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Subject: [PATCH][IPVS] Fix sched registration race when checking for name collision

Posted by [Pavel Emelianov](#) on Mon, 03 Dec 2007 10:10:57 GMT

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The `register_ip_vs_scheduler()` checks for the scheduler with the same name under the read-locked `__ip_vs_sched_lock`, then drops, takes it for writing and puts the scheduler in list.

This is racy, since we can have a race window between the lock being re-locked for writing.

The fix is to search the scheduler with the given name right under the write-locked `__ip_vs_sched_lock`.

Signed-off-by: Pavel Emelyanov <xemul@openvz.org>

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```
diff --git a/net/ipv4/ipvs/ip_vs_sched.c b/net/ipv4/ipvs/ip_vs_sched.c
index 1602304..4322358 100644
--- a/net/ipv4/ipvs/ip_vs_sched.c
+++ b/net/ipv4/ipvs/ip_vs_sched.c
@@ -183,19 +183,6 @@ int register_ip_vs_scheduler(struct ip_vs_scheduler *scheduler)
 /* increase the module use count */
 ip_vs_use_count_inc();

- /*
- * Make sure that the scheduler with this name doesn't exist
- * in the scheduler list.
- */
- sched = ip_vs_sched_getbyname(scheduler->name);
- if (sched) {
- ip_vs_scheduler_put(sched);
- ip_vs_use_count_dec();
- IP_VS_ERR("register_ip_vs_scheduler(): [%s] scheduler "
- "already existed in the system\n", scheduler->name);
- return -EINVAL;
- }
-
write_lock_bh(&__ip_vs_sched_lock);

if (scheduler->n_list.next != &scheduler->n_list) {
@@ -207,6 +194,20 @@ int register_ip_vs_scheduler(struct ip_vs_scheduler *scheduler)
}

/*
+ * Make sure that the scheduler with this name doesn't exist
```

```
+ * in the scheduler list.
+ */
+ list_for_each_entry(sched, &ip_vs_schedulers, n_list) {
+ if (strcmp(scheduler->name, sched->name) == 0) {
+ write_unlock_bh(&__ip_vs_sched_lock);
+ ip_vs_use_count_dec();
+ IP_VS_ERR("register_ip_vs_scheduler(): [%s] scheduler "
+ "already existed in the system\n",
+ scheduler->name);
+ return -EINVAL;
+ }
+ }
+ /*
+ * Add it into the d-linked scheduler list
+ */
list_add(&scheduler->n_list, &ip_vs_schedulers);
```

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