



Active Circle
Release Notes

Active Circle V5.0.0.1

October 2018



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1. Update Process

1.1. Version 4.0.2 and higher



A specific procedure is implemented to update 4.0.2 versions to version 4.6. This is available on the Active Circle help site: <https://activecircle-help.com>.

Since the VFS catalog format has changed, **all** VFS catalog objects must be upgraded before proceeding to upgrade the next node.

1.2. Version 4.5 and higher

The update process for versions 4.5 and higher occurs automatically and transparently and does not require any specific actions. Only the updating of all node binaries and the restarting of the nodes are required in accordance with the following procedure:

1. Copy file "ac5.0.0.bin" on all nodes
2. Stop all Circle nodes
3. Replace binaries: `"/ac5.0.0.bin -r"`
4. Restart a single node (the necessary updates occur during the reboot)
5. Verify that this node has started and that all shares have launched
6. Launch the other nodes one by one; the synchronization will apply the metadata updates to all of the nodes.

2. Active Circle V4.6.2.3 HOTFIX – June 2018

SIGNATURE SHA256

ee1b432f921d33f7cf6ffeb1a8d121f4e8e9309f337f77023cfd88bece6d45020 ac-5.0.0.1.bin

HOTFIX

Fixed a regression on the management of non-multi-channel partitions that was no longer detected.

Correction of incorrect references in the MIB.

3. Version Control

3.1. Active Circle V5.0.0 – September 2018

We are proud to release a new major version of Active Circle—with version 5.0. This version is focused on security and managing pools and WORM shares, data protection via SHA256, https access, ensuring the security of the local directory, etc.

SHA256 HASH-VALUE

c3686a00de3d35671df53fac1d49c711a1eff7de7e8b45acbdd3b09e57be0f96 ac-5.0.0.bin

3.1.1. COMPATIBILITY MATRIX

This new version of Active Circle 5.0 is compatible with the following option versions:

- AMC 5.0.0 in HTTP/HTTPS
- ADM 1.4.0 in HTTP
- AME 2.2.4 in HTTP

A new version of the ADM and AME will be published at a later date, to implement the HTTPS protocol across the entire solution.

3.1.2. NEW MAJOR FEATURES IN THIS VERSION

3.1.2.1. LTO8 support

The 8th generation of LTO drives and tapes are now supported. The capacity of one LTO8 tape is 12 TB.

M8-type LTOs, or new LTO7 tapes managed by an LTO8 drive, are also supported; this increases the tape capacity to 9 TB.

Remember, LTO8 drives are read- and write-compatible with LTO7 tapes only.

3.1.2.2. WORM pool

LTO WORM (Write Once Read Many) tapes are now handled in version 5.0 of Active Circle using the new type of tape pool: "WORM pool". This type guarantees that the data archived on tapes cannot be overwritten or edited.

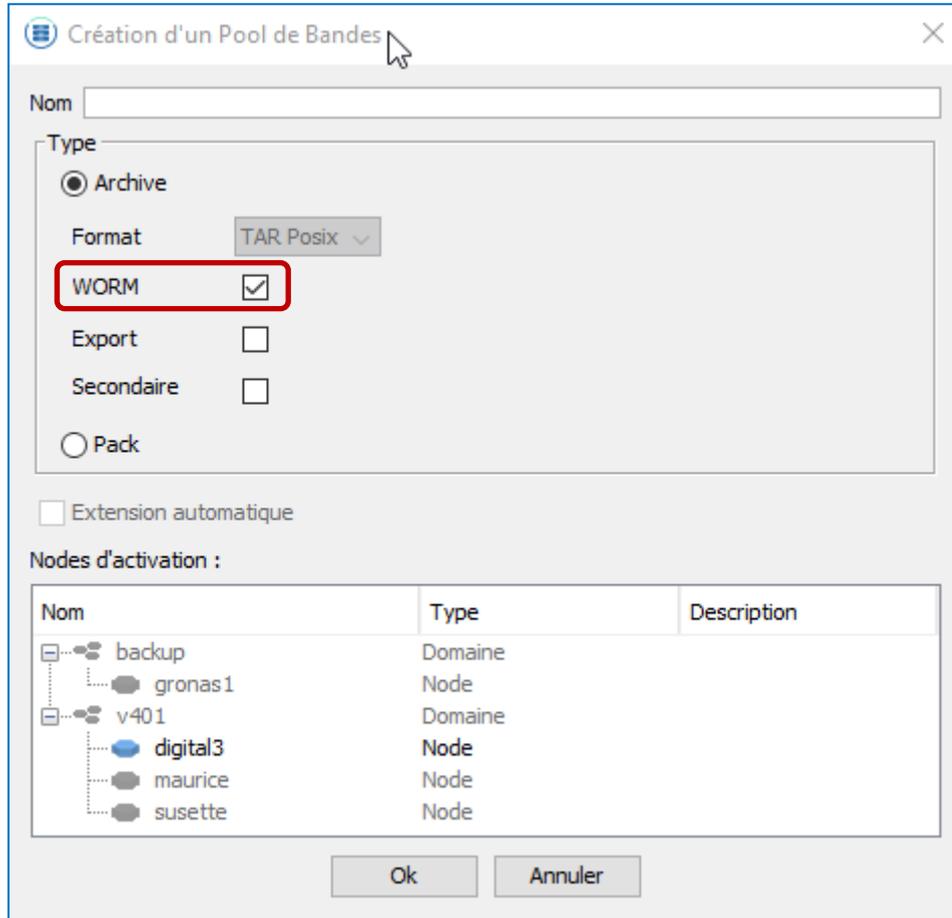
CHARACTERISTICS

- A WORM pool:
 - is identified by the following icon: 
 - An export WORM pool is identified by the following icon: 
 - only accepts WORM-type LTO tapes
 - only handles TAR format
 - does not support auto-expansion
 - cannot be deleted while it contains tapes
 - can be used in the same way as any archive pool in archiving strategies

- WORM-type LTO tapes:
 - Are supported from LTO6 generation onwards
 - Cannot be allocated to the Blank Tapes pool
 - Cannot be recycled, deleted or removed from a pool
 - Can be duplicated after data copy onto another tape in the pool; the tape is placed in quarantine in the "Non-Allocated Tapes pool" and cannot be reallocated. A supervision note is sent to provide notification that the tape must be deleted and removed from the library.
 - With regards to the archives from a share, prevents the deletion of archives, except for empty archives.

CREATING WORM POOLS

From the Storage area of the administration interface, through the specific pop-up menu "Create a Tape Pool" or the "Create" button, by checking the WORM option:



Création d'un Pool de Bandes

Nom:

Type:

- Archive
 - Format:
 - WORM**
 - Export
 - Secondaire
- Pack

Extension automatique

Nodes d'activation :

Nom	Type	Description
backup	Domaine	
gronas1	Node	
v401	Domaine	
digital3	Node	
maurice	Node	
susette	Node	

Ok Annuler

From the command mode, using the command: `acadmin --pool --worm`

Note:

As long as the label is not written on the tape, the tape type can still be modified to one of the types compatible with the pool and library.

VERIFYING THE TAPE TYPE

The definition of the tape type is declarative to allow tapes to be allocated per batch.

To avoid any errors, a verification is performed between the type declared and the type read by the drive when the tape is assembled and before anything is written onto it.

If the type declared is correct:

- The label is written. The tape type is then frozen and can no longer be modified.

If the type is incorrect:

- A supervision note is sent to the administrator to notify them of their error in declaring the tape type. This uses a tooltip to display the values of the density code, and the type of media read on the tape.
- The LTO tape is fenced and ejected from the drive. It is therefore impossible to write on it. The tape will be automatically unfenced when it is next assembled, after the tape type is corrected by the administrator.

There are several possible scenarios:

- If the error relates to the density code only, the tape type can simply be changed in the tape's "Edit Settings" tab.
- If the error relates to the type of media, the following must be performed:
 - Remove the tape.
 - Synchronize the library to relocate the tape that will be allocated to the "Tapes of Unknown Type" pool, with a generic type.
 - Allocate the tape with the correct type to a pool in the compatible format.

CLI

```
acadmin --pool
```

The `--worm` option, in combination with the `-c` option, creates a WORM pool. The `--format` and `--autoExpand` options are not compatible with the `--worm` option.

```
acadmin --tape
```

In the event of type incompatibility when a tape is allocated, an error message is displayed and the request is not processed. The same applies for the unfencing of an unauthorized tape, if the fencing is due to an error on the media type, and for the deletion of a WORM tape labeled with the `--delete` option.

The `--load drive` option for a WORM tape is forbidden: the manual assembly of a WORM tape can only be performed via the administration interface.

```
acarchive --delete
```

An error is generated when there is an attempt to delete a non-empty archive, located in a WORM pool; empty archives are deleted.

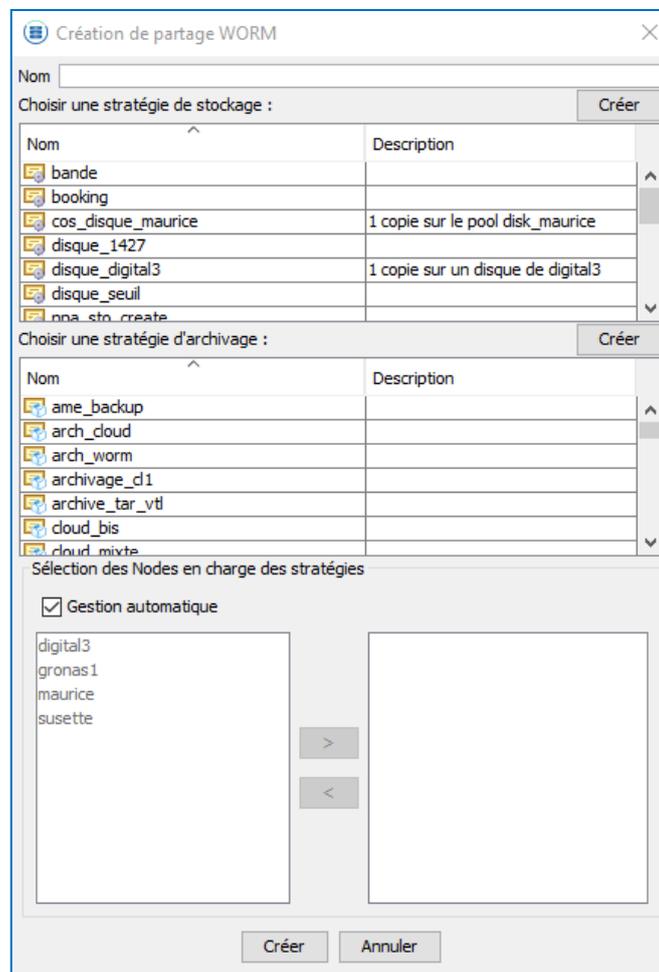
3.1.2.3. WORM share

The WORM share feature has been implemented with the same principle as WORM pools. This provides enhanced data protection in that any files successfully dropped cannot be edited, deleted, moved or renamed. More specifically, the name, mtime and data of files are protected.

WORM shares are identified from other shares thanks to this icon: 

CREATING A WORM SHARE

From the "Share" area of the administration interface, via the specific pop-up menu "Create a WORM share" or the "Create WORM" button. A new share is configured as per usual.



Nom	Description
bande	
booking	
cos_disque_maurice	1 copie sur le pool disk_maurice
disque_1427	
disque_digital3	1 copie sur un disque de digital3
disque_seuil	
ona_sto_create	

Nom	Description
ame_backup	
arch_cloud	
arch_worm	
archivage_d1	
archive_tar_vtl	
cloud_bis	
cloud_mixte	

digital3
gronas1
maurice
susette

From the command mode, using the command: `acadmin --account -c --worm`

Note:

A WORM share cannot be deleted once files have been uploaded there.

STRATEGIES

As with other shares, it is possible to link a storage and/or archiving strategy. These can define time-limited constraints, and a copy of the files will be stored in all cases. In fact, a time-defined storage constraint only results in the deletion of disk copies when the file has been archived (if an archiving strategy is defined).

HISTORIZATION

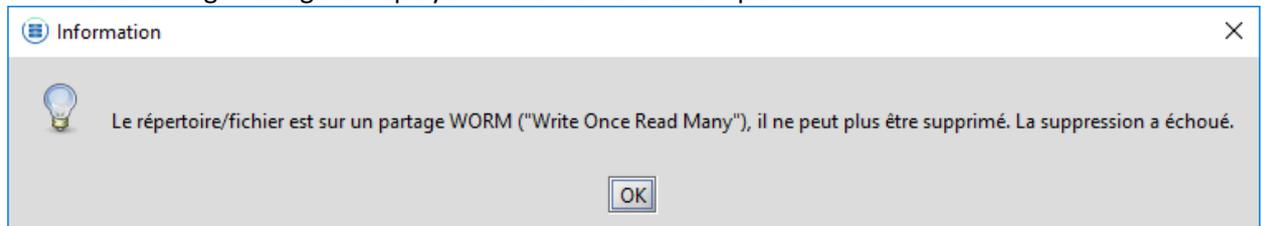
Historization is disabled.

A file only has one single data version and is stored indefinitely. As a result, the handling of the historization strategy is also disabled and cannot be manually launched.

BEHAVIOR

For all attempts to edit or delete a protected file:

- A "Read-Only File System" error is sent by the NAS server.
- The following message is displayed in the Active Circle Explorer:



Remember: only editing of the name and mtime are not allowed; all other attribute changes are authorized.

Specific cases:

- Symbolic links (available via NFS only) with no data; the editing restrictions are applied immediately after creation. In other words, a symbolic link cannot be renamed or deleted.
- Exceptions:
 - Temporary files are not affected by editing constraints.
 - Neither are empty files and directories. In other words, the deletion and renaming of temporary or empty files, and of directories is authorized, as long as they are empty.

The deletion of WORM share archives is not authorized, except for empty archives (with 0 files selected).

CLI

```
acinfo --account --wormInfo
```

The `--wormInfo` option makes a new "WORM" column appear, which displays:

- "Y" for a WORM share
- "N" for a classic share
- "<n/a>" for an account

```
acadmin --account
```

The `--worm` option, in combination with the `-c` option, creates a WORM share.

The `--startVersioningPurgeProcessing` option on a WORM share displays a warning and the option is ignored.

```
acrestore
```

An error is generated when attempting to restore an entry to a WORM share. Likewise, an error is generated when attempting to delete an entry from a WORM share via one of the following commands:

```
acrm / acfind -exec "rm"/"rm-version".
```

```
acarchive --delete
```

An error is also generated when attempting to delete a non-empty archive from a WORM share; empty archives are deleted.

3.1.2.4. Automated calculation of a file's signature after upload

This new feature allows the signature of a file to be calculated automatically when it is uploaded to Active Circle:

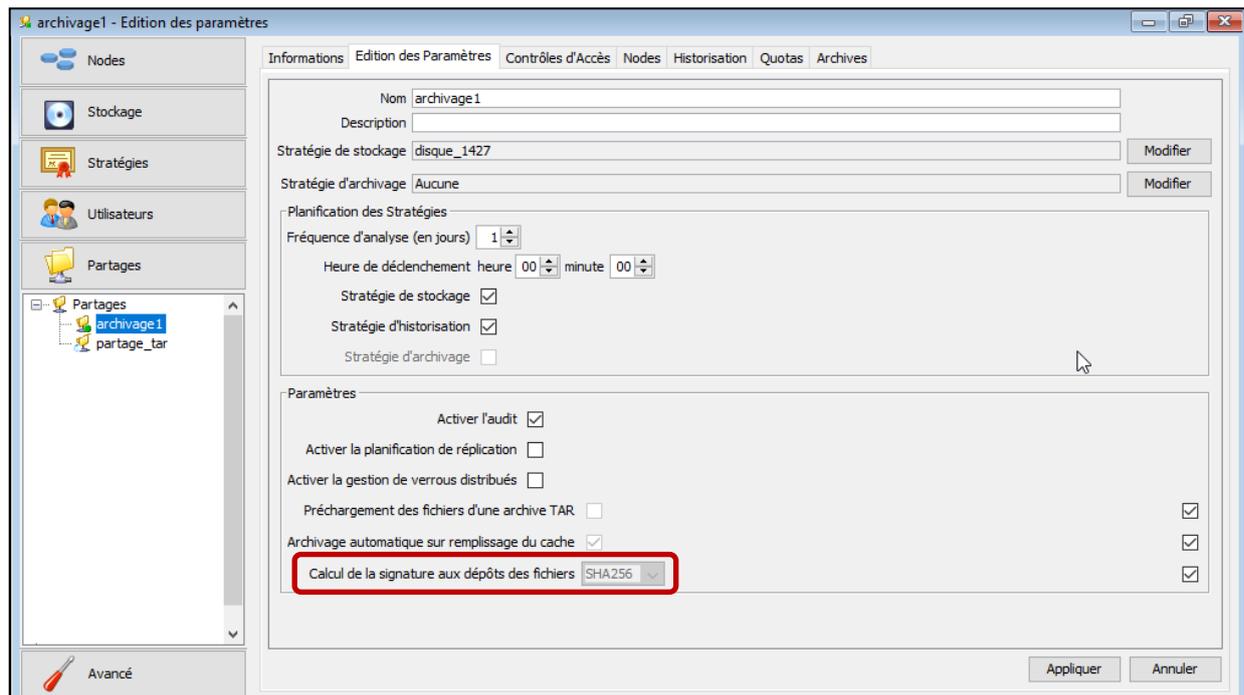
- By default, the feature is not enabled.
- Messages are generated in the audit.
- A supervision note is also generated or updated in the event of an invalid signature.

The algorithm used can be defined globally using the circle property "activecircle.vfs.depositChecksumAlgorithm", or individually for each share. Possible values are as follows:

- SHA256
- SHA1
- MD5
- Disabled

GUI

Automatic calculation must be enabled in the share or share group, using the "Calculate signature upon file drop" option:



AC EXPLORER

It is now possible to request the calculation or validation of a file's signature directly via the Active Circle explorer, for the 3 algorithms:

- If no signature has been saved or calculated in advance, the 3 algorithms are suggested.
- However, if a signature is already saved to the file, only the algorithm for the signature is authorized.

CLI

`accksum`

Now authorizes the SHA256 algorithm, in addition to MD5 and SHA1.

`accksum -r`

Allows the signature to be reset, for example: algorithm change, etc.

GENERATING AN EVENT IN THE AUDIT

In order to be able to track the status of a file's signature, the following events may appear in the audit:

- `F.CSSUM (CHECKSUM_SUM)`
Starts the signature calculation; the expected reference or desired algorithm is added in the event.
- `F.CSVAL (CHECKSUM_VALID)`
Signature valid; the signature calculated and the expected reference are added in the event.
- `F.CSINV (CHECKSUM_INVALID)`
Signature invalid; the signature calculated and expected reference are added in the event.
- `F.CSRES (CHECKSUM_RESET)`
Deletion of the signature from the file.

Below is an example of results in the audit file (`/activecircle/cell/data/Stats/NAS/shares/nas-audit_*.csv*`):

```
2018-05-23,15:47:10,1527083230145,n0,s0,-,F.CSSUM,admin,10.4.0.96,"/20180214_154710.jpg",- ,SHA256
2018-05-23,15:47:19,1527083239409,n0,s0,-
,F.CSVAL,admin,10.4.0.96,"/20180214_154710.jpg",SHA256:ab725b8b57856f819589ace473cf01737177
0610af2b6d24621299b9389ff24a,SHA256
2018-05-28,18:11:07,1527523867073,n0,s0,-,F.CSSUM,admin,10.4.0.96,"/Erreur2.jpg",-
,SHA256:00000000
2018-05-28,18:11:07,1527523867079,n0,s0,-
,F.CSINV,admin,10.4.0.96,"/Erreur2.jpg",SHA256:16480a11b9aab0fb53eb5a5c17580b4e4c6267ddbfb0
583b0144f7911c1eecfa,SHA256:00000000
2018-05-22,15:46:20,1526996780026,n0,s0,-,F.CSRST,admin,10.4.0.96,"/20180214_154643.jpg",- ,-
```

SUPERVISION NOTE

A major supervision note is opened when one or more files have an invalid signature. The note is updated, to add new invalid files or remove valid files. Actions to rename, move, delete and restore a version are also taken into account in order to update the supervision note.

When the supervision note no longer has an invalid file, its criticality changes from "Major" to "Normal".

When automatic calculation is enabled, there is little chance that the signatures are invalid because there is no reference signature. The calculation result therefore becomes the reference and the file is valid.

Note:

The Direct IO FTP is not currently handled.

3.1.2.5. Extended attributes

Extended attributes management This new feature allows the notion of extended attributes to be added to files and directories.

These attributes are defined by the name=value pair stored in a dictionary associated with each file and directory. These dictionaries are backed up with the file metadata, therefore in the VFS catalog.

Three circle properties have been added in order to limit the volume used by the attributes:

- `activecircle.xattribute.maxEntryCount`: maximum number of attributes, 16 attributes by default.
- `activecircle.xattribute.maxNameLength`: maximum size of attribute name, 256 characters, by default.
- `activecircle.xattribute.maxValueLength`: maximum size of attribute value, 4096 characters by default.

CLI

`acxattr`

This new command allows the extended attributes of one or more files to be read and edited.

Options: the last arguments in a command are the files to which the command applies.

- `acxattr -w <attribute_name> <attribute_value> <file>...`
Add/edit an attribute.
- `acxattr -p <attribute_name> <file>...`
Read an attribute.
- `acxattr -d <attribute_name> <file>...`
Delete an attribute.
- `acxattr -c <file>...`
Delete all attributes.
- `acxattr <file>...`
Displays all attributes.
- The `"-f, --filepath"` option can also be used to give the path for a list of files.

`acfind -xattr PATTERN`

Now allows searches to be performed on extended attributes.

The regular expression is applied to the "name=value" concatenation. This syntax requires the use of the "=" operator, which allows both the attribute name and its value to be filtered, and also works with attributes containing "=" in their name and/or in their value. To do this, simply enter the necessary number of "=", taking into account the "name=value" concatenation. In order to make the option easier to use, it can be simplified by automatically adding the suffix "=.*" when there is no "=" operator in the expression, to filter the attribute names. For example, to list the files linked to OODRIVE email addresses:
`--xattr ".*=.*@oodrive\.(com|fr) "`

AMC

The AMC also allows extended attributes to be read and edited. For more information, refer to the relevant documentation.

3.1.2.6. Archiving audit

The audit mechanism on shares saves accessing file and directory information via the NAS, such as the date of creation, editing or deletion, reading or writing, and changes to size, attributes, mode or UID/GID.

From now on, in addition to these events, the audit log may contain new events related to the archiving of files and directories, as well as their permanent deletion (known as purge):

- `F.ARCH (ARCHIVE_FILE)` & `D.ARCH (ARCHIVE_DIR)`: archiving of a file or directory.
- `F.UARCH (UNARCHIVE_FILE)` & `D.UARCH (UNARCHIVE_DIR)`: deletion of an archive location for a file or directory.
- `F.PURGE (PURGE_FILE)` & `D.PURGE (PURGE_DIR)`: permanent deletion of a file or directory.

EXAMPLES

Examples of audit file results (/activecircle/cell/data/Stats/NAS/shares/nas-audit_*.csv*) after having activated the archiving events:

Archiving

As the archiving operation is an internal operation, the "FROM" and "PATH" information is not entered.

Archiving in a pool of archive tapes:

```
37,2018-06-20,14:59:51,1529499591523,gaia0,p1,-,D.ARCH,-,-,
    "/12_petits_fichiers",Archive:pl#1/386tui7_15r0jtt_2lmd60t_tcrtf1/512,PoolArchive1/B00350200/1
38,2018-06-20,14:59:51,1529499591532,gaia0,p1,-,F.ARCH,-,-,
    "/12_petits_fichiers/DomainManager.class",Archive:pl#1/386tui7_15r0jtt_2lmd60t_tcrtf1/1024,PoolArchive1/B00350200/1
39,2018-06-20,14:59:51,1529499591540,gaia0,p1,-,F.ARCH,-,-,
    "/12_petits_fichiers/DomainManager.class.restored",Archive:pl#1/386tui7_15r0jtt_2lmd60t_tcrtf1/3584,PoolArchive1/B00350200/1
```

Importing to a pool of archive tapes in TAR format:

```
93,2018-06-20,16:51:28,1529506288068,gaia0,p1,-,D.ARCH,-,-,
    "/imported-B00350201-TAR0-2018-06-20-16-51-27/p1/12_petits_fichiers",Archive:pl#8/3srgnng_eo2gvi_24ef9qg_4pm41h/512,PoolArchive1/B00350201/0
94,2018-06-20,16:51:28,1529506288104,gaia0,p1,-,F.ARCH,-,-,
    "/imported-B00350201-TAR0-2018-06-20-16-51-27/p1/12_petits_fichiers/DomainManager.class",Archive:pl#8/3srgnng_eo2gvi_24ef9qg_4pm41h/1024,PoolArchive1/B00350201/0
```

Archiving in the cloud:

```
159,2018-06-20,17:21:10,1529508070496,gaia0,p1,-,D.ARCH,-,-,
    "/10_fichiers_de_100_ko",Archive:pl#10/1ekdam9_24duj5f_261n16n_3ooo39p/512,OnCloud/OnCloud-cont/2
160,2018-06-20,17:21:10,1529508070510,gaia0,p1,-,F.ARCH,-,-,
    "/10_fichiers_de_100_ko/Copie (10) de dbnetlib.dll",Archive:pl#10/1ekdam9_24duj5f_261n16n_3ooo39p/1024,OnCloud/OnCloud-cont/2
```

Deleting archives

The same applies for deleting an archive location for a file or directory.

After deleting the archive :

```
1,2018-06-21,14:48:19,1529585299697,gaia0,p1,-,D.UARCH,-,-,
    "/3_petits_fichiers",- ,CatalogVfsReference [2ru37gv_rfmjqc_2ka9p12_35rj2bo]:Archives:31h5u4u_2ee4iug_252teg7_2t153u7/37gk0nn_li5sgan_2i9nut8_r7383q/512
2,2018-06-21,14:48:19,1529585299718,gaia0,p1,-,F.UARCH,-,-,
    "/3_petits_fichiers/Nouveau Document Microsoft Office Publisher.pub",- ,CatalogVfsReference [2ru37gv_rfmjqc_2ka9p12_35rj2bo]:Archives:31h5u4u_2ee4iug_252teg7_2t153u7/37gk0nn_li5sgan_2i9nut8_r7383q/4096
3,2018-06-21,14:48:19,1529585299739,gaia0,p1,-,F.UARCH,-,-,
    "/3_petits_fichiers/Nouveau Présentation Microsoft Office PowerPoint.pptx",- ,CatalogVfsReference [2ru37gv_rfmjqc_2ka9p12_35rj2bo]:Archives:31h5u4u_2ee4iug_252teg7_2t153u7/37gk0nn_li5sgan_2i9nut8_r7383q/65536
4,2018-06-21,14:48:19,1529585299764,gaia0,p1,-,F.UARCH,-,-,
    "/3_petits_fichiers/Nouveau Classeur Open Office.ods",- ,CatalogVfsReference [2ru37gv_rfmjqc_2ka9p12_35rj2bo]:Archives:31h5u4u_2ee4iug_252teg7_2t153u7/37gk0nn_li5sgan_2i9nut8_r7383q/1024
```

Or if the archive still exists (after removal/deletion of the tape from the archive pool):

```
18,2018-06-21,16:04:50,1529589890517,gaia0,p1,-,D.UARCH,-,-,"/3_petits_fichiers",-,Archive:p1#13/13871u4_3sc6hlj_2pjv5c_13kdum5/512
19,2018-06-21,16:04:50,1529589890522,gaia0,p1,-,F.UARCH,-,-,"/3_petits_fichiers/Nouveau Document Microsoft Office Publisher.pub",-
,Archive:p1#13/13871u4_3sc6hlj_2pjv5c_13kdum5/4096
20,2018-06-21,16:04:50,1529589890527,gaia0,p1,-,F.UARCH,-,-,"/3_petits_fichiers/Nouveau Présentation Microsoft Office PowerPoint.pptx",-
,Archive:p1#13/13871u4_3sc6hlj_2pjv5c_13kdum5/65536
21,2018-06-21,16:04:50,1529589890532,gaia0,p1,-,F.UARCH,-,-,"/3_petits_fichiers/Nouveau Classeur Open Office.ods",-
,Archive:p1#13/13871u4_3sc6hlj_2pjv5c_13kdum5/1024
```

Permanently deleting the file or directory

The "FROM" and "PATH" information is entered through the connection information linked to the exploration session through which the deletion is requested, and only the file path in the VFS is displayed.

Deleting through the explorer:

```
6,2018-06-21,14:54:20,1529585660930,gaia0,p2,-
,F.PURGE,admin,10.4.0.106,"/12_petits_fichiers/StreamIdentityPrimaryDeprecatedPreV3_0.class",-,-
7,2018-06-21,14:56:26,1529585786082,gaia0,p2,-,F.PURGE,admin,10.4.0.106,"/12_petits_fichiers/Stream.class",-,-
8,2018-06-21,14:56:26,1529585786135,gaia0,p2,-,F.PURGE,admin,10.4.0.106,"/12_petits_fichiers/StreamFormatCheckSumException.class",-,-
9,2018-06-21,14:56:26,1529585786163,gaia0,p2,-,F.PURGE,admin,10.4.0.106,"/12_petits_fichiers/StreamIdentityPrimaryImpl.class",-,-
```

And through historization processing following a deletion of the file via the NAS, for a retention period of 2 min:

```
1,2018-06-22,08:52:49,1529650369402,gaia0,p2,-,F.DELE,admin,127.0.0.1,"/12_petits_fichiers/DomainManagerIdentityPrimary.class",-,-
2,2018-06-22,08:59:34,1529650774140,gaia0,p2,-,F.PURGE,-,-,"/12_petits_fichiers/DomainManagerIdentityPrimary.class",-,-
```

And for a share with no historization, the purge follows deletion via the NAS:

```
1,2018-08-30,17:36:35,1535643395173,gaia0,psanshistory,-,F.DELE,admin,127.0.0.1,"/Niveau0/0_alldiffs_index_additions.html",-,-
2,2018-08-30,17:36:35,1535643395188,gaia0,psanshistory,-,F.PURGE,admin,127.0.0.1,"/Niveau0/0_alldiffs_index_additions.html",-,-
```

Note:

Deleting a directory produces events for all its files and directories.

3.1.2.7. Configuration of SNMPv3 traps

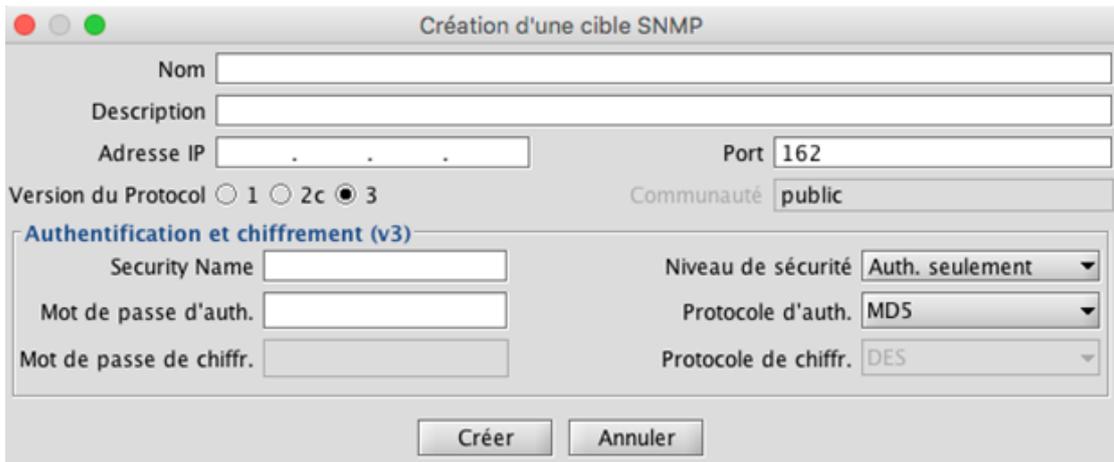
Active Circle adds support for SNMPv3 traps in addition to the SNMPv1 & SNMPv2c versions previously handled. This new version of the protocol implements security features.

For SNMPv3, define the security level to be used, and according to this:

- Level without authentication or encryption: define a security name only.
- Level with authentication only: define the security name, an algorithm and an authentication password.
- Level with authentication and encryption: define the security name, an algorithm and an authentication password, an algorithm and an encryption password.

To add a new target:

- Go to the "Advanced" view and select "SNMP Target", then right-click to create a new target.
- Choose the version of the target.
- Define the settings specific to v3.



Once the targets are created, the principle remains the same as before, regardless of the version of SNMP indicated in the target:

- Open a supervision window and select the "Registrations note" tab.
- Next, click the "Add" button under the "Registrations" list, and select the "SNMP target" type.

Note:

Regarding the engine id. concept, also specific to SNMPv3, it normally identifies a device likely to send traps. In the case of Active Circle, the engine id. is derived from the Circle's identity, and is therefore identical to all the nodes of the Circle in question. The SNMP supervisor therefore views the Circle as a single device. This ID is unique and constant for a given Circle. It can be obtained via the command mode: `acinfo --node --engineId`.

3.1.2.8. Publication of logs in syslog

In order to centralize the logs from different nodes into a monitoring system, it is now possible to configure the publication of these in syslog.

Principle:

- Copy the file `/activecircle/cell/data/Log/syslog.properties.sample` under `/activecircle/cell/data/Log/syslog.properties`
- Adapt `/activecircle/cell/data/Log/syslog.properties` to your requirements.
- Remember to define the issuer name, i.e. the name of the node with the property `"activecircle.log.syslog.messagehostname=myNode"`.
- Restart the Active Circle service for the publication to be handled in syslog.
- Verify that it is working correctly in syslog.
- Deploy the file across the circle's other nodes by adapting the issuer's name for each, then by restarting the corresponding services one after the other.

Notes:

- Only the logs publication medium based on UDP is supported.
- The logs format has been reviewed as part of this project. If necessary, in the time it takes to update f you eventual scripts that parse logs, you can return to the old format using the Circle property `"-Dactivecircle.log.publish.formatter.old=true"` placed at the end of the file `"/activecircle/.localvars"` for each node; this requires the service to be restarted for it to be handled.

3.1.2.9. Local directory security

Local directory security has been enhanced to address various issues:

- Define a security policy for passwords (length, number of characters, etc.), expiration period
- Manage password reuse
- Define an authentication error management policy
- Allow passwords to be changed simply by an administrator or by users themselves through the usual tools: admin, explorer, CLI as well as the following URL: [Error! Hyperlink reference not valid.](#)
- Changes made to interfaces allowing users to be created or modified
- Monitor password changes, expiration, etc.

Notes:

These security measures are only valid for the local directory, i.e. the users declared locally in Active Circle. For external users imported from an external directory, passwords are to be made secure through the external directory.

CONFIGURATION

New settings are configured on the local directory via the administration interface using the circle settings:

Rule	Default value	Minimum value	Maximum value
<code>directory.local.credential.adminRetryDelay</code>	0 ms	0 ms	5 minutes
<code>directory.local.credential.expiry</code>	infinite (no expiry)	1 week	infinite
<code>directory.local.credential.expiry.notification</code>	3 days	0 day (disabled)	6 days
<code>directory.local.credential.history</code>	0	0	50
<code>directory.local.credential.length</code>	8	1	128
<code>directory.local.credential.letters</code>	0	0	10
<code>directory.local.credential.lockoutThreshold</code>	0 (disabled)	0	50
<code>directory.local.credential.numbers</code>	0	0	4
<code>directory.local.credential.specialchars</code>	0	0	4

PASSWORD SECURITY POLICY

Default behavior changes:

- Passwords now need to be at least 8 characters.
- The admin user is still created with the default password "1234", but the password is marked as expired. This must be updated to allow for the session to be opened.
- Updating passwords is subject to the password security policy.

Password security policy

A password expiration system has been put in place. There are two reasons for which a password is considered to be expired:

- The password has been explicitly marked as expired: this occurs when the "admin" account is created in order to request that the default "1324" password be changed. It is also the case when users are created in the administration interface: by default, passwords are marked expired and users must change their password.
- Password validity period has been exceeded.

Rule	Property	Role
Password validity period	directory.local.credential.expiry	To allow a password validity period to be defined Once this period is exceeded, the password will expire and must be changed. The default validity period for passwords is infinite. The minimum value is one week.

When a password is due to expire, a notification is sent to the user to allow them to change their password. This email is sent once a day to one of the user's addresses. A final message is sent when this user's password expires. Both of these messages contain a link to the password change tool. The following property allows one to control how far in advance this message is sent.

Rule	Property	Role
Notification period before expiration	directory.local.credential.expiry.notification	To allow users to change their password before expiration becomes effective.

Authentication error management policy

By default, authentication errors have no consequences. It is possible to put in place a policy for managing these errors. There are two scenarios considered: users and administrators.

Users

It is possible to define a number of successive authentication errors that will lead to the account being locked. In the case of access by SMB, a specific error message is returned. In FTP, a comment is returned by the server (depending on the customer, this message is not necessarily visible). This status is also taken into account by the password change interface.

The following property allows this behavior to be defined:

Rule	Property	Role
Locking of accounts upon authentication error	directory.local.credential.lockoutThreshold	Allows an account to be locked after a number of successive authentication errors

When an account is locked, a note is added to the administration log.

An email is sent to the user (if the email address for the account has been entered correctly).

Only an administrator can unlock an account, in the administration tool which allows the error number to be displayed. The administrator can then reset this counter to 0 via the GUI or CLI.

Administrators

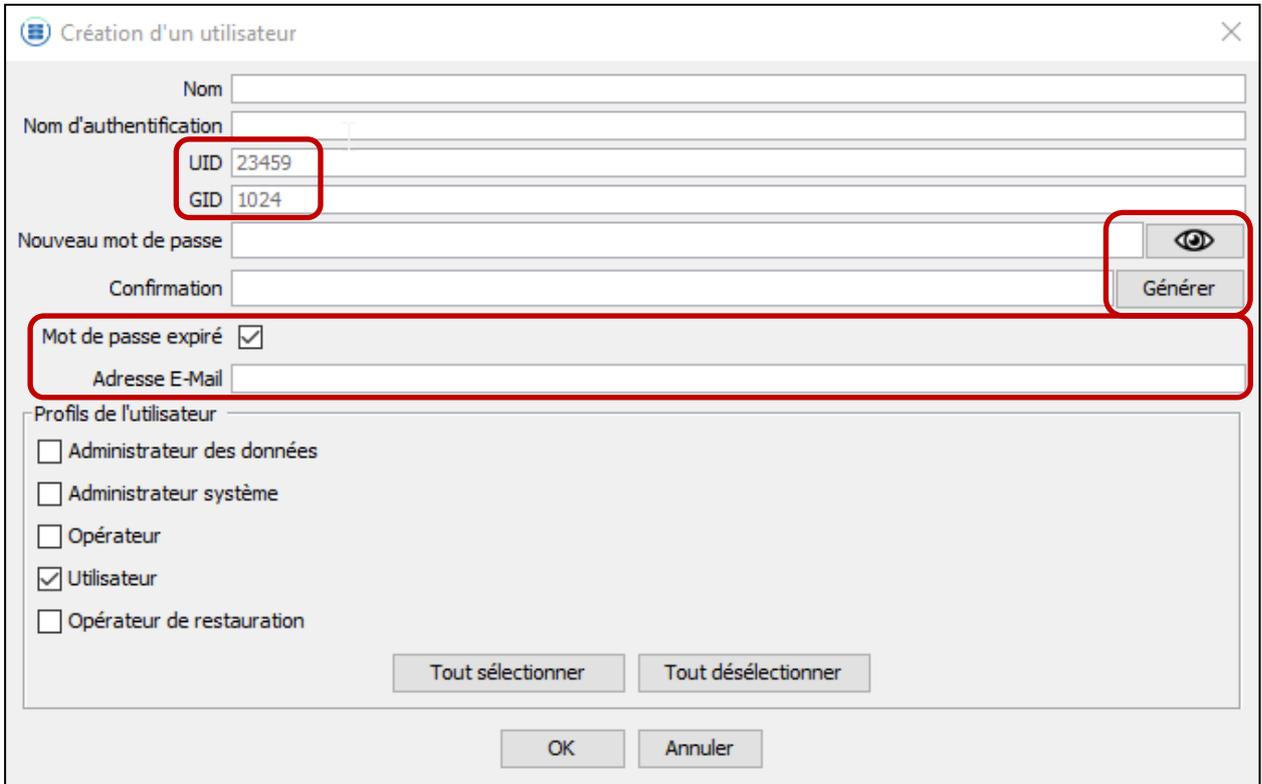
A property can be defined that defines a slow-down factor when a session is opened, depending on the authentication error number.

Rule	Property	Role
Slow-down of administration session opening	directory.local.credential.adminRetryDelay	To add a delay to the opening of administration sessions, in the event of successive failures. The formula used is as follows: $\text{adminRetryDelay} \times 2^{(\text{nbEchec} - 1)}$

DEVELOPMENTS TO THE GRAPHIC INTERFACE

Creating a user

- It is no longer necessary to manually define user UIDs/GID . If the fields are not completed, the node will automatically choose the value. The value chosen corresponds to the greatest value, in increments of 1. The interface indicates the probable values that will be chosen by the node.
- The interface suggests password generation. The password generated adheres to the password complexity policy. If special characters are required, the character set used by the generator is limited to: "!\"#\$%&'()*+,-./:;<=>?@[\\]^_`{|}~", to make it easier to send the password to the user.
- The interface only allows the password to be displayed when the user is created, which allows it to be copied/pasted.
- By default, users are created with an expired password: if the box remains checked, the user must change this password to open a session.
- An email address can be entered for the user, and this will be used for notifications related to the password.



Création d'un utilisateur

Nom

Nom d'authentification

UID

GID

Nouveau mot de passe

Confirmation

Mot de passe expiré

Adresse E-Mail

Profils de l'utilisateur

Administrateur des données

Administrateur système

Opérateur

Utilisateur

Opérateur de restauration

Tout sélectionner Tout désélectionner

OK Annuler

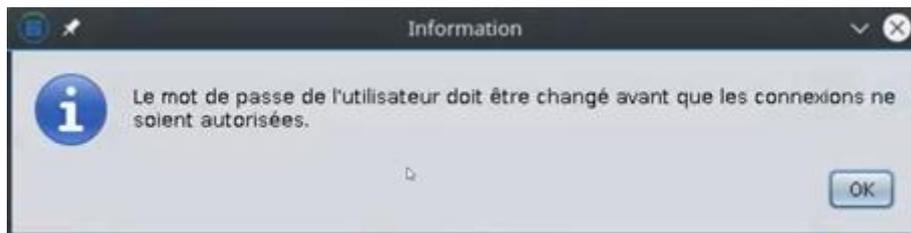
Générer

Changing a password (by an administrator)

As seen previously, an administrator may change a user's password in the administration interface. By default, this new password is considered expired. The password can be generated in adherence to the security policy. If the account was locked, it will also be unlocked.

Authentication with an expired password

The administration interface and exploration interface authentication windows have been modified to handle expired passwords (this is notably the case when opening a first session as an the admin user). If the password has expired, the interface displays two new fields allowing a new password to be re-entered. This password must adhere to the security policy.



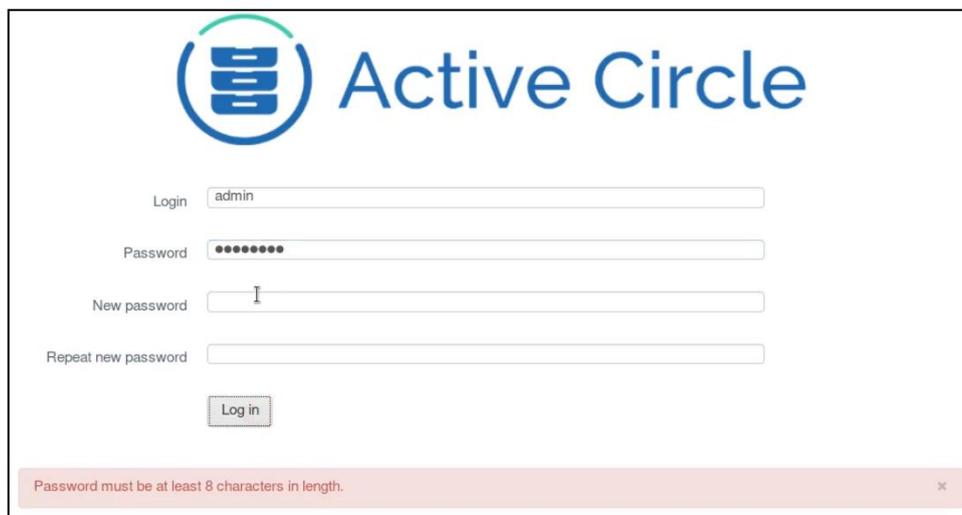
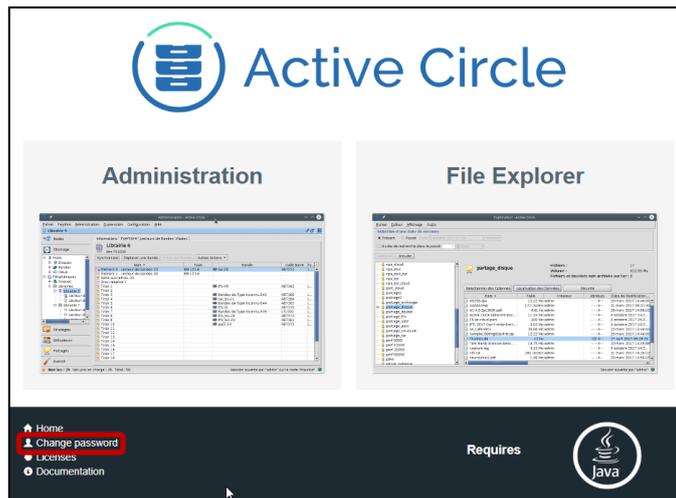
Unlocking user accounts

When a user account is locked following authentication errors, it appears with a padlock beside it in the administration tool. It can be unlocked by right-clicking the user list or the directory "users/groups" view. In the latter case, you may select multiple users to unlock all selected accounts.



Password change tool

A tool allowing for password change has been added to the interface. It allows for the user's username to be reentered, as well as their current password and new password (twice). This interface can be used even when the password has expired. A link has been added to the home page of the web server for the nodes, and is only accessible at https:



CLI

`acpasswd`

This new command is to be used as an equivalent to the "passwd" command in Unix and offers the following functionalities:

- For users to change their password
- For an administrator to
 - change the password of another user
 - expire a user's password
 - unlock a user account (following too many authentication errors)

MONITORING

The following events are monitored in the administration log:

- Authentication errors.
- Password changes (with the possibility of distinguishing whether the password has been changed by users themselves or by an administrator).
- Password expirations.
- User account locking.
- User account unlocking.

Emails are sent to relevant users regarding the following events:

- A password is going to expire (one email per day, periods can be configured).
- A password has expired (the task controlling email deliveries is the directory synchronization task).
- A password has been changed.
- An account has been locked.

This requires the existence of a valid email address linked to the account, and the configuration of an SMTP server in the node configuration.

3.1.2.10. Secure access to interfaces

Starting with version 5.0, the web server loaded in the nodes switches from HTTP to HTTPS, both on new and existing installations.

The HTTP server remains active, but all requests are re-sent to the HTTPS server by means of a "301 (Moved Permanently)" error. Browsers manage the redirection transparently.

Different circle properties allow the activation of HTTP and HTTPS servers to be controlled, and the ports used have been re-added. Any modification requires the Active Circle service to be restarted for it to be taken into account.

Role	Property	Value
Activation of http server	httpd.activate	"yes" by default. If the https server is active, redirects to it. If not, the web interface is used. The server is not activated if the value is set to "no".
http server port	httpd.port	80 by default.
Activation of https server	httpd.ssl.activate	"yes" by default. the web interface is used via SSL. Required for the password change tool.
https server port	httpd.httpsPort	443 by default.

SSL CERTIFICATE

By default, the SSL certificate used is a self-signed certificate, which is the same on each node. The certificate must be stored in the Active Circle keyStore, which can be edited with the command:
`acadmin --keyStore`

When the server is restarted, the node searches for a specific alias using the name of the node followed by a dash and the "https" chain (e.g. "node01-https"). If this alias does not exist, it searches for the "https" alias. If this "https" alias is not found, the default "https" certificate is added in the keyStore.

Note:

The use of a self-signed certificate does not allow one to benefit from all SSL advantages. If it is not possible to purchase a certificate, openssl could be used to create a "root CA" certificate, and it can be used to generate the node's certificates. By importing the root certificate to the browser, there would no longer be any need to add exceptions for different nodes.

3.1.3.ADMINISTRATION INTERFACE

Optimizing of the list of nodes available in a context with a large number of nodes. This is now only updated each time it is displayed. It is therefore no longer updated while it remains open.

Strategies can be processed by batch via the shares root in the Shares section. From now on, the archiving and historization strategies are no longer checked by default. This allows users to more precisely select which to process, for each share.

AC-2621

Fixed the action of the historization strategy create button which until now launched the creation of a storage strategy.

AC-2629

When a user and group are created, if the UID and GID fields are left empty, a value will be determined by the node handling the request. In the interface, the probable value is displayed as a grayed-out suggestion.

3.1.4.NAS

AC-1963

*.amc temporary files handled so that they are ignored by the strategies processing. Once the *.amc file is renamed, its history is merged with the old file previously deleted. Finally, its signature can now be calculated.

AC-2232

A file is now considered "stable" if at least one of the following conditions is true:

- The file is sealed.
- The drop job is defined.
- The file is saved in the warehouse.

AC-2248

*.swp temporary files generated by the "vi" editor are handed so that they are ignored by the strategies processing.

3.1.5.STORAGE MANAGEMENT

Improved management of the allocation table of a data partition to make it easier to switch over shared partitions by preventing the non-closure of said file that was blocking the partition from being disassembled.

Improved pack-packing wait by adding the new system property: "activecircle.depository.stream.packPackerNbJoinersBlockingLevel" positioned at 10,000 by default and defined the maximum number of packs authorized to join a group.

The group filling rate (no. of packs pending) linearly alters the timeout of the pack-packing. The wait is therefore now not relaunched each time a pack joins the group, but is unique and starts at the first grouping.

Improved the verification of XFS partitions shared, which was systematically returning an error until now.

AC-2636

Added the system property "diskPool.PartitionUseMode", which can take the values:

- sequential: default value, fills the pool partitions one after the other.
- parallel: allows the IOs to be made parallel and optimized in case of mass duplication.

3.1.6.ARCHIVING

Support for LTO NEC T30A and T60A libraries.

AC-653

The "media.lifeTime" circle property defining the default life span of tapes has been extended from 5 to 10 years. For information, the value given by the manufacturers is 30 years, for around 5,000 assemblies.

AC-1661

Added the following circle properties:

- activecircle.media.old.check.period
- activecircle.media.old.check.period.unit

These control the frequency with which the obsolescence of tapes is verified, and the frequency with which corresponding notes are sent. The default values of these properties are "7" and "day", respectively. The age is now verified once a week by default.

AC-2165

Improved tape removal from a pool and the deletion of tapes. The following system properties are no longer active:

- activecircle.mediapool.forcePartitionRemoval
- activecircle.appli.consumer.catalog.element.mediapool.activablebycell
.safeable.forcePartitionRemoval

AC-2264

LTFS archiving of files containing the character ": "are handled.

AC-2475

In the event of an LTFS archiving error in the index synchronization phase, the name of the first 50 files archived not found in the index are logged.

AC-2819

The default value of the circle parameter "archive.maxFilesCount" set at 1 million by default also becomes the maximum value authorized for this parameter.

3.1.7. CLI

```
acadmin --tape --force
```

Allows a tape to be forcefully deleted or removed from a pool. Therefore only to be used with caution.

AC-2063

```
acdestage
```

The full list of files is now displayed by default with the `--showFile` option. The command help has been reviewed for more clarity for the following options:

- `--fileState` Specify the state of files to display
<file states> one or several (separated by comma) file status among UNDEFINED, FOUND, ONLINE, RETRIEVING, ERROR, DESTAGED
- `--fileLimit` Specify the file limit to show (default is 1000)
<file limit> limit of files list to display
- `--showFile` Show file processes files (see the 'fileState' and 'fileLimit' options)

AC-2139

```
acinfo --account --archiveDetailedInfo
```

```
acinfo --account --storageDetailedInfo
```

The detailed information for storage and archiving strategies has been consolidated within the share, and is therefore now available from any of the circle's nodes.

AC-2628

```
acadmin --share -w -u
```

Allows an unversioned pool to be created with the `"-u"` or `"-unversioned"` option. This option is exclusive of the `"-w"` (worm) option.

3.1.8.RESOLUTIONS AND ADDITIONAL UPDATES ...

AC-1957

Changed the compression algorithm for PACK data and catalog metadata from LZ0 to LZ4. This fix provides a better compression rate as well as better reading performance. Crashes related to the LZ0 compression on certain systems are therefore avoided.

LZ0 is still present in order to ensure the reading of data previously compressed.

AC-2216

The main administrator with a UID different to 0 may now perform re-caching without access rights to the files.

AC-2503

All exceptions captured during the resolution of an RLM service in order to authorize future resolutions.

3.2. Active Circle V4.6.2.3 HOTFIX – June 2018

SIGNATURE SHA256

4254c760353cc9f276adb047064729074aa7b90c5a7d756fda4e60490eac02aa ac-4.6.2.3.bin

HOTFIX

AC-2536: Optimizing the number of UDP packets sent by a node when it boots with many network interfaces.

AC-2540: Support in Shared Disk Pool Validation scripts where the LABEL does not directly follow the device with the output format of the "blkid" command.

AC-2583: Support in Shared Disk Pool Validation scripts for the presence of the PARTLABEL fields from the output of the "blkid" command.

3.3. Active Circle V4.6.2.2 HOTFIX – May 2018

SIGNATURE SHA256

e4420a4aba8286cfceef2f5d5de6206eadc038cf03f1f5b9c92adaeb509225fc ac-4.6.2.2.bin

HOTFIX

AC-2401: Added the system property "com.sun.jini.thread.maxThreadCount" to customize the maximum number of threads used by JINI services (default 46). The goal is to improve synchronization in a context of systems with multiple network interfaces by increasing the number of threads.

3.4. Active Circle V4.6.2.1 HOTFIX – March 2018

SIGNATURE SHA256

4a1346fb30fb985ee3789b8c078b22bfe4c9b53fa480e6b4c9f42bc751d239ea ac-4.6.2.1.bin

HOTFIX

AC-2275: Restore the "Files", "Volume" and "Non-archived" columns to the Browser in Directory mode only.

3.5. Active Circle V4.6.2 – February 2017

SIGNATURE SHA256

9082338b84e449aec085db9f4ff0ffadb4fe2ca1fc11c0e212c63fb9d9f4d23 ac-4.6.2.bin

IMPROVED UPDATE SCRIPTS

Scripts enabling updates have been optimized in response to customer feedback.

IMPROVED TAPE MANAGEMENT

Improved forced deletion of tapes with the system property “forcePartitionRemoval”.

FIXES

SPAC : The administration interface no longer displays an error message when displaying an archive that was deleted following its creation.

SPAC : Improved editing of network protocols via the administration interface to prevent the loss of root squash settings.

SPAC : Using the system property “activecircle.fc.task.minWorkersCount” for which the default value is 6, you can increase the number of threads used in the command node to detect nodes.

3.6. Active Circle V4.6.1 – December 2017

SIGNATURE SHA256

56f7e7d9034947402b2eb91f194818b82d703210f041677a031c91c4b33e9c8b ac-4.6.1.bin

OPTIMIZED UPDATE OF ACTIVE CIRCLE 4.0.2 TO 4.6

Update performance has been optimized by approximately 40%, limiting the length of service interruption related to this operation.

A set of scripts has been added to facilitate this operation: Backup and restore a node

- Backup and restore a node
- Monitor the update
- Validate the update

SPAC: IMPROVING THE INTEGRITY CONTROL OF A POOL IN CLI

Launch via the command:

```
accheck --pool --name <name> [--partitionName <name>] --integrity  
[--mode list|remove]
```

Interrupt via the command:

```
accheck --pool --interruptIntegrity
```

The integrity check has been enhanced to systematically display (at the information level) the number of available untruncated packs, as well as the size of each associated pool partition.

It is now also possible to recover the space on the corresponding FS with the integrity controller's "remove" option AND under the system property "activecircle.integrityChecker.truncateFreePack".

Warning: only to be used if certain that files are secured.

3.7. Active Circle V4.6.0 – October 2017

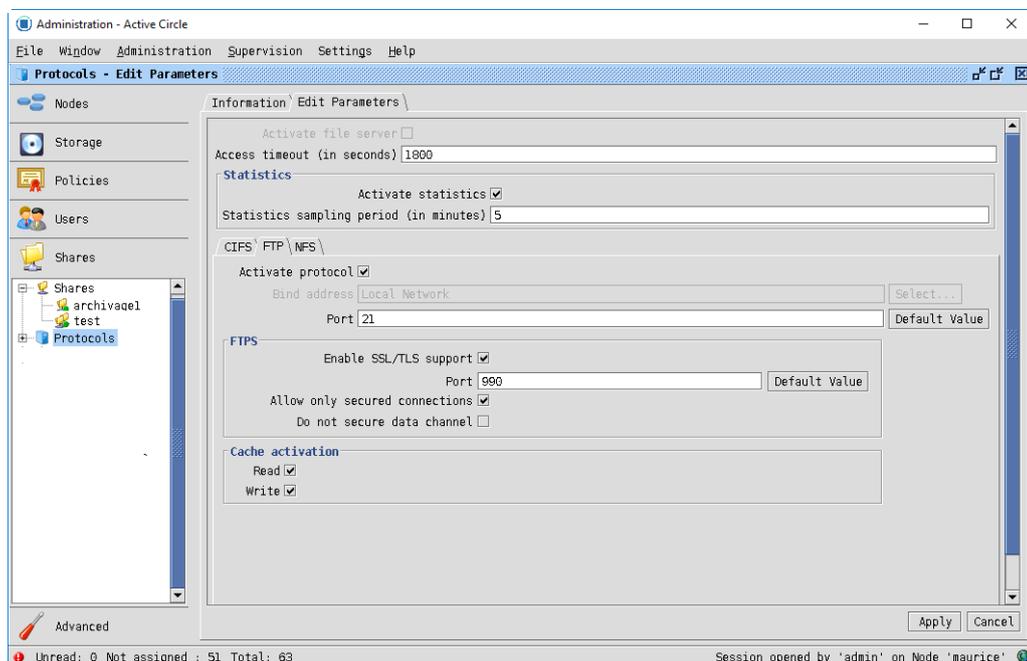
3.7.1. Major Release Features

3.7.1.1. FTPS. Protocol Support

The FTPS protocol is now available in Active Circle version 4.6, allowing for the exchange of secure data between clients and the Active Circle solution.

The FTPS protocol is disabled by default.

To configure it, go to the sub-section "Protocols" in the "Shares" category and then in the "FTP" tab:



In the "FTPS" section, you can then:

- Enable FTPS support
- Change the default "990" port
- Only allow secure connections, meaning prevent the use of the FTP protocol
- Not secure the data channel, i.e. use encryption only for authentication and use FTP for data if they are already encrypted for example

Note: activation of the FTPS requires CPU resources because the files must be decrypted upon arrival in the system

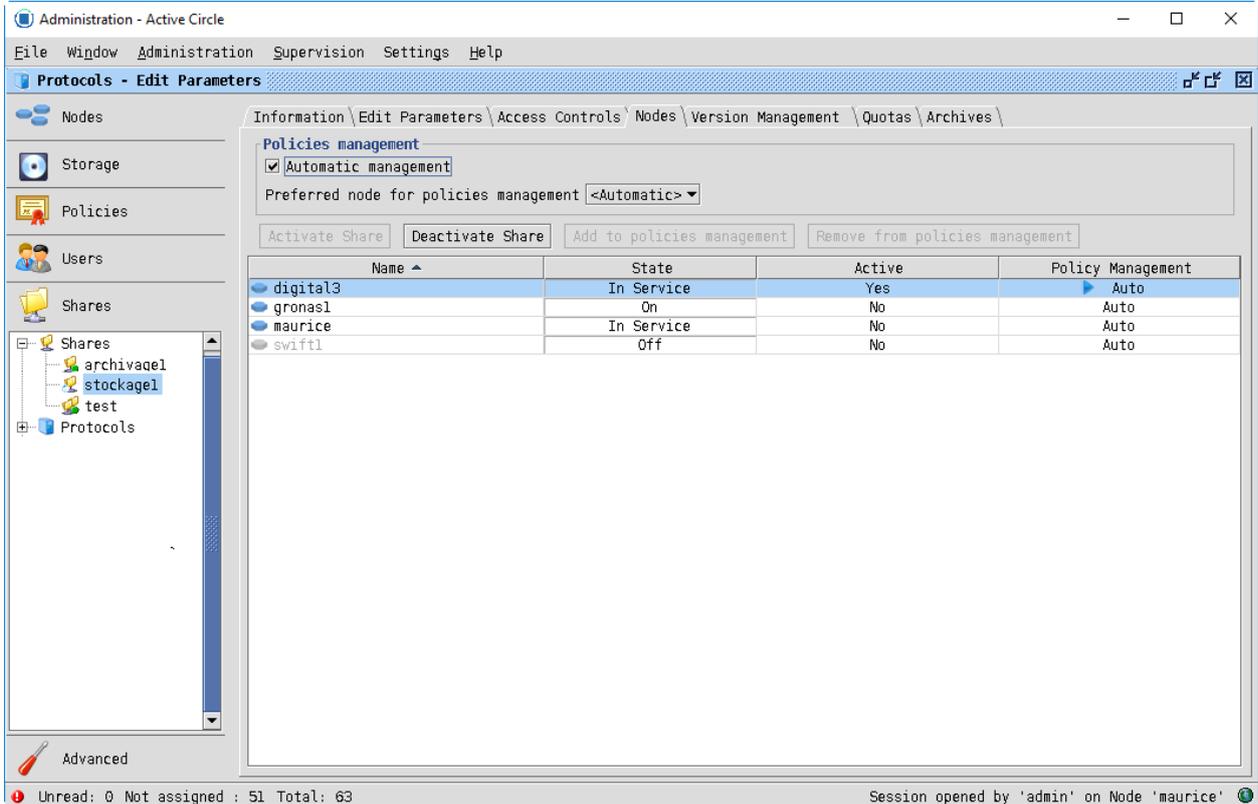
In order to allow encryption, a self-signed certificate is used by default.

The new "acadmin - keyStore" command allows you to manage all Active Circle certificates, including the import of a certificate and its private key for the FTPS protocol.

3.7.1.2. Improved management of policies

Each share can now define its own list of nodes for policy management:

- In automatic mode (by default), policies are managed in the list of policy cluster members.
- In manual mode, any circle node can be configured to manage policies.



The screenshot shows the 'Administration - Active Circle' window with the 'Protocols - Edit Parameters' tab selected. The 'Policies management' section is active, showing a checkbox for 'Automatic management' which is checked. Below it, a dropdown menu shows 'Preferred node for policies management' set to '<Automatic>'. There are buttons for 'Activate Share', 'Deactivate Share', 'Add to policies management', and 'Remove from policies management'. A table lists the nodes and their policy management settings:

Name	State	Active	Policy Management
digital3	In Service	Yes	Auto
gronas1	On	No	Auto
maurice	In Service	No	Auto
swiffl	Off	No	Auto

The status bar at the bottom indicates 'Unread: 0 Not assigned : 51 Total: 63' and 'Session opened by 'admin' on Node 'maurice''.

You can always define a preferred node for policy management among the previously defined list.

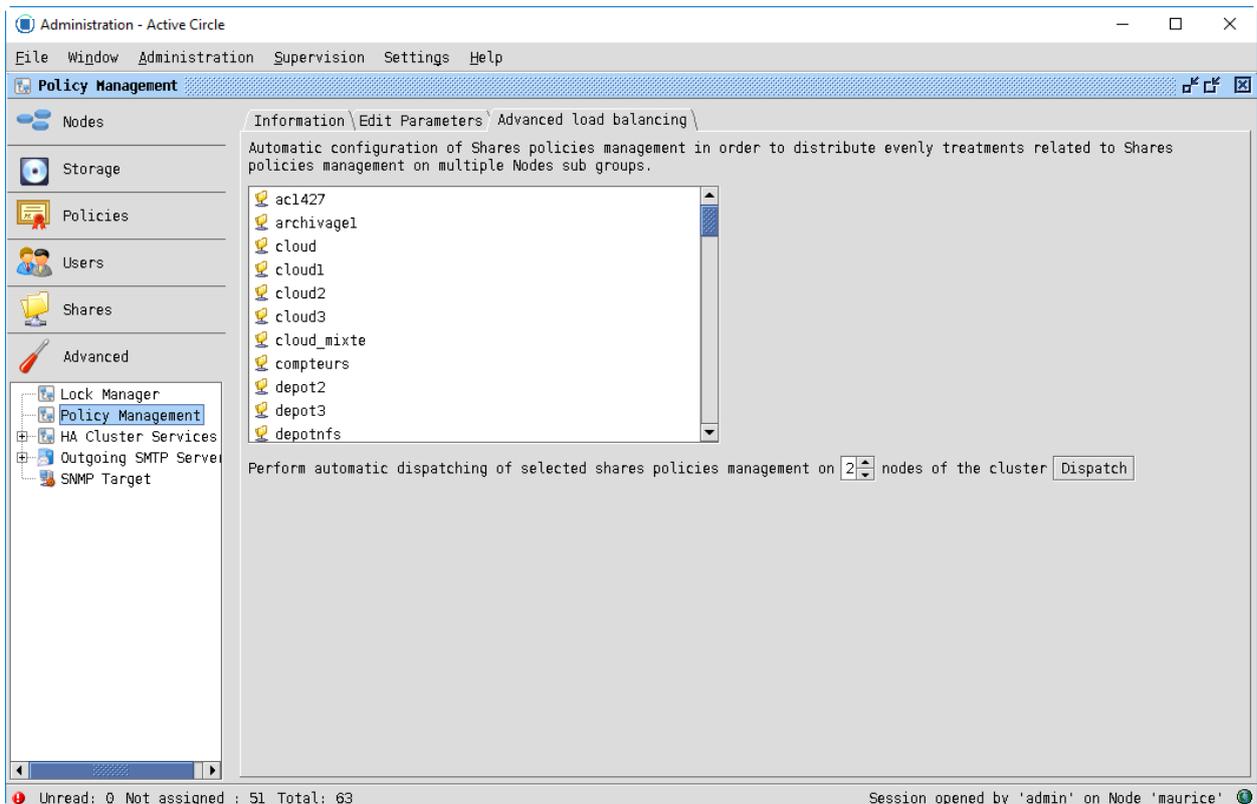
If the share is part of a share group, the share can inherit the group, its list of nodes for policy management, as well as its preferred node, in automatic or manual mode.

The distribution now takes into account the number of files and/or file versions placed in the share for a better balance between the nodes.

In manual mode, the share catalogs are now located on the nodes managing the policy, in addition to the consolidation nodes and the nodes on which the share is activated. So, it is not more localized on all the nodes of the strategy cluster.

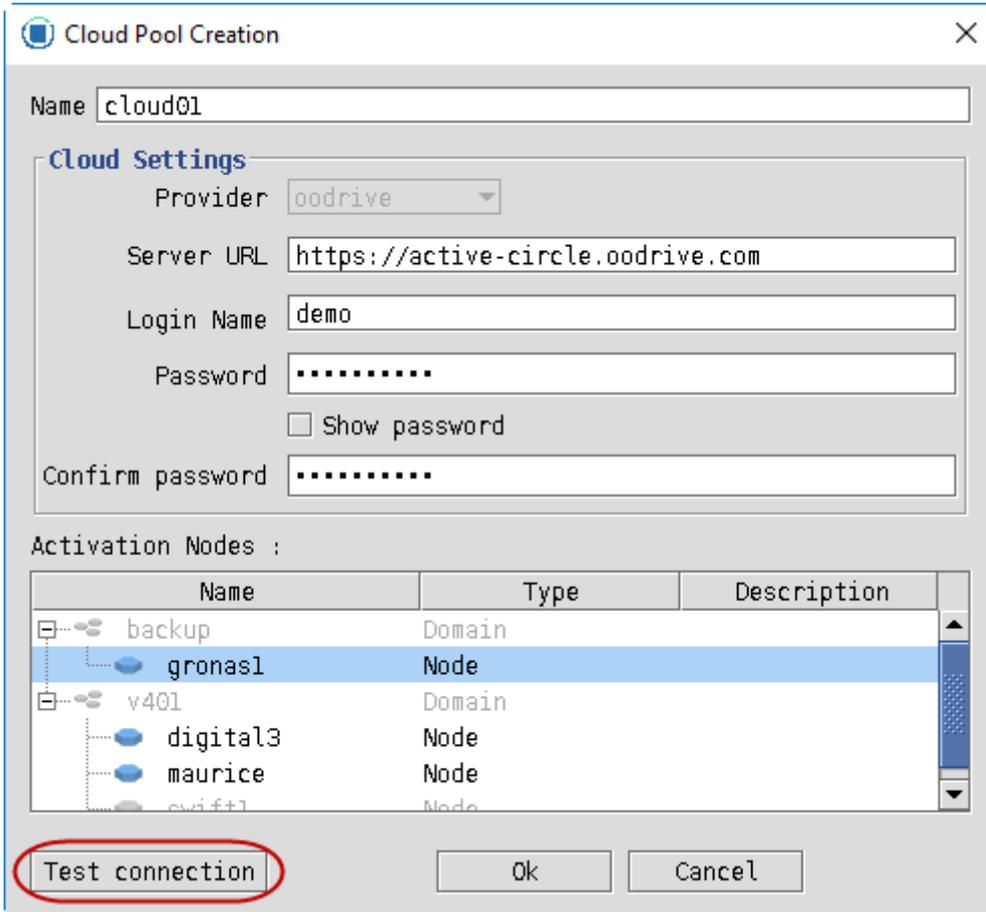
Addition of a new wizard to facilitate set up of the manual mode:

- This is accessible via a new "Advanced Distribution" tab under "Distribution of Strategies" in the "Advanced" view.
- It is available when the distribution cluster has at least 2 nodes, otherwise it is grayed out.
- It allows you to configure the list of policy management nodes for the selected shares, using a subset of the list of management distribution cluster members (each share has a different list).
- Warning: Applying the proposed distribution for the selected shares overwrites the prior configuration. Distribution is performed according to the weight of each share, at the time of configuration. It may therefore no longer be optimal depending on the evolution in the weight of each share and/or any changes in the node configuration for the management of the distribution of one or more share policies.



3.7.1.3. Improved management of policies

The creation of a cloud pool is facilitated by the appearance of a new button which can be used to test the connection to the cloud server.



Name	Type	Description
backup	Domain	
gronas1	Node	
v401	Domain	
digital3	Node	
maurice	Node	
swift1	Node	

A cloud pool can now be renamed.

When creating or editing an archive policy, you can only have one cloud constraint.

Improved cloud pool management:

- The activation of a cloud pool during deletion is no longer possible.
- Added reattempt in the case of failure to delete a cloud pool.
- The deletion of a cloud pool in "offline mode" is now possible.

In the event of failure to archive in the cloud, the temporary file generated during the writing phase and stored in the cache before sending is kept. It then holds the status "pending". An asynchronous task will retry uploading for 24 hours.

Massive playback from the cloud has also been improved to allow the cloud infrastructure to optimize replay from the tapes and deliver the files as quickly as possible.

A cloud pool archive location coherency check has been added. It is performed in both directions that is to say that we verify that:

- an archive location has an archive on the cloud server.
- all cloud server archives correspond to an archive location. In this case, the "remove" mode makes it possible to clean unnecessary archives that would have been deleted locally without being transmitted to the cloud server

If there is no cloud location in an archive, a critical supervision note is created.
This check is performed with the command "accheck --pool <pool_cloud>".

Addition of cloud support in CLI Active Circle: CF the paragraph on the CLI.

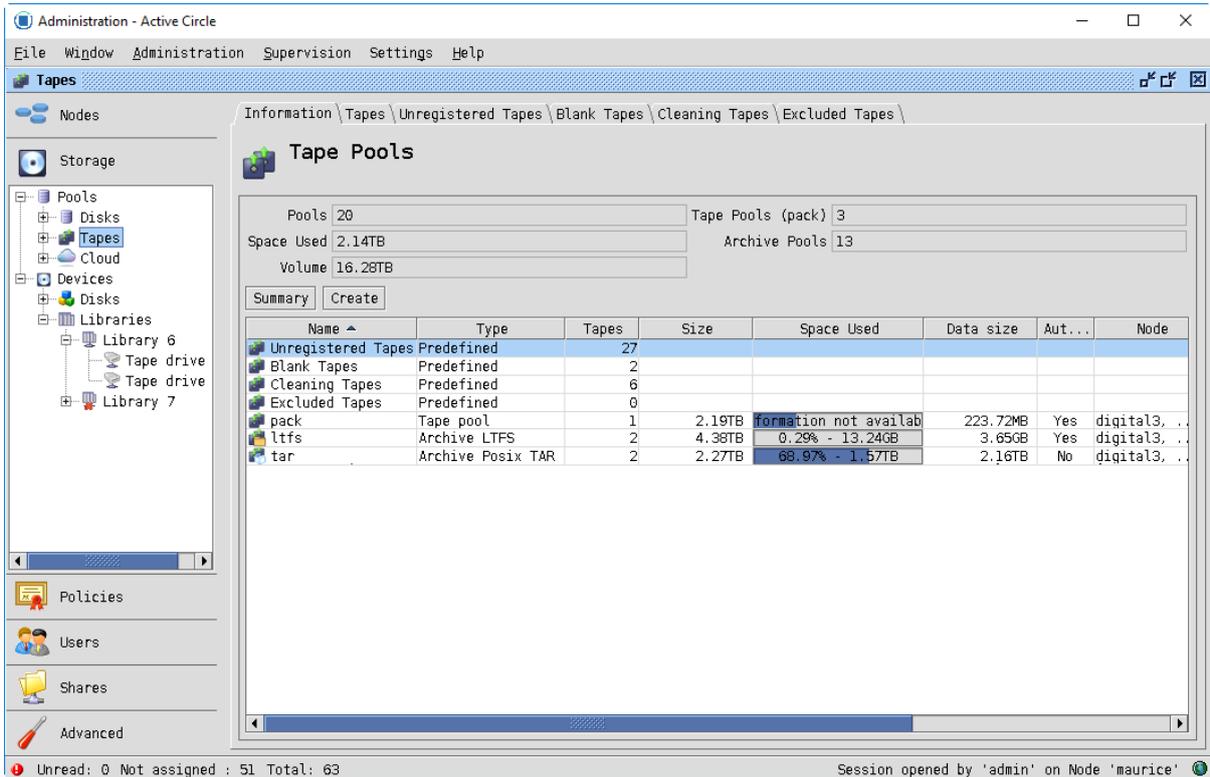
3.7.2. Administration interface

A node without access to the tape drives is no longer suggested as an activation node for a tape pool.

Renaming a share requires disabling it. Now its reactivation is automatic.

It is no longer possible to declare two archival constraints with identical locations within the same policy.

The view that displays the tape pool information has been improved with a new "Type" column that specifies the archive format for each of the pools.



The screenshot shows the 'Tape Pools' view in the Active Circle Administration interface. The summary section displays the following information:

- Pools: 20
- Space Used: 2.14TB
- Volume: 16.28TB
- Tape Pools (pack): 3
- Archive Pools: 13

The detailed table below shows the following data:

Name	Type	Tapes	Size	Space Used	Data size	Aut...	Node
Unregistered Tapes	Predefined	27					
Blank Tapes	Predefined	2					
Cleaning Tapes	Predefined	6					
Excluded Tapes	Predefined	0					
pack	Tape pool	1	2.19TB	formation not availab	223.72MB	Yes	digital3, ..
lufs	Archive LTFS	2	4.38TB	0.29% - 13.24GB	3.65GB	Yes	digital3, ..
tar	Archive Posix TAR	2	2.27TB	68.97% - 1.57TB	2.16TB	No	digital3, ..

Improved display of the Pools view, the tape archive pool icon in the LTFS format has been changed to make it easier to distinguish them from tape-based archive pools in TAR format.

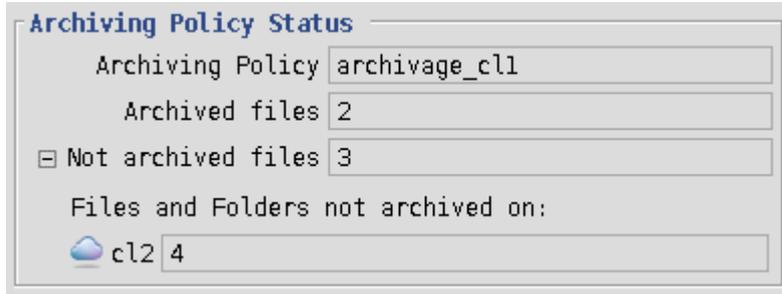


As was the case for tape pools or disk pools, active cloud pools now appear under the corresponding nodes in the "Nodes" folder view.

Improved external directory connection wizard when using a mandatory proxy.

Improved readability of the distributed locks table, in the "Lock Manager" view, in circles with many nodes.

Addition of non-archived file number information by location for each share at the "Information" tab of each share.



Archiving Policy Status	
Archiving Policy	archivage_cl1
Archived files	2
<input type="checkbox"/> Not archived files	3
Files and Folders not archived on:	
<input type="checkbox"/> cl2	4

The import of an openLDAP directory in TLS mode with an invalid certificate is now functional regardless of the language of the administration interface

SPAC: Clarified confirmation message when resetting storage policy counters.

SPAC: The HA Cluster now ignores UP but not RUNNING interfaces as well as those that do not support multicast. This allows, among other things, a node with two UP interfaces but only one RUNNING to be elected leader of the cluster.

SPAC: Removed an unnecessary popup that was displayed when the "Advanced" tab was selected when launching the administration interface.

SPAC: Corrected an anomaly that did not take into account the choice of the user's node when launching the administration interface.

SPAC-390: When launching GUIs, GUIs try to communicate with all nodes. In a multi-site and highly distributed configuration, this resulted in a delay before the login window was displayed. To avoid this, it is now possible through the circle parameter "httpd.service.lookupLocators.targetOnly = True" to only connect to the node from which the interface was downloaded.

3.7.3. Explorer interface

Improved performance of the explorer.

A new default value for memory allocation has been set for the explorer interface (256 MB to 512 MB).

3.7.4.NAS

Prohibit changing the UNIX mode of a share. The change returns the error "Access denied".

Added a current operations counter to a file to prevent premature closing when filing the large file via NFS.

SPAC: Support for image rotation with the Windows 7/10 viewer.

SPAC: Support for the latest versions of smbclient, Nautilus and Dolphin that prevented the connection in CIFS on Linux.

SPAC: Significant performance improvements when depositing large file structures through optimized calculation of the number of directories present in a directory to monitor quotas.

SPAC38 & SPAME-62: Added a specific error code for unsupported operations to avoid saturation of NAS logs when a CIFS client on Linux tries to read a file name containing ":". The CIFS session is not closed due to this error

SPDEV-390: Improved cache system avoids partition saturation.

3.7.5. Archiving

Prevents the potential blocking of access to a tape for archiving after a destaging of many files on the same tape.

In a shared library configuration, we now check that the drive is ready before recovering the capacity of the tape it contains.

Supports the Quantum Scalar i3-i6 library.

Fixed an issue with the maximum capacity of an LTFS tape that was wrong when the tape was previously in a TAR pool.

Fixed an issue with the non-archived files counter that became negative with symbolic links when importing LTFS or TAR.

Directories and empty files in the same LTFS archive have the same file key. A warning log is now only displayed when adding the same element (same key) to the archive, ignoring cases related to directories and empty files.

SPAC: To avoid any loss of tape files from overwriting in the event of communication failure between two nodes managing a shared library, we now check for any new resource allocation, so that the selected tape file is the last one on the tape (add mode), even if the tape has already been used by the resource manager. This verification is not performed as part of a parallel archive when the tape is transmitted to a pending request when it is released. If unsuccessful, the tape is quarantined for 5 minutes and cannot be selected during this time for writing. If the error recurs after the quarantine period, the tape is closed and a supervision note is sent.

SPAC-165: Canceling an archive, cancel the associated destaging.

3.7.1. Supervision

When the activation or processing information of a share policy is changed while the node is shutting down, the location of the share is no longer checked, or it must be started or stopped on the current node.

SPAC: Optimized processing of note addition events in the administration log, which is now done by batch.

SPAC-313: Addition of a supervision note when processing interruptions of a storage strategy. This note will make it easier to follow the storage strategy when the processing allowed a migration of the data to new warehouses by allowing stopped strategies to know the treated streams thus "fulfilled" by those which did not take place.

SPDEV-371: Some libraries consider free slots for additional drives as exception invalid drives. The supervisory note message stating that a drive is missing from a library has been modified and now displays the corresponding item number in the library. Finally, this note is sent only once per reader until it has been closed.

3.7.1. CLI

acarchive, added support for cloud pools.

accheck, the "--pool <pool_cloud>" option is used to check the consistency of archive locations on the cloud.

acinfo, added the option "--share" to display the state node shares.

acinfo, the "--nac" option has been detailed in the "--help" help option of the command.

acinfo, the "--pool" option now displays information about cloud pools.

acinfo, now supports the archives on cloud pools with the option "--archive -l".

acinfo, the "--policy" option now displays the "cloud" type for archiving constraints in the cloud.

acinfo, adding "Cloud" pool support for "--space" option

acfind, add a "-p <pattern>" option to search for files by name. The pattern is expressed as a Posix regular expression.

acfind, now displays files without localization when using the "-i" option to display location information.

acfind, resolving a problem that sometimes prevented the command from running by using a cluster name.

acls, improved display of files without location by specifying "<unreachable>" after the filename.

acadmin, the "--nac" option has been detailed in the "--help" help option of the command.

acadmin, the "--pool" option is used to create "cloud" pools.

3.7.1. Resolutions and miscellaneous...

Active Circle logos updated.

Correction of an anomaly that caused the synchronization of an external directory after restarting the cluster leader node strategies.

The maximum number of days allowed between two synchronizations changes from 14 days to 30 days by default.

SPAC: Administrators are allowed to cache files for which they do not have read rights.

SPAC: The choice of a partition of a disk pool during writing is now deterministic according to the order in which the partitions are added to the pool, and if necessary, according to their name (in alphabetical order).

SPAC : Fixed the calculation of the shared partition reservation key that prevented the switching of shared disk pools. This problem was the cause of the critical message "For input string:".

SPAC-278 : The job count is now only checked when creating a file. This is done to avoid truncated/empty files when the job count or the cache occupancy rate is exceeded. In addition, a supervisory note has been added to indicate that the job count has reached critical limit.

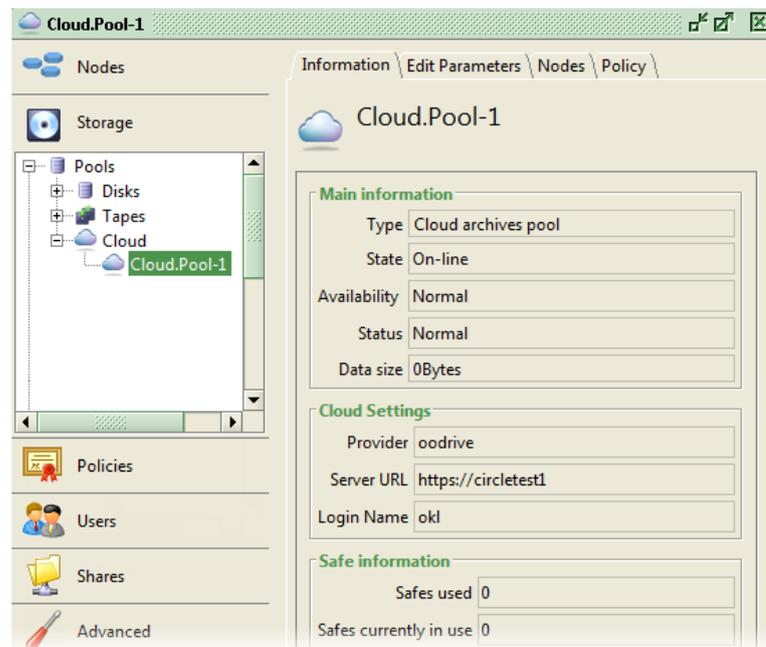
3.1. Reminder of functional additions in version 4.5

3.1.1. Support for CentOS 7 / RHEL 7

The arrival of version 4.5 has provided support for the latest versions of CentOS 7 and Red Hat Enterprise Linux 7. In order to facilitate the deployment of new configurations, a new step-by-step installation guide for Active Circle will soon be available.

3.1.2. Archiving in the Cloud

It is now possible to directly archive the data in the Oodrive cloud. This feature is implemented through a new pool type called "Cloud Pools". The data is therefore archived in the cloud pool through an archive policy as is the case for local tape pools.

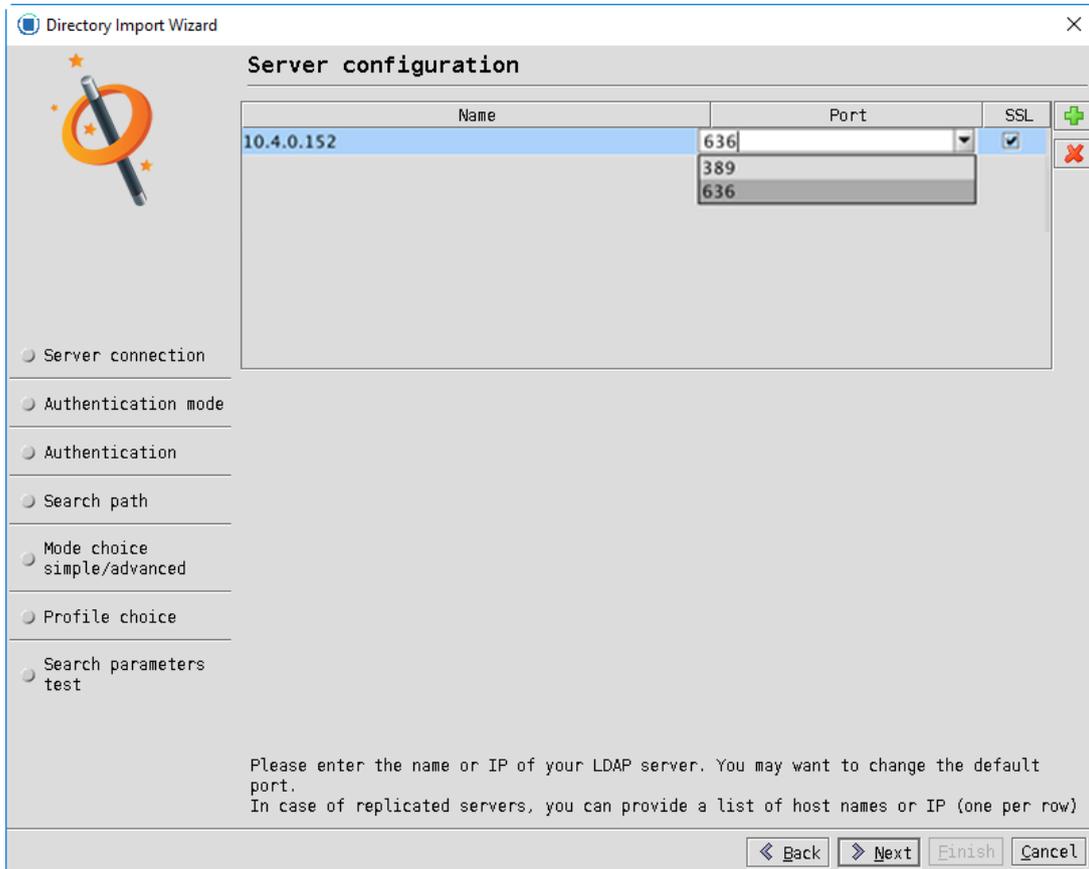


3.1.3. Support for NTLMv2 authentication

NTLMv2 authentication for OpenLDAP users (samba schema) is now supported for CIFS mounts on Windows client computers. It is no longer necessary to modify the configuration of the Windows and MacOS client computers to authorize the use of NTLMv1.

3.1.4. LDAP support for TLS.

When importing an LDAP, TLS mode is preferred by attempting to access the server on port 636. The port for unsecured access may be chosen if it is available on the server.



The certificate is then verified and is rejected if it is considered invalid (self-signed certificate, unrecognized certification authority, etc.). It is still possible to use the connection without checking the certificate, but you must enable the circle property "directory.trust-all-certs".

Existing configurations are not impacted. However, it is possible to go into the secure mode by editing the directory configuration to change the port used (the default LDAPS port is 636). As with importing, the certificate is checked and the circle "directory.trust-all-certs" property must be enabled to force its use.

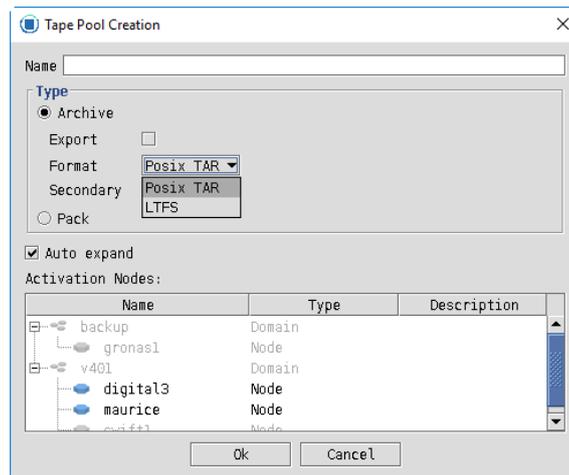
Limitation: The import of an openLDAP directory in TLS mode with an invalid certificate is not functional if the administration interface is in English. To work around the issue, launch the interface in French.

3.1.5. Support for archiving and importing LTFS tapes

When creating an archive pool, it is possible to set the TAR or LTFS format.

In addition to the format difference, the validated archive option is not available in LTFS.

When importing, Active Circle does not read the data on the tape to import but only the LTFS index of the tape and only the last index is read.



The space available on an LTFS tape is the space on the LTFS file system of the tape on the Active Circle node. As a result, self-expansion of LTFS pools can only be done with LTO5 tapes or higher.

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