

## Knowledge Base - SafeKit 7.5 & 8.2

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### SK-0001 - File replication doesn't work if there is a mount point under the replicated directory (error "JUKEBOX")

Id	SK-0001
OS	Linux
SafeKit version	All
Restriction	File replication doesn't work if there is a mount point under the replicated directory (error "JUKEBOX")
Jira, Mars Id	Mars 22041

### SK-0002 - With SQL Server, SafeKit sometimes stops on primary if "Boost SQL server priority" is used

Id	SK-0002
OS	Windows
SafeKit version	All
Problem	With SQL Server, SafeKit sometimes stops on primary if "Boost SQL server priority" is used  (sqlserver process uses 100% cpu and safekit stops with IOS - ReleaseINK kernel→user error)
Jira, Mars Id	Mars 21956
Solution	Disable "Boost SQL server priority" (SQL Management Studio ⇒ select your server ⇒ Properties ⇒ Processors)

**SK-0005 - “safekit forcestop” doesn't complete on “nfsbox” death**

Id	SK-0005
OS	Linux
SafeKit version	All
Problem	“safekit forcestop” doesn't complete on “nfsbox” death
Jira, Mars Id	Mars 19565
Solution	Reboot your system

**SK-0009 - File attributes replication : file encryption and file compression are not supported**

Id	SK-0009
OS	Windows
SafeKit version	All
Restriction	File attributes replication : file encryption and file compression are not supported
Jira, Mars Id	Mars 20912-20913

**SK-0010 - Replicated directory can not be a root of a file system**

Id	SK-0010
OS	Linux
SafeKit version	All
Problem	Replicated directory can not be a root of a file system
Jira, Mars Id	
Solution	See <a href="#">SK-0030</a> for a solution

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**SK-0013 - Interface checker doesn't work with bonding interfaces**

Id	SK-0013
OS	Linux
SafeKit version	All
Restriction	Interface checker doesn't work with bonding interfaces
Jira, Mars Id	

**SK-0014 - Failover of NFS mounts of replicated directories from remote NFS clients are not supported**

Id	SK-0014
OS	Linux
SafeKit version	All
Restriction	Failover of NFS mounts of replicated directories from remote NFS clients are not supported
Jira, Mars Id	

**SK-0017 - Mirror module start blocks into wait state when a heartbeat with ident="flow" is configured while there is no replication configuration**

Id	SK-0017
OS	Windows & Linux
SafeKit version	<ul style="list-style-type: none"><li>• Windows: &lt; 7.5.0.12</li><li>• Linux : &lt; 7.5.0.11</li></ul>
Problem	Mirror module start blocks into wait state when a heartbeat with ident="flow" is configured while there is no replication configuration (<rfs> section)
Jira, Mars Id	

Solution	It has been fixed in 7.5.0.11 for Linux and 7.5.0.12 for Windows.  For previous releases, remove the ident attribute.
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## SK-0025 - Rename of directory between replicated and not replicated trees are not supported

Id	SK-0025
OS	Windows & Linux
SafeKit version	All
Restriction	<p>Rename of directory between replicated and not replicated trees are not supported</p> <p>This restriction applies when you configure not replicated directories into <code>&lt;rfs&gt;</code> tag. For instance:</p> <pre>&lt;rfs&gt; &lt;replicated dir="/replib" mode="read_only"&gt; &lt;notreplicated path="notreplib" /&gt; &lt;/replicated&gt; &lt;/rfs&gt;</pre> <p>Rename of files between replicated and not replicated trees are supported. For instance, the operations below are allowed:</p> <pre>mv /replib/file /replib/notreplib mv /replib/notreplib/file /replib</pre> <p>But, rename of directories between replicated and not replicated trees may lead to secondary stop-start and/or to degraded mode. For instance, the operations below are not supported:</p> <pre>mv /replib/dir /replib/notreplib mv /replib/notreplib/dir /replib</pre>
Jira, Mars Id	Mars 34165, 63859 and 63864

## SK-0030 - Mirror module configuration fails when a replicated directory is a mount point

Id	SK-0030
OS	Linux
SafeKit version	All
Problem	Mirror module configuration fails when a replicated directory is a mount point
Jira, Mars Id	
Solution	<p>Apply the following manual procedure as work around.</p> <p>This article takes the example of PostgreSQL module that set as replicated directories <code>/var/lib/pgsql/var</code> and <code>/var/lib/pgsql/data</code>, which are mount points. The SafeKit module configuration fails with the error:</p> <pre>Error : Device or resource busy</pre> <p>It is the same procedure for all mounts points that must be replicated.</p> <p><b>Detect mount points with a command line</b></p> <p>On both nodes, check mount points with the command <code>df -H</code> that returns for instance:</p> <pre>df -H /dev/mapper/vg01-lv_pgs_var ... /var/lib/pgsql/var /dev/mapper/vg02-lv_pgs_data ... /var/lib/pgsql/data /var/lib/pgsql/var and /var/lib/pgsql/data are mount points and they must be replicated for PostgreSQL. But the SafeKit module configuration command <code>/opt/safekit/safekit config -m postgresql</code> returns <code>Error : Device or resource busy</code></pre> <p><b>What to do if a replicated directory is a mount point</b></p>

- First, save the module with the two previous directories configured. You should have in

```
/opt/safekit/modules/postgresql/userconfig.xml :
```

```
1 <rfs ... >
2   <replicated dir="/var/lib/pgsql/var"
3   mode="read_only" />
4   <replicated dir="/var/lib/pgsql/data"
5   mode="read_only" />
6 </rfs>
```

- Umount `/var/lib/pgsql/var` and `/var/lib/pgsql/data`
- Run the command `/opt/safekit/safekit config -m postgresql` which should succeed (no errors)

- Check the symbolic links created by running the command `ls -l /var/lib`:

```
lrwxrwxrwx 1 root root var ->
var_For_SafeKit_Replication
lrwxrwxrwx 1 root root data ->
data_For_SafeKit_Replication
```

- Edit `/etc/fstab` and change the two lines:

```
/dev/mapper/vg01-lv_pgs_var
/var/lib/pgsql/var ext4...
/dev/mapper/vg02-lv_pgs_data
/var/lib/pgsql/data ext4...
```

with

```
/dev/mapper/vg01-lv_pgs_var
/var/lib/pgsql/var_For_SafeKit_Replication
ext4...
/dev/mapper/vg02-lv_pgs_data
/var/lib/pgsql/data_For_SafeKit_Replicatio
n ext4..
```

- Mount the file systems by running the commands

```
mount
/var/lib/pgsql/var_For_SafeKit_Replication
and mount
/var/lib/pgsql/data_For_SafeKit_Replicatio
n
```

Apply this procedure on both nodes if replicated directories are mount point on both nodes.

After this procedure, you can use SafeKit as usual: ie safekit start stop etc ...

### Note

To protect the start of SafeKit on a non-mounted and empty directory, you can insert in `userconfig.xml` the checking of a file inside the replicated directory. Example for `var/` (do the same for `data/` with a file inside this directory which is always present):

```
1 <replicated dir="/var/lib/pgsql/var"
  mode="read_only">
2   <tocheck path="postgresql.conf" />
3 </replicated>
```

### What to do for de-configuring the module (or uninstall whole SafeKit)

If you want to deconfigure the module (or uninstall whole safekit), you must reverse this procedure by:

- Umount the file systems with `umount /var/lib/pgsql/var_For_SafeKit_Replication` and `umount /var/lib/pgsql/data_For_SafeKit_Replication`
- De-configure the module with `/opt/safekit/safekit deconfig -m postgresql`
- Edit `/etc/fstab` to undo previous editing
- Mount the file systems with `mount /var/lib/pgsql/var` and `mount /var/lib/pgsql/data`

## SK-0033 - SafeKit servers can not communicate when the firewall is on

Id	SK-0033
OS	Windows & Linux

SafeKit version	All
Problem	SafeKit servers can not communicate when the firewall is on
Jira, Mars Id	
Solution	When firewall is turned on, you have to configure the firewall to allow connections on SafeKit module ports. Refer to the 'Firewall settings' into the SafeKit User's Guide

### SK-0043 - Configure a mirror module with a virtual IP address mapped on a virtual MAC address

Id	SK-0043
OS	Windows & Linux
SafeKit version	All
How to	Configure a mirror module with a virtual IP address mapped on a virtual MAC address
Jira, Mars Id	
Solution	<p>The following is an extract of a mirror configuration file <i>userconfig.xml</i>, set to user a virtual IP address mapped on a virtual MAC address ( <code>type="vmac_invisible"</code> ).</p> <p>The loadbalancing rule is a mandatory configuration option when defining a virtual MAC address but all the traffic goes to the primary server.</p> <pre> &lt;vip&gt; &lt;interface_list&gt; &lt;interface check="on"&gt; &lt;virtual_interface type="vmac_invisible"&gt; &lt;virtual_addr addr="192.168.208.56" check="off" where="one_side_alias"/&gt; &lt;/virtual_interface&gt; &lt;/interface&gt; </pre>

```

</interface_list>
<loadbalancing_list>
<group name="mirrorgrp">
<rule filter="on_addr" proto="tcp"
port="*" />
</group>
</loadbalancing_list>
</vip>
<farm>
<lan>
<node name="node1" addr="127.0.0.1" />
</lan>
</farm>

```

#### SK-0046 - Web console problems after SafeKit upgrade

Id	SK-0046
OS	Windows & Linux
SafeKit version	All
Problem	Web console problems after SafeKit upgrade
Jira, Mars Id	
Solution	<p>You have to clear your browser's cache so as to get the new web console pages. A quick way to do this is a keyboard shortcut that works on IE, Firefox, and Chrome. Open the browser to any web page and hold CTRL and SHIFT while tapping the DELETE key. (This is NOT CTRL, ALT, DEL). The dialog box will open to clear the browser. Set it to clear everything and click Clear Now or Delete at the bottom. Close the browser, stop the process still running in the background if necessary, and re-open it fresh to test what wasn't working for you previously.</p>

#### SK-0049 - Problem using literal IPv6 address when using HTTPS with the Web console

Id	SK-0049
OS	Windows & Linux
SafeKit version	7.5
Problem	<p>Problem using literal IPv6 address when using HTTPS with the Web console</p> <p>If you use https://[IPv6]:9453/ or http://[IPv6]:9010/ where IPV6 is a literal IPv6 address, the connection fails "Internet Explorer cannot display the webpage"</p> <p>See : <a href="#">Apache-Bugzilla-Bug 52831</a></p>
Jira, Mars Id	Mars 44424
Solution	Connect with https://[IPv6]:9453/deploy.html, https://[IPv6]:9453/monitor.html ... will work. Or don't use literal addresses for IPv6.

#### SK-0052 - Modules fail to start at boot when safeagent is set to automatic start

Id	SK-0049
OS	Windows & Linux
SafeKit version	7.5
Problem	Modules fail to start at boot when safeagent is set to automatic start
Jira, Mars Id	
Solution	<p>Follow the procedure below</p> <ol style="list-style-type: none"> <li>1. Start the "service control manager" control panel applet</li> <li>2. In the right-click contextual menu of the "Safeagent" service, select "Properties"</li> <li>3. Set the "safeagent" service "startup type" to "Automatic (Delayed Start)"</li> <li>4. Click OK</li> </ol>

5. The setting will be active at the next boot.

**SK-0054 - When setting the resource state in a custom checker, it logs a message in the module log even if the resource state did not changed**

Id	SK-0054
OS	Windows & Linux
SafeKit version	All
Problem	When setting the resource state in a custom checker, it logs a message in the module log even if the resource state did not changed
Jira, Mars Id	Mars 56903
Solution	Edit your custom checker for running the command setting the resource state only if the state has changed.

**SK-0056 - Incompatible configuration options `<interface arpreroute="on"` and `<virtual_interface type="vmac_invisible"`**

Id	SK-0056
OS	Windows & Linux
SafeKit version	All
Restriction	Incompatible configuration options <code>&lt;interface arpreroute="on"</code> and <code>&lt;virtual_interface type="vmac_invisible"</code>
Jira, Mars Id	Mars 57173
Solution	<ul style="list-style-type: none"><li>• set <code>&lt;interface arpreroute="off"</code> when <code>&lt;virtual_interface type="vmac_invisible"</code></li><li>• set <code>&lt;interface arpreroute="on"</code> <code>arpelapse="60"</code> <code>arpinterval="5"</code> only when <code>type="vmac_directed"</code></li></ul>

**SK-0058 - In a farm module, start load-balancing once the application is started and stop load-balancing before stopping the application**

Id	SK-0058
OS	Windows & Linux
SafeKit version	All
How to	<p>In a farm module, start load-balancing once the application is started and stop load-balancing before stopping the application</p> <ul style="list-style-type: none"><li>• Default behaviour: the load-balancing is enabled before running the user script <code>start_both</code> ; the load-balancing is disabled after running the user script <code>stop_both</code>.</li><li>• Wanted behaviour: when the application start/stop takes a long time, it may be necessary to enable the load-balancing only once the application is started and to disable it before stopping the application so as to reduce the failover time.</li></ul>
Jira, Mars Id	
Solution	<p>Enable/disable the <code>load_balancing</code> with special commands ran into the user scripts <code>start_both</code> and <code>stop_both</code>. Find below the scripts templates.</p> <ul style="list-style-type: none"><li>• <b>Windows scripts</b></li></ul> <pre>SAFE/modules/AM/bin/start_both.cmd  1  ... 2  rem must wait for vipd ready before stopping load- 3  balancing 4  "%SAFEBIN%\sleep" 2 5 6  echo "Stop the load-balancing" 7  %SAFE%\safekit" -r saferpc_send -m %SAFEMODULE% vipd 8  SETGROUPS donothing donothing none 9 10 rem Start services 11 ... 12 echo "Start the load-balancing" 13 %SAFE%\safekit -r saferpc_send -m %SAFEMODULE% vipd 14 SETGROUPS donothing donothing all 15 ...</pre>

### SAFE/modules/AM/bin/stop\_both.cmd

```
1 ...
2 echo "Stop the load-balancing"
3 %SAFE%\safekit" -r saferpc_send -m %SAFEMODULE% vipd
  SETGROUPS donothing donothing none
4
5 rem Stop services
6 ...
```

### • Linux scripts

### SAFE/modules/AM/bin/start\_both

```
1 #!/bin/sh
2 ...
3 #must wait for vipd ready before stopping load-
  balancing
4 sleep 2
5 echo "Stop the load-balancing"
6 $SAFE/safekit -r saferpc_send -m $SAFEMODULE vipd
  SETGROUPS donothing donothing none
7
8 #Start services
9 ...
10 echo "Start the load-balancing"
11 $SAFE/safekit -r saferpc_send -m $SAFEMODULE vipd
  SETGROUPS donothing donothing all
12 ...
```

### SAFE/modules/AM/bin/stop\_both

```
1 #!/bin/sh
2 ...
3 echo "Stop the load-balancing"
4 $SAFE/safekit -r saferpc_send -m $SAFEMODULE vipd
  SETGROUPS donothing donothing none
5
6 #Stop services
7 ...
```

## SK-0066 - Configure the USN journal for file replication enhancement

Id	SK-0066
OS	Windows
SafeKit version	All
How to	Configure the USN journal for file replication enhancement


In Windows, to enable zone reintegration after reboot when the module has been properly stopped, rfs component use the NTFS USN change journal to check that saved information on zones are still valid after reboot. When the check succeeds, zone reintegration can be applied on the file; otherwise, full reintegration must be used.

By default, an NTFS volume will have its USN journal active only the system drive. If the replicated directories are located on a drive different from the system drive, you have to explicitly activate the journal.

Run the following command, as an administrator, to check that the USN journal is enabled on your drive:

```
fsutil usn queryjournal D: (replace D: with the desired drive).
```

When disabled, it returns "Error: The volume change journal is not active."

 See [SK-0067](#) before starting the module after the USN journal creation.

Jira, Mars Id

Solution

Run the following command, as an administrator, to create the USN journal:

```
fsutil usn createjournal m=536870912  
a=67108864 D:
```

(replace D: with the desired drive) ; where `m` , for maximum size, specifies the maximum size, in bytes, that NTFS allocates for the change journal and `a` , for allocation delta, specifies the size, in bytes, of memory allocation that is added to the end and removed from the beginning of the change journal.

The default USN journal maximum size is 512 MB. If your volume contains 400,000 files or fewer, no additional configuration is required. For every 100,000 additional files on a volume containing replicated directories, increase the USN journal size by 128 MB. If files on the volume are

changed or renamed frequently (regardless of whether they are part of the replica set), consider sizing the USN journal larger than these recommendations to prevent USN journal wraps, which can occur when large numbers of files change so quickly that the USN journal must discard the oldest changes to stay within the specified size limit.

The table below includes the various figures needed to create the USN journal to different amounts.

<b>Number of files</b>	<b>m maximum size in bytes</b>	<b>a allocation delta in bytes</b>	<b>m in MB</b>
400 000	536 870 912	67 108 864	512
600 000	805 306 368	100 663 296	768
800 000	1 073 741 824	134 217 728	1 024
1 000 000	1 342 177 280	167 772 160	1 280
1 200 000	1 610 612 736	201 326 592	1 536
1 400 000	1 879 048 192	234 881 024	1 792
1 600 000	2 147 483 648	268 435 456	2 048
1 800 000	2 415 919 104	301 989 888	2 304
2 000 000	2 684 354 560	335 544 320	2 560
2 200 000	2 952 790 016	369 098 752	2 816

2 400 000	3 221 225 472	402 653 184	3 072
2 600 000	3 489 660 928	436 207 616	3 328
2 800 000	3 758 096 384	469 762 048	3 584
3 000 000	4 026 531 840	503 316 480	3 840
3 200 000	4 294 967 296	536 870 912	4 096

**SK-0067 - The start of the module hangs into the WAIT(magenta) state after creating the USN journal on the drive containing the replicated directories**

Id	SK-0067
OS	Windows
SafeKit version	All
Problem	<p>The start of the module hangs into the WAIT(magenta) state after creating the USN journal on the drive containing the replicated directories</p> <p>The start of the module hangs into the WAIT(magenta) state with the following messages into the log of the module:</p> <pre>   2017-02-23 09:05:58:454000   nfsboxv3   D   Directory D:\: Filesystem=NTFS (flags 3e700ff), Volume=Data   2017-02-23 09:06:00:302000   rfsplug   D   Retrying nfsbox port lookup   2017-02-23 09:06:00:302000   rfsplug   D   Waiting for nfsbox ready   2017-02-23 09:06:00:303000   log   D   Last message repeated 2 times </pre>

	<pre>  2017-02-23 09:06:00:333000   nfsadmin   D   Retrying nfsbox port lookup   2017-02-23 09:06:00:333000   nfsadmin   D   Waiting for nfsbox initialization</pre> <p>This occurs when the USN journal has just been created on the drive containing the replicated directories and no access has yet be done on the drive.</p>
Jira, Mars Id	
Solution	After creating the USN journal and before starting the module, run any modification on the drive so as to fill the USN journal. For instance, you can create then delete a file.

#### SK-0068 - Use of externally built httpd server instead of the SafeKit built-in httpd server

Id	SK-0068
OS	Windows
SafeKit version	All
How to	Use of externally built httpd server instead of the SafeKit built-in httpd server
Jira, Mars Id	
Solution	<ul style="list-style-type: none"> <li>• Download the appropriate version of the httpd server <b>2.4</b> package x64 binaries from a source you trust, or build it yourself. For example, <a href="#">Apache 2 Server on Windows for (business) webmasters, developers, home users and programmers</a> provide x64 binaries for Windows. If you intend to use the secured web console with HTTPS, ensure that the mod_ssl and openssl packages are also delivered.</li> <li>• Download and install the associated Microsoft C Runtime redistributable package</li> <li>• Stop safewebserver : <code>safekit webserver stop</code></li> </ul>

	<ul style="list-style-type: none"> <li>• Take a copy of the SAFE/web/bin and SAFE/web/modules directories</li> <li>• Copy the content of the "bin" directory from the httpd server package to the SAFE/web/bin directory</li> <li>• Copy the content of the "modules" directory from the httpd server package to the SAFE/web/modules directory</li> <li>• Start safewebserver : <code>safekit webserver start</code></li> </ul>
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**SK-0069 - Use of Linux httpd server instead of the SafeKit built-in httpd server**

Id	SK-0069
OS	Linux
SafeKit version	7.5
How to	Use of Linux httpd server instead of the SafeKit built-in httpd server
Jira, Mars Id	
Solution	<ul style="list-style-type: none"> <li>• Download the appropriate version of the httpd server <b>2.4</b> package x64 binaries. If you intend to use the secured web console with HTTPS, ensure that the mod_ssl, mod_ldap and mod_session packages are also delivered.</li> <li>• Stop safewebserver : <code>safekit webserver stop</code></li> <li>• Edit the /opt/safekit/web/bin/safeapachectl script according to the inline comments</li> <li>• Start safewebserver : <code>safekit webserver start</code></li> </ul>

**SK-0070 - Use MySQL with Safekit when SELinux is "Enforcing"**

Id	SK-0070
OS	Linux
SafeKit version	All

How to	<p><b>Use mySQL with Safekit when SELinux is "Enforcing"</b></p> <p>The start of the module mySQL.safe fails with mysql errors:</p> <pre>mkdir: cannot create directory /var/lib/mysql: File exists mariadb.service: main process exited, code=exited, status=1/FAILURE mariadb.service: control process exited, code=exited status=1 Failed to start MariaDB database server. And/Or: [Note] /usr/libexec/mysqld (mysqld 5.5.44- MariaDB) starting as process 29039 ... Warning] Can't create test file /var/lib/mysql/alambix2.lower-test /usr/libexec/mysqld: Can't change dir to '/var/lib/mysql/' (Errcode: 13) 170426 8:55:20 [ERROR] Aborting</pre>
Jira, Mars Id	
Solution	<p>Generate SELinux policy allow rules from logs of denied operations:</p> <p>First deploy mySQL.safe module</p> <ul style="list-style-type: none"> <li>• Set SELinux in Permissive mode : <code>setenforce 0</code></li> <li>• Execute: <code>/sbin/service auditd rotate</code> ,to rotate the SELinux log file <code>"/var/log/audit/audit.log"</code></li> <li>• Execute : <code>semodule -DB</code> , to remove "dontaudits from policy" (log becomes more verbose)</li> <li>• Start and Stop mySQL in command line : <code>systemctl start mariadb</code> and <code>systemctl stop mariadb</code></li> <li>• Start and stop mySQL.safe module (command line or safekit web console)</li> <li>• Now, use "audit2allow" to build a policy module "NewMySQL.pp" from denial and the associated system call logged to <code>/var/log/audit/audit.log</code>:</li> </ul>

```
grep mysqld /var/log/audit/audit.log |  
audit2allow -M NewMySQL , 2 files are created :  
NewMySQL.pp and NewMySQL.te
```

- Set audit in initial mode: `semodule -B`
- Load the new policy module: `semodule -i  
NewMySQL.pp`
- Set SELinux in Enforcing mode: `setenforce 1`
- Start mySQL.safe module : it works !

File NewMySQL.te sample :

```
module NewMySQL 1.0;  
require {  
type var_lib_t;  
type mysqld_safe_t;  
type nfs_t;  
type mysqld_t;  
class process { siginh noatsecure rlimitinh  
};  
class sock_file { create unlink };  
class lnk_file { read getattr };  
class file { write getattr read lock create  
unlink open };  
class dir { write remove_name getattr  
add_name };  
}  
#===== mysqld_safe_t =====  
#!!!! This avc has a dontaudit rule in the  
current policy  
allow mysqld_safe_t mysqld_t:process {  
siginh rlimitinh noatsecure };  
#!!!! This avc has a dontaudit rule in the  
current policy  
allow mysqld_safe_t nfs_t:dir getattr;  
allow mysqld_safe_t var_lib_t:lnk_file  
read;  
#===== mysqld_t ===== allow  
mysqld_t nfs_t:dir { write remove_name
```

```

add_name };
allow mysqld_t nfs_t:file { write getattr
read lock create unlink open };
allow mysqld_t nfs_t:sock_file { create
unlink };
allow mysqld_t var_lib_t:lnk_file { read
getattr };

```

Remarks :

If the ".te" file is manually modified, the ".pp" file must be build again

```
checkmodule -M -m -o NewMySQL.mod
```

```
NewMySQL.te
```

```
semodule_package -o NewMySQL.pp -m
```

```
NewMySQL.mod
```

Then reload the policy module `semodule -i`

```
NewMySQL.pp .
```

## SK-0071 - Command "create" or "drop" on Mysql replicated database fails when SELinux is "Enforcing"

Id	SK-0071
OS	Linux
SafeKit version	All
Problem	<p>Command "create" or "drop" on Mysql replicated database fails when SELinux is "Enforcing"</p> <pre> drop database MaBase; ERROR 1010 (HY000): Error dropping database (can't rmdir './MaBase', errno: 13) or create database MaBase; ERROR ...(HY000): Error creating database (can't mkdir './MaBase', errno: 13) </pre>
Jira, Mars Id	

Solution	<ul style="list-style-type: none"> <li>• Edit your policy rules for MySQL (".te" file see <a href="#">SK-0070</a>) and add rules for "create" and "rmdir" directory :</li> <li>• Replace the line: <code>class dir { write remove_name getattr add_name }</code> with: <code>class dir { create rmdir write remove_name getattr add_name }</code></li> <li>• Replace the line: <code>allow mysqld_t nfs_t:dir { write remove_name add_name }</code> with: <code>allow mysqld_t nfs_t:dir { create rmdir write remove_name add_name }</code></li> <li>• Then compile and load the policy module :  <pre>checkmodule -M -m -o NewMySQL.mod NewMySQL.te semodule_package -o NewMySQL.pp -m NewMySQL.mod semodule -i NewMySQL.pp</pre> </li> </ul>
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### SK-0072 - Set SELinux to "Permissive" mode OR set only enforcement mode for MySQL to "Permissive"

Id	SK-0072
OS	Linux
SafeKit version	All
How to	Set SELinux to "Permissive" mode OR set only enforcement mode for MySQL to "Permissive"
Jira, Mars Id	
Solution	<p>To set SELinux in "Permissive" mode execute :</p> <pre>setenforce 0</pre> <p>, to see the current mode :</p> <pre>getenforce</pre> <p>To set enforcement mode to "Permissive" only for MySQL execute: <code>semanage permissive -a mysqld_t</code></p>

### SK-0080 - Module communication failures if cluster configuration contains DNS names

Id	SK-0080
OS	Windows & Linux
SafeKit version	All
Problem	<p>Module communication failures if cluster configuration contains DNS names</p> <p>Some bugs in the DNS name resolution leads to module internal communication failures if the cluster configuration contains DNS names.</p>
Jira, Mars Id	
Workaround	<p>A work-around consists in setting only IP addresses. But if you require DNS names for accessing the SafeKit web console, the work-around consists in setting 2 <code>lan</code> sections into into the cluster configuration. One <code>lan</code> definition with DNS names used only by the SafeKit web console ; one <code>lan</code> definition with IP addresses used for the framework communications. For instance, the cluster configuration may look like the following one : <code>&lt;cluster&gt;</code></p> <pre> &lt;lans&gt; &lt;lan name="default" connect="on" console="on" framework="off"&gt; &lt;node name="node1" addr="node1.safe"/&gt; &lt;node name="node2" addr="node2.safe"/&gt; &lt;/lan&gt; &lt;lan name="private" connect="off" console="off" framework="on"&gt; &lt;node name="node1" addr="172.23.188.101"/&gt; &lt;node name="node2" addr="172.23.188.102"/&gt; &lt;/lan&gt; &lt;/lans&gt; &lt;/cluster&gt; </pre>

SK-0081 - Hyper-V module (hyperv.safe) start fails with plugwait error

Id	SK-0081
OS	Windows
SafeKit version	All
Problem	<p>Hyper-V module (hyperv.safe) start fails with plugwait error</p> <p>hyperv.safe relies on PowerShell scripts that require, for a correct execution, the change of the execution policy.</p>
Jira, Mars Id	
Solution	<p>Change the execution policy as follow:</p> <ul style="list-style-type: none"> <li>• start a Windows PowerShell session</li> <li>• run Set-ExecutionPolicy RemoteSigned</li> <li>• reply yes when prompt</li> </ul>

#### SK-0082 - Hyper-V module (hyperv.safe) failover fails with VM import failure

Id	SK-0082
OS	Windows
SafeKit version	All
Problem	<p>Hyper-V module (hyperv.safe) failover fails with VM import failure.</p> <p>The failover on node2 fails and into the user script output file <code>SAFEVAR/modules/AM/userlog.u</code>log (where <code>SAFEVAR=c:\safekit</code> and <code>AM</code> is your module name), you have the following message:</p> <pre>Import-VM: Unable to import the virtual machine due to configuration errors. Use Compare-VM to to repair the virtual machine.</pre> <p>The VM import during the failover is equivalent to the virtual machine (VM) migration that consists in moving the</p>

	VM from physical server node1 to node2. The import may fail when the migration requirements are not met.
Jira, Mars Id	
Solution	<p>Check the common requirements for HyperV VM migration depending on you Windows release number. This requirements applies on the physical server settings (processor, Active Directory domain, ...) and the VM settings (virtual hard disks, virtual networks, ...). For checking incompatilities, you can try to manually import the VM on node2 while SafeKit is stopped. It will logs incompatibility error messages. One common error is because the host hardware isn't compatible. This occurs when a virtual machine has one or more snapshots, and hosts have different processor versions. To fix this problem, shut down the virtual machine on node1 and turn on the processor compatibility setting as follow:</p> <ul style="list-style-type: none"> <li>• From Hyper-V Manager, in the Virtual Machines pane, right-click the virtual machine and click Settings.</li> <li>• In the navigation pane, expand Processors and click Compatibility.</li> <li>• Check Migrate to a computer with a different processor version.</li> <li>• Click OK.</li> </ul> <p>Be aware that it is anyway recommended to have the same physical servers when using hyperv.safe since you may have other incompatibilities issues.</p>

### SK-0083 - Some SafeKit components and modules fails on Windows

Id	SK-0083
OS	Windows
SafeKit version	7.5
Problem	Some SafeKit components and modules fails on Windows

	<p>SafeKit relies on PowerShell scripts, that require for a correct execution, the change of the execution policy. For instance:</p> <ul style="list-style-type: none"> <li>• When the SafeKit web console is configured for HTTPS, the cluster configuration fails with error on server certificate</li> <li>• Hyper-V module (hyperv.safe) start fails with plugwait error</li> </ul>
Jira, Mars Id	
Solution	<p>Change the execution policy as follow:</p> <ul style="list-style-type: none"> <li>• start a Windows PowerShell session</li> <li>• run Set-ExecutionPolicy RemoteSigned</li> <li>• reply yes when prompt</li> </ul>

**SK-0085 - SafeKit may not run properly when relying on host name resolution service that is not itself highly available**

Id	SK-0085
OS	Windows & Linux
SafeKit version	All
Problem	<p>SafeKit may not run properly when relying on host name resolution service that is not itself highly available</p> <p>If node addresses are specified using names instead of numerical IP addresses in the cluster.xml file, then the name resolution service must be highly available. For instance, when using DNS service (for FQDN, fully qualified domain name, such as “node1.mysubdomain.mydomain.com” ), the local resolver should have a cache that can cope with DNS server(s) short failures. A long lasting name resolver failure will prevent SafeKit cluster nodes from communicating with each other, potentially leading to splitbrain situations.</p>

Jira, Mars Id	
Solution	<p>To avoid that, you must implement a robust DNS resolution policy on the nodes participating in the cluster, such as :</p> <ul style="list-style-type: none"> <li>• Configuring more than 1 DNS server on the nodes.</li> <li>• Increasing resolver cache retention time (for Windows, see <a href="#">Guidance for troubleshooting DNS - Windows Server</a>)</li> <li>• Implementing a local DNS on the nodes (master or cache with forwarding to the zone's master)</li> <li>• Adding cluster FQDNs and corresponding IP addresses in the hosts file of the nodes</li> </ul> <p>As last resort, use numerical IP addresses in cluster.xml.</p>

**SK-0087 - User scripts executed within the SafeKit environment return, into the application log, an error with openssl version**

Id	SK-0087
OS	Linux
SafeKit version	7.5

Problem	<p>User scripts executed within the SafeKit environment return, into the application log, an error with openssl version</p> <p>For instance, you get errors like the following into the application log:</p> <pre>PAM unable to dlopen(/usr/lib64/security/pam_unix.so): /lib64/libk5crypto.so.3: undefined symbol: EVP_KDF_ctrl, version OPENSSL_1_1_1b</pre> <p>or</p> <pre>symbol lookup error: /lib64/librpmio.so.8: undefined symbol: EVP_md2, version OPENSSL_1_1_0</pre>
Jira, Mars Id	
Workaround	<p>This problem is probably due to a bad linking with the openssl library delivered with SafeKit, that is, in some cases, not compatible with the one delivered with RH 8 and used by the application or commands.</p> <p>User scripts are executed with LD_LIBRARY_PATH environment variable set to SafeKit libraries.</p> <p>The workaround is to execute commands after unsetting LD_LIBRARY_PATH. Below an example that starts oracle into start_prim:</p> <p>replace</p> <pre>/bin/su - oracle19 -c "/usr/local/bin/startDb"</pre> <p>by</p> <pre>(unset LD_LIBRARY_PATH ; /bin/su - oracle19 -c "/usr/local/bin/startDb" )</pre> <p>Apply the same changes for all user scripts (start_xxx, stop_xxx, ...)</p>

## SK-0088 - Hyper-V module (hyperv.safe) failover prerequisite

Id	SK-0081
OS	Windows
SafeKit version	7.5
Restriction	<p><b>Hyper-V module (hyperv.safe) failover prerequisite</b></p> <p>During the Hyper-V module failover, the virtual machine (VM) is imported on the new primary node before being started. It is equivalent to the VM migration that consists in moving the VM from physical server node1 to node2. The import may fail when the migration requirements are not met. On failure, the user script output file <code>SAFEVAR/modules/AM/userlog.ulog</code> (where <code>SAFEVAR=c:\safekit</code> and <code>AM</code> is your module name), contains the following message:</p> <pre>Import-VM : Unable to import virtual machine due to configuration errors. Please use Compare-VM to repair the virtual machine.</pre>
Jira, Mars Id	
Solution	<p>Before testing the Hyper-V module failover, check the common requirements for HyperV VM migration depending on you Windows release number. This requirements applies on the physical server settings (processor, Active Directory domain, ...) and the VM settings (virtual hard disks, virtual networks, ...).</p> <p>For checking incompatibilities, we recommend the following procedure:</p> <ul style="list-style-type: none"><li>• Configure the hyperv.safe module and start the module on both nodes</li><li>• When PRIM (node1)/SECOND (node2) green, shutdown the VM on node1</li><li>• Stop the module on node2</li></ul>

- On node2, start a PowerShell as administrator and run  
`compare-vm -path "D:\Repli-Hyper-V\VM1\Virtual Machines\8CB619CE-CFB4-45BD-908B-F123A2E0AA24.vmcx" -Register`

Change the path to the location of your VM configuration file (extension may be `xml` instead of `vmcx`)

For details, see [Compare-VM Hyper-V](#)

This command lists incompatibilities if some. To get details on incompatibilities, run

```
$report = compare-vm -path "D:\Repli-Hyper-V\VM2\Virtual Machines\8CB619CE-CFB4-45BD-908B-F12 3A2E0AA24.XML" -Register
$report.Incompatibilities | FL
```

When incompatibilities are found (e.g., hardware incompatibilities, different name for virtual switch), fix them before running the failover of the module.

One common error is due to host hardware incompatibility. This occurs when a virtual machine has one or more snapshots, and hosts have different processor versions. To fix this problem, shut down the virtual machine on node1 and turn on the processor compatibility setting as follow:

- From Hyper-V Manager, in the Virtual Machines pane, right-click the virtual machine and click Settings.
- In the navigation pane, expand Processors and click Compatibility.
- Check Migrate to a computer with a different processor version.
- Click OK.

Be aware that it is anyway recommended to have the same physical servers when using `hyperv.safe` since you may have other incompatibilities issues.

## SK-0089 - Default failover rule for tcp checkers set to wait instead of restart

Id	SK-0081
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OS	Windows & Linux
SafeKit version	7.5.0.16
Problem	Default failover rule for tcp checkers set to wait instead of restart
Jira, Mars Id	Mars 74378
Solution	Do not configure tcp checker or upgrade to SafeKit > 7.5.0.16

**SK-0090 - Failover machine may generate a wakeup before checkers, with wait rules, have time to set the associated resource state to up or down**

Id	SK-0090
OS	Windows & Linux
SafeKit version	7.5.0.16
Problem	Failover machine may generate a wakeup before checkers, with wait rules, have time to set the associated resource state to up or down
Jira, Mars Id	Mars 74340
Solution	Upgrade to SafeKit > 7.5.0.16

**SK-0091 - Timeout during reintegration of big files (>50Gb) such as vhd files in Hyper-V module**

Id	SK-0091
OS	Windows
SafeKit version	All
Problem	Timeout during reintegration of big files (>50Gb) such as vhd files in Hyper-V module

	<p>During the file synchronisation, space on disk may need to be allocated for new or extended files. In Windows, when the file is large or zero filled, a timeout may occurs during the synchronisation if the primary or the reintegration process writes at the end of the file. This leads to synchronisation failures.</p> <p>This problem may occur with the Hyper-V module (hyperv.safe) where VM disks are implemented by big vhd files.</p>
Jira, Mars Id	
Solution	<p>Edit the module XML configuration file <i>SAFE/modules/AM/conf/userconfig.xml</i> (replace <i>AM</i> by the name of the module) and add the option <i>allocthreshold</i> into the <i>&lt;rfs&gt;</i> section as follow:</p> <pre>&lt;rfs allocthreshold="50"</pre> <p>When <i>allocthreshold</i> &gt; 0, fast allocation of disk space is enabled for files to be synchronized on the secondary node The allocation is applied only:</p> <ul style="list-style-type: none"> <li>• for new files (files that do not exist on the secondary when reintegration starts)</li> <li>• for a full synchronization (for example, during the first reintegration or when the secondary is started with <code>safekit second fullsync</code> )</li> <li>• when the file size on the primary is <math>\geq</math> <i>allocthreshold</i> (size in Gb)</li> </ul>

### SK-0093 - SafeKit web server don't start when using port 80

Id	SK-0093
OS	Linux
SafeKit version	7.5
Problem	SafeKit web server don't start when using port 80

	Port 80 is a reserved port that could be bind only by root processes or processes that have the needed capability
Jira, Mars Id	
Solution	As root , run the command :  <pre>setcap 'cap_net_bind_service=+ep' /opt/safekit/web/bin/httpd</pre>

## SK-0094 - Replicate anti-ransomware folders

Id	SK-0094
OS	Windows
SafeKit version	All
How to	<p><b>Replicate anti-ransomware folders</b></p> <p>To configure protected folders, use 'Windows Security'; select 'Virus &amp; heart protection' and 'Manage ransomware protection'.</p> <p>Set 'Controlled access' to on and select 'Protected folders' to add folders.</p>
Jira, Mars Id	
Solution	<p>To use SafeKit to replicate such directories, you have to allow SafeKit apps to access the protected folders.</p> <p>Select 'Allow an app through Controlled access folder', 'Add an allowed app' and 'Browse all apps'.</p> <p>Then add the following apps :</p> <ul style="list-style-type: none"> <li>• c:\safekit\private\bin\nfsbox.exe</li> <li>• c:\safekit\private\bin\reintegre.exe</li> <li>• c:\safekit\private\bin\sync.exe</li> <li>• c:\safekit\private\plugin\heart\heartplug.exe</li> </ul> <p>Replace c:\safekit by the SafeKit root install path if you changed the default one.</p>

### SK-0095 - one\_side VIP and src routes limitations

Id	SK-0095
OS	Linux
SafeKit version	All
Restriction	<p><b>one_side VIP and src routes limitations</b></p> <p>On the PRI server where a one_side VIP is configured, the route src are setted to the VIP for :</p> <ul style="list-style-type: none"><li>• the VIP subnet</li><li>• via routes using the vip interface that dont have an explicit src</li><li>• via routes to the localip of the vip subnet</li></ul> <p>So, if the VIP interface have more than one subnet, and if there is routes for the subnets to which the VIP don't belong, then, they must have explicit routes. Otherwise their src will be setted to the VIP, what is not expected.</p>
Jira, Mars Id	

### SK-0096 - Zone reintegration is not operational

Id	SK-0096
OS	Linux
SafeKit version	>= 7.5.2.11 & < 8.2.2.7
Problem	<p><b>Zone reintegration is not operational</b></p> <p>This is a regression that will be corrected in a future version. It is not critical, but it does result in more data being recopied than necessary during reintegration, as zone-based reintegration optimization is disabled.</p>
Jira, Mars Id	Jira ES-659

Solution	Fixed since SafeKit 8.2.2.7
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**SK-0097 - In the web console, nodes sometimes show "Connection error" even when only one is down**

Id	SK-0097
OS	Windows & Linux
SafeKit version	>= 8.2.0 & <= 8.2.2.2
Problem	<p>In the web console, nodes sometimes show "Connection error" even when only one is down</p> <p>On the console loading, if the console is connected to node2 and node1 is down (with the alphabetical order of node names being important), the console displays a 'connection error' for all nodes. However, only node1 should be displayed with this state. This issue does not occur when the console is already loaded and the node1 goes down.</p>
Jira, Mars Id	Jira ES-650
Solution	Fixed since SafeKit 8.2.2.3

**SK-0098 - Unable to login to the web console after the OpenId connection expired**

Id	SK-0098
OS	Windows & Linux
SafeKit version	>= 8.2.3
Problem	<p>Unable to login to the web console after the OpenId connection expired</p> <p>Once the OpenId connection has expired, the web console do not present the login page but only unauthorized page..</p>
Jira, Mars Id	Jira ES-723

Workaround	<p>There is 2 workarounds:</p> <ul style="list-style-type: none"> <li>• clear the browser's cache ; then reload the SafeKit web console</li> <li>• change the SafeKit web server configuration as described below ; then restart the SafeKit web server <ul style="list-style-type: none"> <li>◦ Edit the configuration file <pre>SAFE/web/conf/httpd.webconsoleopenidauth.conf</pre> and uncomment the lines <pre># Circumvent Console quirks: worker fetches index.html with header Sec-Fetch-Dest set to 'empty' ... So it would get 401 instead of going to the login screen. OIDCUnAuthAction 401 "%{HTTP:X-Requested-With} == 'XMLHttpRequest' \    ( -n %{HTTP:Sec-Fetch-Mode} &amp;&amp; %{HTTP:Sec-Fetch-Mode} != 'navigate' ) \    ( -n %{HTTP:Sec-Fetch-Dest} &amp;&amp; %{HTTP:Sec-Fetch-Dest} != 'document' &amp;&amp; %{HTTP:Sec-Fetch-Dest} != 'empty' ) \    ( ( %{HTTP_ACCEPT} !~ m#text/html# ) \ &amp;&amp; ( %{HTTP_ACCEPT} !~ m#application/xhtml+xml# ) \ &amp;&amp; ( %{HTTP_ACCEPT} !~ m#\*/\*# ) )" </pre> </li> <li>◦ Restart the web server with <code>SAFE/safekit webserver restart</code></li> </ul> </li> </ul>
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## SK-0099 - Configure promiscuous mode in hypervisor network

Id	SK-0099
OS	Windows & Linux
SafeKit version	All
How to	Configure promiscuous mode in hypervisor network

	<p>When using a SafeKit farm module that is configured on two VMs with the SafeKit <code>vmac_invisible</code> virtual interface option, it is required that the network interfaces of the machines on which SafeKit is installed support the promiscuous mode. For the promiscuous mode to work, it must be configured in the hypervisor settings of the virtual switch or of the virtual network cards, depending on the hypervisor.</p>
Jira, Mars Id	
Solution	<p>In order to configure the promiscuous mode in Hyper-V:</p> <ul style="list-style-type: none"><li>• go to the Hyper-V Manager console, and for each virtual machine of the module:</li><li>• edit the settings of the virtual machine,</li><li>• then edit the advanced features of the network adapter to which the virtual IP address of the module corresponds,</li><li>• then enable MAC address spoofing</li></ul> <p>In order to configure the promiscuous mode in VMWare:</p> <ul style="list-style-type: none"><li>• go to the VMWare console,</li><li>• then edit the settings of the virtual switch whose network the virtual IP address is on,</li><li>• then allow Promiscuous mode.</li></ul> <p>If the promiscuous mode is not configured in the hypervisor settings, the virtual IP address will be unreachable (thus the application that is configured at this IP address will be unreachable; the <code>ping</code> command will not work either). Note that if the <code>type</code> of the SafeKit <code>virtual_interface</code> is not <code>vmac_invisible</code>, but instead is <code>vmac_directed</code>, the virtual IP address will be reachable regardless of whether the promiscuous mode is configured or not.</p>

Id	SK-0100
OS	Windows & Linux
SafeKit version	8.2.3 with 8.2.4
Problem	<p>Farm load-balancing is 100% for each nodes during minor upgrade from SafeKit 8.2.3 to SafeKit 8.2.4</p> <p>This issue occurs temporarily during the minor upgrade from SafeKit 8.2.3 to 8.2.4 under the following conditions:</p> <ul style="list-style-type: none"> <li>• one node has SafeKit 8.2.3 while the other has SafeKit 8.2.4</li> <li>• a farm module is configured with load-balancing but without encryption for module communications</li> </ul> <p>This issue is due to the farm protocol incompatibility between SafeKit 8.2.3 to 8.2.4.</p>
Jira, Mars Id	
Solution	<p>This issue is resolved by configuring encryption for module communications. You can also stop the module on the node with SafeKit 8.2.3 and restart it once it has been migrated to SafeKit 8.2.4.</p>

### SK-0101 - Heartbeat issues in a mirror module

Id	SK-0101
OS	Windows
SafeKit version	All
Problem	<p>Heartbeat issues in a mirror module</p> <p>The module never manages to stabilize in the PRIM-SECOND states.</p> <p>In the log of one node's module, you have the following messages:</p>

```
heart | I | Resource heartbeatlocaladdr.flow
set to up par heart
heart | E | Resource heartbeatlocaladdr.flow
to down par heart
```

And in the log of the module of the other node:

```
heart | W | Heartbeat recover from ...
heart | I | Transition HBRECOVER (...) from
heart
heart | W | Starting action
heartbeat_recover (<- HBRECOVER)
heart | I | Resource heartbeat.flow set to
up by heart
heart | W | Action heartbeat_recover
terminated (-> HBCMD_OK)
heart | W | Heartbeat lost from ...
heart | I | Transition HBLIST (...) from
heart
heart | W | Starting action heartbeat_lost
(<- HBLIST)
heart | E | Resource heartbeat.flow set to
down by heart
```

This issue occurs when

- the cluster.xml contains names (hostname or DNS names) for the nodes
- the Windows name resolution results vary across different nodes

As a result, the content of the

`SAFEVAR/cluster/cluster_ip.xml` file is different between the nodes, whereas it should be identical for proper functioning. This file is built during the cluster configuration.

Jira, Mars Id

Workaround

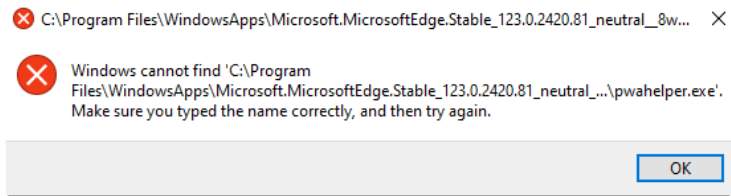
Reconfigure the cluster after setting numerical IP addresses in cluster.xml.

## SK-0102 - SafeKit package installation fails

Id	SK-0102
OS	Linux RedHat
SafeKit version	8.2
Problem	<p><b>SafeKit package installation fails</b></p> <p>The SafeKit package installation fails with, for instance, the following error:</p> <pre>Error: Problem: package SafeKit-8.2.3-3.el8.x86_64 requires mod_auth_openidc, but none of the providers can be installed - conflicting requests - package mod_auth_openidc-2.3.7- 4.module+el8.2.0+6919+ac02cfd2.3.x86_64 is filtered out by modular filtering - package mod_auth_openidc-2.3.7- 3.module+el8+2454+f890a43a.x86_64 is filtered out by modular filtering - package mod_auth_openidc-2.3.7- 8.module+el8.4.0+9707+f2438af7.x86_64 is filtered out by modular filtering - package mod_auth_openidc-2.3.7- 11.module+el8.6.0+14082+b6f23e95.x86_64 is filtered out by modular filtering (trial to add '--skip-broken' to skip uninstallable packages or '--nobest' to use not only best candidate packages) ERROR: SafeKit installation failed</pre>
Jira, Mars Id	Jira ES-937
Workaround	<p>The error occurs because the SafeKit package requires <code>mod_auth_openidc</code>, but all available versions of <code>mod_auth_openidc</code> are filtered out by modular filtering.</p>

To resolve this, disable modular filtering for `mod_auth_openidc` and then install SafeKit.

### SK-0103 - SafeKit console web app install fails with Microsoft Edge

Id	SK-0103
OS	Windows
SafeKit version	8.2
Problem	<p>SafeKit console web app install fails with Microsoft Edge</p> <p>Whenever trying to install the web console as an app with Microsoft Edge, a box pops up saying:</p> 
Jira, Mars Id	
Solution	<p>Try to clear the browser's cache as described in <a href="#">Knowledge Base - SafeKit 7.5 &amp; 8.2   SK 0046 Windows &amp; Linux</a>.</p> <p>If this is not sufficient, look for solution described in <a href="#">Missing pwahelper.exe in Microsoft Edge</a>.</p>

### SK-0104 - Https connection to SafeKit console web return a ssl protocol error

Id	SK-0104
OS	Windows & Linux
SafeKit version	All
Problem	<p>Https connection to SafeKit console web return a ssl protocol error</p> <p>Connection to the web console return the following error : ERR_SSL_PROTOCOL_ERROR</p>

	<p>When setting log level in httpd.conf to debug the following message is seen in httpd.log :</p> <pre>[ssl:info] [client .... ] AH02008: SSL library error 1 in handshake [ssl:info] SSL Library Error: error:0A00018E:SSL routines::ca md too weak</pre> <p>Commands :</p> <pre>openssl x509 -text -noout -in server.crt and openssl x509 -text -noout -in cacert.crt</pre> <p>don't show any error or weakness</p>
Jira, Mars Id	EHD-7460
Solution	<p>Recent openssl library version don't accept any weak certificate in cacert.crt even if the weak certificate is not part of server certificate certification chain.</p> <pre>openssl x509 -text -noout -in cacert.crt</pre> <p>shows only the first certificate in the ca bundle.</p> <p>You must use :</p> <pre>openssl storeutl -text -noout -certs cacert.crt</pre> <p>to see all certificates in cacert.crt and check that none of them are signed with too weak protocol like SHA1</p>

### SK-0105 - postgresql module did not start on RedHat if selinux is in enforcing mode

Id	SK-0105
OS	Linux RedHat
SafeKit version	All

Problem	<p>postgresql module did not start on RedHat if selinux is in enforcing mode</p> <p><i>journalctl -xeu postgresql.service</i> shows the following error :</p> <p>postgres: could not access directory <code>"/var/lib/pgsql/data"</code>: Permission denied</p>
Solution	<p>Safekit file replication use internally a nfs mountpoint, so a selinux module must be created and installed to allow postgres processes to access nfs_t files.</p> <p>1) Create a postgresnfs.te file with the following content :</p> <pre> 1 module postgresnfs 1.0; 2 3 require { 4     type nfs_t; 5     type postgresql_t; 6     class dir { add_name create getattr open read remove_name search write }; 7     class file { append create getattr open read rename unlink write }; 8 } 9 10 #===== postgresql_t ===== 11 allow postgresql_t nfs_t:dir { add_name create getattr open read remove_name search write }; 12 allow postgresql_t nfs_t:file { append create getattr open read rename unlink write }; </pre> <p>2. Compile the selinux module :</p> <pre> 1 checkmodule -M -m -o postgresnfs.mod postgresnfs.te 2 semodule_package -o postgresnfs.pp -m postgresnfs.mod </pre> <p>3. Install the module :</p> <pre> 1 semodule -i postgresnfs.pp </pre>

**SK-0106 - Mirror module start fails with “Kernel configuration failed. Check for module conflict”**

Id	SK-0106
OS	Windows
SafeKit version	All

Problem	<p>The mirror module failed to start due to a module conflict:</p> <pre>1 nfsboxv3   E   Kernel filter configuration failed for E:\replicated_dir. Check for module conflicts.</pre>
Solution	<p>This error occurs in two situations:</p> <ol style="list-style-type: none"> <li>Two mirror modules are configured with the same replicated directories. This configuration is not supported. To fix it, assign distinct replicated directories to each module and reconfigure them</li> <li>The kernel configuration for replicated directories was not properly updated, even though no duplicates are configured. To reload the correct configuration into the kernel, stop all modules and run the following command:</li> </ol> <pre>1 net stop rfsfilter</pre>

### SK-0107 - Farm module configuration fails because the VIP kernel module cannot be compiled

Id	SK-0107
OS	Red Hat
SafeKit version	All
Problem	<p>Farm module configuration fails because the VIP kernel module cannot be compiled:</p> <pre>1 "virtual_interface" configuration need vip kernel module, trying to install : 2 Unable to find kernel include files   /lib/modules/5.14.0-503.35.1.el9_5.x86_64/build/include/linux 3 Please see documentation to install kernel source package 4 make: *** [Makefile:21 : test] Erreur 1 5 6 Error: not able to install vip kernel module. Please check prerequisite in %OEMNAME% Release Notes</pre>
Solution	<p>The VIP module compilation will fail if <code>kernel-devel</code> package is missing or does not match the currently running kernel version.</p>

1. Upgrade to the last kernel with `yum update kernel`
2. Reboot
3. Check the running kernel version using the command `uname -r` (e.g. 5.14.0-503.35.1.el9\_5.x86\_64)
4. Check if kernel-devel is installed with `rpm -q kernel-devel`. If not installed, install it.
5. If installed, verify that the installed package matches the running kernel using `rpm -q kernel-devel-$(uname -r)`. If it does not match, install the correct package.