AMWA AS-11

A New Approach to the Design & Publication of AS-11 Specifications

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For the latest version of this document (and all the latest information about AS-11) please visit:
http://amwa.tv/projects/AS-11.shtml

- Rules based Specifications
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Rules Based Specifications

Rules Based Specifications for AS-11

The AMWA AS-11 family of Specifications define constrained media file formats for the delivery of finished media assets to a broadcaster or publisher. Each Specification is developed for a particular business purpose.

AS-11 Specifications are not required to have any technical properties in common. This means that the different AS-11 Specifications are not required to inter-operate.

However, the rules / Blocks based construction of the Specifications makes it easy to determine what the AS-11 Specifications have in common and how they differ. This helps software developers to maximise code re-use.

It also makes it easy to build new AS-11 Specifications out of the Blocks of existing Specifications.

Goals of Rules based Specifications:

- easier to build new Specifications from common building blocks
- express Specifications in a machine-friendly way
- focus on making constraints concise, unambiguous and testable

Rules based Specification construction:

- Each Specification is composed of **Blocks (B)**
- Each Block exists independently and is identified by a unique URL. A Block could be used in many different Specifications.
- Blocks are made of **Artefacts (A)** and links to other Blocks

  Artefacts could be statements expressed as XML, XML metadata definitions, Python code files, etc
- There are also **Notes (N)**, external **References (R)** and defined **Terms (T)**

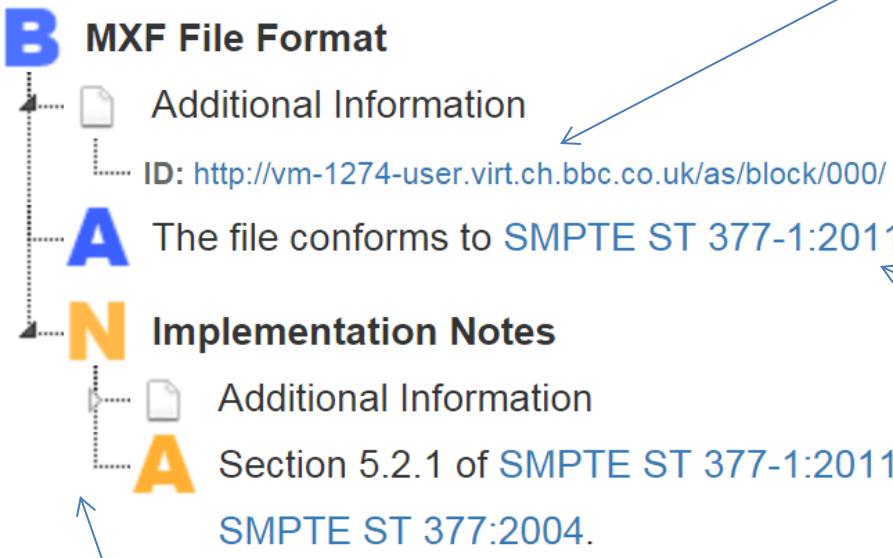
Rules based “Specification Tree” example

Block name

Block ID (URL)

This URL is an example of a temporary URL which resolves to a private (BBC) development server. This is because this Block is currently under development as part of a “Work In Progress” Specification.

Each Block becomes “immutable” and is assigned an official, permanent AMWA URL once it is complete.



The Artefact from which this Block is constructed (some Blocks have many Artefacts)

A Note and the Artefact from which it is constructed

This provides some informative guidance to the reader

Publishing using GitHub

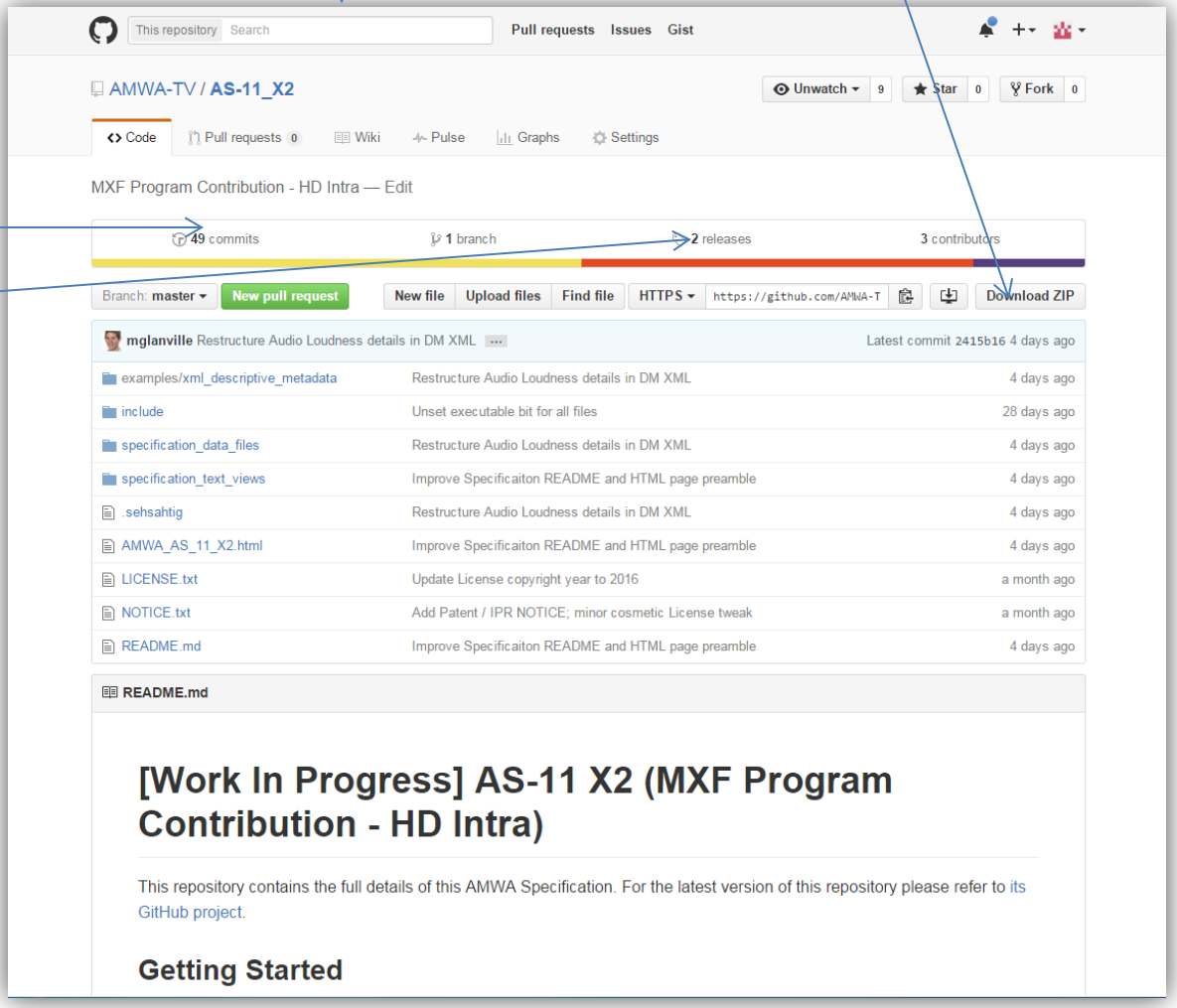
Publishing using GitHub – Introduction

Specifications are treated like software – each Specification is published as a repository on GitHub. The Specification can be viewed on the GitHub website or cloned / downloaded for offline use.

Each Specification on GitHub has:

- a full change history
- "tagged" versions of the Specification

Each Specification contains HTML and text renderings (or "views") of the Specification along with useful machine-readable files such as XML Schema files or Python code files.



How a Specification relates to the rules (Blocks) framework – *simple*

Someone who wants to read a Specification just needs to look at the GitHub repository for that Specification. That repository includes all the details they need in order to understand the Specification.

The Specification is, of course, structured in terms of its Blocks (as shown earlier). However, the full details of the rules based (Blocks) framework remain “behind the scenes”: it only needs to be used by Specification writers and those who want to analyse Specifications (for example to see which Blocks Specifications have in common).

How a Specification relates to the rules (Blocks) framework – *more detailed*

- Each AS-11 Specification is formally published as a git repo – a "package" *generated from* the relevant Blocks and *including* selected Artefacts

- So, it consists of *some* Artefacts from the rules (Blocks) framework *and* renderings of Blocks / Artefacts from the rules (Blocks) framework

- So, the contents of *the git repo must not be directly edited* – any Specification edits require edits within the Blocks framework –> re-generate the "package" and overwrite the git repo contents

- It means that the Specification can persist and be read independently / standalone from the rules (Blocks) framework

- Many Blocks will appear in many of the Specs. That is a good thing and does not affect the process. If a Block is used in three Specifications then its details will simply be duplicated across three Specification git repos when they are generated. The "master" details for the Block are managed "behind the scenes" in the rules (Blocks) framework.

The RFC-style publication process

Using the new AMWA Specification publication process for AS-11 Specifications

Each Specification is published separately as a GitHub repository.

Over its lifetime a Specification moves through three “Maturity Levels” (summarised on the next page).

Publication at all three Levels is public – no need to be an AMWA member to read the Specifications.

The aim is for all AS-11 Specifications to become “Proposed Specifications” as soon as sufficient review has been received for all design decisions to be made.

Specification “Maturity Levels”