



Future Content Networks

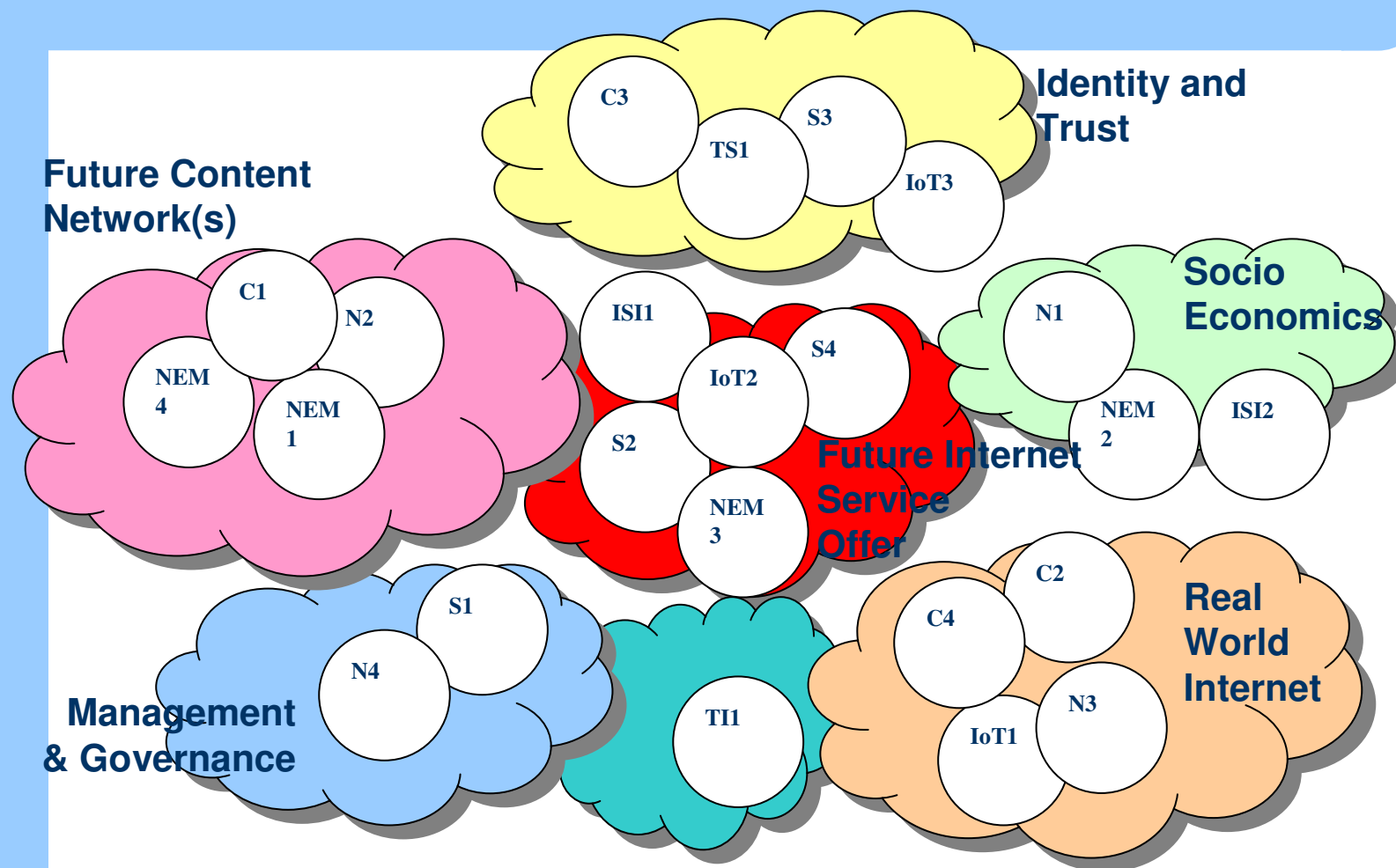
Position Paper

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Network - Content Proposed Sessions

- C1: Media Driven Networks
- C2 : Physical-Based Virtual Worlds
- C3 : Identity mgmt for both users and content
- C4 : Cognitive and visual sensor networks
- NEM1: Vision towards future media internet
- NEM2: Content
- NEM3: User-generated content
- NEM4: Multimedia content delivery
- N2: Future Content Networks

EC 1st Proposed Grouping



Usage of facilities based on use cases

Madrid Preparation

- 1/9 Position Statement Preparation Started
- 15/9 Meeting in Brussels
- 30/9 Position Paper ToC
- 05/10 ToC Acceptance
- 14/10 Discussion in/in-parallel to NEM Summit 2008 panel
- 15/10 1st Contributions
- 30/10 1st Version
- 15/11 2nd Contribution
- 21/11 Meeting in Brussels
- 30/11 2nd Version
- 1/12 PhC
- 5/12 Final Version

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+	Future Media & 3D Internet Task Force			

Vision of the Future Content Network

- Two certainties for Future Internet prediction:
 - The **technology used to build the Internet will change**
 - The **fundamental human needs** (food, security, communication, esteem, self actualisation) **will not change dramatically.**
- The needs for love esteem and self actualisation can be met through **communicating** and **through expression**: (sharing *stories*, enjoying *games*, *discovering* and *learning*)
- Some behaviour does change more rapidly:
 - Young people are feeling more **comfortable in cyberspace**
 - Young people can move easily between **virtual and real worlds**
 - People are increasingly **video literate**
 - People interact with **non-human content generators** e.g. webcam's.
 - People trust that **content of all forms can be put into and fetched from the Internet** and expect this to be done at **any place in a secure manner.**
 - People are finding it easier to **share and access content between a range of devices.**

Future Media

- Increasing amounts of user generated content which is better, both artistically and technically, than that available today
- New formats of enhanced content representations, greater degrees of realism and immersion: 3DTV, Ultra HD TV, free views TV, holograms, etc.
- New forms of interactive and collaborative storytelling, both professionally created and collaboratively developed by users, i.e. massively multiplayer role playing game
- Framed communication experiences (mix of live video streams, network based content and user generated content) including serious, multi-player gaming

Content Aware Networks

- New media formats and new forms of interactivity will increase the ***dominance of content as the main payload of the Internet.***
- Both user generated and professional content will demand an ***architecture that is open for traditional*** as well as ***new business models*** for its storage, adaptation and delivery.
- Content will be created from a ***wide variety of devices***, ranging from autonomous, low-end sensors to multi-dimensional (ultra) HD audio-visual consumer electronics, from fixed to mobile devices.
- Content dissemination will create ***new traffic models***
- Content streaming will not only be based on the traditional push/pull model, but also on ***variations of publish/subscribe delivery.***

Future Content Internet Requirements

- Designed to support **tussle**;
 - Support different business models
 - Continuous interchange of buyer/seller, end-users/content producer roles.
- Offer **accountability at content level & traceability of network resources**
 - Lead to flexible business models
 - Equitable value chain, reduction of costs, de-risked investments
- **Efficiently handle content objects**: search, store, different types of distribution, manipulation (e.g., enrichment, scaling and adaptation), protection, and authentication of distributed media content objects as **inherent network based capabilities**.
- Evolve to **higher speed networking technologies**:
 - Support end-to-end streams in the Gigabit range
 - New more symmetrical traffic patterns
 - Deliver more simultaneous streams and services.
- Offer **different levels of security & privacy**, supporting both authenticated as well anonymous access as specified by the content owner.
- **Be end-to-end seamlessly adaptable and flexible**, taking into account the social consumption patterns and users communities.

Prosumer's Future Internet

Future Internet will enable...
optimal handling of content of new forms...
across broadband networks of new architectures...
in new behavioral models.

