

Immersive Television

From Technology to Experience

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Content

- Challenge
- Approach
- NexTV project
 - Applications
- Conclusions

Challenge

- What end-users **view** and **receive** is determined by
 - what is **produced** and **processed**
 - in the **end-to-end chain**
- End-user **experience** is created by **all** stakeholders in the chain
- **Learning curve** for all, also end-users

Perceived End-User Benefits

User experience is **key**

- Quality of the user interaction
 - **Feedback** in the user interface
 - **Control** over the content
 - **Participation** in the program content
 - Ability to produce something **useful** and **fun**
- Quality of program and services presented
 - **Reliable** as good old TV
 - **Different** and **worthwhile** to have and to view

Objectives

- Develop applications to explore the **user interaction** possibilities of advanced content
 - Going digital is >>>> digitizing the source material
 - Creating **compelling** experiences for users rely on carefully **staged** presentation

Approach

- Collaborate with partners in end-to-end chain: *NexTV* , *ICE-CREAM* projects
- Bundle specialized expertise
- Work on integrated platforms
 - **Open** standards
- Focus:
 - **Consumer**: user interaction and new ways of enjoying media content
 - **Technology**: platform integration
 - **Business models**

NexTV: Consortium

- Philips NL
- ICSTM UK
- T-NOVA D
- FhG FOKUS D
- Optibase IL
- TILAB IT

- NSSE B
- KPN NL
- SUN US
- ETRI K
- NOB NL
- FT R&D F

NexTV is a project in the **IST** Fifth framework programme in the cluster **Interfaces & Enhanced Services**

Applications objectives

- Focus on
 - **Delivery** and **use** of interactive content
 - Use of **MPEG-4**, DVB-MHP and web technology
- Provide end-user interaction
 - **With** programs and services
 - myGuide
 - **Within** programs **with** multimedia objects
 - Toons

MPEG-4 for the user interface

Media objects in all sorts and sizes

- Visualization moves to **living room**
- Presentation of **multiple variants**
 - presenters, decors, advertisements
- **Viewer** can influence the composition
- Objects can be combined from **different** distribution channels
 - Internet, web cams, home-made

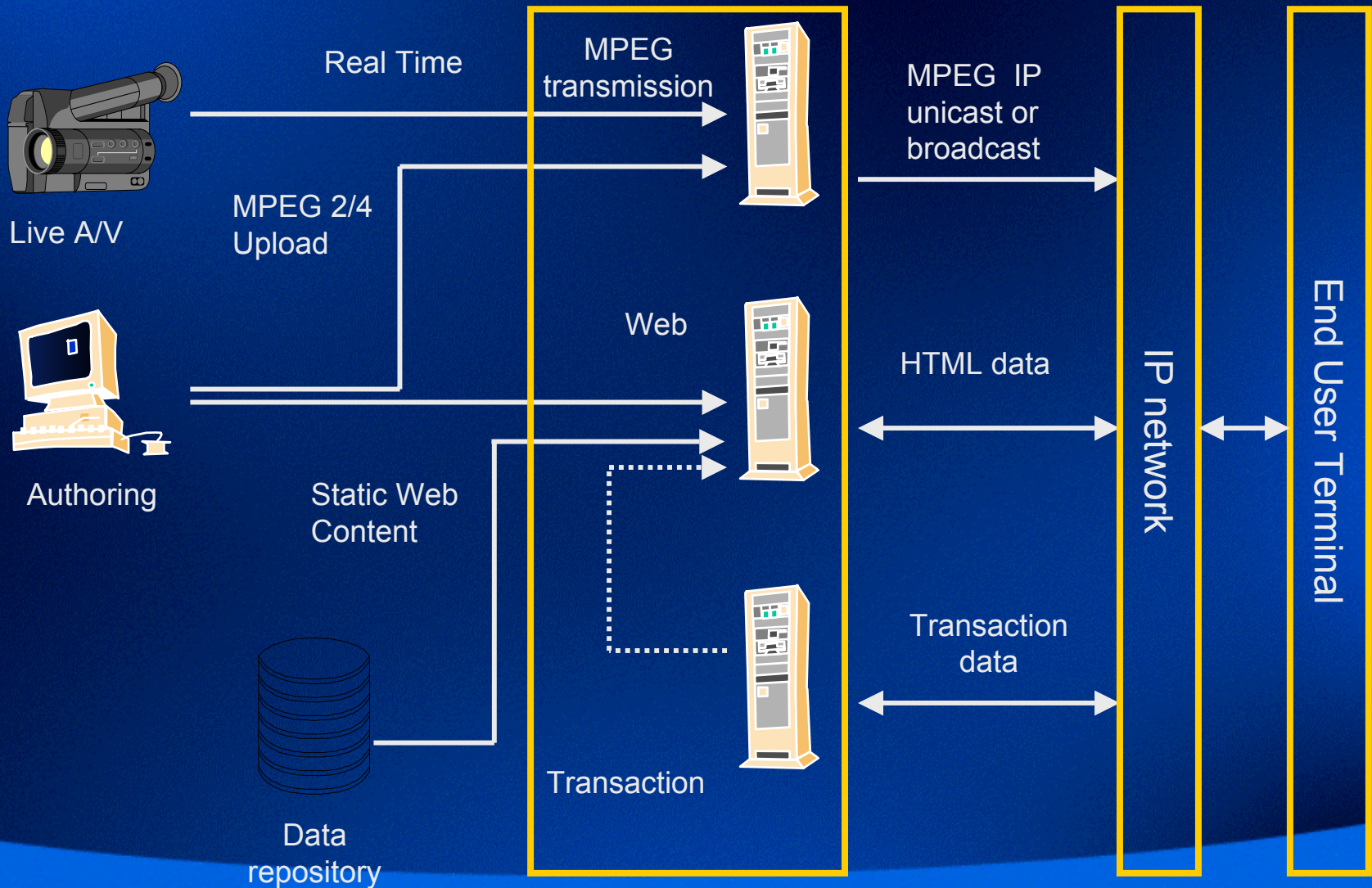
myGuide: *Delivery* of Interactive Content

- Interactive program guide
- General TV audience
- Personalized TV entertainment and information
- Integration of Web and broadcast content on the receiver
- E-commerce links via the TV

myGuide

- **Users** can choose content
 - from **different** service providers
 - of **different** media format
- At the client side
 - **Integration** of broadcast, narrowcast and web content
 - **Multiple** concurrent providers

myGuide Platform



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Servers



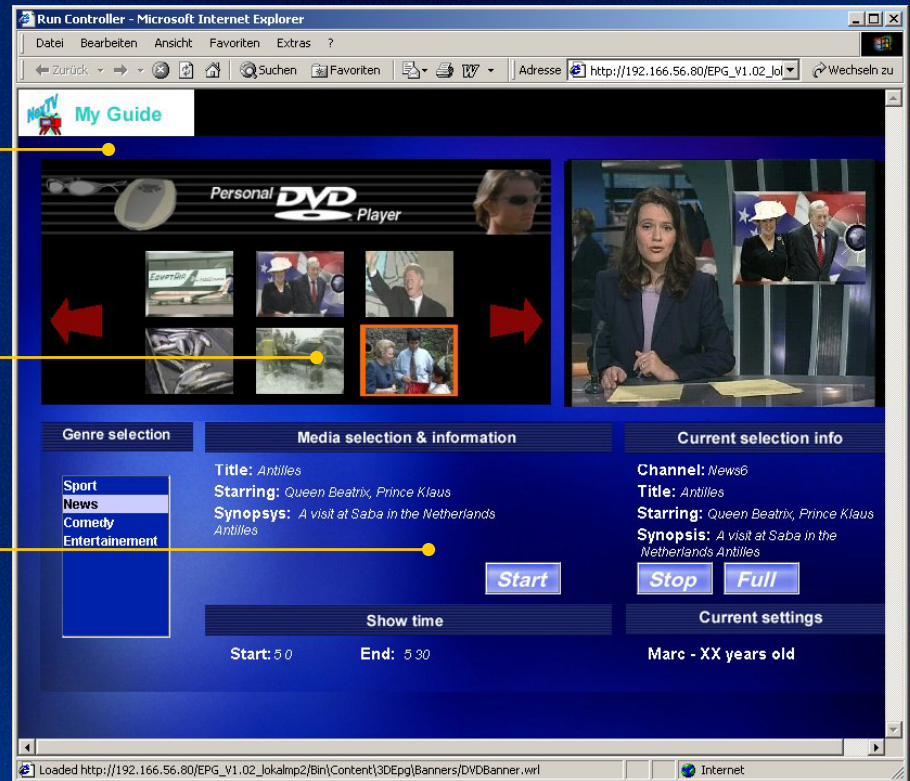
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myGuide: Open IPG framework

Direct access via portals
UI: 3D rotating cube

Preference-based
personalized content

Third party program
schedule info



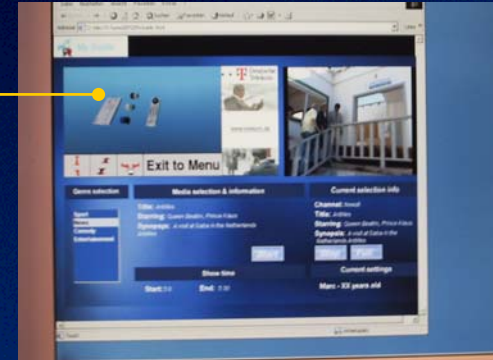
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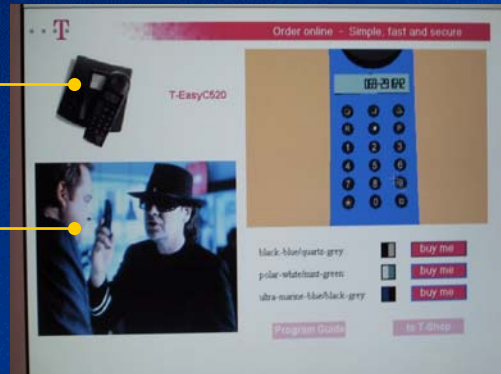
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myGuide

Personal advertisements
re. program on view



Virtual shopping center



Communication with
sales agents

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Toons

Use of Interactive Content

- Interactive story-telling
 - TV program for children (8-12 yrs)
 - User input
 - Manipulation and creation of content
 - MPEG-4 representation of media objects

Toons

- **Users** can
 - Modify, change and control the content
 - Personalize the story
 - Give input to the narrative
 - Configure the look of characters



Toons: Content production

MPEG-4 Scenes

Composed of different objects

3D object

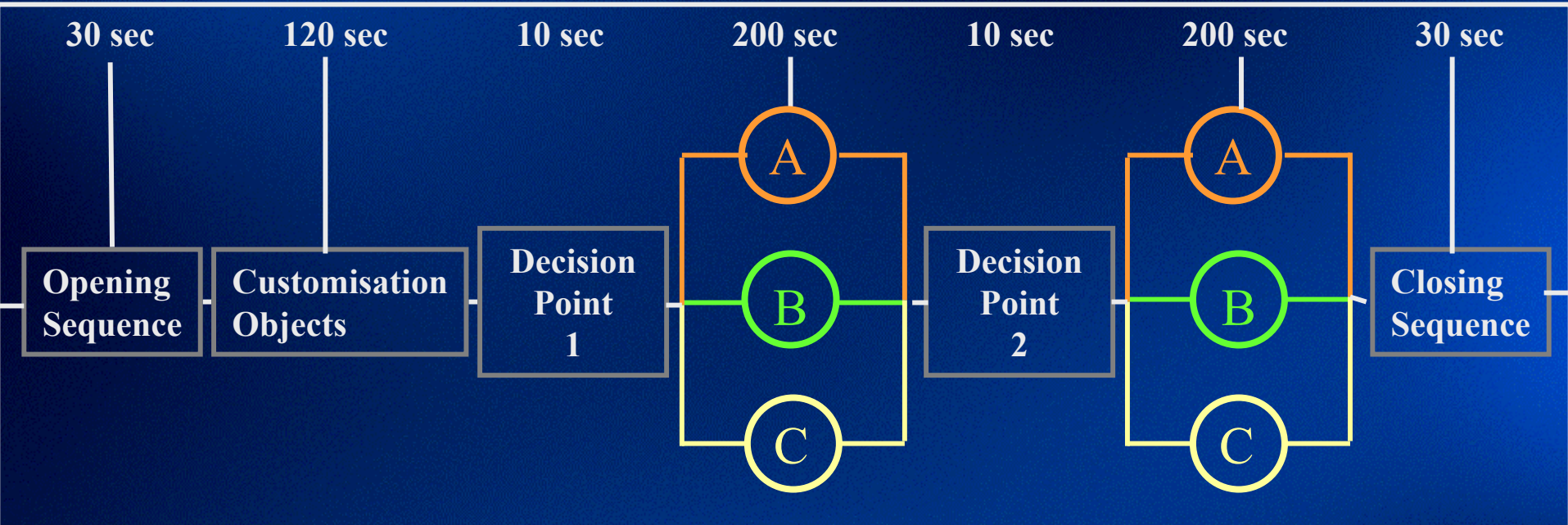
Video object

Video back plane



Toons: Story Framework

- Non-linear narrative structure
- Multiple paths



*What **you** see is not what **I** see,
but we receive the **same** program*

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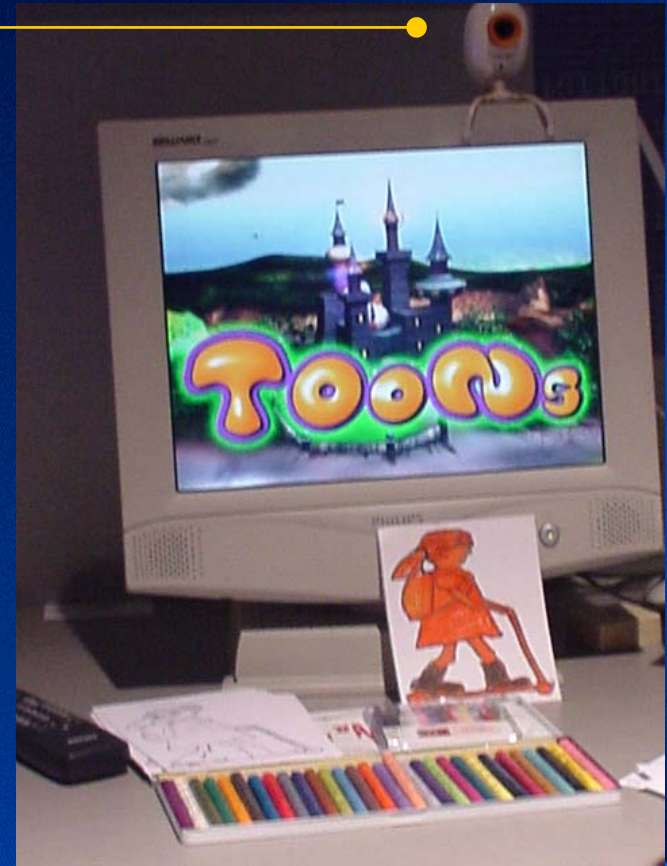
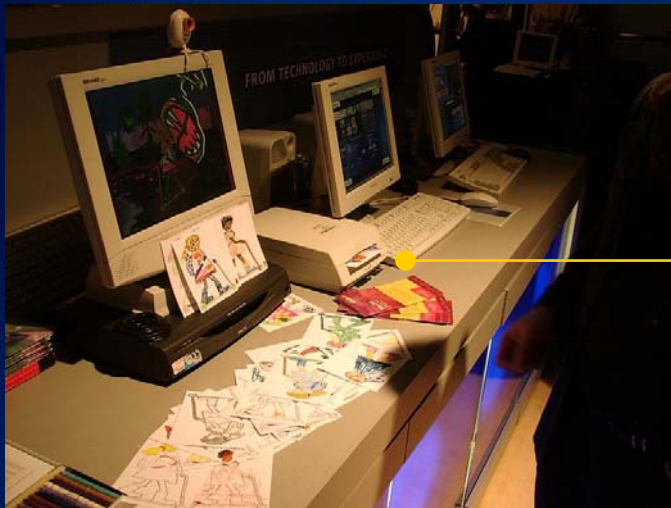


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Toons: local modification of objects

Replace picture on the wall by image from web cam

Replace texture of character by scanning in 'colored' image



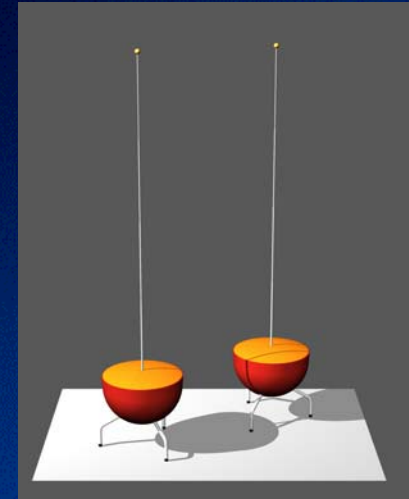
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Toons: Tangible Interaction Tools

- Playful and fun
- Part of the story
- Bi-directional



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Salient Aspects

- TV interpreted from **social** point of view
- **Interaction devices** perceived as part of the program
- **Non-linear** structure and MPEG-4 media objects for broadcast programs
- E-commerce applications with **direct communication** between customer and sales persons

Conclusion

- **New** concepts for interactive TV
 - Useful to **identify**
 - problems with **platforms** and **tools**
 - new **roles** and relationships for stakeholders
 - Standards
 - **Gap** between theory & practice
 - Feedback
 - Very **promising** and encouraging for continuation

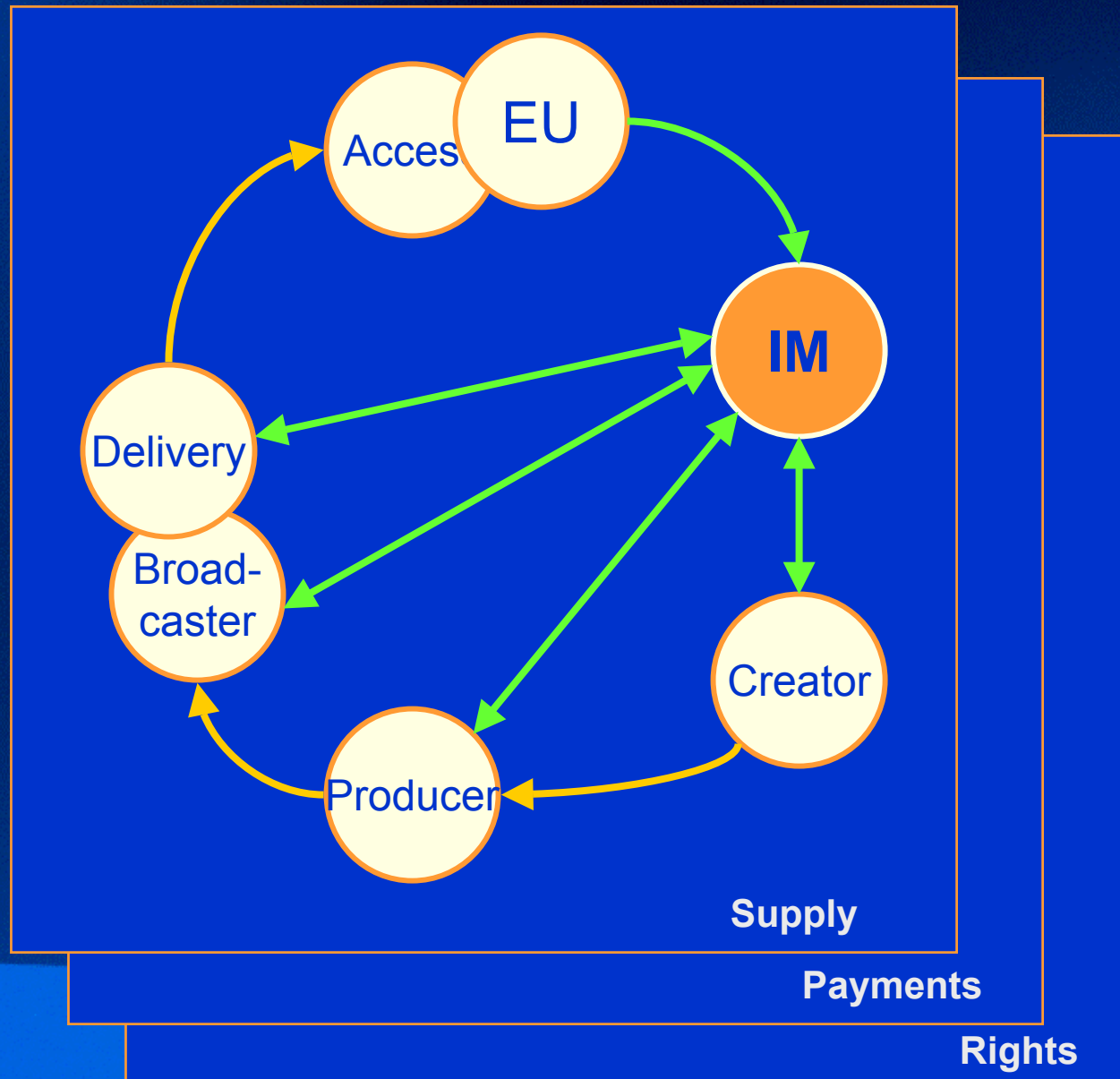
Business Framework

Circular Value Chain

Conceptual layers

EU: End-User

IM: Interactivity Manager

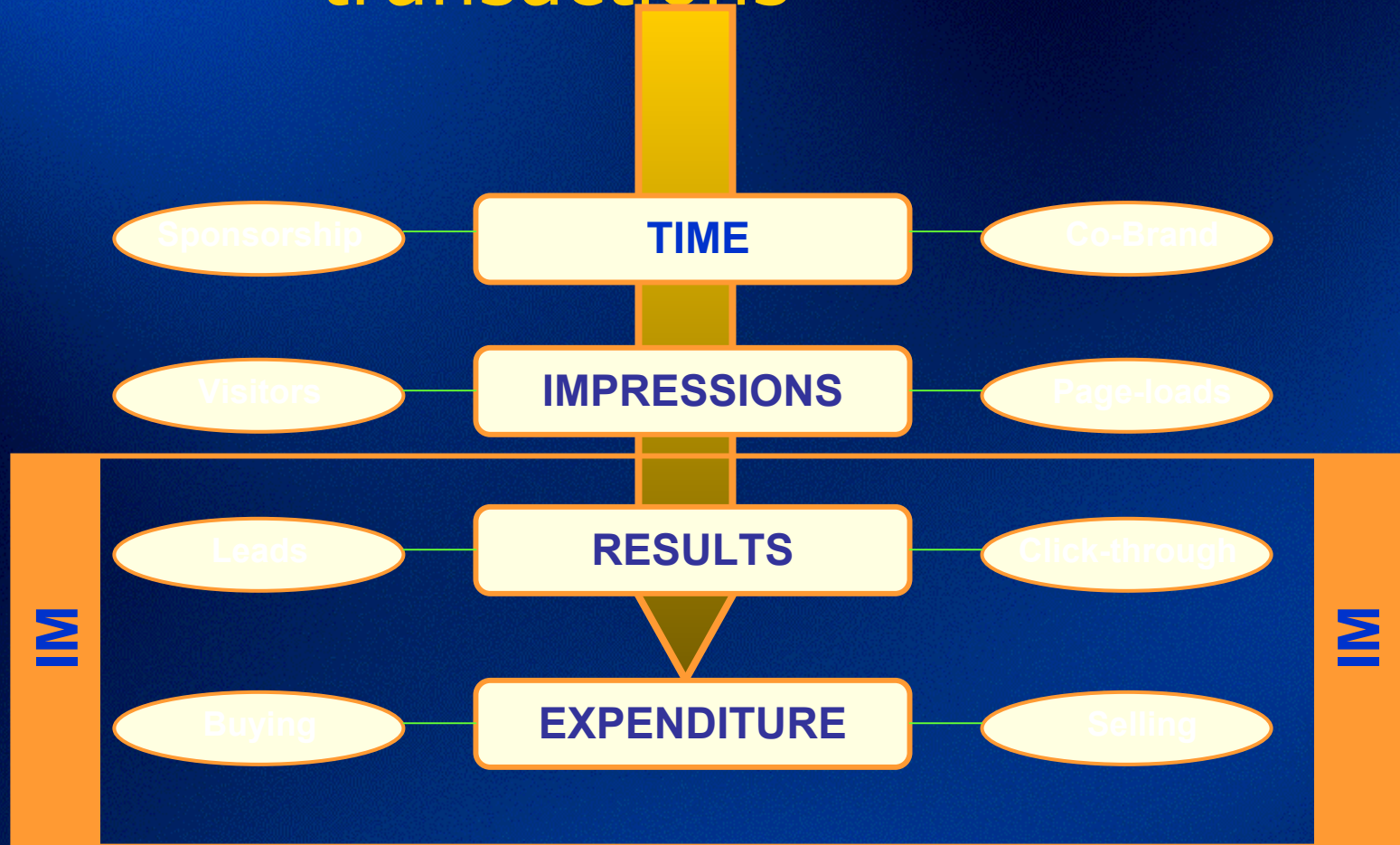


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Interactivity Manager

- **Facilitates** formation of information ecologies
- **Monitors** stakeholder commitments
- **Identifies**
 - communities of interest
 - new market spaces
 - key characteristics of end-user utility
 - mechanisms to acquire demand information
 - data requirements for/from business partners
- Translates, assigns and matches **different requirements**

Toward measurement of transactions



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