



# PDF Signature Build Dictionary Specification



## 1 Overview

This specification describes the *build properties dictionary* of the signature dictionary. The signature build properties dictionary provides signature properties for the software application that was used to create the signature. The information is provided for repudiation purposes and to allow software to detect which version of software was used or is required in order to process a signature. This allows, for example, detection of signatures that are created with pre-release versions of software and repudiation of signatures that are produced with versions of software that are later found to be flawed. Build information is normally hidden from a user and is only machine processed.

Build information has been provided in signature dictionaries since Acrobat 4.0. The information was provided by the value of the **R** and **ADBE\_Build** attributes. For Acrobat 6.0 we have recognized the need for a richer mechanism for providing this information. The **ADBE\_Build** attribute was insufficient because it is a string with a value that does not have a specified format, and is therefore not machine readable, and that contains insufficient information.

## 2 Interoperability

- Created for Acrobat 6.0
- This specification has not changed for Acrobat 7.X.

### 3 Build Properties Dictionary

The build properties dictionary and all of its contents are required to be direct objects. The rationale for requiring direct objects is described in the *PDF Reference 1.5*.

Use of a build properties dictionary is optional but highly recommended.

The build properties dictionary contains a build data dictionary entry for each unique piece of software that was used to create the signature. The software modules involved in the signing process will vary depending on the viewing application. All signing implementations should include at least a **Filter** entry in the build properties dictionary.

**Table 1** Common entries in all build properties dictionary

Key	Type	Value
<b>Filter</b>	dictionary	(Optional; PDF 1.5) A build data dictionary ( <a href="#">Table 3</a> ) for the signature handler that was used to create the parent signature. This entry is optional but is highly recommended for all signatures.

*Note* Acrobat 6.0 includes a **Filter** entry in the build properties dictionary for the handler that is used to create the signature. Acrobat 6.0 also includes information about other software modules that are involved in the signing process. These other entries are shown in [Table 2](#).

**Table 2** Additional entries in the build properties dictionary for the Acrobat 6.0 viewing application

Key	Type	Value
<b>PubSec</b>	dictionary	(Optional; PDF 1.5) A build data dictionary ( <a href="#">Table 3</a> ) for the PubSec software module that was used to create the parent signature.
<b>App</b>	dictionary	(Optional; PDF 1.5) A build data dictionary ( <a href="#">Table 3</a> ) for the viewing application software module that was used to create the parent signature.

#### 3.1 Build Data Dictionary

The build data dictionary contains information from the signature handler or software module that was used to create the signature. Not all entries are relevant for all entries in the build properties dictionary.

**Table 3** Common entries in build data dictionaries

Key	Type	Value
<b>Name</b>	name	<i>(Optional; PDF 1.5)</i> The name of the software module that was used to create the signature. When used as the value of the Filter attribute in <a href="#">Table 1</a> , this is the name of the signature handler. This name then corresponds with the <b>Filter</b> attribute in the signature dictionary.
<b>Date</b>	string	<i>(Optional; PDF 1.5)</i> The build date of the software module. This string is normally produced by the compiler that is used to compile the software, for example using the <code>__DATE__</code> and <code>__TIME__</code> preprocessor flags. As such, this may not be in PDF Date format.
<b>R</b>	number	<i>(Optional; PDF 1.5)</i> The software module revision number, corresponding to the <b>Date</b> attribute. It is important that signature handlers and other software modules routinely update this value with a unique value. If the module or handler is ever found to have been defective, for signatures where the value of <b>PreRelease</b> is false, the value of this attribute is likely to be the only way to detect that the signature was created with the defective release. An example use might be 0x00020014, for software version 2, sub-build 0x14.
<b>V</b>	number	<i>(Optional; PDF 1.5)</i> The software revision number, used to determine the minimum version of software that is required in order to process this signature. The default value is 0. This attribute can be used by the handler or other software module to force users to update their software in order to process the signature. It is suggested that handlers and other software modules update this number each time it is determined that newer software is required, and that the number always be checked to determine if the number is one that is greater than what is currently supported. An example reason for updating this number is if support of longer cryptographic key lengths requires a later software release. Suggested values are of the form 0, 1, 2, etc..
<b>PreRelease</b>	boolean	<i>(Optional; PDF 1.5)</i> A flag that can be used by the signature handler or software module to indicate that this signature was created with unreleased software. If true, this signature was created with pre-release or otherwise unreleased software. The default value is false.
<b>OS</b>	string	<i>(Optional; PDF 1.5)</i> Indicates the operating system, for example 'Win98'. Currently there is no specific formatting defined for this attribute.
<b>NonFontNoWarn</b>	boolean	<i>(Optional; PDF 1.5)</i> If there is a <b>LegalPDF</b> dictionary in the catalog of the PDF file and the <b>NonEmbeddedFonts</b> attribute in this dictionary has a non zero value, and the viewing application has a preference set to suppress the display of this warning then the value of this attribute will be set to true.
<b>TrustedMode</b>	integer	<i>(Optional; PDF 1.5)</i> If 1 then the application was in trusted mode when signing took place. The default value is false.

*Note* Acrobat 6.0 does not use all values in the build data dictionary for all entries in the build properties dictionary. [Table 4](#) shows the implementation details used by Acrobat 6.0.

**Table 4** Entries in build data dictionaries for Acrobat 6.0

<i>Name</i>	<i>Properties Used</i>
<b>Filter</b>	<b>Name</b> (extracted from handler, for example <b>Adobe.PPKLite</b> or <b>Adobe.PPKMS</b> ), <b>Date</b> , <b>R</b> , <b>V</b> , <b>PreRelease</b> .
<b>PubSec</b>	<b>Date</b> , <b>R</b> , <b>V</b> , <b>PreRelease</b> .
<b>App</b>	<b>Name</b> (one of <b>Adobe.Reader</b> or <b>Adobe.Pro</b> , or <b>Adobe.Standard</b> ), <b>R</b> , <b>OS</b> , <b>TrustedMode</b> .

**Example 1** *Build properties dictionary*

```
/Prop_Build
<<
  /Filter
  <<
    /Name /Adobe.PPKLite
    /R 0x0002014
    /V 1
    /Date (Mar 13 2003 13:10:53)
    /PreRelease true
  >>
  /PubSec
  <<
    /Date (Mar 13 2003 13:14:22)
    /V 2
    /R 0x0002014
    /PreRelease true
  >>
  /App
  <<
    /Name /Adobe.Reader
    /TrustedMode false
    /R 63454
  >>
>>
```