

**EEMUG 2020**



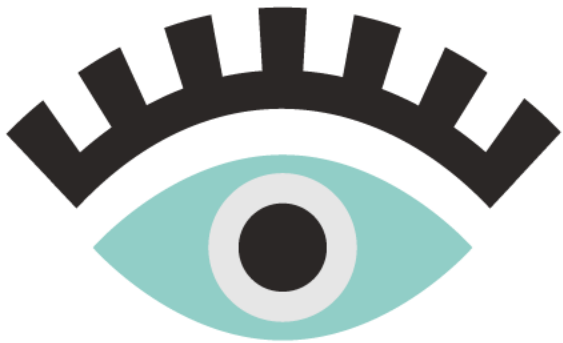
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# LiXuid Manuscript

*Update and demonstration*



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# Aiming for XML-First

*So why are we doing this?*



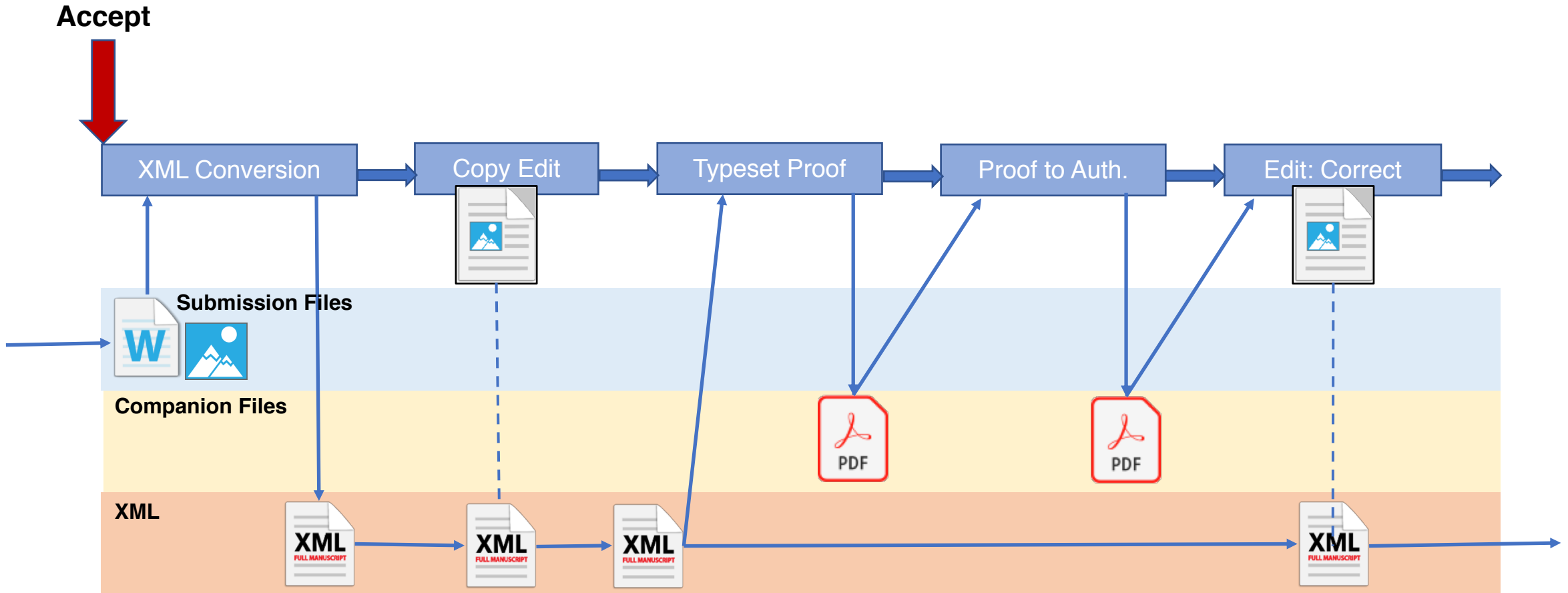
# What is an 'XML-First' workflow?

- In Production: base document files are XML throughout
  - Conversion after Acceptance
  - All outputs based on processing/rendering XML
  - Corrections made to XML. Usually by expert, 3<sup>rd</sup> party operators
- For Peer-Review/Editorial: the same, only sooner
  - MS is rendered into XML format 'around' submission
  - So uses XML to represent the MS throughout Review process

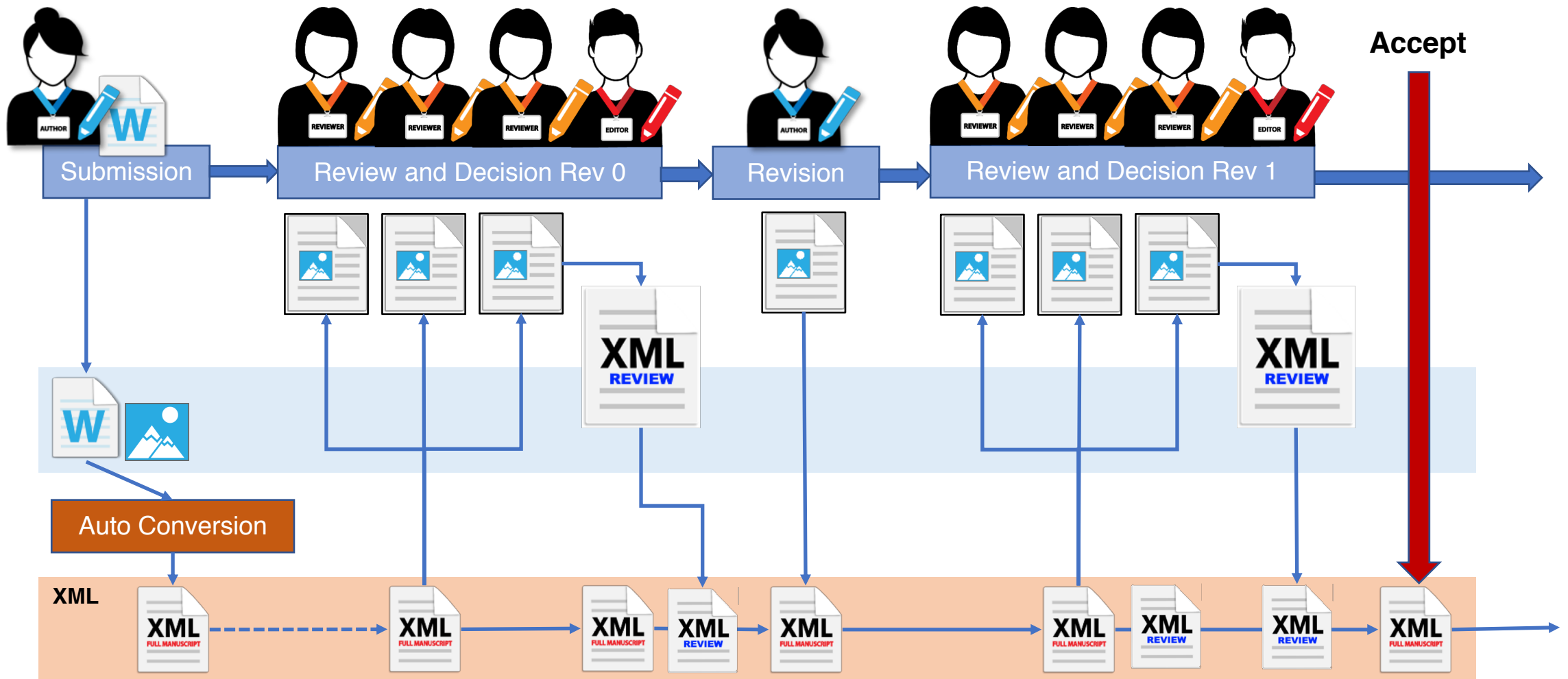




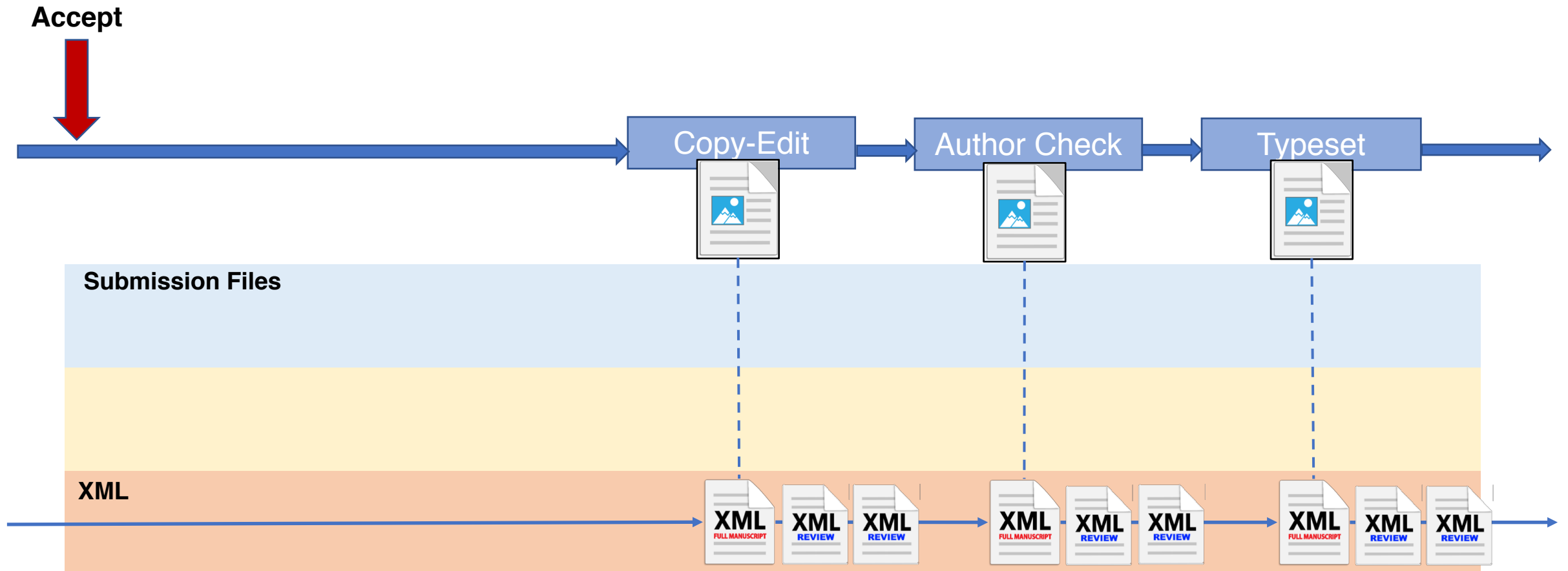
# XML-First in Production (typically)



# XML-First in Peer Review



# XML-First Editorial *through* Production (ideally)



# Aries' Roadmap

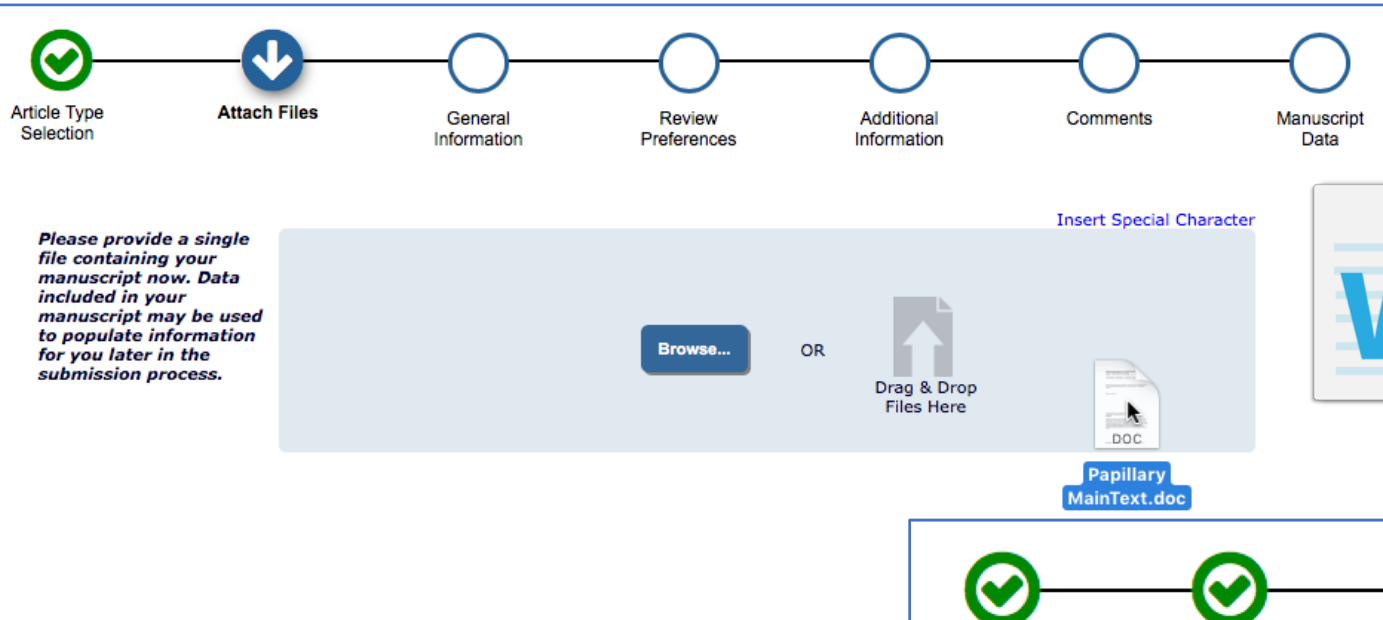
- Phase 1 – done! Front Matter conversion to XML
  - Used for metadata extraction during submission
  - Live for some time
- Phase 2 – in development. Production-oriented Tasks
  - But TaskManager will allow pre-Production use if you want
  - Ongoing development and testing of new tools
- Phase 3 – Future Plans. Bring into Peer-Review



# Phase 1

*All done!*





Conversion to XML proceeds while Author completes other information

EM extracts metadata from converted XML 'front matter' to present to author on the last step

Article Type Selection   Attach Files   General Information   Review Preferences   Additional Information   Comments   Manuscript Data

When possible these fields will be populated with information collected from your uploaded submission file. Steps requiring review will be marked with a warning icon. Please review these fields to be sure we found the correct information and fill in any missing details.

Full Title (required) ✓  
Papillary fibroelastoma of a mitral valve chordae - case report - Fake Version for Testing

Next

Abstract ⚠

Authors ⚠

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# Phase 1 Goals Achieved

- Improved Submission Process
  - Better look-and-feel (not specific to LiXuid)
- Submission Process ready for Phase 3
  - Redesigned Process includes a conversion step
  - Ready to replace Metadata-only conversion with Full-text conversion



# Phase 2

XML in ProduXionManager/  
TaskManager Workflows





# New 'XML Tool' Tasks to cover key processes

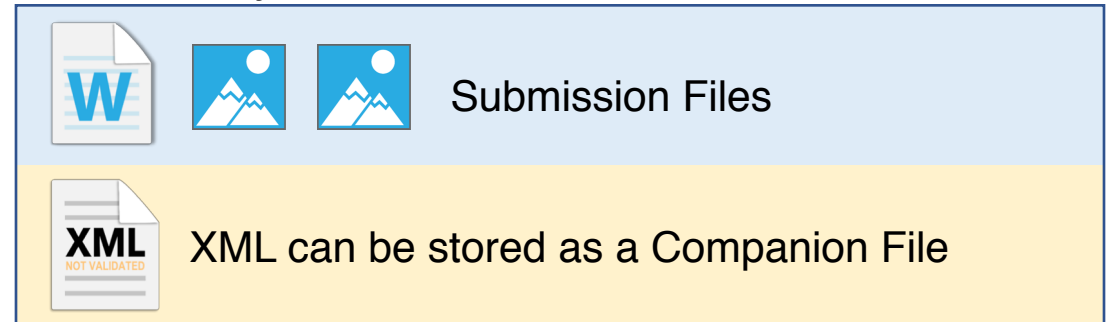
- Transforming, Validating and Importing XML ('Process' Task)
  - Custom transforms for converting XML (e.g. to/from Aries XML)
  - Validating to Aries or non-Aries XML DTDs (structure)
  - Applying Schematron Rules (structure and content)
- Sending XML to third parties (any Task)
  - Any Task can send out Companion File XML or Aries XML
- Online Editing of the full document text in EM ('XML Editing' Task)
  - By content experts; we hide the XML
  - **Requires Aries XML file**
- 'Full-Text Conversion' Task
- Page makeup/layout ('AutoPagination')



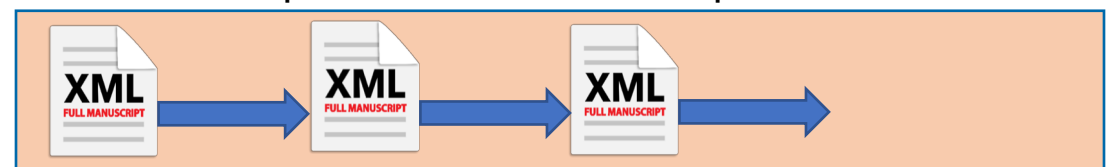
# Aries XML?

- XML Files can be handled as Companion Files
- But LiXuid MS adds new 'Aries XML' file stream
- Specific XML format
  - Subset of JATS
  - Allows us to develop internal tools that expect this format

## File Inventory



## Aries XML – special XML file stream per submission



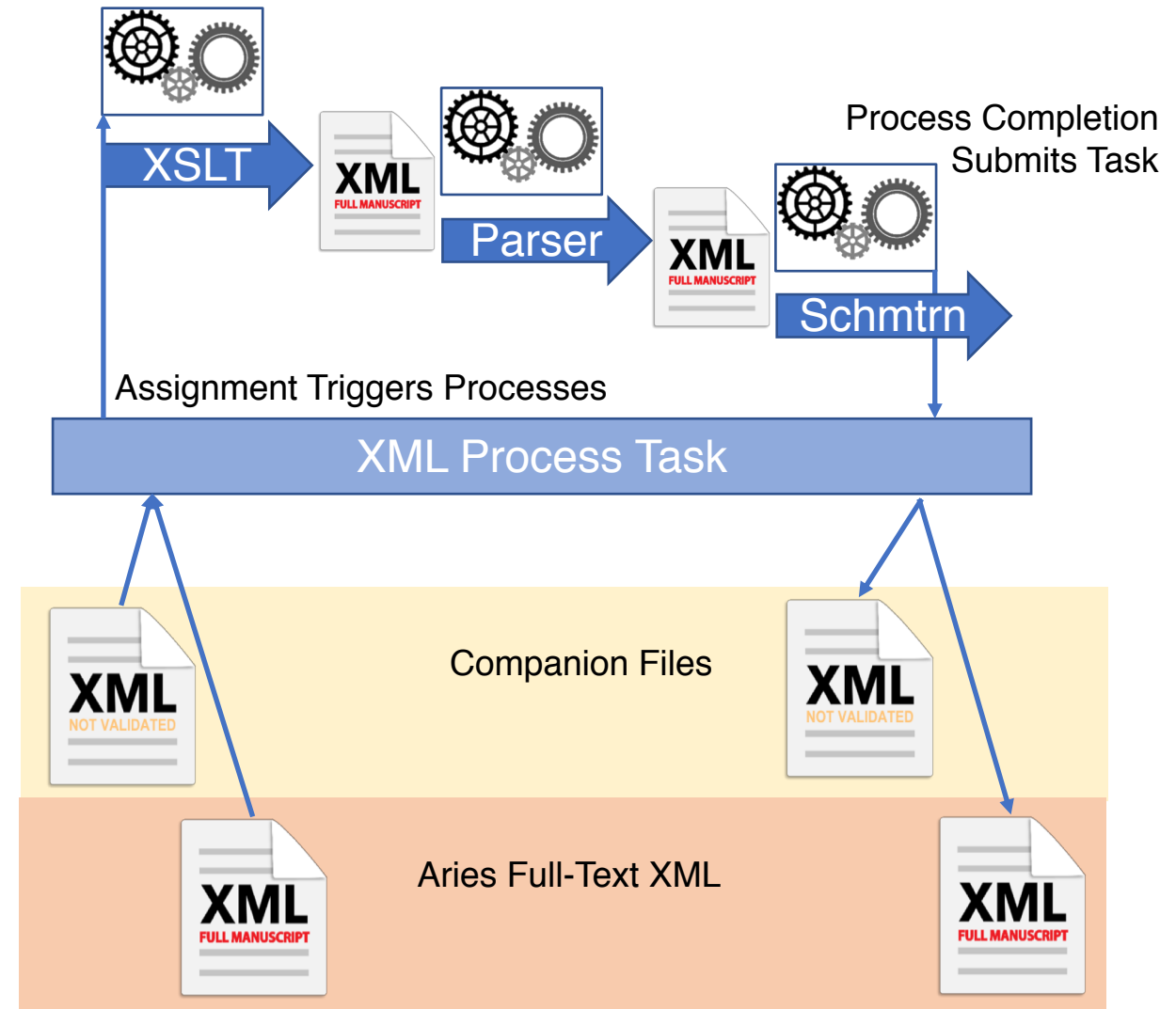
# Custom XML Processing Task

*For any XML file*



# XML Process Task

- Supports up to three Custom processes in sequence:
  - Transform (using XSLT)
  - Validation (e.g. to DTD)
  - Schematron validation – ‘content rules’
- Can process:
  - Non-Aries XML Companion File
  - Aries XML File
- Result can be:
  - Left as Companion File
  - Validated to replace Aries XML File



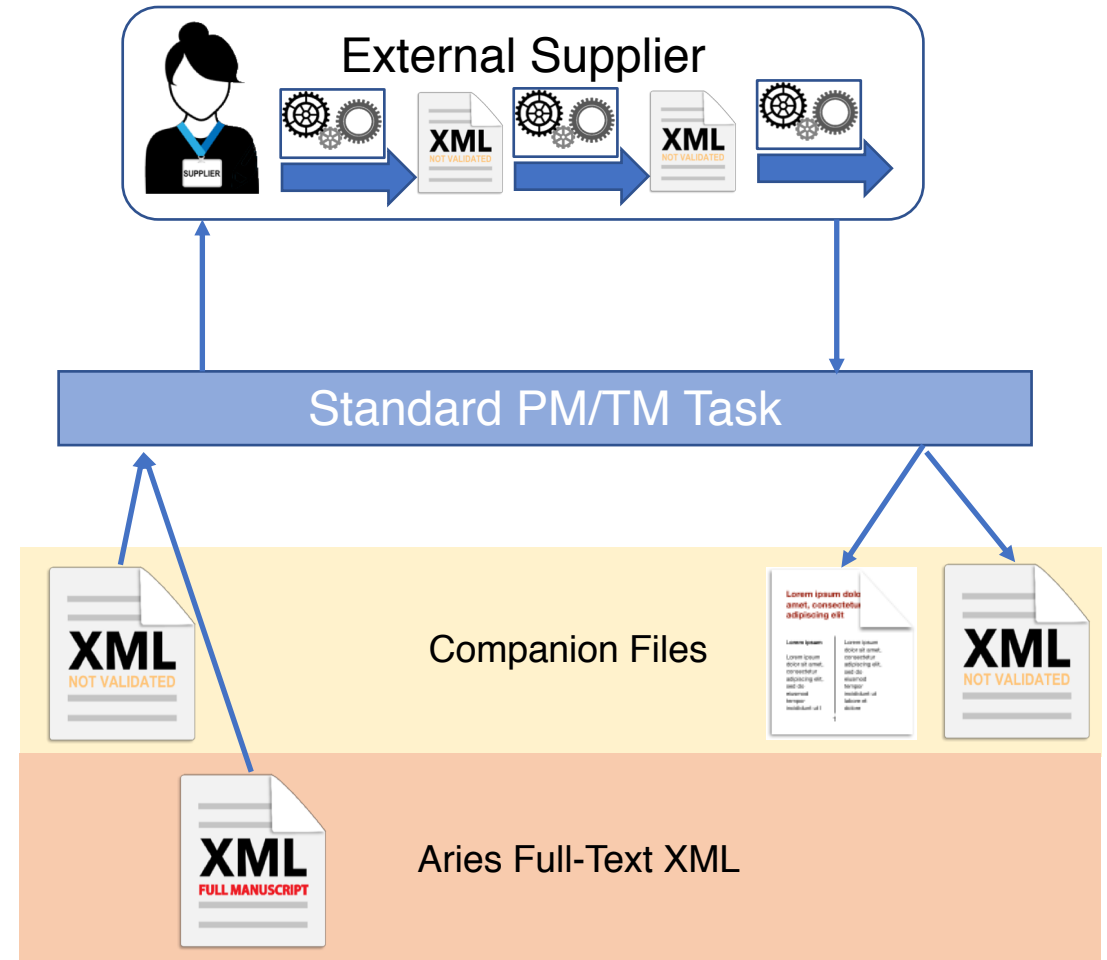
# **Aries XML Export**

*Available for any task*



# XML Transfer, any Task

- Export Aries JATS XML to 3<sup>rd</sup> parties
  - If your supplier can use it directly
- Or send a Non-Aries XML Companion File, as now
  - Option to Automate this selection
- For whatever purpose
  - To get more XML back
  - Or to e.g. Typeset proofs from it
- Use a Process Task to ‘Round-Trip’ Aries XML with a 3<sup>rd</sup> Party.




# Aries XML as an Assignment File

- Aries XML selectable for any Task Assignment.
- Or configurable under Automatic Assignment File Selection
- Or you can use Companion Files in XML format

If 'Automatically Select Files for Assignment' is enabled, files in the submission File Inventory that match the configured File Types will appear pre-selected for manual task assignment or will be automatically included when a task is assigned automatically.

Automatically Select Files for Assignment

Restrict selection to XML-Related files 

Configure the Item Types for automatic selection. You may select multiple Item Types or de-select an Item Type by clicking on an item while holding down the CTRL key (Windows) or Apple/Command key (Mac). Important Note: if the task is an FTP task requiring a File on assignment, and the Task is configured to be Assigned Automatically, you must select an item here for the task to ever be assigned.

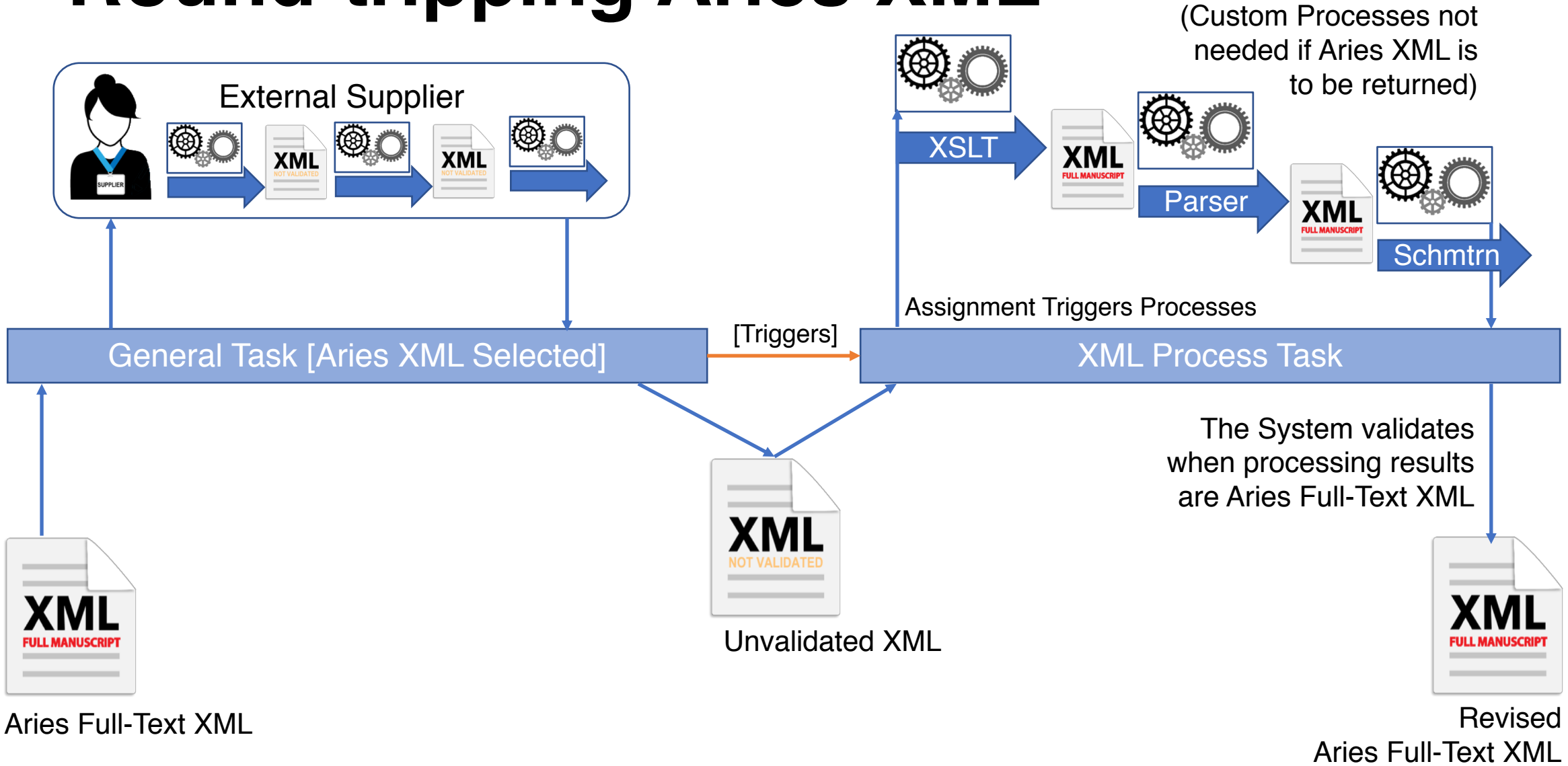
[System-Generated PDF]  
 [Full-Text XML]  
 Biosketch  
 Biosketch Photo  
 Companion File going through Reference Checking  
 CONSORT Agreement (only if required)  
 Contributions of Authors Form

## Submission Files

Item	Description	Item Family	File Name	File Reference	Size	Last Modified	QC Results	Use in XML	Allow Download
	PDF						N/A	✓	<input type="checkbox"/>
Full-Text XML	XML		AJO_AJO-04-1344.xml		429.5 KB	Nov 01 2004 5:15PM	N/A	✓	<input checked="" type="checkbox"/>
Abstract (MUST be submitted as	Abstract (MUST be submitted as a	Default	041002 Safety Abstract		20 KB	Oct 4 2004	N/A		<input type="checkbox"/>



# Round-tripping Aries XML





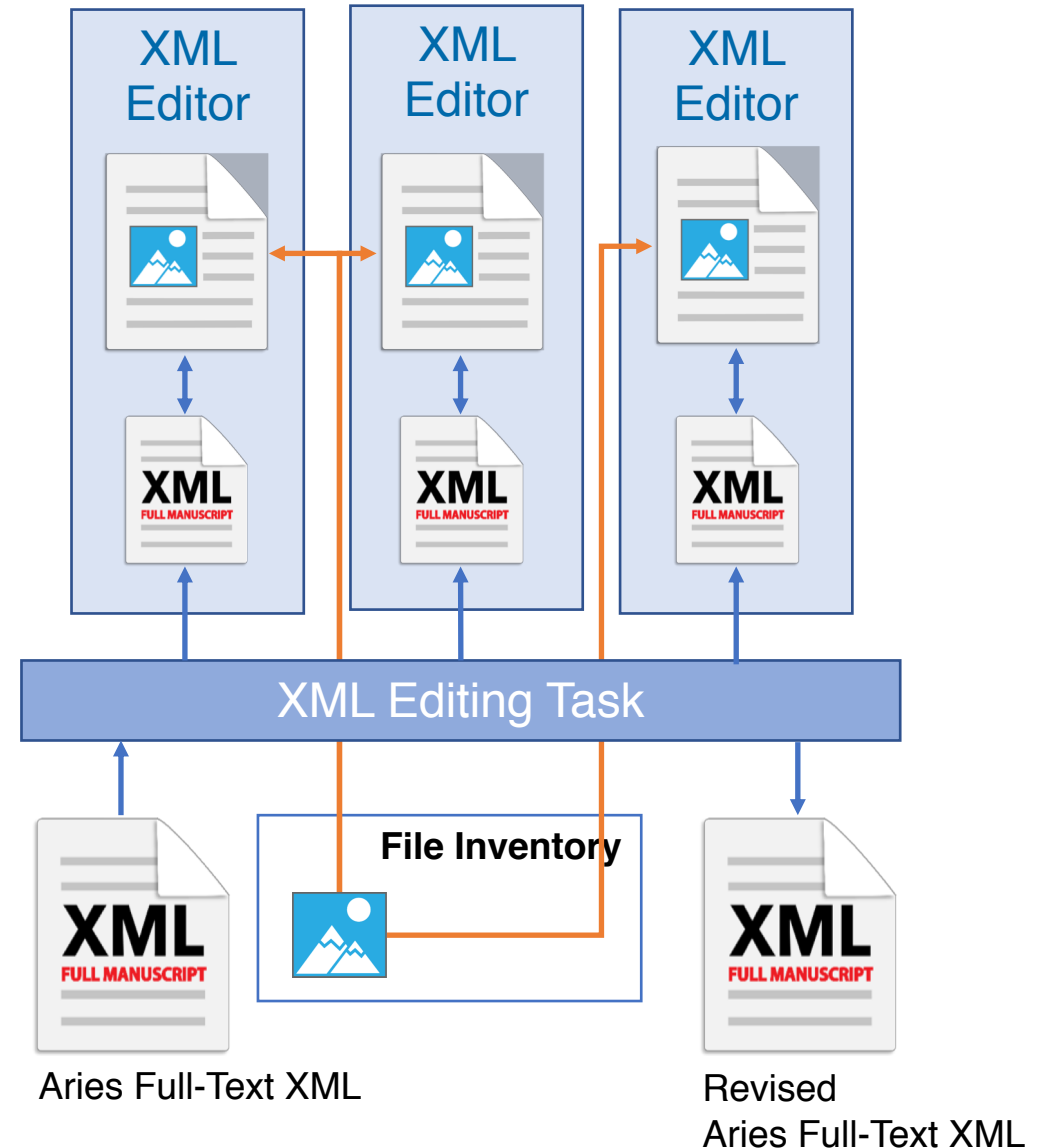
# Full-Text Editing Task

*Revising Aries XML*



# XML Editing Task

- Assign Task to allow recipient to edit the text via EM XML Editor
  - Based on Fonto-XML
- User sees Word-Processor like UI
  - Hides the XML
  - In-line maths, tables, figures
- The EM XML Editor understands XML rules
  - User cannot create 'bad' XML (we use JATS)
  - But can add new elements, not just edit text
- The EM XML Editor constantly 'validates' the text
  - We can warn the user of inconsistencies
- We're adding special tools to help you
  - E.g. Queries to the Author



SECTION

## 2.3 Mutant preparation

Mutants of P1-*scyllo*-IDH containing single amino acid substitutions with alanine (K106A, D191A, H195A, R178A, and H318A) were prepared using a PrimeSTAR mutagenesis kit (Takara Bio, Shiga, Japan) according to the manufacturer's protocol, with pET21a(+)-*lga*D as the template. The primers used for construction of each mutant genes are shown in [Table 2](#). Mutant enzymes were expressed and purified as described for the wild-type enzyme.

TABLE WRAPPER

Table 2

**Primers used for mutation**

K106A-f	CTGGAAGCGCCCATGGCGCTGAGCGTC
K106A-r	CATGGGCGCTTCCAGCCAGACATGCTT
D191A-f	CTGGGGGCTCTGGGCTGCCATCTGGTC

Word Processor-like Editing environment

Outline, Review, Queries, Improve tabs for helper tools

In-line tables, figures, maths

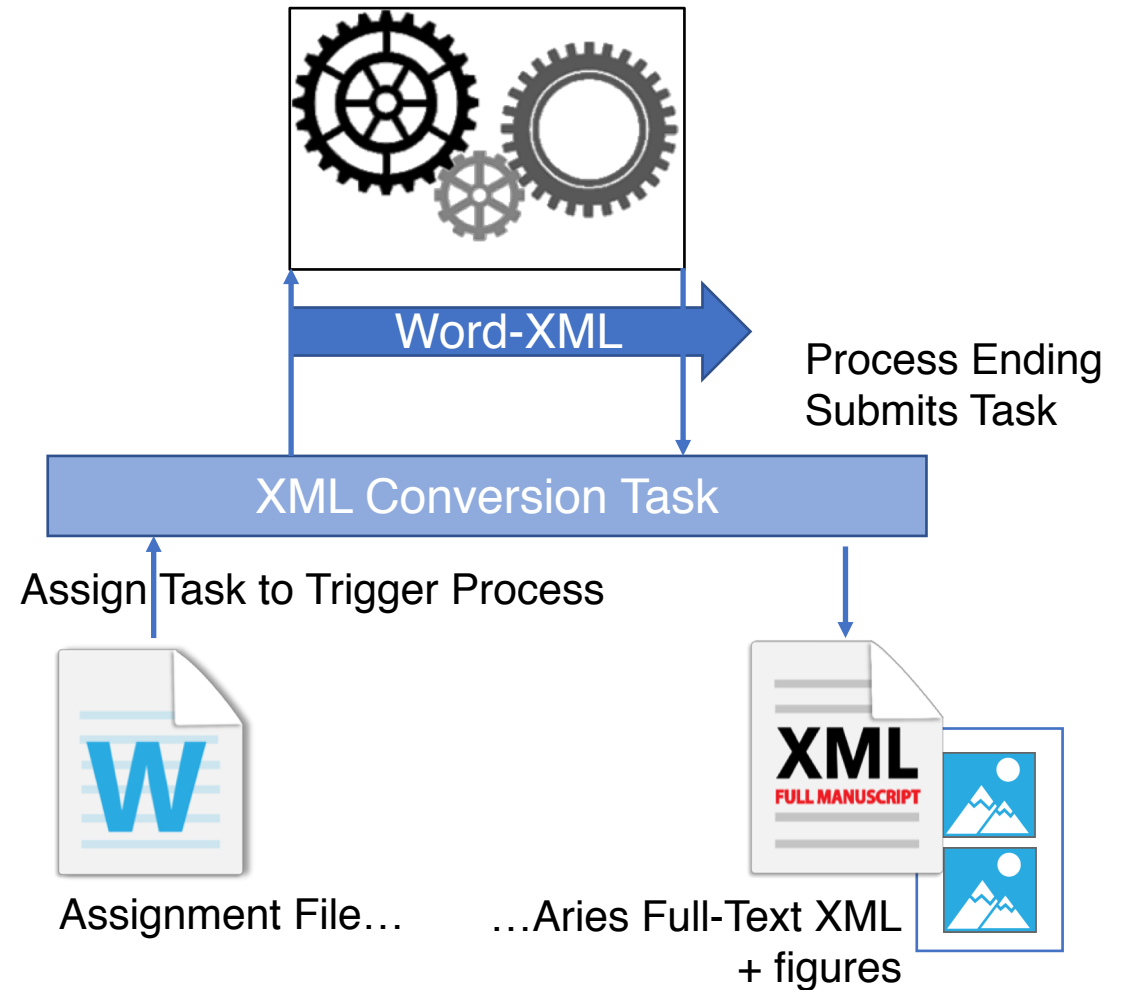
# **Full-Text XML Conversion Task**

*Work in progress*



# Aries Full-Text Conversion Task

- XML Tool Task, assigned like any other
- Takes a Word document as the Assignment File
- Triggers a new system process
- Automatically converts Word document to structured XML
  - No template needed
  - Heuristics to deconstruct files with a variety of structures



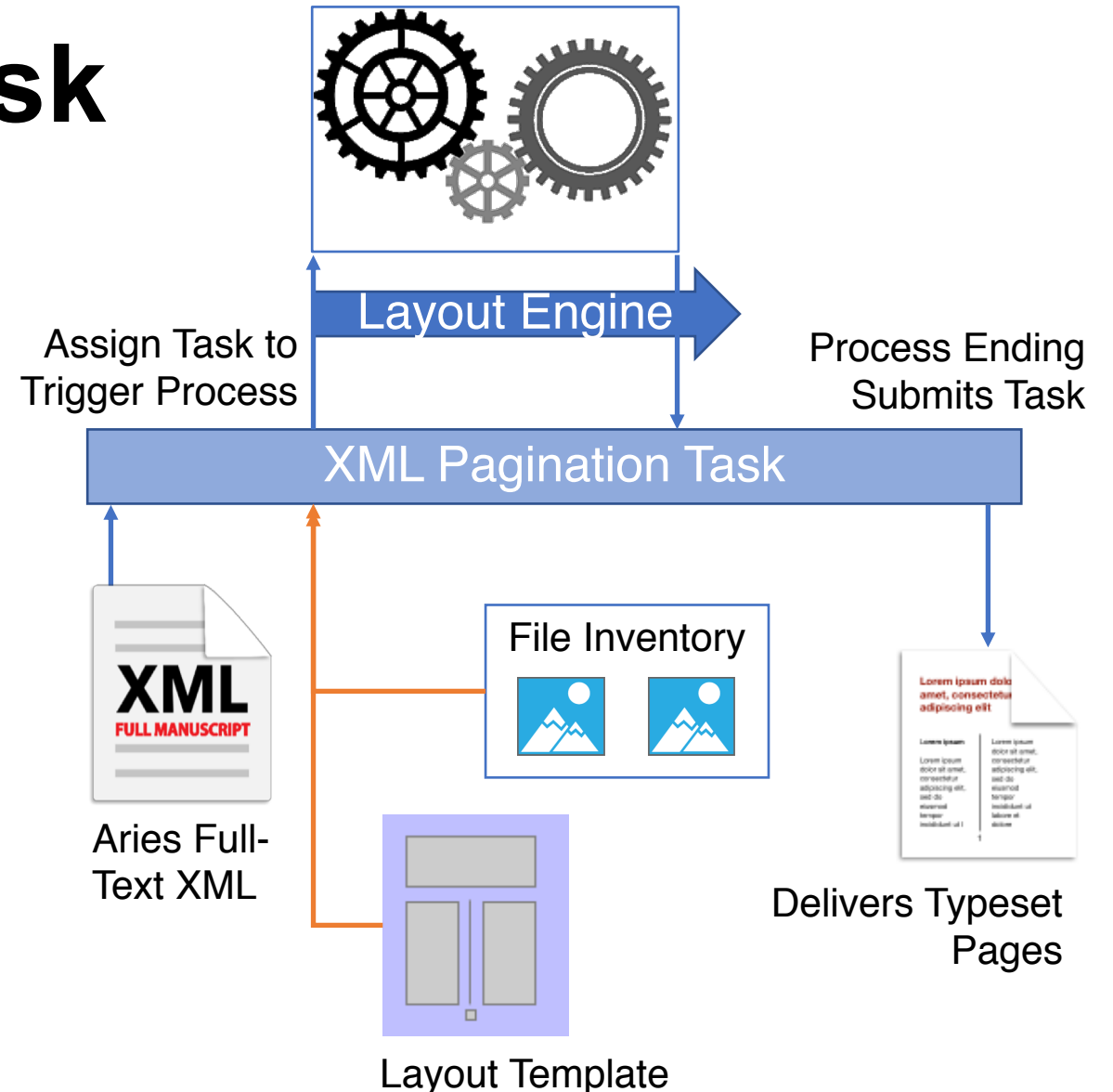
# **‘AutoPaging’ Task**

*In development*



# 'AutoPagination' Task

- We're integrating a layout/pagination engine
- Will reformat and layout Aries XML for delivery
  - E.g. Print, PDF
- Based on customer-specific layout templates ('Pagination Workflows')
- Solo task for a single submission, can be batched
  - Schedule Groups also planned in ongoing Phase 2+ development



# Working With LiXuid

*Possible Approaches*



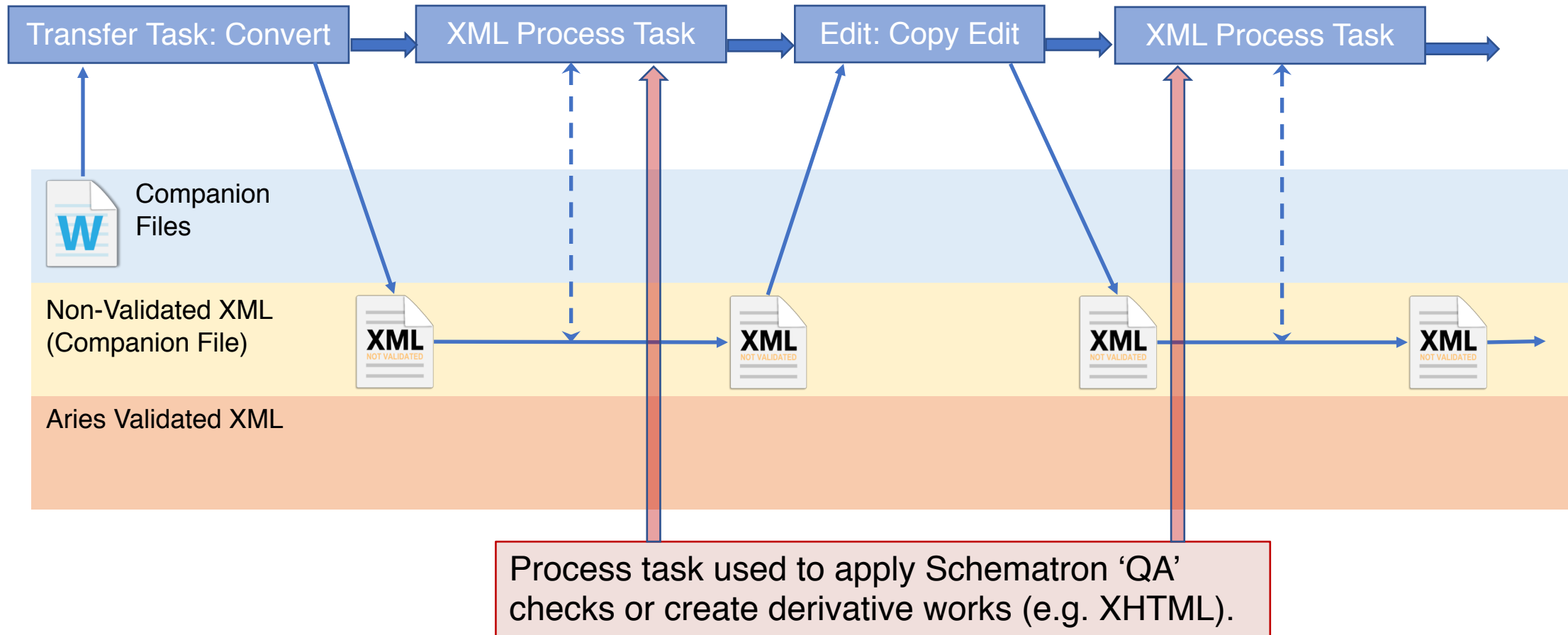


# XML Workflows: Possible Approaches

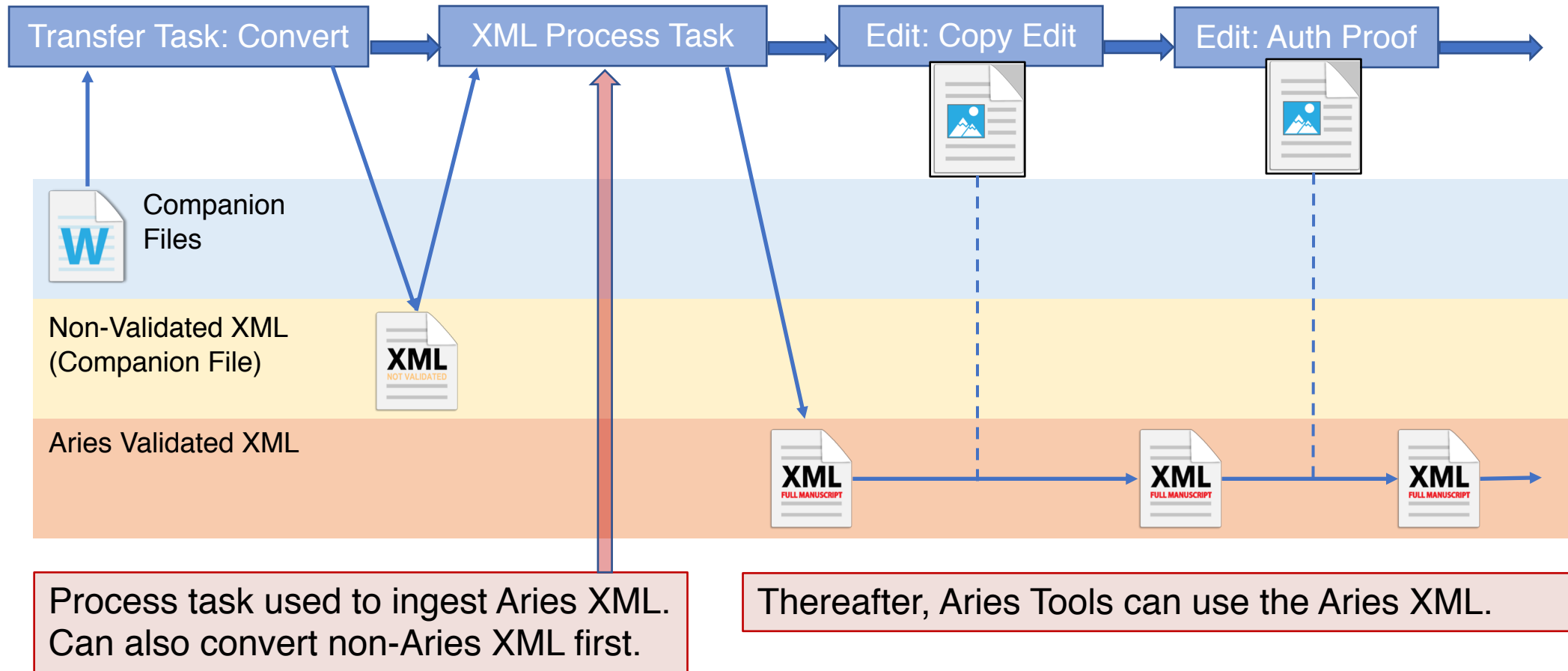
- Work with third party XML
  - Third parties convert text as now
  - Import/Export XML as Companion Files
  - EM tasks can apply XSLT and Schematron transforms if needed
- Work with 'Aries XML'
  - Subset of JATS XML
  - **Allows use of XML Editing and AutoPagination Tasks**
- Hybrid workflows?
  - Use EM Tasks to convert to/from Aries JATS
  - i.e. EM as online XML Proofing system



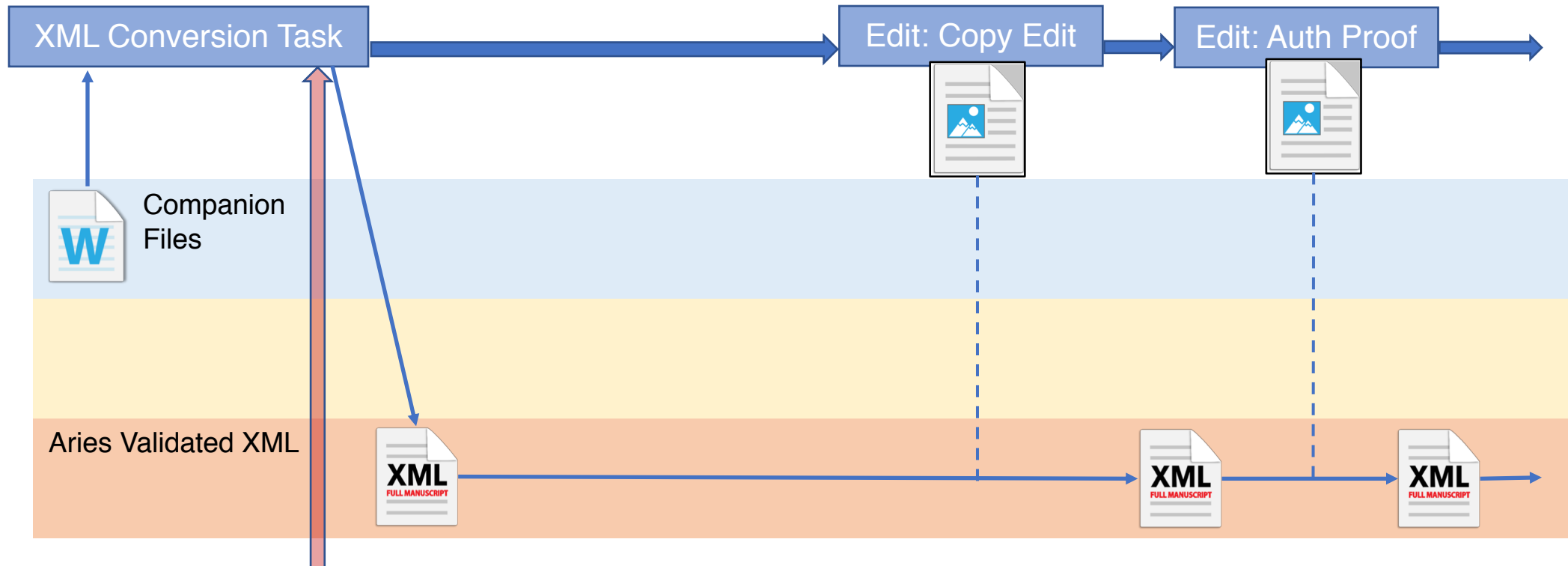
# Working with 3<sup>rd</sup> Party XML



# Convert 3<sup>rd</sup> Party XML to Aries XML



# Automated Conversion to Aries XML



Full-Text Conversion Task creates initial XML e.g. on Acceptance

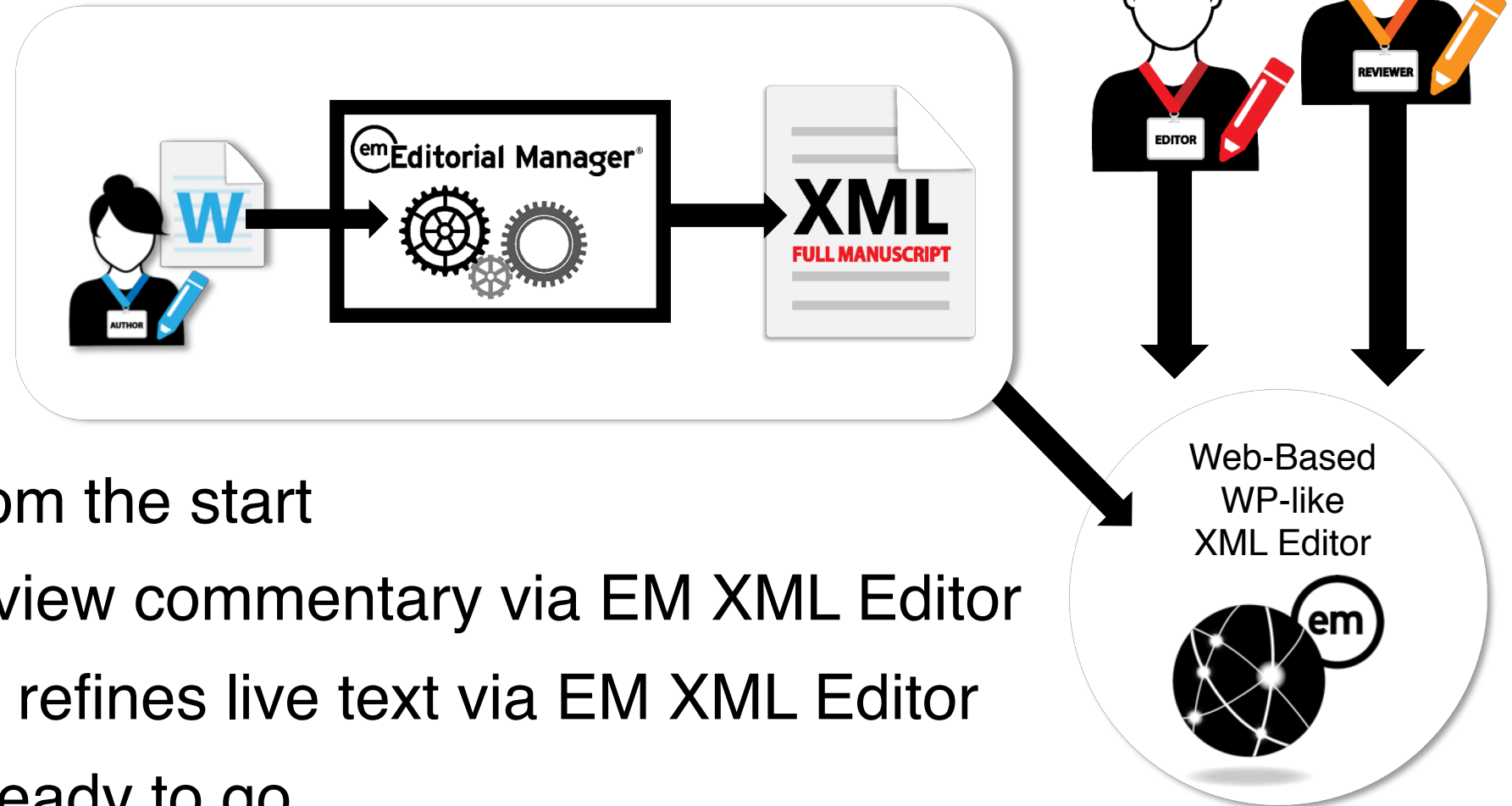
Thereafter, Aries tools (e.g. Editor) can access the XML.

# Phase 3

*Bringing XML into Peer Review*



# Phase 3: Full-Text Conversion on Submission



- Structured text from the start
- Capture Peer-Review commentary via EM XML Editor
- Revision Process refines live text via EM XML Editor
- Accepted text is ready to go

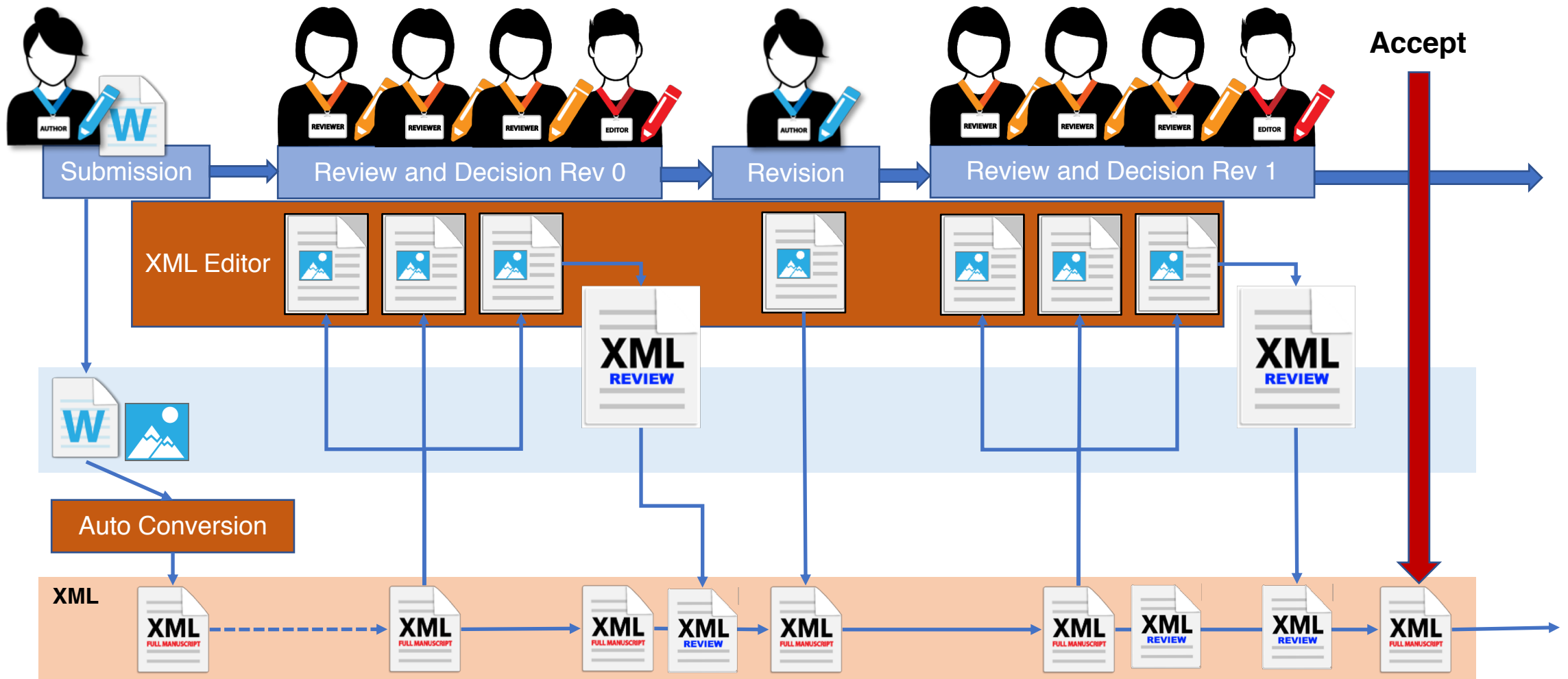


# Phase 3 – Building on Phase 2

- Requires Automatic Full-Text XML Conversion Engine
  - The one used for the Full Text XML Conversion Task
  - Needs to be very accurate; will be tested through use in Production
- Will use XML Editor customized for Peer Review
- And XML Editor customized for Author Revision
  - When publications wish to use it



# Allowing: XML-First in Editorial





***Any Questions?***

*Stop! Demo time...*

