



TOSCA^{MP}

A System for Task-Oriented Content Analysis and Search in Media Production

Georg Thallinger (JOANNEUM RESEARCH)

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Outline

- Context
- Project overview
- Scenarios and tasks
- System architecture
- Conclusion

Context



- Professional media industry
- Media life cycle
 - Production
 - Distribution
 - Archiving and reuse
- Many business processes involve searching for media items
 - News production
 - Archiving
 - Producing documentaries
 - ...

Media Production



- Searching not only in repositories of own organisation, but
 - Content providers such as other broadcasters, news agencies, ...
 - Networks such as Eurovision
 - User generated content
- Efficient annotation
 - For own reuse
 - Monetising own content by enabling it is found by others
- Strengthened collaboration paradigm, increased content syndication
 - Large-scale repositories distributed across a network
 - Multilingual
 - Heterogeneous in terms of structure and data model
 - Journalists in the field do work previously done by dedicated staff in the studio

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- Task-oriented search and content annotation for media production
- EU ICT FP7 STREP, Oct. 2011-Mar. 2014
- Consortium



Motivation & Objectives



■ Motivation

- Media production and archiving workflows are changing rapidly
- Workflows need to be increasingly networked and distributed
- Media search in distributed large-scale repositories in the network (multilingual and heterogeneous)
- Off the shelf tools, able to adapt to users' tasks are needed

■ Objectives

- Enable content holders to leverage scalable advanced distributed processing
- Enable editorial staff in networked media production to seamlessly use content from distributed heterogeneous repositories
- Make benchmarking of indexing and search methods an integrated part of the workflow

Research areas



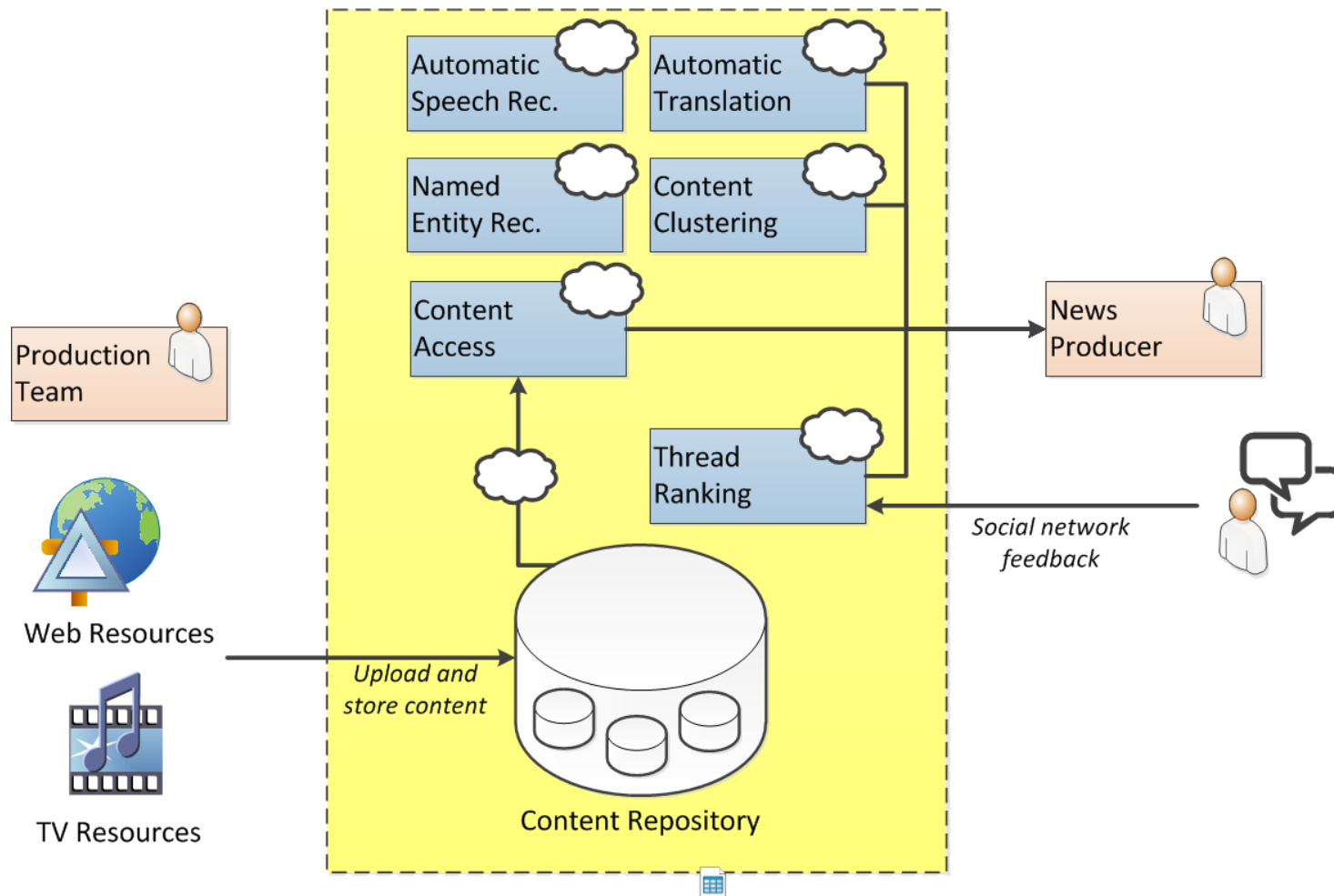
- Media Analysis
 - Multilingual speech metadata extraction/translation
 - Content-adaptive visual metadata extraction and enrichment
 - Aligning and linking metadata
- Task-adaptive search & retrieval and user feedback
- User interfaces for annotation and search
- Task models and tools benchmarking
- Scalable distributed repository framework (indexing and search) for digital media production workflows
- Results are integrated in a SOA based framework

Usage Scenarios



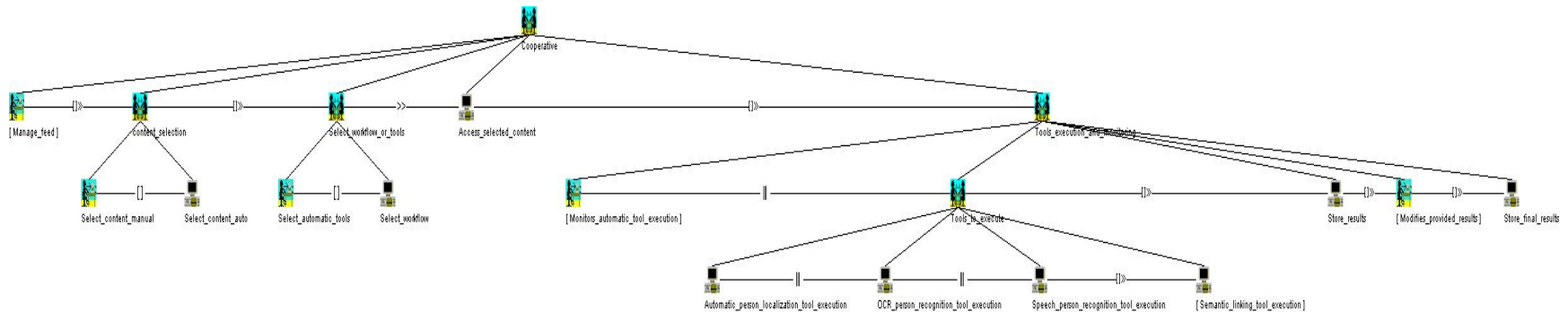
- 10 Business goals
 - High level goals to be achieved by broadcasters, service providers...
- 15 related scenarios
 - Concrete examples, how a business goal is achieved with tasks and actors involved
- Four categories
 - Content access & retrieval
 - Assisted production
 - News service distribution
 - Infrastructure (repositories)
- Details on website (D6.1)

Example: “Assisted production of news stories using distributed multilingual sources”



Task models

- Collecting a set of high-level task descriptions from users
 - e.g. specific types of annotation, specific types of search, content summarisation
 - <http://tosca-mp.eu/tasksurvey>
- Create formalised task models (ConcurTaskTrees, CTT)

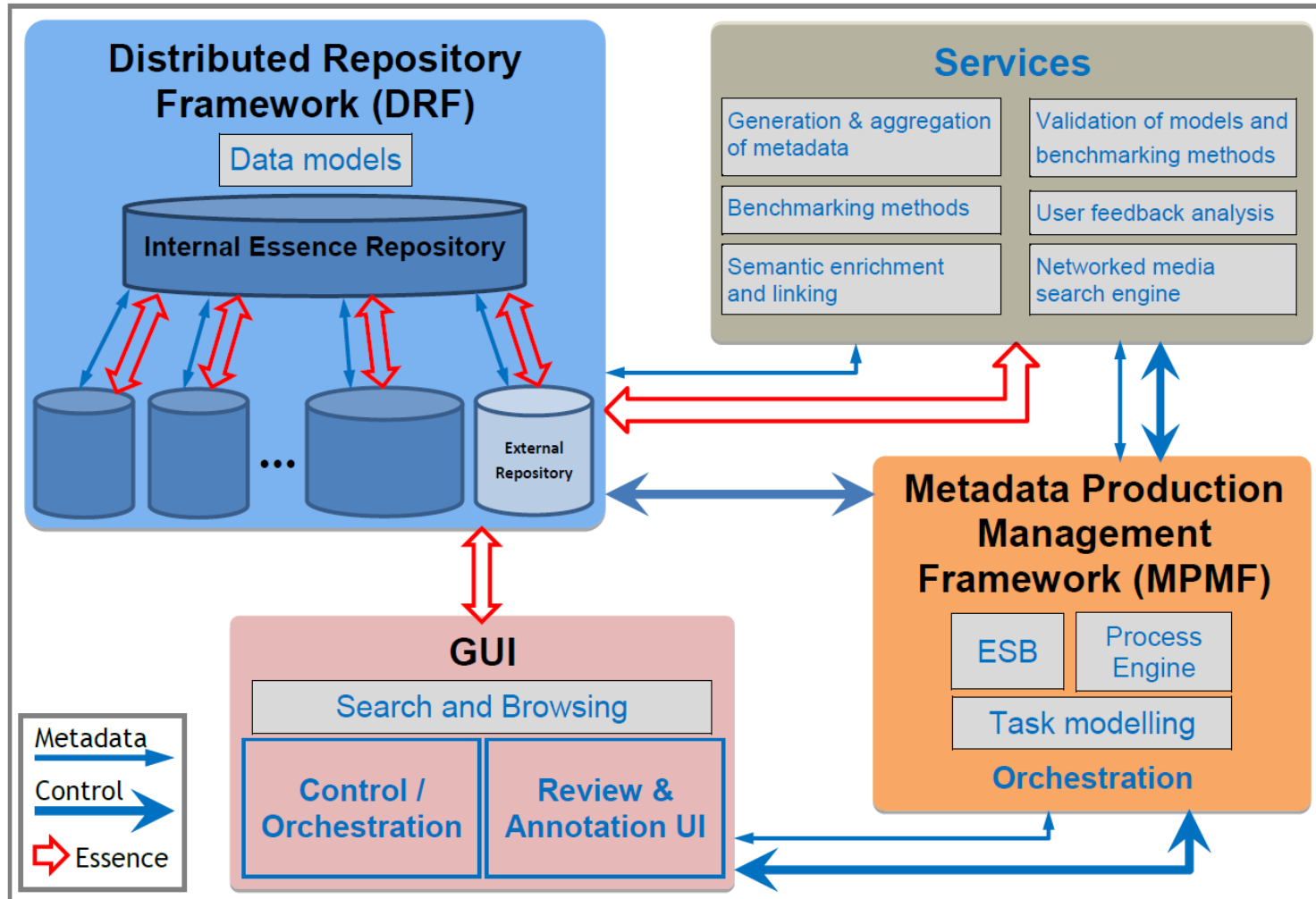


- Automated generation of business process descriptions for service orchestration
- Automate the validation of tools in different media production workflows (scenarios)

Logical system design

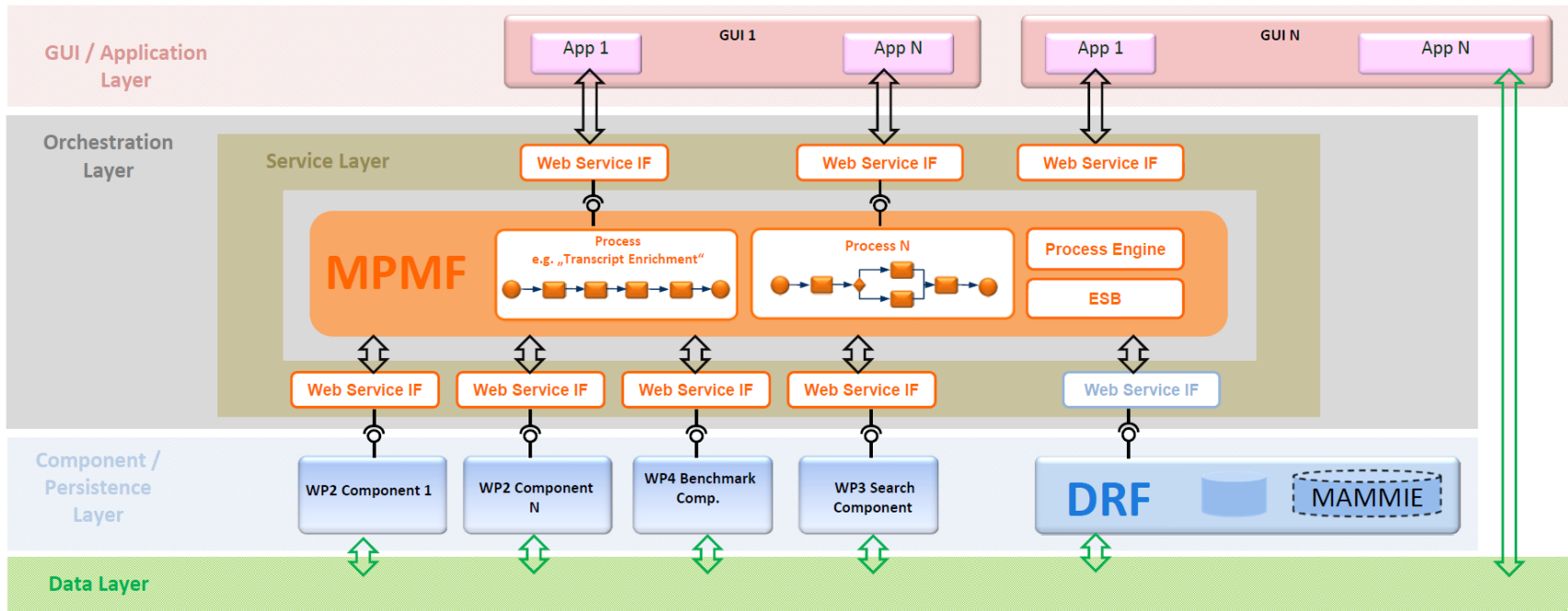


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Technical system design



- Service oriented architecture
- Compatible with EBU/AMWA FIMS

Conclusion



- Task-adaptive content analysis, annotation and search tools
- Search in distributed heterogeneous repositories
- Performed analysis of business goals and scenarios
- Collection and formalisation of task descriptions
- Service-oriented architecture

Questions?



<http://www.tosca-mp.eu>

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