
Subject: [PATCH 0/3] SUNRPC: separate per-net data creation from service creation

Posted by [Stanislav Kinsbursky](#) on Wed, 25 Apr 2012 13:37:33 GMT

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This is a cleanup patch set.

It will be followed my LockD start/stop cleanup patch set and NFS callback service containerization patch set (yes, I forgot to implement it).

Today per-net data is created with service, and then is service is starting in other network namespace. And thus it's destroyed with service too. Moreover, network context for destroying of per-net data is taken from current process.

This is correct, but code looks ugly.

This patch set separates per-net data allocation from service allocation and destruction.

IOW, per-net data have to be destroyed by service users - not service itself.

BTW, NFSd code become uglier with this patch set. Sorry.

But I assume, that these new ugly parts will be replaced later by NFSd service containerization code.

The following series consists of:

Stanislav Kinsbursky (3):

- SUNRPC: new svc_bind() routine introduced

- SUNRPC: check rpcbind clients usage counter before decrement

- SUNRPC: move per-net operations from svc_destroy()

```
fs/lockd/svc.c      | 30 ++++++-----
fs/nfs/callback.c   | 11 ++++++
fs/nfsd/nfsctl.c    | 4 +++
fs/nfsd/nfssvc.c    | 16 ++++++
include/linux/sunrpc/svc.h | 1 +
net/sunrpc/rpcb_clnt.c | 12 ++++++
net/sunrpc/svc.c     | 23 ++++++-----
7 files changed, 68 insertions(+), 29 deletions(-)
```

Subject: [PATCH 1/3] SUNRPC: new svc_bind() routine introduced

Posted by [Stanislav Kinsbursky](#) on Wed, 25 Apr 2012 13:37:42 GMT

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New routine is responsible for service registration in specified network context.

The idea is to separate service creation from per-net operations.

Signed-off-by: Stanislav Kinsbursky <skinsbursky@parallels.com>

```
fs/lockd/svc.c      | 6 ++++++
fs/nfs/callback.c   | 8 ++++++++
fs/nfsd/nfssvc.c    | 9 ++++++++
include/linux/sunrpc/svc.h | 1 +
net/sunrpc/svc.c     | 19 ++++++++-----
5 files changed, 34 insertions(+), 9 deletions(-)
```

diff --git a/fs/lockd/svc.c b/fs/lockd/svc.c

index 1ead075..b7e92ed 100644

--- a/fs/lockd/svc.c

+++ b/fs/lockd/svc.c

```
@ @ -324,6 +324,12 @ @ int lockd_up(struct net *net)
    goto out;
}
```

```
+ error = svc_bind(serv, net);
```

```
+ if (error < 0) {
```

```
+     printk(KERN_WARNING "lockd_up: bind service failed\n");
```

```
+     goto destroy_and_out;
```

```
+ }
```

```
+
```

```
    error = make_socks(serv, net);
```

```
    if (error < 0)
```

```
        goto destroy_and_out;
```

diff --git a/fs/nfs/callback.c b/fs/nfs/callback.c

index eb95f50..26b38fb 100644

--- a/fs/nfs/callback.c

+++ b/fs/nfs/callback.c

```
@ @ -17,6 +17,7 @ @
```

```
#include <linux/kthread.h>
```

```
#include <linux/sunrpc/svcauth_gss.h>
```

```
#include <linux/sunrpc/bc_xprt.h>
```

```
+#include <linux/nsproxy.h>
```

```
#include <net/inet_sock.h>
```

```
@ @ -253,6 +254,7 @ @ int nfs_callback_up(u32 minorversion, struct rpc_xprt *xprt)
```

```
    char svc_name[12];
```

```
    int ret = 0;
```

```
    int minorversion_setup;
```

```
+ struct net *net = current->nsproxy->net_ns;
```

```
    mutex_lock(&nfs_callback_mutex);
```

```
    if (cb_info->users++ || cb_info->task != NULL) {
```

```

@@ -265,6 +267,12 @@ int nfs_callback_up(u32 minorversion, struct rpc_xprt *xprt)
    goto out_err;
}

+ ret = svc_bind(serv, net);
+ if (ret < 0) {
+   printk(KERN_WARNING "NFS: bind callback service failed\n");
+   goto out_err;
+ }
+
+   minorversion_setup = nfs_minorversion_callback_svc_setup(minorversion,
+     serv, xprt, &rqstp, &callback_svc);
+   if (!minorversion_setup) {
diff --git a/fs/nfsd/nfssvc.c b/fs/nfsd/nfssvc.c
index cb4d51d..0762f3c 100644
--- a/fs/nfsd/nfssvc.c
+++ b/fs/nfsd/nfssvc.c
@@ -11,6 +11,7 @@
#include <linux/module.h>
#include <linux/fs_struct.h>
#include <linux/swap.h>
+#include <linux/nsproxy.h>

#include <linux/sunrpc/stats.h>
#include <linux/sunrpc/svcsock.h>
@@ -330,6 +331,8 @@ static int nfsd_get_default_max_blksize(void)

int nfsd_create_serv(void)
{
+ int error;
+
+   WARN_ON(!mutex_is_locked(&nfsd_mutex));
+   if (nfsd_serv) {
+     svc_get(nfsd_serv);
@@ -343,6 +346,12 @@ int nfsd_create_serv(void)
+   if (nfsd_serv == NULL)
+     return -ENOMEM;

+ error = svc_bind(nfsd_serv, current->nsproxy->net_ns);
+ if (error < 0) {
+   svc_destroy(nfsd_serv);
+   return error;
+ }
+
+   set_max_drc();
+   do_gettimeofday(&nfssvc_boot); /* record boot time */
+   return 0;
diff --git a/include/linux/sunrpc/svc.h b/include/linux/sunrpc/svc.h

```

index 51b29ac..2b43e02 100644

--- a/include/linux/sunrpc/svc.h

+++ b/include/linux/sunrpc/svc.h

@@ -416,6 +416,7 @@ struct svc_procedure {
 */

int svc_rpcb_setup(struct svc_serv *serv, struct net *net);
void svc_rpcb_cleanup(struct svc_serv *serv, struct net *net);
+int svc_bind(struct svc_serv *serv, struct net *net);
struct svc_serv *svc_create(struct svc_program *, unsigned int,
 void (*shutdown)(struct svc_serv *, struct net *net));
struct svc_rqst *svc_prepare_thread(struct svc_serv *serv,
diff --git a/net/sunrpc/svc.c b/net/sunrpc/svc.c

index 4153846..e6d542c 100644

--- a/net/sunrpc/svc.c

+++ b/net/sunrpc/svc.c

@@ -407,6 +407,14 @@ static int svc_uses_rpcbind(struct svc_serv *serv)
 return 0;
}

+int svc_bind(struct svc_serv *serv, struct net *net)

+{
+ if (!svc_uses_rpcbind(serv))
+ return 0;
+ return svc_rpcb_setup(serv, net);
+}
+EXPORT_SYMBOL_GPL(svc_bind);

+
+/*
+ * Create an RPC service
+ */

@@ -471,15 +479,8 @@ __svc_create(struct svc_program *prog, unsigned int bufsize, int
npools,
 spin_lock_init(&pool->sp_lock);
}

- if (svc_uses_rpcbind(serv)) {
- if (svc_rpcb_setup(serv, current->nsproxy->net_ns) < 0) {
- kfree(serv->sv_pools);
- kfree(serv);
- return NULL;
- }
- if (!serv->sv_shutdown)
- serv->sv_shutdown = svc_rpcb_cleanup;
- }
+ if (svc_uses_rpcbind(serv) && (!serv->sv_shutdown))
+ serv->sv_shutdown = svc_rpcb_cleanup;

return serv;

}

Subject: [PATCH 2/3] SUNRPC: check rpcbind clients usage counter before decrement

Posted by [Stanislav Kinsbursky](#) on Wed, 25 Apr 2012 13:37:49 GMT

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Registering service with `svc_bind()` can fail. In this case service will be destroyed and during destruction it will try to unregister itself from rpcbind. In this case unregister have to be skipped.

Signed-off-by: Stanislav Kinsbursky <skinsbursky@parallels.com>

net/sunrpc/rpcb_clnt.c | 12 ++++++-----
1 files changed, 7 insertions(+), 5 deletions(-)

diff --git a/net/sunrpc/rpcb_clnt.c b/net/sunrpc/rpcb_clnt.c

index 78ac39f..4c38b33 100644

--- a/net/sunrpc/rpcb_clnt.c

+++ b/net/sunrpc/rpcb_clnt.c

@ @ -180,14 +180,16 @ @ void rpcb_put_local(struct net *net)

struct sunrpc_net *sn = net_generic(net, sunrpc_net_id);

struct rpc_clnt *clnt = sn->rpcb_local_clnt;

struct rpc_clnt *clnt4 = sn->rpcb_local_clnt4;

- int shutdown;

+ int shutdown = 0;

spin_lock(&sn->rpcb_clnt_lock);

- if (--sn->rpcb_users == 0) {

- sn->rpcb_local_clnt = NULL;

- sn->rpcb_local_clnt4 = NULL;

+ if (sn->rpcb_users) {

+ if (--sn->rpcb_users == 0) {

+ sn->rpcb_local_clnt = NULL;

+ sn->rpcb_local_clnt4 = NULL;

+ }

+ shutdown = !sn->rpcb_users;

}

- shutdown = !sn->rpcb_users;

spin_unlock(&sn->rpcb_clnt_lock);

if (shutdown) {

Subject: [PATCH 3/3] SUNRPC: move per-net operations from `svc_destroy()`

The idea is to separate service destruction and per-net operations, because these are two different things and it's mix looks ugly.

Notes:

- 1) For NFS server this patch looks ugly (sorry for that). But these place will be rewritten soon during NFSd containerization.
- 2) LockD per-net counter increase `int lockd_up()` was moved prior to `make_socks()` to make `lockd_down_net()` call safe in case of error.

Signed-off-by: Stanislav Kinsbursky <skinsbursky@parallels.com>

```
fs/lockd/svc.c | 24 ++++++-----
fs/nfs/callback.c | 3 +++
fs/nfsd/nfsctl.c | 4 ++++
fs/nfsd/nfssvc.c | 7 ++++++
net/sunrpc/svc.c | 4 ----
5 files changed, 27 insertions(+), 15 deletions(-)
```

```
diff --git a/fs/lockd/svc.c b/fs/lockd/svc.c
```

```
index b7e92ed..2c9ea37 100644
```

```
--- a/fs/lockd/svc.c
```

```
+++ b/fs/lockd/svc.c
```

```
@@ -299,6 +299,7 @@ int lockd_up(struct net *net)
```

```
{
    struct svc_serv *serv;
    int error = 0;
+ struct lockd_net *ln = net_generic(net, lockd_net_id);
```

```
    mutex_lock(&nlsvc_mutex);
```

```
/*
```

```
@@ -330,9 +331,11 @@ int lockd_up(struct net *net)
```

```
    goto destroy_and_out;
}
```

```
+ ln->nlsvc_users++;
```

```
+
```

```
    error = make_socks(serv, net);
```

```
    if (error < 0)
```

```
- goto destroy_and_out;
```

```
+ goto err_start;
```

```
/*
```

```
    * Create the kernel thread and wait for it to start.
```

```
@@ -344,7 +347,7 @@ int lockd_up(struct net *net)
```

```
    printk(KERN_WARNING
```

```

    "lockd_up: svc_rqst allocation failed, error=%d\n",
    error);
- goto destroy_and_out;
+ goto err_start;
}

    svc_sock_update_bufs(serv);
@@ -358,7 +361,7 @@ int lockd_up(struct net *net)
    nlmsvc_rqst = NULL;
    printk(KERN_WARNING
    "lockd_up: kthread_run failed, error=%d\n", error);
- goto destroy_and_out;
+ goto err_start;
}

/*
@@ -368,14 +371,14 @@ int lockd_up(struct net *net)
destroy_and_out:
    svc_destroy(serv);
out:
- if (!error) {
- struct lockd_net *ln = net_generic(net, lockd_net_id);
-
- ln->nlmsvc_users++;
+ if (!error)
    nlmsvc_users++;
- }
    mutex_unlock(&nlmsvc_mutex);
    return error;
+
+err_start:
+ lockd_down_net(net);
+ goto destroy_and_out;
}
EXPORT_SYMBOL_GPL(lockd_up);

@@ -386,11 +389,10 @@ void
lockd_down(struct net *net)
{
    mutex_lock(&nlmsvc_mutex);
+ lockd_down_net(net);
    if (nlmsvc_users) {
- if (--nlmsvc_users) {
- lockd_down_net(net);
+ if (--nlmsvc_users)
        goto out;
- }
    } else {

```

```

    printk(KERN_ERR "lockd_down: no users! task=%p\n",
           nlmsvc_task);
diff --git a/fs/nfs/callback.c b/fs/nfs/callback.c
index 26b38fb..cff3940 100644
--- a/fs/nfs/callback.c
+++ b/fs/nfs/callback.c
@@ -314,6 +314,8 @@ out_err:
    dprintk("NFS: Couldn't create callback socket or server thread; "
           "err = %d\n", ret);
    cb_info->users--;
+ if (serv)
+  svc_shutdown_net(serv, net);
    goto out;
}

@@ -328,6 +330,7 @@ void nfs_callback_down(int minorversion)
    cb_info->users--;
    if (cb_info->users == 0 && cb_info->task != NULL) {
        kthread_stop(cb_info->task);
+  svc_shutdown_net(cb_info->serv, current->nsproxy->net_ns);
        svc_exit_thread(cb_info->rqst);
        cb_info->serv = NULL;
        cb_info->rqst = NULL;
diff --git a/fs/nfsd/nfsctl.c b/fs/nfsd/nfsctl.c
index 7269988..efb3818 100644
--- a/fs/nfsd/nfsctl.c
+++ b/fs/nfsd/nfsctl.c
@@ -672,6 +672,8 @@ static ssize_t __write_ports_addfd(char *buf)

    err = svc_addsock(nfsd_serv, fd, buf, SIMPLE_TRANSACTION_LIMIT);
    if (err < 0) {
+ if (nfsd_serv->sv_nrthreads == 1)
+  svc_shutdown_net(nfsd_serv, current->nsproxy->net_ns);
        svc_destroy(nfsd_serv);
        return err;
    }
@@ -740,6 +742,8 @@ out_close:
    svc_xprt_put(xprt);
}

out_err:
+ if (nfsd_serv->sv_nrthreads == 1)
+  svc_shutdown_net(nfsd_serv, current->nsproxy->net_ns);
    svc_destroy(nfsd_serv);
    return err;
}
diff --git a/fs/nfsd/nfssvc.c b/fs/nfsd/nfssvc.c
index 0762f3c..3fffe6c 100644
--- a/fs/nfsd/nfssvc.c

```



```

+++ b/fs/nfsd/nfssvc.c
@@ -426,6 +426,9 @@ int nfsd_set_nrthreads(int n, int *nthreads)
    if (err)
        break;
    }
+
+ if (nfsd_serv->sv_nrthreads == 1)
+   svc_shutdown_net(nfsd_serv, current->nsproxy->net_ns);
+   svc_destroy(nfsd_serv);

    return err;
@@ -473,6 +476,8 @@ out_shutdown:
    if (error < 0 && !nfsd_up_before)
        nfsd_shutdown();
out_destroy:
+ if (nfsd_serv->sv_nrthreads == 1)
+   svc_shutdown_net(nfsd_serv, current->nsproxy->net_ns);
+   svc_destroy(nfsd_serv); /* Release server */
out:
    mutex_unlock(&nfsd_mutex);
@@ -670,6 +675,8 @@ int nfsd_pool_stats_release(struct inode *inode, struct file *file)
    int ret = seq_release(inode, file);
    mutex_lock(&nfsd_mutex);
    /* this function really, really should have been called svc_put() */
+ if (nfsd_serv->sv_nrthreads == 1)
+   svc_shutdown_net(nfsd_serv, current->nsproxy->net_ns);
+   svc_destroy(nfsd_serv);
    mutex_unlock(&nfsd_mutex);
    return ret;
diff --git a/net/sunrpc/svc.c b/net/sunrpc/svc.c
index e6d542c..b7210f5 100644
--- a/net/sunrpc/svc.c
+++ b/net/sunrpc/svc.c
@@ -537,8 +537,6 @@ EXPORT_SYMBOL_GPL(svc_shutdown_net);
void
svc_destroy(struct svc_serv *serv)
{
- struct net *net = current->nsproxy->net_ns;
-
    dprintk("svc: svc_destroy(%s, %d)\n",
        serv->sv_program->pg_name,
        serv->sv_nrthreads);
@@ -553,8 +551,6 @@ svc_destroy(struct svc_serv *serv)

    del_timer_sync(&serv->sv_temptimer);

-   svc_shutdown_net(serv, net);
-

```

/*

- * The last user is gone and thus all sockets have to be destroyed to
- * the point. Check this.

Subject: [PATCH v2 3/3] SUNRPC: move per-net operations from svc_destroy()

Posted by [Stanislav Kinsbursky](#) on Wed, 25 Apr 2012 14:00:10 GMT

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v2:

1) Increase per-net usage counted in lockd_up_net(), because of note 2.

The idea is to separate service destruction and per-net operations, because these are two different things and it's mix looks ugly.

Notes:

- 1) For NFS server this patch looks ugly (sorry for that). But these place will be rewritten soon during NFSd containerization.
- 2) LockD per-net counter increase in lockd_up_net() was moved prior to make_socks() to make lockd_down_net() call safe in case of error.

Signed-off-by: Stanislav Kinsbursky <skinsbursky@parallels.com>

fs/lockd/svc.c | 27 ++++++++-----

fs/nfs/callback.c | 3 +++

fs/nfsd/nfsctl.c | 4 ++++

fs/nfsd/nfssvc.c | 7 ++++++

net/sunrpc/svc.c | 4 ----

5 files changed, 29 insertions(+), 16 deletions(-)

diff --git a/fs/lockd/svc.c b/fs/lockd/svc.c

index b7e92ed..3250f28 100644

--- a/fs/lockd/svc.c

+++ b/fs/lockd/svc.c

```
@@ -257,7 +257,7 @@ static int lockd_up_net(struct net *net)
    struct svc_serv *serv = nlmsvc_rqst->rq_server;
    int error;
```

```
- if (ln->nlmsvc_users)
```

```
+ if (ln->nlmsvc_users++)
```

```
    return 0;
```

```
    error = svc_rpcb_setup(serv, net);
```

```
@@ -272,6 +272,7 @@ static int lockd_up_net(struct net *net)
```

```
err_socks:
```

```
    svc_rpcb_cleanup(serv, net);
```

```
err_rpcb:
```

```

+ ln->nlsvc_users--;
  return error;
}

@@ -299,6 +300,7 @@ int lockd_up(struct net *net)
{
  struct svc_serv *serv;
  int error = 0;
+ struct lockd_net *ln = net_generic(net, lockd_net_id);

  mutex_lock(&nlsvc_mutex);
/*
@@ -330,9 +332,11 @@ int lockd_up(struct net *net)
  goto destroy_and_out;
}

+ ln->nlsvc_users++;
+
  error = make_socks(serv, net);
  if (error < 0)
- goto destroy_and_out;
+ goto err_start;

/*
 * Create the kernel thread and wait for it to start.
@@ -344,7 +348,7 @@ int lockd_up(struct net *net)
  printk(KERN_WARNING
    "lockd_up: svc_rqst allocation failed, error=%d\n",
    error);
- goto destroy_and_out;
+ goto err_start;
}

  svc_sock_update_bufs(serv);
@@ -358,7 +362,7 @@ int lockd_up(struct net *net)
  nlsvc_rqst = NULL;
  printk(KERN_WARNING
    "lockd_up: kthread_run failed, error=%d\n", error);
- goto destroy_and_out;
+ goto err_start;
}

/*
@@ -368,14 +372,14 @@ int lockd_up(struct net *net)
destroy_and_out:
  svc_destroy(serv);
out:
- if (!error) {

```

```

- struct lockd_net *ln = net_generic(net, lockd_net_id);
-
- ln->nlsvc_users++;
+ if (!error)
    nlsvc_users++;
- }
    mutex_unlock(&nlsvc_mutex);
    return error;
+
+err_start:
+ lockd_down_net(net);
+ goto destroy_and_out;
}
EXPORT_SYMBOL_GPL(lockd_up);

@@ -386,11 +390,10 @@ void
lockd_down(struct net *net)
{
    mutex_lock(&nlsvc_mutex);
+ lockd_down_net(net);
    if (nlsvc_users) {
- if (--nlsvc_users) {
- lockd_down_net(net);
+ if (--nlsvc_users)
        goto out;
- }
    } else {
        printk(KERN_ERR "lockd_down: no users! task=%p\n",
            nlsvc_task);
diff --git a/fs/nfs/callback.c b/fs/nfs/callback.c
index 26b38fb..cff3940 100644
--- a/fs/nfs/callback.c
+++ b/fs/nfs/callback.c
@@ -314,6 +314,8 @@ out_err:
    dprintk("NFS: Couldn't create callback socket or server thread; "
        "err = %d\n", ret);
    cb_info->users--;
+ if (serv)
+ svc_shutdown_net(serv, net);
    goto out;
}

@@ -328,6 +330,7 @@ void nfs_callback_down(int minorversion)
    cb_info->users--;
    if (cb_info->users == 0 && cb_info->task != NULL) {
        kthread_stop(cb_info->task);
+ svc_shutdown_net(cb_info->serv, current->nsproxy->net_ns);
        svc_exit_thread(cb_info->rqst);

```

```

    cb_info->serv = NULL;
    cb_info->rqst = NULL;
diff --git a/fs/nfsd/nfsctl.c b/fs/nfsd/nfsctl.c
index 7269988..efb3818 100644
--- a/fs/nfsd/nfsctl.c
+++ b/fs/nfsd/nfsctl.c
@@ -672,6 +672,8 @@ static ssize_t __write_ports_addfd(char *buf)

    err = svc_addsock(nfsd_serv, fd, buf, SIMPLE_TRANSACTION_LIMIT);
    if (err < 0) {
+ if (nfsd_serv->sv_nrthreads == 1)
+  svc_shutdown_net(nfsd_serv, current->nsproxy->net_ns);
    svc_destroy(nfsd_serv);
    return err;
  }
@@ -740,6 +742,8 @@ out_close:
    svc_xprt_put(xprt);
  }
out_err:
+ if (nfsd_serv->sv_nrthreads == 1)
+  svc_shutdown_net(nfsd_serv, current->nsproxy->net_ns);
    svc_destroy(nfsd_serv);
    return err;
  }
diff --git a/fs/nfsd/nfssvc.c b/fs/nfsd/nfssvc.c
index 0762f3c..3ffe6c 100644
--- a/fs/nfsd/nfssvc.c
+++ b/fs/nfsd/nfssvc.c
@@ -426,6 +426,9 @@ int nfsd_set_nrthreads(int n, int *nthreads)
    if (err)
        break;
  }
+
+ if (nfsd_serv->sv_nrthreads == 1)
+  svc_shutdown_net(nfsd_serv, current->nsproxy->net_ns);
    svc_destroy(nfsd_serv);

    return err;
@@ -473,6 +476,8 @@ out_shutdown:
    if (error < 0 && !nfsd_up_before)
        nfsd_shutdown();
out_destroy:
+ if (nfsd_serv->sv_nrthreads == 1)
+  svc_shutdown_net(nfsd_serv, current->nsproxy->net_ns);
    svc_destroy(nfsd_serv); /* Release server */
out:
    mutex_unlock(&nfsd_mutex);
@@ -670,6 +675,8 @@ int nfsd_pool_stats_release(struct inode *inode, struct file *file)

```

```

int ret = seq_release(inode, file);
mutex_lock(&nfsd_mutex);
/* this function really, really should have been called svc_put() */
+ if (nfsd_serv->sv_nrthreads == 1)
+ svc_shutdown_net(nfsd_serv, current->nsproxy->net_ns);
  svc_destroy(nfsd_serv);
  mutex_unlock(&nfsd_mutex);
  return ret;
diff --git a/net/sunrpc/svc.c b/net/sunrpc/svc.c
index e6d542c..b7210f5 100644
--- a/net/sunrpc/svc.c
+++ b/net/sunrpc/svc.c
@@ -537,8 +537,6 @@ EXPORT_SYMBOL_GPL(svc_shutdown_net);
void
svc_destroy(struct svc_serv *serv)
{
- struct net *net = current->nsproxy->net_ns;
-
  dprintk("svc: svc_destroy(%s, %d)\n",
    serv->sv_program->pg_name,
    serv->sv_nrthreads);
@@ -553,8 +551,6 @@ svc_destroy(struct svc_serv *serv)

  del_timer_sync(&serv->sv_temptimer);

- svc_shutdown_net(serv, net);
-
  /*
   * The last user is gone and thus all sockets have to be destroyed to
   * the point. Check this.

```

Subject: Re: [PATCH 2/3] SUNRPC: check rpcbind clients usage counter before decrement

Posted by [bfields](#) on Fri, 27 Apr 2012 13:55:07 GMT

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On Wed, Apr 25, 2012 at 05:37:49PM +0400, Stanislav Kinsbursky wrote:

```

> Registering service with svc_bind() can fail. In this case service will be
> destroyed and during destruction it will try to unregister itself from rpcbind.
> In this case unregister have to be skipped.

```

Isn't this a preexisting bug, in which case perhaps Trond should at it to his list of bugs to submit now?

--b.

>

```
> Signed-off-by: Stanislav Kinsbursky <skinsbursky@parallels.com>
>
> ---
> net/sunrpc/rpcb_clnt.c | 12 ++++++-----
> 1 files changed, 7 insertions(+), 5 deletions(-)
>
> diff --git a/net/sunrpc/rpcb_clnt.c b/net/sunrpc/rpcb_clnt.c
> index 78ac39f..4c38b33 100644
> --- a/net/sunrpc/rpcb_clnt.c
> +++ b/net/sunrpc/rpcb_clnt.c
> @@ -180,14 +180,16 @@ void rpcb_put_local(struct net *net)
> struct sunrpc_net *sn = net_generic(net, sunrpc_net_id);
> struct rpc_clnt *clnt = sn->rpcb_local_clnt;
> struct rpc_clnt *clnt4 = sn->rpcb_local_clnt4;
> - int shutdown;
> + int shutdown = 0;
>
> spin_lock(&sn->rpcb_clnt_lock);
> - if (--sn->rpcb_users == 0) {
> - sn->rpcb_local_clnt = NULL;
> - sn->rpcb_local_clnt4 = NULL;
> + if (sn->rpcb_users) {
> + if (--sn->rpcb_users == 0) {
> + sn->rpcb_local_clnt = NULL;
> + sn->rpcb_local_clnt4 = NULL;
> + }
> + shutdown = !sn->rpcb_users;
> }
> - shutdown = !sn->rpcb_users;
> spin_unlock(&sn->rpcb_clnt_lock);
>
> if (shutdown) {
>
```

Subject: Re: [PATCH 2/3] SUNRPC: check rpcbind clients usage counter before decrement

Posted by [Stanislav Kinsbursky](#) on Fri, 27 Apr 2012 14:08:13 GMT

[View Forum Message](#) <> [Reply to Message](#)

On 27.04.2012 17:55, J. Bruce Fields wrote:

```
> On Wed, Apr 25, 2012 at 05:37:49PM +0400, Stanislav Kinsbursky wrote:
>> Registering service with svc_bind() can fail. In this case service will be
>> destroyed and during destruction it will try to unregister itself from rpcbind.
>> In this case unregister have to be skipped.
>
> Isn't this a preexisting bug, in which case perhaps Trond should at it
> to his list of bugs to submit now?
```

>

Not it's not.

Previously, in case of bind operations failure, `rpcb_put_local()` wasn't called, but service data was destroyed instead:

```
- if (svc_uses_rpcbind(serv)) {  
- if (svc_rpcb_setup(serv, current->nsproxy->net_ns) < 0) {  
- kfree(serv->sv_pools);  
- kfree(serv);  
- return NULL;  
- }  
- if (!serv->sv_shutdown)  
- serv->sv_shutdown = svc_rpcb_cleanup;  
- }
```

Now (with `svc_bind()` introduction) service can be created, but `svc_bind()` could fail. And thus `svc_destroy()` have to be called. Which will call `rpcb_put_local()`.

And the problem here that `svc_bind()` can fail before incrementing of `rpcb` usage counter.

```
> --b.  
>  
>>  
>> Signed-off-by: Stanislav Kinsbursky<skinsbursky@parallels.com>  
>>  
>> ---  
>> net/sunrpc/rpcb_clnt.c | 12 ++++++-----  
>> 1 files changed, 7 insertions(+), 5 deletions(-)  
>>  
>> diff --git a/net/sunrpc/rpcb_clnt.c b/net/sunrpc/rpcb_clnt.c  
>> index 78ac39f..4c38b33 100644  
>> --- a/net/sunrpc/rpcb_clnt.c  
>> +++ b/net/sunrpc/rpcb_clnt.c  
>> @@ -180,14 +180,16 @@ void rpcb_put_local(struct net *net)  
>> struct sunrpc_net *sn = net_generic(net, sunrpc_net_id);  
>> struct rpc_clnt *clnt = sn->rpcb_local_clnt;  
>> struct rpc_clnt *clnt4 = sn->rpcb_local_clnt4;  
>> - int shutdown;  
>> + int shutdown = 0;  
>>  
>> spin_lock(&sn->rpcb_clnt_lock);  
>> - if (--sn->rpcb_users == 0) {  
>> - sn->rpcb_local_clnt = NULL;  
>> - sn->rpcb_local_clnt4 = NULL;  
>> + if (sn->rpcb_users) {
```



```

>> + if (--sn->rpcb_users == 0) {
>> +   sn->rpcb_local_clnt = NULL;
>> +   sn->rpcb_local_clnt4 = NULL;
>> + }
>> + shutdown = !sn->rpcb_users;
>> }
>> - shutdown = !sn->rpcb_users;
>>   spin_unlock(&sn->rpcb_clnt_lock);
>>
>>   if (shutdown) {
>>

```

--

Best regards,
Stanislav Kinsbursky

Subject: Re: [PATCH 2/3] SUNRPC: check rpcbind clients usage counter before decrement

Posted by [bfields](#) on Mon, 30 Apr 2012 21:45:04 GMT

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On Fri, Apr 27, 2012 at 06:08:13PM +0400, Stanislav Kinsbursky wrote:

> On 27.04.2012 17:55, J. Bruce Fields wrote:

> > On Wed, Apr 25, 2012 at 05:37:49PM +0400, Stanislav Kinsbursky wrote:

> >> Registering service with svc_bind() can fail. In this case service will be
> >> destroyed and during destruction it will try to unregister itself from rpcbind.

> >> In this case unregister have to be skipped.

> >

> > Isn't this a preexisting bug, in which case perhaps Trond should add it

> > to his list of bugs to submit now?

> >

>

> Not it's not.

>

> Previously, in case of bind operations failure, rpcb_put_local()

> wasn't called, but service data was destroyed instead:

>

> - if (svc_uses_rpcbind(serv)) {

> - if (svc_rpcb_setup(serv, current->nsproxy->net_ns) < 0) {

> - kfree(serv->sv_pools);

> - kfree(serv);

> - return NULL;

> - }

> - if (!serv->sv_shutdown)

> - serv->sv_shutdown = svc_rpcb_cleanup;

> - }

```

>
> Now (with svc_bind() introduction) service can be created, but
> svc_bind() could fail. And thus svc_destroy() have to be called.
> Which will call rpcb_put_local().
>
> And the problem here that svc_bind() can fail before incrementing of
> rpcb usage counter.

```

OK, but then you're fixing a bug that you just introduced with the previous patch.

So this should be combined with the previous patch.

--b.

```

>
> >--b.
> >
> >>
> >>Signed-off-by: Stanislav Kinsbursky<skinsbursky@parallels.com>
> >>
> >>---
> >> net/sunrpc/rpcb_clnt.c | 12 ++++++-----
> >> 1 files changed, 7 insertions(+), 5 deletions(-)
> >>
> >>diff --git a/net/sunrpc/rpcb_clnt.c b/net/sunrpc/rpcb_clnt.c
> >>index 78ac39f..4c38b33 100644
> >>--- a/net/sunrpc/rpcb_clnt.c
> >>+++ b/net/sunrpc/rpcb_clnt.c
> >>@@ -180,14 +180,16 @@ void rpcb_put_local(struct net *net)
> >> struct sunrpc_net *sn = net_generic(net, sunrpc_net_id);
> >> struct rpc_clnt *clnt = sn->rpcb_local_clnt;
> >> struct rpc_clnt *clnt4 = sn->rpcb_local_clnt4;
> >>- int shutdown;
> >>+ int shutdown = 0;
> >>
> >> spin_lock(&sn->rpcb_clnt_lock);
> >>- if (--sn->rpcb_users == 0) {
> >>- sn->rpcb_local_clnt = NULL;
> >>- sn->rpcb_local_clnt4 = NULL;
> >>+ if (sn->rpcb_users) {
> >>+ if (--sn->rpcb_users == 0) {
> >>+ sn->rpcb_local_clnt = NULL;
> >>+ sn->rpcb_local_clnt4 = NULL;
> >>+ }
> >>+ shutdown = !sn->rpcb_users;
> >> }
> >>- shutdown = !sn->rpcb_users;

```

> >> spin_unlock(&sn->rpcb_clnt_lock);
> >>
> >> if (shutdown) {
> >>
>
>
> --
> Best regards,
> Stanislav Kinsbursky

Subject: Re: [PATCH 2/3] SUNRPC: check rpcbind clients usage counter before decrement

Posted by [Stanislav Kinsbursky](#) on Tue, 01 May 2012 08:20:29 GMT

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> On Fri, Apr 27, 2012 at 06:08:13PM +0400, Stanislav Kinsbursky wrote:
>> On 27.04.2012 17:55, J. Bruce Fields wrote:
>>> On Wed, Apr 25, 2012 at 05:37:49PM +0400, Stanislav Kinsbursky wrote:
>>>> Registering service with svc_bind() can fail. In this case service will be
>>>> destroyed and during destruction it will try to unregister itself from rpcbind.
>>>> In this case unregister have to be skipped.
>>> Isn't this a preexisting bug, in which case perhaps Trond should at it
>>> to his list of bugs to submit now?
>>>
>> Not it's not.
>>
>> Previously, in case of bind operations failure, rpcb_put_local()
>> wasn't called, but service data was destroyed instead:
>>
>> - if (svc_uses_rpcbind(serv)) {
>> - if (svc_rpcb_setup(serv, current->nsproxy->net_ns)< 0) {
>> - kfree(serv->sv_pools);
>> - kfree(serv);
>> - return NULL;
>> - }
>> - if (!serv->sv_shutdown)
>> - serv->sv_shutdown = svc_rpcb_cleanup;
>> - }
>>
>> Now (with svc_bind() introduction) service can be created, but
>> svc_bind() could fail. And thus svc_destroy() have to be called.
>> Which will call rpcb_put_local().
>>
>> And the problem here that svc_bind() can fail before incrementing of
>> rpcb usage counter.
> OK, but then you're fixing a bug that you just introduced with the

> previous patch.
>
> So this should be combined with the previous patch.
>
> --b.

You, probably, right. I'll do this.
Thanks.

```
>>>> Signed-off-by: Stanislav Kinsbursky<skinsbursky@parallels.com>
>>>>
>>>> ---
>>>> net/sunrpc/rpcb_clnt.c | 12 ++++++-----
>>>> 1 files changed, 7 insertions(+), 5 deletions(-)
>>>>
>>>> diff --git a/net/sunrpc/rpcb_clnt.c b/net/sunrpc/rpcb_clnt.c
>>>> index 78ac39f..4c38b33 100644
>>>> --- a/net/sunrpc/rpcb_clnt.c
>>>> +++ b/net/sunrpc/rpcb_clnt.c
>>>> @@ -180,14 +180,16 @@ void rpcb_put_local(struct net *net)
>>>> struct sunrpc_net *sn = net_generic(net, sunrpc_net_id);
>>>> struct rpc_clnt *clnt = sn->rpcb_local_clnt;
>>>> struct rpc_clnt *clnt4 = sn->rpcb_local_clnt4;
>>>> - int shutdown;
>>>> + int shutdown = 0;
>>>>
>>>> spin_lock(&sn->rpcb_clnt_lock);
>>>> - if (--sn->rpcb_users == 0) {
>>>> - sn->rpcb_local_clnt = NULL;
>>>> - sn->rpcb_local_clnt4 = NULL;
>>>> + if (sn->rpcb_users) {
>>>> + if (--sn->rpcb_users == 0) {
>>>> + sn->rpcb_local_clnt = NULL;
>>>> + sn->rpcb_local_clnt4 = NULL;
>>>> + }
>>>> + shutdown = !sn->rpcb_users;
>>>> }
>>>> - shutdown = !sn->rpcb_users;
>>>> spin_unlock(&sn->rpcb_clnt_lock);
>>>>
>>>> if (shutdown) {
>>>>
>>
>> --
>> Best regards,
>> Stanislav Kinsbursky
```
