

The logo for 'content4all' is centered on a horizontal band with a blurred, golden-yellow background. The word 'content' is in a white, lowercase, sans-serif font, and '4all' is in a red, lowercase, sans-serif font.

content4all

Deliverable 7.3

Standardisation Report

Deliverable Datasheet

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Editor:	Fraunhofer FOKUS
Contributors:	Fraunhofer FOKUS, Sony

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1. Introduction

1.1. The Content4All project

The general objective of Content4All (C4A) is to develop a cross-media framework taking advantage of the peer-to-peer phenomenon and emerging related opportunities. The framework will be prototyped for demonstration and evaluation purposes.

1.1.1. Objectives

C4A Specific project objectives are:

- To study societal and citizen trends, related to
 - Cross-media leisure & entertainment
 - Cross-media virtual/ affinity communities
 - Business and legal challenges
 - Methodologies in the cross-media publishing market
- To develop intelligent media management methodologies, for publishing/distribution over heterogeneous devices
- To develop an open-source cross-media peer-to-peer platform for leisure, entertainment and communication.
- To implement simulations of different business models for the cross-media peer-to-peer market
- To build-up a demonstrator in the tourism-information sector. To disseminate C4A project results, including to contribute/to start relevant standards.

1.1.2. Technical baseline

The goals in this field are to gain and cluster relevant knowledge from the market and existing solutions:

- **Peer-to-peer framework.** To identify an existing peer-to-peer solution as a basis for the project.
- **Peer-to-peer framework on wireless devices.** To adopt the peer-to-peer framework for each device.
- **Digital rights management solutions.** Our consortium is aware of the importance of this aspect, however treating all aspects involved under such an ambitious and innovative endeavour would not be possible under the limits of

a STREP project. DRM (Digital Rights Management) solutions have been largely covered under previous calls, and have been briefly examined in light of their relevance for Content4All in deliverable D2.1

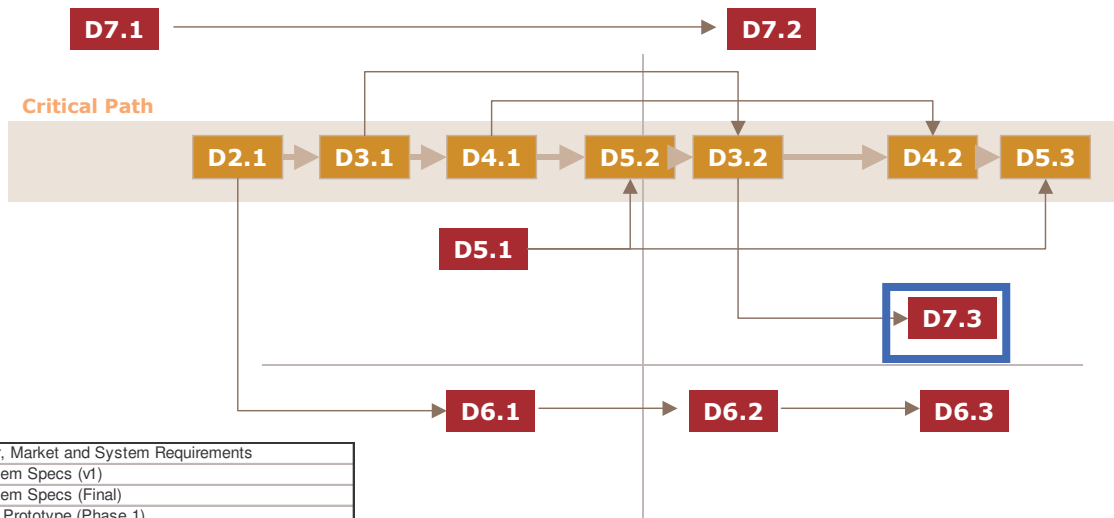
1.1.3. Project Developments

- **Cross-media publishing tool.** Basically, we want to define how the content will be described either by the publisher/author (i.e. protocols to be used to describe the content, protocols to be used for locating a resource within our peer-to-peer world).
- **Content indexing in multiple devices.** Tools to facilitate the indexing on devices such as PC or iDTV will be sought. On mobile devices, a tool has to be identified to manually fill in the index entry of the content re-source.
- **Content searching.** Development of distributed searching protocols based on the distributed indexes.
- **Publishing tools and versioning system.** Development of publishing tools and a versioning system that allows all kinds of publishing.
- **Moderation processes and tools.** Development of tools and processes needed to ensure that the content published is not off-topic and respecting the publishing policy of each community.

1.2. About this document

The document describes the standardisation activities performed in relation to the C4A project. This includes standardisation activities performed as a direct result of the work performed in the project as well as the observation of standardisation work in areas relevant to C4A.

Specifically, this document covers the activities in the TV-Anytime standardisation (relevant mainly due to the CRID definition activities and the handling of metadata for some non-video content types), as well as MHP and DVB standardisation activities.



02.1	User, Market and System Requirements
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2. TV-Anytime

This section documents the activities within the TV-Anytime Forum. It describes the state of the TV-Anytime standards suite, which consists of seven parts. An overview on the history of the TV-Anytime Forum is given, followed by the activities of the forum from 2004 to 2005, which includes a list of published standards and active work items. Reports on six TV-Anytime Forum meetings attended by Fraunhofer FOKUS are included.

Fraunhofer FOKUS participated in the TV-Anytime group during a very active time, while they were finishing their Phase 2 specification. The group had just recognized the need for new content type's right before Fraunhofer FOKUS first announced its participation. The TV-Anytime group has encouraged this participation, since Fraunhofer FOKUS offered some unique know-how about metadata related to content types other than traditional television. The Fraunhofer FOKUS participation in this work results in the TV-Anytime Phase 2 specification "Handling of additional content types in TV-Anytime" which is able to carry metadata relevant for typical content4all scenarios. As such, the active participation in the TV-Anytime Forum was fully successful.

2.1. History

TV-Anytime has been founded in Newport Beach, California, USA, on 27-29 September 1999. It has started work to develop open specifications designed to allow Consumer Electronics Manufacturers, Content Creators, Telecommunication companies, Broadcasters and Service Providers to exploit personal media storage. As part of its formation, the TV-Anytime Forum has established four fundamental objectives for the organisation, which were:

- The TV-Anytime Forum would define specifications that would enable applications to exploit persistent personal media storage in consumer electronics platforms.
- The TV-Anytime Forum would be network independent with regard to the means for content delivery to consumer electronics equipment, including various DTV delivery mechanisms (e.g. ATSC, DVB, DBS and others) as well as the Internet and enhanced TV systems.
- The TV-Anytime Forum would develop specifications for interoperable and integrated systems, from content creators/providers, through service providers, to the consumers.

- The TV-Anytime Forum would specify the necessary security structures to protect the interests of all parties involved.

Member organisations from Europe, the USA, and Asia, were drawn from a wide variety of industries: Traditional Broadcasters, Internet Broadcasters, Content Owners, Service Providers, Telcos, Consumer Electronics Manufacturers, IT Industries, Professional Equipment Manufacturers, Component Manufacturers and Software Vendors.

2.2. TV-Anytime status in 2004

The TV-Anytime Forum had its first set of standards (Phase 1) published in 2003/2004. The TV-Anytime standards were published through the ETSI (European Telecommunications Standards Institute). The table below contains those standards:

Document No. (ETSI)	Date	Title
TS 102 822-1 V1.1.1	2003-10	Broadcast and On-line Services: Search, select, and rightful use of content on personal storage systems ("TV-Anytime Phase 1");Part 1: Phase 1 Benchmark Features
TS 102 822-2 V1.2.1	2004-09	Broadcast and On-line Services: Search, select, and rightful use of content on personal storage systems ("TV-Anytime Phase 1");Part 2: System description
TS 102 822-3-1 V1.2.1	2004-09	Broadcast and On-line Services: Search, select, and rightful use of content on personal storage systems ("TV-Anytime Phase 1");Part 3: Metadata; Sub-part 1: Metadata schemas
TS 102 822-3-2 V1.2.1	2004-09	Broadcast and On-line Services: Search, select, and rightful use of content on personal storage systems ("TV-Anytime Phase 1");Part 3: Metadata; Sub-part 2: System aspects in a uni-directional environment
TS 102 822-4	2003-10	Broadcast and On-line Services: Search, select, and rightful use of content on personal storage systems ("TV-Anytime Phase 1");Part 4: Content referencing
TS 102 822-6-1 V1.1.1	2003-10	Broadcast and On-line Services: Search, select, and rightful use of content on personal storage systems ("TV-Anytime Phase 1");Part 6: Delivery of metadata over a bi-directional network; Sub-part 1: Service and transport
TS 102 822-6-2 V1.2.1	2004-09	Broadcast and On-line Services: Search, select, and rightful use of content on personal storage systems ("TV-Anytime Phase 1");Part 6: Delivery of metadata over a bi-directional network; Sub-part 2: Service discovery

Document No. (ETSI)	Date	Title
TS 102 822-7 V1.1.1	2003-10	Broadcast and On-line Services: Search, select, and rightful use of content on personal storage systems ("TV-Anytime Phase 1");Part 7: Bi-directional metadata delivery protection

Table 1: Published TV-Anytime standardisation documents

2.2.1. Work in Phase 2

This sub-chapter describes the Phase 2 of the TV-Anytime standardisation. By late 2004, Phase 1 was basically finished. The documents have been published as ETSI standards (see Table 1). The remaining work within TV-Anytime Phase 1 consisted of maintenance work. The outputs of this work were amendments to the published ETSI standards, which are also published through ETSI. The proposed changes included clarifications and editorial changes to the existing parts.

While the TV-Anytime Phase 2 standards maintain backward compatibility (that means a valid TV-Anytime Phase 1 system is still Phase 2 compliant), it concludes major changes. The Phase 2 specifications increase the scope of TV-Anytime significantly. The actual amount of changes can be estimated by taking into account that it includes 58 new business scenarios resulting in new requirements.

The actual working documents of phase two are as follows:

Name	Title
SP001v2.0	Specification Series: S-1 (Phase 2) on: Business Models
SP002v2.0	Specification Series: S-2 (Phase 2) on: System Description
SP003v2.0	Specification Series: S-3 (Phase 2) on: Metadata
SP006-3v1.0	Specification Series: S-6-3 (Phase 2) on: Exchange of Personal Profiles
SP008v1.0	Specification Series: S-8 (Phase 2) on: Interchange data format (Normative)
SP009v1.0	Specification Series: S-9 (Phase 2) on: Remote programming (Normative)

Table 2: Standards, TVA Phase 2

2.2.2. Organisational Structure

This chapter describes the organisational structure of the TV-Anytime Forum. As of August 2004 the TV-Anytime Forum consists of 45 members¹. The Forum is structured in four working groups:

Working Group Business Models

The purpose of this group, chaired by Adam Hume, was to identify requirements. Those requirements were derived from scenarios and business models. The

¹ Taken from <http://www.tv-anytime.org/members/index.html>.

requirements were then used by the technical groups to validate the technical solutions against the requirements.

Working Group System, Transport Interfaces and Content Referencing

This group has been established as a merger of the two groups Content Referencing and System/Transport. The chair of this group was Ronald Tol. The group was responsible for the overall architecture of the TV-Anytime system.

Working Group Metadata

This is the group, which was most interesting in the scope of the content4all project. The metadata working group specified all kind of metadata required by the TV-Anytime system. This includes EPG Data, Segmentation information, user preferences etc. It was divided into two subgroups: The first subgroup has managed the phase 1 specification. This group was chaired by Jean-Pierre Evain. The more active group had the purpose of standardizing phase 2 of the metadata specification. The chair of this group was Masahito Kawamori.

Working Group Rights Management and Protection

The last working groups mandate was *to enable the secure and flexible expression and enforcement of rights holders' usage conditions for media distributed to personal digital recorders*. This group was divided into two subgroups. The first subgroup worked on drafting. The chair for this group was Frederic Damble. The second subgroup worked on scoping and was chaired by Nicholas Givotovsky.

2.2.3. Working Procedures

Request for amendments or changes to one of the TV-Anytime standards were initiated by sending a contribution to the representative of the according group. As an example, the metadata group was chaired by Masahito Kawamori, so he was the appropriate recipient for contributions regarding metadata. The representative then assigned a working number for the contribution. This kind of documents started with the letters AN followed by a number. As an example, the contributions for the 30th meeting in San Jose have been numbered AN639 to AN656.

A TV-Anytime meeting started with a general plenary. In this plenary the contributions were briefly presented by the authors and then assigned to a working group for further processing. Most contributions could be clearly assigned to one working group (e.g. contributions regarding changes to metadata) but it happened, that contributions have results into more than one working group.

The next discussion took place in the working group meeting. The further processing depended on several things. Major issues were the quality and the acceptance of the contribution by the present working group members. A high quality contribution, which was widely accepted, was typically including directly. When the contribution was challenged, further discussions and work was needed. The actual atmosphere was very friendly, even for disputed contributions. For widely accepted contributions the final work of fine tuning may have been done in small subgroups during the meeting. Other contributions required rewrites by the authors.

2.3. Meeting report 30th TVAF

The 30th meeting of the TV-Anytime Forum (TVAF) took place from 21st to 24th of September 2004 in San Jose, California, USA. René Stolp attended this meeting as representative of Fraunhofer FOKUS.

The meeting started with the initial general plenary. The number of contributions for this meeting was 20. The following table shows the contributions and their contributors together with a short synopsis of the content.

Doc. #	Source	Title	Area				
			PL	BM	ST&CR	MD	RM
AN639	MPEG	Liaison statement from SC29/WG11 to the TV-Anytime Forum on ISO/IEC 15938-5/Amd.2				X	
AN640	BBC	Proposed Additions to the Classification Scheme				X	
AN641	Thomson	On Superscrambling Scenario Using RMPI for Broadcast Applications					X
AN642	NDS	Proposal for Interstitial Replacement		X	X	X	
AN643	France Telecom	Comments to Amended Part 6-1 and Corrections to Part 4			X	X	
AN644	SONY	E-flyer Descriptions – Phase 2 Extensions –				X	
AN645	Waseda Univ., NTV, NTT, TBS, DENTSU, Hakuhodo	Package Extensions for Satisfying Several Important Business Scenarios		X	X	X	
AN646	BBC	Suggestions for Extensions to Dictionary from Radio Stations				X	
AN647	ETRI	Package scheme to support application program downloading			X	X	
AN648	Konkuk Univ.	Package-based interstitial content support		X	X	X	
AN649	ETRI, NDS	Metadata Phase 2 Spec: syntax and semantics of Content Packaging				X	
AN650	NTT	Exchanging TVA User Profile ver1.1				X	
AN651	Motorola	SMPTE Extended CCI (ExCCI)					X
AN652	Seiko EPSON	Metadata Enhancement for Image Services		X		X	
AN653	ETRI	Adaptive consumption of java application contents on data broadcasting environment using TV-Anytime Phase 2 metadata				X	
AN654	ETRI, Univ. of Seoul	Targeting Service for Data Broadcasting Contents: System Modelling and				X	

Doc. #	Source	Title	Area				
			PL	BM	ST&CR	MD	RM
		Packaging					
AN655	KETI, Konkuk Univ.	Proposal on the improvement of <code>get_Data()</code> operation			X	X	
AN656	KETI, Konkuk Univ.	Proposal of <code>clear_submit_Data()</code> operation to remove submitted consumer metadata			X	X	

Areas:

PL	Plenary
BM	Business Models
ST	Service and Transport
CR	Content Referencing
MD	Metadata
RM	Rights Management

The first set of contributions (AN642, AN645, AN647 and AN648) was discussed in a common session with the metadata and the business model group.

The first presentation (AN648) together with the following discussion showed, that there is still a high level of uncertainty regarding the scenarios and therefore the intended semantics of interstitial content. The basic idea behind *interstitial content* is being able to exchange commercials according to certain states (external states, states provided by the set-top box and/or a service provider). A presented example was to show commercials with a relation to snow removal the day following the first snowfall. That would imply the presence of the following capabilities:

- To download content speculatively.
- To access the weather and retrieve the information (including the semantic!) that snow has fallen.

The hypothesis of the contribution is that interstitial content can be handled through the – already widely specified – packaging mechanism of TV-Anytime. This thesis has been challenged by several representatives. While the business scenario has been widely accepted as desirable, the technical solution is still under debate.

The following two presentations represented the contributions AN642 and AN645. Both presented an overlapping approach to handling of interstitial content. The discussion over the feasibility of one of the two solutions was very time consuming and eventually a sub-group has been established that worked throughout Thursday to solve that issue.

The last contribution presented in the joined session of the metadata and the business model group was number AN647 regarding the specification of a classification

schema for applications. The contribution suggests applications being just another content type. Therefore it is also mandatory to have metadata specific to that content type. An extensive classification schema has been presented as part of the contribution. However, many representatives did not feel confident specifying something, which is that far from their area of expertise. It has been suggested several times, if it would not be a better solution to reference already existing classification schemas for applications. Some suggested leaving applications metadata as a transport issue out of the TV-Anytime specification. The discussion has been continued into a sub-group without a final conclusion during the meeting.

The contribution number AN644 presented how the concept of a coupon for cut-rated or free of charge retrieval of commercial content can be transferred into the TV-Anytime domain. The presentation of the proposal was followed by discussing how the semantics of coupons should exactly be – e.g. if it should also represent “miles-and-more” like mechanisms as well as coupon metaphor. It was also discussed, if this is within the scope of TV-Anytime, since in the CfP (Call for Proposals) this is not explicitly mentioned (what is mentioned is the requirement to acquire (pre-paid) tokens which can be used to acquire (effectively pay) content).

Regarding the introduction of new content types, which are especially interesting in the scope of the project, we were able to push that issue and make it obvious, that it is necessary to do some work on this area. It was agreed, that the TVA Forum asks for contribution in that area. FhG FOKUS will make a qualified contribution for the next meeting in Sydney (16th -19th November 2004) and will participate in this meeting.

The results of the 30th meeting are summarized in document TV264².

2.4. Meeting report 31st TVAF

The 31st meeting of the TV-Anytime Forum (TVAF) took place from 16th to 19th of November 2004 in Sydney, Australia. René Stolp attended this meeting as representative of Fraunhofer FOKUS.

The meeting started with the initial general plenary. The number of contributions for this meeting was 52. It is worth mentioning, that this time significantly more than twice as much contributions were provided, compared to the last meeting (20 contributions). The following table shows the contributions and their contributors together with a short synopsis of the content.

Doc. #	Source	Title	Area				
			PL	BM	ST&CR	MD	RM
AN639	MPEG	Liaison statement from SC29/WG11 to the TV-Anytime Forum on ISO/IEC 15938-5/Amd.2				X	
AN640	BBC	Proposed Additions to the Classification Scheme				X	
AN641	Thomson	On Superscrambling Scenario Using					X

² The document is available at <ftp://tva:tva@ftp.bbc.co.uk/pub/Plenary/TV264.zip>.

		RMPI for Broadcast Applications					
AN642	NDS	Proposal for Interstitial Replacement		X	X	X	
AN643	France Telecom	Comments to Amended Part 6-1 and Corrections to Part 4			X	X	
AN644	SONY	E-flyer Descriptions – Phase 2 Extensions –				X	
AN645	Waseda Univ., NTV, NTT, TBS, DENTSU, Hakuhodo	Package Extensions for Satisfying Several Important Business Scenarios		X	X	X	
AN646	BBC	Suggestions for Extensions to Dictionary from Radio Stations				X	
AN647	ETRI	Package scheme to support application program downloading			X	X	
AN648	Konkuk Univ.	Package-based interstitial content support		X	X	X	
AN649	ETRI, NDS	Metadata Phase 2 Spec: syntax and semantics of Content Packaging				X	
AN650	NTT	Exchanging TVA User Profile ver1.1				X	
AN651	Motorola	SMPTE Extended CCI (ExCCI)					X
AN652	Seiko EPSON	Metadata Enhancement for Image Services		X		X	
AN653	ETRI	Adaptive consumption of java application contents on data broadcasting environment using TV-Anytime Phase 2 metadata				X	
AN654	ETRI, Univ. of Seoul	Targeting Service for Data Broadcasting Contents: System Modelling and Packaging				X	
AN655	KETI, Konkuk Univ.	Proposal on the improvement of get_Data() operation			X	X	
AN656	KETI, Konkuk Univ.	Proposal of clear_submit_Data() operation to remove submitted consumer metadata			X	X	
AN657	MPEG	Liaison Statement to the TV-Anytime Forum on MPEG-7 MDS				X	
AN658	Motorola	TVA RMPI XML Schema Proposal					X
AN659	EBU	EBU requirements for content protection and copy management for free-to-air					X
AN660	NHK, Matsushita Electric Industrial, SONY	RMPI binding model for digital broadcasting					X
AN661	Fraunhofer Institute	Handling of additional content types in TV-Anytime				X	
AN662	Seiko Epson	Metadata requirements for printing services		X		X	

AN663	NDS	Analysis of Content Packaging Scenario		X	X	X	
AN664	NDS	Content Packaging Issues				X	
AN665	DVB	Liaison response	X				X
AN666	DVB	Current version of working document – DVB CPCM Reference Model					X
AN667	DVB	Current version of working document – DVB CPCM USI					X
AN668	DVB	Current version of DVB CPCM Definitions					X
AN669	DVB	DVB CPCM Commercial Requirements and Glossary					X
AN670	DVB	Indicative comparison of RMPI (micro) broadcast RMPI and DVB CPCM USI					X
AN671	Thomson, France Telecom	Translation of RMPI-MB/M into Metadata				X	X
AN672	Konkuk Univ., ETRI	Improved Schema for Interstitial Contents				X	
AN673	Konkuk Univ., ETRI	Extension of Classification Scheme for Interstitial Content Support				X	
AN674*	onTV Europe	Proposed extensions to the Phase 1 Metadata Schema to improve support for multilingual and multi-source metadata services				X	
AN675	Thomson	Response to CfC on RMPI Binding Technologies					X
AN676*	NTT	User Identification				X	
AN677	France Telecom	Additions to S-9 (Remote Programming)			X	X	
AN678	Matsushita Electric Industrial, INFOCITY, NTT, Waseda Univ.	Coupon Description			X	X	
AN679	NTT	Asset Tracking of Audio-visual Contents and Metadata-base.		X	X	X	X
AN680	France Telecom	Comparison of Instinct ESG and TVA Phase 2 ESG			X	X	
AN681	ETRI	Package Scheme Amendment: Especially for Targeting and Synchronisation				X	
AN682*	ETRI	Application and Additional Technology				X	
AN683	Waseda Univ.	Summary of the Proposed Extensions to the Package				X	
AN684*	ETRI	Data Broadcasting Service Scenario and Related Metadata Issues		X	X	X	
AN685*	Univ. of Seoul, ETRI	Announcement of Programs with Data Broadcasting Service: A Cookbook		X	X	X	

AN686	Motorola	TVA Security Profiles					X
AN687*	Dentsu, Hakuodo, NTT	Comments on the Uses of Ad Metadata and Advertisement Id.		X			X
AN688*	ARIB	Response to the Liaison Statement	X				X
AN689*	NTT	An Overview on Downloading SW Metadata for Game contents					X
AN690*	KETI	Operations for Personalized Service (Amendment of TV266 Document)					X

(The * denotes a late – according to TV-Anytime regulations – contribution)

Areas:

PL	Plenary	
BM	Business Models	10 (19%)
ST	Service and Transport	14 (26%)
CR	Content Referencing	14 (26%)
MD	Metadata	39 (74%)
RM	Rights Management	15 (28%)

The first activity was a short presentation of all contributions in the plenary. The intention is to provide an overview for the delegates and to classify the contributions. This classification is used to schedule the handling of the contributions within the groups. Due to the mass of contributions provided to this meeting, the actual explanations remained even shorter than they were used to be. It has been decided not to allow any slides. Therefore the initial presentations of contributions consisted of brief explanations followed occasionally by one or two questions. After the presentation the session was parted into different groups. To cope with the number of contributions this group separation was maintained throughout the meeting. This report is about the activity regarding the Metadata group, which is of most interest to the project.

The Metadata group and the business model group started with a joint session. The purpose of this joined session was to evaluate the relevance of the contributions with regards to business cases estimated as being promising by the TV-Anytime Forum. The reason for this procedure was that the TV-Anytime Forum plans to close its work in the middle of 2005. The TV-Anytime Forum intends to have the specification then finalized. Therefore the Forums intention is to limit the contributions to refinements only and to prevent the introduction of new technologies and new issues. After this meeting, no new technologies will be accepted in contributions. The reminder of the time is scheduled for refining and stabilizing the standard.

All presented contributions were found valuable to the TV-Anytime standard with regard to the requirements and business cases and were therefore further handled in technical working groups. Our contribution was to be handled by the “New Content” sub-group. Within this sub-group not only content types such as Audio, Video and Image were handled but also complex types as Applications. It also included discussions regarding metadata required for printing. (Note: This scenario has been introduced by Epson – which have an obvious interest in printing technology – during the last TV-Anytime meeting.) Due to the diversity of themes every theme was only briefly discussed. However, even this brief discussion was sufficient to show

misunderstanding in the interpretation of the package schema data. The area of content packaging is mainly supported by ETRI. They introduced separate schema descriptions for content types. During the last meeting it was found appropriate that the new content specific metadata, which Fraunhofer FOKUS is promoting, is entered in the Package schema. What was further discovered during several discussions was that the Package schema definition includes duplication and re-definition of some objects already present within TV-Anytime. That was something that was pointed out by René Stolp on several occasions to different members of the TV-Anytime Forum. This insisting lead to a discussion within a small group consisting of Andrew McParland (BBC), Ronald Tol (Philips, Convenor Service Transport and Content Referencing Working Group), Adam Hume (Convenor Business Models), Masahito Kawamori (Convenor Metadata Working Group) and representatives from ETRI and Fraunhofer FOKUS:

During this discussion it has been decided, that the contribution provided by Fraunhofer FOKUS was worthwhile and that the suggested metadata shall be available in TV-Anytime. The definition of the metadata however ended not in the Packaging section – as initially planned – but directly in the TV-Anytime types (i.e. VideoComponent and AudioComponent). Another component type for yet not defined still images will be further included. The Packaging schema will not introduce own content types for images, videos and audio files but uses the TV-Anytime “main” types.

2.4.1. Summary

The new draft version of the standards will be published on December 20th. It has to be verified, that the decisions taken during that meeting are reflected in the drafts. If not, additional comments have to be provided. Otherwise, Fraunhofer FOKUS intends mapping the then specified additional media image-components in comparative evaluation as an update to D1. From that work, it can be decided, whether it is useful to mandate further extensions to the existing metadata before the closing of the standardisation process. It is the opinion of the reporter that this is worth working on, because it allows a unique ability to influence the contents of a standard, which may be relevant to our area of work and expertise within the next years to come.

The results of the 31st meeting are summarized in document TV272³.

2.5. Meeting report 32nd TVAF

The 32nd meeting of the TV-Anytime Forum took place from 11th to 14th of January 2005 in Geneva, Switzerland. Since the agenda of the meeting was mainly devoted to TV Anytime administrative work (board elections, etc.) Fraunhofer FOKUS did not attend this meeting. The low-profile regarding actual standardisation work of this meeting can also be recognized by looking at the overall number of contributions to this meeting and the resulting output documents. The total number of contributions for this meeting was 12:

³ The document is available at <ftp://tva.tva@ftp.bbc.co.uk/pub/Plenary/TV272.zip>.

Doc. #	Source	Title	Area				
			PL	BM	ST&CR	MD	RM
AN691	Metadata WG Content Package AHG	Draft Specification for Content Package to be part of Metadata Specification for TV-Anytime Phase 2 Technologies				X	
AN692*	Motorola	Proposed update to RMPI for improved encoding efficiency					X
AN693*	Konkuk Univ., ETRI	Classification Schemes for UED				X	
AN694*	Konkuk Univ., ETRI	Proposal for Modifications of UED				X	
AN695*	Dentsu, Hakuhodo, NTT	Comments on WD1092				X	
AN696*	ETRI	Data Broadcasting Service and Metadata				X	
AN697	Jean-Pierre Evain (ETSI Super Editor)	ETSI documentation – situation update	X	x	x	X	x
AN698	SONY, Matsushita Electric Industrial, NHK	License binding model based on License Information				X	X
AN699	Matsushita Electric Industrial, Waseda Univ., NTT, INFOCITY	Coupon Description				X	
AN700*	ETRI	Metadata for Game as New Content Type				X	
AN701*	NDS	Draft Provisional on Interstitial Specification				X	
AN702	Thomson	“Binding of RMPI” Draft Specification Version 0.2					X

(The * denotes a late – according to TV Anytime regulations – contribution)

Areas:

PL	Plenary	1
BM	Business Models	1
ST	Service and Transport	1
CR	Content Referencing	1
MD	Metadata	10
RM	Rights Management	4

The results of the 32nd meeting are summarized in document TV280⁴.

⁴ The document is available at <ftp://tva.tva@ftp.bbc.co.uk/pub/Plenary/TV280.zip>.

2.6. Meeting report 33rd TVAF

The 33rd meeting of the TV-Anytime Forum (TVAF) took place from 15th to 18th of March 2005 in San Diego, United States. This meeting was preceded by an ad-hoc meeting of the TV-Anytime Metadata group on Monday, 14th of March. The purpose of this preliminary Metadata group meeting was to have additional time to identify and solve still existing problems with the specification. René Stolp attended the regular meeting as well as the preceding ad-hoc meeting as representative of Fraunhofer FOKUS.

The Metadata group discussed in the ad-hoc meeting the current status of the relevant standards document, especially the new content packaging metadata that is being introduced in TV-Anytime phase 2. During the last few weeks, several issues with the current status of the specification have been identified. The major point was the problem that every content item needed a CRID because the content description type inherited the CRID as mandatory element from program information data, which in effect means that every item needs to have a CRID. The reason for inheriting from program information was the need for the audio and video attributes. During this meeting the object hierarchy has been redesigned to solve this issue. Fraunhofer FOKUS contributed to this process by specifying semantics for audio and visual attributes as well as specifying the still image attributes. The ad-hoc meeting was very productive and having been there was very useful for the introductions of the contents Fraunhofer FOKUS intended to introduce into the TV-Anytime Phase 2 standards suite.

The actual TV-Anytime Forum meeting started on Tuesday with the usual general plenary and a presentation of the 17 contributions.

Doc. #	Source	Title	Area				
			PL	BM	ST&CR	MD	RM
AN703*	onTV Europe	Proposal for the Incorporation of RMPI Datatypes into The Phase 2 metadata Schema				X	X
AN704*	onTV Europe	Proposed Modifications to the Phase 1 Metadata Schema				X	X
AN705*	onTV Europe	Proposed Modifications to the Phase 2 Metadata Schemas				X	
AN706	EBU	Harmonisation of TV-Anytime and Draft ESCORT 2.5 Classification Schemes		X		X	
AN707	NDS	Proposed Amendment to SP003 Part 2				X	
AN708*	NHK, SONY, Matsushita	Proposal of License Information for Metadata				X	
AN709*	NHK	Content Protection Rules in Japanese Satellite Digital Broadcasting for RMP Cookbook					X
AN710	France Telecom, Matsushita	Coupon issue and proposal			X	X	

AN711	France Telecom	Extension to SP006-1 to include part of SP006-3			X	X	
AN712	France Telecom	User identification issue in SP009 Remote programming			X	X	
AN713	BBC	Suggested mapping of Broadcast and Related Scenarios to RMPI-MB					X
AN714	BBC	Proposal for an RSS extension module to describe TV-Anytime services			X	X	
AN715*	Konkuk Univ., ETRI	Proposal on Pods Identification Mechanism			X	X	
AN716*	MD WG	Contributions to ConfCalls			X	X	
AN717*	DVB TM-GBS	Liaison statement from TM-GBS to TV-Anytime			X		
AN718*	ARIB	Liaison Statement from ARIB	X			X	
AN719*	Konkuk Univ., KETI	Proposal for the inclusion of new operations from SP006-3 to SP006-1			X	X	

(The * denotes a late – according to TV-Anytime regulations – contribution)

Areas:

PL	Plenary	1
BM	Business Models	1
ST	Service and Transport	8
CR	Content Referencing	8
MD	Metadata	14
RM	Rights Management	4

The first day of the meeting was mostly spent in discussion of the different contributions.

The second day started with an overall technical plenary in which cross-issues relevant to all other sub-groups have been discussed. The work within sub-groups started after the lunch with our participation in the Metadata subgroup. The major part of the afternoon was spent looking through the XML schema files and make sure they are consistent. At this time there were still a lot of questions regarding the semantics that were solved out the following days.

The next days were spent in specifying semantics for the different elements. Fraunhofer FOKUS took a very active part in specifying the semantics of the new content types.

The results of the 33rd meeting are summarized in document TV285⁵.

2.6.1. Document Publication Schedule

This sub-chapter describes the intended schedule for the actual release of the TV-Anytime Phase 2 specifications as it has been published on the 33rd meeting. The output documents of the 33rd meeting and final publication procedure are summarized as follows:

⁵ The document is available at <ftp://tva.tva@ftp.bbc.co.uk/pub/Plenary/TV285.zip>.

Date	SP002v2.0	SP003-3v2.0	SP003-4v2.0	SP005-2v1.0	SP006-3v1.0
Mar. 18 Friday 12:00	WD1126	WD1127	WD1128	WD1129	WD1130
Mar. 18 Friday 16:00	TV257r5	TV283	TV284	TV274r3	TV266r4
Mar. 25	---	Finish Editing	Finish Editing	Finish Editing	Finish Editing
Apr. 1	Finish Edit Finish S-Edit	Finish S-Edit	Finish S-Edit	Finish S-Edit	Finish S-Edit
Apr. 6	Comment due	Comment due	Comment due	Comment due	Comment due
Apr. 8	SP002v2.0	SP003-3v2.0	SP003-4v2.0	SP005-2v1.0	SP006-3v1.0

- Each editor is requested to send the version for the final publication to the Supereditor, Mr. Ronald Tol, by March 25, 2005.
- The superedited documents will be circulated through the general reflector starting on April 1 for the final comments from the members.
- The comment due is April 6.
- And the final publication will be made on April 8.

The TV-Anytime CRID is going to be standardized as an RFC. In expression the IANA has assigned 'crid' as scheme name in the Uniform Resource Identifier (URI). The document has already processed most stages of the RFC track stages and is currently in the process of publishing by the RFC editor.

2.6.2. Licensing

One yet not resolved issue is the licensing schemes. TV-Anytime will not be available open, without licensing. While the actual licensing terms are still under negotiations by the TV-Anytime Forum members, the following is said unofficially: Currently it is not intended to request license fees from broadcasters and service providers. The current intention is only to charge equipment manufacturers on a per-device base. A number specified completely unofficially has been 20 cent per device. For manufacturers with huge numbers of selling devices (like mobile phone vendors) a licensing scheme on a diminishing scale is intended to be provided. As said, there are still negotiations on the way because "some of the partners have not so reasonable ideas on the terms". The current time frame for a decision on these issues is to have a final decision for the next TV-Anytime meeting in Tokyo in June.

2.7. Meeting report 34th TVAF

The 34th meeting of the TV-Anytime Forum (TVAF) took place from 6th to 10th of June 2005 in Tokyo, Japan. Christian Fuhrhop attended this meeting as representative of Fraunhofer FOKUS.

The TV-Anytime Forum meeting started with the usual general plenary and a presentation of the 28 input documents.

Doc. #	Source	Title	Area				
			PL	BM	ST&CR	MD	RM
AN720	DMP	Important Announcement of the Digital Media Project	X				X
AN721	Supereditor	Change Request Template	X	X	X	X	X
AN722	ETSI Editor	SP001 for final review	X	X	X	X	X
AN723	ETSI Editor	SP002 for final review	X	X	X	X	X
AN724	ETSI Editor	SP003-1 for final review	X	X	X	X	X
AN725	ETSI Editor	SP003-2 for final review	X	X	X	X	X
AN726	ETSI Editor	SP003-3 for final review	X	X	X	X	X
AN727	ETSI Editor	SP003-4 for final review	X	X	X	X	X
AN728	ETSI Editor	SP005-1 for final review	X	X	X	X	X
AN729	ETSI Editor	SP005-2 for final review	X	X	X	X	X
AN730	ETSI Editor	SP006-1 for final review	X	X	X	X	X
AN731	ETSI Editor	SP006-3 for final review	X	X	X	X	X
AN732	ETSI Editor	SP008 for final review	X	X	X	X	X
AN733	ETSI Editor	SP009 for final review	X	X	X	X	X
AN734*	onTV Europe	Review of the ETSI Format Specifications AN722-733	X	X	X	X	X
AN735	BBC	Comment on AN722	X	X	X	X	X
AN736*	Konkuk Univ.	Comments on AN724: SP003-1	X	X	X	X	X
AN737*	Konkuk Univ.	Comments on AN726: SP003-3	X	X	X	X	X
AN738*	<i>Cancelled</i>						
AN739*	Konkuk Univ.	Comments on AN730: SP006-1	X	X	X	X	X
AN740*	<i>Cancelled</i>						
AN741	NDS	Specification Editing Comments	X	X	X	X	X
AN742	SONY	RSS module extension for TVA metadata			X	X	
AN743*	NTT	Comments on the TVA specifications	X	X	X	X	X
AN744	Registration Task Force	Final Report from the Registration Task Force	X	X	X	X	X
AN745*	NHK	Comments on Phase 1 Cookbook	X	X	X	X	X
AN746*	Matsushita Electric Industrial	Comments on SP003-3	X	X	X	X	X
AN747*	DVB GBS	Liaison Statement from DVB-GBS to TV-Anytime Regarding Re-use of CRIDs	X	X	X	X	X
AN748*	Philips	Comment on TVA specs	X	X	X	X	X
AN749*	Liberty Alliance	Liaison statement of Phase 3 status and feedback on TV-Anytime specifications	X	X	X	X	X

(The * denotes a late – according to TV-Anytime regulations – contribution)

Areas:

PL	Plenary	27
BM	Business Models	26
ST	Service and Transport	27
CR	Content Referencing	27
MD	Metadata	27
RM	Rights Management	27

Due to being in the final stages of the standardisation process, the structure of the meeting and the contributions differed from previous meetings. Of the 28 input documents, twelve documents were current versions of the standards documents for final review. Three documents were announcements and liaison statements that have no direct influence on the TV-Anytime standard, one document was of a purely formal nature (AN721 – Change Request Template). The majority of the remaining documents were comments on the twelve documents for review. The only contribution adding completely new elements was a paper by Sony, regarding the RSS module extension for TVA metadata.

Since nearly all documents were relevant for all areas in TV-Anytime, most of the meeting took place in the general assembly, with only short break-out sessions of sub-groups on Thursday afternoon (concerning CRID lifetime and DRM issues). As appropriate at this late stage, the major part of the meeting was spent on editorial work on the existing documents, removing inconsistencies, rephrasing definitions for clarity, fixing minor spelling problems and extending section introductions.

Non-trivial changes were only made in the areas of CRID lifetimes for unmanaged CRIDs (which had previously not been clearly defined), unification of namespace issues, FamilyMemberCS (which was referenced, but missing from the document) and the RSS module extension.

No changes were made to the new content types introduced by Fraunhofer FOKUS in earlier meetings.

The results of the 34th meeting are summarized in document TV298⁶.

2.7.1. Summary

The purpose of this meeting was to finalize the documents before submitting them for standardisation to ETSI on June 24th, 2005. The final meeting of the TV-Anytime Forum in July 2005, had the primary purpose to handle any comments and change requests that ETSI may have regarding the submitted documents, although it was (correctly) expected that, due to the quality of work, there would be few or no such requests

2.8. Meeting report 35th TVAF

The 35th meeting of the TV-Anytime Forum (TVAF) took place from 26th to 27th of July 2005 in Geneva, Switzerland. Christian Fuhrhop attended this meeting as representative of Fraunhofer FOKUS.

⁶ The document is available at <ftp://tva:tva@ftp.bbc.co.uk/pub/Plenary/TV298.zip>.

As this was the final meeting of the TV-Anytime Forum, the Phase Two documents of TV-Anytime had already been submitted to ETSI, so from a formal point of view, no further changes to the documents would have had any influence on the ETSI standard. However, since some members of the TVAF were also members of ETSI, a modified set of documents could be submitted to ETSI through those members, provided no substantial changes were made. The TV-Anytime Forum performed a final walk-through of the documents during the 35th meeting, mainly to correct minor spelling and formatting errors, check references and namespaces, and to remove company names and trademarks from some of the examples.

The only contributing document was submitted by France Telecom, suggesting a minor change to the specification of the default language to avoid the need to re-specify the language of every program item if it is not in the English language. The change was submission was unanimously accepted.

Doc. #	Source	Title	Area				
			PL	BM	ST&CR	MD	RM
AN750	France Telecom	Comment on Part 3-1	X	X	X	X	X

Areas:

PL	Plenary	1
BM	Business Models	1
ST	Service and Transport	1
CR	Content Referencing	1
MD	Metadata	1
RM	Rights Management	1

Since this was the final meeting of the TV-Anytime Forum, part of the meeting was devoted to planning the future of the TV-Anytime legacy. A set of custodians was elected to be a first point of contact for technical queries related to TV-Anytime and to maintain the TV-Anytime website for at least another year. ETSI was also asked to establish an internal TV-Anytime maintenance group.

The resolutions of the 35th meeting can be found in document TV317⁷.

2.8.1. Document Publication Schedule

All post-review Phase Two documents of TV-Anytime have already been submitted to ETSI on June, 24th, 2005. No further formal documents will be produced or published by the TV-Anytime Forum.

A press release announcing the completion and release of the Phase Two Specifications has been published on July, 27th, the final day of the last TV-Anytime Forum meeting.

⁷ The document is available at ftp://tva:tva@ftp.bbc.co.uk/pub/Contributions/35_0507_Gen/TV317.zip.

2.8.2. Summary

The TV-Anytime Forum finished its work after 35 meetings. Starting work in 1999, the forum published the first Phase 1 specifications in 2003. Now, two years later, the Phase 2 specifications have been completed and submitted to ETSI for standardisation. It is expected that this finished set of specifications will help the acceptance of the standard in the market place, and further changes or extensions of them should be avoided when possible, to avoid ‘softening’ the impact on the market place and avoid confusion about the stability of the standard.

To quote the Simon Parnall, chairman of the TVAF:

“We have met all the challenges the broadcast, media and advertising markets have given us. These specifications will help in creating a flow of rich metadata from content providers and advertisers, to broadcasters and service providers, and then ultimately to consumers, making the television viewing experience both simpler and richer.”

2.9. European TV-Anytime User Group

A meeting to discuss the formation of a European TV-Anytime User Group was held on the day following the final TV-Anytime Forum meeting. Part of that meeting was used to present applications that are already based on the TV-Anytime specifications, including presentations by IRT, which provides TV-Anytime metadata for public broadcasters in Germany, the DTG Testbed Project from the UK, as well as from S&T and Expway.

The afternoon was spent in a discussion about the goals and intents of a user group. There was general consensus that the first task of a user group should be to increase the number of partners within the group beyond the members of the original TV-Anytime. To achieve that, it would be attempted to make more companies and decision makers aware of the existence of the finished TV-Anytime specifications during IBC in September, and to invite them to use the specifications and to participate in the user group. A meeting of the extended user group was to be held on the 21st of September in Geneva, following the seminar on “PVR, DVD & mass storage devices”, whose attendees are likely to overlap strongly with people interested in TV-Anytime technologies.

2.9.1. Informal meeting at IBC

As an opportunity to contact companies not previously involved in TV-Anytime work and to spread information about TV-Anytime, an informal lunchtime gathering was organized at the IBC 2005 in mid-September. The goal of this gathering was to create awareness of the user group, the players currently using the standards and the business opportunities involved. It also served as a platform to announce the next meeting of the user group and invite participation.

2.9.2. Second meeting at EBU, September 2005

This meeting took place on the 20th of September as a half day meeting following a workshop held at the EBU in Geneva about “PVR, DVD & mass storage devices: a promise or a threat for broadcasters?”.

The primary focus of this meeting was to identify a list of issues that the user group would need to address. Most of these issues concerned the planning of the organisational structure of the group and the requirements for candidates to lead the group.

These requirements included the capability to communicate with decision makers in the content and platform delivery industries, understanding of technical and marketing issues, vision beyond specific market needs and direct involvement in data services.

In the weeks after the meeting, the following candidates for leadership of the group emerged: David Cutts (S&T), Janet Greco (Infomedia), Peter Olaf Looms (DR), Colin Moorcraft (OnTV), Ronald Tol (Philips), Ben Schofield (BDS).

In addition to organisational planning, a new draft of the “Terms of Reference” document, which was originally drafted at the first meeting, was proposed. This ‘charter’ for the user group now consists of the following ten points (quoted verbatim from the document):

- 1) The aim of the group is to drive adoption of TV-Anytime as a core standard for delivery of rich services for use by broadcasters and distribution platforms (not limited to cable, satellite, terrestrial and broadband).
- 2) The group will provide opportunity for those who are actively working with or interested in using the TV-Anytime specifications in a European context to meet together to discuss common interest issues of education, promotion, implementation.
- 3) The group will promote understanding of consumer behaviour, current and future business models, rights, funding, implementation, licensing, interoperability and compliance issues with respect to devices and services which have TV-Anytime as a backbone service access or discovery layer.
- 4) The group will not carry out any direct technical work, but will welcome participation by individuals, teams, companies and projects that are; will provide opportunity for such individuals and organisations to share what they are doing. These projects should be used as case histories to support the promotion of TV-Anytime.
- 5) The group will develop materials and tools that enable communication of the benefits of using TV-Anytime specifications to a range of European audiences, particularly to decision makers in the industry.
- 6) The group will help participants to develop appropriate marketing messages, enabling the TV-Anytime technology to be shown as a coherent and simple solution to perceived problems; the group will seek to demonstrate attractive features upon which commercial decisions can be made.
- 7) The group will not seek to develop any specifications or IPR. However, the group may feed any comments on the specifications to the Forum’s experts (via its custodians) and to the ETSI maintenance group; and may chose to develop

guidelines and commentary type materials to aid those who are engaged in implementation.

- 8) The group will work with other similar groups around the world (initially in Japan and Korea) by sharing knowledge and expertise.
- 9) The group will make early choices on an initial leadership structure and decision making process.
- 10) The group will operate on a goodwill basis, with participating individuals paying a fee to cover meeting costs and companies contributing on an ad-hoc basis for any agreed purpose. The group will not, unless found to be absolutely necessary, hold any funds in its own right.

2.9.3. Third meeting at EBU, November 2005

The next meeting took place at EBU on November, 2nd.

While the original agenda was mainly about the leadership election process, the development of an awareness plan and awareness tools and the question on what the key messages of the European User Group should be. As chairmen of the group the following persons were elected: Peter Olaf Looms (DR), David Cutts (S&T) and Ben Schofield (BDS).

After some reports about TVA related activities, the main discussion seems to have centred on the issue of IPR on parts of the TVA standard.

According to a ViaLicensing press release, a number of companies are claiming IPR in the patent pool. These companies are ETRI, LG Electronics, NDS, Philips, Samsung and Sharp.

Due to the perceived importance of this topic, a specialized meeting on licensing was planned, to be held at S&T in the UK on November 22nd, entirely dedicated to the identification of a "list of questions" on TVA licensing to be forwarded to ViaLicensing.

A regular meeting is scheduled for the January, 17th in Geneva, which is considered the first plenary meeting of the user group, since it did not exist as a formal body before this meeting.

2.9.4. Meeting on licensing, UK, EBU, November 2005

The meeting on licensing took place on November, 22nd.

As a result of this meeting, a list of questions to ViaLicensing was proposed, which was refined in subsequent e-mails and sent to ViaLicensing on November, 25th.

The final list was as follows:

- 1) *What patents that have already been assessed have been deemed to be "essential"?*
- 2) *Are any of the patents deemed to be "essential" not covered by IPR declarations accompanying company contributions to the TV-Anytime Forum?*
- 3) *What would happen if any company that is not at present a member of the pool submitted their patents for inclusion in the multi-party license?*

- 4) *Will license fees be subject to change in future years? If yes, who will make that decision? What is the mechanism for future changes in fees? Can we expect the figures to go down?*
- 5) *What would be the charge in the case of an area for which none of the patents is applicable?*
- 6) *Could the pool define more precisely what is meant by a "Consumer Product" (hardware, software, services across all distribution platforms)? Could the pool express this in the context of traditional licensing models and new models for web services?*
- 7) *Would the pool consider reducing the threshold before the lower fee for consumer products becomes applicable, below the current 10 million units per year (a level that will rarely, if ever, be attained)?*
- 8) *Would the pool consider a pricing structure specifically for non-TV specific devices, such as PCs (where the device vendor would, in some cases, find it problematical or impossible to determine whether or not a user makes use of IPR from the pool, and where the customary model is a flat fee or prudent cap)?*
- 9) *Would the pool define more precisely what is meant by "Service Providers (subscription based, pay service)"? We assume that exemptions from this license will be provided for: content owners (e.g. studios), rights owners (e.g. broadcasters), metadata-only service providers, research and pre-revenue companies and any free-to-air service.*
- 10) *Would the pool consider modifying the pricing structure to make it non-prohibitive in vertical service provider markets (where there is, e.g., the opportunity to use workaround technologies at the B2C end of the metadata chain)?*
- 11) *How does Via see the measurement and collection of fees that it will administer?*

An answer by Jason Johnson from ViaLicensing was received in mid-December. The reply to the first question (What patents are considered essential?) was that such information would only be made available to individual companies requesting licensing. In absence of specific information about the patent claims, the answers to many of the following questions were difficult to put into context. In e-mail discussions in the TV-Anytime User Group, there was a strong tendency to urge Via Licensing to make a list of relevant patents available to the general public as soon as possible. For further clarification of the issues, a meeting between TVA European User Group members and representatives of ViaLicensing has been suggested for January 2006.

2.9.5. Meeting at EBU, January 17th, 2006

There are various activities on defining profiles for content guides, based on TV-Anytime. DVB has specified such a profile, based on the model used by DVB GBS. OMA (Open Mobile Alliance) is also working on a TV-Anytime based profile, which,

however, is based on a different data model and may not be compatible with the DVB profile. There is another activity by the CEA (Consumer Electronic Association) to develop an “OpenEPG” specification, which is partly based on TV-Anytime. While these activities imply a certain acceptance of the TV-Anytime standard in the industry, worries were expressed that a fragmentation of the market may occur and that lobbying would be needed to keep the implementations aligned.

Regarding the licensing issue, the user group expressed concerns that the answers given by ViaLicensing did not address the questions properly, which may have been a result of miscommunications. A physical meeting to address these concerns and clarify the issues with ViaLicensing is planned for the 7th of February in London.

Following the discussions, a presentation was given by a representative of Sky Perfect TV and the program recommendation service developed in cooperation with Sony.

2.9.6. Publication of TV-Anytime by ETSI

As noted in previous reports, the TV-Anytime documents was submitted to ETSI for publication as an ETSI standard. This process has now finished and the TV-Anytime specification is now available as an ETSI standard from the www.etsi.org web site.

2.9.7. Meeting with ViaLicensing, February 7th, 2006

As announced during the User Group meeting in January, a meeting with ViaLicensing was arranged to clarify some issues in a face-to-face meeting. The main result was a clear definition of content services that would require a licence. A license would only be required for subscription based pay services. Free-to-Air services and Pay-per-view services as well as Pay-per-download services are exempt from licensing. Also exempt from licensing are metadata aggregators and metadata-only services.

While there is still a list of issues that need to be clarified, mainly on the practical issues of applying license fees for downloads to specific devices and in channel packages, the main concerns of the European User Group seem to be addressed.

Following the meeting, ViaLicensing has expanded its call for holders of essential patents in connection with TV-Anytime to contact the company.

2.9.8. Meeting at EBU, June 8th, 2006

There were various reports of TV-Anytime related activities, such as presentations given at an EGTA (the association of television and radio sales houses) workshop, updates on the UK DTG testbed, which aims at full TV-Anytime functionality in 2008, the Joined-Up PVR project at NDS and the OpenEPG initiative of the US Consumer Electronic Association, which can be seen as a ‘subset’ of TV-Anytime, allowing limited interoperability.

Plans were made to protect the TV-Anytime trademark more strongly and pay more attention to companies misusing the term TV-Anytime in product announcements.

To improve visibility of TV-Anytime, the group will register the name “tv-anytime.eu” and to issue a two-page information sheet about ongoing activities on a

regular basis. There is also a Wikipedia entry on TV-Anytime, which should be monitored and kept current by the group members.

Licensing issues with ViaLicensing are still not fully resolved. A proposal for early adopters has been circulated, but had not been officially released by the time of the meeting.

The official release followed on July, 12th and sets a fixed rate for early adopters of \$10,000 for an unlimited number of devices for device manufacturers until the end of 2008. For free to air broadcasters, a fee of \$20,000 allows the use of TV-Anytime until 2017. For subscription based services, the same fee allows use until the end of 2008.

3. DVB MHP

The MHP subgroup of TM-TAM has released errata #3 for MHP 1.0.3 in March and is heading to finalizing errata #1 for MHP 1.1.2. Unfortunately, some trouble comes from another, very non-technical direction: patents.

3.1. Errata to Specifications

In March 2006 errata #3 for MHP 1.0.3 was released. The two major technical changes consist of the change of the grantor identifier, and a change in the behavior of loading non-existing classes in MHP 1.1.x and GEM. In MHP 1.0.x applications can rely on the behavior that references to non-existing classes during class loading does not result in a run-time exception to be thrown. This is still supported in 1.0.3 errata #3, but not for the 1.1.x and the GEM versions, since this is a much different behavior to the usual Java virtual machines. Thus, old applications using this mechanism to access optional classes will run on 1.0.x, but not on the other versions. Hence, a note stating this incompatibility was added to errata #3.

Speaking of MHP 1.1.x: Errata #1 of 1.1.2 is currently being prepared. Sony attended the according TM-TAM meetings working actively on this release.

In preparation of MHP 1.1.3, which possibly will be renamed to MHP 1.2, DVB is investigating the two big remaining issues:

- PKCS11 providers, i.e. certificate handling and especially root certification authorities
- Smart card API: The current preferred solution seems to be using the already existing and working smart card extension used for some time in Italy. Apparently the highest concern is the name space of the API: Whether to keep it in the current Italian name space to keep it compatible with the boxes on the market or to move it into the DVB name space to become more “official”.

3.2. The Patent Dilemma

On the second of March, Via Licensing, administrating company of the MHP patent pool, announced a new licensing model starting January 2009 as presented in the following table. As of July, the MHP web-site has announced that Via Licensing has updated the fees resulting in roughly half the prices demanded before for broadcasters. But as of this writing, these new fees are not yet available anywhere from the official Via Licensing and are hence not listed.

Fee Type	License Fee
Consumer devices	\$2.00 per device
MHP services provided by subscription-based service	\$0.25 per subscriber (household) per year Option: One-time five-year license for \$1.25

provider

MHP services provided by free-to-air broadcasters that do not offer any for-fee services

Total number of households within reach of MHP services (million)	Licensing fee per broadcaster (originator of MHP service) per year
0 to 0.1	Free
0.1 to 2.5	\$25,000
2.5 to 5	\$50,000
5 to 7.5	\$75,000
Above 7.5	\$100,000

MHP services provided by free-to-air broadcasters that also offer for-fee services (including but not limited to pay-per-view services).

Total number of households within reach of MHP services (million)	Licensing fee per broadcaster (originator of MHP service) per year
0 to 0.1	Free
0.1 to 2.5	\$50,000
2.5 to 5	\$100,000
5 to 7.5	\$150,000
Above 7.5	\$200,000

Table 3 – New MHP License Fees

In the current model free-to-air broadcasters do not have to pay any fees. A number of broadcasters from Italy, Spain and France have signaled to stop the MHP-rollout under these circumstances.

In respect to this issue, a very unpleasant and predictably anger producing e-mail appeared on the TV-Anytime mailing list. Jean-Pierre Evain of the European Broadcasting Union (EBU) wrote: “Actually, from an EBU perspective we see MHP as dead.”

3.3. TM-FAIR Study

In response to the new threat of high patent fees, various groups of DVB started trying to find solutions which led to the TM-FAIR study:

- Objectives are:
 - For the IPRs non-essential, propose their removal from spec.
 - For the IPRs essential, find alternatives.
 - Final target is to minimise the price to be paid to MHP patent holders.

- Current Activities:
 - Search of MHP patents by keyword
 - Analyse MHP patents to screen those non-essential

Apart from the patent fees the main problem of the pool is that it cannot be determined who the patent holders are and which patents are actually involved.

As of June 2006, fourteen search criteria have been created to find possible patents within patent databases with a result of 160 matches so far. These matches need to be investigated further, whether they are really problems for MHP.

The work is currently restricted to European patents. The study creators see the danger that the evaluation against the US software patents could lead to a threat against US companies, if so far unaware patents come to light. This surely could be also a showstopper for GEM, which is supposed to be combined with the existing OCAP used in the US cable networks.

4. DVB MHP IPTV

- Sony attended and actively participated on definition of a new standard for signalling MHP applications on DVB-IP services (ETSI TS 102 034)
 - Start/End: October 2005 – September 2006
 - Activities:
 - Extended signalling defined in TM-IPI standard using XML-schema. The document is in the DVB repository as tam0944r3.
 - Reviewed JAVA TV SI extensions to cope with IP services.
- Final outcome will be a new specification (likely MHP 1.2), which will be submitted to DVB-TM for public ballot as of end September.

ANNEX A Terms and abbreviations

CRID:	Content Reference Identifier, an identifier for content that is independent of its location, specified by TV-Anytime
DVB:	Digital Video Broadcasting Project
GEM:	Globally Executable MHP, MHP for a world-wide use
MHP:	Multimedia Home Platform
OCAP:	OpenCable Application Platform, originally by CableLabs, Inc.
PVR:	Personal Video Recorder
STB:	Set Top Box
TM-TAM:	Technical Module – Technical Aspects of MHP