

A Case Study of Assembly Media Archive

Topic Map Aided Publishing

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Assembly'04 Media Archive

- ✦ WWW publishing platform.
- ✦ Publishes images, videos and related metadata real-time.
- ✦ Integrated to Assembly's [1] publishing environment.
- ✦ Uses Topic Maps [2] to store knowledge.
- ✦ Supports heterogeneous data sources.
- ✦ Short development time .
- ✦ Short life span.

[1] Assembly'04

<http://www.assembly.org/>

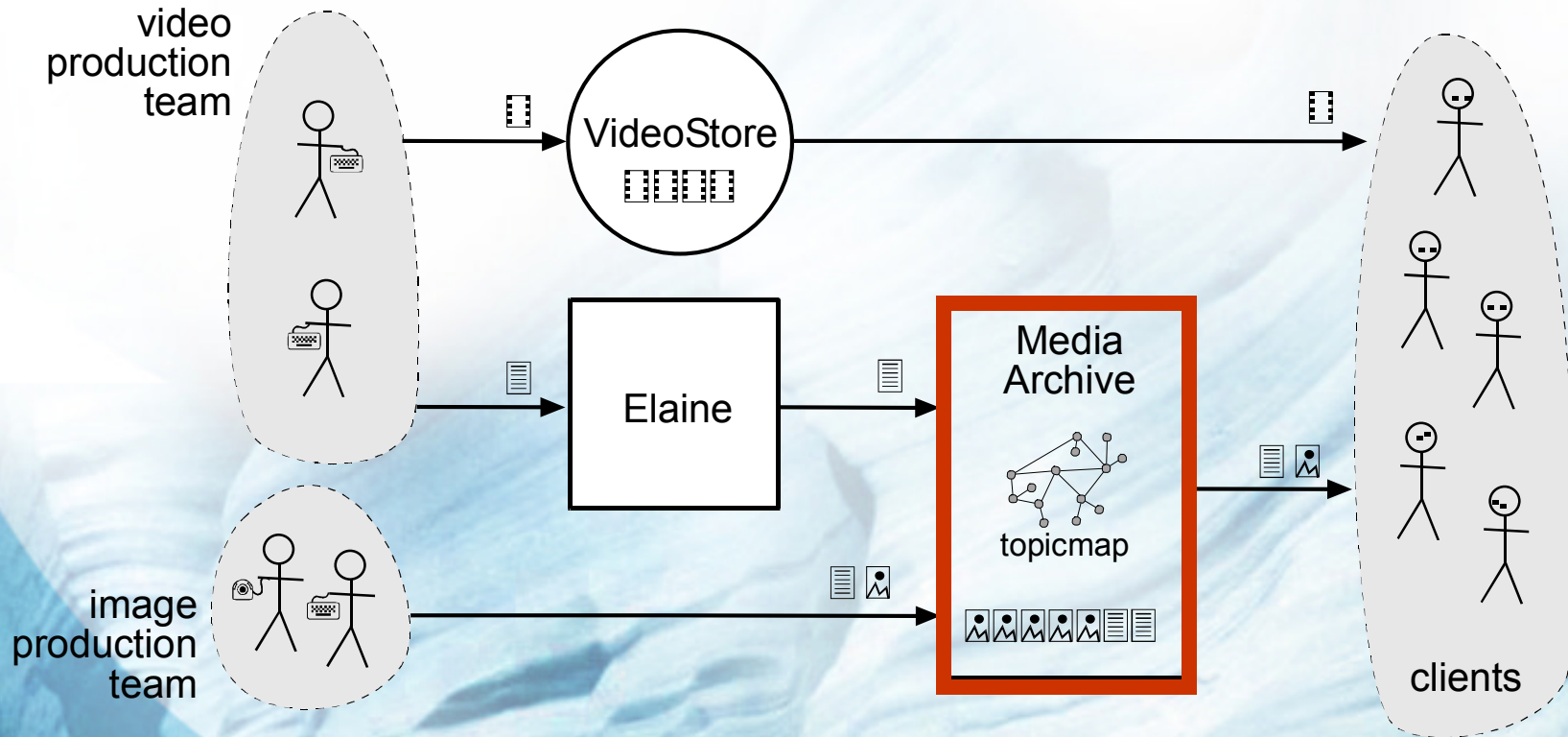
[2] Steve Pepper. The TAO of Topic Maps, finding the way in the age of infoglut

<http://www.gca.org/papers/xml europe2000/pdf/s11-01.pdf>



Publishing Environment

of the Assembly Media Archive



Video Production Process

Process and services were designed by Assembly'04 crew.

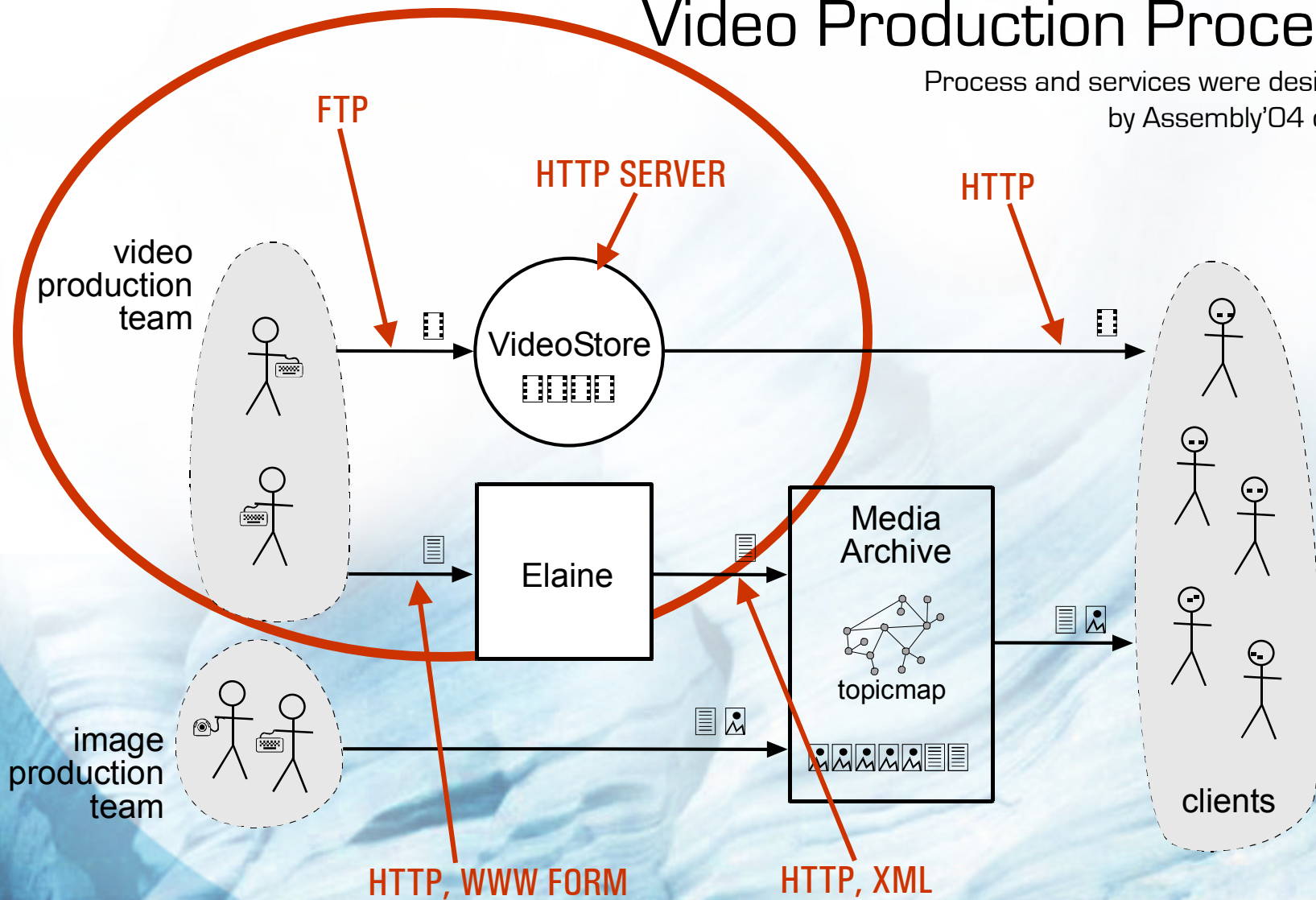
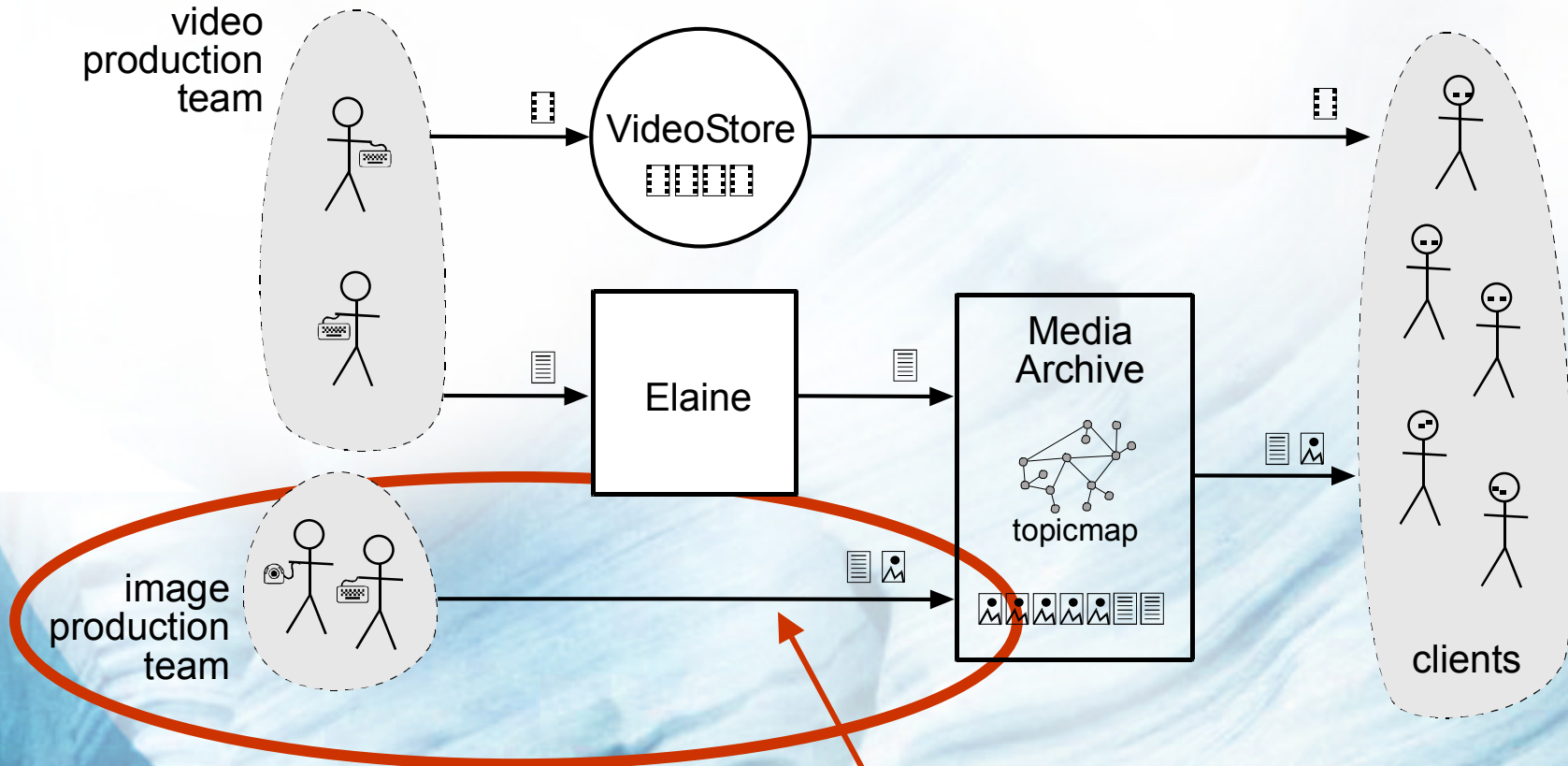


Image Production Process

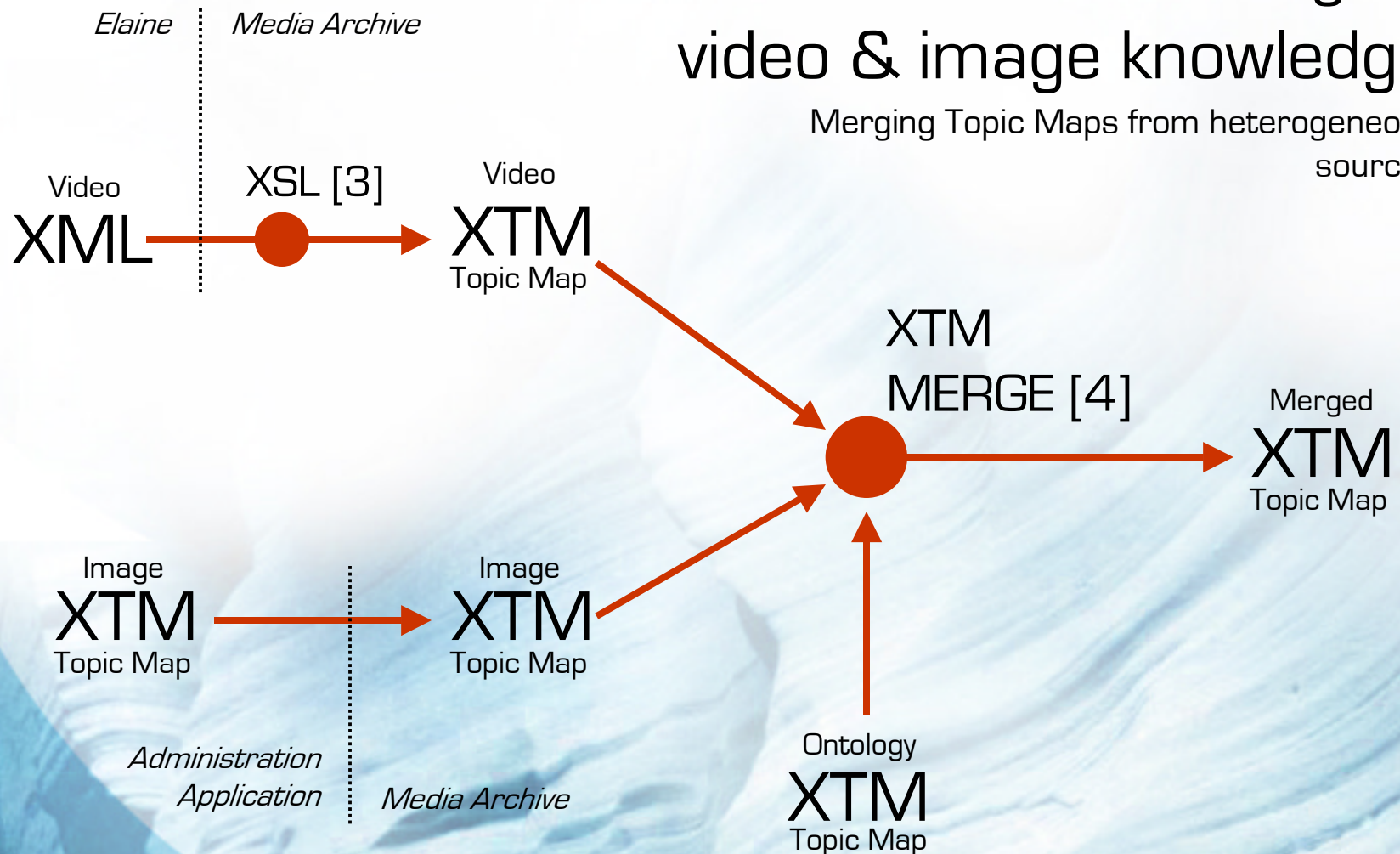
Uploading images and metadata to Media Archive



JPEG, XTM (TOPIC MAPS)
TCP/IP, ADMINISTRATION
APPLICATION

Merging video & image knowledge

Merging Topic Maps from heterogeneous
sources



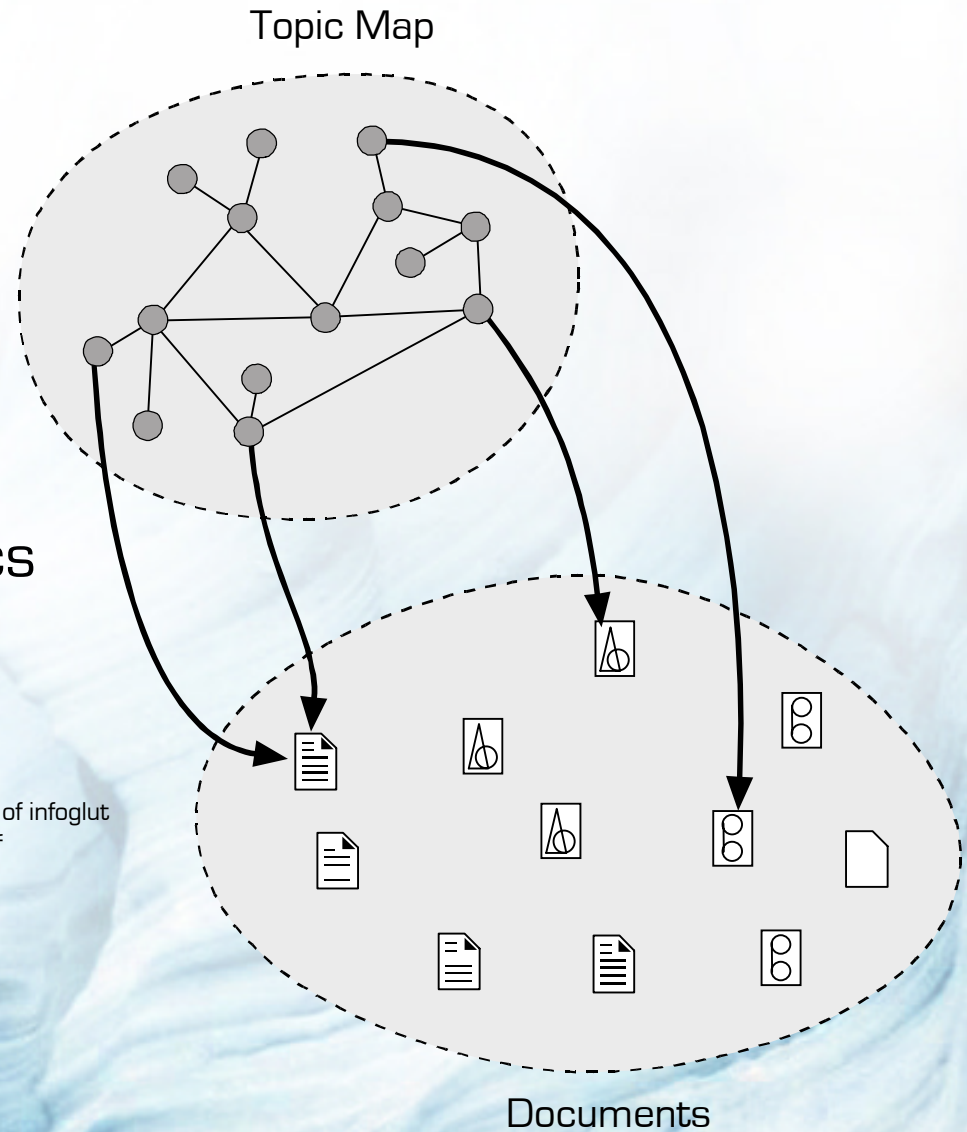
[3] XSL Style Sheets
<http://www.w3c.org/Style/XSL/>

[4] Merging Topic Maps
<http://www.topicmaps.org/xtm/index.html#desc-merging>

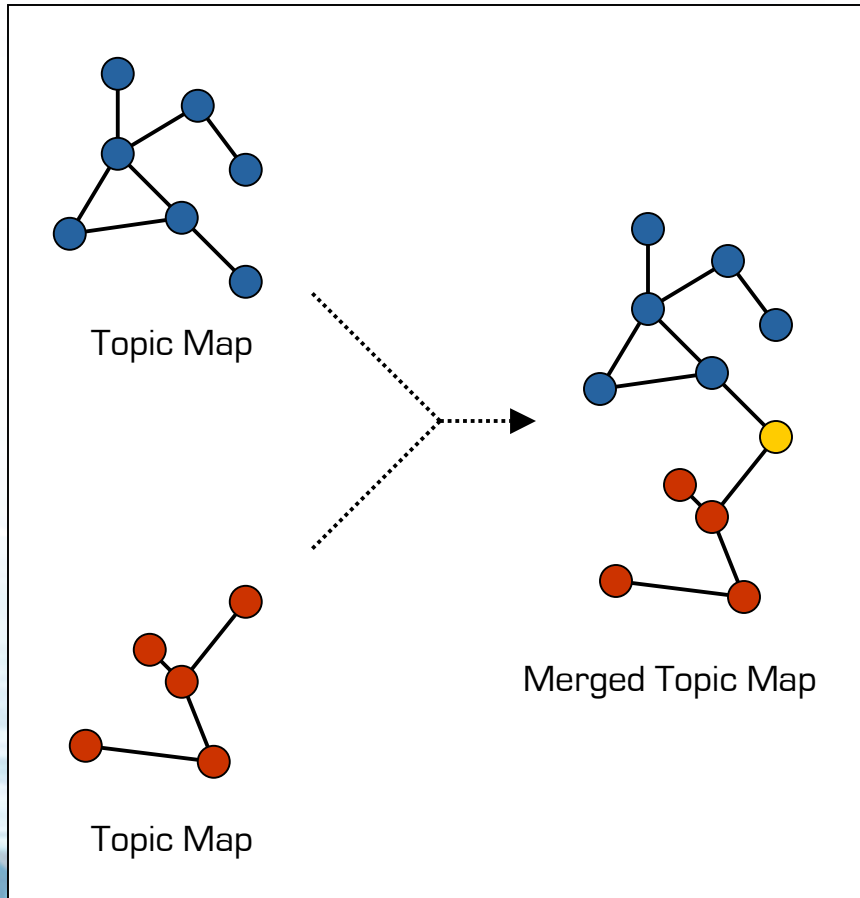
Topic Maps

- ✦ Map of information resources
- ✦ Collection of Topics, Associations between topics and related information resources (Occurrences)

Steve Pepper. The TAO of Topic Maps, finding the way in the age of infoglut
<http://www.gca.org/papers/xml europe2000/pdf/s11-01.pdf>



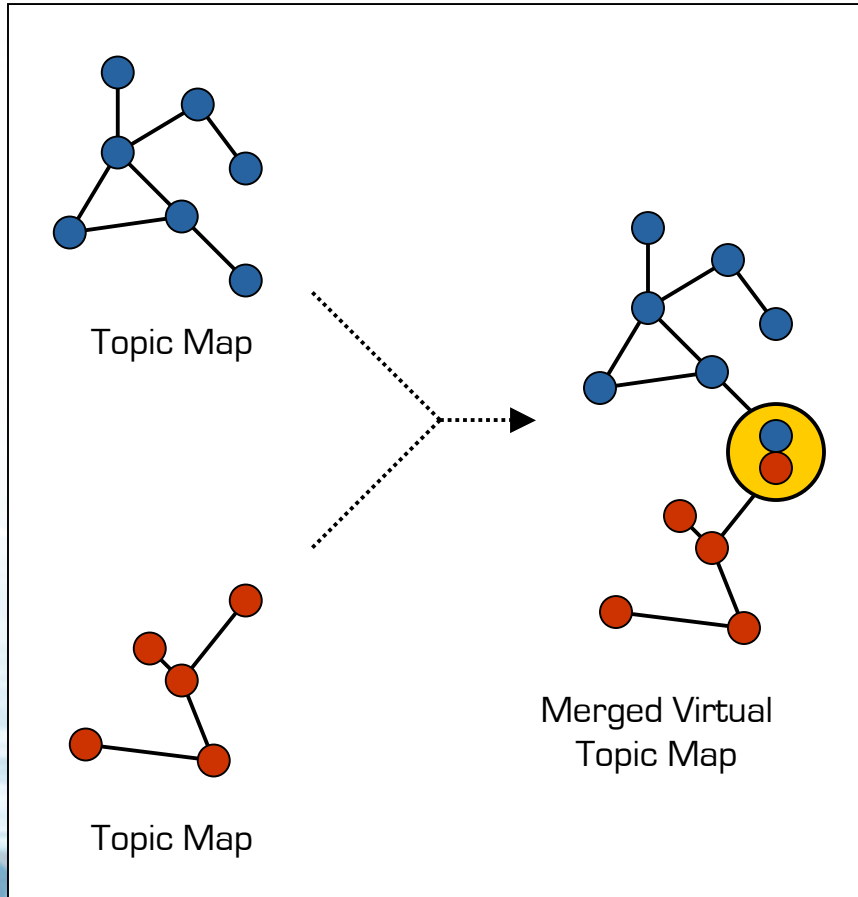
Merge Problem



How to distinguish which properties of merged (yellow) topic came from blue topic map?

Merge loses information and partial merge is not possible!

Concept of Virtual Topic Map



In virtual Topic Map merged topics are wrapped into a container (virtual topic).

Topic properties are solved run-time by container.

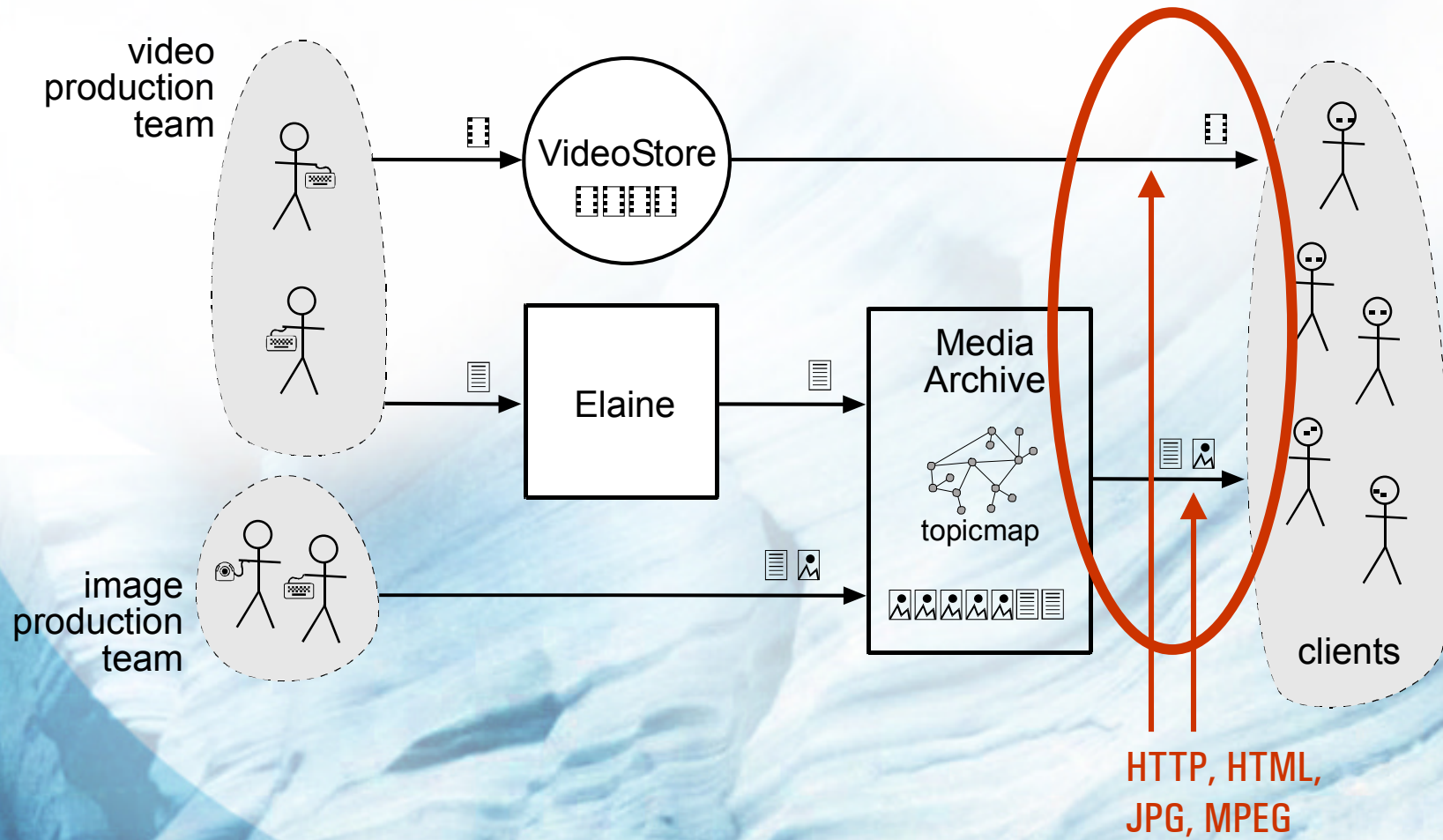
Partial merge is possible because merged topics remain!

Reduced Topic Map Implementation

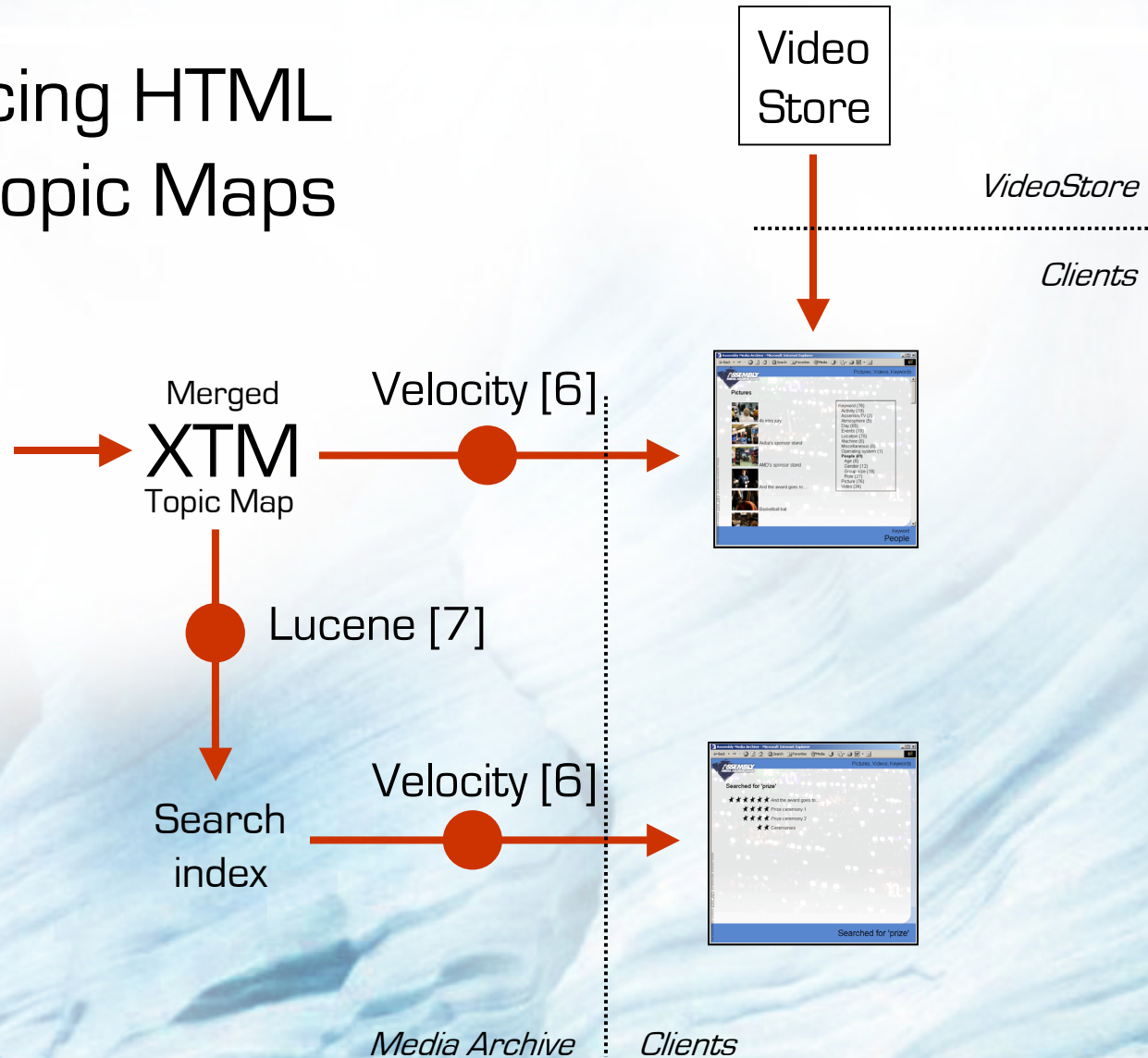
- ✦ Many of the standard [5] features of Topic Maps had little use in Assembly Media Archive. For example
 - ✦ Multiple base names
 - ✦ Resource reference occurrence
 - ✦ Multiple scopes for occurrences
 - ✦ Association scopes
- ✦ Getting rid of these features enabled the topic map implementation to be faster and more memory efficient.

Publishing

Producing HTML visualizations



Producing HTML from Topic Maps



[6] Velocity
<http://jakarta.apache.org/velocity/index.html>
[7] Lucene
<http://jakarta.apache.org/lucene/docs/index.html>


Assembly Media Archive - Microsoft Internet Explorer

Back Forward Stop Home Search Favorites Media


ASSEMBLY MEDIA ARCHIVE 2004

Pictures, Videos, Keywords


Pictures




4k intro jury




Akiba's sponsor stand




AMD's sponsor stand



And the award goes to....



Basketball bat



Keyword (76)

- Activity (19)
- AssemblyTV (3)
- Atmosphere (5)
- Day (65)
- Events (19)
- Location (70)
- Machine (6)
- Miscellaneous (8)
- Operating system (1)
- People (41)**
 - Age (8)
 - Gender (12)
 - Group size (19)
 - Role (27)
- Picture (76)
- Video (34)

MEDIA ARCHIVE PROVIDED BY QFIO STUDIOS INTERACTIVE INC.

Keyword
People

Example of Media Archive's public interface.

The Good, The Bad and The Questions

Conclusion

⊕ Good

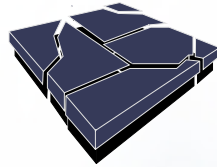
- ⊕ Transformations: XML → XTM → HTML
- ⊕ Merging Topic Maps
- ⊕ Intuitive navigation structure of Topic Map
- ⊕ Search engine powered Topic Map navigation

⊕ Bad

- ⊕ Topic Map implementations inefficient → Introducing reduced Topic Map implementation!
- ⊕ Merging Topic Maps → Introducing concept of virtual Topic Map
- ⊕ Redundant features of Topic Map standard → Reduced implementation of Topic Maps

⊕ Questions

- ⊕ Where is the *semantic* or *intelligence* hiding?
- ⊕ Is Topic Map just another data storage format?



Link to static HTML version of Media Archive can be found at
<http://www.assemblytv.net/>

Media Archive credits go to Olli Lyytinen and Aki Kivelä of Grip Studios Interactive. For more information please contact Grip Studios Interactive office@gripstudios.com or <http://www.gripstudios.com>

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