

	<p>CIRCA – HOTFIX</p>
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1 Background

This document describes the hotfix to work around a bug which keeps the CIRCA system from updating the access control list correctly.

A bugfix is not available yet. Suggestions to build a bugfix are done in this document. Maybe the vendor can support us on this bugfix.

This document is designed for administrators and developers.

2 Non-technical Bug Description

When you update an access control list (acl), the web server will never answer and the browser will show a timeout. When you check the access control list after this happened, it seems that the access control list has been updated correctly, but some users who have got access to a service or subsection are not able to access these section.

This Bug only appears if you have a profile which includes many users and a complex access right structure. If you update an access control list which includes only some single users the bug will not appear.

3 Technical Bug Description

The related httpd process will first start to allocate a lot of additional memory. In case of our test system it has allocated additional about 65 MB. Than it will run some minutes and goes to sleep mode. This process will never return from sleep mode, so the client browser detects a timeout on the connection to the web server.

If you run a „strace“ on the related process id, you will see that this process holds on a „select“ command that will never return a result.

The process will stop running only in the function `update_ldap` located in the file `ACL.pm`.

Every profile included in the access control list will be processed by this function. While running this function, every user of a profile is processed. After some users the process will go to sleep mode. In case of our test system about 700 to 850 users have passed. The amount of users that will be processed until the httpd process stops running does not depend significantly on the hardware performance.

4 Reported by

This bug has been reported by the federal office for consumer protection and food safety in Germany.

5 Related Versions

This bug has been confirmed for CIRCA Version 3.3 Patch 23 and CIRCA Version 3.4 Patch 9.

In all probability this bug will affect all versions of CIRCA, including versions prior and later to 3.3p23.

The hotfix is only tested and verified to CIRCA version 3.3 patch 23.

6 Reason

The process goes to sleep while calling a method of the Net::LDAPapi module.

In CIRCA the version 1.42 of Net::LDAPapi is used. This versions includes a memory leak bug. This bug should be fixed in version 1.43.

We assume that CIRCA is affected by this bug in the Net::LDAPapi module.

For more Informations see the changelog of Net::LDAPapi.

<http://search.cpan.org/src/MISHIKAL/Net-LDAPapi-3.0.0/Changes>

Excerpt from the changelog:

1.43 Sat Jun 13 02:39:15 CDT 1998

- Fixed a few memory leaks caused by changes in 1.42 and tested these changes on both Netscape and UMICH SDKs.

7 Description of Hotfix

Because this bug only appears in the function update_ldap, this hotfix unbinds the ldap connection and deletes the instance of the Net::LDAPapi module after every 100 users while updating the access control list for a profile to work around this bug.

7.1 Modifications

The hotfix modifies only the file ACL.pm. For source codes see this file.

- A logging function has been added at line 41. This function is only used to debug the hotfix.
- The foreach loop in the function update_ldap between line 260 and 264 is exchanged.
 - The method \$class->members is not used any more in this loop, because this method returns an array of instances of the class IRCuser for all users included in a profile. Creating this array takes a lot of memory. (In case of our test system about 65MB.)

So this method has been implemented directly into the foreach loop. The foreach loop now uses an array which includes just all user names instead of all instances of the concerned users. The instance of the IRCuser class is created on every pass of the foreach loop.

This point is just an performance issue.

- After every 100 passes of the foreach loop the method LDAPunbind is executed on the local ldap object of the instance of the IRCuser class. LDAPunbind calls an unbind on the instance of the Net::LDAPapi module and deletes the instance of this module.

The new instance of the Net::LDAPapi module is created automatically because the CIRCA module LDAP::API creates a new bind to the ldap server if it does not exist.

7.2 Debugging

If you define the variable \$ENABLE_HOTFIX_DEBUG = 1, some debugging informations will be logged to \$CIRCA::IRC_HOME/tmp/ACL_hotfix_debug.log

This is useful if the hotfix will not work in the case that the process holds before 100 users are processed. We assume that this can happen if the access right structure in an interest group is getting more complex.

7.3 Building a Hotfix for CIRCA version 3.4 patch 9

In version 3.4 patch 9 a method in the IRCuser class is available that returns the local ldap object. The variable \$local_ldap should be set to that object.

Replace the line

```
my $local_ldap = $member->{'_local_ldap_obj'} || $member;
```

to

```
my $local_ldap = $member->local_ldap_obj;
```

8 Installation of Hotfix

WARNING: This hotfix is only tested and verified on CIRCA version 3.3 patch 23. Regardless which version you are using, you install this hotfix on your own risk. This hotfix is not an official release.

In the directory \$IRC_HOME/www/enc/lib/ exchange the file ACL.pm with the file from the hotfix. If the original file is write protected, grant the right to write the file. Restart the CIRCA system.

9 Building a Bugfix

We assume that exchanging the perl module Net::LDAPapi from version 1.42 to 1.43 will solve the problem.

We were not able to compile version 1.43 of this module in the CIRCA system because we are missing compile parameters and libraries for version 1.42 and for the openldap server.

It should be less difficult to the vendor to compile this module because they compiled the old version, too.

We suggest to inform the maintainer about this bug and try to get a compiled version 1.43 of the Net::LDAPapi module designed for the CIRCA software.

Newer versions of this module may not work because major changes are done to the version 2.00.

10 Questions

If you have any questions about this document, please contact the CIRCA support at ni database solutions. Please refer to this document in the subject.

E-mail address: support@circa-support.eu

11 Disclaimer

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