EMC ISILON CUSTOMER TROUBLESHOOTING GUIDE

SYNCIQ FAILURES

OneFS 7.2 - 8.1.0

Abstract
This guide helps you identify and address common issues that can cause SyncIQ to fail.

July 2, 2019
Contents and overview

Note
Follow all of these steps, in order, until you reach a resolution.

1. Follow these steps.

- Before you begin
  Page 3

2. Perform troubleshooting steps in order.

- Start troubleshooting
  Page 4

- Sync fails within the first five minutes
  Page 5

- Sync fails after the first five minutes
  Page 10

- SyncIQ error connecting to daemon
  Page 12

3. Appendixes

- Appendix A
  If you need further assistance

- Appendix B
  How to use this flowchart

- Appendix C
  Example output

- Appendix D
  Example output

- Appendix E
  Example output

2 - EMC Isilon Customer Troubleshooting Guide: SyncIQ Failures

For links to all Isilon customer troubleshooting guides, visit the Customer Troubleshooting - Isilon Info Hub. We appreciate your help in improving this document. Submit your feedback at http://bit.ly/isilon-docfeedback.
Before you begin

**CAUTION!**
If the node, subnet, or pool that you are working on goes down during the course of troubleshooting and you do not have any other way to connect to the cluster, you could experience data unavailability.

Therefore, make sure that you have more than one way to connect to the cluster before you start this troubleshooting process. The best method is to have a serial console connection available. This way, if you are unable to connect through the network, you will still be able to connect to the cluster physically.

For specific requirements and instructions for making a physical connection to the cluster, see article 304071 on the Online Support site.

Before you begin troubleshooting, confirm that you can connect through either another subnet or pool, or that you have physical access to the cluster.

**Configure screen logging through SSH**

We recommend that you configure screen logging to log all session input and output during your troubleshooting session. This log file can be shared with Isilon Technical Support, if you require assistance at any point during troubleshooting.

1. Open an SSH connection to the cluster and log in by using the root account.

   Note: If the cluster is in compliance mode, use the compadmin account to log in. All compadmin commands must be preceded by the sudo prefix.

2. Change the directory to /ifs/data/Isilon_Support by running the following command:

   cd /ifs/data/Isilon_Support

3. Run the following command to capture all input and output from the session:

   screen -L

   This will create a file named screenlog.0 that will be appended to during your session.

4. Perform troubleshooting.
Start troubleshooting

**Introduction**
Start troubleshooting here. For an overview of the conventions used in this flowchart, see Appendix B: How to use this flowchart.

If you have not done so already, log in to the cluster and configure screen logging through SSH, as described on page 3.

Capture the error for the failing policy as follows:

1. Obtain the SyncIQ job ID by running the following command on the source cluster, where `<policy-name>` is the name of the SyncIQ policy. See Appendix C for example output.
   
   ```
   isi sync reports list --policy-name=<policy-name> --sort job_id
   ```

2. View the report by running the following command, where `<policy-name>` is the name of the SyncIQ policy and `<jobID>` is the job ID you obtained in step 1. The output of the command lists the error. See Appendix C for example output:
   
   ```
   isi sync reports view --policy=<policy-name> <jobID> | less
   ```

In the report, find the error that relates to the failure. Note the start and end times for the policy. See Appendix C for example output.

**Within the first five minutes**

Did the policy fail within the first five minutes of starting, or after the first five minutes?

**After the first five minutes**

Go to Page 5

Go to Page 10

---

Sync fails within the first five minutes

You could have arrived here from:

- Page 4 - Start troubleshooting

## Error Tables
Find your error in the tables on this page and the next few pages. Follow the instructions for your error.

<table>
<thead>
<tr>
<th>Error</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>FAILED ASSERTION</td>
<td>Contact Isilon Technical Support for assistance.</td>
</tr>
<tr>
<td>Unable to update metadata (inode changes) ... Unable to open Lin &lt;lin&gt;: No such file or directory</td>
<td></td>
</tr>
<tr>
<td>One of the following operation not permitted errors:</td>
<td></td>
</tr>
<tr>
<td>• unable to delete</td>
<td></td>
</tr>
<tr>
<td>• failed to move</td>
<td></td>
</tr>
<tr>
<td>• unable to rename</td>
<td></td>
</tr>
<tr>
<td>Error opening linmap &lt;policyID&gt;: No such file or directory</td>
<td></td>
</tr>
<tr>
<td>Closing sworker (X): Broken pipe/Work item X has been restarted too many times./SyncIQ policy failed</td>
<td></td>
</tr>
<tr>
<td>Failed to diff_range, Failed to diff file, Input/output error, Failure due to file system errors: Missing higher snapshot version of a file</td>
<td></td>
</tr>
<tr>
<td>SyncIQ is unable to connect to a resource on the target cluster.</td>
<td></td>
</tr>
<tr>
<td>or</td>
<td></td>
</tr>
<tr>
<td>Source node could not connect to target cluster.</td>
<td></td>
</tr>
</tbody>
</table>

If your error is not on this page, go to Page 6

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For links to all Isilon customer troubleshooting guides, visit the [Customer Troubleshooting - Isilon Info Hub](https://www.emc.com/isilon/support/toubleshooting.html).
Sync fails within the first five minutes (2)

You could have arrived here from:
- Page 5 - Sync fails within the first five minutes

<table>
<thead>
<tr>
<th>Error</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>SyncIQ scheduler failed to start policy. No nodes in cluster have external IPs or SyncIQ scheduler failed to start policy. Policy &lt;name&gt; has an invalid subnet:pool restriction of subnet0:pool1.</td>
<td>Go to the following article to resolve your issue. If the problem persists, contact Isilon Technical Support. <em>OneFS: SyncIQ policy fails to run with “failed to start policy” error</em>, <a href="#">article 471903</a></td>
</tr>
<tr>
<td>Error with these three phrases together:</td>
<td>Go to the following article to resolve your issue. If the problem persists, contact Isilon Technical Support. <em>OneFS: SyncIQ policy fails with error: Unable to delete [path]: unlink of Lin 0 failed: No such file or directory</em>, <a href="#">article 471906</a></td>
</tr>
</tbody>
</table>
| • Unable to delete  
• unlink of Lin 0 failed  
• No such file or directory                                      |                                                                       |
| These two errors together:                                          | Go to the following article to resolve your issue. If the problem persists, contact Isilon Technical Support. *OneFS 7.2: SyncIQ fails with error “Failed to smkchdirfd to target directory” and “Operation not permitted,”* [article 469809](#) |
| • Failed to smkchdirfd to target directory  
• Operation Not Permitted                                             |                                                                       |
| SyncIQ detected a problem with policy configuration. Policy root path directory <directory> does not match between old and new snapshots | Go to the following article to resolve your issue. If the problem persists, contact Isilon Technical Support. *OneFS: SyncIQ fails with error: SyncIQ detected a problem with policy configuration. Policy root path directory does not match between old and new snapshots*, [article 471898](#) |

If your error is not on this page, go to Page 7
<table>
<thead>
<tr>
<th>Error</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>SyncIQ failed to take a snapshot on source cluster. Can't find latest snapid &lt;ID&gt;</td>
<td>Go to the following article to resolve your issue. If the problem persists, contact Isilon Technical Support.</td>
</tr>
<tr>
<td>SyncIQ failed to take a snapshot on source cluster. Unable to delete snapshot from previous run: 44</td>
<td>Go to the following article to resolve your issue. If the problem persists, contact Isilon Technical Support.</td>
</tr>
<tr>
<td>SyncIQ failed to take a snapshot on source cluster. Failed to open and lock new snapid XXX: &lt;br&gt;ifs_snap_create_lock_lease() failed: Operation not permitted.</td>
<td>Go to the following article to resolve your issue. If the problem persists, contact Isilon Technical Support.</td>
</tr>
<tr>
<td>Failed to open: &lt;file path&gt; (in xxxxxxxxxx): Permission denied</td>
<td>Go to the following article to resolve your issue. If the problem persists, contact Isilon Technical Support.</td>
</tr>
</tbody>
</table>

### Error: bad checksum Input/output error due to network WAN accelerator

- **Action:** Go to the following article to resolve your issue. If the problem persists, contact Isilon Technical Support.
  
  *Isilon OneFS: A SyncIQ job fails with "bad checksum: Input/output error", [article 477493]*

### Error: Initial or diffsync error "Failed to open dir 0"

- **Action:** Go to the following article to resolve your issue. If the problem persists, contact Isilon Technical Support.
  
  *Isilon OneFS: A SyncIQ job fails with error "Failed to open dir 0", [article 477494]*

### Error: Primary authentication fails

- **Action:** Go to the following article to resolve your issue. If the problem persists, contact Isilon Technical Support.
  
  *SyncIQ job fails with error Primary authentication fails, [article 464224]*

### Error: Failed to move .tmp–working-dir

- **Action:** Go to the following article to resolve your issue. If the problem persists, contact Isilon Technical Support.
  
  *Isilon OneFS: SyncIQ Error when source directory is overwritten or deleted and re-created: Failed to move .tmp-working-dir, [article 463450]*

### Error: SyncIQ policy failed. Unexpected non-I/O error preceded by

- **Action:** Go to the following article to resolve your issue. If the problem persists, contact Isilon Technical Support.
  
  *All syncIQ jobs fail with "Unexpected non-I/O error," preceded by "msg_handshake failed" error, [article 466618]*

---

**If your error is not on this page, go to Page 9**
Sync fails within the first five minutes (5)

You could have arrived here from:

- Page 8 - Sync fails within the first five minutes (4)

<table>
<thead>
<tr>
<th>Error</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>(policy name: &lt;name&gt;) SyncIQ detected a problem with policy configuration. Policy has force_interface set, but the sysctl net.inet.ip.choose_ifa_by_ipsrc is not set</td>
<td>Go to the following article to resolve your issue. If the problem persists, contact Isilon Technical Support.</td>
</tr>
<tr>
<td>SyncIQ error connecting to daemon (bandwidth, throttle, pworker)</td>
<td>Go to Page 12.</td>
</tr>
</tbody>
</table>

If your error is not listed in the table, contact Isilon Technical Support for assistance.
Sync fails after the first five minutes

You could have arrived here from:

- Page 4 - Start troubleshooting

### Error Tables

Find your error in the tables on this page and the next few pages. Follow the instructions for your error.

<table>
<thead>
<tr>
<th>Error</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>FAILED ASSERTION</td>
<td>Contact <a href="#">Isilon Technical Support</a> for assistance.</td>
</tr>
<tr>
<td>Unable to update metadata (inode changes)...</td>
<td></td>
</tr>
<tr>
<td>Unable to open Lin &lt;lin&gt;: No such file or directory</td>
<td></td>
</tr>
<tr>
<td>Closing sworker (X): Broken pipe/Work item X has been restarted too many times./SyncIQ policy failed</td>
<td></td>
</tr>
</tbody>
</table>

If your error is not on this page, go to Page 11.
## Sync fails after the first five minutes (2)

You could have arrived here from:
- Page 10 - Sync fails after the first five minutes

<table>
<thead>
<tr>
<th>Error</th>
<th>Action</th>
</tr>
</thead>
</table>
| SyncIQ failed to take a snapshot on source cluster. Failed to open and lock new snapid XXX: `ifs_snap_create_lock_lease()` failed: Operation not permitted. | Go to the following article to resolve your issue. If the problem persists, contact Isilon Technical Support.  
*OneFS:* Sync fails with error: SyncIQ failed to take a snapshot on source cluster. Failed to open and lock new snapid XXX: `ifs_snap_create_lock_lease()` failed: Operation not permitted, [article 471907](http://example.com/article471907) |
| These two errors together:  
  - Failed to smkchdirfd to target directory  
  - Operation Not Permitted | Go to the following article to resolve your issue. If the problem persists, contact Isilon Technical Support.  
*OneFS 7.0 -7.1:* SyncIQ fails with error "Failed to smkchdirfd to target directory" and "Operation not permitted", [article 469809](http://example.com/article469809) |
| bad checksum Input/output error due to network WAN accelerator | Go to the following article to resolve your issue. If the problem persists, contact Isilon Technical Support.  
*Isilon OneFS:* A SyncIQ job fails with "bad checksum: Input/output error", [article 477493](http://example.com/article477493) |
| SyncIQ error connecting to daemon (bandwidth, throttle, pworker) | Go to Page 12. |

If your error is not listed in the table, contact [Isilon Technical Support](http://example.com/isilon-support) for assistance.
SyncIQ error connecting to daemon

Notes about this error

Error:
SyncIQ error connecting to daemon (bandwidth, throttle, pworker)

This error occurs:
When the sync fails at any time during the sync job.

This error appears:
In the sync policy report on the OneFS web administration interface or command-line interface and in the /var/log/isi_migrate.log file.

Cause of this error:
The source pool does not include node 1. The bandwidth/throttle daemon cannot be reached because it always runs on node 1.

Example of error:
2012-12-27T18:10:37-06:00 <3.3> cluster1-8(id8) isi_migrate[11771]:
coord[policy1]: siq_create_alert: type: 11 (policy name: policy1 target: cluster1.company.com) SyncIQ error connecting to daemon (bandwidth, throttle, pworker). Please verify all SyncIQ daemons are running. Unable to connect to throttle host for last 1080 seconds
SyncIQ error connecting to daemon (2)

Check whether the policy has a source pool restriction by running the following command on the source cluster, where <policy-name> is the name of the policy.
See Appendix D for example output.

`isi sync policies view <policy-name>`

In the output, note whether a Source Subnet and Source Pool are listed. These identify the source pool restriction.

Does the policy have a source pool restriction?

Yes -> Go to Page 15

No -> Go to Page 14
SyncIQ error connecting to daemon (3)

You could have arrived here from:

- Page 13 - SyncIQ error connecting to daemon (2)

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**Diagram:**

- **Page 14**
  - **Does the policy have bandwidth/throttle rules configured?**
    - **No:**
      - Note the page number that you are currently on. Upload log files and contact Isilon Technical Support, as instructed in Appendix A.
    - **Yes:**
      - Use the OneFS web administration interface to add a source pool restriction as follows:
        1. Click **Data Protection > SyncIQ > Policies**.
        2. For the policy that you want to set the restriction on, click **View/Edit**.
        3. Click **Edit Policy**.
        4. In the Source Cluster section, in the **Restrict Source Nodes** section, select the radio button for **Run the policy only on nodes in the specified subnet and pool**.
        5. Select a subnet and pool from the drop-down list.
        6. Click **Save Changes**.

**IMPORTANT!**
Make sure that the front-end network ports on all of the nodes in the source pool restriction can see each other on the LAN.

---

Go to Page 15

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Run the following command to view a list of the network pools within a groupnet or subnet:

```
isinetworkpoolslist
```

Extract the groupnet:subnet value for the desired pool name from the output, for example, groupnet1.subnet3 for pool15, and provide it as an input for the following command to check the nodes within that pool.

```
isinetworkpoolsview(groupnet_name).subnet_name.(pool_name)
```

See Appendix E for example output of both commands.
SyncIQ error connecting to daemon (5)

You could have arrived here from:

- Page 15 - SyncIQ error connecting to daemon (4)

Is it acceptable for your workflow to add node 1 to the source pool?

No

Note the page number that you are currently on. Upload log files and contact Isilon Technical Support, as instructed in Appendix A.

Yes

Add node 1 to the source pool using the OneFS web administration interface. For instructions, see the OneFS Web Administration Guide for your version of OneFS.

Run the following command to try to run the SyncIQ job again, where <policy-name> is the name of the failed policy:

isi sync jobs start <policy-name>

Does the sync complete successfully without errors?

No

Go to Page 17

Yes

End troubleshooting

16 - EMC Isilon Customer Troubleshooting Guide: SyncIQ Failures

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SyncIQ error connecting to daemon (6)

You could have arrived here from:

- Page 15 - SyncIQ error connecting to daemon (4)
- Page 16 - SyncIQ error connecting to daemon (5)

On the source cluster, increase the logging level by running the following command, where `<policy-name>` is the name of the sync policy:

\[ \text{isi sync policies modify } \langle \text{policy-name} \rangle \text{ --log-level=trace} \]

Start the policy by running the following command, where `<policy-name>` is the name of the policy:

\[ \text{isi sync jobs start } \langle \text{policy-name} \rangle \]

Let the policy run until it fails.

Go to Page 18
Upload logs and data to Isilon Technical Support as follows:

```
isi_gather_info -f /var/crash/isi_migr*
```

**CAUTION!**
This step is very important. Failure to do this may cause boot flash drives to degrade prematurely.

On the source cluster, set the logging level back to normal by running the following command, where `<policy-name>` is the name of the policy:

```
isi sync policies modify <policy-name> --log-level=notice
```

*Note the page number that you are currently on.*

Upload log files and contact Isilon Technical Support, as instructed in [Appendix A](#).
Appendix A: If you need further assistance

Contact Isilon Technical Support
If you need to contact Isilon Technical Support during troubleshooting, reference the page or step that you need help with. This information and the log file will help Isilon Technical Support staff resolve your case more quickly.

Upload node log files and the screen log file to Isilon Technical Support
1. When troubleshooting is complete, type exit to end your screen session.

2. Gather and upload the node log set and include the SSH screen log file by using the command appropriate for your method of uploading files. If you are not sure which method to use, use FTP.

   **ESRS:**
   isi_gather_info --esrs --local-only -f /ifs/data/Isilon_Support/screenlog.0

   **FTP:**
   isi_gather_info --ftp --local-only -f /ifs/data/Isilon_Support/screenlog.0

   **HTTP:**
   isi_gather_info --http --local-only -f /ifs/data/Isilon_Support/screenlog.0

   **SupportIQ:**
   Copy and paste the following command.
   **Note:** When you copy and paste the command into the command-line interface, it will appear on multiple lines (exactly as it appears on the page), but when you press Enter, the command will run as it should.

   isi_gather_info --local-only -f /ifs/data/Isilon_Support/screenlog.0 --noupload \ --symlink /var/crash/SupportIQ/upload/ftp

3. If you receive a message that the upload was unsuccessful, refer to article 304567 for directions on how to upload files over FTP. 
Appendix B: How to use this flowchart

Introduction
Describes what the section helps you to accomplish.

You could have arrived here from:
• Page 4 - Start Troubleshooting

Directional arrows indicate the path through the process flow.

Decision diamond

Yes

Process step

Optional process step

End point

No

Process step with command:

command xyz

Go to Page #

Note
Provides context and additional information. Sometimes a note is linked to a process step with a colored dot.

CAUTION!
Caution boxes warn that a particular step needs to be performed with great care, to prevent serious consequences.

Document Shape
Calls out supporting documentation for a process step. When possible, these shapes contain links to the reference document. Sometimes linked to a process step with a colored dot.
Appendix C: Example output

You could have arrived here from:

- Page 4 - Start Troubleshooting

---

<table>
<thead>
<tr>
<th>Example output</th>
</tr>
</thead>
<tbody>
<tr>
<td>cluster-1# isi sync reports list --policy-name=policy1 --sort job_id</td>
</tr>
<tr>
<td>Policy Name</td>
</tr>
<tr>
<td>-------------</td>
</tr>
<tr>
<td>policy1</td>
</tr>
<tr>
<td>policy1</td>
</tr>
<tr>
<td>policy1</td>
</tr>
</tbody>
</table>

---

<table>
<thead>
<tr>
<th>Example output</th>
</tr>
</thead>
<tbody>
<tr>
<td>cluster-1# isi sync reports view --policy=dotest 1</td>
</tr>
<tr>
<td>Policy Name: dotest</td>
</tr>
<tr>
<td>Job ID: 1</td>
</tr>
<tr>
<td>Start Time: 2016-02-02T17:27:55</td>
</tr>
<tr>
<td>End Time: 2016-02-02T17:33:10</td>
</tr>
<tr>
<td>Action: run</td>
</tr>
<tr>
<td>State: failed</td>
</tr>
<tr>
<td>ID: 1-dotest</td>
</tr>
<tr>
<td>Policy ID: a12345678b901c23456abc78912d34dc</td>
</tr>
<tr>
<td>Sync Type: invalid</td>
</tr>
<tr>
<td>Duration: 5m12s</td>
</tr>
<tr>
<td>Errors: No node on source cluster was able to connect to target cluster. Source node could not connect to target cluster.</td>
</tr>
</tbody>
</table>

<truncated>
Appendix D: Example output

A source pool restriction can be found by running the following commands. The bold lines in the example output identify the restrictions. In these examples, the restrictions are subnet1:pool0.

Example output
cluster-1# isisync policies view policy1
ID: 123456789123a5a67890f1234ba8cab
   Name: policy1
   Path: /ifs/data/backup
   Action: sync
   Enabled: No
   Target: cluster.company.com
   Description:
   Check Integrity: Yes
   Source Include Directories: -
   Source Exclude Directories: -
   Source Subnet: subnet1
   Source Pool: pool0
   <truncated>

For links to all Isilon customer troubleshooting guides, visit the Customer Troubleshooting - Isilon Info Hub.
### Example output

**isi network pools list groupnet1.subnet3**

<table>
<thead>
<tr>
<th>ID SC Zone Allocation Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>groupnet1.subnet3.pool15 data.company.com static</td>
</tr>
<tr>
<td>groupnet1.subnet3.pool17 data.company.com dynamic</td>
</tr>
</tbody>
</table>

**Example output**

**isi network pools view groupnet1.subnet3.pool15**

to display the nodes within pool5

ID: groupnet0.subnet3.pool15
Groupnet: groupnet1
subnet: subnet3
Name: pool15
Rules: -
Access Zone: zone3
Allocation Method: static
Aggregation Mode: lacp
SC Suspended Nodes: -
Description: -
Ifaces: 1:ext-2, 2:ext-2, 3:ext-2
IP Ranges: 203.0.223.12-203.0.223.22

<truncated>