

# ISO/IEC JTC 1/SC 32 N 1131

Date: 2004-05-24

REPLACES: --

<p style="text-align: center;"><b>ISO/IEC JTC 1/SC 32</b></p> <p style="text-align: center;"><b>Data Management and Interchange</b></p> <p style="text-align: center;"><b>Secretariat: United States of America (ANSI)</b></p> <p style="text-align: center;"><b>Administered by Pacific Northwest National Laboratory on behalf of ANSI</b></p>
--

<b>DOCUMENT TYPE</b>	Other Document (Open)
<b>TITLE</b>	WG 3 Tutorial at Xi'an
<b>SOURCE</b>	WG 3 – Jim Melton
<b>PROJECT NUMBER</b>	
<b>STATUS</b>	For information
<b>REFERENCES</b>	
<b>ACTION ID.</b>	FYI
<b>REQUESTED ACTION</b>	
<b>DUE DATE</b>	
<b>Number of Pages</b>	14
<b>LANGUAGE USED</b>	English
<b>DISTRIBUTION</b>	P & L Members SC Chair WG Conveners and Secretaries

Douglas Mann, Secretariat, ISO/IEC JTC 1/SC 32

Pacific Northwest National Laboratory \*, 13600 Angelica Court, Chantilly, VA, 20151-3360,  
United States of America

Telephone: +1 202-566-2126; Facsimile: +1 202-566-1639; E-mail: [MannD@battelle.org](mailto:MannD@battelle.org)

available from the JTC 1/SC 32 WebSite <http://www.jtc1sc32.org/>

\*Pacific Northwest National Laboratory (PNL) administers the ISO/IEC JTC 1/SC 32 Secretariat on behalf of ANSI

# Publication of an ISO Standard from XML Sources

ISO/IEC JTC 1/SC 32 WG 3 Tutorial

中国 西安 2004-05-24

# If it ain't broke — fix it anyway!

- DECdocument + TPU
  - Over 15 years of environment development
  - Proprietary, aging technology
  - Hardware maintenance costs
  - Triggered by catastrophic disk failure
- XML, XSLT, XSL FO
  - Designed for documents
  - Many tools available
  - Sufficiently mature

# Getting from there to here

- Design XML DTD for SQL standard (hard)
- Convert “SDML-like” DECdocument sources to XML according to that DTD (Fred Zemke)
- Design “look and feel” of XSL FO corresponding to DECdocument design—and ITTF’s design (not too difficult)
- Build XSLT transformations to transform XML into XSL FO (fun and challenging)
- Iterate, iterate, iterate (tedious, tedious, tedious ☺)

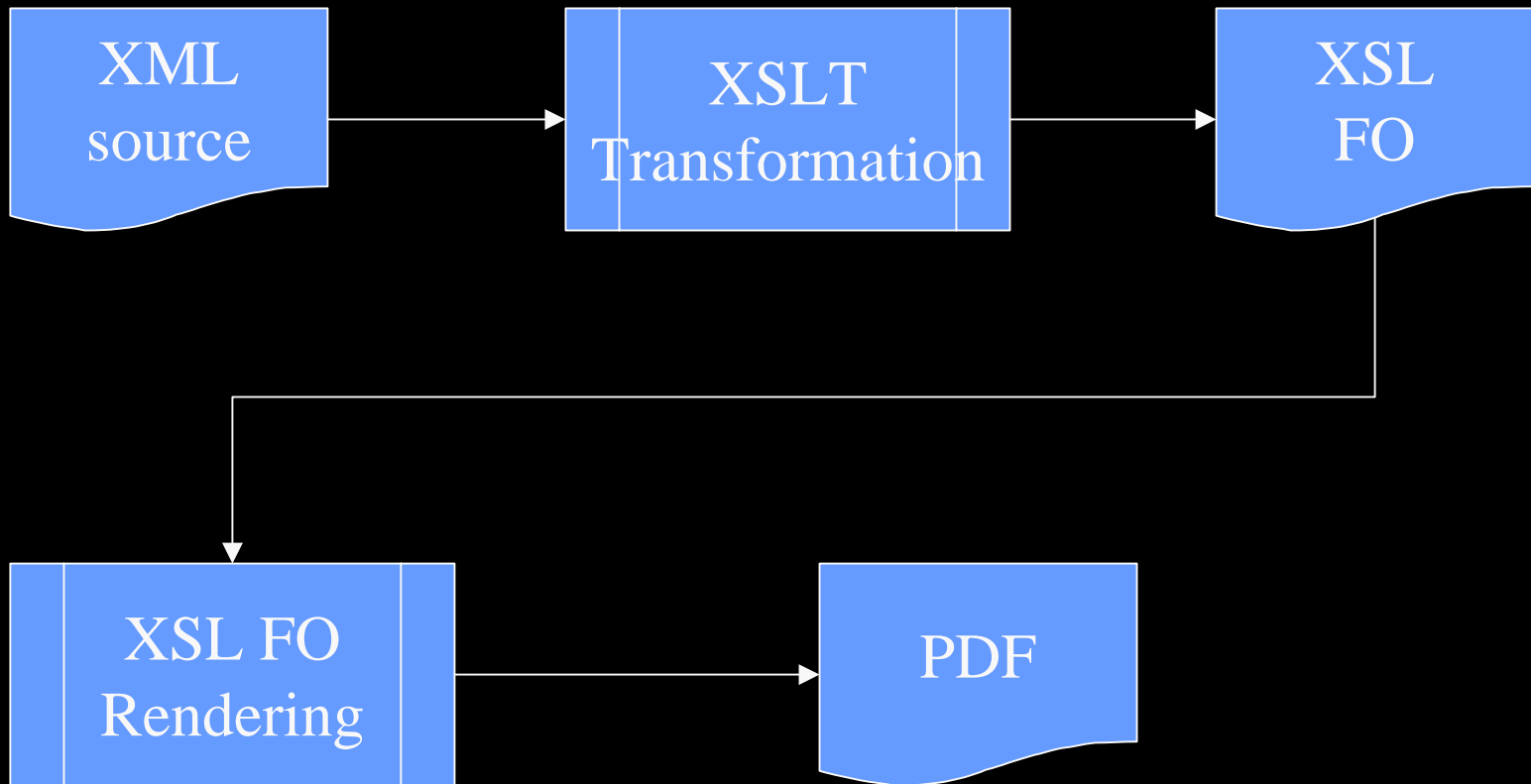
# Major problems overcome

- Symbolic inter-document references (challenging, ultimately elegant)
- Useful index (very difficult) [partial success only]
- Auto-generation of "Annex A" (quite elegant)
- Tables (difficult, XSL FO 1.0 limitations)
- *Getting the design right for standard & TC* (interesting, not difficult)

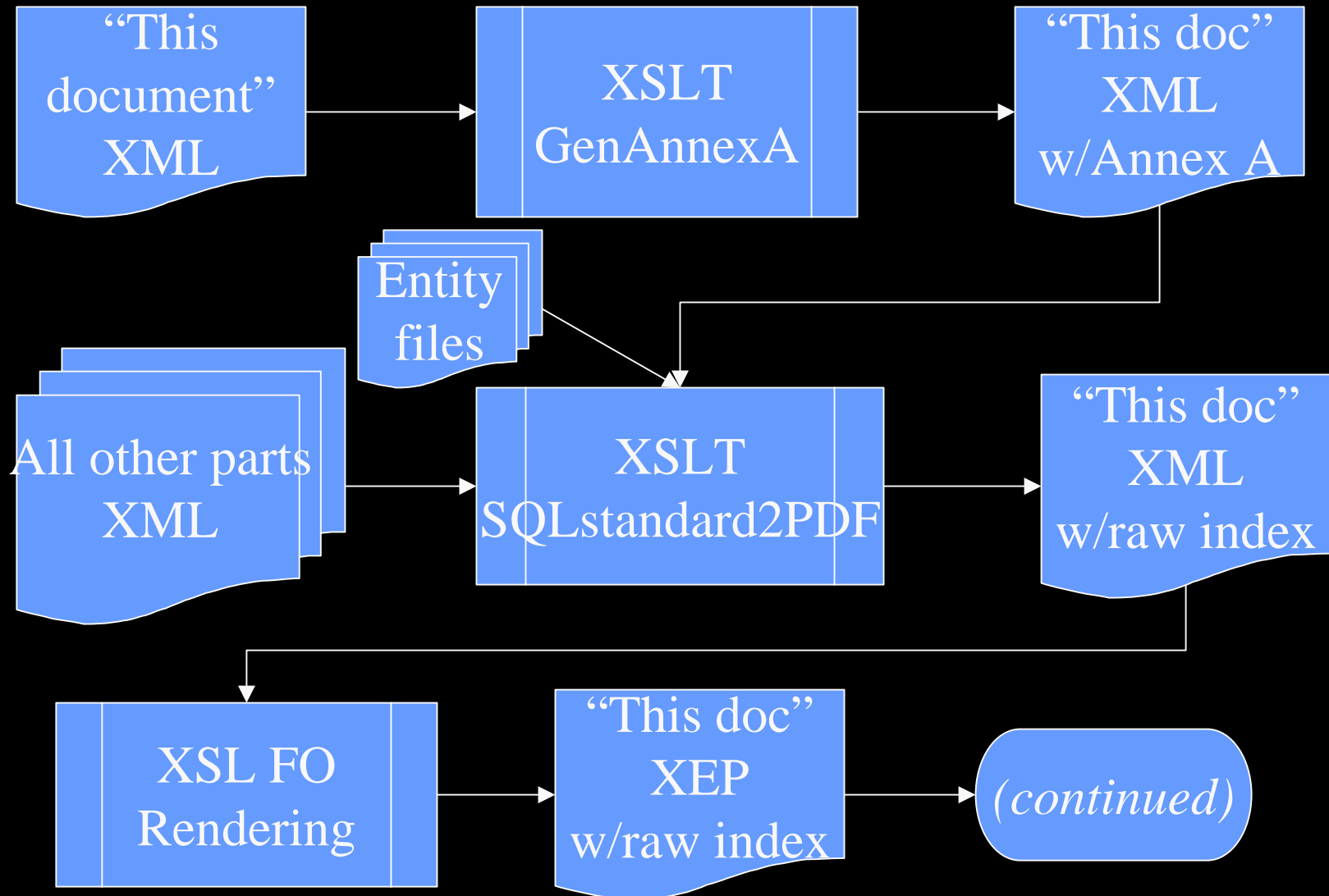
# Major problems *not* (yet) overcome

- Completion of index facilities (may not be totally possible, but can be improved)
- Changebars (very difficult, especially to generalize—limit of XSL FO 1.0)

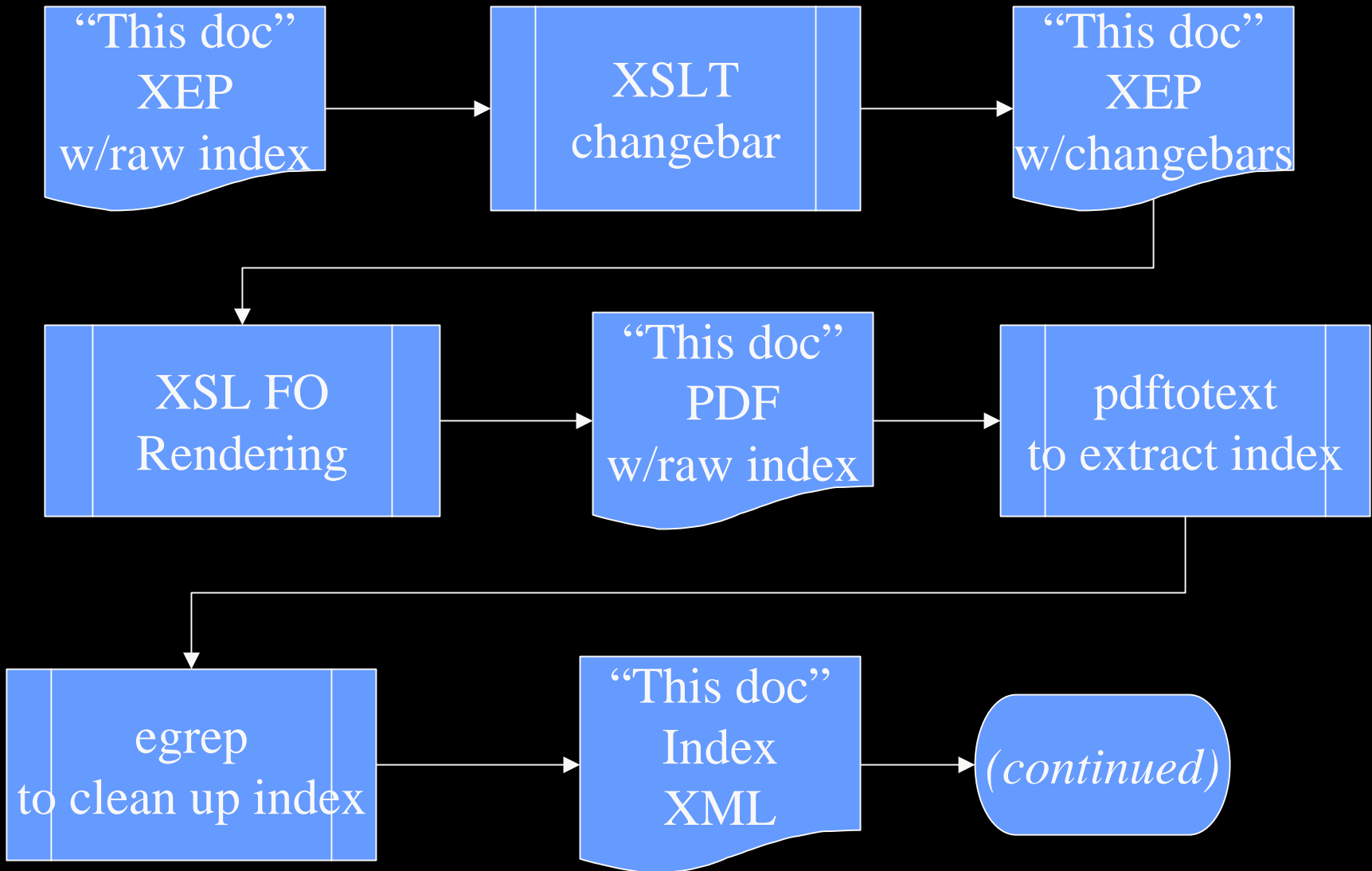
# Naïve Flowchart



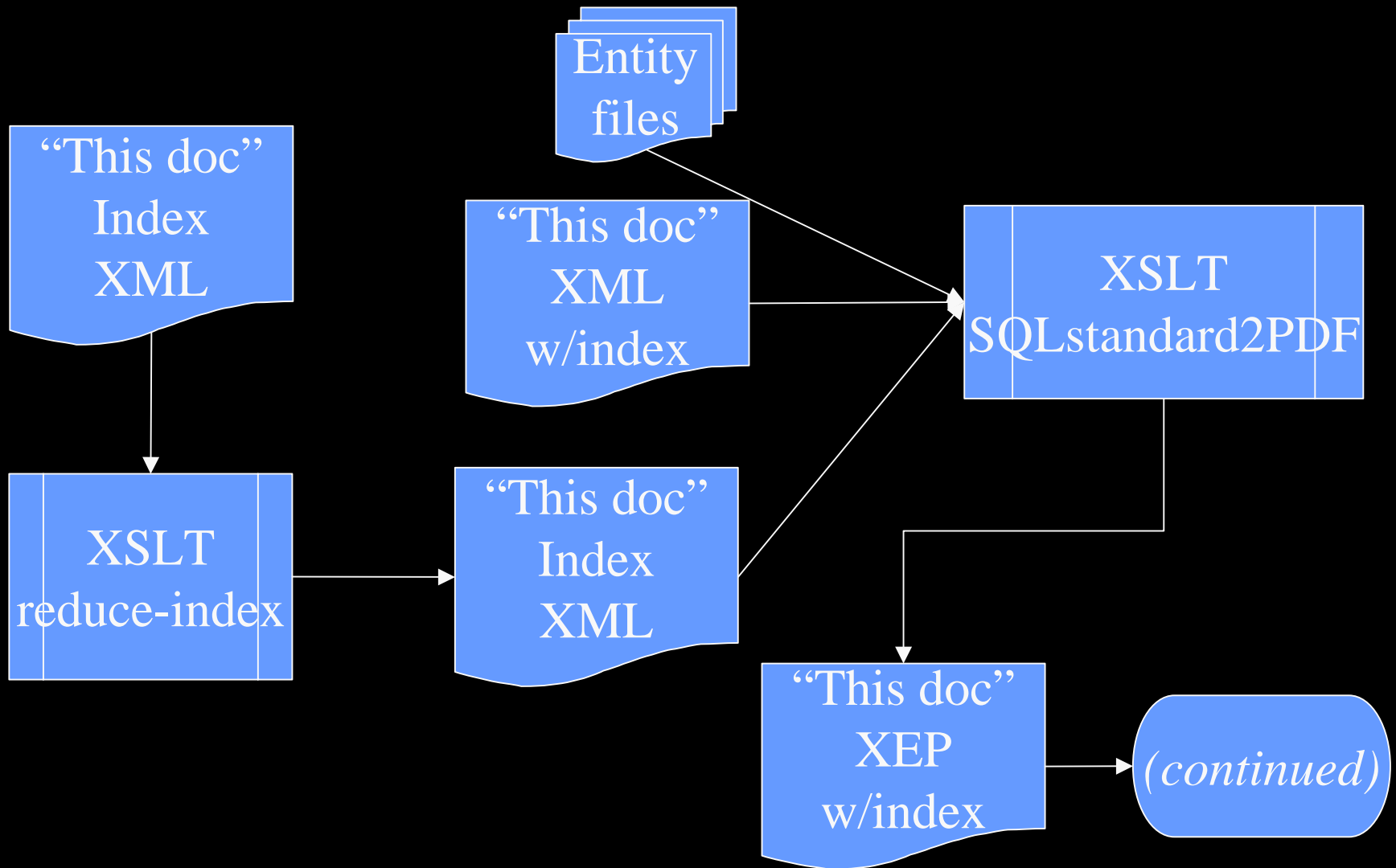
# Not so fast...



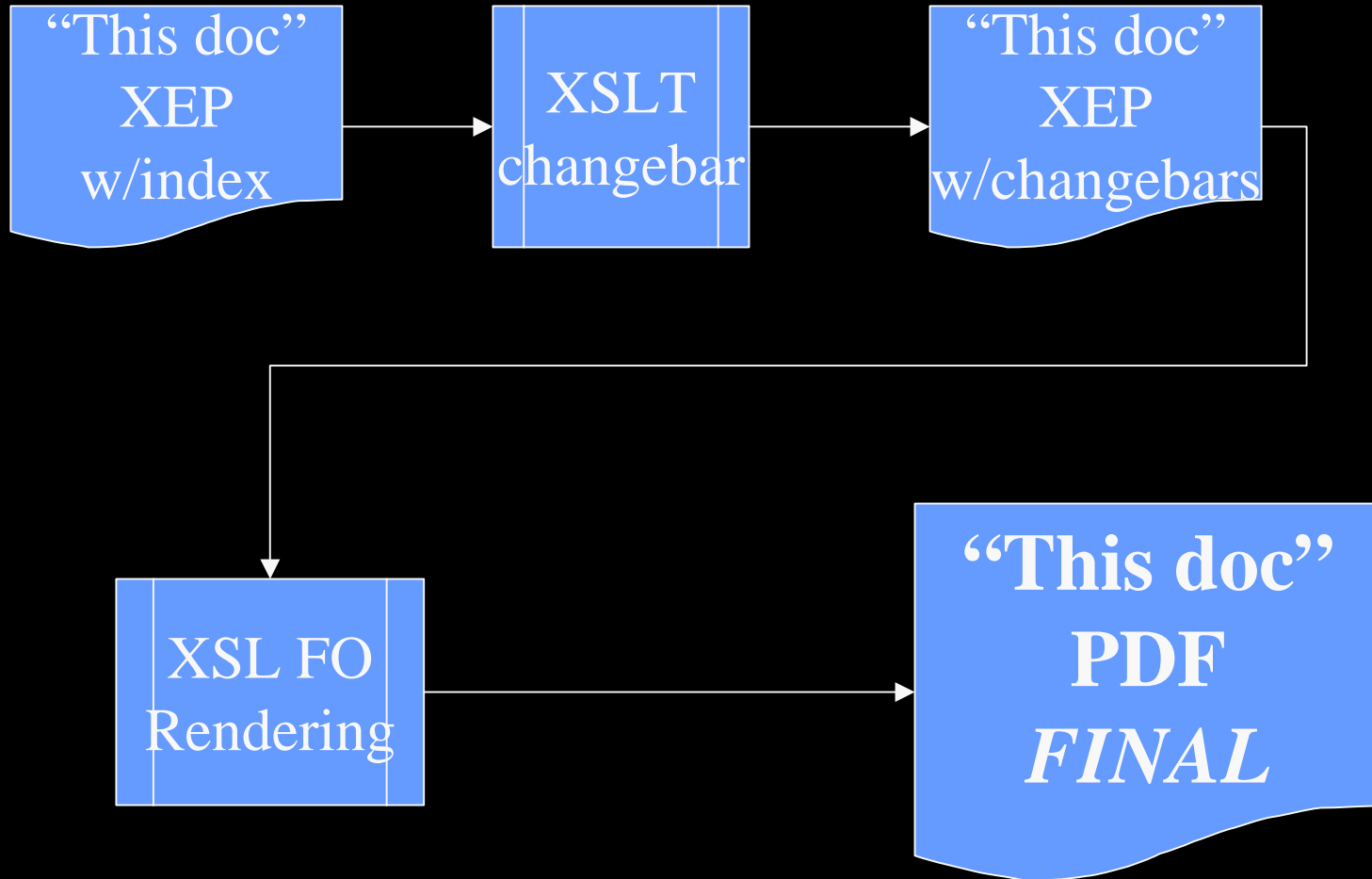
# Continuing steps...



# More continuation steps...



# Final continuation steps



# Summary

- XML: Open technology
- XSLT: Open source engines (Saxon chosen)
- XSL FO: FOP (not useful here), Antenna House (pretty good), XEP (best for this use—minimal use of XEP extensions)
- 1500 hours in DTD, stylesheet, conversions...
- ...+  $\geq 5000$  hours in DECdocument + TPU
- Goal: ITTF-acceptable camera-ready PDF!
- Now possible to share editing responsibilities
- At end of meeting, will *declare* version 1.0

# Conclusions

- XML is ordinary text (use source control tools) *vs* binary formats (difficult to keep versions)
- XML is open *vs* proprietary formats
- XML uses different processors for different tasks *vs* one-size-fits-all
- XML processors version-cycle short (bug fixes frequently) *vs* massive products cycle infrequently
- XML tools more likely platform-independent
- Unclear exactly how to generalize for *all sorts* of ISO (even JTC 1) standards

# Questions?

*(sample XML, XSLT, DTD, commands,  
and demonstrations on request)*