Layered PDF Versioning with APA and white object detection tasks

You need to create an advertisement handout based on non-layered input files that use a common base and five separate versioned layers.
To automate this job, you want versioned pages created automatically, and refined PDF pages automatically linked to the appropriate versioned page position.
After the versioned pages are generated, you want to automatically impose them to an imposition plan using Automated Page Assignment (APA).

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Create a job

1. If it is not already open, start Prinergy Workshop.
2. In Job Finder, right-click your main group, and choose **New Job**.
3. Type the job name XX_LPV_APA (where <*XX*> represents your initials).
4. In the **Options** section of the dialog box, select **Job Attributes**.
5. In the Set Job Attributes dialog box, locate the **Regional Versioning** section.
6. Select the **Layered PDF Versioning (LPV) Job** option, and Click **OK**.
7. In the Create New Job dialog box, click **Create**.
8. Minimize the Job Manager window.

Copy input files and an imposition plan to the job folder

1. From your workstation, locate: `Prinergy Activity Practice Files / Act_32_LPV_APA`
2. Copy the `Input Files` and `Imposition` folders.
3. Restore Job Manager.
4. Right-click the **XX_LPV_APA** job folder icon in the lower left corner of Job Manager. Select **Open Job Folder in File Browser**.

5. In the XX_LPV_APA folder, open UserDefinedFolders.
6. Paste the Input Files and Imposition folders into UserDefinedFolders.
7. Close the job folder.

Add and refine input files

1. Right-click the **Input Files** pane and choose **Add Input Files**.
2. In the Add Input Files dialog box, click the **Job Folder** button and locate: UserDefinedFolders/Input Files.
3. Open the Austria folder.
4. Click the **Add All** button to add every file to the **Files to Add** list.
5. Return to the **Input Files** selection and open the Blk_Balkan folder.
6. Click the **Add All** button to add every file to the **Files to Add** list.
7. Repeat the same steps outlined above for the England_uk, German, and Greece_gr folders.
8. In the **Options** section of the Add Input Files dialog box, select the **Process Selected Files Using Process Template** check box. and use the process template: **Refine** > **Refine** > **1stRef-Normz**.
9. In the Add Input Files dialog box, click **OK**.
10. In the Start Process dialog box, click **OK**.

Create a refine process template

In this task, you will create a refine process template that automatically generates versioned pages, and then links refined PDF pages to the appropriate versioned page position, using page name patterns.

1. From the **Tools** menu, choose **Process Template Editor**.
2. Right-click the **Refine** group and choose **New Process Template Group**.
3. Name the group XXLPV&APA (where <*XX*> represents your initials).
4. Right-click your group **XXLPV&APA** and choose **New Process Template**.
5. From the **File** menu, select **Save**.
6. Name the process template XXLPV&APAPlan (where <*XX*> represents your initials).
7. Click the **Create Process Template** button.
8. Open the **Normalize** section.
   In the **Layered PDF Versioning (LPV)** area, under **Versioning Automated Page Assignment (VAPA)**, select the **Build Versioned Page** option.
   This option instructs Prinergy to create versioned pages and use page name patterns to automatically link refined PDF pages to the versioned pages. You can define more than one page name pattern for each version to allow updated pages to automatically replace the original pages . Page name patterns are separated by semi-colons.
9. Select the **PDF Preflight** check box and open the **PDF Preflight** section.
10. In the **Preflight Handling** area, in the **Errors** list, select **Warn**.
11. Select the **Advanced Preflight** option and in the **Preflight Profile File** list, select any preflight profile.
12. From the **File** menu, select **Save**.
13. Close the refine process template.
14. Close Process Template Editor.

Build a version plan

In this task, you will use the Version Plan Quick Builder to build a version plan for the five versions required for the advertisement handout.

1. Select the **Version Plan** view.
2. From the **Versioning** menu, choose **Version Plan Quick Builder**.
3. In the Version Plan Quick Builder dialog box, select the following:
   Add to Version Plan
   Base Layer: **Common**
   Number of Versions: **5**
4. In the **Version Names**: list, select the first entry, **Version 1.**
5. Change the name from **Version 1** to **Austria**.
6. Repeat the same steps for:
   Version 2 = Balkan_E
   Version 3 = English_UK
   Version 4 = German
   Version 5 = Greek
7. Click **Create Versions**.
8. Close the Version Plan Quick Builder.

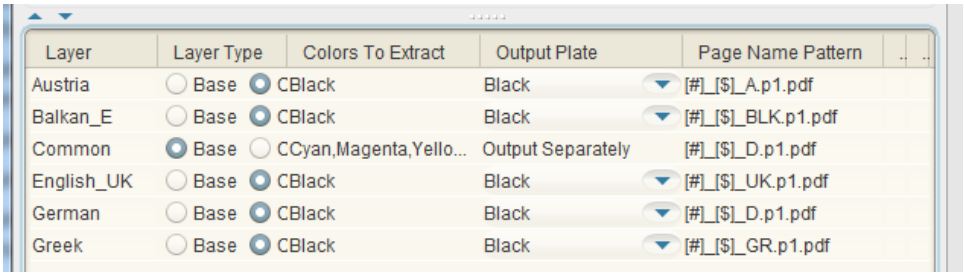
Create version plan page name patterns

LPV can link refined pages to versioned pages automatically, if the refined pages have consistent file naming patterns defined in the version plan—this is called **Versioning Automated Page Assignment** or **VAPA**.
A page name pattern is a set of characters that match the refined page names for a layer. Wild cards are used to represent the characters that change between each refined page name.
After setting the page name pattern in the version plan, refine the PDF pages again using the **Build Versioned Page** check box in the refine process template (completed in Task 4). This check box tells Prinergy to use page name patterns to link refined PDF pages to versioned page positions.

Important: Use page name patterns to match refined page names, not the input file names. For example, the input file, RC_English.pdf becomes RC_English.p1.pdf after being refined. Create a name pattern that matches RC_English.p1.pdf.
Although the pattern matching wild cards are very similar to those used for Automated Page Assignment (APA), you cannot use the APA Editor in Prinergy to create the pattern matching expressions for LPV. You must use the version plan.

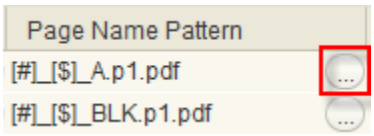
1. In the lower half of the Version Plan window, double-click the **Page Name Pattern** column for the **Common** layer.
2. Type the following page name pattern: [#]_[$]_D.p1.pdf
3. Click **Return**.
4. Using the same procedures listed above, add **Page Name Patterns** to the following layers:
   - **Austria layer = [#]_[$]_A.p1.pdf**
   - **Balkan_E layer = [#]_[$]_BLK.p1.pdf**
   - **English_UK layer = [#]_[$]_UK.p1.pdf**

- **German layer = [#]_[$]_D.p1.pdf**
- **Greek layer = [#]_[$]_GR.p1.pdf**



Note: By associating the Common layer to the German layer (using the same name pattern), the common colors of CMYK can be extracted from the German layer and associated to the Common layer. The Common layer must be associated to at least one version layer in the job, to extract the common colors of CMYK.

5. Add an additional page name pattern to allow replacing the original pages with correction pages later in the process. In the **Page Name Pattern** column, next to the first name pattern (on the **Austria** layer), click the **browse** button



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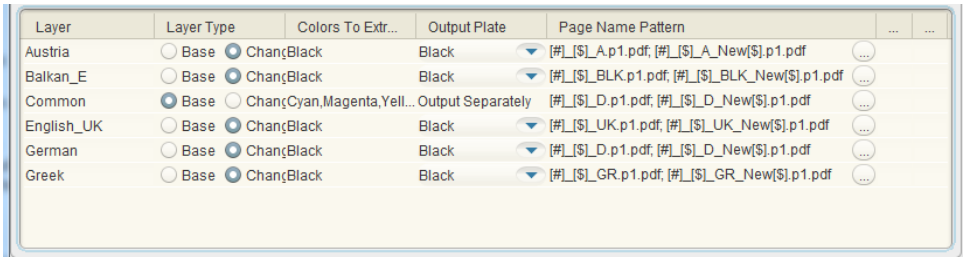
6. In the Page Name Pattern editor dialog box that appears, click the **Add Page Name Pattern** button and in the new line that appears, type `[#]_[$]_A_New[$].p1.pdf`
   Note: In the lower half of the Version Plan window, you can copy multiple names from one line to another or from multiple cells or multiple columns from one job to the other.
7. Click **Save**.
8. Using the same procedures listed above, add another **Page Name Patterns** to the following layers:
   - **Common layer = [#]_[$]_D_New[$].p1.pdf**
   - **Balkan_E layer = [#]_[$]_BLK_New[$].p1.pdf**
   - **English_UK layer = [#]_[$]_UK_New[$].p1.pdf**
   - **German layer = [#]_[$]_D_New[$].p1.pdf**
   - **Greek layer = [#]_[$]_GR_New[$].p1.pdf**



Name pattern wild cards

The following wild cards are supported:

- #—match numbers
- %—match letters
- $—match letters and/or numbers

Wild card rules

- All wild cards must be enclosed in square brackets. For example, [#]
- You can use one or more wild cards in a page name pattern

In this activity, the wild cards have been used to describe the following:

PDF Page Name = 38_DABTECH_01_A.p1.pdf

Page Name Pattern = [#]_[$]_A.p1.pdf

[#] = 38

[$]= DABTECH_01 In this case, *[$]* essentially ignores the text and number information appearing between the two underscores, as this information changes.

For example: 38_DABTECH_01_A.p1.pdf

40_MDTECH_01_A.p1.pdf

43_GENTECH_01_A.p1.pdf

50_ACCESSORY_01_A.p1.pdf

A = Austria

Essentially, [#] defines the version page (38), and A defines the layer (Austria). Together, both items direct LPV where to position a PDF page—to which version page and to which layer. In this activity, there are 20 potential positions to place a PDF page, as there are four version pages and five layers. Based on this naming pattern, LPV will position the refined PDF page `38_DABTECH_01_A.p1.pdf` to the Austria layer of the versioned page `VP_38.pdf`.

Refine PDF pages again

In this task, you will refine the PDF pages again using the refine process template you created in Task 4. Refining the PDF pages again starts the automatic creation of versioned pages, and the automatic linking of refined PDF pages to appropriate versioned page positions based on page name patterns.

Note: You initially refined the input files in Task 3 to see the refined PDF page names. You needed to know these page names to create accurate page name patterns in the version plan.

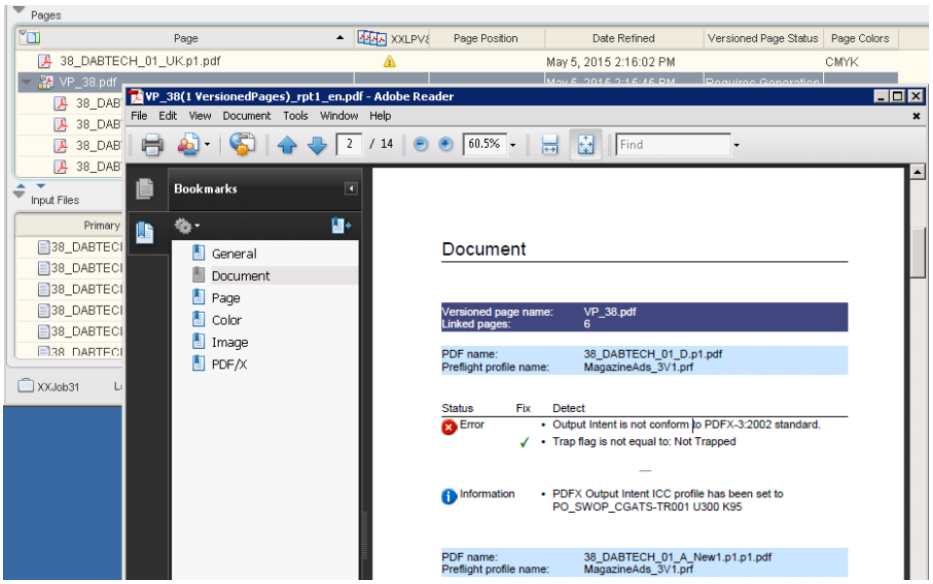
1. In the **Pages** pane, select all PDF pages.
2. Right-click any selected PDF page and choose the process template: **Refine** > **XXLPV&APA** > **XXLPVandAPAPlan** (where *XX* represents your initials).
3. In the Start Process dialog box, click **OK**. The LPV versioning system starts to build the versioned page and assigned the refined pages.

Note: During the refine process, monitor the **Pages** pane. Once PDF pages have been refined, they automatically appear in the **Pages** pane as versioned pages.

Add correction pages that automatically replace the original pages

In this task, you will add a correction page and verify that the correction page automatically replaces the original page according to the instructions in the version plan.

1. To replace one of the pages with an updated page, from the **File** menu, select **Add input Files**.
2. In the Add Input Files dialog box, click the **Job Folder** button and locate: `UserDefinedFolders/Input File/Austria/New/38_DABTECH_01_A_New1.p1.pdf`.
3. Click the **Add Selected** button to add the file to the **Files to Add** list.
4. Repeat the same steps and add the following correction pages:
   `UserDefinedFolders/Input File/Balkan_E/New/38_DABTECH_01_BLK_New1.p1.pdf`
   `UserDefinedFolders/Input File/English_UK/New/38_DABTECH_01_UK_New1.p1.pdf`
   `UserDefinedFolders/Input File/German/New/38_DABTECH_01_D_New1.p1.pdf`
   `UserDefinedFolders/Input File/Greek/New/38_DABTECH_01_GR_New1.p1.pdf`
5. In the **Options** section, select the **Process Selected Files Using Process Template** check box and use the process template: **Refine > Refine > XXLPVandAPAPlan**. The new correction pages are automatically assigned to the appropriate versioned pages according to the page name pattern definition.
6. To view the preflight report for the versioned pages and their linked pages, in the **Pages** pane, select one or more versioned pages, and from the **Job** menu, select **Preflight Report Viewer**.



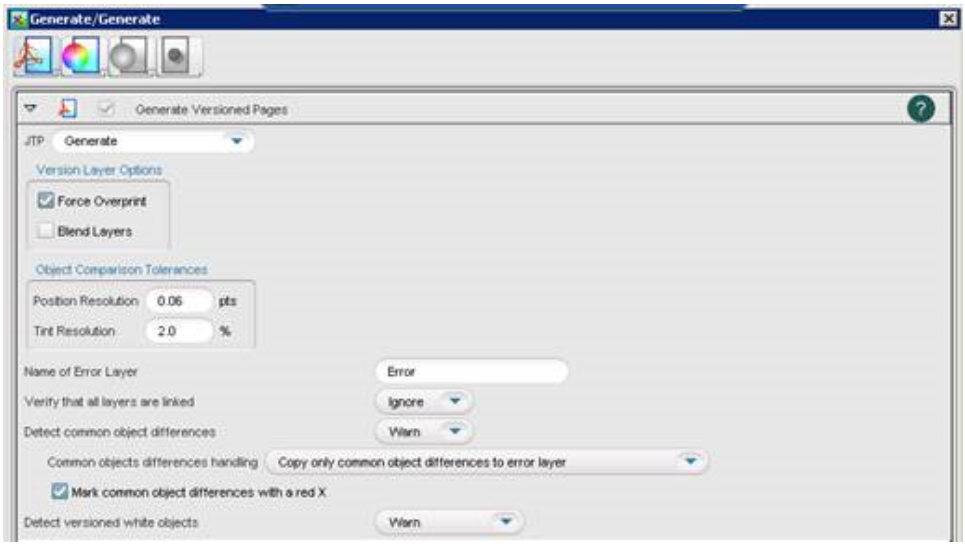
Generate versioned pages and copy common object differences to the error layer

Note: This activity is relevant to Layered PDF Versioning Models 1 and 2, where all of the versions contain both the common objects and the versions.

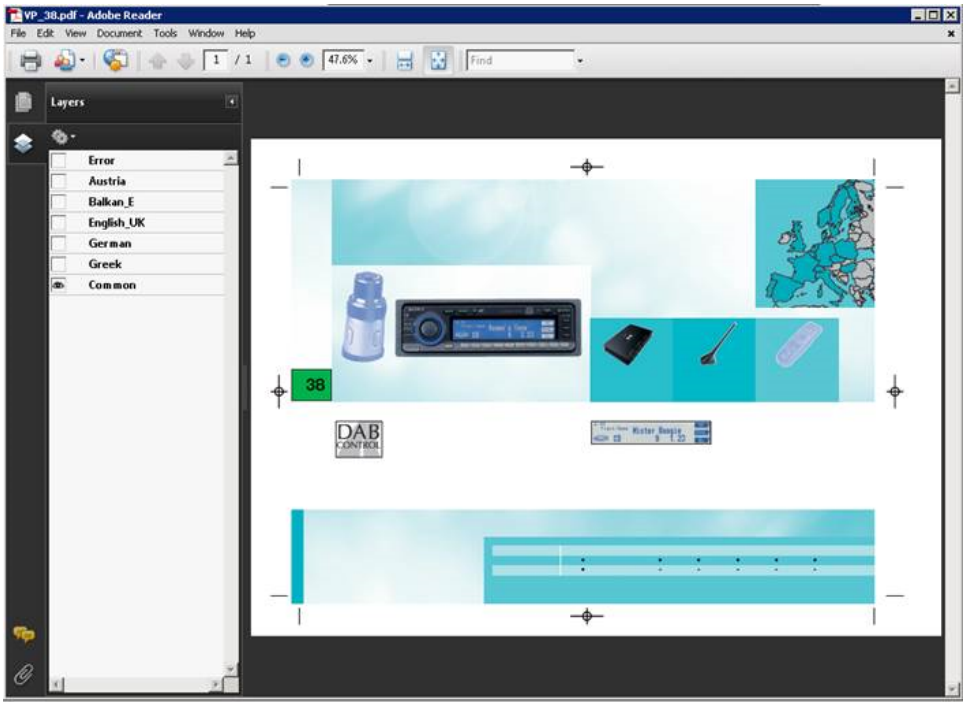
In this task, you will enable an option that detects differences between common objects (objects that appear on all version pages, but belong to the base layer). An object may be visually identical, but have differences in color, position, or size, due to different versions of creative applications in which it was created.

You can move or copy only the wrong objects to the error layer, while leaving the correct versions as is. This enables you to output the common and the good versions, while you wait for the fix of the version with the error.
You can also mark the original position of the error object on the 'original' layer.
The PDF that is linked to the common layer is considered the correct PDF, to which all other PDF versions are compared to.
You select this option in the Generate process template.

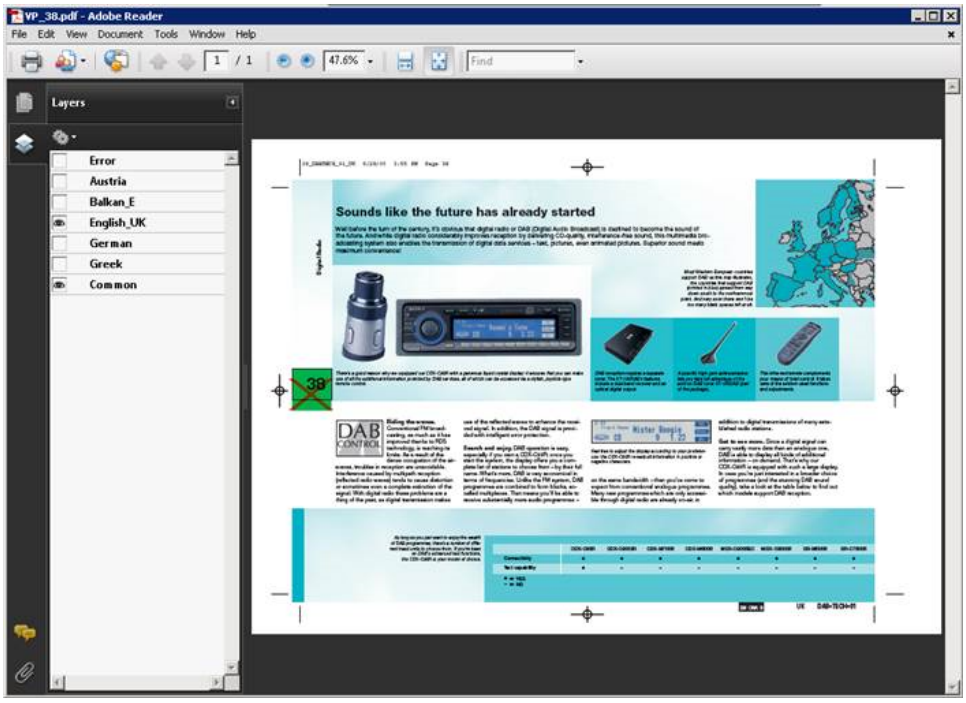
1. From the **File** menu, select **Add input Files**.
2. In the Add Input Files dialog box, click the **Job Folder** button and locate: `UserDefinedFolders/Input File/CommonObjects/38_DABTECH_01_BLK_New2.p1.pdf` and `38_DABTECH_01_UK_New2.p1.pdf`.
   Note: These files contain common objects that were moved from their original position.
3. Click the **Add Selected** button to add the file to the **Files to Add** list.
4. In the Add Input Files dialog, in the **Options** area, select the **Process Selected Files Using Process Template** check box. Click the **Select** button and in the Choose Process Template dialog box, select the **XXLPVandAPAPlan** process template that you created earlier (in Task 4 of this Activity), and click **OK**.
5. In the Start Process dialog box, click **OK**.
6. In the **Pages** list, select **VP_38.pdf** and then from the **Process** menu, select **Generate** > **Generate** > **Generate**.
7. In the Start Process dialog box, click the **Edit Process Template** button.
8. Open the **Generate Versioned Pages** section. In the **Detect common object differences** list, select **Warn**.
9. In the **Common objects differences handling** list, select **Copy only common object differences to error layer**.
10. Select the **Mark common object differences with a red X** check box.



11. Click **OK**.
12. In the Start Process dialog box, select **OK**. The page is generated.
13. Open the generated page in Acrobat. The **Common** layer is actually identical to the German layer and serves as the reference.



The **English_UK** layer has a green square on the error layer and a red X on the bounding box of the wrong object (the common object difference).

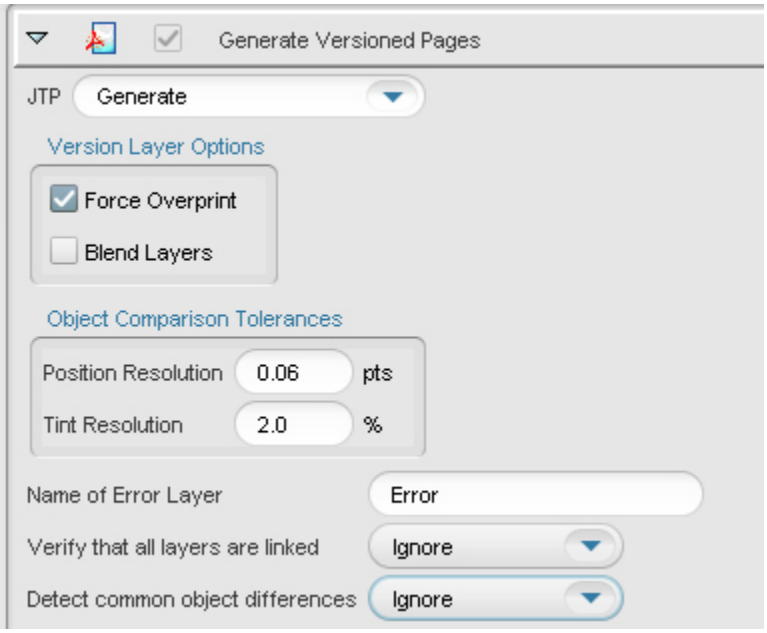


Generate versioned pages

Although version pages were automatically created during the refine process, they still need to be generated.

In this task, you will enable an option that ignores differences between common objects (objects that appear on all version pages, but belong on the base layer). An object may be visually identical, but have differences in construction, perhaps due to different versions of creative applications in which it was created.
You select this option in the Generate process template.

1. In the **Pages** pane, select the four versioned pdf files: `VP_40.pdf, VP_43.pdf, and VP_50.pdf`.
2. From the **Process** menu, choose **Generate** > **Generate** > **Generate**.
3. In the Start Process dialog box, click the **Edit Process Template** button.
4. Open the **Generate Versioned Pages** section. From the **Detect common object differences** list, select **Ignore**, and click **OK**.



   Note: The option to ignore common object differences option is used when using Input File Models 1 or 2 (outlined at the beginning of this activity). Select this option to ignore differences between 'common' objects—those that appear on all version pages, but belong on the base layer.
5. In the Start Process dialog box, select **OK**.
6. Note that all versioned pages in the **Version Page Status** column have a status of **Generated**.

Remove a version layer

Edit Scenario: You have received a change request from your customer. They have requested that only four versions be created instead of five. They have asked that you remove the Austria version from the job.

1. Select the **Version Plan** view.

2. In the lower half of the Version Plan window, locate the **Austria** layer.
3. Right-click the **Austria** layer and select Delete Layer.
   You will receive the following Error message:

Error Definition	Details
Notification	Unable to delete the following layer: Austria
Explanation	The layer that you are attempting to delete is currently being used to define one or more versions.
Solution	Remove the layer from any versions that it defines before attempting to delete the layer.

4. Click **OK** in the Error dialog box.
5. Select the **Versioned Pages** view.
6. Using the Shift key, select all PDF pages appearing in the **Austria** column:
   `38_DABTECH_01_A.p1.pdf`
   `40_MDTECH_01_A.p1.pdf`
   `43_GENTECH_01_A.p1.pdf`
   `50_ACCESSORY_01_A.p1.pdf`
7. Right-click any selected PDF page, and choose **Unlink**.
8. Select the **Version Plan** view.
9. In the upper half of the Version Plan window, right-click the **Austria** version and select **Delete Version**.
10. In the lower half of the Version Plan window, right-click the **Austria** layer and select **Delete Layer**.
11. Select the **Pages** view.
12. Using the Shift key, select the following PDF pages appearing in the **Pages** pane:
    - `38_DABTECH_01_A.p1.pdf`
    - `40_MDTECH_01_A.p1.pdf`
    - `43_GENTECH_01_A.p1.pdf`
    - `50_ACCESSORY_01_A.p1.pdf`
13. Right-click any selected PDF page, and choose **Delete Page**.

Generate versioned pages again

Based on removing the Austria layer, the versioned pages need to be generated again to update the metadata required to accurately process the versioned layers.

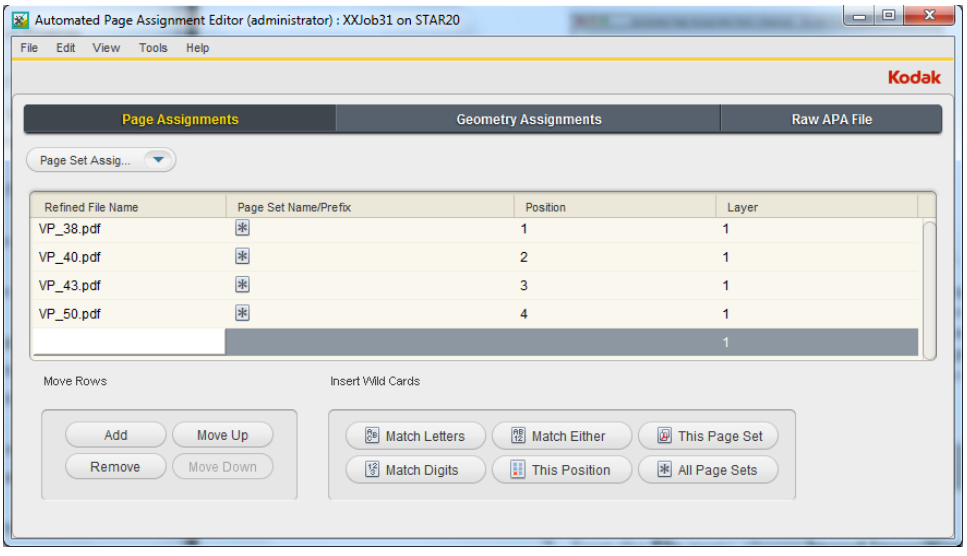
1. In the **Pages** pane, select the four versioned pdf files: `VP_38.pdf, VP_40.pdf, VP_43.pdf, and VP_50.pdf`.
2. From the **Process** menu, choose **Generate > Generate > Generate**.
3. In the Start Process dialog box, click the **Edit Process Template** button.
4. Open the **Generate Versioned Pages** section. From the **Detect Common Object Differences** list, select **Ignore**. Click **OK**.
   a. In the Start Process dialog box, select **OK**.

Create an APA rule

Creating an APA rule defines how refined PDF pages are automatically assigned to a page set that is associated to an imposition plan. The APA rule determines where each PDF page should be positioned, and to which layer the page should be linked.
APA uses a file to map the page positions of an imposition plan to the file names of the PDF pages. When you import an imposition plan into a job, Prinergy compares the file names of the pages in the APA file to the file names of refined PDF pages in the job. If the file names match, Prinergy automatically assigns the PDF pages to the correct page positions in the imposition plan.

1. From the **Tools** menu, choose **Automated Page Assignment Editor**.
2. In the **Move Rows** section, click the **Add** button.
3. In the **Refined File Name** column type the name: `VP_38.pdf`.
4. In the **Page Set Name/Prefix** column, enter *All Page Sets* using the **All Page Sets** button located in the **Insert Wild Cards** section.
5. In the **Position** column, enter a value of `1`.
6. In the **Layer** column, enter a value of `1`.
7. Click the **Add** button to create a second row. Using the same procedures outlined above, enter the following information.

Refined File Name	Page Set Name/Prefix	Position	Layer
`VP_38.pdf`	All Page Sets	1	1
`VP_40.pdf`	All Page Sets	2	1
`VP_43.pdf`	All Page Sets	3	1
`VP_50.pdf`	All Page Sets	4	1

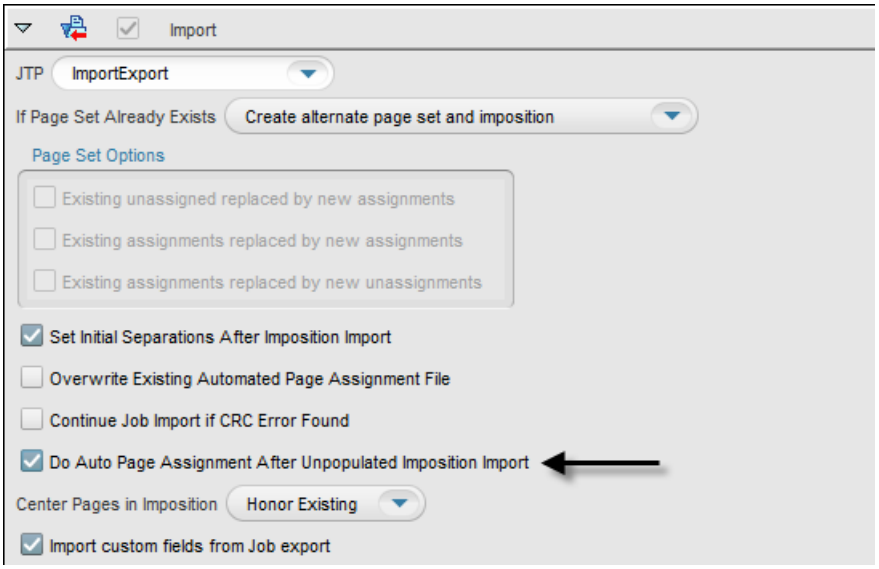


8. From the **File** menu, choose **Save APA File**.
9. Close the Automated Page Assignment Editor.
   Note: In the table above, a page position entry was required for every versioned page, as

the numerical descriptors don't run in sequential order, for example, 38, 39, 40, 41 etc. In this case each page needs to be directly placed in the appropriate position. If a job consisted of 16 pages that ran in a sequential order, you would simply enter one entry for all 16 pages: Refined File Name = VP_[#] and Position = [#].

Import an imposition plan

1. Select the **Pages** view.
2. From the **File** menu, choose **Import Imposition**.
3. In the Import Imposition dialog box, click the **Job Folder** button and locate: `UserDefinedFolders / Imposition / Dabtech.pjtf`.
4. Click **Import**.
5. In the Start Process dialog box, click the **Edit Process Template** button.
6. In the **ImportAll** process template, open the **Import** section.
7. Verify that the option **Do Auto Page Assignment After Unpopulated Imposition Import** is selected.
   This option tells the Prinergy system to automatically populate the imposition plan with the generated versioned pages.



8. Click **OK**.
9. In the Start Process dialog box, click **OK**.
   The versioned pages have now been automatically assigned to the imposition plan.

Create an imposed proof of each version

In this task, you will use Prinergy VPS software to create an imposed virtual proof of each version.

1. Select the **Separations** view.
2. View the common base version and the four language versions.
3. Right-click **Signature 1** and choose: `Imposition Output / Virtual Proof / Virtual Proof.Imposed.600`.

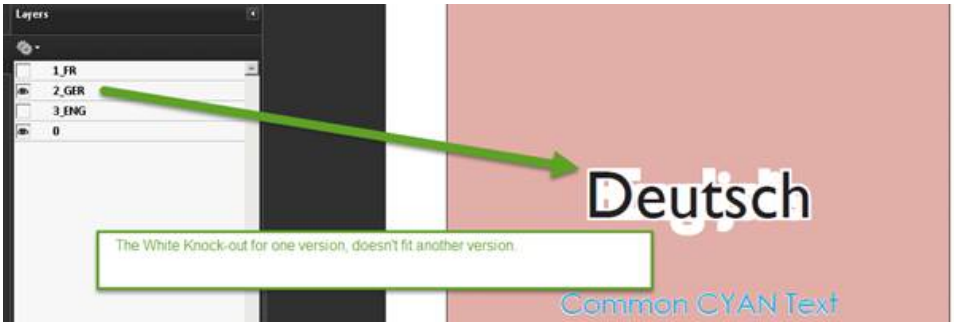
4. In the Start Process dialog box, ensure the **Output All Versions** option is selected. Click **OK**.
5. Right-click **Signature 1** and select **Open VPS files**.
6. From the **Window** menu in Prinergy VPS, choose the **Separations Palette** to view the Common layer or the versioned layers.
7. At completion of the proofing process, quit VPS software.

Delete the refine process template and group

1. Restore Job Manager.
2. From the **Tools** menu, choose **Process Template Editor**.
3. In the Process Template Editor, locate **Refine** > **XXLPV&APA** > **XXLPV&APAPlan** (where <*XX*> represents your initials).
4. Right-click your process template **XXLPV&APAPlan** and select **Delete**. The process template is deleted.
5. Right-click your refine group **XXLPV&APA** and select **Delete**. The process template group is deleted.
6. Close Process Template Editor.
7. Close XX_LPV_APA Job Manager.
8. Destroy XX_LPV_APA.

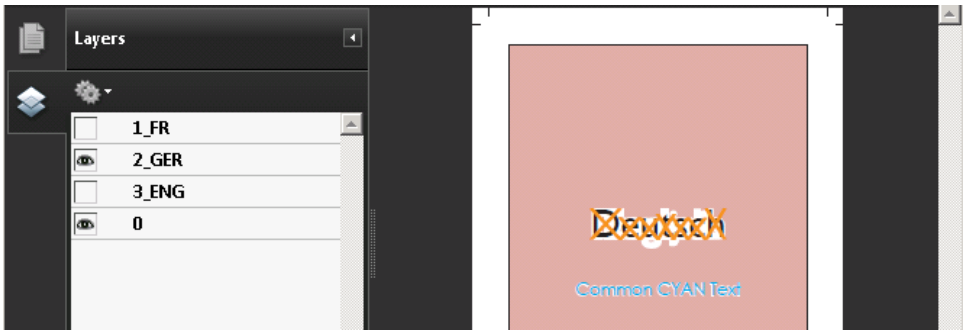
Detect white objects

1. From your workstation, locate: `Prinergy Activity Practice Files / Act_32_LPV_APA`
2. Copy the `LPV_White_Object_Detection_v2.zip` file.
3. On your Prinergy server, click **Start**.
4. In the **Search programs and files** box, type `J:\Jobs`, and paste the `LPV_White_Object_Detection_v2.zip` file into the `Jobs` folder.
5. In Job Finder, from the **File** menu, select **Import Job**, and navigate to the J:\Jobs folder.
6. In the Import Job dialog box, locate and select the `LPV_White_Object_Detection_v2.zip` file and click **OK**.
7. In the Create New Job dialog box, click **Create**.
8. In the Start Process dialog box, click **OK**.
9. In the **Pages** pane, right-click the versioned page `VP_1.pdf` and from the menu that appears, select **Generate** > **Generate** > **Generate**.
10. In the Start Process dialog box, click **Edit Process Tempalte**.
11. To make sure that the white objects are actually displayed, in the **Version Layer Options** area, clear the **Force Overprint** check box.
12. In the **Detect versioned white objects** list, select **Ignore**, and click **OK**.
13. Click **OK**.
14. Open the versioned page in Acrobat.
    Note that the black version text does not fit the white knockout.

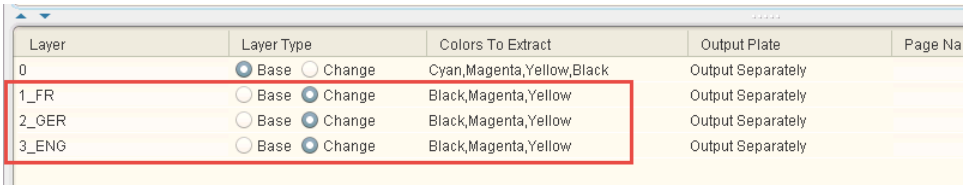


15. Now, you will generate the versioned page again with the **Detect versioned white objects** option selected. In the **Pages** pane, right-click the versioned page VP_10.pdf and from the menu that appears, select **Generate** > **Generate** > **Generate**.
16. In the Start Process dialog box, click **Edit Process Tempalte**.
17. Make sure that the **Force Overprint** check box is cleared and in the **Detect versioned white objects** list, select **Warn and Mark**.

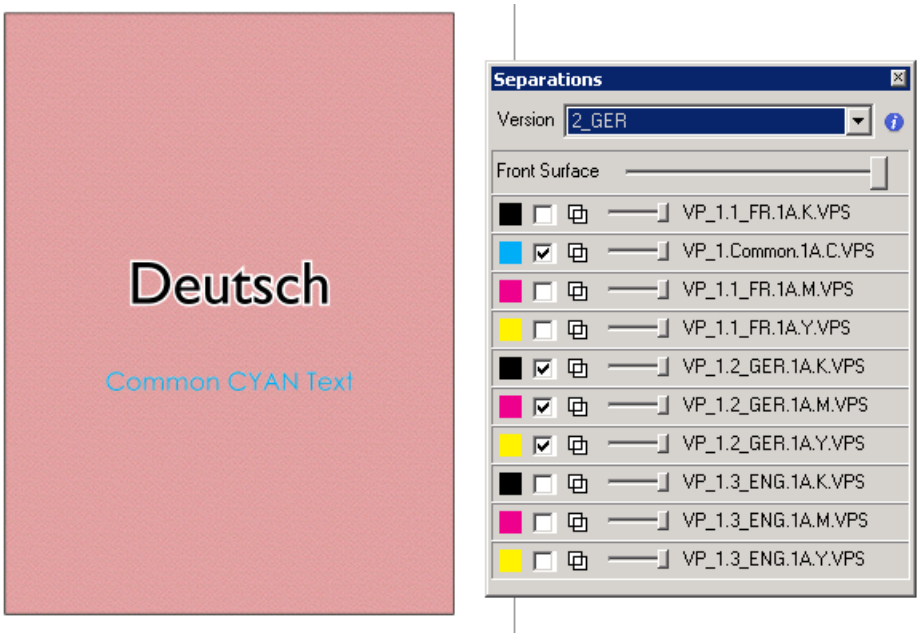
18. click **OK**.
19. Open the versioned page in Acrobat.
    Note the orange (warning) X is placed over the versioned white text.



20. To correct the differences in the white knockout on each layer, you need to add the orange background to your common layer. make sure that your version plan looks as follows:



21. Generate the page again, using similar process template settings as in step 17 (Clear the **Force Overprint** check box), but in the **Detect versioned white objects** list, select **Ignore**.
Note: If the version plan was setup correctly you would still get the warning message and marks if **Detect versioned white objects** is set to anything other than Ignore.
The version plan is not checked to make sure that all the background colors have been defined. This setting is a way to detect incorrectly setup version plans when PDFs contain versioned white objects, so the user can correct the version plan and then temporarily set the detection to **Ignore** to process the page. However, if the white knockouts are common (all the same), you will not get a warning.
When you generate this page again, you should see the following correct result (in VPS):
Note: To view the pages in VPS, use the **VirualProof.LoosePage** process template.



- The German, French, and English versions consist of a unique plate for Magenta, Yellow, and Black.
- The only common separation in this case is the Cyan plate, since the white knockouts of the Magenta and Yellow are not considered common version.