

## FreeNAS - Bug #34894

Bug # 32736 (Done): Change default ZFS indirect block size from 128 to 32 for new files and zvols

### Measure performance effects of different indirect block sizes

06/13/2018 08:22 AM - Alexander Motin

<b>Status:</b> Done	
<b>Priority:</b> No priority	
<b>Assignee:</b> Nick Principe	
<b>Category:</b> OS	
<b>Target version:</b> 11.2-BETA3	
<b>Seen in:</b> 11.1-U5	<b>Needs Merging:</b> No
<b>Severity:</b> Medium	<b>Needs Automation:</b> No
<b>Reason for Closing:</b>	<b>Support Suite Ticket:</b> n/a
<b>Reason for Blocked:</b>	<b>Hardware Configuration:</b>
<b>Needs QA:</b> No	<b>ChangeLog Required:</b> No
<b>Needs Doc:</b> No	
<b>Description</b>	
We need to know how different indirect block sizes affect random rewrite, sequential rewrite and large delete/unmap. May be IBS set to 128KB to optimize delete performance is too high price to pay for random access, since compressed ARC introduction. May be 64KB or 32KB could be more reasonable.	

#### History

##### #2 - 06/28/2018 11:07 AM - Nick Principe

- Status changed from Unscreened to Blocked
- Reason for Blocked set to Dependent on a related task to be completed

Blocked pending completion of either:

- spectre/meltdown testing
- m-series write wall investigations

Mav, do you think all-flash testing would be illuminating enough for this testing? If so I can use my AFA FreeNAS and not pend on a gap in TrueNAS testing.

##### #3 - 07/11/2018 07:36 PM - Nick Principe

- Status changed from Blocked to In Progress

Started testing on 11.1-U4 - let me know if newer version needed ASAP.

##### #4 - 07/17/2018 11:11 AM - Dru Lavigne

- Target version changed from 11.2-RC2 to 11.2-BETA3

##### #5 - 07/17/2018 11:27 AM - Nick Principe

- Status changed from In Progress to Blocked
- Reason for Blocked changed from Dependent on a related task to be completed to On hold

Initial transactional SMB performance had little variation due to IBS setting. I've lost my testbed for a week or so while new H/W is shipped. Upon setup of new hardware, testing will resume.

**#6 - 07/17/2018 11:40 AM - Kris Moore**

- Target version changed from 11.2-BETA3 to Backlog

**#7 - 08/03/2018 10:41 AM - Nick Principe**

- Status changed from Blocked to In Progress

- Reason for Blocked deleted (On hold)

During some other testing, we evaluated default\_ibs random 4k write IOPS performance and unmap performance after said random write workload. It seems that going to default\_ibs=15 has few downsides.

On 11.2beta2:

Performance after 1 hour of 4k random writes

Ops/sec R/T (ms)

ibs14 38601.98 0.613

ibs15 35033.48 0.676

ibs16 27600.02 0.86

ibs17 18524.93 1.284

LUN unmap performance, one LUN at a time  
time (s)

ibs14 50.72

ibs15 44.87

ibs16 26.18

ibs17 27.89

**#8 - 08/03/2018 11:36 AM - Alexander Motin**

- Status changed from In Progress to Done

- Target version changed from Backlog to 11.2-BETA3

- Needs QA changed from Yes to No

- Needs Doc changed from Yes to No

- Needs Merging changed from Yes to No