### Description

We should allow auto repair for bluestore pools since it has built in checksums. Currently, we are limited to erasure coded pools.

In order to trigger an auto repair when regular scrub detects errors, any errors should immediately schedule a deep-scrub.

Add a new pg state flag "failed_repair" when repairs can't fix all errors. This may be tricky to implement because pg repair ends as a recovery operation.

Set failed_repair if primary repair triggered by a client read fails.

Add a count of number of objects that are repaired to PG stats and OSD stats.

### Related issues:

Copied to RADOS - Backport #38983: nautilus: Improvements to auto repair

Resolved

### History

#### #1 - 03/07/2019 02:12 AM - David Zafman

OSD stats might have to be in meta collection

#### #2 - 03/14/2019 02:46 PM - David Zafman

- Status changed from New to In Progress
- Pull request ID set to 26942

#### #3 - 03/14/2019 04:45 PM - David Zafman

I don't think we need to set "failed_repair" if primary can't recover itself on a read error. We are already setting "recovery_unfound" PG state.

If a primary read gets an EIO for example, but we are unable to read another replica this is the resulting PG:

<table>
<thead>
<tr>
<th>PG_STAT</th>
<th>OBJECTS MISSING_ON_PRIMARY</th>
<th>DEGRADED</th>
<th>MISPLACED</th>
<th>UNFOUND</th>
<th>BYTES</th>
<th>OMAP_BYTES*</th>
<th>OMAP_KEYS*</th>
<th>LOG_DISK_LOG</th>
</tr>
</thead>
<tbody>
<tr>
<td>STATE</td>
<td>STATE_STAMP</td>
<td>VERSION</td>
<td>REPORTED_UP</td>
<td>UP_PRIMARY</td>
<td>ACTING_PRIMARY</td>
<td>LAST_SCRUB</td>
<td>SNAPTRIMQ_LEN</td>
<td></td>
</tr>
<tr>
<td>SCRUB_STAMP</td>
<td>STATE_SCRUB</td>
<td>DEEP_SCRUB</td>
<td>DEEP_SCRUB_STAMP</td>
<td>SNAPSHOT_LEN</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.0</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>3138</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>16:27 [1,0]</td>
<td>1     [1,0]</td>
<td>1</td>
<td>0'0 2019-03-14 09:21:56.003113</td>
<td>0'0 2019-03-14 09:21:56.003113</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### #4 - 03/23/2019 12:33 AM - David Zafman

- Backport set to nautilus
#5 - 03/26/2019 11:49 PM - David Zafman
- Status changed from In Progress to Pending Backport

#6 - 03/27/2019 01:37 AM - David Zafman
Also need to backport 0fb951963ff9d03a592bad0d4442049603195e25 with this.

#7 - 03/27/2019 04:24 PM - Nathan Cutler
- Copied to Backport #38983: nautilus: Improvements to auto repair added

#8 - 04/03/2019 04:37 AM - David Zafman
- Status changed from Pending Backport to Resolved