Splunk® Enterprise Release Notes 8.0.0

Linux kernel memory overcommitting and Splunk crashes

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Linux kernel memory overcommitting and Splunk crashes

Many distributions of Linux have a parameter that controls how the kernel handles requests for large amounts of memory. The Memory Overcommit tunable kernel parameter (vm.overcommit_memory) determines whether the kernel accepts or denies such requests.

The parameter can be set by running a command such as `sysctl` or by echoing a value to a specific file on the machine. The parameter takes three values:

<table>
<thead>
<tr>
<th>Value</th>
<th>Default</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>X</td>
<td>Heuristic overcommit handling, denying blatantly invalid requests</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td>No overcommit handling</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>Denies requests that are equal to or greater than the sum of available swap space and the percentage of physical memory as specified by the overcommit_ratio parameter</td>
</tr>
</tbody>
</table>

How this setting impacts Splunk performance

Setting this parameter to anything other than the default of 0 can cause Splunk Enterprise to crash frequently with logs that do not reliably provide information on the root cause of the crash. In particular, setting the overcommit_memory parameter to 2 can result in crashes that provide no information, which makes troubleshooting and problem diagnosis difficult to impossible.

Confirm that you have set the vm.overcommit_memory parameter to its default of 0, unless you run an app on the same machine that requires changing this parameter. As a best practice, do not run other applications on a machine that runs Splunk Enterprise, unless those applications are directly related to or required by Splunk services.

See the following for additional information about the memory overcommitting feature:

- Capacity Tuning on the Red Hat Linux Performance Tuning Guide
- Your Linux distribution documentation on memory management