Business Models for the Provision of End-to-End Quality of Service implemented by the ENTHRONE Integrated Management Supervisor (EIMS)

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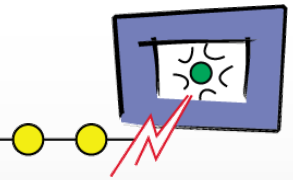
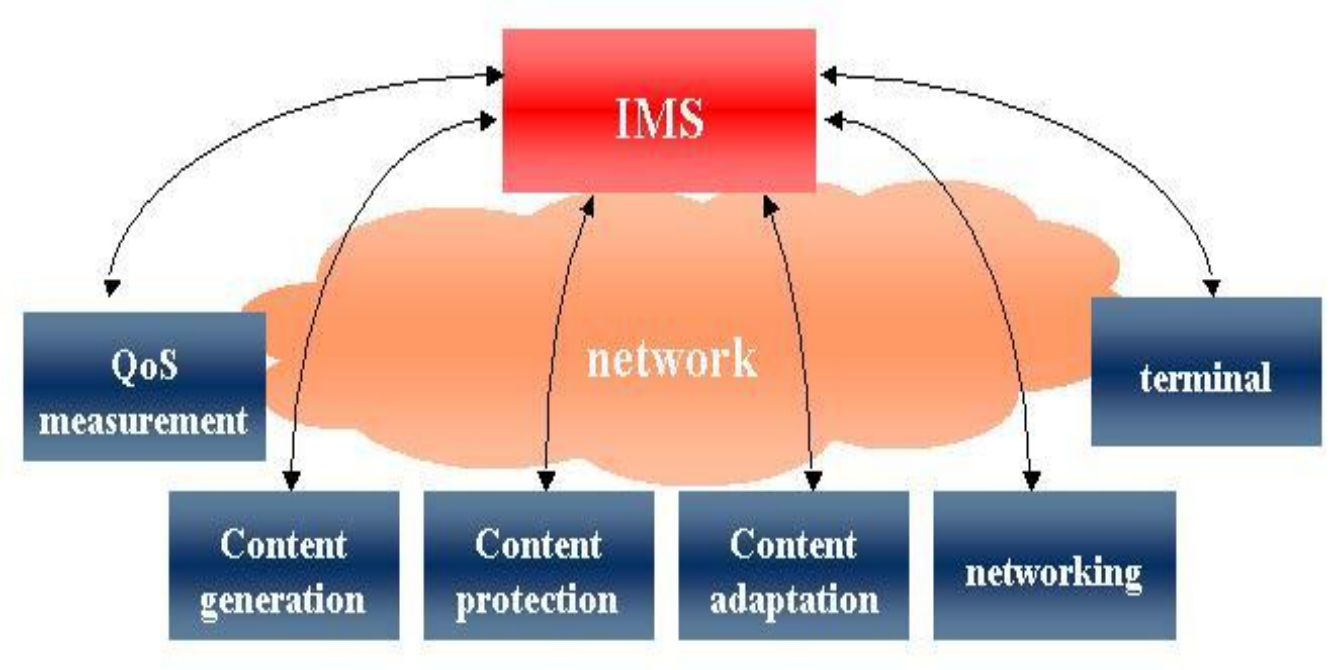
Content



- ENTHRONE E2E QoS Platform (EIMS)
- The ENTHRONE business ecosystem
  - Value Chain and Main Roles
- ENTHRONE business scenarios for service / QoS provisioning

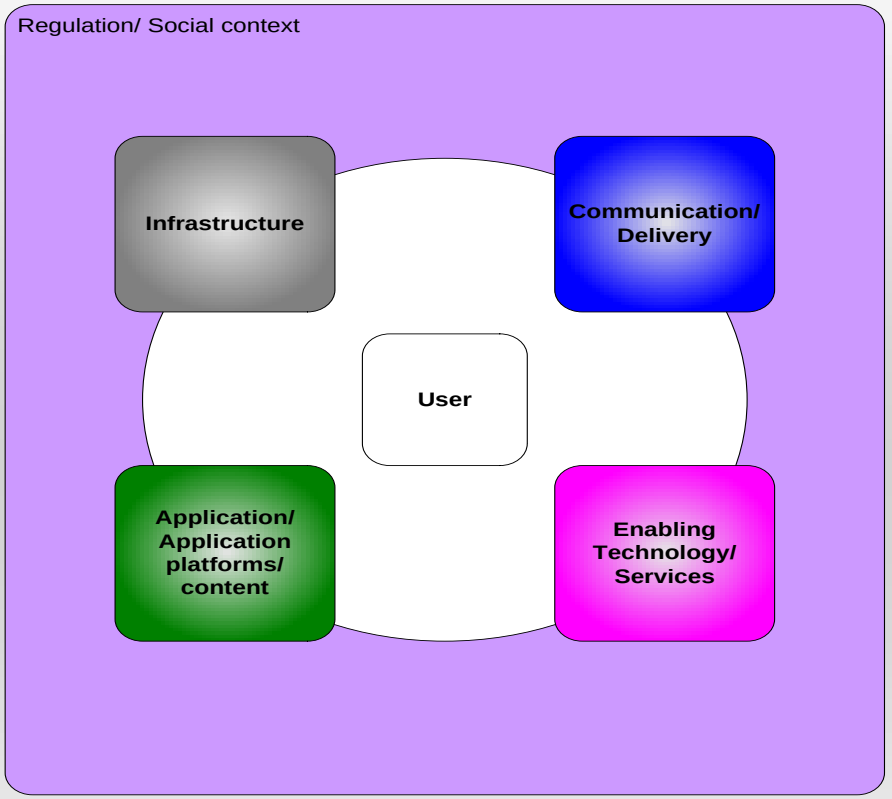
ENTHRONE E2E QoS Platform (EIMS)

ENTHRONE proposes a generic and highly efficient QoS-aware MPEG-21 media adaptation solution. Based on a flexible component model named MPEG-21 Media Adaptation unit, the ENTHRONE Integrated Management Supervisor (EIMS) controls and adapts, transparently, the QoS level of compressed media streams during its transmission

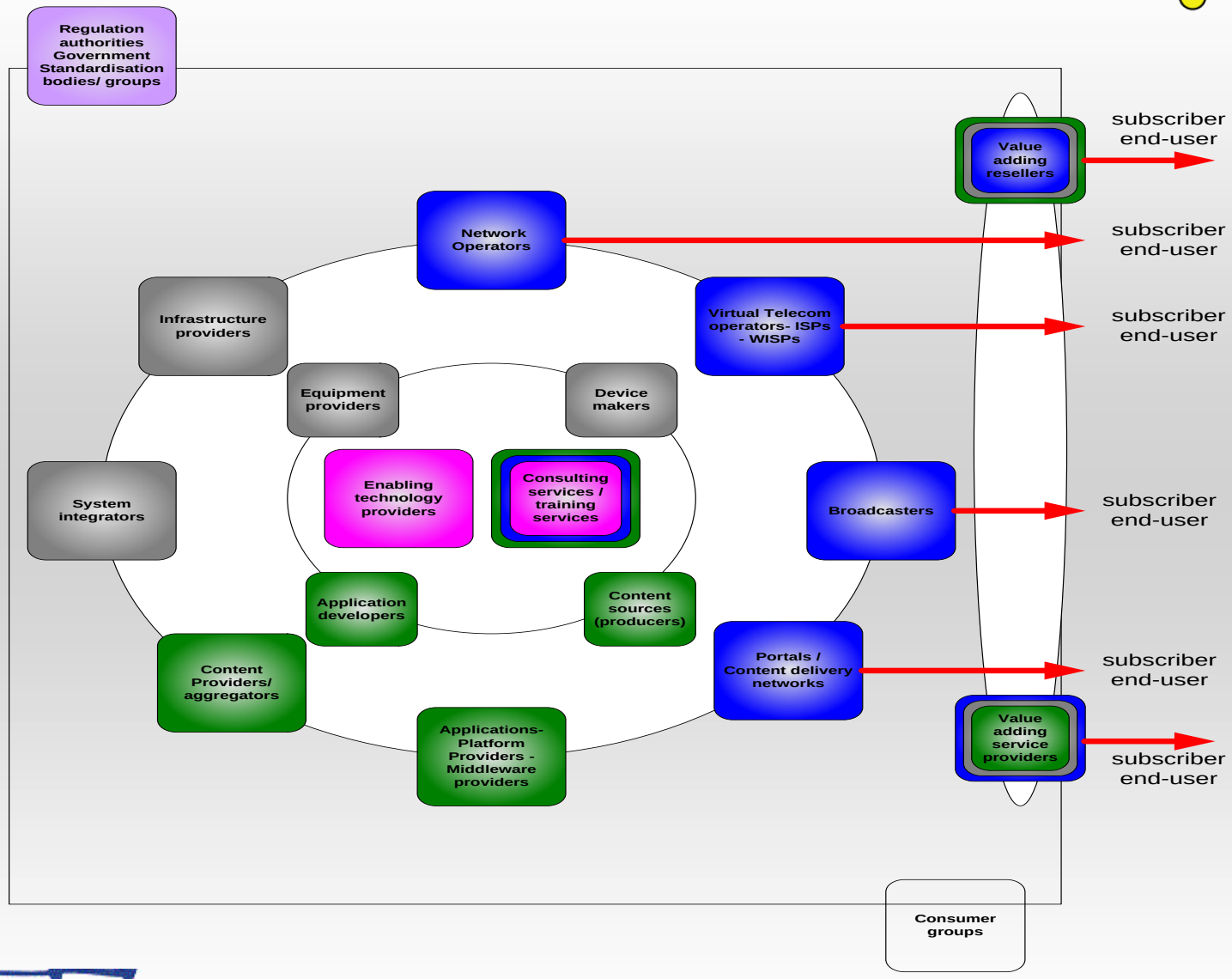


Business Segments

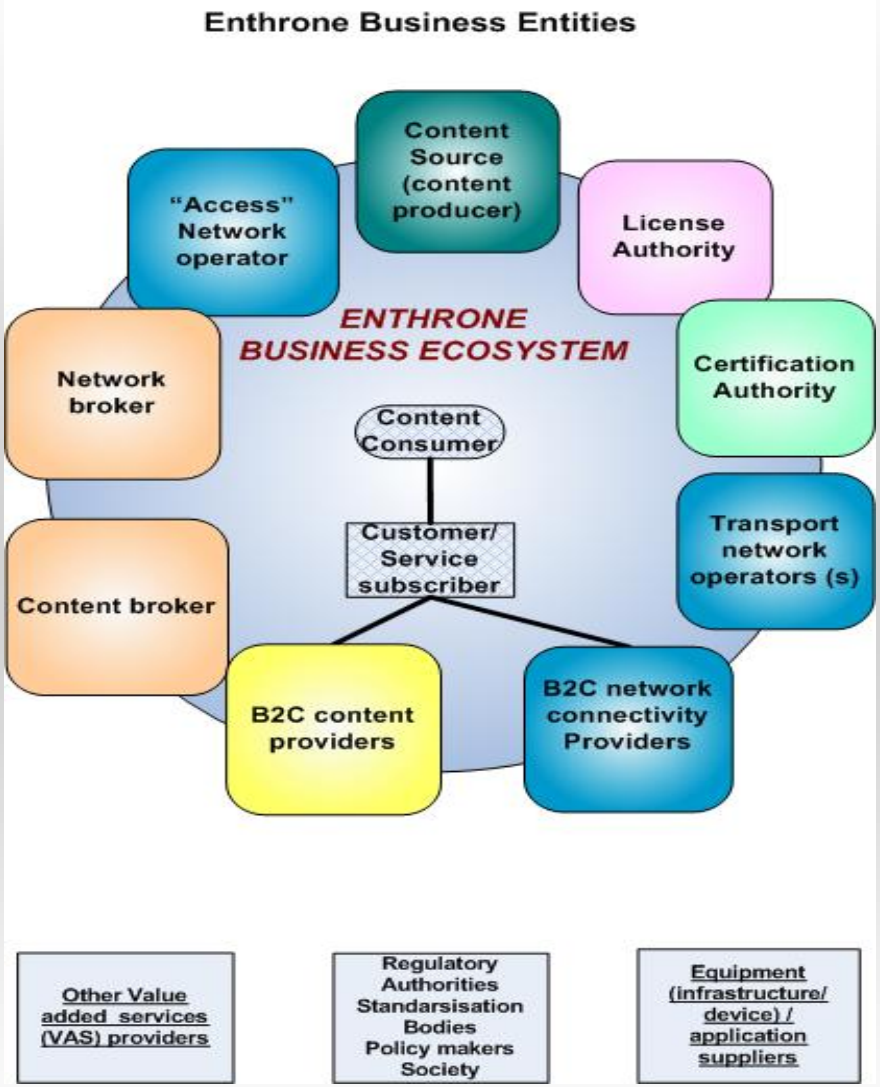
- enabling technology/ services (operating systems, software – hardware components of terminal devices, etc)
- applications/ application platforms/ content
- infrastructure (hardware-software systems for network equipment, associated services, etc)
- communication/ delivery (different networks that allow content delivery to the user).



Enthrone Market Actors



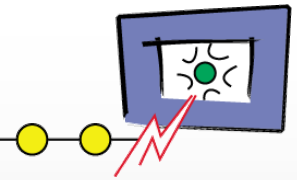
E2E Business Ecosystem



Business Functions Resumed by business actors

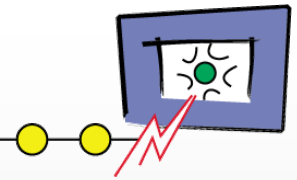
In a real life market scenario and in most instances, the role might be resumed by departments/ divisions/ sub-unit/ subsidiaries of more complex business organizations, "aggregating" a number of business functions and / or partnerships of close collaborating market actors.

Mapping of Entities to Actual Business Actors



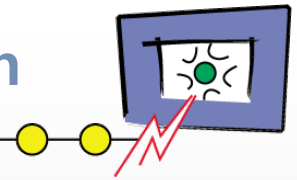
Business Entity	Description	Actual business actors that might resume the entity's role
B2C (Business to consumer) Content provider	A provider that distributes digital content to own subscribers. The entity is responsible for aggregating content from multiple content sources (as above defined) and for offering/delivering this content to consumers via high-level QoS-based services	• Portals/ Content delivery networks • Network operators • Virtual operators • Broadcasters • Content sources (producers, rights/ content owners) • Value adding resellers • Value adding services providers
Content (Quality) broker	A B2B broker that monitors a digital item's request and delivery at a certain e2eQoS level. The broker is interacting with content sources and B2C content providers as well as the network brokers. The content/ quality brokers interact with network operators via the network broker entities. The network brokers are facilitating content brokers in the establishment of the required SLAs among network operators and the monitoring of a digital item flow.	• Network operators • Virtual operators • Broadcasters • Portals/ Content delivery networks • Application platform providers • Content sources (producers, rights/ content owners) • B2C Content provider • Infrastructure providers

Issues



- In the real world, depending on market addressed and services to be provided, the business actors resume various overlapping roles (one actor may act as broadcaster and network operator another as broadcaster and content source, etc.).
- The ENTHRONE value web is a very complex one. Most of the QoS enabled service provision chain will be of the B2B2C (business to business to consumer) model..

E2EQoS service provision – the key question



Which business actor (s) among those participating in the ENTHRONE services distribution chain will resume the coordinating role in the decision making process for e2e QoS?

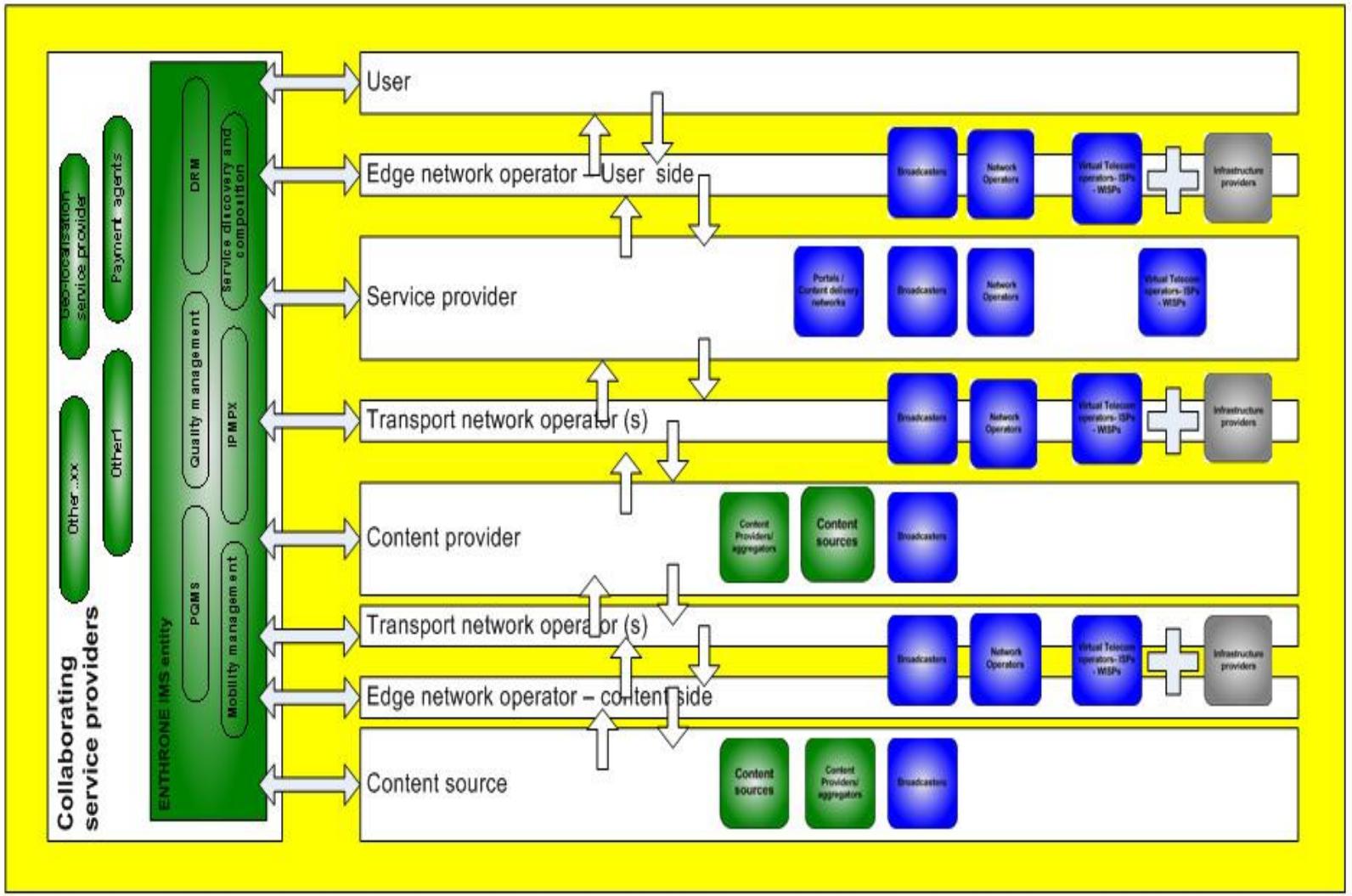
- Four potential approaches
  - The trusted party approach
  - The dominant player approach
  - The service aggregator approach
  - The content/ quality brokers approach

The trusted party approach

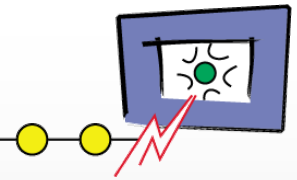
- The coordinator of the decision making process is a distinct entity which interacts with all key stakeholders in the content delivery value chain, with the prime goal to ensure that the e2e content delivery and the optimal use of the network resources.
- The actor “aggregates” the functions of content/ network broker entities. The end-users may not even know that such an actor exists however the actor really resumes a coordinating role within the ENTHRONE value network. The actor is a completely independent (to others) actor.
- Secure impartiality and “fair” play among directly competing network operators and/ or directly competing content providers/ broadcasters participating in the network. B2B model

Current market analogy: CDN operators like AKAMAI act as trusted parties

Trusted party Scenario



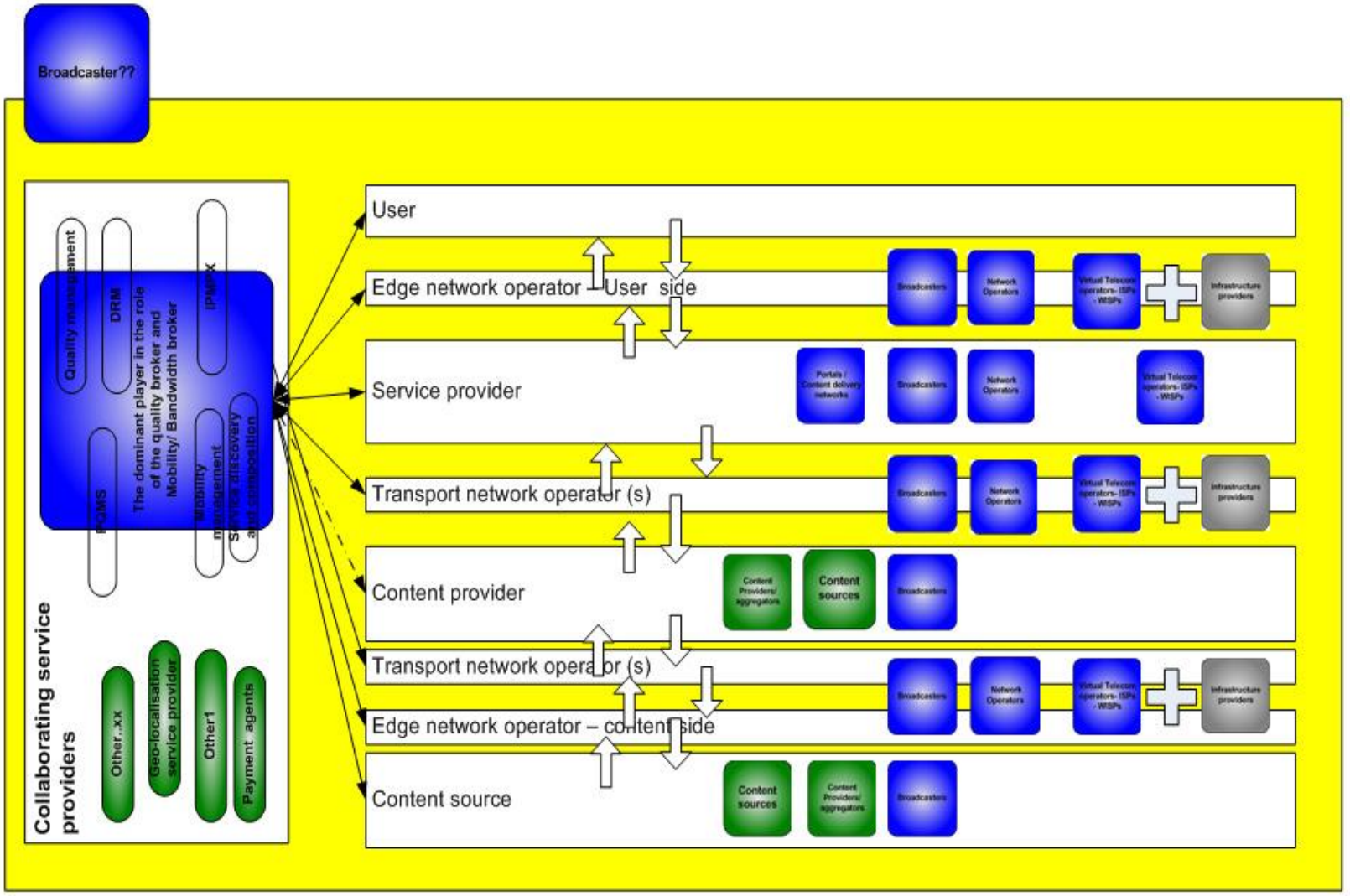
The dominant player approach



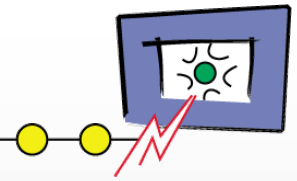
- The business functions assigned to brokers are resumed by an actor in the value chain with significant market power, for instance a broadcaster or an incumbent network operator. Services to end-users are offered directly by the dominant player and/ or via services providers collaborating with the “dominant” player

- Current market analogy:
  - IPTV deployment in France by FT

The dominant player approach



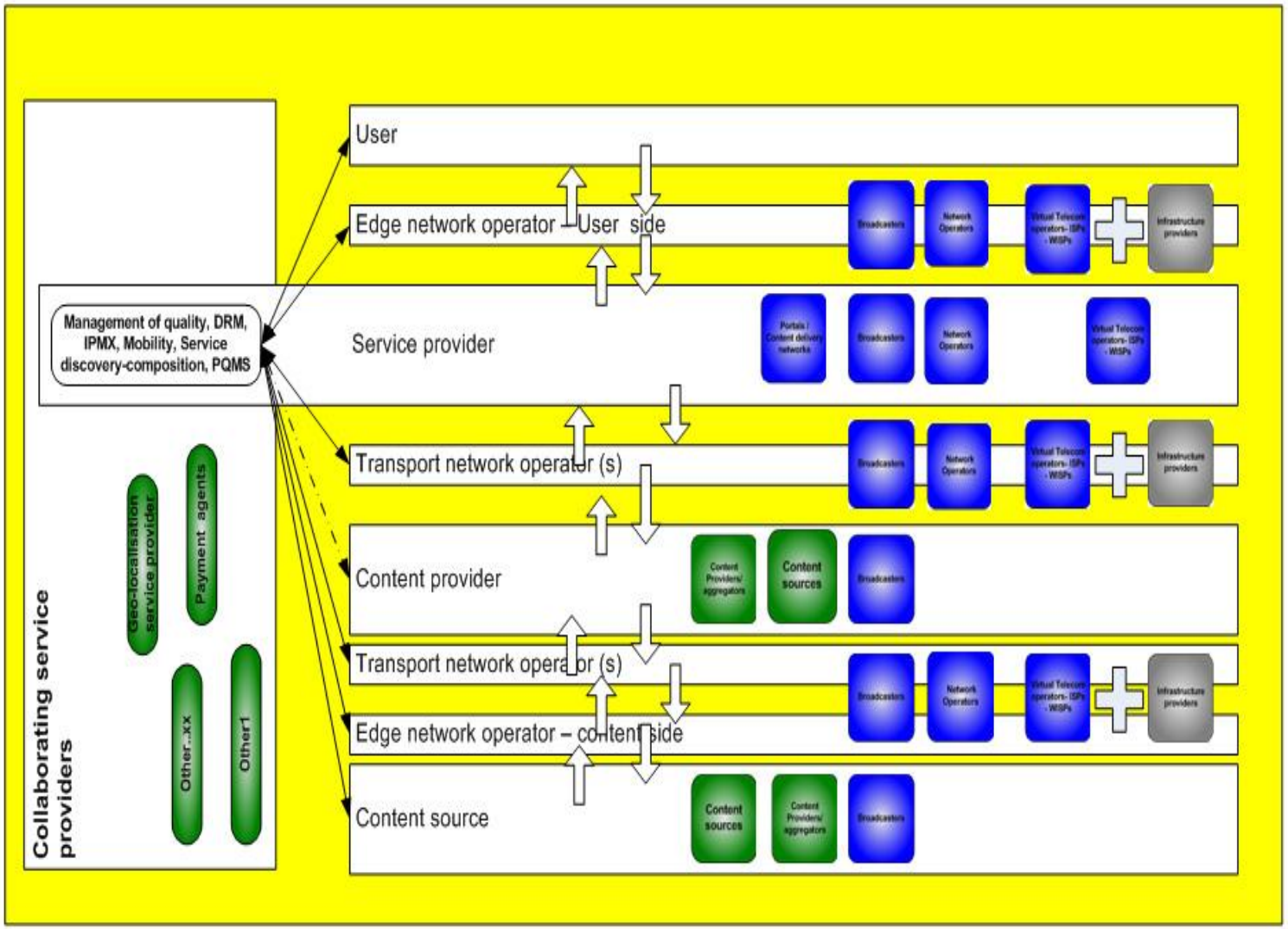
The service aggregator approach



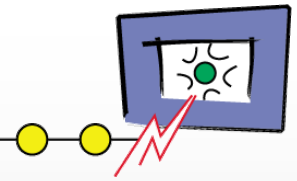
- A service provider directly interacting with end-users resumes the business functions of the ENTHRONE trusted party as well as the functions of B2C content and connectivity provider as previously defined

- Current market analogy:
  - Satellite Pay-TV providers such as Canal +

The service aggregator approach



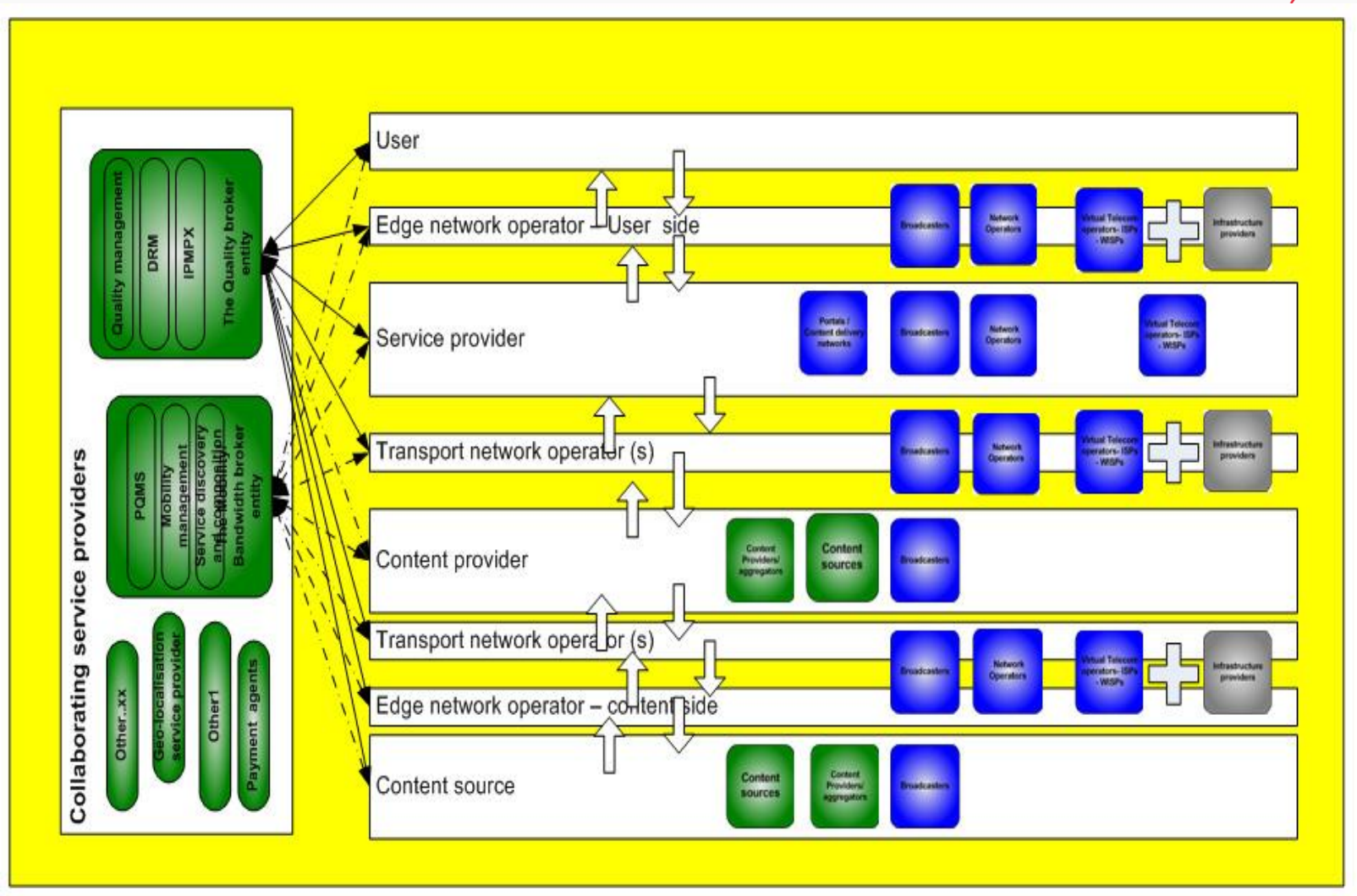
The content/ network brokers approach



- In this scenario, the envisaged capability for the trusted party – as above described– is split among two business entities:
  - A network broker that is coordinating all the decisions related to network path selection i.e. of appropriate parameters for (perceived or objective) network quality.
  - A Content broker that is coordinating all the decisions relevant to content generation/ adaptation/ protection, i.e., the remaining modules in the EIMS dispatcher platform that related with higher level decision making on e2e QoS.

- Current market analogy:
  - Mobile TV deployment in Germany. A company acts (in the background) as a content broker serving a number of B2C content providers. Another company (broadcasting infrastructure provider) resumes the responsibility to coordinate all available network resources.

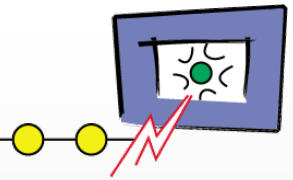
The content/ network brokers approach



Some Conclusions

- There are a series of arguments in favour or against all the scenarios
- National or regional markets where different actors will adopt different business models
- However, there will be still questions – among actors that adopt different business models - for finding common ground for collaborations and "sharing" resources (for instance resources related to the perceived quality monitoring system)

At the present state none of the above business scenarios can be disregarded or adopted. Further elaboration need to be performed in close collaboration with the ENTHRONE architectural development and the specific business / services scenarios selected



Thank you

For further information please contact: va@telecompare.gr