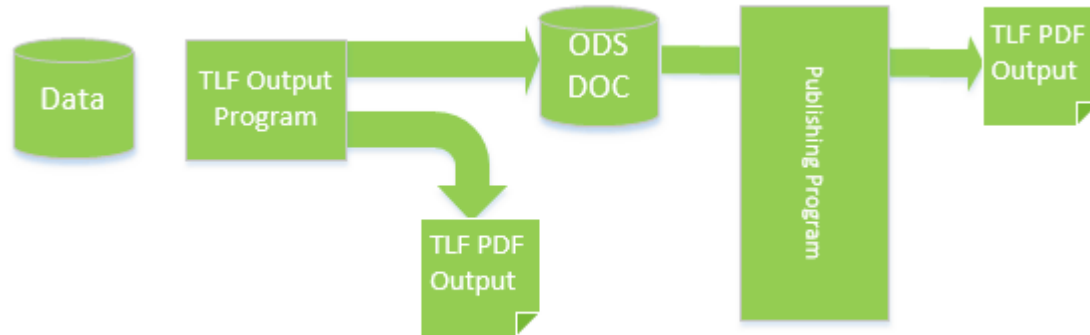


Application Development AD 06

Assembling PDF Reports with PROC Documents

Sven Prasse

- Mission
- Requirements for TLF Programs
- Final Report Layout
- Handling of the Header
- Document Store
- Generate the TOC
- Assembling the Final Structure
- Replaying the Final Report



- The outputs of several TLF programs has to be combined into one report including new
 - Page numbers
 - Header
 - Table of contents

- Define a libname pointing to the ODS Store
- Define a name

```
%LET _m_output = &libnameDocStore.&_m_filename.;
```

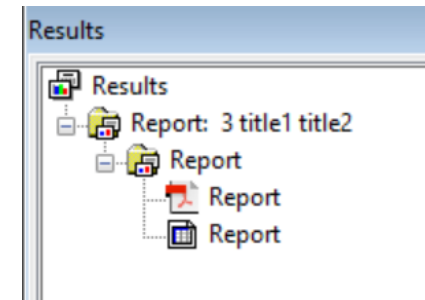
- Each TLF program has to produce 2 SAS ODS outputs within one call:
 - PDF Output Format
 - DOC stream
 - and store output meta data

```
/* ... for the document store */
```

```
ODS DOCUMENT NAME=&_m_output.(write);
```

```
/* ... for the report output */
```

```
ODS PDF file="&_m_outpath.\&_m_filename..pdf" style=&style. startpage=now;
```



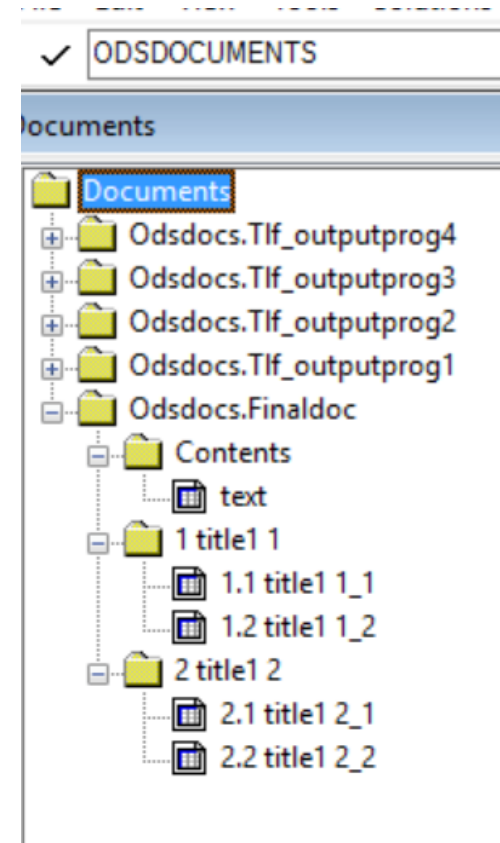
- For a unified Layout of the final report every TLF output has to use the same Layout template.

Final Doc Title			Page 1 of 100
TLF Output Title			
Column 1	Column 2	Column 3	TLF Output Range
XXXXXXXXX			
XXX	3%	300	
XXX	4%	400	
XXX	5%	500	
XXXXXXXXX			
XXX	3%	300	
XXX	4%	400	
TLF Output Footnote			

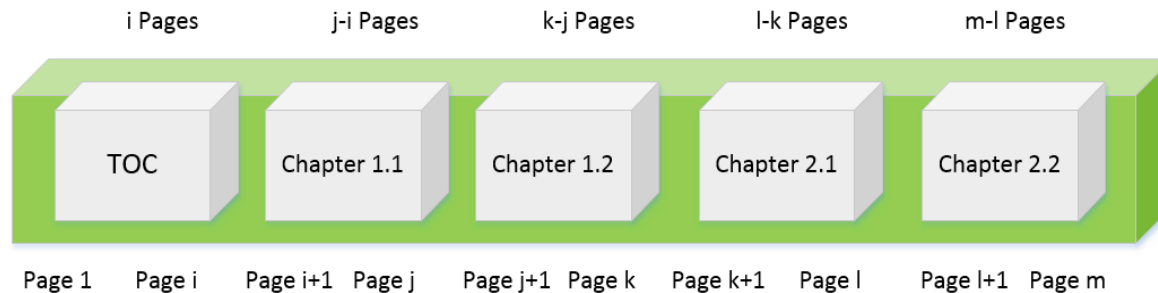
- Reserve Space for the header lines of the final report and append the header lines of the TLF output.

```
/* Add empty lines as a placeholder for the header of the final report */  
%LOCAL _m_newlines;  
%LET _m_newlines=;  
%DO _m_i=1 %TO &finalNoOfPretitles;  
  %LET _m_newlines=&_m_newlines(*ESC*)n;  
%END;  
.....  
title j=1 "&_m_newlines.&appendix. &title1";
```

- View the contents of the Store in the IDE with "ODSDOCUMENTS"
- Define chapter no., level and titles as meta data for each TLF storage



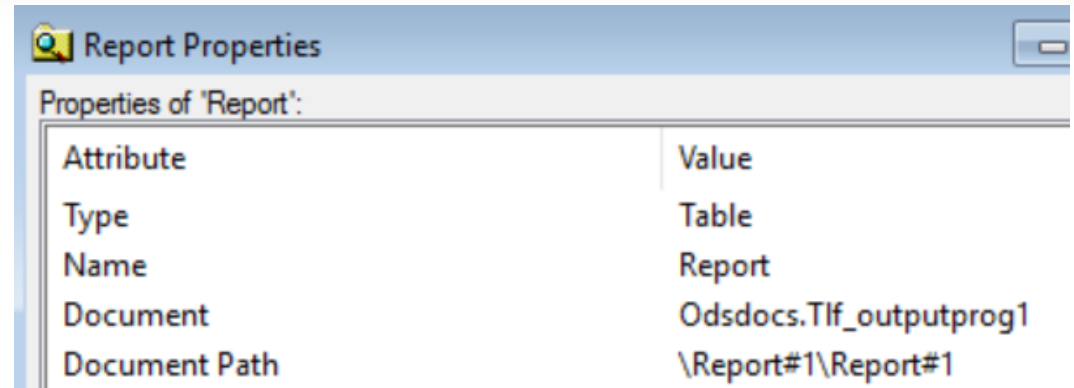
- Calculate the page numbers of each TLF PDF output by counting page breaks



- Print TOC into PDF
- Count Pages of TOC
- Sum up the page numbers
- Print TOC into Store

```
1 title1 1 . . . . .
  1.1 title1 1_1 . . . .
  1.2 title1 1_2 . . . .
2 title1 2 . . . . .
  2.1 title1 2_1 . . . .
  2.2 title1 2_2 . . . .
```

- Explore the Properties to view the node path:



The screenshot shows a 'Report Properties' dialog box with a table of properties for a report. The table has two columns: 'Attribute' and 'Value'.

Attribute	Value
Type	Table
Name	Report
Document	Odsdocs.Tlf_outputprog1
Document Path	\Report#1\Report#1

"\Report#1\Report#1"

- Use PROC DOCUMENT to work with the Stored Document

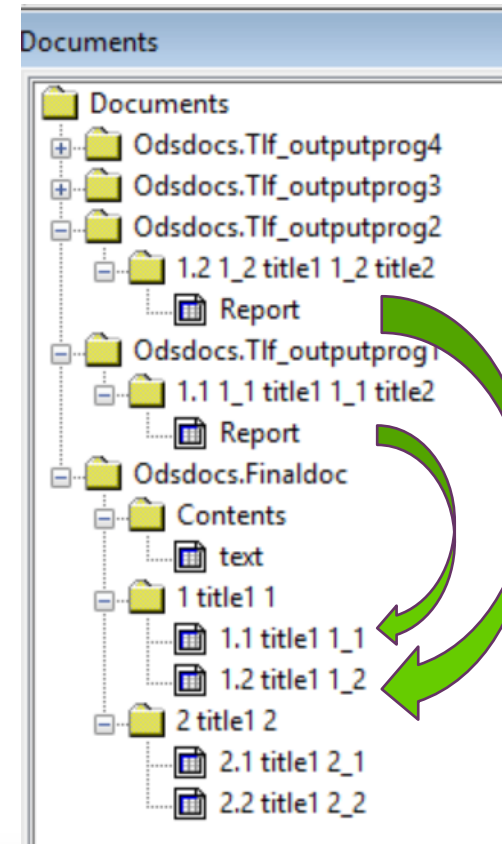
```
PROC DOCUMENT;  
  DOC NAME=&libnameDocStore..finalDoc;
```

- Copy the nodes identified by the Path

```
copy \&libnameDocStore.&document_storage_name.&_m_singleDocPath.  
to &targetDocNode;  
setlabel &targetDocNode.  
"&chapter &toc_entry";
```

- Set the Header Attribute "obtitle" for each output to obtain a proper PDF header for the final report

```
obtitle1 &targetDocNode."(*ESC*){leaders }  
%str( Page )^{thispage} of ^{lastpage}";  
obtitle2 &targetDocNode."Trial No.: T.ENTIMO";  
obtitle3 ...
```



- For programming it is useful to store the properties into a dataset

```
ODS OUTPUT PROPERTIES=singleDocProperties;  
PROC DOCUMENT;  
  DOC NAME =&libnameDocStore.&document_storage_name.;  
  list / details levels=all;  
QUIT;  
ODS _ALL_ CLOSE;
```

- To create the final report use "replay" and stream the document into OSD pdf

```
ODS pdf startpage = now;  
ODS pdf style=&stylePDF.;  
PROC DOCUMENT;  
  DOC NAME =&libnameDocStore..finalDoc;  
  REPLAY &makedocnode.#&_m_nodecount.;  
QUIT;
```

- Pros
 - Simple and handy approach to store and work with output content
 - Reduce runtime
- Cons
 - PROC DOCUMENT is only supported by SAS

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Questions and Answers

