

# ZFS on Linux Code Coverage

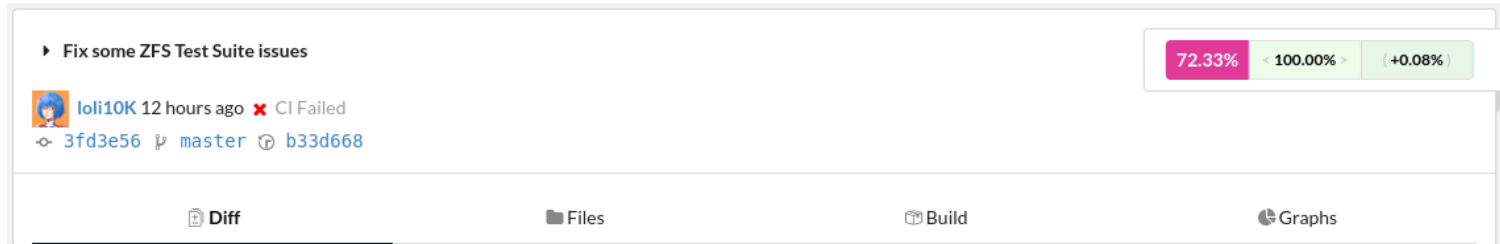
# Branches + Pull Requests

- Code coverage data is collected for:
  - All commits merged to a branch (e.g. master)
  - All pull requests for the "zfs" project
- Code coverage collected after running **all** tests
  - ztest, zfstest, zfsstress, etc.
- Data generated using `make code-coverage-capture ...`
  - Emits `.info` file and static HTML pages
- `.info` file uploaded to `codecov.io`
- [ZFS on Linux + Codecov](#)

# User + Kernel

- Code coverage data is collected for:
  - User mode execution (e.g. libzpool, zdb, etc.)
  - Kernel mode execution (e.g. "zfs" kernel module)
- Same file *may* be executed in user and kernel mode
  - e.g. libzpool references files in "modules" directories
- User coverage enabled via `--enable-code-coverage` option
- Kernel coverage enabled via custom kernel
  - More details [here](#)

# Codecov: Header



# Codecov: Diff

lib / libzfs / libzfs_mount.c		6 <span style="color: green;">■</span> <span style="color: green;">■</span> <span style="color: green;">■</span> <span style="color: red;">■</span> <span style="color: red;">■</span>	80.70% < 100.00% > +0.04%
@@ -136,6 +136,10 @@			
136	136		if (hdl->libzfs_sharetab == NULL)
137	137		return (SHARED_NOT_SHARED);
138	138		
	139	+	/* Reopen ZFS SHARETAB to prevent reading stale data from open file */
	140	+	if (freopen(ZFS_SHARETAB, "r", hdl->libzfs_sharetab) == NULL)
	141	+	return (SHARED_NOT_SHARED);
	142	+	
139	143		(void) fseek(hdl->libzfs_sharetab, 0, SEEK_SET);
140	144		
141	145		while (fgets(buf, sizeof (buf), hdl->libzfs_sharetab) != NULL) {
@@ -660,7 +664,7 @@			
660	664		* then get freed later. We strdup it to play it safe.
661	665		*/
662	666		if (mountpoint == NULL)
663	-		mntpt = zfs_strdup(hdl, entry.mnt_mountpt);
	667	+	mntpt = zfs_strdup(hdl, entry.mnt_special);
664	668		else
665	669		mntpt = zfs_strdup(hdl, mountpoint);
666	670		
@@ -667 +671 @@			

cmd / zfs / zfs_main.c		2 <span style="color: green;">■</span> <span style="color: green;">■</span> <span style="color: red;">■</span> <span style="color: red;">■</span> <span style="color: red;">■</span>	77.18% < 100.00% > +0.31%
@@ -6729,7 +6729,7 @@			
6729	6729		case OP_MOUNT:
6730	6730		if (zfs_unmount(node->un_zhp,
6731	6731		node->un_mountpt, flags) != 0)
6732	-		node->un_zhp->zfs_name, flags) != 0)
	6732	+	ret = 1;
6733	6733		break;
6734	6734		
6735	6735		}
@@ -6736 +6736 @@			

# Codecov: Files

					
Files					Coverage
 cmd	17,001	11,057	0	5,944	<div><div></div></div> 65.03%
 include	196	171	0	25	<div><div></div></div> 87.24%
 lib	14,051	9,349	0	4,702	<div><div></div></div> 66.53%
 module	61,360	46,571	0	14,789	<div><div></div></div> 75.89%
 tests/zfs-tests	1,255	748	0	507	<div><div></div></div> 59.60%
<b>Project Totals</b> (294 files)	93,863	67,896	0	25,967	<div><div></div></div> 72.33%

# Codecov: Files (continued)

📄 / module / zfs					☰
Files	☰	●	●	●	Coverage
📄 <a href="#">abd.c</a>	490	486	0	4	99.18%
📄 <a href="#">arc.c</a>	3,098	2,609	0	489	84.21%
📄 <a href="#">blkptr.c</a>	50	38	0	12	76.00%
📄 <a href="#">bplist.c</a>	22	22	0	0	100.00%
📄 <a href="#">bpobj.c</a>	280	272	0	8	97.14%
📄 <a href="#">bptree.c</a>	95	88	0	7	92.63%
📄 <a href="#">bqueue.c</a>	42	39	0	3	92.85%
📄 <a href="#">dbuf.c</a>	1,725	1,630	0	95	94.49%
📄 <a href="#">dbuf_stats.c</a>	95	90	0	5	94.73%
📄 <a href="#">ddt.c</a>	554	483	0	71	87.18%
📄 <a href="#">ddt_zap.c</a>	42	37	0	5	88.09%
📄 <a href="#">dmu.c</a>	872	722	0	150	82.79%
📄 <a href="#">dmu_diff.c</a>	95	0	0	95	0.00%
📄 <a href="#">dmu_object.c</a>	143	134	0	9	93.70%
📄 <a href="#">dmu_objset.c</a>	1,137	1,022	0	115	89.88%
📄 <a href="#">dmu_send.c</a>	1,810	1,361	0	449	75.19%
📄 <a href="#">dmu_traverse.c</a>	290	269	0	21	92.75%
📄 <a href="#">dmu_tx.c</a>	502	405	0	97	80.67%


# Codecov: Flags

► Fix some ZFS Test Suite issues

72.33%

100.00%

+0.08%

 **loli10K** 12 hours ago ❌ CI Failed  
🔗 3fd3e56 📁 master 🔒 b33d668

Diff

Files

Build

Graphs

lib / libzfs / libzfs\_mount.c

80.70%

kernel

user

```
1  /*
2  * CDDL HEADER START
3  *
4  * The contents of this file are subject to the terms of the
5  * Common Development and Distribution License (the "License").
6  * You may not use this file except in compliance with the License.
7  *
8  * You can obtain a copy of the license at usr/src/OPENSOLARIS.LICENSE
9  * or http://www.opensolaris.org/os/licensing.
10 * See the License for the specific language governing permissions
11 * and limitations under the License.
12 */
```



# Codecov: Build

Uploads

Logs

Yaml

## Ubuntu 17.04 x86\_64 Coverage (TEST)

Build #131 - 6 hours ago

#user

Download

View CI Build

## Ubuntu 17.04 x86\_64 Coverage (TEST)

Build #131 - 6 hours ago

#kernel

Download

View CI Build

# Codecov: Graphs

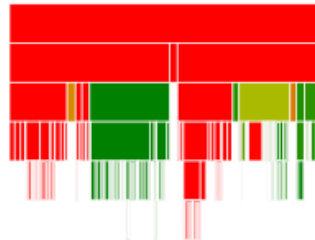
Interact now



## Sunburst

The inner-most circle is the entire project, moving away from the center are folders then, finally, a single file. The size and color of each slice is represented by the number of statements and the coverage, respectively.

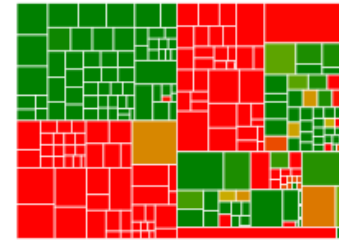
SVG



## Icicle

The top section represents the entire project. Proceeding with folders and finally individual files. The size and color of each slice is represented by the number of statements and the coverage, respectively.

SVG



## Grid

Each block represents a single file in the project. The size and color of each block is represented by the number of statements and the coverage, respectively.

SVG

# Codecov: PR Comment



codecov bot commented 2 days ago • edited

+ 😊 ✎ ✕

## Codecov Report

Merging [#6566](#) into [master](#) will **increase** coverage by **0.11%**.  
The diff coverage is **92.77%**.



	Coverage	Diff	
@@	master	#6566	+/-
##			##
+ Coverage	72.24%	72.36%	+0.11%
Files	294	294	
Lines	93862	94120	+258
+ Hits	67815	68113	+298
+ Misses	26047	26007	-40

Flag	Coverage Δ	
#kernel	73.63% <85.54%> (+0.27%)	⬆
#user	61.39% <90.57%> (+0.29%)	⬆

# Coverage Integrated w/ Commits Page


zfs on linux / zfs

Watch 359 Star 2,743 Fork 640



<> Code Issues 856 Pull requests 46 Projects 2 Wiki Insights


Branch: master

Commits on Sep 25, 2017



**Fix printk() calls missing log level** ...

DeHackEd committed with behlendorf 12 hours ago ✖ 72.45%


 7e98073 

**Fix some ZFS Test Suite issues** ...



lol10K committed with behlendorf 12 hours ago ✖ 72.34%

 3fd3e56 


Commits on Sep 23, 2017

**Fix ZTS MMP tests and ztest -M behavior** ...



ofaaland committed with behlendorf 3 days ago ✖ 72.25%

 b33d668 

Commits on Sep 22, 2017

**Fix "--enable-code-coverage" debug build** ...

behlendorf committed on GitHub 3 days ago ✔ 72.37%

 7a6acb3 

End