zero-check-le.README

Version 1.0.0

Use the following procedure to identify if the potentially affected tapes are still retained in the system, and to determine whether you need to recover the file before it's seen as corrupted by an application.

Related Alert:

https://www.ibm.com/support/pages/node/6842071

Prerequisites:

- Prior to performing the script procedure, upgrade the IBM Spectrum Archive LE software to version 2.4.3.1 or later
- Download zero-check-le.py from Fix Central and set the executable flag if IBM Spectrum Archive LE is running on Linux
- Python 3 is installed

NOTE: The tapes that were previously removed from the tape library need to be reinserted before running the script. If you cannot reinsert all the previously removed tapes at once, run the script on a subset of those tapes. Then repeat this until all of the previously removed tapes have been reinserted and processed using the script.

Script Procedure:

1. Determine the location of index cache files (*.schema). See https://www.ibm.com/support/knowledgecenter/STZMZN_2.4.3/ltfs_index_cache.html for the default location of index cache directory.
2. Count the number of cache files (*.schema) in the cache directory and check if it matches with the number of tape cartridges in the tape library. If any cache file is missing, access the corresponding tape directory at the file system mount point to browse the contents of tape, by using **ls** command on Linux or **dir** command on Windows.
3. Stop IBM Spectrum Archive LE if it is running.
4. Run the script (zero-check-le.py) with the full path name of index cache directory. This script will count and display the number of the potentially affected files (0-byte files) per tape.

NOTE:

- This script cannot detect the files shortened by the issue.
- This script potentially detects a false positive issue when 0-byte file was copied to IBM Spectrum Archive LE's file system.

Example (Linux):

```
./zero-check-le.py /var/lib/ltfs/<library serial number>/volume_cache
```

Example (Windows):

```
python zero-check-le.py %TEMP%\ltfs\<library serial number\volume_cache
```

Example of result:

```
========
Tapes contains 0-byte files
ABCD04JD: 1798
ABCD77JD: 1886
========
```

If the script finds the potentially affected tape, determine if the files can be recovered by using an older version of the tape index;

- Run "leadm tape rollbacklist" command to display the available tape index generations (or use "ltfsck" command of Single Drive Edition with -l option). Each index generation will show the timestamp and generation number. See leadm tape rollbacklist for sample output.
- Use "leadm tape rollback" command with -k and -g option to rollback the file system to the point before the tape failure. (or use "ltfs" command of Single Drive Edition with -o rollback_mount option").

The user with valid software maintenance agreement (SWMA) should contact IBM Support for the further assistance of tape recovery, and send them the script output along with all the files within the index cache directory. IBM Support will analyze the data and determine if recovery is needed, and if the original data is still available.