Virtual Worlds SOS
State of Standards

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Goals and Assumptions

- My goal is to:
  - **For you:** Invite people to participate in the MPEG-V Process (A formal process)
  - **For me:** Gain feedback and inputs
- Assumptions
  1. Virtual Worlds have immense potential which can ONLY be fulfilled with a global standard.
  2. Currant state of the art will be enhanced much faster if we focus on establishing common stack (“innovation points”)
  3. We are just starting; we do not have all the answers.

Contents:

1. Needed Background - 5

2. The User Perspective - 10

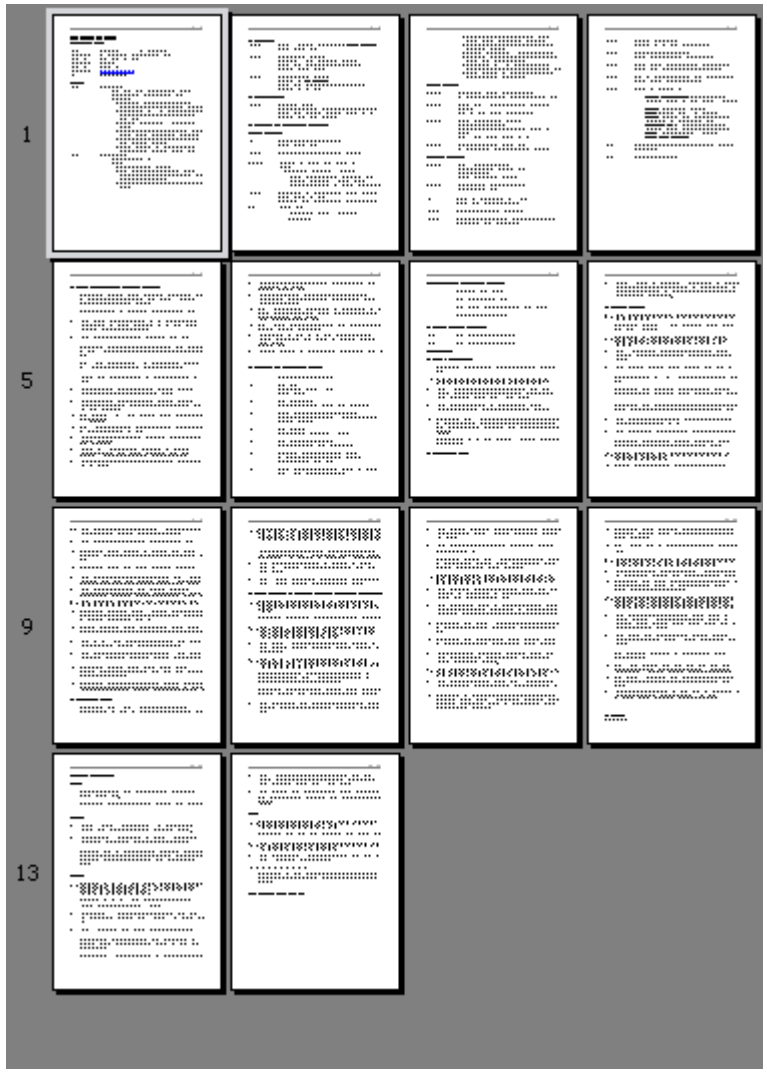
3. Review of Standards - 20

4. Q&A – 10 min

Standards are Difficult – ala Tom Leher

- Standards are usually misunderstood.
- At best – people have a very limited knowhow about what they are, how they work, and their different dimensions.
- And… they go against human nature.
- A typical meeting is like Tom Lehrer song about "national brotherhood week"
- So here is a Typical Standards meeting:
  - Source: http://www.youtube.com/watch?v=AGGMi0fTXvA
  - Source: local

Who is Yesha ? (Old Style)



See Yesha Bio

Who is Yesha ? (Current Style ala Linkedin)

Yesha Sivan (you)

Connecting Virtual and Real Worlds. See http://www.dryesha.com

Israel

Profile | Recommendations

Current
- **Senior Lecturer, Software Engineering** at **Shenkar College of Engineering and Design**
- **Founder** at **Metaverse Labs**

Past
- Head of IMS: Internet, Metaverse and Society at Afeka College of Engineering in Tel Aviv
- EIR at JVP Studio - Venture Fund
- Thinker and Doer at Yasib; (Self-employed)

see all...

Education
- Harvard
- Tel Aviv University
- Reali

Connections **500+** connections

Industry Information Technology and Services

Websites
- My Blog http://www.dryesha.com
- Metaverse Labs

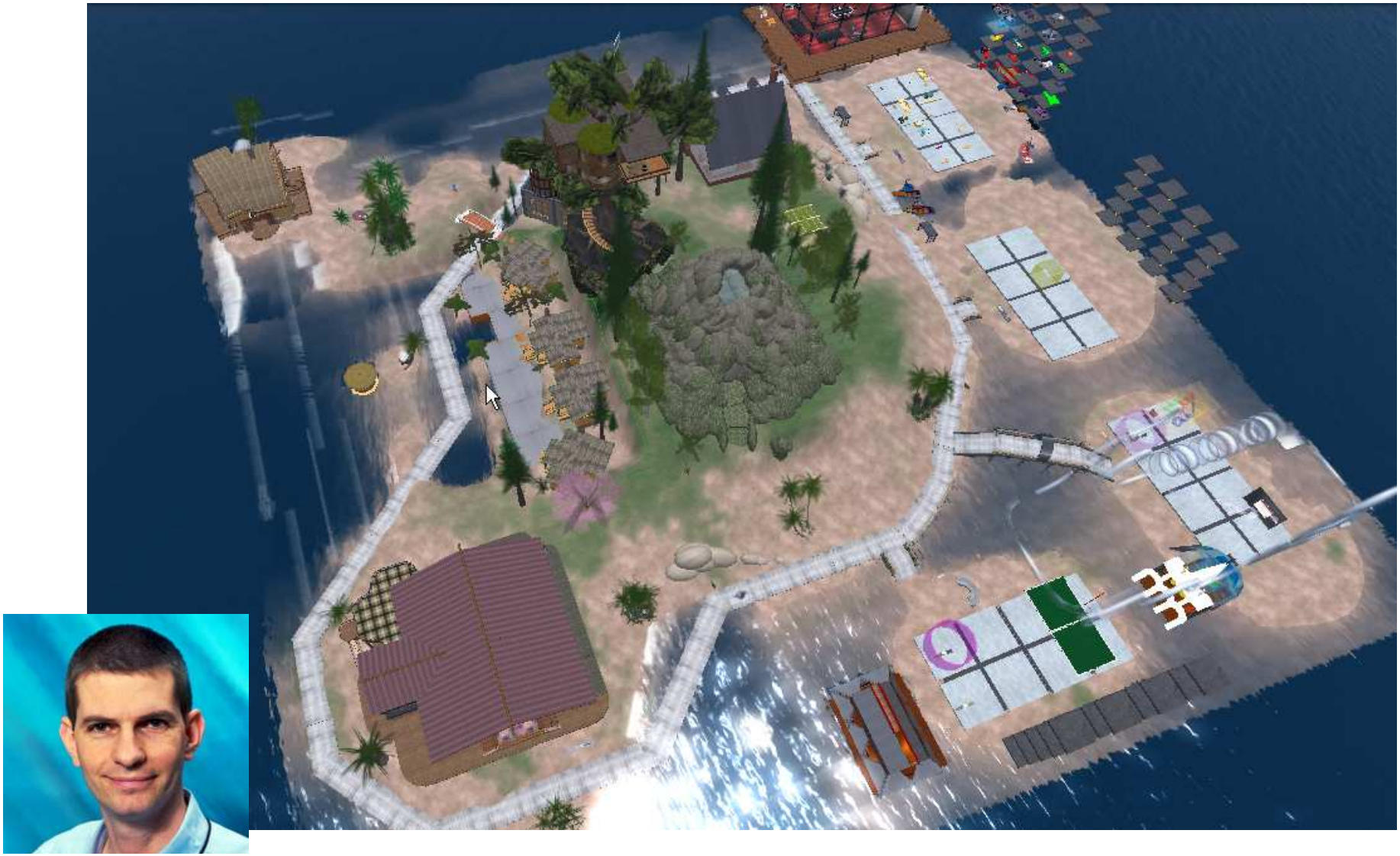
Summary

Dr. Yesha Sivan is a senior lecture at the Department of Software Engineering. Shenkar College of Engineering and Design. He is also the founder of Metaverse Labs (MVL) - a leading think tank in the area of the Metaverse. Dr. Sivan is a pioneer and leader of technologies for knowledge infrastructures. His professional experience in the development of innovative workplaces for corporate, hi-tech, government, military and defense environments (see for example: the Harvard 9-Keys for Knowledge Infrastructure). Dr. Sivan received his doctorate from Harvard University, and is a research affiliate in Harvard's Program on Information Resources Policy; he was the entrepreneur-in-residence (EIR) in JVP Venture Fund Studio. He is teaching Metaverse related courses in Afeka College of engineering, Tel Aviv University School of Computer Sciences, and Bar-Ilan University Executive MBA Program. His alter person is Dera Kit, and his blog is http://www.dryesha.com. He published numerous papers in the areas of knowledge, virtual worlds, and standards. His latest book is called "Your Next World: Second Life as an introduction to the Metaverse."

Specialties:

Virtual Worlds, Metaverse, MMORPG, Enterprise Software, Venture Capital, dryesha.com

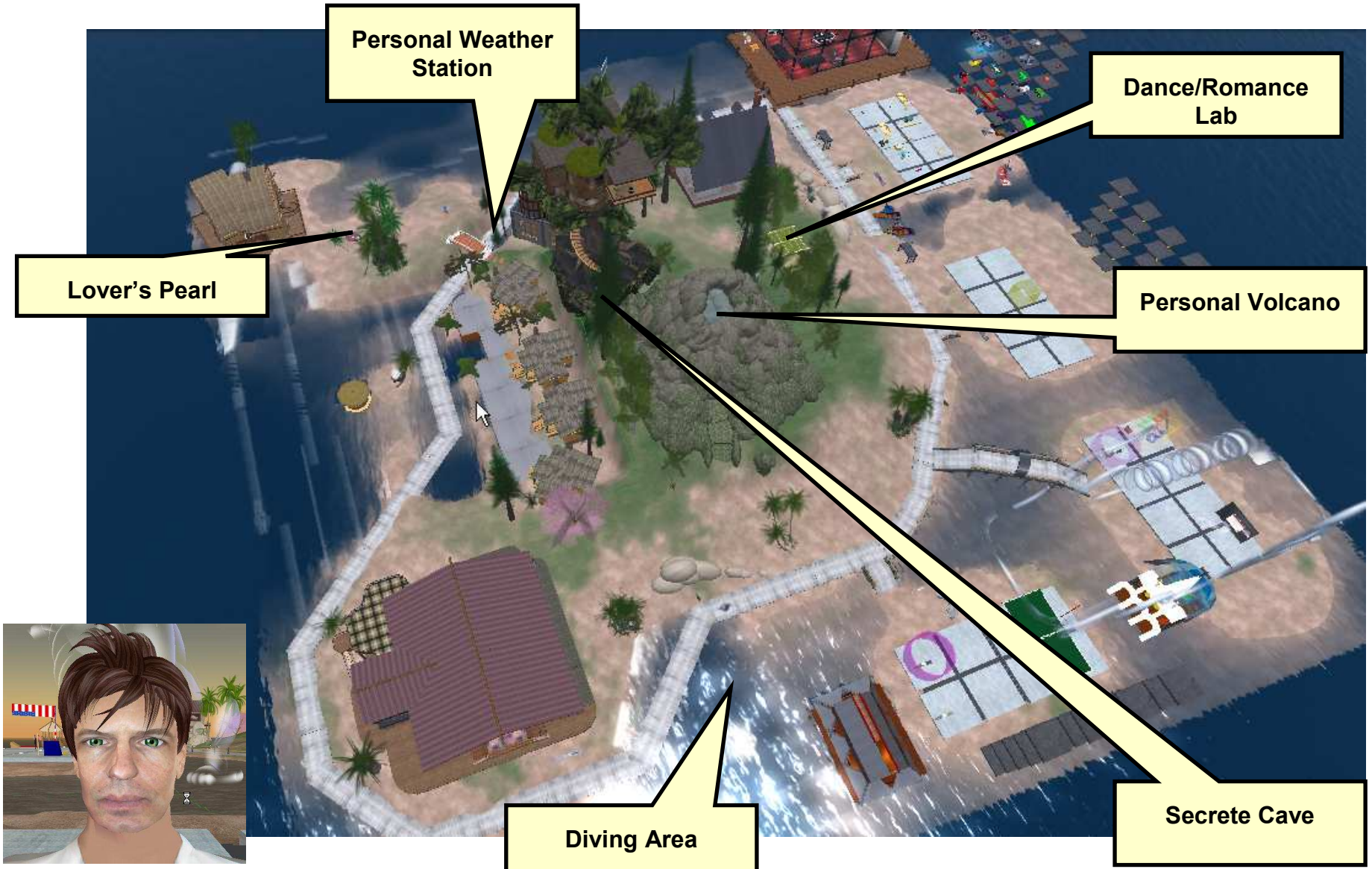
Who is Yesha (Future Style) SL: Dera Kit



Where is Yesha (Dryesha Middle) Kit

http://slurl.com/secondlife/Metaverse%20Labs/231/233/23

Who is Yesha (Future Style - Fun)



The 3D3C Definition

- We define Virtual Worlds as a combination of
  - **3D**: controllable environment, one can both, zoom, change camera position, etc.
  - **Community**: it is with real people, people can create groups, there is a system that allow communities to blossom.
  - **Creation**: there is a way to build content, services, and stuff.
  - **Commerce**: there is an ability to connect real economic value (real money).
- The goal of the definition allow us to focus our efforts.

WOW & SIM

+

Facebook & "Permissions"

+

YourTube & Wikipedia

+

PayPal & eBay

Real Virtual Worlds

The 3D3C Definition

- Club Penguin, now part of Disney, is a kids' world. It does not have 3D representation, nor is there an ability to use money. Nevertheless, Club Penguin has 12 million total users (mostly kids 6-14 in North

Checkout (for commerce) — may close that gap. (Google's latest foray into the field is Lively, an avatar-based 3D chat system that looks and feels like IMVU. A merger of Lively and Earth could become a powerful infrastructure for real virtual worlds.)

Table 1 — Different Worlds Viewed Through the 3D3C Prism

Sample Worlds	3D	Community	Creation	Commerce
WoW	*****	***	*	*
IMVU	***	***	**	***
Club Penguin	*	*	*	*
SL	***	*****	*****	*****
ActiveWorlds	*	***	*	*** (per case)
Sony Home (demo)	*****	**?	**?	**?
Google Earth	***	*	*** (SketchUp)	*

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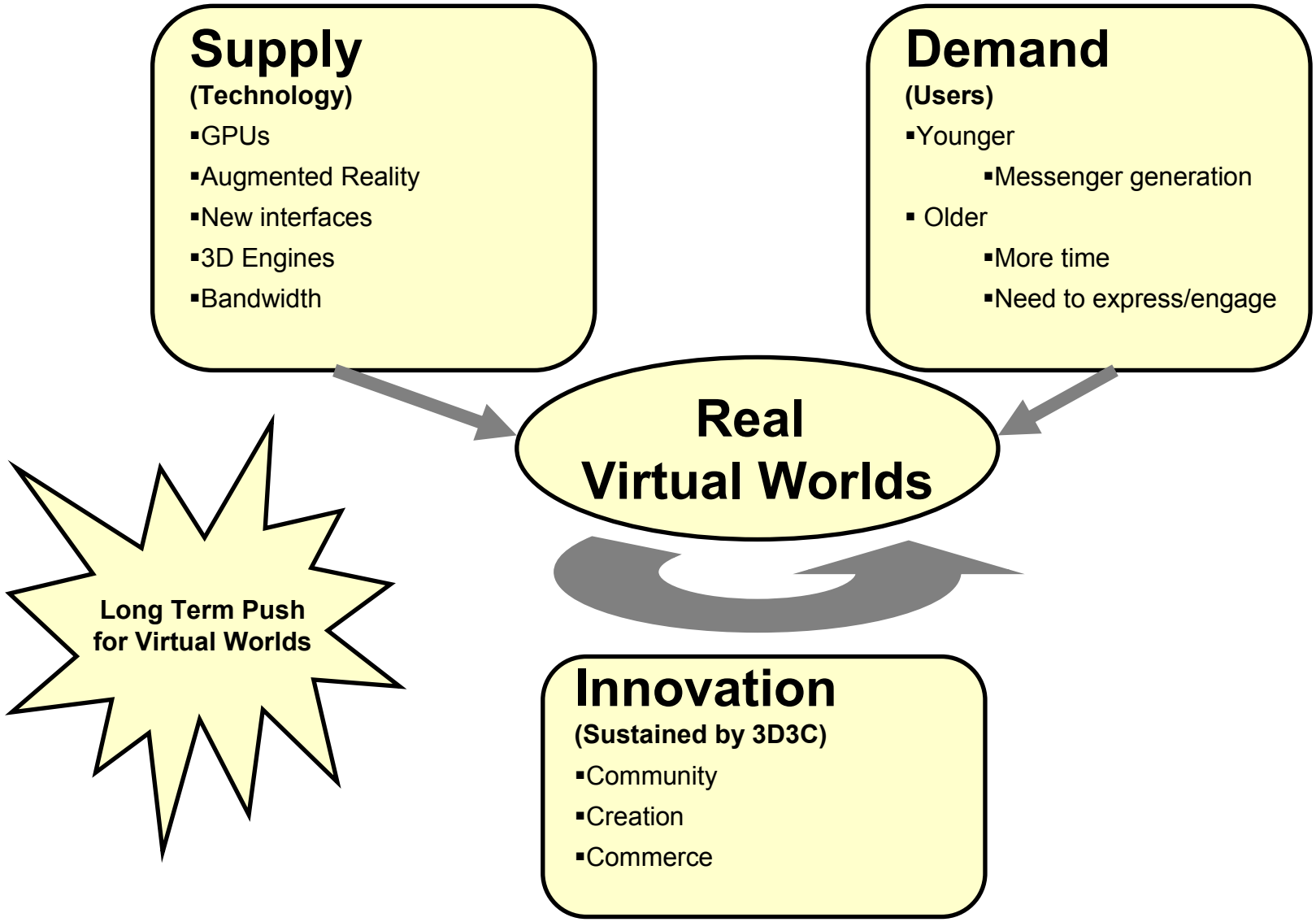
More 3D3C → Closer to the vision of the Real Virtual Worlds.

What is Pushing Virtual Worlds



MPEG-V – Just intro; more later

- **MPEG–V** (V for "Virtual" and not "5") - A formal effort of MPEG group to develop standards. (Target date is Oct, 2010).
- **MPEG** is part of ISO (The International Standards Organization).
- **Metaverse1** is an EU project (~35 organizations) that will give input to MPEG-V.
- **Philips Research**, one of the firms (lead: Jean Gelissen), manage Metaverse1.
- **Metaverse Labs**, another firm (Lead: Yesha Sivan) is the Technical Coordinator / Chief architect of Metaverse1.

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Phlips Design – Dolf Wittkamper

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How to present the issue? (some terms, there more)

Lively

Microsoft Earth

IBM Standards on Standards

Yesha's Dimensions of Standards

Earth

Vir Words as domain for standards

Metaverse1

MPEG-V

Croquet

ISO/ TC / MPEG Style

Second Life

Cobalt

Open GL

OpenGrid

Open Metaverse

khronos

Collada

Open Sim

LibSL → libopenmv

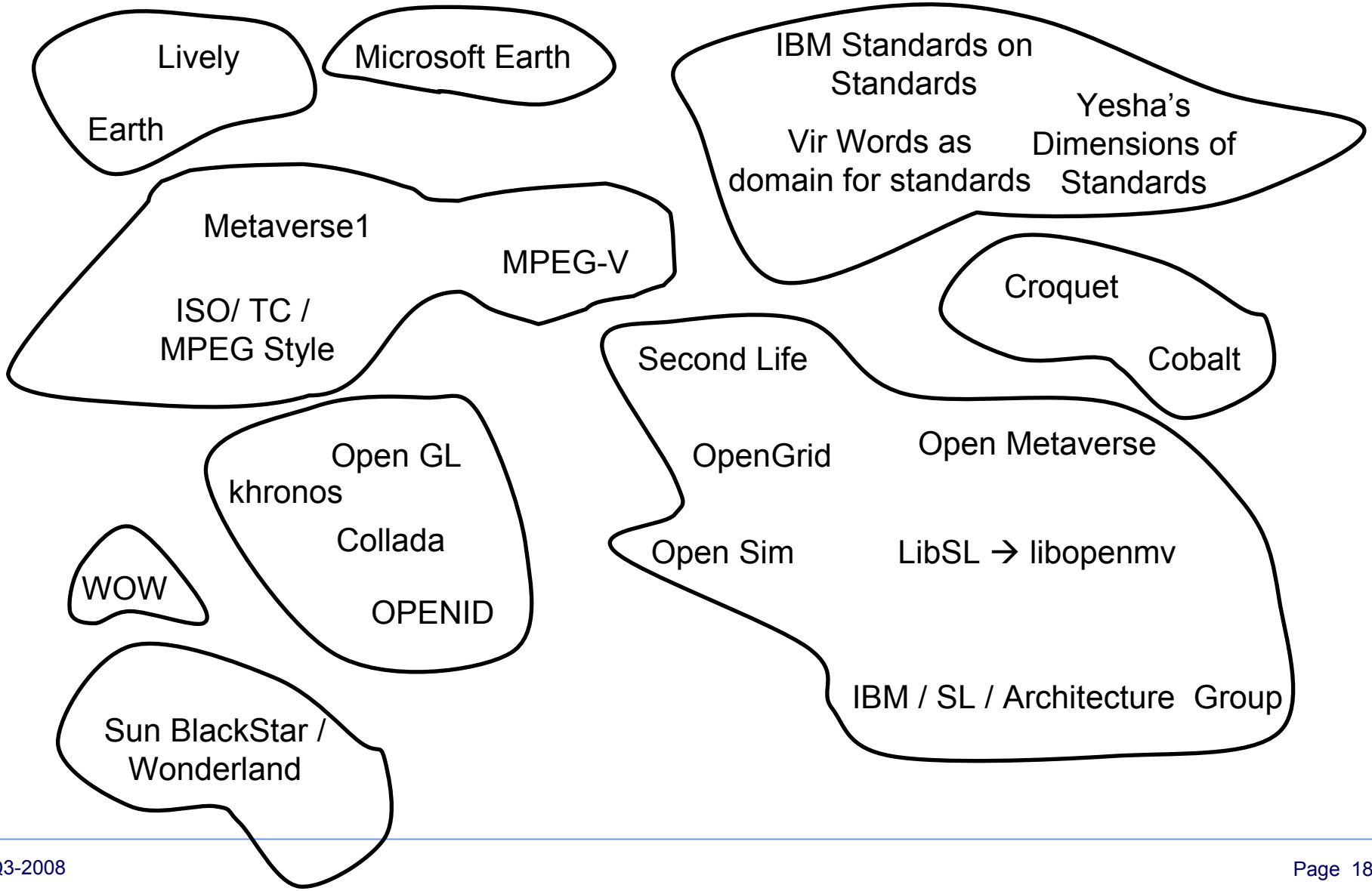
WOW

OPENID

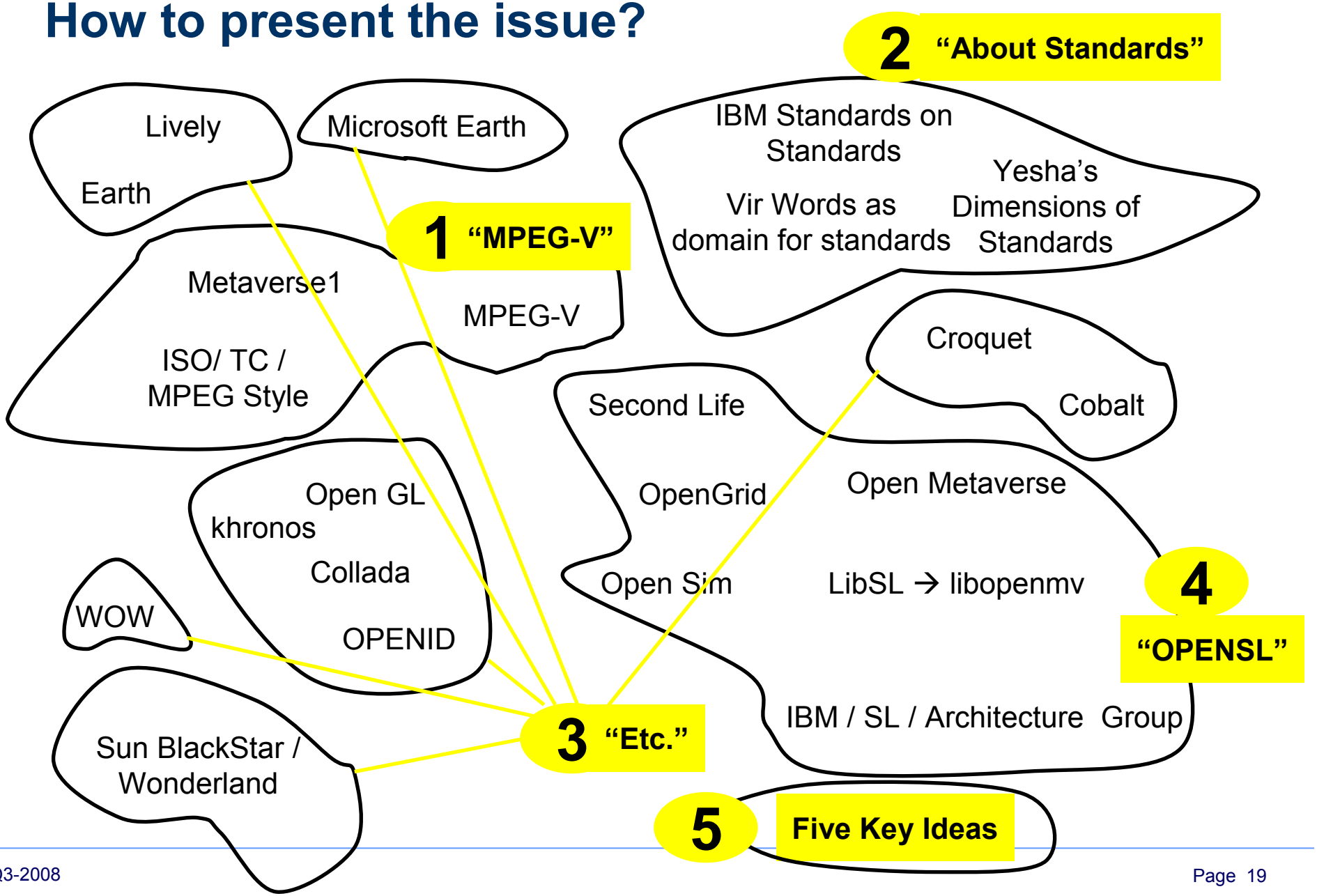
IBM / SL / Architecture Group

Sun BlackStar / Wonderland

How to present the issue? – One Cluster Scheme



How to present the issue?



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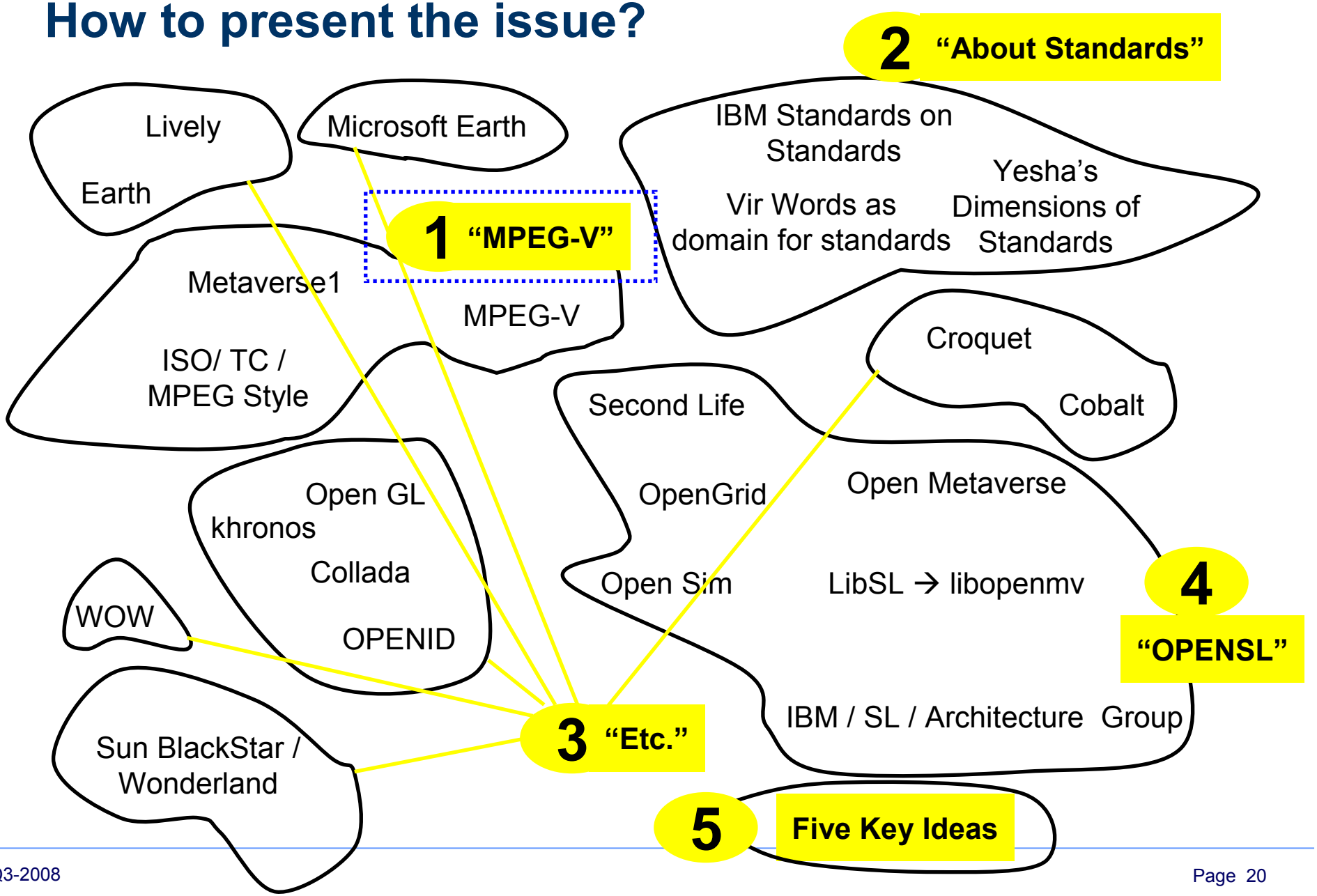
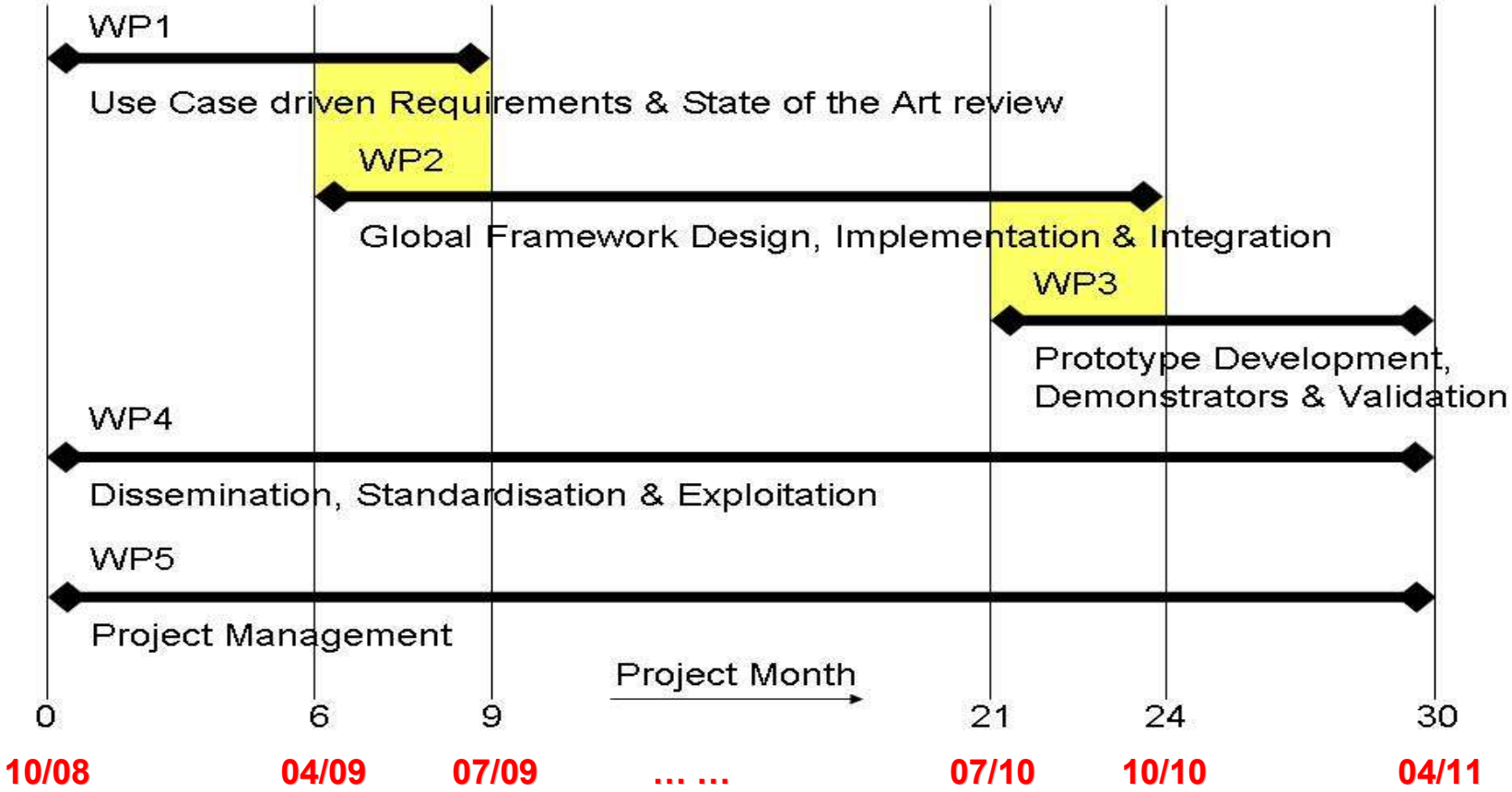


1 "MPEG-V": Metaverse1 consortia

1. Metaverse1 is a consortia of about 35 firms (big, small, universities).
2. Working under the ITEA-2 program (for building industrial research)
3. Most (but not all) are partially funded by their government -- about 25%-60%.
4. Players from Netherland, France, Spain and others.
5. A lot of energy on action – not enough on standards ☺

- **Alcatel -Lucent**
- Avantalia
- Carsa
- CBT
- CIC TOUR GUNE
- DevLab / PTS Software
- Ellinogermaniki Agogi
- EPN
- E-PYME
- Forthnet SA
- I&IMS
- INNOVALIA
- **Metaverse Labs** ☺
- Nazooka
- NAZOOKA
- Nextel
- **Philips NL**
- **Telefónica I+D**
- TU/e
- TUDOR
- University of Twente
- UPF-MTG
- Utrecht University
- VicomTECH
- VU University – CAMeRA
- VU University Amsterdam
- VUB

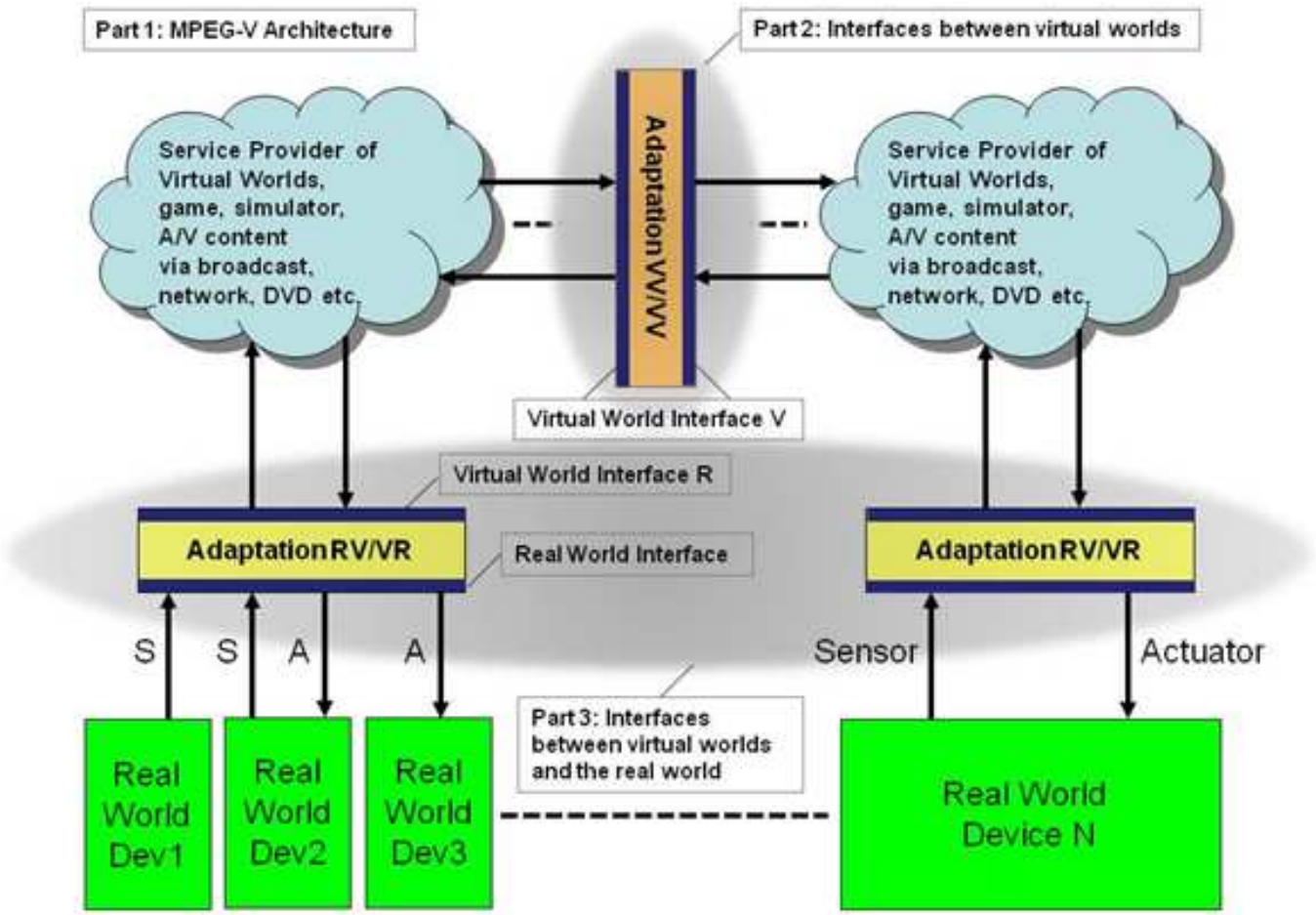
1 "MEPG-V": Metaverse1 Project Plan



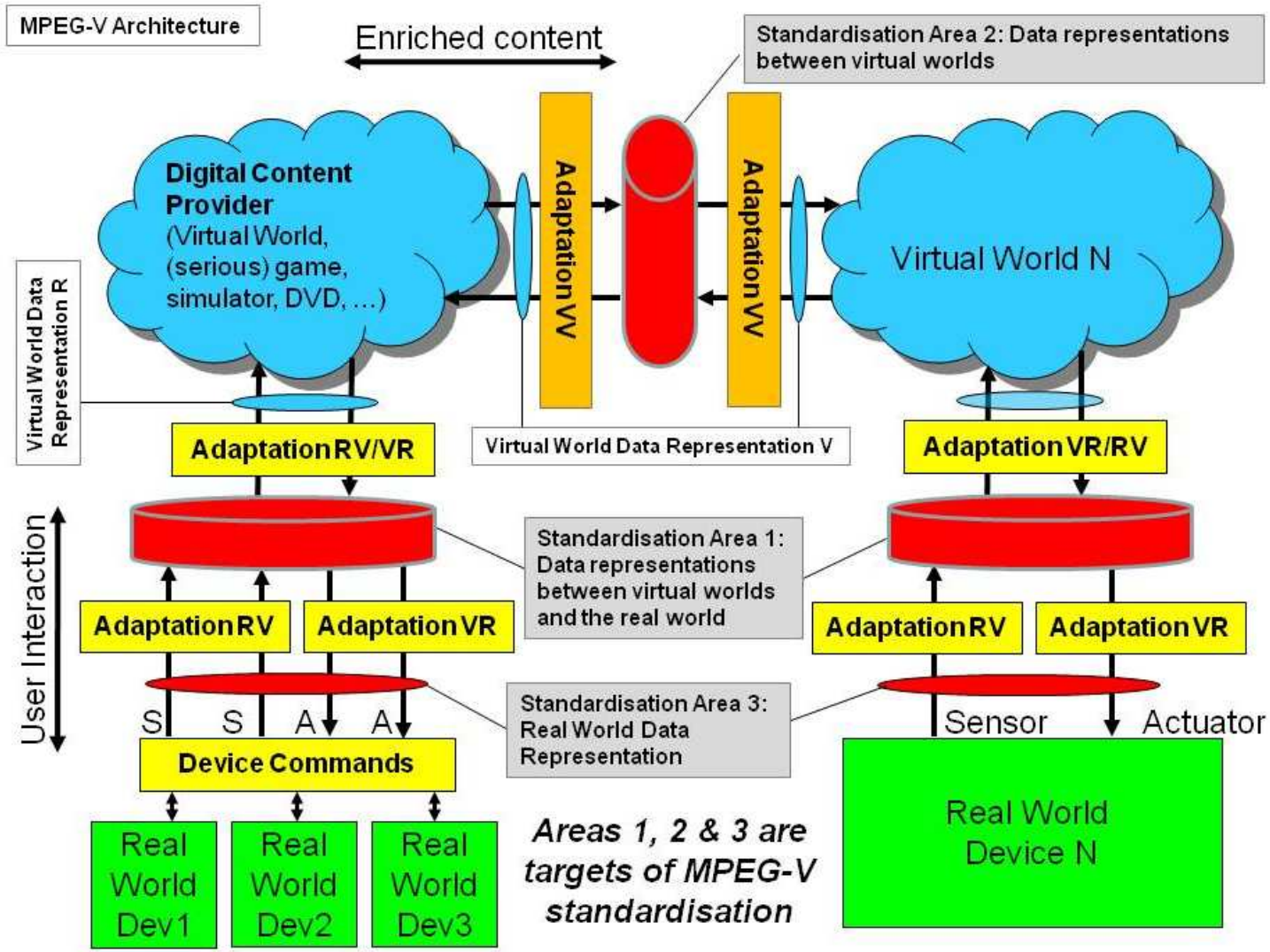
1 "MEPG-V": MT1 Kick Off

- Metaverse-1
  Just started…
- Kick Off meeting in
  Velndhoven 6, Oct 2008

1 "MEPG-V": First Version



1 "MEPG-V": Current Version



1 "MEPG-V" – Time Table

2008/10/17	Final version of Requirements / Call for Proposals
2009/01/28	Proposals due
2009/02/01	Evaluation of proposals (in an Ad Hoc Group meeting)
2009/02/06	First draft of MPEG-V WD
2009/04	Working Draft
2009/10	Committee Draft
2010/01	Final Committee Draft
2010/07	Final Draft International Standard
2010/10	International Standard

1 "MEPG-V" – Part of ISO / JTC1

International Organization for Standardization

International Standards for Business, Government and Society

Home | Products | Standards development | News and media | About ISO | For ISO M

FAQs > Widely used standards > MPEG

- FAQs
  - General information on ISO Standards
  - Widely used standards
  - Conformity assessment and certification
  - Developing countries
  - Miscellaneous
  - List of abbreviations used throughout ISO Online
- Copyright
- Privacy Policy
- Name and logo
- Contact ISO
- Sitemap
- Help on using search

print

MPEG Standards - Coded representation of video and audio

The ISO MPEG standards are International Standards dealing with the compression, decompression, processing, and coded representation of moving pictures, audio and their combination. There are various standards published in this field, and they are commonly referred to as MPEG 1, MPEG 2, MPEG 4, MPEG 7 and MPEG 21. These standards are developed by the Moving Picture Experts Group (MPEG), which is a working group of the joint technical committee for Information Technology, ISO/IEC JTC1.

Information on the ISO MPEG standards is available through the official MPEG home page.

1 "MEPG-V" – MPEG Site

Working documents

Who we are
- Terms of Reference
- Work plan
- Meetings

Hot news
MPEG Life
- Events
- An MPEG meeting
- Ad-hoc groups
- Patents
- Guide to hosts

Documents
- Standards
- Technologies
- Performance tests
- Tutorials
- Working documents

How to join
For the Media
FAQ
MPEG books
Liaisons
Links
Pictures
Contact point
Back to home

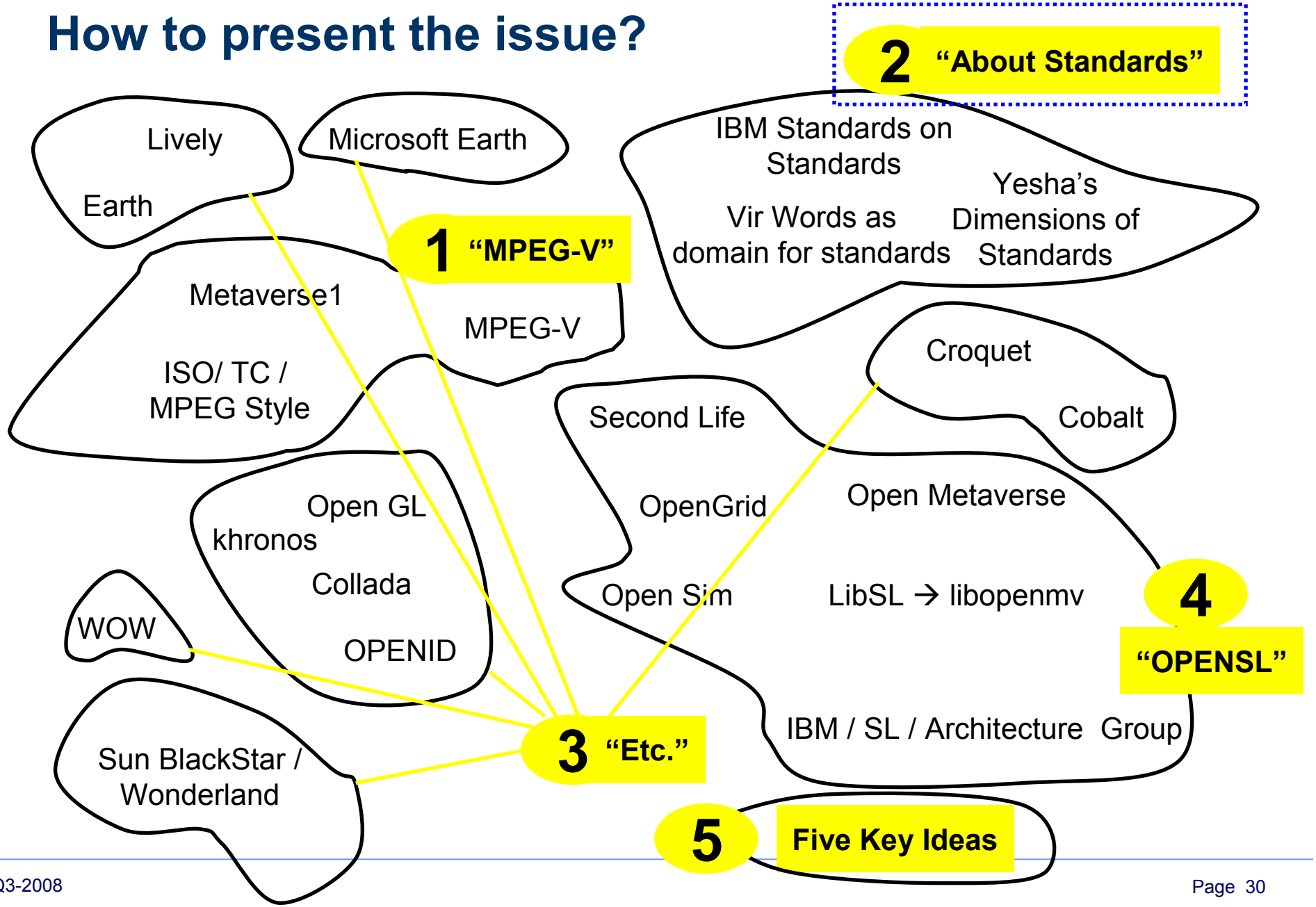
MPEG-1	MPEG-2	MPEG-4	MPEG-7	MPEG-21
MPEG-A	MPEG-B	MPEG-C	MPEG-D	MPEG-E
MPEG-V	Studies	Explorations	General	

- MPEG-V (Information Exchange with Virtual Worlds)
  - General
    - MPEG-V Extended Call for Requirements
    - Draft Requirements for MPEG-V Version 2
    - Summary of MPEG-V
    - Context and Objectives : Information exchange with Virtual Worlds

1 "MEPG-V" – Approach

- Time Driven Process
- Why MPEG and not this or that group (SDO – Standard Development Organization)?
  - Because we have access to it; and it has worked in the past
- Is MPEG open?
  - What is Open? What to do with Patents?
  - I have a good technology? What do I do?
- NOTE: Personally – I'm not 100% clear about the process – but I'm clear that ISO/MPEG is very formal.

How to present the issue?



2 About Standards: case study: OPENXML – ODF

- 6000 pages of OPENXML (Microsoft)
- 600 page of ODF (IBM. Et-al)
- Touch upon the core of Microsoft Business – Office
- Basically we had ODF and then WITH the process (Via ECMA) Microsoft was able to make its standard approved.
- Rumors of misconducts, bribes; and pressures from both sides.
- IBM was very unhappy. Led to the publication of IBM standards on standards (see: http://www.research.ibm.com//files/standards_wikis.shtml)
- Bottom line: Standards can be very "Political" (In fact, if the topic is more critical it will be more "political")

See:

A Welfare Analysis of Standards Competition The Example of the ECMA OpenXML Standard and the ISO ODF Standard by Dr. Knut Blind

2 Standards in Virtual words

- Today virtual worlds "use" the **monolith approach** model.
  - This model is working for the gaming worlds (wow, etc.)
  - Each gaming firm develops its own stack. By controlling the client, the server and the network the gaming firm used to gain value.
- In contrast, the Internet has a **stacked approach** with protocols (e.g., HTML, TCP/IP, DNS, Flash).
- One key benefit to a **stacked approach** is enhancing "innovation points." Each firms can focus on specific points of the chain and innovate.
- One challenge: Virtual Worlds are much more complex then the internet (x 100) and more intertwined (Avatars needs to wear clothing in different islands and still communicate with their friends).

2 Five Dimensions of Standards

Dimension 1: Level	Dimension 2: Purpose	Dimension 3: Effect	Dimension 4: Sponsor	Dimension 5: Stage
Individual	Simplification	Constructive	Devoid	Missing
Organizational	Communication	Positive	Nonsponsored	Emerging
Associational	Harmonization	Unknown	Unisponsored	Existing
National	Protection	Negative	Multisponsored	Declining
Multinational	Valuation	Destructive	Mandated	Dying

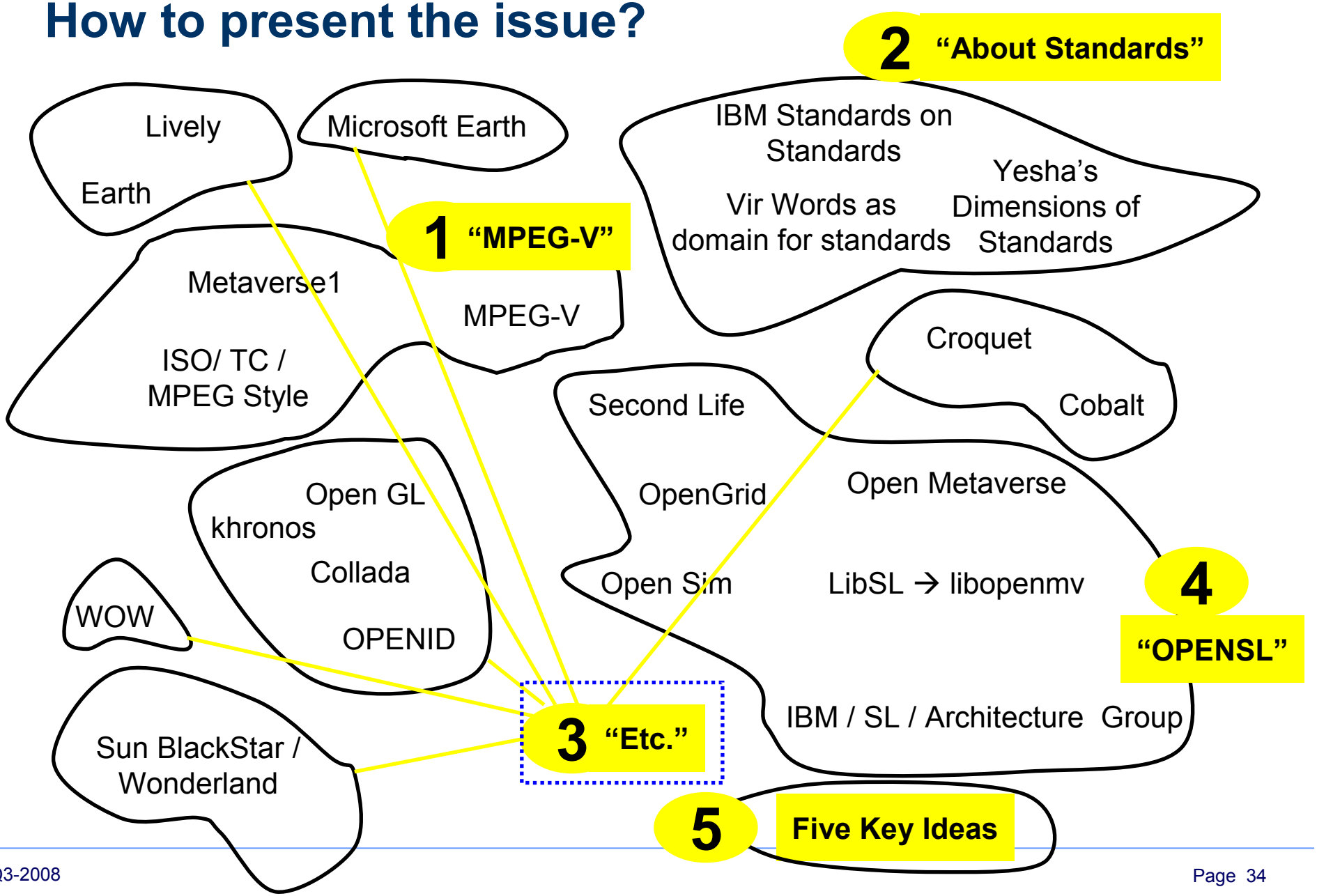
Source: Dr. Yesha Sivan (2000). Knowledge Age Standards: A brief introduction to their dimensions. In Kai Jakobs (2000), Information Technology Standards and Standardization: A Global Perspective. Idea Group Publishing, Hershey, PA USA.

The diverse uses of "standards" define the goal of this work, namely, to develop a general framework of standards and to reflect on the process and outcome of the development of the framework. My intention is to devise a theoretical framework that may be translated into practice at some future point.
The principle outcome is a framework of standards that includes five dimensions: Level, Purpose, Effect, Sponsor, and Stage, each of which contains five categories that together define the dimension. The dimensions show:

- how standards can be produced and used by entities from different **Levels** individual, organizational, associational, national, and multinational);
- how they can have one or more **Purposes** (simplification, communication, harmonization, protection, and valuation);
- how they can cause diverse **Effects** (constructive, positive, unknown, negative, and destructive);
- how they can be developed by different **Sponsors** (devoid, nonsponsored, unisponsored, multisponsored, and mandated); and
- how they can be in different **Stages** (missing, emerging, existing, declining, and dying).

In presenting the framework, the chapter also touches on the roles of standards in the industrial age, their potential roles in the knowledge age, and the current turmoil in the standards community. It includes reflections on designing and judging the framework.

How to present the issue?



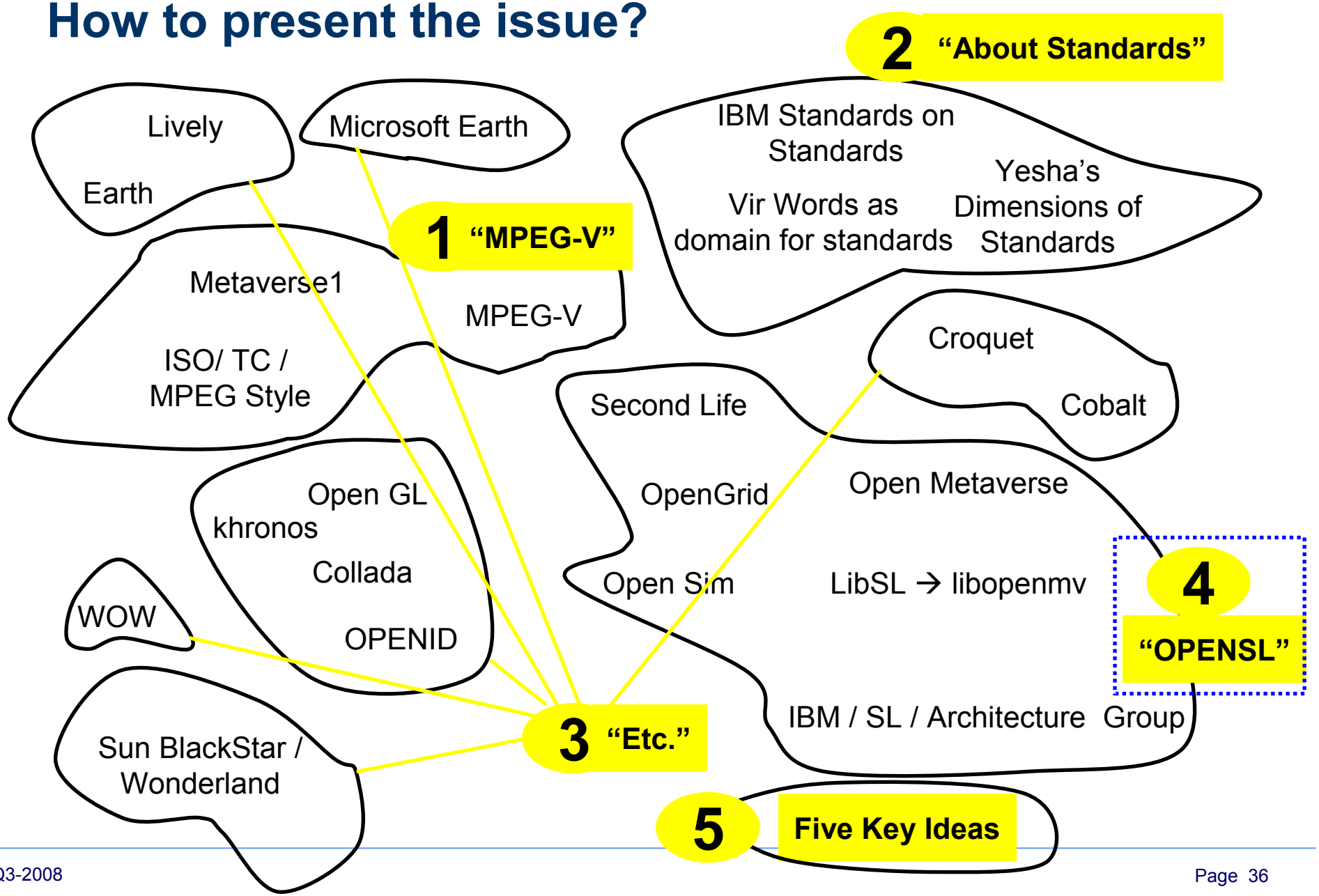
3 Etc

There are may other issues out there… we will not be able to cover it all (as part of Metaverse1 we will try to map them in the first year).

1. **Sun DarkStar/Wonderland** – Open source project. Interesting, technology (no money), No live demo anywhere. 0.1% traction.
2. **WOW** – no real connection? Will they even want to do something? Gaming world.
3. **Goggle** – can become the standards. Have servers, avatars, checkout – what will they do?
4. **Microsoft** – can easily glide to the field with XBOX (new avatars), flight sim, virtual earth, points – what will they do?
5. **Croquet / Cobalt** – Open source – some unique features, peer to peer model.
6. **Core Standards**: OpenGL, Collada (both Khronos group), Open ID – lower level standards that can contribute to the global standards. No need to invent things when they are out there.

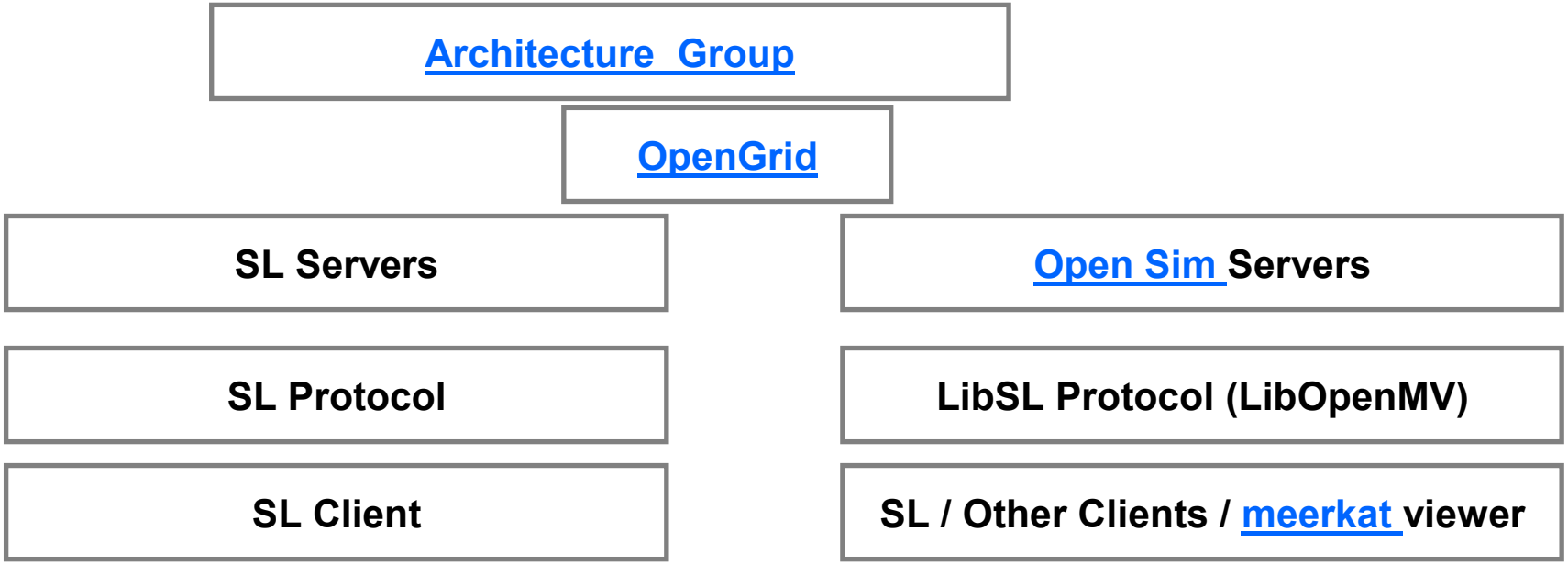
7. **Bottom line:** More into is needed…

How to present the issue?



4 Open SL – Generic Name (for all related Components)

- Second Life is the largest player in the field by far.
  - Linden: ~26000 (Source: http://secondlife.com/whatis/economy_stats.php) ~31K According to CEO in Virtual Worlds London.
  - OpenSim : ~2000 sims (source: http://opensimulator.org/wiki/Grid_List)
- The most complete set of features in terms of 3D3C.
- Components:



4 Open SL – Quick Analysis

- Philip, Founder and chair of Linden, talks about:
  - Open Source and Second Life:
    Source: http://www.ugotrade.com/2008/09/26/philip-rosedale-open-source-virtual-worlds/
  - Basically he says "we like it."
- But we need to ask:
  - Does Linden has a real plan to make the entire system open?
  - Or are we being taken for a "ride"?

4 Open SL – Another View: An illustration

- **Linden1:** We do not want to end up like Netscape – let's open the platform.
- **Linden2:** But wait… if we open it … how will we make money?
- **Linden3:** OK, Let's say that we are opening it and control the process.
  - Open client – so no other clients will be developed. Control the process by releasing our client from time to time.
  - hummm… let's start an "open architecture" meeting – where we meet.. from time to time… and continue to do what is good for us.

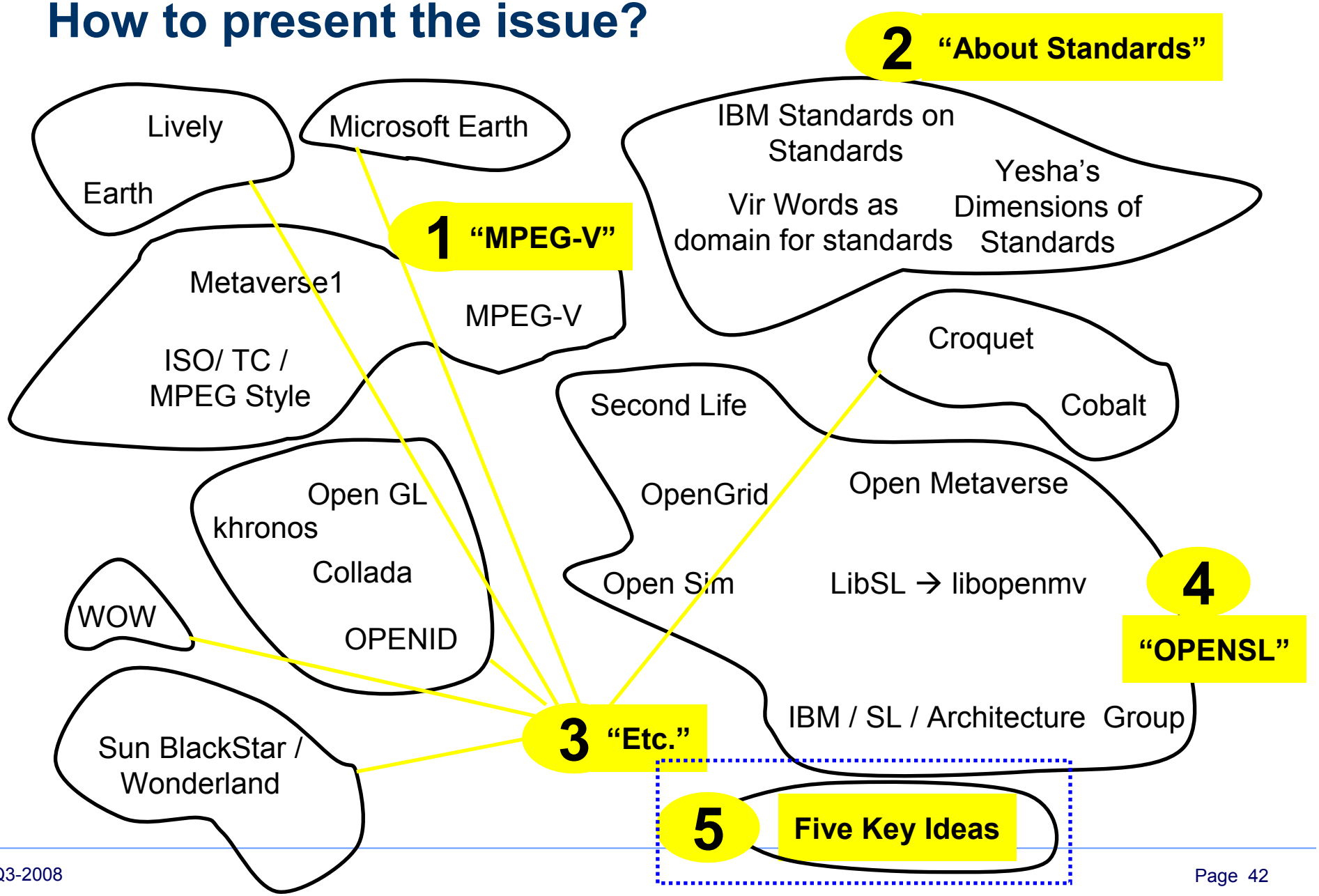
4 Open SL – Another View

- Maybe our policy is really going to be:
  - "Avatar data, authentication information, identity data, inventory, and many other services necessary to create the Second Life experience **reside on our backbone services** servers and their associated databases. Our current architecture **does not anticipate** moving these services away from Linden Lab's servers. Our Architecture Working Group is working on open protocols that will enable external servers to connect to the Second Life Grid."
- This is all Hypothetical of course. ☹☺

4 Open SL – Another View

- Bottom Line:
  - **Linden Labs** has the most comprehensive system out there. They need to manage a transition to a different business model and cross the chasm.
  - **Open Sim** is advancing
    - it can do more than 50-60% of what SL does.
    - BUT the last 10% area maybe difficult in general and for open source in particular.
  - How do we help?

How to present the issue?



5 Key Points

1. For virtual worlds to success we must have standards.
2. OpenSL ecosystem (Linden+OpenSim) seems to be in a good position… (with some "buts" of a unsponsored standard).
3. Other players have lots to add.
4. MPEG-V is a formal process – gears to standards between worlds, and between virtual and real.
5. Ultimately standards is a political "give and take" process – where we have to find the best solution **in a given time -- let's work together.**

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Q&A

Thanks..

- Feedback:yesha@metaverse-labs.com
- More info: www.dryesha.com