Open Source impacts on ICT standardization

Presented at SOS Interop 3

Standards, open standards and Interoperability

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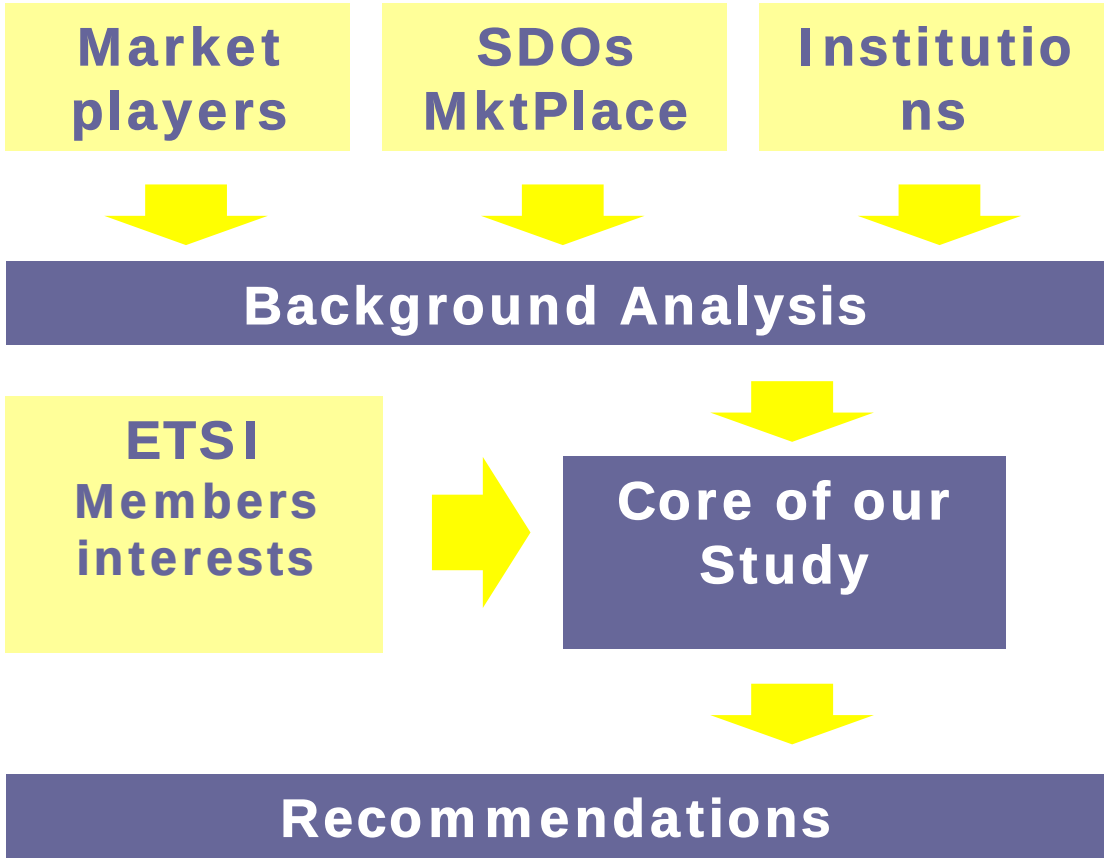
Preliminary remarks

- This study doesn't represent an ETSI position
- This study tries to identify strategies combining :
  - market trends and constraints
  - ETSI Members interests

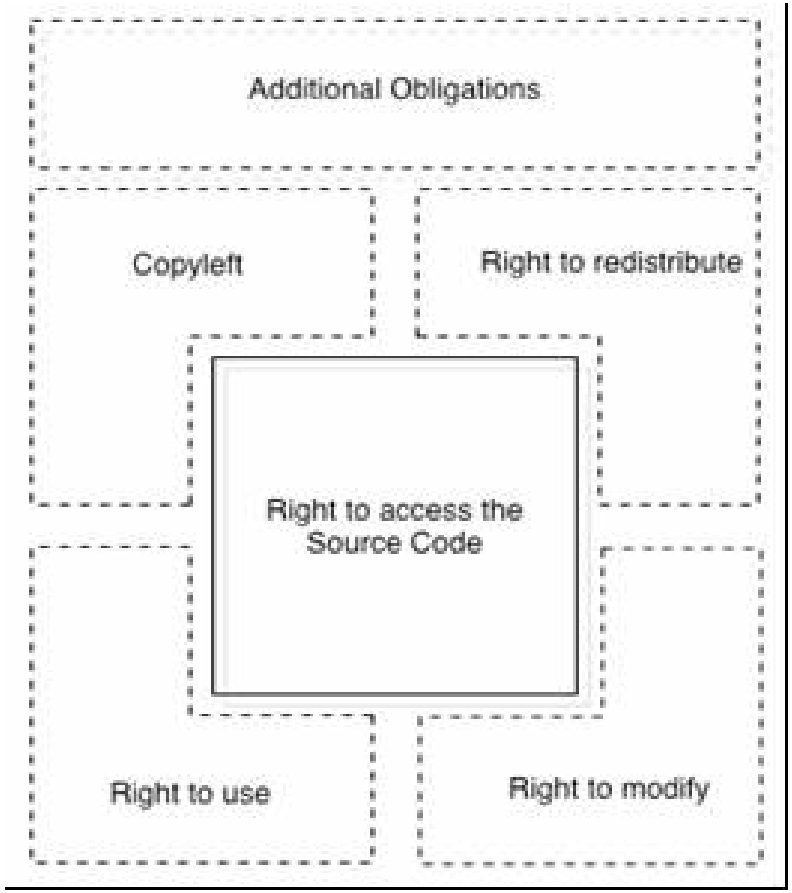


PART 1 : Open Source & Open Standards

- When Open seems to have different meanings

Open Source Definitions

- Freeware, Shareware
- Free Software Licenses (Free Software Foundation)
  - Right to access
  - Right to modify
  - Right to redistribute
  - Right to use
- Open Source Licenses (OSI)
- Copyleft Principles
- Copyrights more than patents: but it's always subject to IPRs



Open Source Business Models

	Open Source Strategy	Business strategy
Service	- To develop **services** using GPL or other existing OSS component - To develop their own "OSS" architecture	- To promote openness - To develop ad-hoc architecture and software to costumers - To reinforce the critical relationship with the costumers
Product	- To develop **specific components** integrated in a proprietary product - To promote theses components within OSS communities	- To strengthen the position of the product on the market - To benefit of OSS communities assessment
Integration	- To develop Open Source Enterprise architecture - To develop services using their own architecture mixed with others (OSS or not) - To promote their own architecture including components within the OSS communities	- To be perceived as a federator - To strengthen their position on the existing customer base - To take an overall commitment on the evolution of enterprise IT architecture

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Open source licenses : more than 500 licenses

Licence	Free Software				FSF Copyleft	OSI Certified	Economic Model
	OSS	OSS Flavours					
	Access	Use	Distrib.	Modif.			
BSD 99	X	X	X	X	-	-	Service
LGPL	X	X	X	X	X	X	Integration
GPL	X	-	X	X	X	X	Service
W3C SL	X	X	X	X	X	X	Service
BSD	X	X	X	X	-	X	Service
Apache 2	X	X	X	Specific	X	X	Integration
IBM Public License	X	X	X	Specific	-	X	Integration
Sun Industry SSL	X	X	X	X	X	X	Service
Sun Public License	X	-	X	X	-	X	Integration
Sun Community L	X	X	-	-	-	-	Product
Apple Public SL2	X	X	X	X	X	X	Product
Microsoft SSL	X	-	-	X	-	-	Product
Mozilla Public License	X	Specific	X	X	Specific	X	Service

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SSOs and IPR Policies

1 - Open Source & Open Standards

SSO	Policy	Can Standard include IP?	Licensing Provisions
ANSI	Patents	Only for technical reasons	RAND, ANSI will review claims of unreasonableness
CEN	Patents	Exceptional	RAND or withdrawal of standard
ETSI	Patents, Copyright	Yes	RAND irrevocable
I2O SIG	Patents, Trademarks	Yes	Royalty Free
IEEE	Patents, Copyrights	Yes	RAND, terms must be specified
IETF	Patents, Copyrights	Yes	RAND, terms must be specified
ISO	Patents, Trademarks, Copyrights	Yes for Patents, no for TM	RAND Patents, non-exclusive Copyright, no TM provisions
ITU	Patents	Yes	RAND and no-monopolistic abuse
RosettaNet	Patents, Copyrights	No	Patents assigned to RosettaNet
W3C	Patents, Trademarks, Copyright	Yes	Royalty Free

RAND: Reasonable and non-discriminatory policy
TM: TradeMark, C: Copyright
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Open Source IPR / Patents IPR

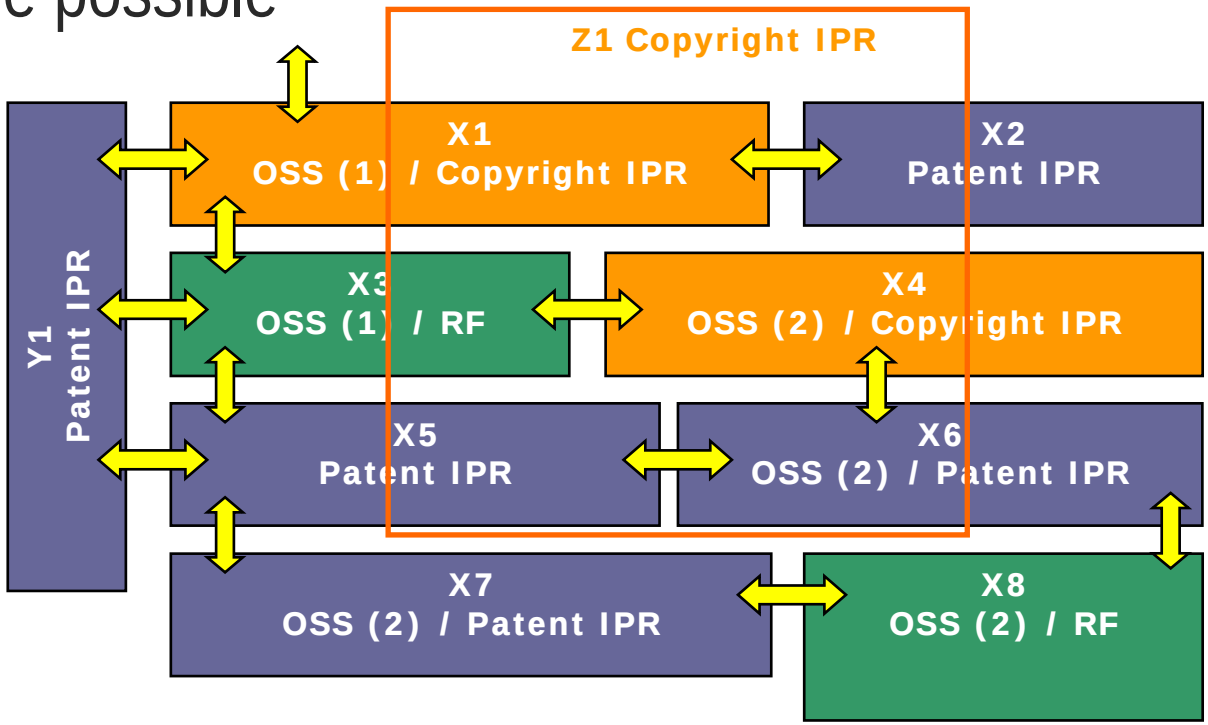
- Open Source is based on **copyright** rather than on patents but it is also **subject to IPR**
- Open Source IPR can be **compatible with Patents IPR**
- FRAND : important instrument in negotiation to clarify mutual obligations

Open Standards : Many definitions

- European Standardization Policy
- EICTA Definition of Open Standard
- ITU Draft definition of Open Standard
- IDABC Definition of Open Standard
- National debates on the definition of Open Standards
  - Interoperability and Open Source in e-Gov
- W3C
- …

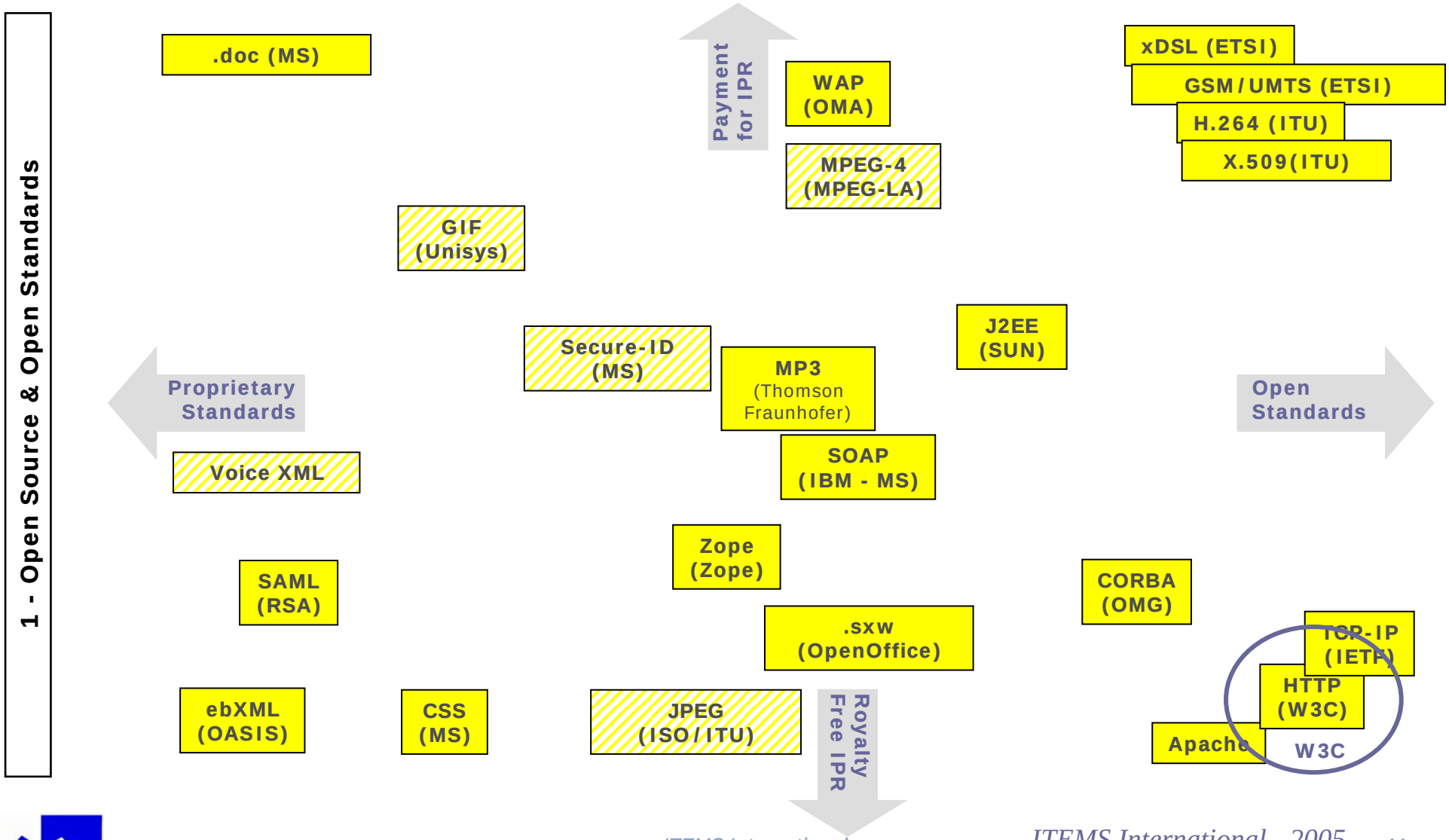
But most players play many different games

- Many interactions are possible



- Risks of confusion
- A new game where the rules need to be clarified

Free and open standards and software



Open Source / Open Standards

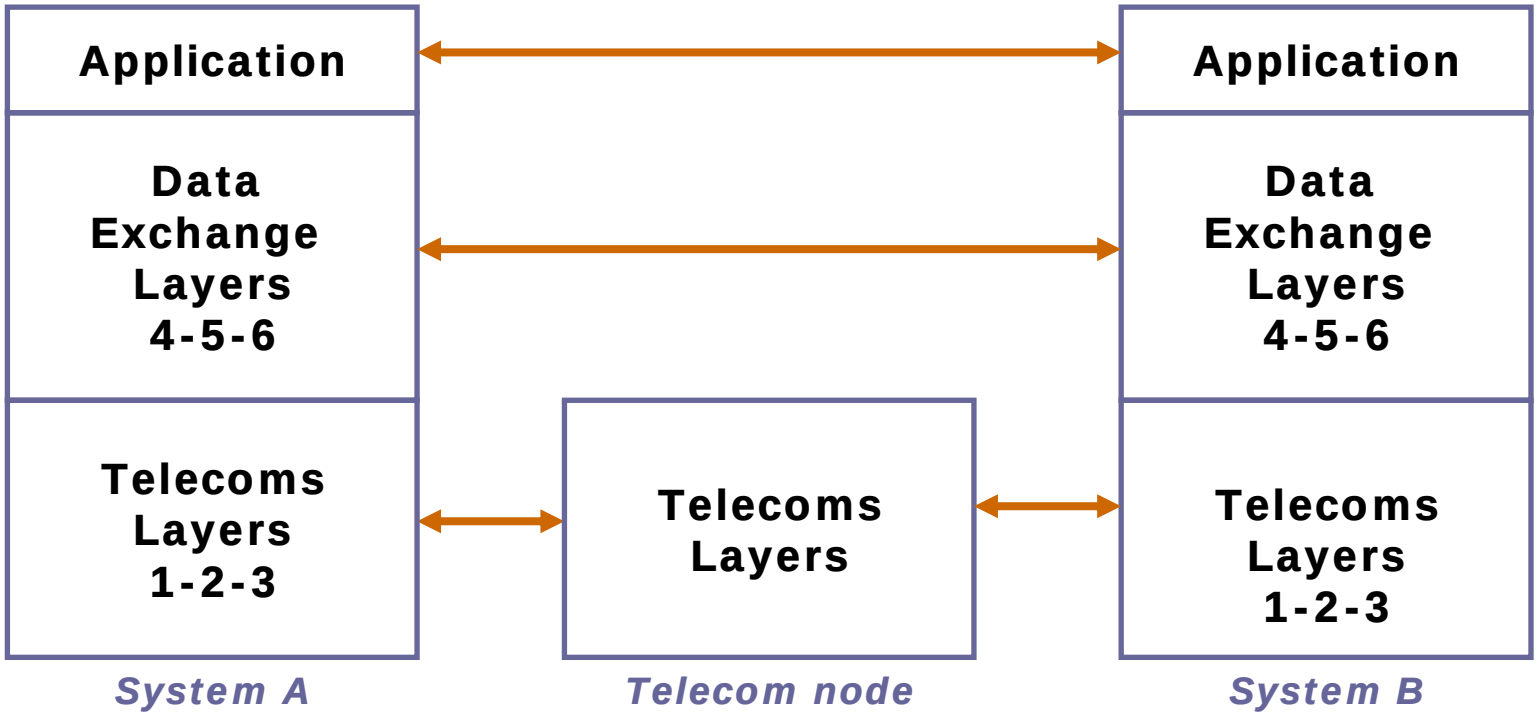
- Open Source and Open Standards are two different issues
- But :
  - Many interferences
  - Many cross-strategies
- Most players play many different games
  - Risks of misunderstanding
  - A new game where rules need to be clarified
- Different approaches of these issues are found in
  - Telecoms
  - Broadcast
  - IT

PART 2 - The convergence impact

- 3 cultures : 3 approaches
  - Telecoms
  - Broadcast
  - IT

Telecom culture : FORMAL LAYERS

2 – The Convergence Impact



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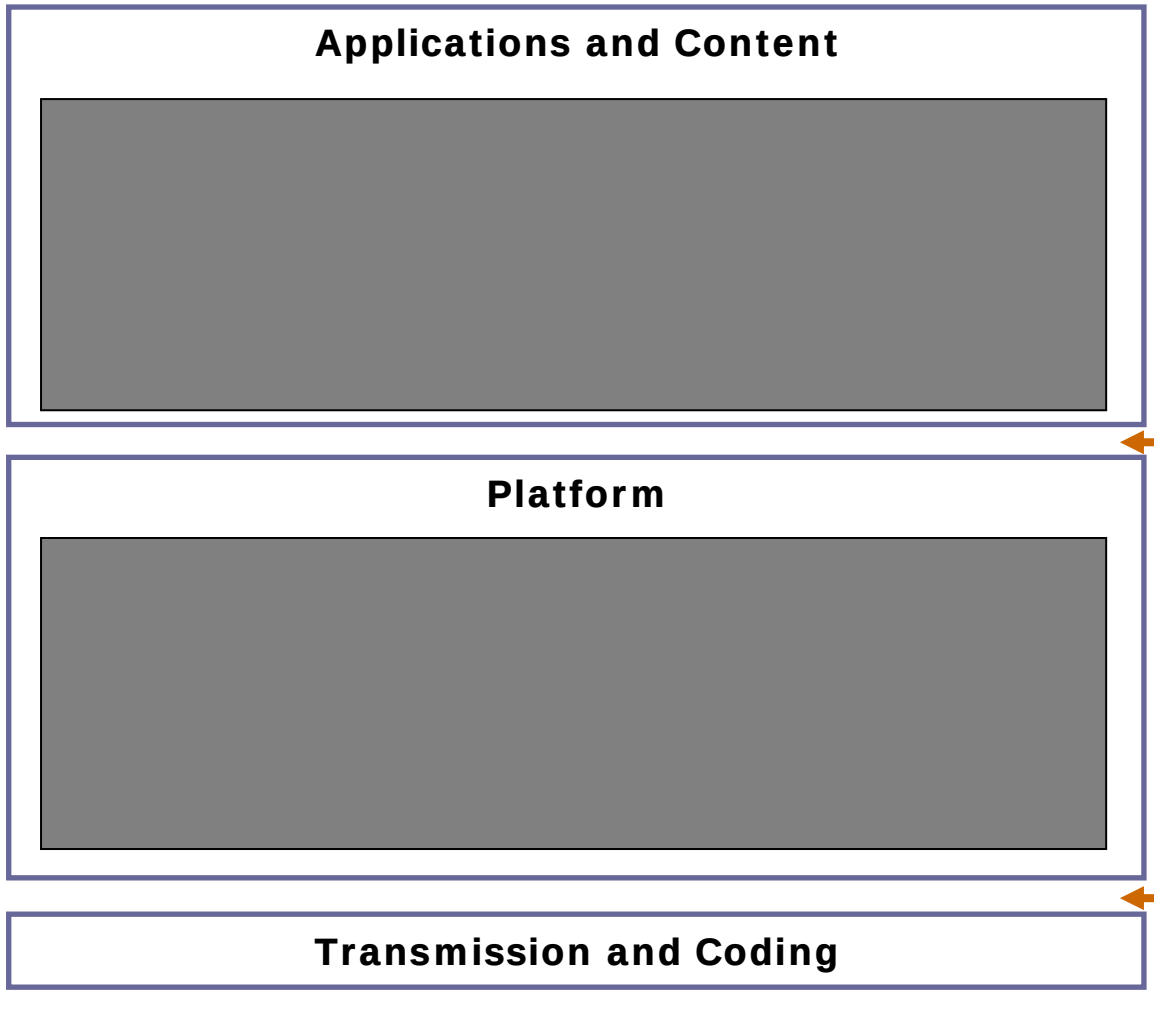
You want to go from A to B ?

Let us build up the way and set up the road signs

Video Culture : BLACK BOXES

2 – The Convergence Impact



... and the show must go on !

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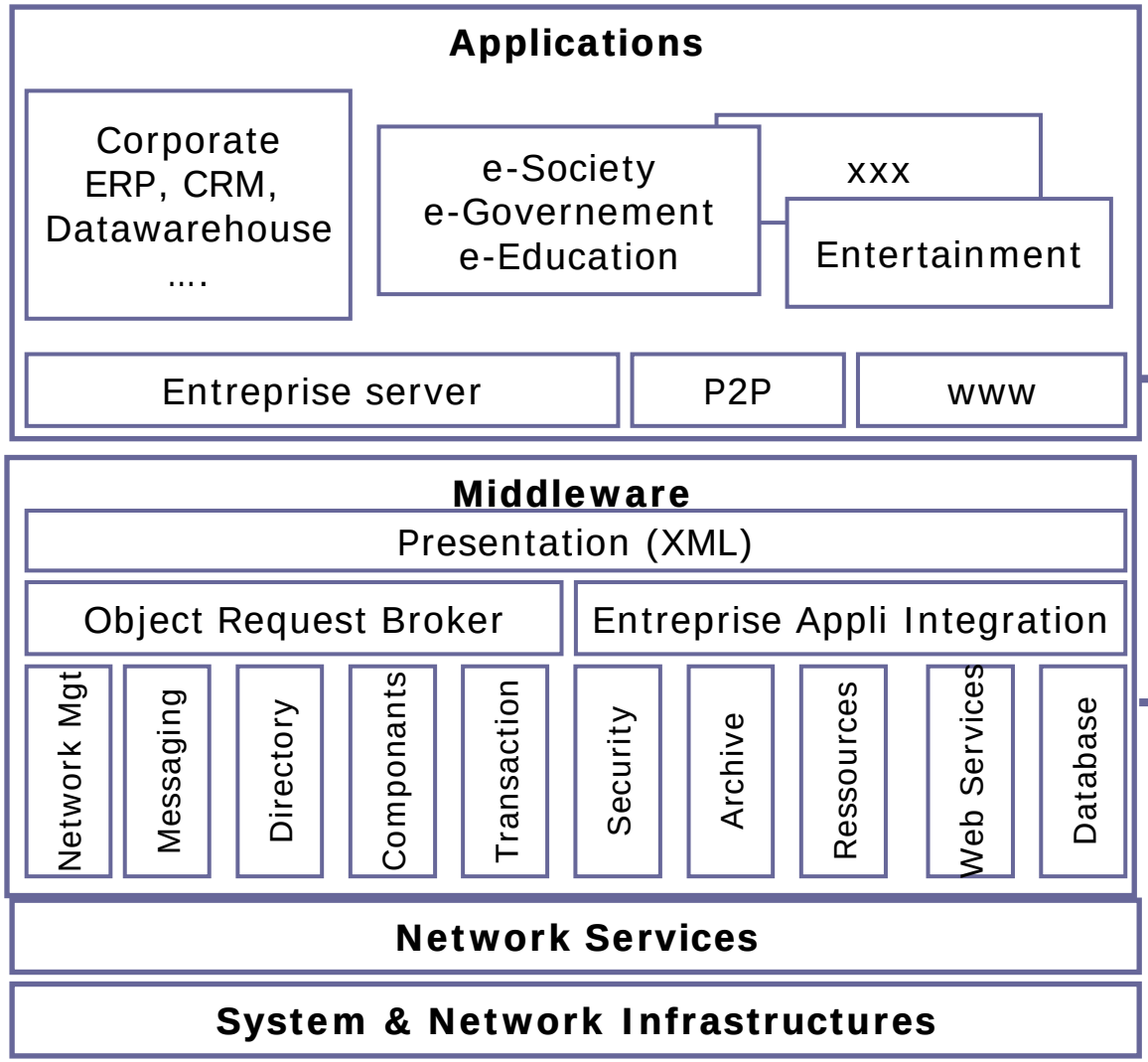
IT Culture : DYNAMIC COMPONENTS

2 – The Convergence Impact

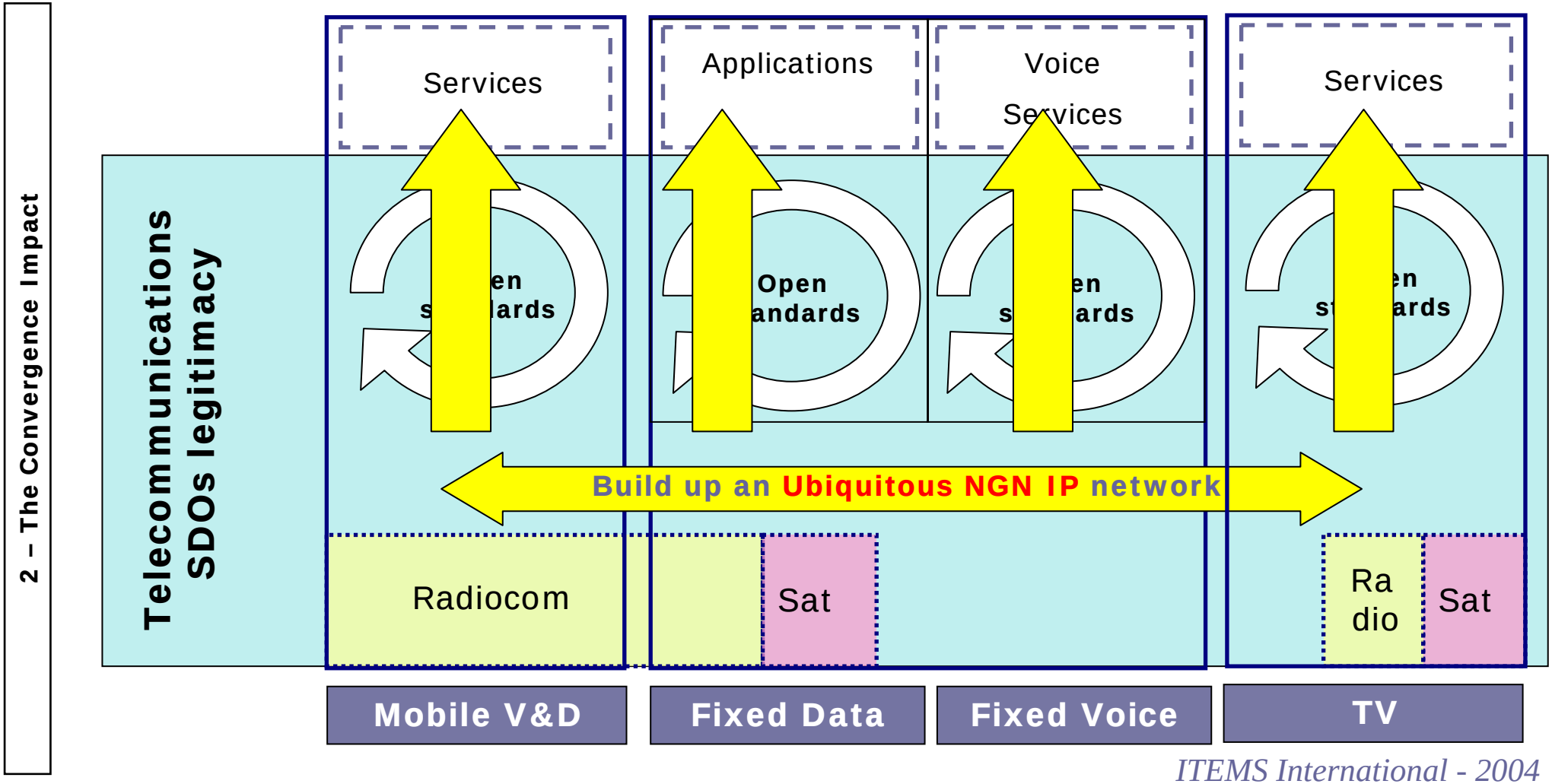


Any service you want,
Whenever,
Anywhere …
Press Ctrl Alt Gr Fct F94
Then Return

Then comes Convergence

- But Convergence … What does it mean?
- What are the Hot Spots?
  - In telecommunication
  - In video
  - In IT

Convergence - HOT SPOTS … in telecom



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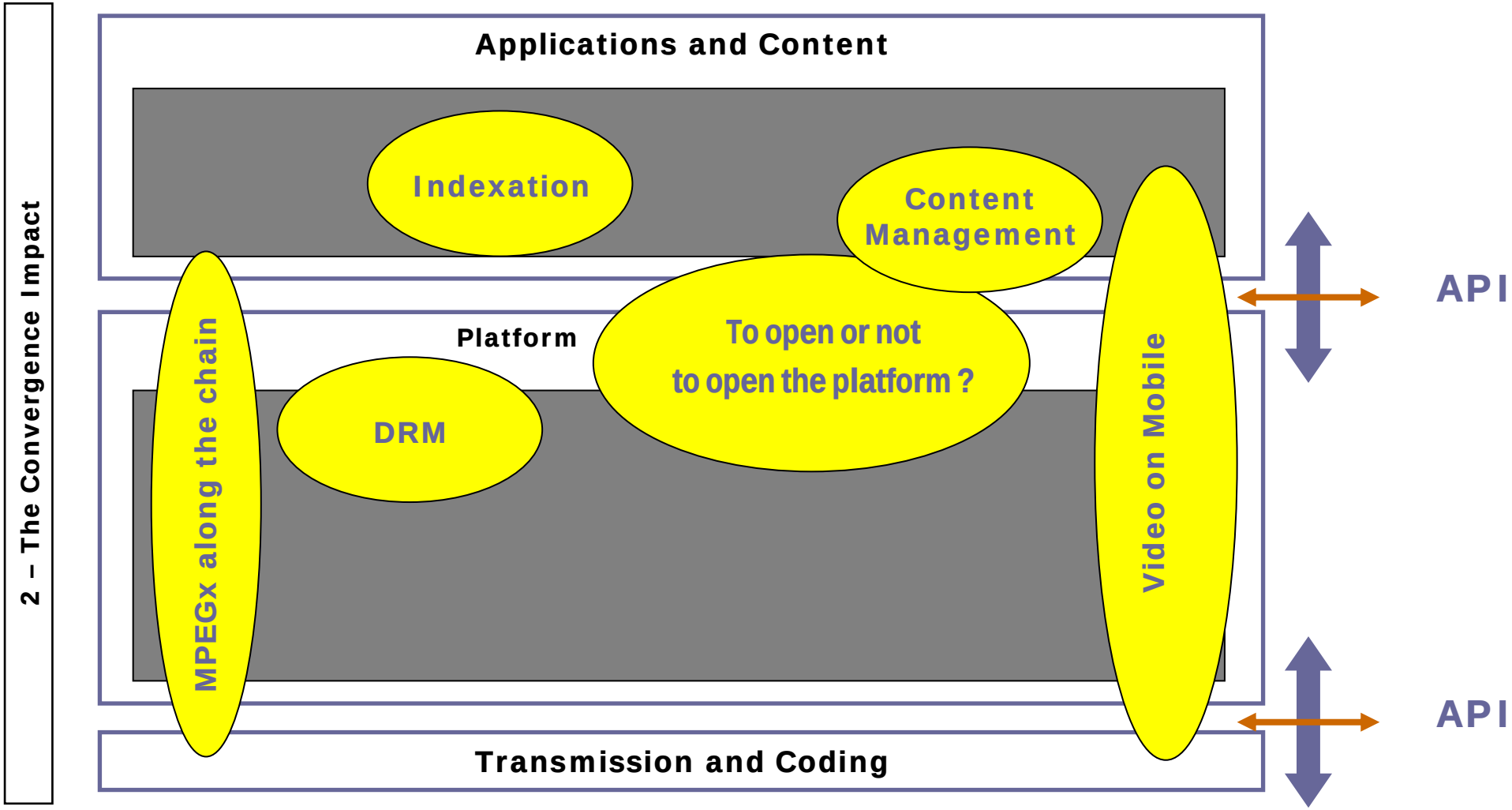
Convergence - HOT SPOTS … in VIDEO



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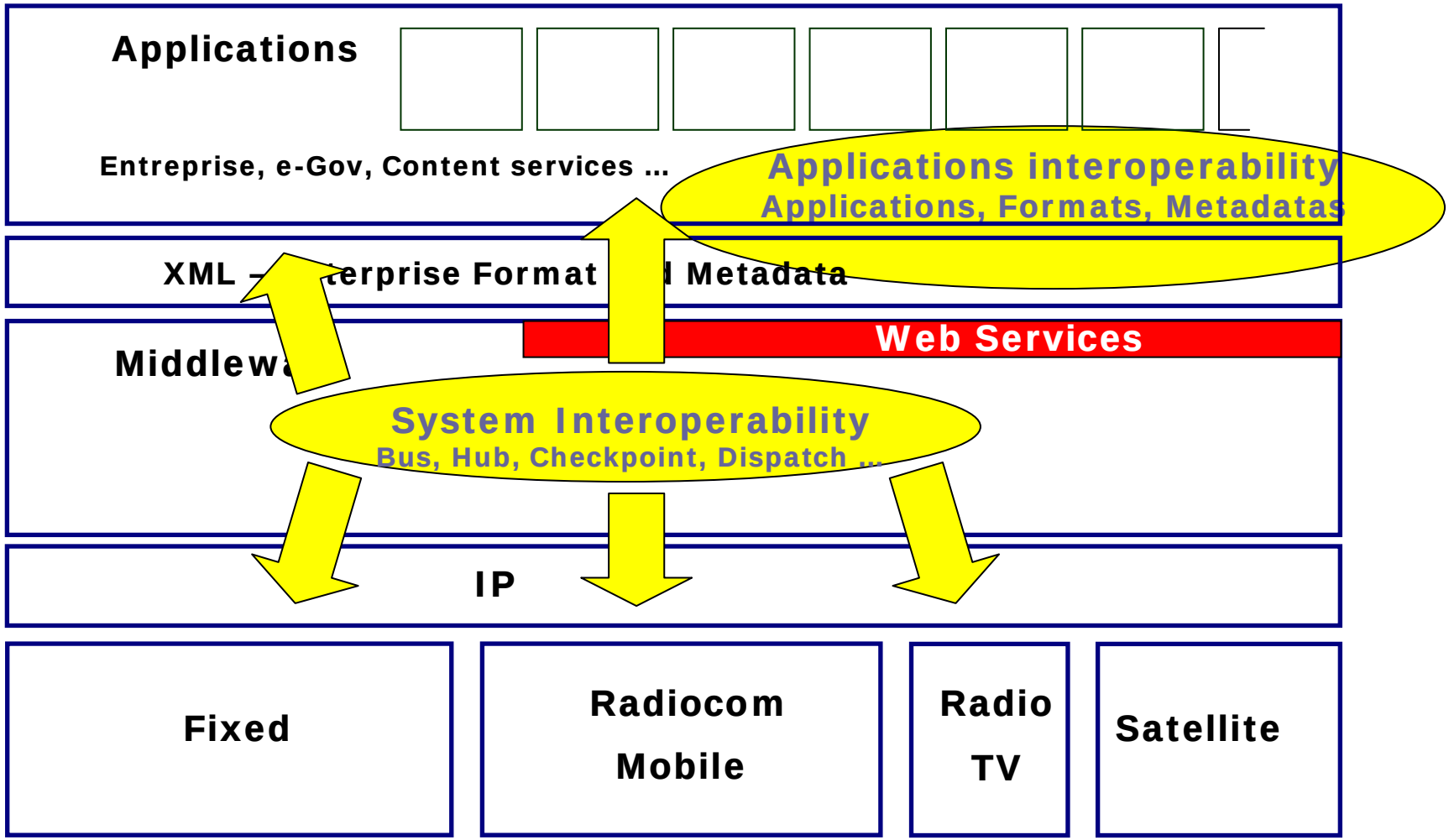
Convergence : HOT SPOTS … in IT

2 – The Convergence Impact



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But at the end Software is prominent

Telecommunications example

7	**Application**	
6	**Data exchange layers**	Presentation
5		Session
4		Transport
3	**Telecoms layers**	Network
2		Link
1		Physical

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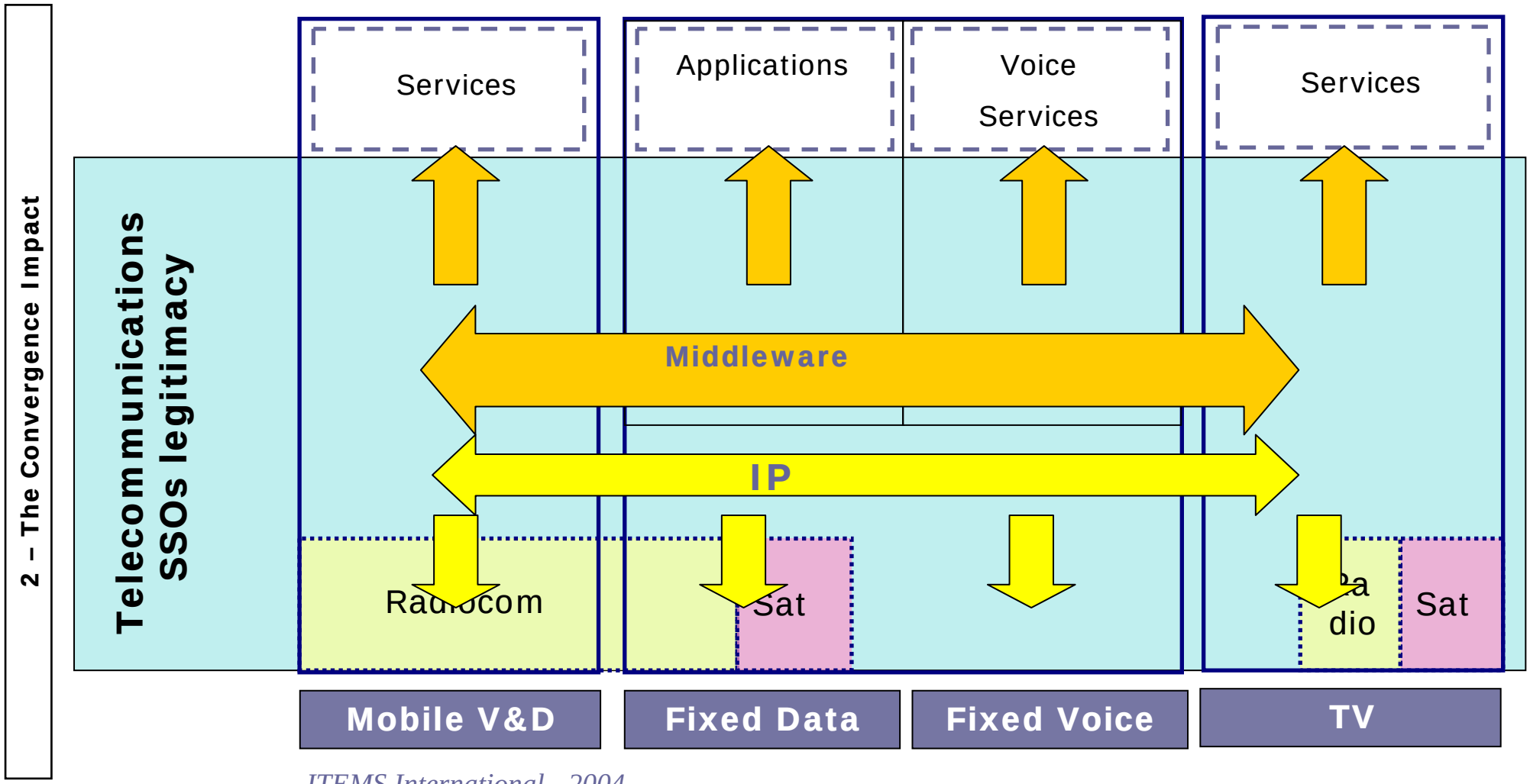
Convergence – From IP to Middleware



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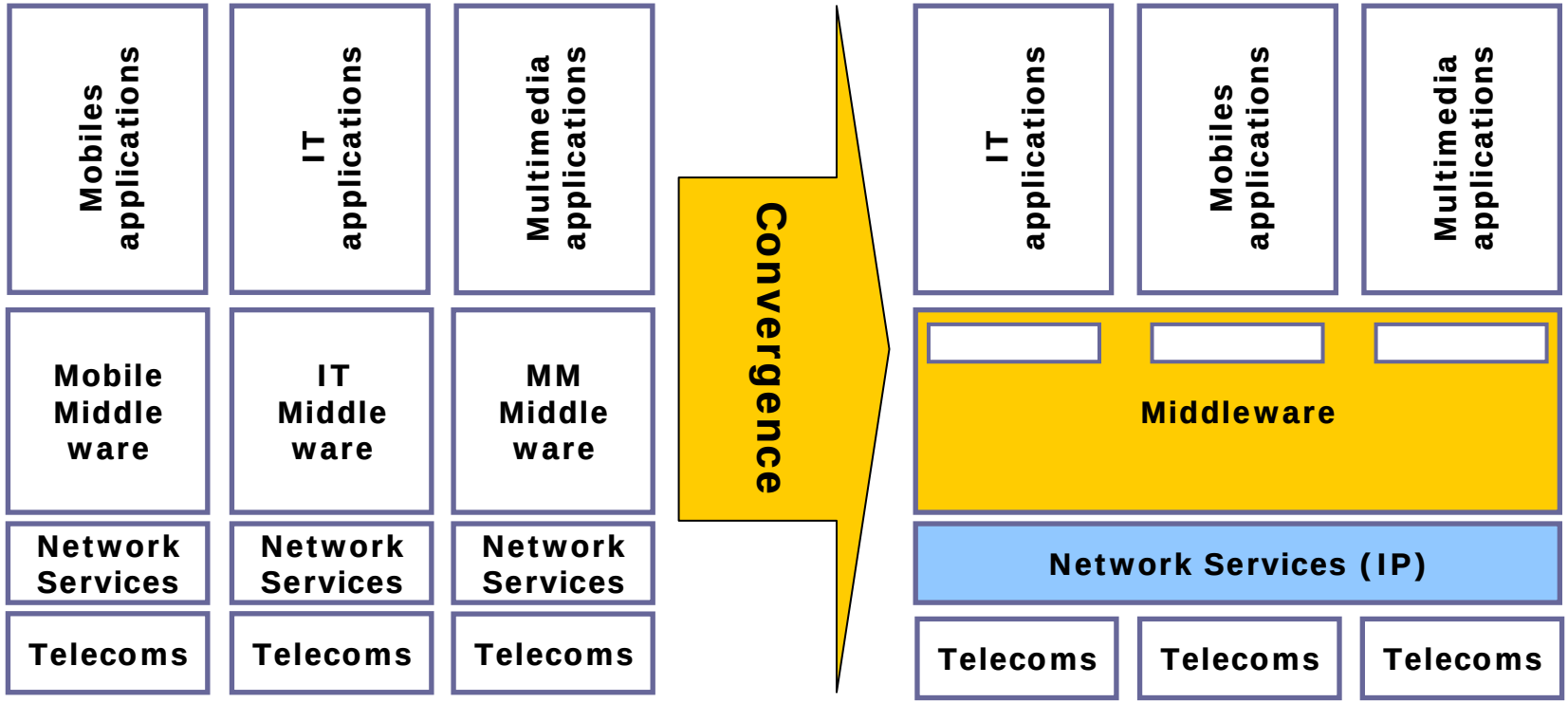
Convergence in the near future

- Middleware as the key component



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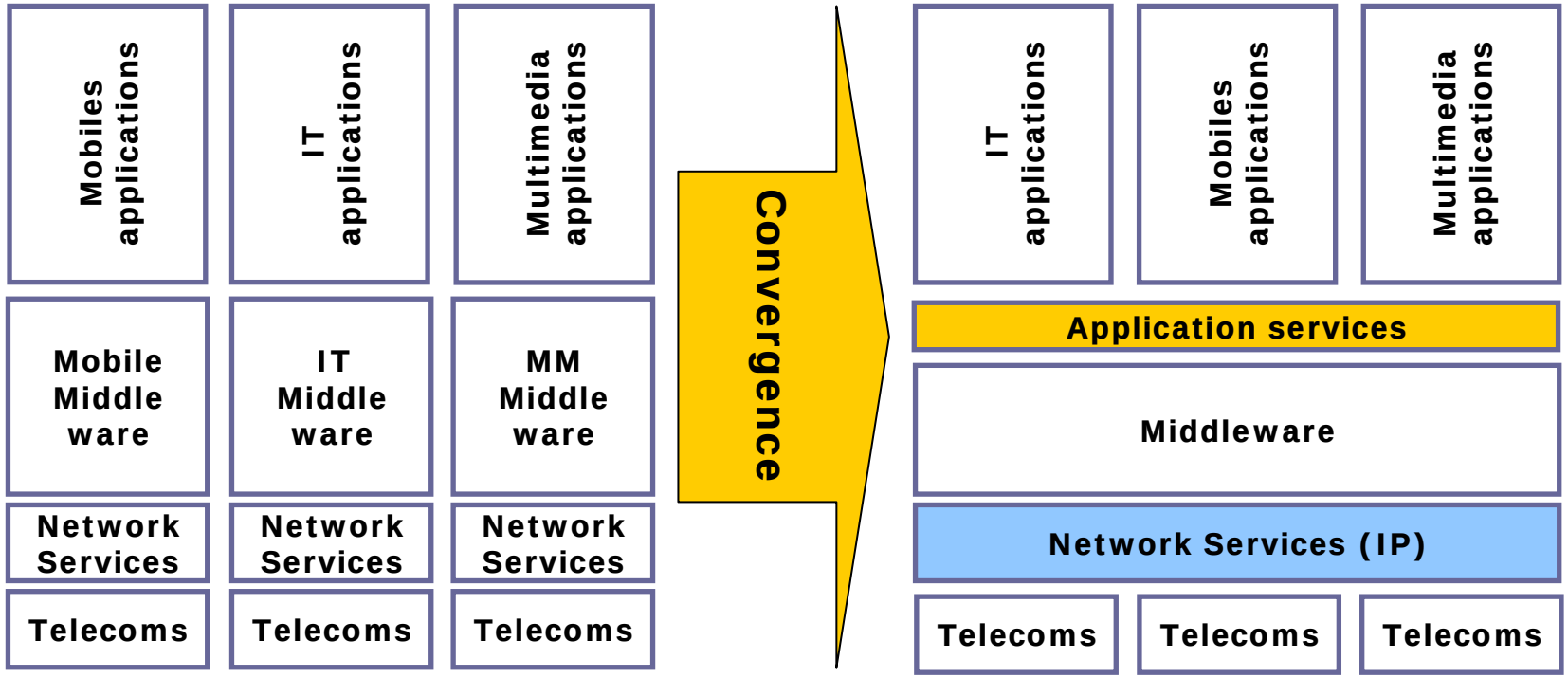
Convergence in the near future

- Applications services as the key component



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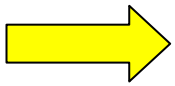
Software and new approach in standardization

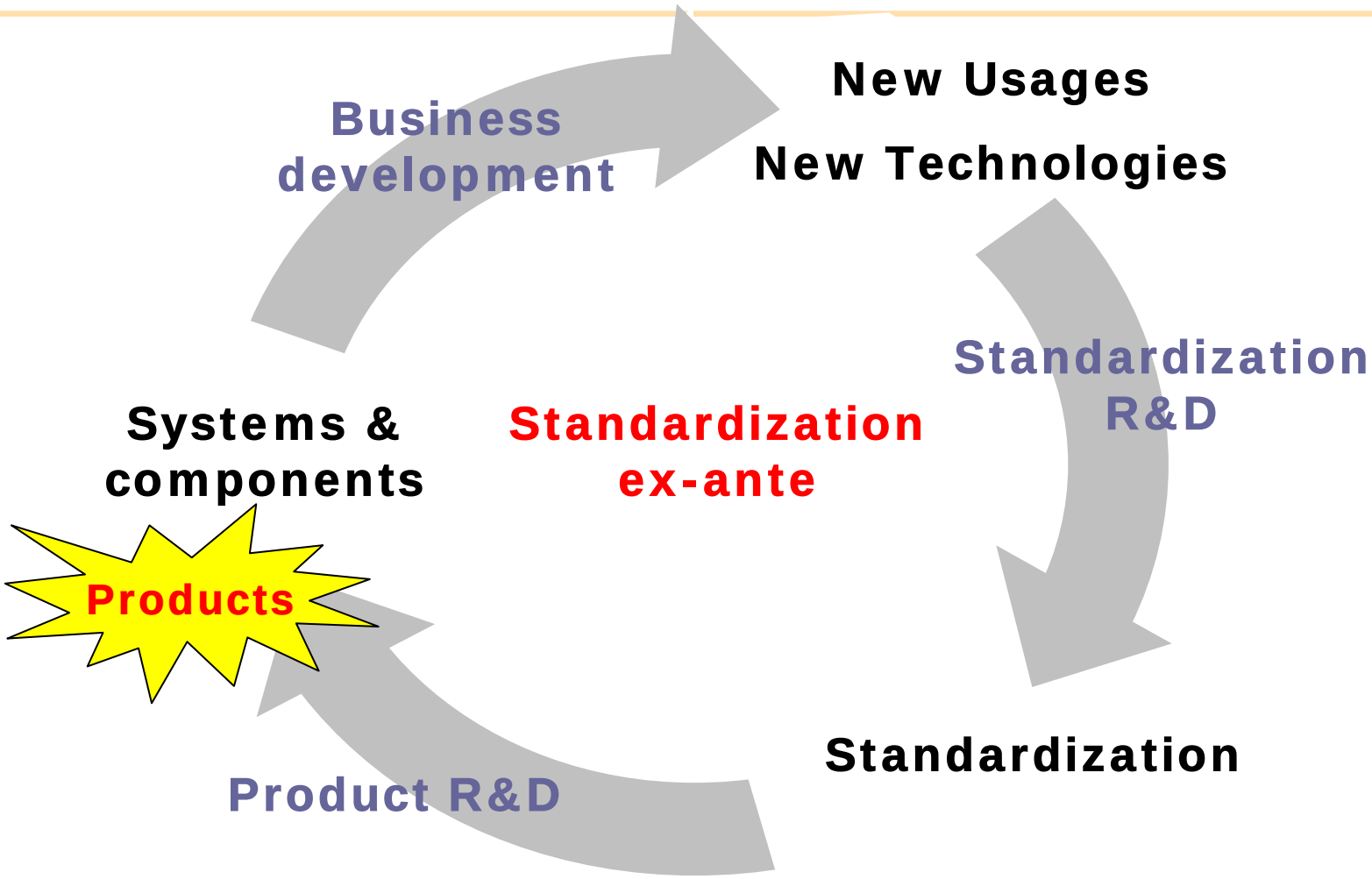
- Either through Middleware or Applications services : software is the major issue in interoperability
- Software
  - Improve dynamic approach of products
  - Dominant culture in Labs
- New order in priorities
  - Priority for players is **to develop as fast as possible** systems, components, products
  - …then to make them interoperate



Ex-Post Standardization

Standardization … up to yesterday

2 – The Convergence Impact



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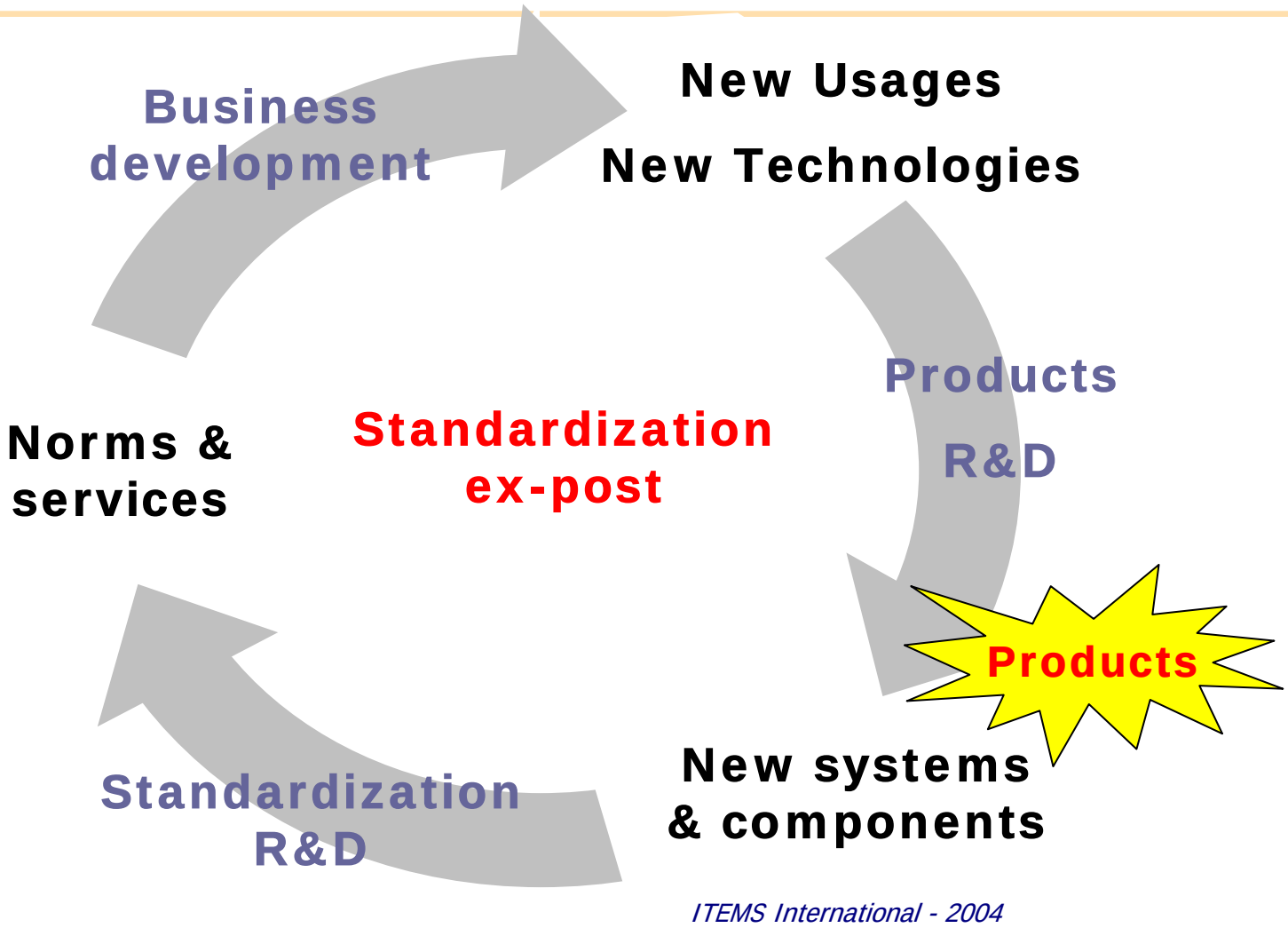
Standardization now



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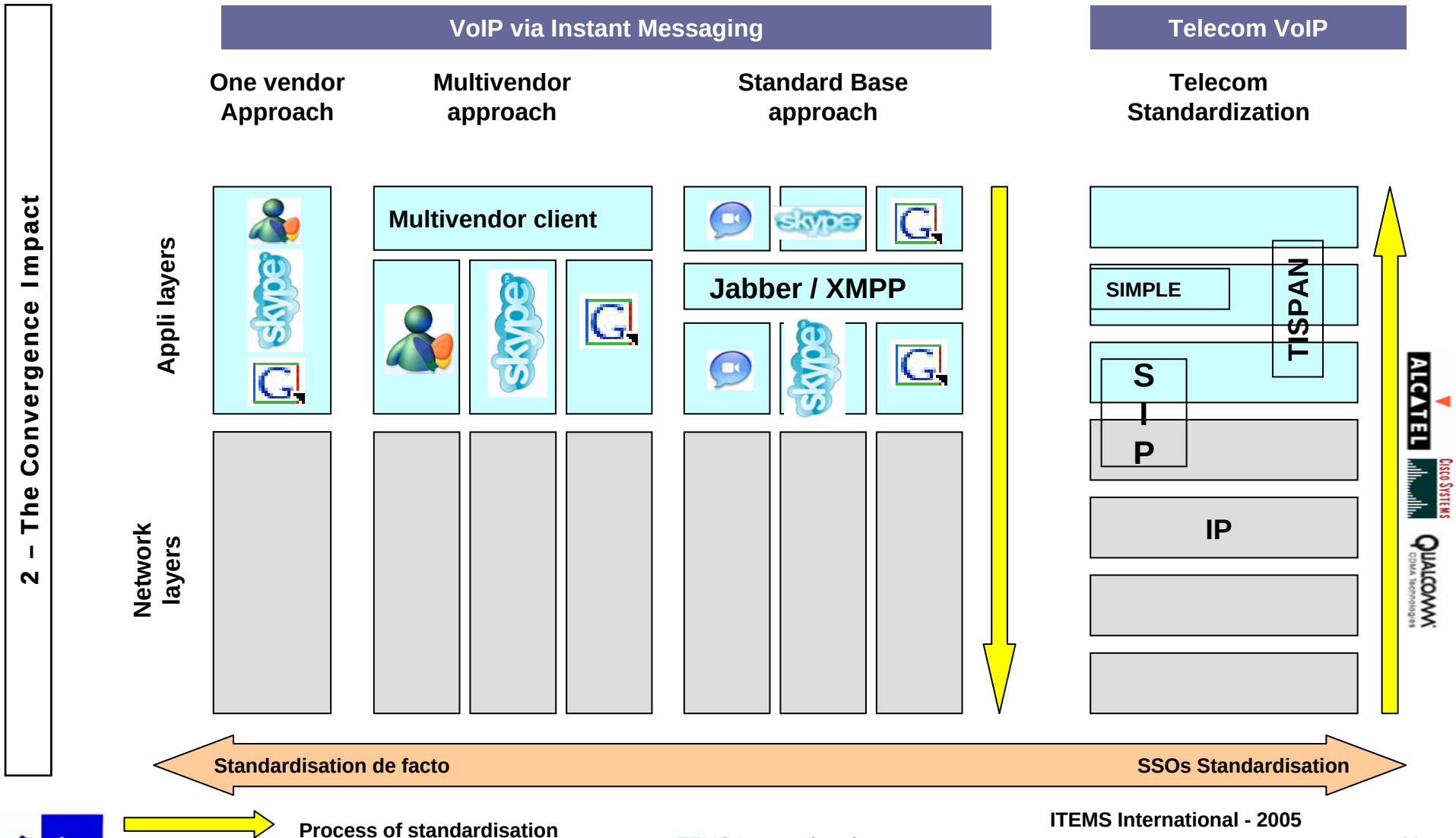
Exemple today : Instant messaging



Risks of confusion : The exemple of Instant Messaging

- Variety of implementations

	Protocol	Open Standards	Open Source	Proprietary components
Google Talk	XMPP	YES	YES	YES
Skype	ILBC	YES	NO	YES
Jabber	XMPP	YES	YES	NO
MSN	MSNP	NO	NO	YES
iChat	XMPP	YES	NO	YES
AIM (AOL)	OSCAR	NO	NO	YES
Yahoo	YMSG	NO	NO	YES
QQ	QQ Protocol	NO	NO	YES

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- Interoperability issue
  - Agreement between fifteen of the world's largest mobile phone operators, including Orange, T-Mobile and Vodafone, to include common standards for instant messaging (IM) interoperability. 3GSM Congress, 2006.

Risks of confusion : The exemple of Instant Messaging

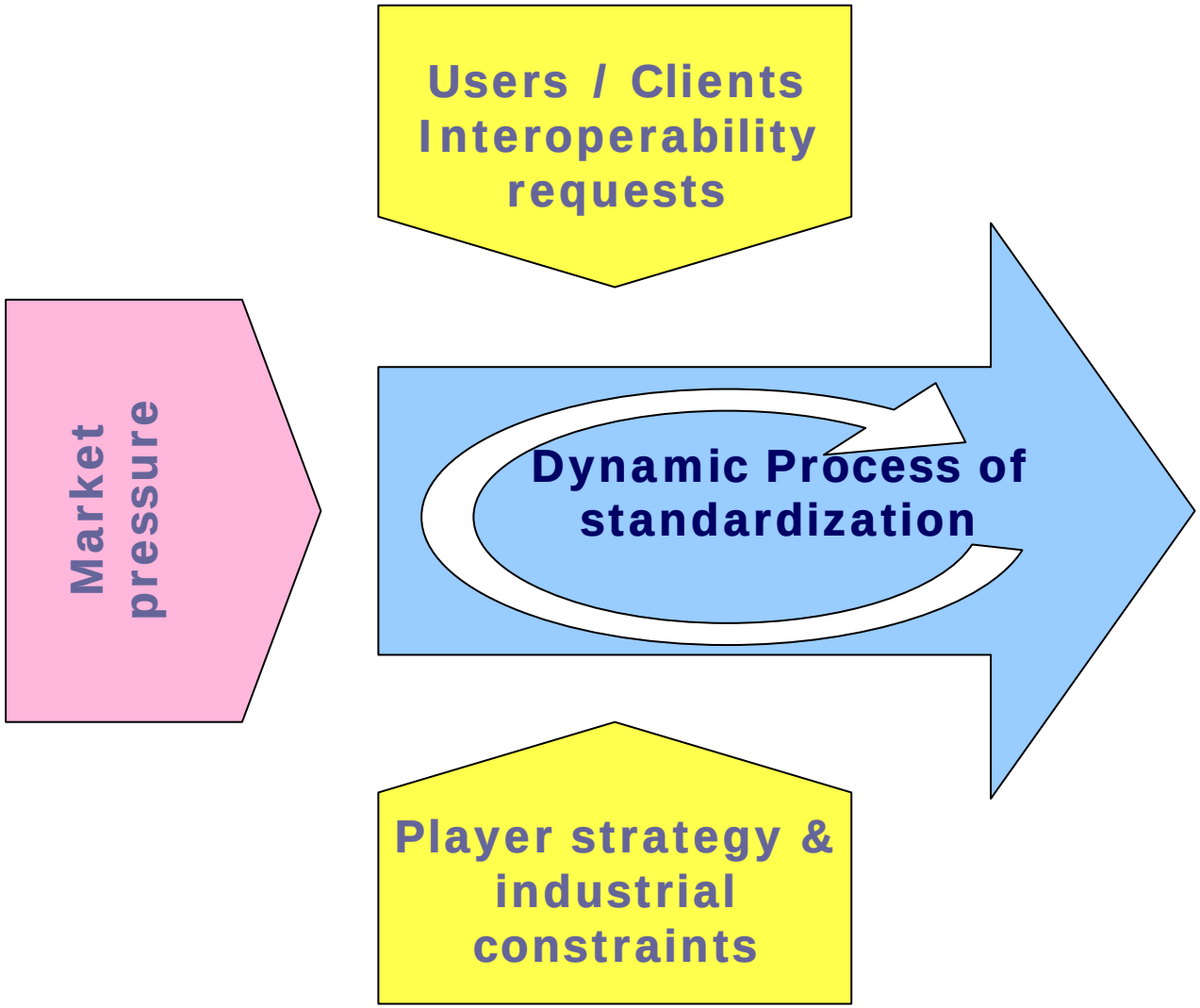
Feature	Jabber/XMPP	SIP/SIMPLE
Presence	Standard (RFC3921)	Standard (RFC3856)
Single Messages	Standard (RFC3921)	Standard (RFC3428)
Service Discovery	Standard (JEP-0030)	Draft (RFC3840)
Chat Messages	Standard (RFC3921)	Experimental (draft-ietf-simple-message-sessions-12)
Contact Lists	Standard (RFC3921)	Experimental (draft-ietf-simple-xcap-list-usage-05)
Communications Blocking	Standard (RFC3921)	Unsupported
Non-ASCII Addresses	Standard (RFC3920)	Unsupported
Multilingual Messages	Standard (RFC3921)	Unsupported
Composing Indicators	Draft (JEP-0085)	Draft (RFC3994)
Capabilities Advertisement	Draft (JEP-0115)	Experimental (draft-ietf-simple-prescaps-ext-05)
Service Registration	Standard (JEP-0077)	Unsupported
Multi-User Chat	Draft (JEP-0045)	Unsupported
Formatted Messages (XHTML)	Draft (JEP-0071)	Unsupported
Offline Messages	Draft (JEP-0160)	Unsupported
Workflow Forms	Standard (JEP-0004)	Unsupported
Multiple Recipients	Draft (JEP-0033)	Unsupported
Reliable Delivery	Draft (JEP-0079)	Unsupported
Publish-Subscribe	Draft (JEP-0060)	Unsupported
XML-RPC	Draft (JEP-0009)	Unsupported
SOAP Binding	Experimental (JEP-0072)	Unsupported
Geolocation	Draft (JEP-0080)	Experimental (draft-ietf-geopriv-pidf-lo-03)
Physical Location	Draft (JEP-0112)	Experimental (draft-ietf-geopriv-pidf-lo-03)
Mood	Draft (JEP-0107)	Experimental (draft-ietf-simple-rpid-09)
Activity	Draft (JEP-0108)	Experimental (draft-ietf-simple-rpid-09)
Tune	Draft (JEP-0118)	Unsupported
Invisible Presence	Draft (JEP-0126)	Unsupported

Source Jabber Software Foundation

PART 3 - Open Standards in debate

- Question : What becomes of a OPEN STANDARD in a ICT convergent environment driven by SOFTWARE ?

Players … and users in the loop



Standardization :

A complex and balanced process including Users, Players and Market constraints

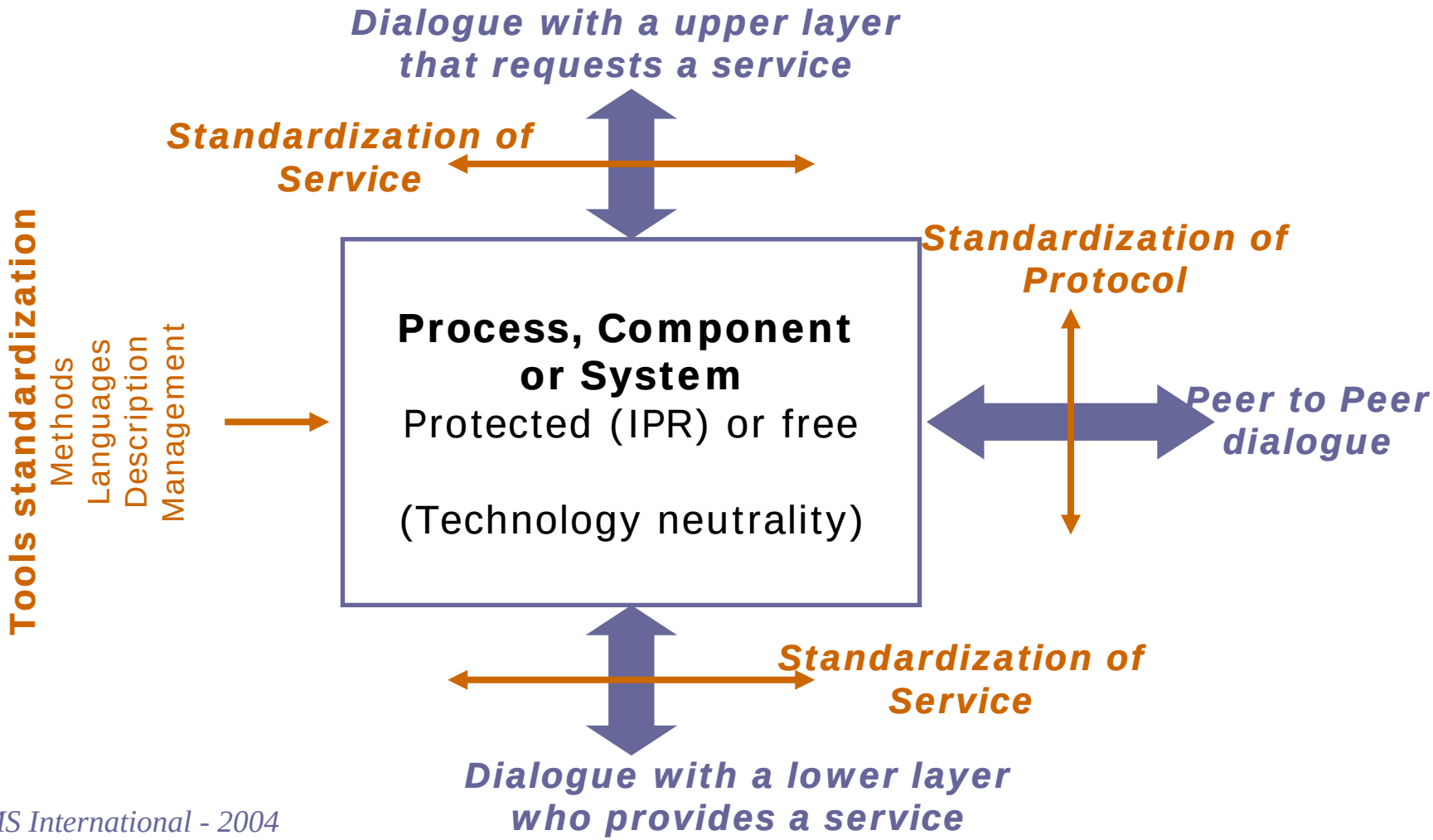
Question : How do Clients understand Open Standards?

Open Standards under pressure

- Open standard is more and more understood by **organisations representing** end users and goverments as “**Open the code**”
- Players complain **against Open Source** … and **play with it**
- 2 options :
  - Find a **Definitive definition** of “Open Standards” to close the debate
  - Drive a **clear debate to clarify the IPR rules**
- But the debate is there … unavoidable
  - Not only because of Open Source

Get back to Fundamentals

3 – Open standards in debate



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Open standards and software

3 – Open standards in debate

More …		More …
SSOs address interfaces	→	SSOs are legitimate in representing the common interests of players and users
SSOs address component	→	SSOs challenge « technology neutrality »
SSOs accept a software code to define an interface	→	- SSOs admit as relevant this easiest way to proceed - SSOs recognizes that a component can be accepted as a way to define an interface
SSOs accepts to work on software code in the standardization process	→	they get involved in debates on software issues
Communities ask for Open Standards	→	they ask to open the code on which the standards are based on

Open Standards and Open Interface

But the reality is :

- **Software culture** is prominent in ICT
- **Standardization in ICT adopt the rules** of standardization in software
- **Software code** is used to **Open Standards**

ETSI is in the software world

- Explicit example : OSA Parlay / Parlay X based on **Corba** and WebServices (**WSDL**)
- Corba & WSDL : Appropriated to combine Open Source and Proprietary components

What's next ? Trends for the next future

- Address to market pressure
- Improve Copyright Licensing in IPR Policy
  - There is more than one model
  - Additional rules are necessary
- Avoid the frontal debate FRAND vs. Royalty-Free
- Qualify the context and field when defining Open Standard definition(s) is relevant

PART 4 – Scenarii for ETSI

- The transformation brought by the Software world are deep
- The situation is complex with many level of IPR combinations
- But it is possible to summarize 5 possibilities

Scenario 1 : Simple adaptation

- Description
  - ETSI maintains the same IPR policy,
  - ETSI promotes clear definitions of Open Standards within international organizations.

1-Adaptation	Before	After
Patent policy	Defined FRAND	Defined FRAND
Copyright policy	Partial	Partial
Exceptions	No	No

Scenario 2 : Towards an Open Licensing scheme

- Description
  - ETSI clarifies IPR rules regarding copyright,
  - ETSI promotes IPR licensing schemes by creating Open Licenses

2-Open IPR	Before	After
Patent policy	Defined FRAND	Defined FRAND
Copyright policy	Partial	Licensed
Exceptions	No	No

Scenario 3 : Dual Licensing

- Description
  - ETSI propose more than one license for IPR Policy, in order to adapt specific request to market demands
  - ETSI give the possibility to propose “Ad Hoc” licenses for specific domains.

3-Dual licensing	Before	After
Patent policy	Defined FRAND	Defined FRAND
Copyright policy	Partial	Dual Licensed
Exceptions	No	Following the combination of the two licenses

Scenario 4 : “A la Carte” (Consortium)

- Description
  - ETSI allows members to choose their IPR Policy at the beginning of the standardization process
  - ETSI specifies common guidelines.

4-Case to Case	Before	After
Patent policy	Defined FRAND	Defined or Negotiated FRAND or RF
Copyright policy	Partial	Negotiated FRAND or RF
Exceptions	No	Negotiated

Scenario 5 : Fostering Individual IPR Licensing

- Description
  - ETSI fosters members to use more of their own IPR licensing possibilities as the current ETSI IPR policy allows them to
  - ETSI provides them the legal tools to do so in respect of ETSI policy

5-Individual IPR	Before	After
Patent policy	Defined FRAND	Defined or Individual FRAND
Copyright policy	Partial	Individual
Exceptions	No	Case-to-case

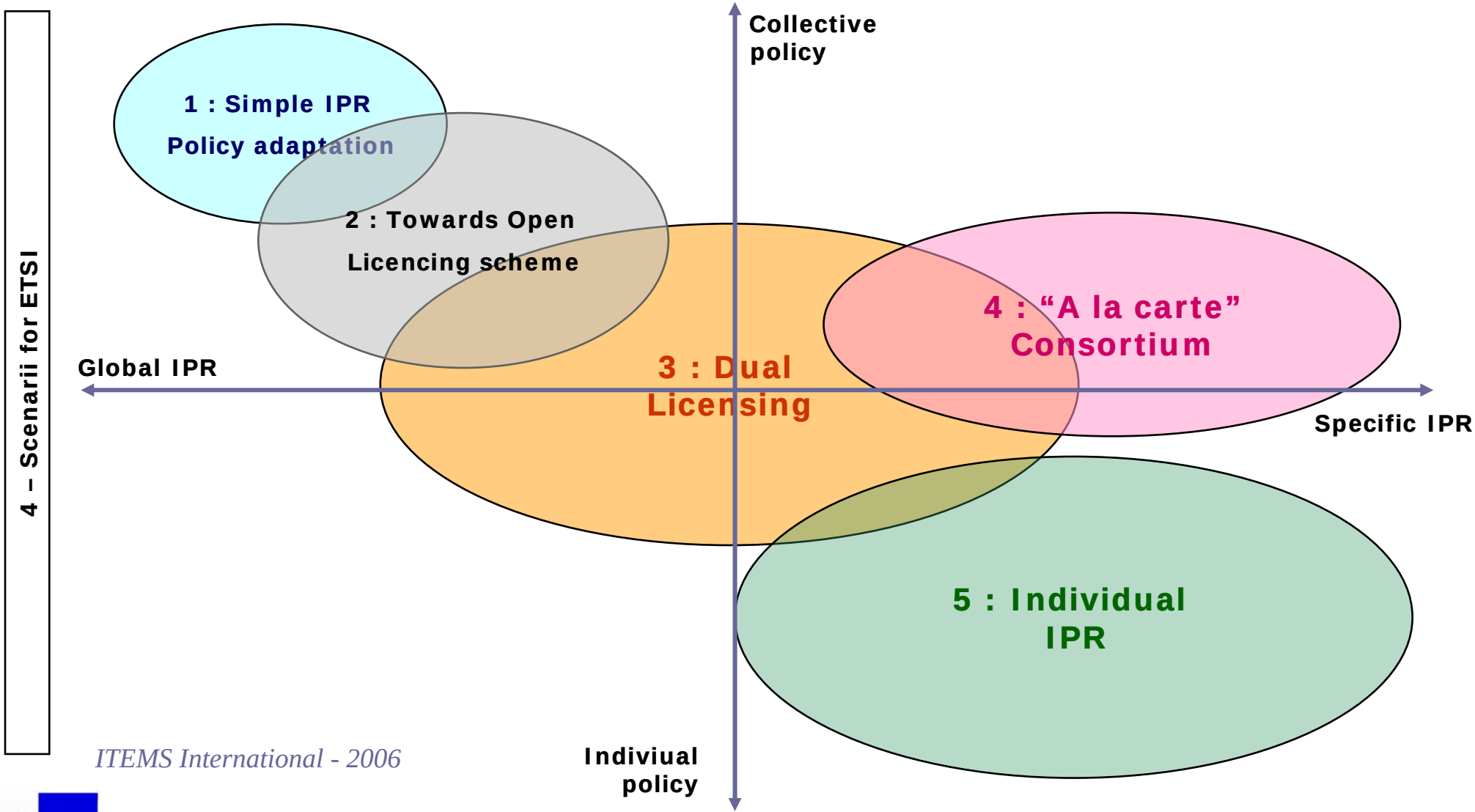
Recommendations

4 – Scenarii for ETSI

- From one option to another

	IPR Policy	Open Licenses	Individual Choice	Exceptions
1- Adaptation	Maintained			No
2- Open Licensing Scheme	Clarified on Copyright	ETSI Open License		No
3- Dual Licensing		Several Open Licenses		Depends on the 2 licenses
4- “A la carte” Consortium		Open Licenses Boiler-plates	At the beginning of the process	Negotiated by project
5- Individual IPR		Open Licenses Boiler-plates	All along the process	Negotiated between players

Recommendations



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Recommendations

- Why is it important to evolve ?
- The simple adaptation (Scenario 1) does not answer fundamental questions
- “OPEN IPR” (Scenario 2) &“Case to Case” (Scenario 4) models are not realistic
- Alternative remains between “Dual Licensing” (Scenario 3) and “Individual IPR” (Scenario 5)
- Combining 3 and 5 seems the most appropriate option

Conlusions

- The market players need
  - To play different complex games in the same time
  - To Integrate Software issues in their strategies
  - To go faster than their competitors

- THE LEGITIMATE ALTERNATIVE FOR A PLAYER :
  - GO FAST FIRST ? (risk of the lonesome way)
  - DEVELOP ON A STANDARD BASE ? (risk to Time off market)

- Open Source gives the opportunity to go fast
  - “Standard Components”

Conlusions

- Challenge for ETSI :
  - Compete to “Standard Components” by efficient “Open Standards”
  - Adapt “Open Standards” elaboration to integrate “Open Source” positive aspects
  - Adapt IPR Policies to the multiple approach that players want to play
- Better distinguish IPR Rules between Patent and Copyright policies

- The debate is OPEN NOW !
- ETSI legitimate to drive it

Annexes

- Slides in complement

3 cultures : 3 Priorities

Priorities for convergence

Telecom	IT	TV
Ubiquitous NGN IP Network for Multimedia Fix / Mobile services	**Control and Management of applications and services on a Global Middleware Platform**	**Universal Platform of content and services delivery**

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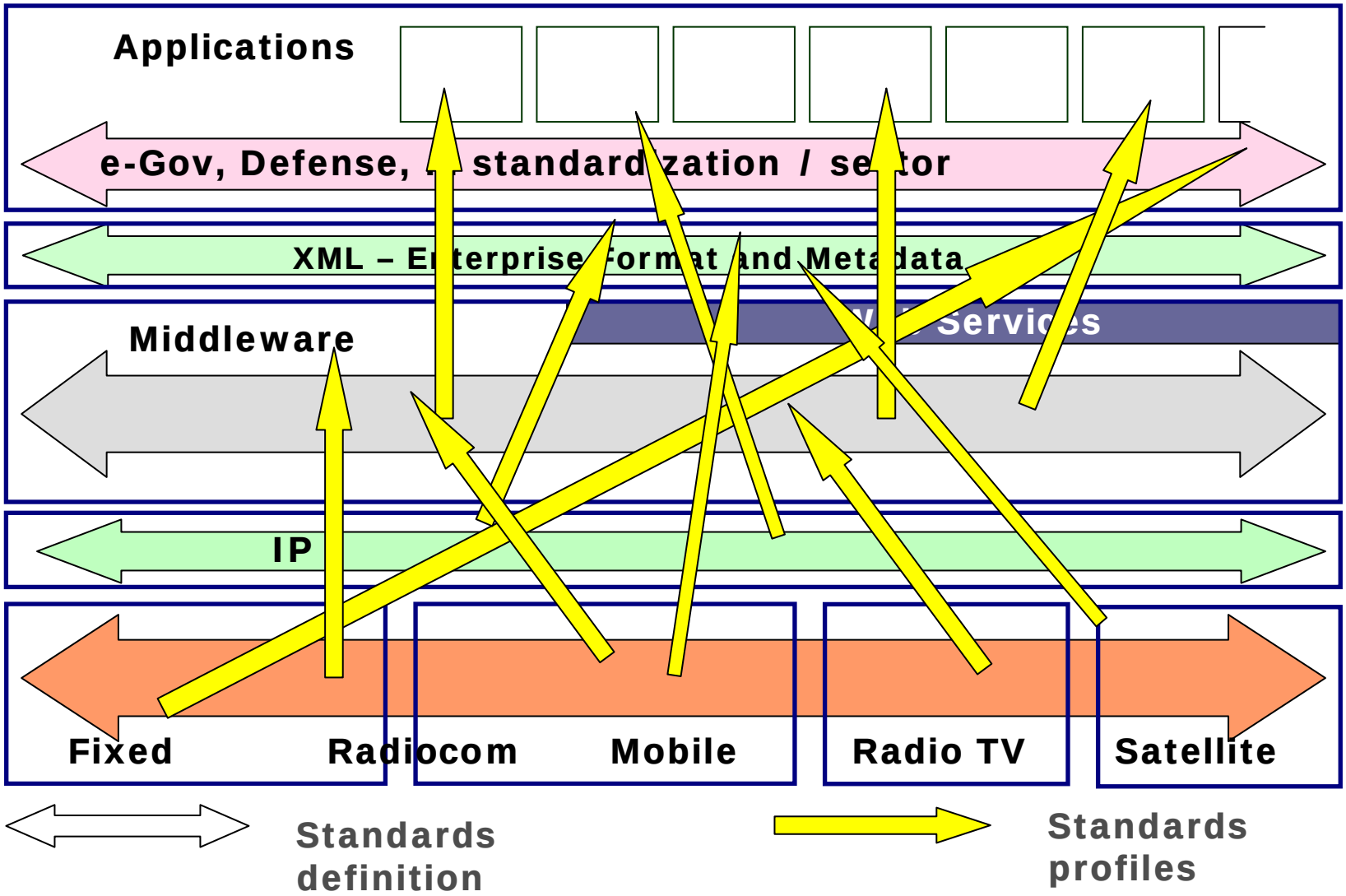
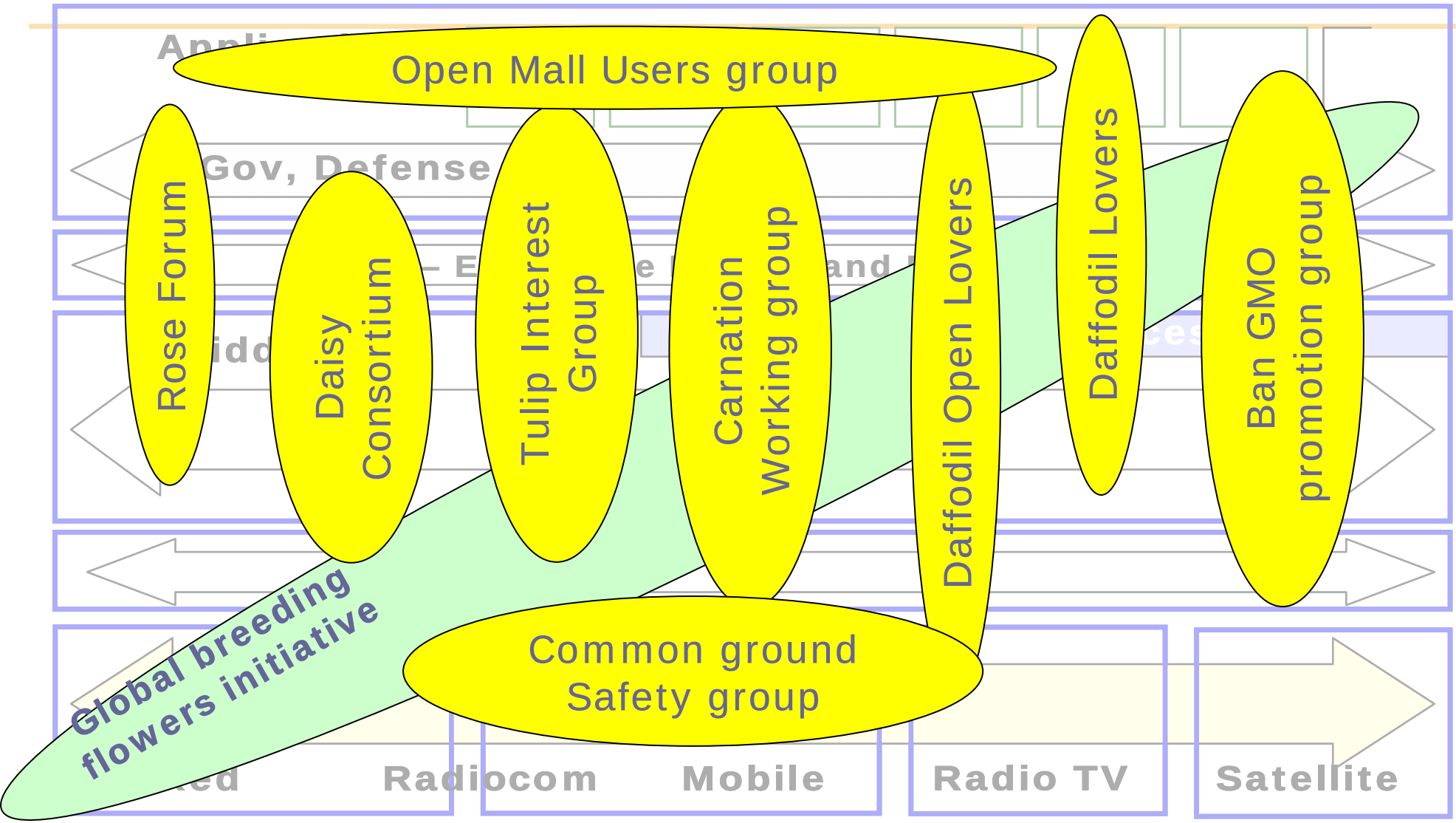
Software … and complexity

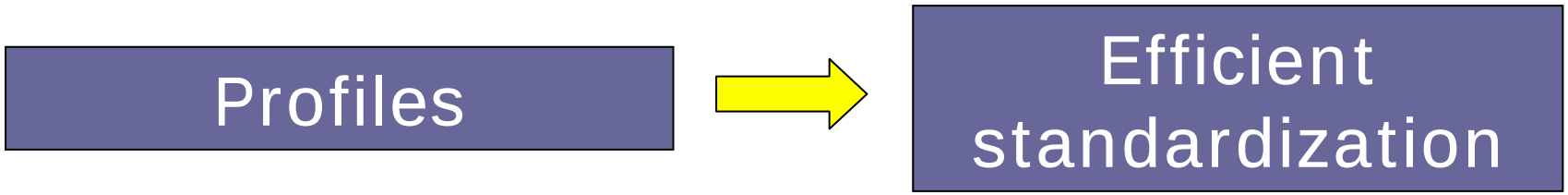


Mushrooming of fora



Forum /Dialogue : the best way for SSOs …

- To define faster profiles of implementation
- To address specific needs
- To take benefit of implementation made by players or consortium
- To work close to the market



Forum /Dialogue : the best way **for players** …

- To take benefit of profiles definition
- To use existing components dynamically or to develop them quickly
- To drive standardization towards a major implementation
- To drive new standards definition