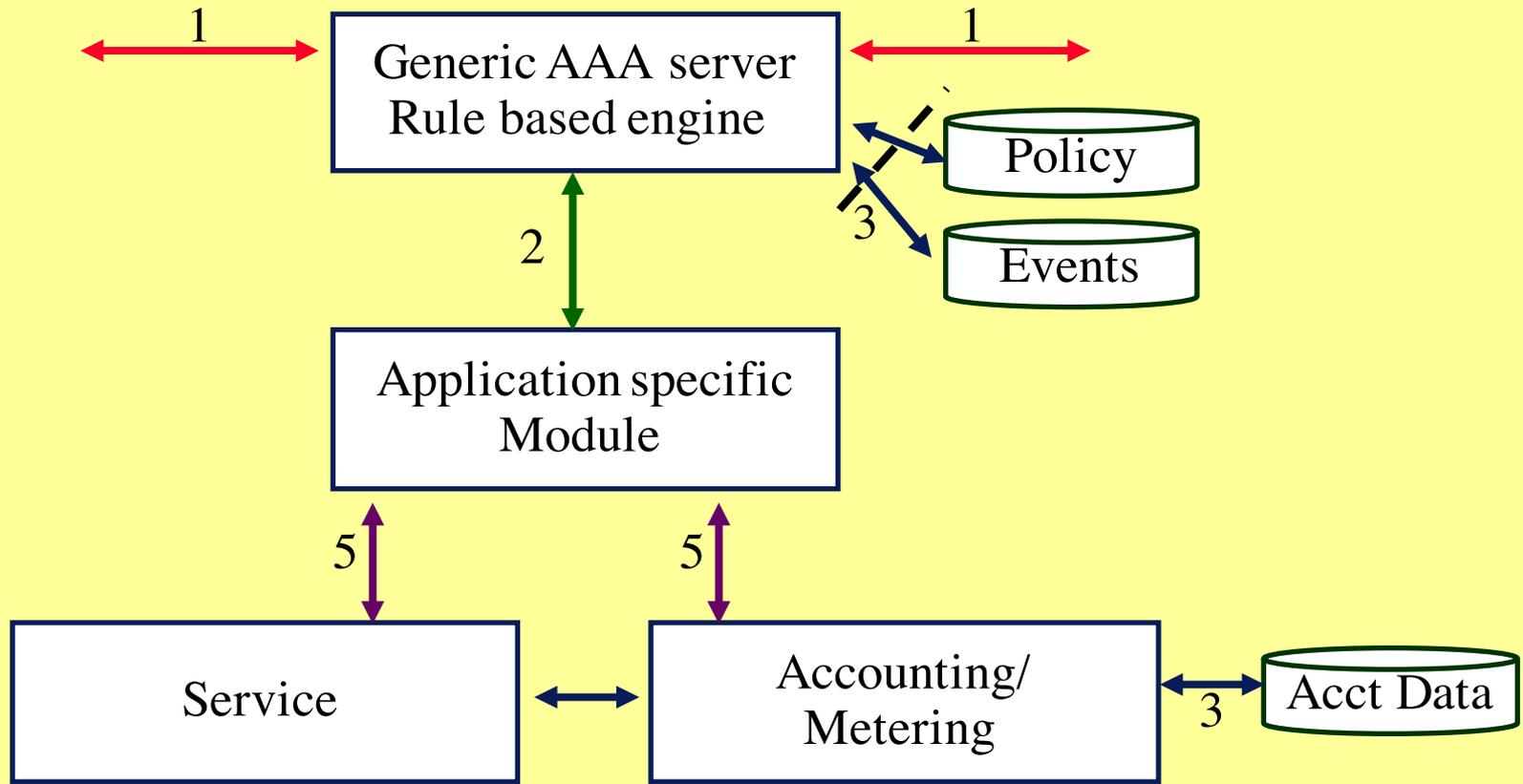
4: Legacy protocols (Radius, Diameter, ...)



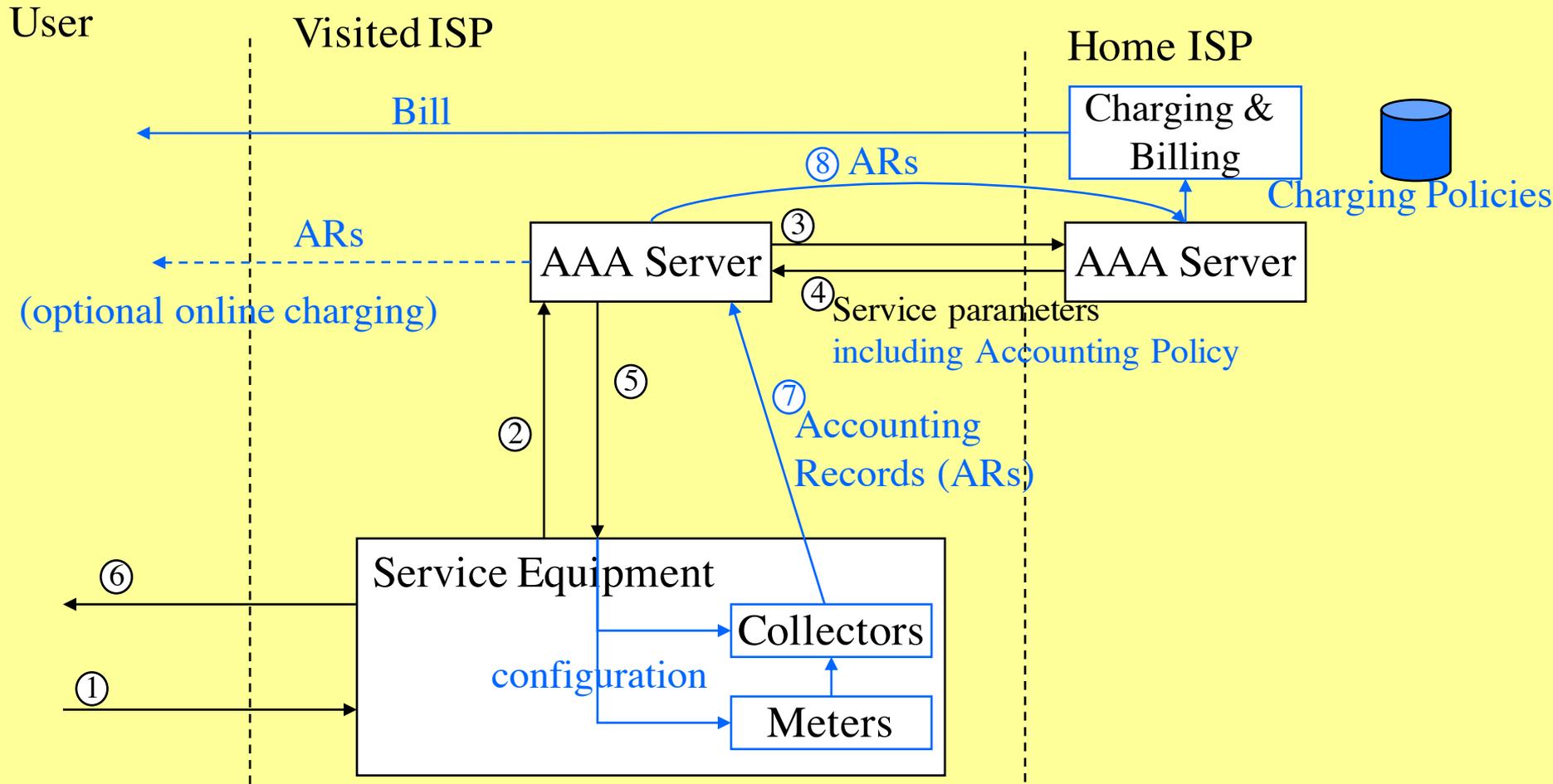
AAA Server with Accounting as Separate Service



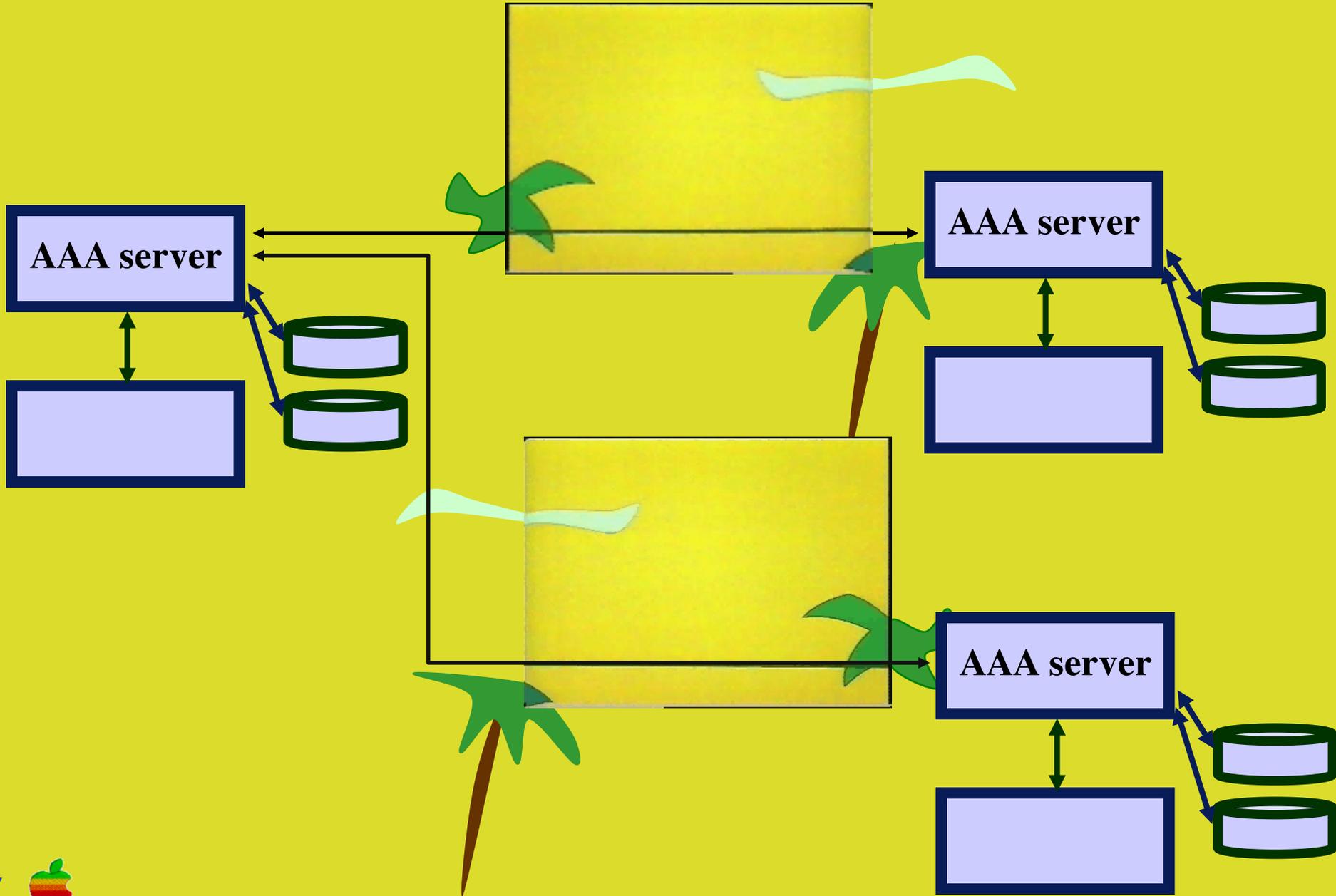
AAA Server with Accounting as Part of the Service



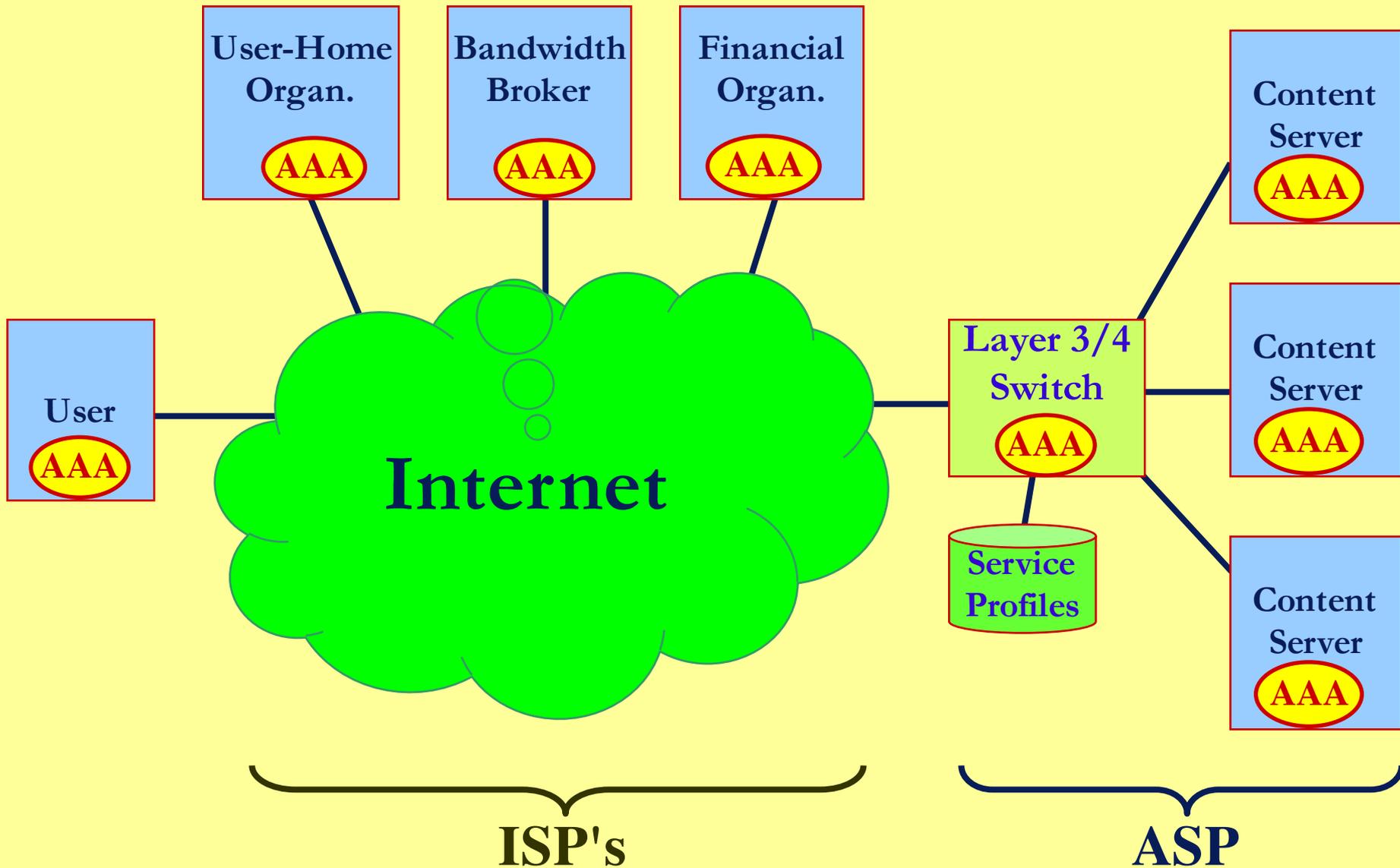
Example: Interaction with Authorization



Generic AAA Agent Model



Future AAA Application (ASP)



Specific goals of the RG are:

- **develop generic AAA model by specifically including Authentication and Accounting**
- **develop auditability framework specification that allows the AAA system functions to be checked in a multi-organization environment**
- **develop a model that supports management of a "mesh" of interconnected AAA Servers**
- **define distributed policy framework, coordinate with policy framework WG and others**
- **develop an accounting model that allows authorization to define the type of accounting processing required for each session**

Specific goals of the RG are:

- **implement a simulation model that allows experimentation with the the proposed architectural models (also work on an emulation)**
- **describe interdomain issues using generic model**
- **work with AAA WG to align short term AAA protocol requirements with long term requirements as much as possible**
- **complete the work in Q4 - 2000 (ambitious)**



- **Research Group Name: AAAARCH - RG**
- **Chair(s)**
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