

# Release Notes for Apache FOP 1.0

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## 1 Major Changes in Version 1.0




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### Note:

This is not a complete list of changes, just some of the more important ones. A full list of changes in this release is available.



### 1.1 Changes to the Code Base

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-  Fixed memory leak in property cache (not cleaning stale PropertyCache\$CacheEntry instances). Committed by JM.
-  Changed FONode.addCharacters() parameter to closer match the signature of the standard SAX characters() event (reduces confusion and computations). *!! Implementors of extensions that subclass FONode directly, and offer an implementation for addCharacters() should take care to make similar modifications in their code !!* Committed by AD.
-  Added an event handling framework which allows to get better feedback from within FOP with the ability to customize problem management. Committed by JM.



### 1.2 Changes to the Font Subsystem

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-  Add support for font substitution. Committed by AC.
-  Added support for addressing all glyphs available in a Type 1 font, not just the ones in the font's primary encoding. Committed by JM.



### 1.3 Changes to the Layout Engine

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-  Added limited support for pages of different inline-progression-dimensions within a page-sequence. Committed by VH.
-  Added minimal support for integer keep values on the various keep properties on block-level FOs. For now, all integer values are treated the same (i.e. without strength distinction). Using integers allows to avoid overflows that can happen when "always" is used extensively. Committed by JM.

### 1.4 Changes to Renderers (Output Formats)

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-  AFP Output: An AFPGraphics2D implementation which provides the ability to use Batik to drive the production of AFP Graphics (GOCA) output from SVG. Committed by AC.
-  AFP Output: Resource group leveling, external streaming, and de-duplication of images and graphics using IncludeObject and ResourceGroup. Committed by AC.

-  AFP Output: Native image embedding support (e.g. JPEG, GIF, TIFF) using ObjectContainer and a MOD:CA Registry implementation. Committed by AC.