Guidelines for implementation of NorDig TVA metadata Exchange format

This implementation / guideline document is meant for broadcasters, other content providers and distributors to facilitate planning and implementation of NorDig common EPG/Event metadata exchange format based on the TV-Anytime standard (latest version) in their production chain, metadata delivering systems and distribution networks.

1. Introduction

1.1 Scope

The NorDig common EPG/Event metadata exchange format is meant for professional business to business use for all stakeholders in the distribution chain. The specification refers to the NorDig Unified IRD specification and NorDig Roll of Operation (www.nordig.org)

The document contains guidelines for implementation of TV-Anytime as the new NorDig common EPG/Event exchange metadata format, supporting NorDig requirement including rights management and cross platform distribution for both Live TV and On demand.

The purpose for the guidelines is to enable the industry to implement the TV-Anytime format as NorDig metadata exchange format.

The work with a NorDig common EPG/Event exchange metadata format was initiated based on an increased need for a common standard what should be possible to use both for classical broadcast linear TV service as well for OTT streaming services, catch-up and other non-linear content.

It is the intension that the NorDig/TV-Anytime standard to be used widely between Nordic and Irish Content Providers and Media Operators / Network Providers and others worldwide.

The NorDig EPG/Event metadata Group will be able to help and support with expertise and know-how also in the future, as the NorDig EPG/Event metadata Group will take care of maintenance and coming updates of the specification.

1.2 List of abbreviations

TVA	TV-Anytime	https://tech.ebu.ch/tvanytime
EPG	Electronic Program Guide	
OS	Operating System (Windows, iOS, …)	
ETSI	European Telecommunications Standards Institute	http://www.etsi.org/
XML	Extensible Markup Language.	

1.3 Document History

Version, document name and date	Author	Description
Version 1.0, NorDig TVA Implementation Guidelines v. 1.0 date 14.02.2018	Peter Mølsted and Randi Volle	Creating the first version of the document.
Version 1.1, NorDig TVA Implementation Guidelines v1.1	Randi Volle	Updates: Changed 2.3, Added 2.3.1, Changed 3.1, Changed top text date and to use filename. Changed filename.
Version 1.2, NorDig TVA Implementation Guidelines v1.2	Randi Volle	Updates: Changed top text: version and date Small typo correction. Changed 2.3, 3.1, 4, 5

2 General features of NorDig TVA metadata format

2.1 General

The NorDig common EPG/Event metadata exchange format is defined on the TV-Anytime specification, latest version, with support for NorDig requirement including rights management and cross platform distribution for both Live TV and On demand.

2.2 Introduction

This document contains technical guidelines for implementation of NorDig TVA EPG metadata XML files, by providing terms with definitions for a common language/understanding and the representation of the terms in Tva examplefiles.
The “Guidelines Last minutes update” document refers to this Implementation guidelines.

2.3 General information about TV-Anytime documentation and version used by NorDig

NorDig is using ETSI TS 102 822-3-1 V1.11.1 (2019-03) Technical Specification. See link in chapter 3.1 "List of documents".

TV-Anytime official web page is https://tech.ebu.ch/tvanytime.

2.3.1 CRID - Content Reference Identifier

CRID is an identifier for content that is independent of its location. Syntax: CRID://<registered Internet domain name>/<data>
The first part of a crid is a domain name (ex. nrk.no) and the next part is data. If the data-part is unique within the domain, then the crid is globally unique.
The data part can support global unique program id from www.isan.org, www. eidr.org or other.

Until we can get CRIDs from the producer/creator/owner of the content, the publisher has to create unique crid for the content.
CRID refers to a piece of content, though in some cases it may refer to one or more other CRIDs, ex. series and season linking. CRID specification: ETSI TS 102 822-4 is listed with link in chapter 3.1 "List of documents".

3. EPG/Event metadata distribution

How this is implemented inhouse is not in the scope of this document. The NorDig EPG/Event group, can provide contact information to companies whom has implementation experience.

3.1 List of documents

The following lists of documents will help you create and receive EPG files in NorDig TVA EPG /Event metadata exchange format, and is included in the file NorDigTVAGuidelinesv_1_2_[20190514].zip, also described below:

Filename	**Content**	**Resp. master document, from date**
Nordig TVA Implementation Guidelines v1_2.docx	This document.	Randi Volle, 14.05.2019
NorDigTVATerms_20190514.xlsx	Nordig EPG/Event term list	Peter Mølsted, 01.01.2017
DeviceTypeCS.xml, DeviceOsCS.xml, RightsTypeCS.xml and ServiceTypeCS.xml	Classification Schemas (CS) for DeviceType, DeviceOS, RightsType and ServiceType maintained by NorDig EPG/Event metadata Group.	Peter Mølsted, 14.05.2019
Nordig_TVA_examplescenarios_20190514.docx	How to solve scenarios like split transmissions, aggregated programs etc.	Randi Volle 11.12.2017
TVA_Nordig_exampledata_20190514.xml	Example file with all the Nordig terms in TV-Anytime-xml.	Randi Volle, 14.05.2019
TVA_Nordig_exampledata_mini_20190514.xml	Example file with minimum data to create a meaningful EPG.	Randi Volle, 14.05.2019
TVA_Nordig_exampledata_PF_20190514.xml	Example file for last minutes update of present and following program.	Randi Volle, 14.05.2019
NorDig Guidelines Last minutes update v1_1.docx	Guidelines for implementation of “last minutes updates”	Peter Mølsted, 14.05.2019
NorDigTVAGuidelines_[yyyymmdd].zip Available at https://nordig.org/wp-content/uploads/2018/05/NorDigTVA-Guidelines-v_1_1.zip (For latest version se links at https://nordig.org/specifications/ under Metadata specifications)	Includes all the previous listed documents.	Peter Mølsted 14.05.2019

TV-Anytime documents		
Filename	**Content**	
Ts_1028220301v011101p.pdf Available at https://www.etsi.org/deliver/etsi_ts/102800_102899/1028220301/01.11.01_60/ts_1028220301v011101p.pdf	ETSI TS 102 822-3-1 v1.11.1 (2019-03) Technical Specification. For first introduction read 5.3 CRID and Metadata from page 17.	TV-Anytime
ts_1028220301v011101p0.zip Available at https://www.etsi.org/deliver/etsi_ts/102800_102899/1028220301/01.11.01_60/ts_1028220301v011101p0.zip	Schemas and Classification Schemas(CS) in Zip directory including TV-Anytime schema files, for verifying TV-Anytime xml files, and Classification Schemas (CS-files) for ex program genres. It contains the prime schema file tva_metadata_3-1.xsd for verifying Nordig TVA EPG files.	TV-Anytime
Ts_10282204v010701p.pdf Available at http://www.etsi.org/deliver/etsi_ts/102800_102899/10282204/01.07.01_60/ts_10282204v010701p.pdf	ETSI TS 102 822-4 has more information about CRID (Content Reference IDentifier)	TV-Anytime
Informative:		
tva_metadata_3-1.xsd	Prime schema file for verifying Nordig TVA EPG files. This is included in ts_1028220301v011001p0.zip	TV-Anytime
https://no.wikipedia.org/wiki/ISO_3166-1_alfa-2	Country codes: ISO 3166-1 alfa-2-kodes is two-character country codes defined in ISO 3166-1.	
https://www.w3.org/TR/NOTE-datetime	dateTime and timezone YYYY-MM-DDThh:mm:ss.sTZD (eg 1997-07-16T19:20:30.45+01:00) Where: YYYY = four-digit year MM = two-digit month DD = two-digit day of month (01-31) hh = two digits of hour (00 through 23) (am/pm NOT allowed) mm = two digits of minute (00 through 59) ss = two digits of second (00 through 59) s = one or more digits representing a decimal fraction of a second TZD = time zone designator (Z or +hh:mm or -hh:mm) A time zone offset of "+hh:mm" indicates that the date/time uses a local time zone which is "hh" hours and "mm" minutes ahead of UTC.	

4. NorDig Termslist

The NorDig EPG/Event metadata Group has made a term list. All the terms are defined/explained and there is a description for how it is represented in TV-Anytime as well as for PS4, EBUCore and XMLTV. The term list is listed in chapter "List of documents", and all the terms is included in the example files. The terms list will be updated with new terms when needed. New terms have been added in the example files without implemented in the terms list.

5. NorDig DeviseType, DeviceOS, RightsType, and ServiceType list

There are 4 classification scheemas defined by Nordig EPG/Event metadata Group. These classification scheemas are DeviceTypeCS, DeviceOsCS, RightsTypeCS and ServiceTypeCS. The TV-Anytime standard covers the rest of the definitions.

6. NorDig TVA example scenarios

The NorDig EPG/Event metadata Group is providing a example scenario document for how to solve scenarios like split transmissions, aggregated programs etc. When new scenarios is needed and asked for it will be included so that the whole value chain has benefits of a standard way of exchanging EPG metadata. The document is listet in chapter "List of documents".

7. NorDig TVA metadata XML example files

The NorDig EPG/Event metadata Group provides example files including all the NorDig terms. TV-Anytime has a lot of more metadata covered in the standard, and when new needs/terms is asked for, more of the TV-Anytime will be included so that the whole value chain has benefits of a standard way of exchanging EPG metadata. As a service and an intention to maintain the NorDig standard for EPG/Event exchange format, we will maintain the terms, example scenarios and example files. There are 3 example files available. They are listet in chapter "List of documents".

- Mini version for first time implementers including the minimal information for making an EPG/Schedule.
- Complete version with all the NorDig terms and examples for specific situations.
- Present/Following for last minutes update.
  The last minutes update version has its own implementation guidelines document.

8. Input to the NorDig EPG/Event metadata Group

For new terms, further development in new versions or other questions, please send e-mail to the NorDig EPG/Event metadata Group, by chairman Peter Mølsted, e-mail: moelsted@mail.dk