Fix "Approaching the limit on PV entries, consider increasing either the vm.pmap.shpgperproc or the vm.pmap.pv_entry_max tunable." in FreeBSD

Author : admin



I'm running *FreeBSD with Apache and PHP* on it and I got in *dmesg (kernel log),* following error:

freebsd# dmesg|grep -i vm.pmap.shpgperproc
Approaching the limit on PV entries, consider increasing either the vm.pmap.shpgperproc or the vm.pmap.pv_entry_max tunable.
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The exact *FreeBSD, Apache and php versions* I have installed are:

freebsd# uname -a ; httpd -V ; php --version

FreeBSD pcfreak 7.2-RELEASE-p4 FreeBSD 7.2-RELEASE-p4 #0: Fri Oct 2 12:21:39 UTC 2009 root@i386-builder.daemonology.net:/usr/obj/usr/src/sys/GENERIC i386
Server version: Apache/2.0.64
Server built: Mar 13 2011 23:36:25Server's Module Magic Number: 20050127:14
Server loaded: APR 0.9.19, APR-UTIL 0.9.19
Compiled using: APR 0.9.19, APR-UTIL 0.9.19
Architecture: 32-bit
Server compiled with....
-D APACHE_MPM_DIR="server/mpm/prefork"
-D APR_HAS_SENDFILE
-D APR_HAS_MMAP
-D APR_HAVE_IPV6 (IPv4-mapped addresses enabled)
-D APR_USE_FLOCK_SERIALIZE
-D APR_USE_PTHREAD_SERIALIZE
-D SINGLE_LISTEN_UNSERIALIZED_ACCEPT
-D APR_HAS_OTHER_CHILD
-D AP_HAVE_RELIABLE_PIPED_LOGS
-D HTTPD_ROOT="/usr/local"
-D SUEXEC_BIN="/usr/local/bin/suexec"
-D DEFAULT_PIDLOG="/var/run/httpd.pid"
-D DEFAULT_SCOREBOARD="logs/apache_runtime_status"
-D DEFAULT_LOCKFILE="/var/run/accept.lock"
-D DEFAULT_ERRORLOG="logs/error_log"
-D AP_TYPES_CONFIG_FILE="etc/apache2/mime.types"
-D SERVER_CONFIG_FILE="etc/apache2/httpd.conf"
PHP 5.3.5 with Suhosin-Patch (cli) (built: Mar 14 2011 00:29:17)
Copyright (c) 1997-2009 The PHP Group
Zend Engine v2.3.0, Copyright (c) 1998-2010 Zend Technologies
with eAccelerator v0.9.6.1, Copyright (c) 2004-2010 eAccelerator, by eAccelerator

After a bunch of research a FreeBSD forums thread , I've found the fix suggested by a guy.

The solution suggested in the forum is to raise up **vm.pmap.pv_entry_ma** to **vm.pmap.pv_entry_max=1743504**, however I've noticed this value is read only and cannot be changed on the BSD running kernel;

freebsd# sysctl vm.pmap.pv_entry_max=1743504
sysctl: oid 'vm.pmap.pv_entry_max' is read only

Instead to solve the;

Approaching the limit on PV entries, consider increasing either the vm.pmap.shpgperproc or the vm.pmap.pv_entry_max tunable.
, I had to add in **/boot/loader.conf**

vm.pmap.pde.mappings=68

vm.pmap.shpgperproc=500
vm.pmap.pv_entry_max=1743504

Adding this values through */boot/loader.conf* set them on kernel boot time. I've seen also in the threads the **consider increasing either the vm.pmap.shpgperproc** is also encountered on FreeBSD hosts running Squid, Dansguardion and other web proxy softwares on busy hosts.

This problems are not likely to happen for people who are running latest FreeBSD releases (>8.3, 9.x), I've read in same above post in newer BSD kernels the *vm.pmap* is no longer existing in newer kernels.