RICOH

RICOH Transforms Suite

AFPMerge User Guide

Version 1.5

Overview 1

Installing the AFPMerge Transform 2

Working with AFPMerge 3

Command Line Syntax 4

Configuration Options 5

Errors and Warnings 6

For information not in this manual, refer to the Help System in your product.

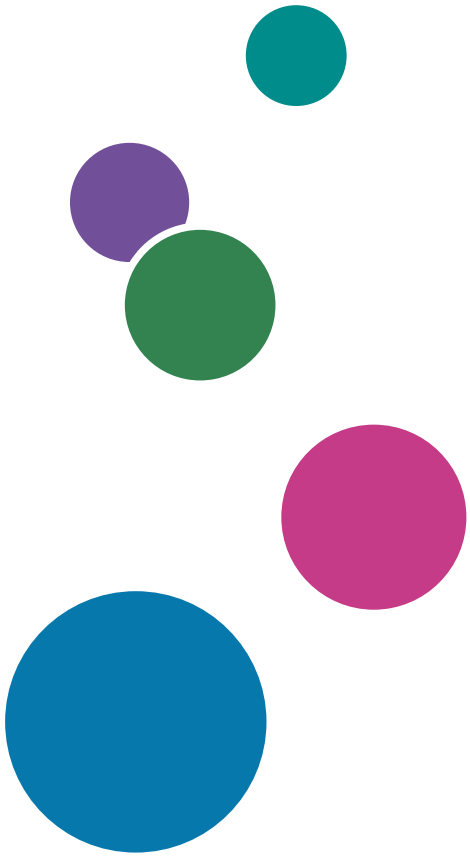


TABLE OF CONTENTS

Introduction

Important ... 2
Cautions regarding this guide ... 2
Publications for RICOH Transforms Suite ... 2
Symbols ... 3
Abbreviations ... 4
Trademarks ... 4

1 Overview

Description ... 7
Limitations ... 7

2 Installing the AFPMerge Transform

Installing the AFPMerge Transform using the installer ... 9
Requirements ... 9
Installing a Permanent License ... 9
Revoking the License Key ... 13

3 Working with AFPMerge

Creating the Output AFP Inline Resource Group ... 15
Creating the Output AFP Print Document ... 15

4 Command Line Syntax

Parameters ... 17

5 Configuration Options

6 Errors and Warnings

Errors ... 21
Warnings ... 21

Important

To the maximum extent permitted by applicable laws, in no event will the manufacturer be liable for any damages whatsoever arising out of failures of this product, losses of documents or data, or the use or non-use of this product and operation manuals provided with it.

Make sure that you always copy or have backups of important documents or data. Documents or data might be erased due to your operational errors or malfunctions of the software. Also, you are responsible for taking protective measures against computer viruses, worms, and other harmful software.

In no event will the manufacturer be responsible for any documents created by you using this product or any results from the data executed by you.

Cautions regarding this guide

- Some illustrations or explanations in this guide could differ from your product due to improvement or change in the product.
- The contents of this document are subject to change without notice.
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Publications for RICOH Transforms Suite

This section provides a list of all the publications for RICOH Transforms Suite.

Instruction manuals

- **AFP2PDF PLUS**
  For information about AFP2PDF PLUS, see these documents:
  - *AFP2PDF Plus User Guide*
  - *AFP2PDF Plus Quick Start Guide*
  - *AFP2PDF Plus Setup Guide*
  - *AFP2PDF Plus Release Notes*
  - *AFP2PDF Plus - Summary of Updates*
  - *AFP2PDF Plus Config UI User Guide*
- **AFP Visual Environment**
  For information about AFP Visual Environment, see these documents:
  - *AFP Visual Environment User Guide*
  - *AFP Visual Environment Release Notes*
- **AFPMerge**

For information about AFPMerge, see these documents:

- *AFPMerge User Guide*
- *AFPMerge Release Notes*

- **Line2PDF Plus**
  For information about Line2PDF Plus, see these documents:
  - *Line2PDF Plus User's Guide*
  - *Line2PDF Plus Release Notes*
- **PCL2PDF**
  For information about PCL2PDF, see these documents:
  - *PCL2PDF User's Guide*
  - *PCL2PDF Release Notes*
- **PS2PDF**
  For information about PS2PDF, see these documents:
  - *PS2PDF User's Guide*
  - *PS2PDF Release Notes*
- **TIFF2PDF Plus**
  For information about TIFF2PDF Plus, see these documents:
  - *TIFF2PDF Plus User Guide*
  - *TIFF2PDF Plus Release Notes*

Symbols

The following symbols are used in this manual to help you to identify content quickly.



- This symbol indicates points to pay attention to when using the product. Be sure to read these explanations.



- This symbol indicates helpful supplementary information that is not essential to completing a task.

Bold	**Bold type** indicates the names of commands and parameters.
Bold underline	**Underlined bold type** indicates the default value.
Italic	*Italic type* indicates variables that you must replace with your own information.
Monospace	Monospace type indicates computer input and output and file names.
[]	Square brackets indicate that a value is optional.

|	A vertical bar indicates a choice between values.
...	An ellipsis indicates that a series can continue.

Abbreviations

AFP

Advanced Function Presentation

BDT

Begin Document

EDT

End Document

IMM

Invoke Medium Map

IPO

Include Page Overlay

MCF

Map Coded Font

Trademarks

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1. Overview

- **Description**
- **Limitations**

Description

AFP Merge combines multiple AFP input files into a single AFP output file with a combined resource group suitable for printing. It contains sophisticated resource comparison capability that allows it to determine when resources are identical. All AFP resources are renamed and only one version of the resource is added to the AFP resource group. The appropriate AFP file resource references are also changed.

Limitations

AFPMerge does not support:

- IOCA FS45
- Include Page Structured Field
- Page Resources
- The Resource Environment Group
- TMap Data Resource
- Cut Sheet Emulation

Note

- External resources are treated as warnings and the code exits without generating a merged AFP file.
- AFP Merge does not handle input resources with missing or empty names, causing an error. Make sure every resource referenced in the input AFP files has a valid name before running AFP Merge.
- The output of AFPMerge is intended for print only. Using the output of AFPMerge with other programs is not supported.
- AFPMerge has only been tested with RICOH InfoPrint Manager™ on AIX.
- InfoPrint Manager needs to be configured to not use printer-resident fonts when using AFPMerge.
- Running AFPMerge using IBM Semeru Java on Windows and Linux is not supported.
- Although the AFP Merge program runs with Java 21 or later, the installer does not run with Java 21 or later. Use a Java version earlier than Java 21 to install AFP Merge.

2. Installing the AFPMerge Transform

- **Installing the AFPMerge Transform using the installer**
- **Requirements**
- **Installing a Permanent License**
- **Revoking the License Key**

Installing the AFPMerge Transform using the installer

This topic explains how to install the transform for the first time.

AFPMerge can now be installed using the executable jar file: `RTS--setupAfpMerge-1.X.X--afpmerge.jar`, where *1.X.X* is the transform version.

To open the installer, perform these steps:

- Use the command: `java -jar RTS--setupAfpMerge-1.X.X--afpmerge.jar`. Depending on the capabilities of your operating system, the AFPMerge transform opens either using a graphical user interface or a command line.

  Note

  On some Java versions, due to a bug, the above `java -jar` command might not start the installer. Use this additional parameter: `java -Djdk.util.zip.disableZip64ExtraFieldValidation=true -jarRTS--setupAfpMerge-1.X.X--afpmerge.jar`.

- On non-Windows operating environments the installer uses the `/tmp` directory to unpack files and run certain scripts. If there are limitations on the `/tmp` folder of the system, such as non-exec flag or limited space, a different temporary file directory can be specified using the `-Dlax.nl.env.iatempdir=` parameter.

Requirements

Software requirements for the AFPMerge.

AFP merge requires:

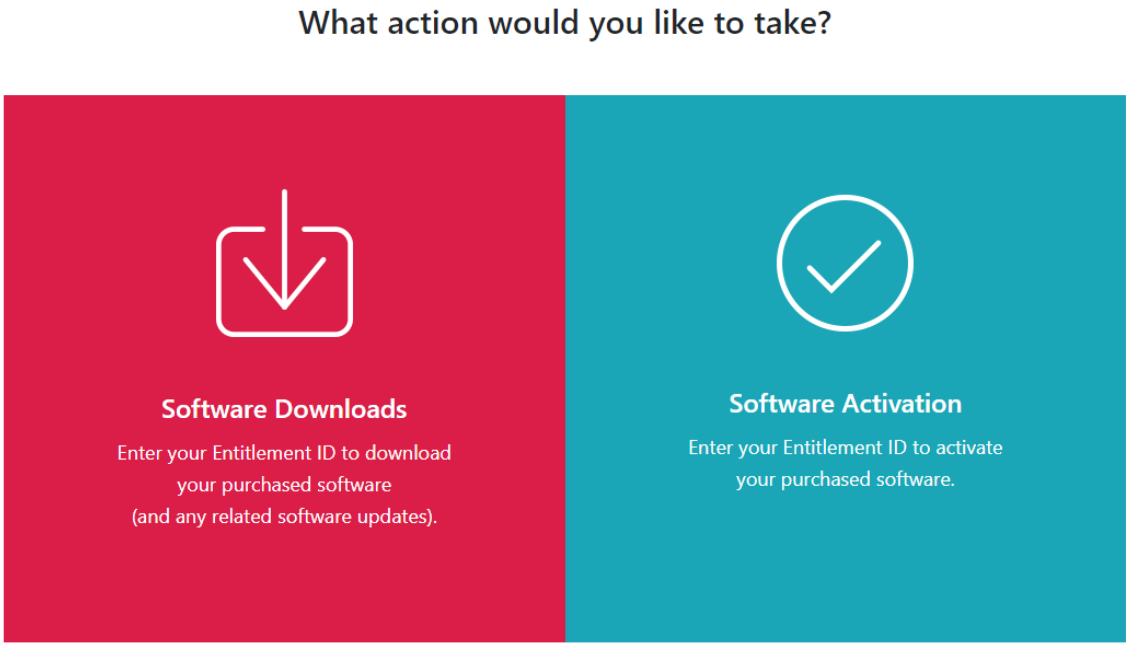
- 64bit JAVA V1.8 or later
- IBM AIX 7.2 or later
- IBM z/OS UNIX System Services V1.13 or later
- Microsoft Windows 10 Pro, Enterprise
- Microsoft Windows 11 Pro
- Microsoft Windows Server 2016 Standard
- Microsoft Windows Server 2019 Standard
- Microsoft Windows Server 2022 Standard
- Linux Kernel 2.6.18 or later (x86) with fontconfig package installed.
- To run the installer you need to have administrative rights on the machine you are installing.

Installing a Permanent License

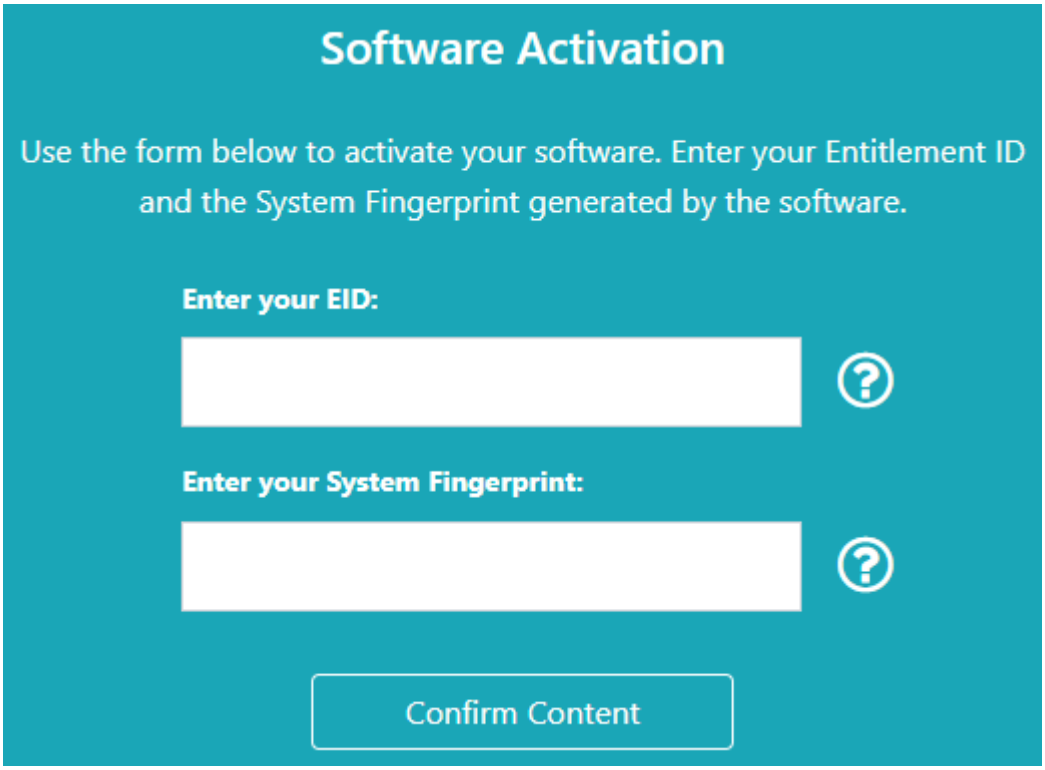
To continue using AFP Merge after the trial license expires, you must install a permanent license on the computer where the product is installed. The permanent license is valid only on this computer.

To install a permanent license for AFP Merge :

1. Run the license management tool AfpMergeLicenseManager.jar located in the `license_installer` folder where AFP Merge is installed, and follow the installation steps.
2. When prompted **You can either install a new license or revoke the currently installed one.**, select **Install License - Upload and apply a new license file.**
3. Make sure that you have the e-mail containing the entitlement ID (EID) that you received from Ricoh.
4. If the computer where AFP Merge is installed does not have Internet access:
    1. Do not close the license application on the computer where AFP Merge is installed.
    2. Log into a computer that has Internet access.
    3. Use the Remote Desktop Connection to connect to the computer where AFP Merge is installed.
    4. Log in with the same user name and password that you used when you started the license application.
5. On the computer that has Internet access, go to this Web site: https://dl.ricohsoftware.com.



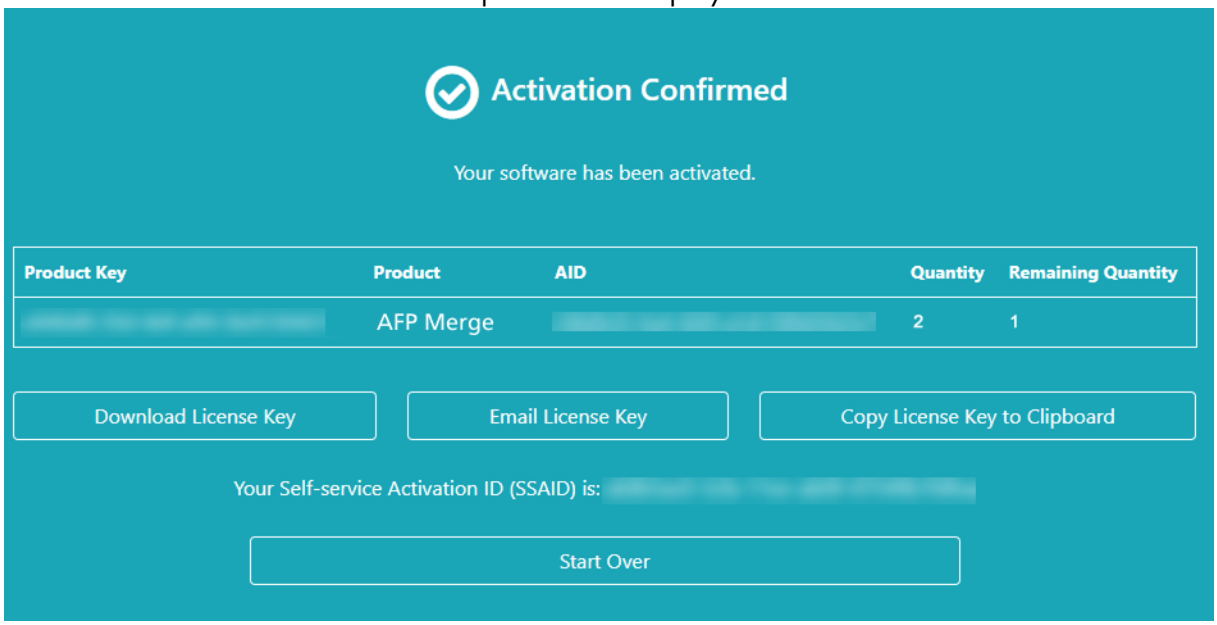
6. Click **Software Activation** on the right side of the screen.
7. In the **Software Activation** dialog, insert the EID and the system fingerprint.



1. Copy and paste the EID from the e-mail you received from Ricoh.
2. Return to the license management application on the computer where AFP Merge is installed. Copy your machine fingerprint field. This action copies the 16-character system fingerprint that uniquely identifies the computer where AFP Merge is installed to the clipboard.
3. Return to the Software Activation webpage. Paste the system fingerprint in the **Enter your System Fingerprint** field.
4. Click **Confirm Content**.

8. In the **Activation Content Confirmation** dialog:
    1. Review the confirmation information.
    2. Click **Activate**.

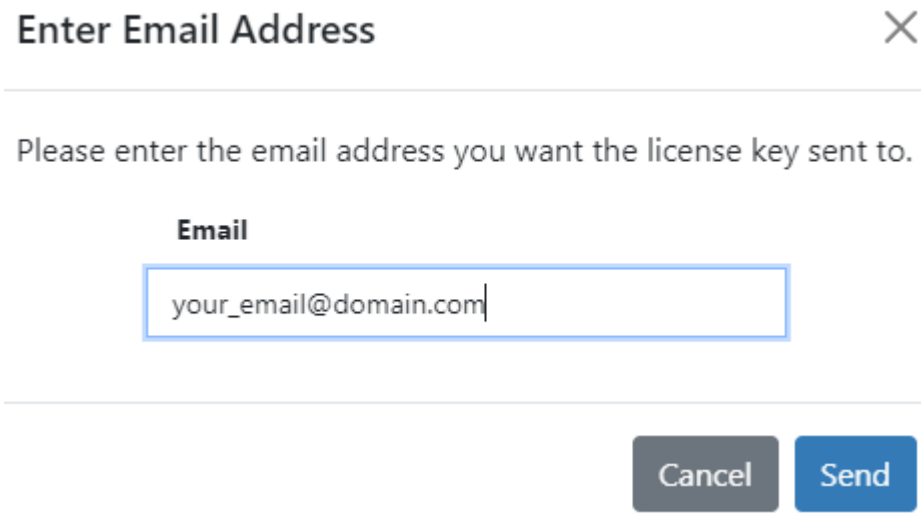
You will receive a confirmation that your software has been activated. A license key is generated with an Activation ID for the client computer and is displayed on the screen.



Note

The number of activations of the license is displayed under **Quantity**. The remaining number of activations available for this license is displayed under **Remaining Quantity**.

9. To download the license key, click **Download License Key**. The saving procedure and file type are different for each browser. Record the folder where you saved the license key.
10. To e-mail the license key file to someone else, click **Email License Key**.



1. Type the e-mail address.
2. Click **Send**.

11. If you are finished, close the browser tab. To restart the process, click **Start Over**.
12. If you accessed the Internet from a different computer than the one where AFP Merge is installed, copy the license file to the computer where AFP Merge is installed.

13. Run the license management tool on the system where AFP Merge is installed, follow the installation steps and select **Install License - Upload and apply a new license file.** → **Install**.
14. After the license management tool displays your machine fingerprint, click **Next**.
15. Locate the license file and click **Open**.
16. Select **Next**.
17. Review the installation summary and click **Install**.
    You see a message that the license was installed successfully.
18. You can start using the AFP Merge transform.

Revoking the License Key

The Self-service License Key Revoke System (SSR) is designed to permit Ricoh customers a method to move license keys between systems and recover from system failures. If you must revoke more than 2 keys from the same EID, contact your local Ricoh Support team for assistance.

To revoke the license key:

1. Run the license management tool AfpMergeLicenseManager.jar located in the `license_installer` folder where AFP Merge is installed, and follow the installation steps.
2. Select the path where your transform is installed.
3. Then, select **Revoke License - Remove the current license file from the system.** and click **Install**.
4. Select the location that you want to use for your current license, then click **Next**.
5. You are instructed to visit https://dl.ricohsoftware.com/?revoke to revoke your license.
6. Click the **Self-Service Revoke** button.
7. Select one of the 3 available revoke methods from the **Revoke By** list:

   Entitlement ID (EID)

   The EID that you must revoke for the software reporting a license violation condition.

   Activation ID (AID)

   The AID is necessary when you only must revoke a single set of keys for 1 EID. For example, if you accidentally activated using the wrong system fingerprint and have the AID string available.

   License Key File Upload (license.key file)

   Best general-purpose option for resetting all EIDs installed for a specific product on a given server. You can select a **license.key** file.
8. Depending on your selection from the **Revoke By** list, enter the EID, AID, or upload the key file in the **Enter your EID**, **Enter your AID**, or **Upload Your License File (Max file size, 150 KB)** fields.
9. Enter your company name in the **Company Name** field. Make sure to use the same the company name used in the original EID email.
10. To receive the revoke details, enter your valid business email address in the **Business Email Address** field.
11. Click **Submit**.

After 30 seconds, you receive a notification on the website. If your request could not be approved automatically and requires review, you receive an email from the reviewer within the next few business days.

Note

- Depending on the network speed or processing time, it may last up to 90 seconds until you receive the notification.

12. Return to the license management application and click **Next**.
13. Review the summary and click **Install**.
    You will see a message that the license was successfully revoked.
14. Click **Done**.

3. Working with AFPMerge

- **Creating the Output AFP Inline Resource Group**
- **Creating the Output AFP Print Document**

Creating the Output AFP Inline Resource Group

- The resource section (inline resource group) of each input AFP file is merged into a single inline resource group in the output AFP file.
- Each resource name in the input AFP file is mapped to a new name. However, several files may share resources.
- If two resources from different input AFP files have the same resource name, type, and length, an MD5 hash is compared. If the hash is the same, both files share the resource in the output AFP file. Otherwise, AFPMerge creates a new resource name and object.

Creating the Output AFP Print Document

- The print data section (BDT to EDT) is written from each input AFP file. If there are BDT/EDT pairs in the input file, they are written to the output AFP file.
- As the print data section of each input AFP file is processed, resource reference names are mapped to the new names generated in the first step. This includes structured fields such as Map Coded Font (MCF) and Include Page Overlay (IPO).
- Explicit Invoke Medium Map (IMM) structured fields are placed in the output stream in the absence of an IMM before the first page of the input AFP file.
- Warnings are generated for external resource references, missing inline resource groups, and other items.

The resulting file contains all resources across the list of input AFP files combined into a single resource group. Each print document section of each input AFP file is written to the output file with appropriately-updated resource reference names.

4. Command Line Syntax

- **Parameters**

Parameters

The syntax for the afpmerge client command is:

```
java -jar AfpMerge.jar
```

The AfpMerge includes a set of required parameters and a set of optional parameters.

The following parameters are required:

-l

The input files list. Specifies the fully qualified list of AFP files to be merged. A semi-colon ';' in the first column means the entire line is a comment.

-o

The output file name. Denotes the fully-qualified name of the merged AFP file.

The following parameters are optional:

noexit

No exit on warnings. Use of this parameter instructs the program to not exit on warning conditions. Warnings are still displayed to stderr.

Note

- Only an AFP expert should use this option.

—tra(ce)

Trace file. Create a trace file named AfpMerge.trace.0 and AfpMerge.trace.1. The program alternates between these two file names so that only two traces exist on the system at any time.

-verb(ose)

Verbose mode. Write merge information to stdout. Use this information to determine how internal resources were combined.

-vers(ion)

Version information. Display version information to stdout.

Example:

```
-l <input file list>, required
-o <output file name>, required
-noexit, do not exit on warnings, optional
-tra(ce), create trace file (AfpMerge.trace.(0|1)), optional
-verb(ose), verbose mode, optional
-vers(ion), version information, optional
```

One of the following return codes displays upon completion:

0

For no errors or warnings in the conversion.

4

No warnings in the conversion.

8

No errors in the conversion.

5. Configuration Options

The AFP files require extensive memory allocation on the system hosting the AFPMerge program. Exact memory allocation is dependent on the number and composition of the AFP merged files. For example, you can enter the following command:

```
java -Xmx1024M -Xms1024M -jar AfpMerge.jar -l in.txt -o out.afp
```

The **–Xmx***set maximum Java heap size* and **–Xms***set initial Java heap size* parameters ensure that the Java virtual machine does not run out of memory. Both **–Xmx** and **–Xms** should be set to the same value.

The AFP resources in AFPMerge are in-line. If an AFP resource has an external reference, this is considered a warning condition.

6. Errors and Warnings

- **Errors**
- **Warnings**

This section defines errors and warnings most frequently encountered during normal operations.

Errors

Error: Invalid Inline Resource *nnn* at offset xxxx in file *yyy*.

A resource with the name *nnn* has been found at offset xxxx in file *yyy* that is invalid. If the user chooses to continue using the –noexit option, this resource becomes an external resource.

Error: Opening output file *xxx*

The output file specified by the –o parameter can not be opened. Some other program may have the file open.

Error: No input file list –I, required

No input list has been specified using the –I option. The –I option is a required option.

Error: No output file –o, required

No output file has been specified using the –o option. The –o option is a required option.

Error in <file name> : *xyz*

Where *xyz* can be a AfpParserException or IOException text.

AfpParserExceptions are AFP syntax or semantic errors. The source AFP has been improperly generated.

IOExceptions are system IO errors.

Error: Unsupported MDR Repeating Group: name=<name>, FQN type=<type>, Object Classification=<class>

An unsupported MDR has been encountered in the AFP file. This structured field is not currently supported by AfpMerge.

Warnings

Warning: Missing Inline Resource Group for file *xxx*

A resource group is referenced in the AFP that is not in line in the file *xxx*.

Warning: Missing resource references (external) for file *xxx*: <list of resources names>

An external resource reference has been found. The resources with external references are names in the list.

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