



SPA

Check and Repair Tools for Version Data

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1. About this manual

This manual describes how to use "check and repair tools for version data" for SPA.

Notational and typographic conventions

This section describes the notation used in this manual.

Notes, references, and restrictions

In this manual, notes, references, and restrictions are described separately as follows:

CAUTION

This part shows when the operation makes it impossible to return to the original state or when it is difficult to return to the original state.

REFERENCE

This part shows supplementary information on using the product.

RESTRICTION

This part shows the product restrictions.

Symbol

The meanings of the symbols used in the manual are as follows:

Symbol	Notation example	Description
Bold	File menu	Indicates item names and menu names displayed on the product screens. Item names and menu names for the OS and for third party products are displayed in the same way.
< >	http://<IP_address_or_server_name>	It indicates a string which depends on the environment, such as a URL or part of a file name.

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Other

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Issues

December 20, 2021: 1st edition

January 24, 2022: 2nd edition

Revision history

For the history of revisions to this manual, see the page below.

[Revision history \(p. 26\)](#)

2. Introduction

This section outlines the "check tool" and the "repair tool" for version data.

- [Corruption of history data \(p. 3\)](#)
- [Check tool \(p. 3\)](#)
- [Repair tool \(p. 4\)](#)
- [Flow of running the tool \(p. 5\)](#)

2.1. Corruption of history data

Some operations of SPA may cause the history information of a document to be lost. This is referred to as history corruption. Documents are not restored correctly from a corrupted history.

You can use the "check tool for version data" to detect corrupted history and documents that were not restored correctly.

REFERENCE

Current documents may not be broken, even if the history has been corrupted.

Operations that may corrupt history

Document history may be corrupted when properties are updated by the following actions during a distribution process using Distributor.

- Settings for system properties or custom properties
- Mask settings
- Auto review settings
- Replace a document definition (when the "lock" or "overwrite protection" settings are changed)

Versions of SPA that may corrupt history

The versions of SPA that may corrupt history are as follows.

SPA Ver. 10.1 to 10.6.0.1

2.2. Check tool

The "check tool" for version data detects the following documents and outputs the list of them in a CSV file.

- Documents with corrupted history data
- Documents restored from corrupted history and not restored correctly

In this manual, the above documents are referred to as "documents with corrupted history".

All history information of detected "documents with corrupted history" is also output in a CSV file.

REFERENCE

- Running the check tool does not change the data archived in SPA.
- Documents in the trash are also inspected.

If history is corrupted

Check the results of the inspection, and if a document with a corrupted history is detected, take the following actions.

- Upgrade to SPA Ver. 10.6.0.2.
- If the detected documents are in the trash or unnecessary, delete them.
- If you want to continue using a document with corrupted history, delete the document and archive it again.
- If you cannot delete or archive the document, consider whether to repair the history information with the repair tool. For details, see "[Repair tool \(p. 4\)](#)".

CAUTION

Avoid restoring a document by using corrupted history. Restoring will turn the current document into a corrupted state.

The corrupted document cannot be fixed with the repair tool.

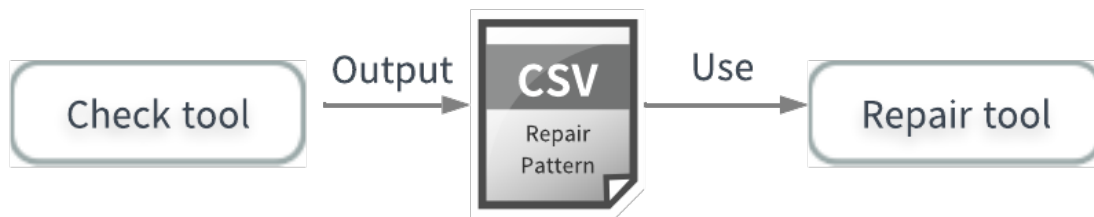
2.3. Repair tool

The repair tool fixes the history of a document with corrupted history detected by the check tool by deleting the corrupted history or overwriting the corrupted history with a history that is different from the corrupted history.

The tool cannot restore a document with a corrupted history to its complete state, including past histories. Note that once the repair tool is used, you cannot restore the history data before repairing.

Before using the repair tool, make sure to check "[If history is corrupted \(p. 4\)](#)" once again, delete documents with corrupted history as far as possible, and archive correct data again as necessary. We recommend applying the repair tool only to data that cannot be deleted, for example when the original data does not exist.

The repair tool uses the repair pattern (RepairPattern) in the CSV file that is output by the check tool to make repairs suitable for corruption problems. For details of the repair patterns used by the repair tool, see "[Repair patterns \(p. 21\)](#)".



CAUTION

Documents whose current version is corrupted cannot be repaired by the repair tool.

2.4. Flow of running the tool

The flow of using the check and repair tools is as follows.

1. Prepare
Extract the compressed tools to place in the environment where SPA is installed.
For details, see "[Prepare the tools \(p. 6\)](#)".
2. Run the check tool
Run the check tool.
For details, see "[Run the check tool \(p. 9\)](#)".

REFERENCE

The check tool can be executed while SPA is running.

3. Check results
Check the inspection results in the output CSV file. If a document with corrupted history is detected, proceed to "Run the repair tool".
For details, see "[Check results \(p. 11\)](#)".
4. Run the repair tool
Run the repair tool using the CSV file output by the check tool.
For details, see "[Run the repair tool \(p. 21\)](#)".

REFERENCE

The repair tool can be executed while SPA is running.

3. Prepare the tools

This section describes the preparation before running the check and repair tools.

- [Extract the tools \(p. 6\)](#)
- [Place the tools \(p. 7\)](#)

3.1. Extract the tools

Copy the compressed files to any folder and extract them.

- lostHistoryTool.zip (for Windows)
- lostHistoryTool.tar.gz (for Linux)

A set of files for check and repair tools are stored in the folder "lostHistoryTool" after extracting.

Folder structure after extracting files

The unzipped file structure is as follows:

- lostHistoryTool.zip

```
lostHistoryTool
|- lib
|  |- lostHistoryCheckTool.jar
|  |- lostHistoryRepairTool.jar
|  |- lostHistoryCommon.jar
|  |- 1st-scramble.jar
|  |- commons-dbcp2-2.1.jar
|  |- commons-logging-1.2.jar
|  |- commons-pool2-2.3.jar
|  |- postgresql-42.2.2.jar
|- license
|  |- commons-dbcp2-2.1
|  |  |- LICENSE.txt
|  |  |- NOTICE.txt
|  |- commons-logging-1.2
|  |  |- LICENSE.txt
|  |  |- NOTICE.txt
|  |- commons-pool2-2.3
|  |  |- LICENSE.txt
|  |  |- NOTICE.txt
|  |- postgresql-42.2.2
|  |  |- NOTICE
|- lostHistoryCheckTool.bat
|- lostHistoryRepairTool.bat
|- Operation_manual.pdf
```


- lostHistoryTool.tar.gz

```
lostHistoryTool
|- lib
  |- lostHistoryCheckTool.jar
  |- lostHistoryRepairTool.jar
  |- lostHistoryCommon.jar
  |- 1st-scramble.jar
  |- commons-dbcp2-2.1.jar
  |- commons-logging-1.2.jar
  |- commons-pool2-2.3.jar
  |- postgresql-42.2.2.jar
|- license
  |- commons-dbcp2-2.1
    |- LICENSE.txt
    |- NOTICE.txt
  |- commons-logging-1.2
    |- LICENSE.txt
    |- NOTICE.txt
  |- commons-pool2-2.3
    |- LICENSE.txt
    |- NOTICE.txt
  |- postgresql-42.2.2
    |- NOTICE
|- lostHistoryCheckTool.sh
|- lostHistoryRepairTool.sh
|- Operation_manual.pdf
```

3.2. Place the tools

Place the extracted folder in the "util" folder under the folder where SPA is installed.

"<INSTALL_DIR>" indicates a folder where SPA is installed.

- For Windows
<INSTALL_DIR>\archiver\util\lostHistoryTool
- For Linux
<INSTALL_DIR>/archiver/util/lostHistoryTool

REFERENCE

The paths to the default installation folders of SPA are as follows.

- For Windows
C:\SPA
- For Linux
~/SPA

When using Oracle as database

Place the Oracle JDBC driver (ojdbc8.jar) in the "lib" folder in "lostHistoryTool".

For information on how to obtain "ojdbc8.jar", see "Preparation for using Oracle database" in "SPA Enterprise Setting Guide".

4. Run the check tool

This section describes the procedure for running the check tool.

REFERENCE

You do not need to stop SPA to run the check tool. Note that the history that corrupts while the check tool is running is not detected.

Execute command

This section describes an input example that specifies an "output destination of log file", the "number of threads" ("5"), and an "output destination of CSV file".

1. Input the following to the command line.

For Windows

```
<INSTALL_DIR>\archiver\util\lostHistoryCheckTool  
lostHistoryCheckTool.bat -l  
<full_path_to_output_destination_of_log_file> -t 5  
<path_to_output_destination_of_CSV_file>
```

For Linux

```
<INSTALL_DIR>/archiver/util/lostHistoryCheckTool  
lostHistoryCheckTool.sh -l <full_path_to_output  
_destination_of_log_file> -t 5 <path_to_output_destination_of_CSV_file>
```

The following arguments can be specified when you execute the command. Any of them can be omitted. Note that the "path to output destination of CSV file" should be specified at the end of the command.

Argument	Description
-l	Specify the output destination of a log file with the full path. If omitted, a log file is not output.
-t	Specify the number of threads between 1 and 10. If omitted, "3" is used. Depending on the execution environment, the processing time may be shortened by changing the number of threads.
Path to output destination of CSV file	Specify the output destination of the CSV file that has check results. If omitted, the "lostHistoryCheckTool" folder will be the output destination.

2. Press ENTER.

The version of the tool, the number of archived documents, the number of documents in the trash are displayed, and the message "Do you want to run the check?" appears.

3. Press "y".

A check is carried out and the number of documents with corrupted history is displayed.

A CSV file of check results is also output.

For details on output results, see "[Check results \(p. 11\)](#)".

5. Check results

This section describes how to check the files that are output as inspection results.

- [CSV files to be output \(p. 11\)](#)
- [How to check for each purpose \(p. 18\)](#)
- [Patterns that the check tool wrongly recognizes as "history corruption" \(p. 19\)](#)

5.1. CSV files to be output

This section describes the CSV file that is output as check results.

REFERENCE

- The check tool may detect some correct history as "history corruption".
For details, see "[Patterns that the check tool wrongly recognizes as "history corruption" \(p. 19\)](#)".
- For details on where to be checked in the output CSV file for each purpose of the check, see "[How to check for each purpose \(p. 18\)](#)".

List of documents with corrupted history

The following two CSV files are output. You can check for documents with corrupted history in these CSV files.

- `LostHistoryDocument.csv`
A list of archived documents.
- `LostHistoryDocument_Trash.csv`
A list of documents in the trash.

Format

The first row is the header row, and the second and subsequent rows are data rows.

The number of rows starting from the second row is the number of documents with corrupted history.

Item	Name	Description	Supplement
FolderPath	Folder path		
FileName	File name		
DocumentId	Document ID		

Item	Name	Description	Supplement
Link-Type	Link type	<ul style="list-style-type: none"> • 0 Normal document • 1 Link • 2 Page link • 3 Multi-Link 	
FileType	File type	<ul style="list-style-type: none"> • 0 Unknown • 1 PDF • 2 DOC • 3 XLS • 4 PPT • 5 DOCX • 6 XLSX • 7 PPTX • 100 Documents (other than PDF) for which the process of replacing the original with PDF has not been successfully completed • 101 PDF with an owner password 	
Delete-Date	Date deleted	Only documents in the trash are output.	It is empty for archived documents.

Item	Name	Description	Supplement
Current-Version-Status	Current version status	<ul style="list-style-type: none"> • 0 A document whose current version is correct <ul style="list-style-type: none"> • Past history is corrupted. • The current document is normal. • 1 A document whose current version is corrupted <ul style="list-style-type: none"> • Past history is corrupted. • The current document is also corrupted. 	<ul style="list-style-type: none"> • If a document has been restored from a corrupted history and has undergone a major version upgrade using "overwrite" or "copy", it will be considered a "correct document". • If a document has been restored from a corrupted history and has undergone a major version upgrade with a "mask" or the like, it will be a "corrupted" document. <div> REFERENCE For documents in the trash, the version at the time of deletion is regarded as the "current version." </div>
FalsePositiveLevel	Are false recognition patterns included in the history?	<ul style="list-style-type: none"> • 0 Not included. • 1 Included (possible false recognition). 	For patterns of false recognition, see " Patterns that the check tool wrongly recognizes as "history corruption" (p. 19) ".

Item	Name	Description	Supplement
Repair-Pattern	Repair pattern	<p>This value is used by the repair tool for version data.</p> <ul style="list-style-type: none"> 0 Cannot be processed by the repair tool (to be handled manually) 1 Delete all the history before the lost history 2 Compile only correct pieces of history as a new history 3 Copy the missing history data from the latest data in the same major version 	For details on the repair patterns, see " Run the repair tool (p. 21) ".

Output example of LostHistoryDocument.csv

```
FolderPath,FileName,DocumentId,LinkType,FileType,DeleteDate,CurrentVersionStatus,FalsePositiveLevel,RepairPattern
"/Furiwake/version","Archive_AAA.pdf","119","0","1",,"0","0","3"
"/Furiwake/version","Archive_timestamp_AAA.pdf","130","0","1",,"0","0","2"
"/Furiwake/
version","Archive_AAA_manual_mask_1.0_restored.pdf","143","0","1",,"1","0","0"
0"
```

Output example of LostHistoryDocument_Trash.csv

```
FolderPath,FileName,DocumentId,LinkType,FileType,DeleteDate,CurrentVersionStatus,FalsePositiveLevel,RepairPattern
"/Furiwake/version","Archive_AAA_BBB.pdf","149","0","1","2021/11/19
13:31:08","0","0","3"
```

All history information for documents with corrupted history

The following two CSV files are output. You can check detailed history information of documents with corrupted history in these CSV files.

- LostHistoryDetail.csv
History information of archived documents.
- LostHistoryDetail_Trash.csv

History information of the documents in the trash.

Format

The first row is the header row, and the second and subsequent rows are data rows.

Item	Name	Description	Supplement
Folder-Path	Folder path	The path of the current version is output.	The current version information is output because the value that should be output cannot be obtained due to history corruption.
FileName	File name	The file name of the current version is output.	
DocumentId	Document ID		
Version	Version		

Item	Name	Description	Supplement
Type	Changes	<ul style="list-style-type: none"> • 1 Restore Category: major, minor • 2 Create a file (archive) Category: major • 3 Create a file link Category: major • 4 Create a page link Category: major • 5 Create a Multi-link Category: major • 6 Overwrite archive Category: major • 7 Update annotations Category: minor • 8 Update page memos Category: minor • 9 Auto Mask Category: major • 10 Manual Mask Category: major • 11 Update custom property values Category: minor • 12 Timestamp (add long-term signature) Category: major • 14 Apply a mask to search results 	<ul style="list-style-type: none"> • About "Restore" of "1" Restoring from the current minor version is a minor version upgrade. • "13" is a vacant number.

Item	Name	Description	Supplement
		Category: major • 15 Change policy (change version control from on to off) Category: major • 16 Change values in SVF search fields Category: minor • 17 Rotate page Category: minor • 18 Copy Category: major	
OperationDate	Date and time when changed		
OperationUser	Name of the operation user		
LostStatus	Status of corruption	• 0 Normal • 1 Corrupted	

Output example of LostHistoryDetail.csv

```

FolderPath,FileName,DocumentId,Version,Type,OperationDate,OperationUser,Lost
Status
"/Furiwake/version","Archive_AAA.pdf","119","1.0","2","2021/11/18
16:37:38","admin","1"
"/Furiwake/version","Archive_AAA.pdf","119","1.1","11","2021/11/18
18:27:31","admin","1"
"/Furiwake/version","Archive_Timestamp_AAA.pdf","130","1.0","2","2021/11/18
18:27:58","admin","0"
"/Furiwake/
version","Archive_Timestamp_AAA.pdf","130","2.0","12","2021/11/18
18:27:59","","1"
"/Furiwake/
version","Archive_Timestamp_AAA.pdf","130","2.1","11","2021/11/18
18:28:31","admin","1"
"/Furiwake/

```

```

version", "Archive_AAA_manual_mask_1.0_restored.pdf", "143", "1.0", "2", "2021/11/19 13:13:42", "admin", "1"
"/Furiwake/
version", "Archive_AAA_manual_mask_1.0_restored.pdf", "143", "1.1", "11", "2021/11/19 13:14:43", "admin", "1"
"/Furiwake/
version", "Archive_AAA_manual_mask_1.0_restored.pdf", "143", "2.0", "10", "2021/11/19 13:19:46", "admin", "0"
"/Furiwake/
version", "Archive_AAA_manual_mask_1.0_restored.pdf", "143", "3.0", "1", "2021/11/19 13:19:58", "admin", "1"

```

Output example of LostHistoryDetail_Trash.csv

```

FolderPath,FileName,DocumentId,Version,Type,OperationDate,OperationUser,Lost
Status
"/Furiwake/version", "Archive_AAA_BBB.pdf", "149", "1.0", "2", "2021/11/19
13:24:46", "admin", "1"
"/Furiwake/version", "Archive_AAA_BBB.pdf", "149", "1.1", "11", "2021/11/19
13:25:43", "admin", "1"

```

5.2. How to check for each purpose

This section describes where to be checked in the output CSV file for each purpose of the check.

REFERENCE

For details on output CSV files, see "[CSV files to be output \(p. 11\)](#)".

Check the list of documents with corrupted history

Check the following files.

- LostHistoryDocument.csv (a list of archived documents)
- LostHistoryDocument_Trash.csv (a list of documents in the trash)

The above two files are lists of documents with corrupted history. The number of rows starting from the second row, excluding the header row, is the number of documents with corrupted history.

If there are no documents with corrupted history, only the header row is output in these files.

Check if the current version is corrupted

Open the following file to check the "CurrentVersionStatus" column.

- LostHistoryDocument.csv (a list of archived documents)
- LostHistoryDocument_Trash.csv (a list of documents in the trash)

If "1" is output, the document of the current version is corrupted.

"0" indicates a document whose history only is corrupted.

Of corrupted histories, check which version is corrupted

Open the following file to check the document ID of the document with corrupted history in the "DocumentId" column.

- LostHistoryDocument.csv (a list of archived documents)
- LostHistoryDocument_Trash.csv (a list of documents in the trash)

Next, open the following file to check the "LostStatus" column corresponding to the document ID.

- LostHistoryDetail.csv (history information of archived documents)
- LostHistoryDetail_Trash.csv (history information of the documents in the trash)

You can see the corrupted version in the "Version" column of the row where "1" is output.

CAUTION

Avoid restoring a document by using corrupted history. Restoring will turn the current document into a corrupted state.

The corrupted document cannot be fixed with the repair tool.

5.3. Patterns that the check tool wrongly recognizes as "history corruption"

Depending on the combination of past operations, the check tool may wrongly recognize as "history corruption" even though the history is correct.

This section describes how to check the output CSV file for documents that may be wrongly recognized, and the combinations of operations (history patterns) that are wrongly recognized by the check tool.

Check documents that may be wrongly recognized

Open the following CSV file to check the "FalsePositiveLevel" column.

- LostHistoryDocument.csv (a list of archived documents)
- LostHistoryDocument_Trash.csv (a list of documents in the trash)

As for a row with "1", correct history may be wrongly recognized by the check tool as "history corruption".

Check the document ID and check the SPA settings to see if the corresponding document is a target of distribution by Distributor.

If the document is not a target of distribution by Distributor, it was wrongly recognized by the check tool and the history of the document is normal.

REFERENCE

For details on distributing documents using Distributor, see "Distribute documents in SPA" in "SPA Product Guide".

Operations that are wrongly recognized by the check tool

The check tool may detect the following combinations of operations (history patterns) as "history corruption", judging that part of history in the middle is missing.

1. Multiple operations were performed on a document, resulting in no changes from the original document.
2. After state 1, the custom properties have been changed.

Specifically, the following operations are the cases.

- Rotate a page and update custom properties
After rotating a page several times and eventually returning to its original state, change custom properties.
Example: Rotate a page 90 degrees to the right and then rotate 90 degrees to the left
- Add and delete annotations, and update custom properties
Add an annotation, delete the annotation, and then change custom properties.
- Add and delete a page memo, and update custom properties
Add a page memo, delete the page memo, and then change custom properties.

Note that even if the above operations are not continuous in the history, the check tool may mistakenly recognize them as "history corruption".

REFERENCE

You can check the operations (changes) made in each version in the "Type" column of LostHistoryDetail.csv or LostHistoryDetail_Trash.csv.

6. Run the repair tool

This section describes repair patterns and the procedure for running the repair tool.

- [Repair patterns \(p. 21\)](#)
- [Execute command \(p. 24\)](#)

6.1. Repair patterns

A repair pattern is a "pattern of processing" when the repair tool repairs a document's history.

In the following CSV files output by the check tool, the repair pattern judged to be optimal according to the corruption status of the history is specified as "RepairPattern".

- LostHistoryDocument.csv
A list of archived documents.
- LostHistoryDocument_Trash.csv
A list of documents in the trash.

Values of repair patterns (RepairPattern) and repair method

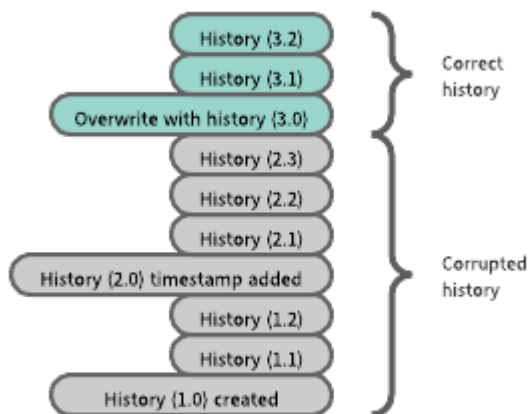
This section describes the values of repair patterns (RepairPattern) and the method of repair.

CAUTION

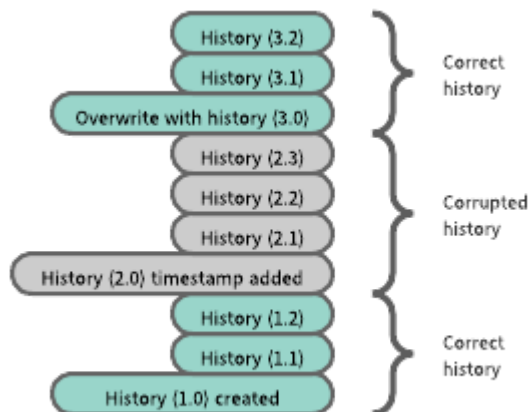
In the CSV file output by the check tool, a repair pattern value is specified for each document.

You can also open the CSV file to change this value manually. However, depending on the state of history corruption, the process of the changed value may not work.

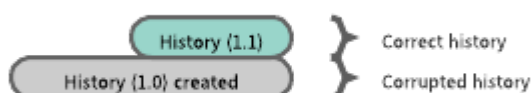
- 0
A document that cannot be processed by the repair tool.
Manual action is required because the document holds true to one of the following.
 - If the current version is corrupted ("1" is output in "CurrentVersionStatus")
Delete the document and archive it to SPA again.
 - If false recognition could be included in the history ("1" is output in "FalsePositiveLevel")
A document whose history is wrongly recognized as corrupted does not need to be repaired. If it is not a misrecognition (history is corrupted), delete the document and archive it to SPA again.
For patterns that the check tool wrongly recognizes as history corruption, see "[Patterns that the check tool wrongly recognizes as "history corruption" \(p. 19\)](#)".
- 1
Delete all the history before the lost history.
A pattern determined by the check tool as "a document whose history traced back from the lost history is continuously corrupted".



- 2
Compile only correct pieces of history as a new history.
A pattern determined by the check tool as "a document that has correct history in a version earlier than the corrupted history".



- 3
Overwrite the lost history data with different history data. It does not restore the lost history to the original (correct history).
This is a pattern determined by the check tool as "a document whose history of version 1.0 is corrupted and whose current version is 1.1 due to a property update". (The versions are illustrative examples.)



Example of repair for each repair pattern (RepairPattern)

This section describes each repair pattern (RepairPattern), using examples of the history status before and after the repair.

- 1 (Delete all the history before the lost history)

History status before repair

Version	Changes	The value of the custom property	History status
1.0	Created	123	Corruption
1.1	Update properties by Distributor	ABC	Cause of corruption
2.0	Manual Mask	ABC	
2.1	Annotations	ABC	

History status after repair

Version	Changes	The value of the custom property	History status
2.0	Manual Mask	ABC	
2.1	Annotations	ABC	

- 2 (Compile only correct pieces of history as a new history)

History status before repair

Version	Changes	The value of the custom property	History status
1.0	Created	123	
1.1	Edit values in SVF search fields	123	Corruption
1.2	Update properties by Distributor	ABC	Cause of corruption
2.0	Manual Mask	ABC	
3.0	Restore from version 1.0	123	

History status after repair

Version	Changes	The value of the custom property	History status
4.0	Created	123	
5.0	Manual Mask	ABC	
6.0	Restore from version 1.0	123	

- 3 (Copy the missing history data from the latest data in the same major version)

History status and custom property values before repair

Version	Changes	The value of the custom property	History status
1.0	Created	123	Corruption
1.1	Update properties by Distributor	ABC	Cause of corruption

History status and custom property values after repair

Version	Changes	The value of the custom property	History status
1.0	Created	ABC	
1.1	Update properties by Distributor	ABC	

6.2. Execute command

This section describes an input example that specifies the "number of threads" ("5") and the "full path to a CSV file to be processed".

REFERENCE

You do not need to stop SPA to run the repair tool. Note that the history that corrupts while the repair tool is running is not repaired.

- Input the following to the command line.
For Windows

```
<INSTALL_DIR>\archiver\util\lostHistoryTool lostHistoryRepairTool.bat
-t 5 <full_path_to_CSV_file_to_be_processed>
```

For Linux

```
<INSTALL_DIR>/archiver/util/lostHistoryTool lostHistoryRepairTool.sh -t
5 <full_path_to_CSV_file_to_be_processed>
```

The version of the tool is displayed and the repair tool runs.

The following arguments can be specified when you execute the command. Note that the "full path to CSV file to be processed" should be specified at the end of the command.

Argument	Required	Description
Full path to CSV file to be processed	✓	Specify one or both of the following files output by the check tool with the full path. <ul style="list-style-type: none"> LostHistoryDocument.csv LostHistoryDocument_Trash.csv If you specify two files, specify them consecutively.

Argument	Required	Description
-output		<p>Specify the output destination of the CSV files that contain the following with the full path. The files are output when the history is repaired by the repair pattern.</p> <ul style="list-style-type: none"> • Documents for which repair is made The name of the output CSV file is "repairedyyyyMMddHHmmss.csv". • Documents for which repair is skipped (when a repair pattern is changed) The name of the output CSV file is "skippedyyyyMMddHHmmss.csv". <p>If omitted, the "lostHistoryTool" folder will be the output destination.</p>
-l		<p>Specify the output destination of a log file with the full path.</p> <p>If omitted, a log file is not output.</p>
-t		<p>Specify the number of threads between 1 and 10.</p> <p>If omitted, "3" is used.</p> <p>Depending on the execution environment, the processing time may be shortened by changing the number of threads.</p>

7. Revision history

Date	Changes
2022/1/24	Added details on the repair tool.