
Subject: [RFC PATCH 1/2] unix sockets: add ability for search for peer from passed root

Posted by Stanislav Kinsbursky on Fri, 10 Aug 2012 12:57:30 GMT

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This helper is used stream sockets yet.

All is simple: if non-NULL struct path was passed to unix_find_other(), then vfs_path_lookup() is called instead of kern_path().

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

```
include/net/af_unix.h |  2 ++
net/unix/af_unix.c  | 25 ++++++-----+
2 files changed, 20 insertions(+), 7 deletions(-)
```

```
diff --git a/include/net/af_unix.h b/include/net/af_unix.h
```

```
index 2ee33da..559467e 100644
```

```
--- a/include/net/af_unix.h
```

```
+++ b/include/net/af_unix.h
```

```
@@ -67,6 +67,8 @@ struct unix_sock {
```

```
    long unix_inq_len(struct sock *sk);
```

```
    long unix_outq_len(struct sock *sk);
```

```
+int unix_stream_connect_root(struct path *root, struct socket *sock,
```

```
+    struct sockaddr *uaddr, int addr_len, int flags);
```

```
#ifdef CONFIG_SYSCTL
```

```
extern int unix_sysctl_register(struct net *net);
```

```
diff --git a/net/unix/af_unix.c b/net/unix/af_unix.c
```

```
index 641f2e4..a790ebc 100644
```

```
--- a/net/unix/af_unix.c
```

```
+++ b/net/unix/af_unix.c
```

```
@@ -759,7 +759,7 @@ out: mutex_unlock(&u->readlock);
```

```
    return err;
```

```
}
```

```
-static struct sock *unix_find_other(struct net *net,
```

```
+static struct sock *unix_find_other(struct net *net, struct path *root,
```

```
    struct sockaddr_un *sunname, int len,
```

```
    int type, unsigned int hash, int *error)
```

```
{
```

```
@@ -769,7 +769,11 @@ static struct sock *unix_find_other(struct net *net,
```

```
    if (sunname->sun_path[0]) {
```

```
        struct inode *inode;
```

```
-    err = kern_path(sunname->sun_path, LOOKUP_FOLLOW, &path);
```

```
+
```

```
+    if (root)
```

```

+ err = vfs_path_lookup(root->dentry, root->mnt, sunname->sun_path, LOOKUP_FOLLOW,
&path);
+ else
+ err = kern_path(sunname->sun_path, LOOKUP_FOLLOW, &path);
if (err)
    goto fail;
inode = path.dentry->d_inode;
@@ -979,7 +983,7 @@ static int unix_dgram_connect(struct socket *sock, struct sockaddr *addr,
    goto out;

restart:
- other = unix_find_other(net, sunaddr, alen, sock->type, hash, &err);
+ other = unix_find_other(net, NULL, sunaddr, alen, sock->type, hash, &err);
if (!other)
    goto out;

@@ -1053,8 +1057,8 @@ static long unix_wait_for_peer(struct socket *other, long timeo)
    return timeo;
}

-static int unix_stream_connect(struct socket *sock, struct sockaddr *uaddr,
-     int addr_len, int flags)
+int unix_stream_connect_root(struct path *root, struct socket *sock,
+     struct sockaddr *uaddr, int addr_len, int flags)
{
    struct sockaddr_un *sunaddr = (struct sockaddr_un *)uaddr;
    struct socket *sk = sock->sk;
@@ -1098,7 +1102,7 @@ static int unix_stream_connect(struct socket *sock, struct sockaddr
*uaddr,
*uaddr,

restart:
/* Find listening sock. */
- other = unix_find_other(net, sunaddr, addr_len, sk->sk_type, hash, &err);
+ other = unix_find_other(net, root, sunaddr, addr_len, sk->sk_type, hash, &err);
if (!other)
    goto out;

@@ -1227,6 +1231,13 @@ out:
    sock_put(other);
    return err;
}
+EXPORT_SYMBOL_GPL(unix_stream_connect_root);
+
+static int unix_stream_connect(struct socket *sock, struct sockaddr *uaddr,
+     int addr_len, int flags)
+{
+    return unix_stream_connect_root(NULL, sock, uaddr, addr_len, flags);
+}

```

```
static int unix_socketpair(struct socket *socka, struct socket *sockb)
{
@@ -1508,7 +1519,7 @@ restart:
    if (sunaddr == NULL)
        goto out_free;

- other = unix_find_other(net, sunaddr, namelen, sk->sk_type,
+ other = unix_find_other(net, NULL, sunaddr, namelen, sk->sk_type,
    hash, &err);
    if (other == NULL)
        goto out_free;
```

Subject: Re: [RFC PATCH 1/2] unix sockets: add ability for search for peer from passed root

Posted by [bfields](#) on Fri, 10 Aug 2012 18:10:02 GMT

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On Fri, Aug 10, 2012 at 04:57:30PM +0400, Stanislav Kinsbursky wrote:

> This helper is used stream sockets yet.
> All is simple: if non-NULL struct path was passed to unix_find_other(), then
> vfs_path_lookup() is called instead of kern_path().

I'm having some trouble parsing the changelog. Maybe something like?:

unix sockets: add ability to look up using passed-in root

Export a unix_stream_connect_root() helper that allows a caller to optionally pass in a root path, in which case the lookup will be done relative to the given path instead of the current working directory.

I guess this is a question for the networking people, but: will it cause problems to have sunrpc calling directly into the unix socket code?

(And if so, what would be the alternative: define some variant of sockaddr_un that includes the root path? Something better?)

--b.

>
> Signed-off-by: Stanislav Kinsbursky <skinsbursky@parallels.com>
> ---
> include/net/af_unix.h | 2 ++
> net/unix/af_unix.c | 25 ++++++-----
> 2 files changed, 20 insertions(+), 7 deletions(-)
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```

> diff --git a/include/net/af_unix.h b/include/net/af_unix.h
> index 2ee33da..559467e 100644
> --- a/include/net/af_unix.h
> +++ b/include/net/af_unix.h
> @@ -67,6 +67,8 @@ struct unix_sock {
>
> long unix_inq_len(struct sock *sk);
> long unix_outq_len(struct sock *sk);
> +int unix_stream_connect_root(struct path *root, struct socket *sock,
> +     struct sockaddr *uaddr, int addr_len, int flags);
>
> #ifdef CONFIG_SYSCTL
> extern int unix_sysctl_register(struct net *net);
> diff --git a/net/unix/af_unix.c b/net/unix/af_unix.c
> index 641f2e4..a790ebc 100644
> --- a/net/unix/af_unix.c
> +++ b/net/unix/af_unix.c
> @@ -759,7 +759,7 @@ out: mutex_unlock(&u->readlock);
>     return err;
> }
>
> -static struct sock *unix_find_other(struct net *net,
> +static struct sock *unix_find_other(struct net *net, struct path *root,
>         struct sockaddr_un *sunname, int len,
>         int type, unsigned int hash, int *error)
> {
> @@ -769,7 +769,11 @@ static struct sock *unix_find_other(struct net *net,
>
>     if (sunname->sun_path[0]) {
>         struct inode *inode;
> -     err = kern_path(sunname->sun_path, LOOKUP_FOLLOW, &path);
> +
> +     if (root)
> +         err = vfs_path_lookup(root->dentry, root->mnt, sunname->sun_path, LOOKUP_FOLLOW,
> &path);
> +     else
> +         err = kern_path(sunname->sun_path, LOOKUP_FOLLOW, &path);
>         if (err)
>             goto fail;
>         inode = path.dentry->d_inode;
> @@ -979,7 +983,7 @@ static int unix_dgram_connect(struct socket *sock, struct sockaddr
*> *addr,
>     goto out;
>
> restart:
> -     other = unix_find_other(net, sunaddr, alen, sock->type, hash, &err);
> +     other = unix_find_other(net, NULL, sunaddr, alen, sock->type, hash, &err);
>     if (!other)

```

```

>     goto out;
>
> @@ -1053,8 +1057,8 @@ static long unix_wait_for_peer(struct sock *other, long timeo)
>     return timeo;
> }
>
> -static int unix_stream_connect(struct socket *sock, struct sockaddr *uaddr,
> -    int addr_len, int flags)
> +int unix_stream_connect_root(struct path *root, struct socket *sock,
> +    struct sockaddr *uaddr, int addr_len, int flags)
> {
>     struct sockaddr_un *sunaddr = (struct sockaddr_un *)uaddr;
>     struct sock *sk = sock->sk;
> @@ -1098,7 +1102,7 @@ static int unix_stream_connect(struct socket *sock, struct sockaddr
*uaddr,
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> restart:
> /* Find listening sock. */
> - other = unix_find_other(net, sunaddr, addr_len, sk->sk_type, hash, &err);
> + other = unix_find_other(net, root, sunaddr, addr_len, sk->sk_type, hash, &err);
>     if (!other)
>         goto out;
>
> @@ -1227,6 +1231,13 @@ out:
>     sock_put(other);
>     return err;
> }
> +EXPORT_SYMBOL_GPL(unix_stream_connect_root);
> +
> +static int unix_stream_connect(struct socket *sock, struct sockaddr *uaddr,
> +    int addr_len, int flags)
> +{
> +    return unix_stream_connect_root(NULL, sock, uaddr, addr_len, flags);
> +}
>
> static int unix_socketpair(struct socket *socka, struct socket *sockb)
> {
> @@ -1508,7 +1519,7 @@ restart:
>     if (sunaddr == NULL)
>         goto out_free;
>
> - other = unix_find_other(net, sunaddr, namelen, sk->sk_type,
> + other = unix_find_other(net, NULL, sunaddr, namelen, sk->sk_type,
>     hash, &err);
>     if (other == NULL)
>         goto out_free;
>
> --

```

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> the body of a message to majordomo@vger.kernel.org
> More majordomo info at <http://vger.kernel.org/majordomo-info.html>

Subject: Re: [RFC PATCH 1/2] unix sockets: add ability for search for peer from passed root

Posted by [Stanislav Kinsbursky](#) on Fri, 10 Aug 2012 18:43:59 GMT

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> On Fri, Aug 10, 2012 at 04:57:30PM +0400, Stanislav Kinsbursky wrote:
>> This helper is used stream sockets yet.
>> All is simple: if non-NULL struct path was passed to unix_find_other(), then
>> vfs_path_lookup() is called instead of kern_path().
> I'm having some trouble parsing the changelog. Maybe something like?:
>
> unix sockets: add ability to look up using passed-in root
>
> Export a unix_stream_connect_root() helper that allows a caller
> to optionally pass in a root path, in which case the lookup will
> be done relative to the given path instead of the current
> working directory.

Yep, your variant is much better. Thanks.

>
> I guess this is a question for the networking people, but: will it cause
> problems to have sunrpc calling directly into the unix socket code?
>
> (And if so, what would be the alternative: define some variant of
> sockaddr_un that includes the root path? Something better?)

That was my first idea. But there are problems with this solution (add root path to sockaddr_un) :

1) sockaddr_un size will change. I don't know, how this will affect user-space. Of course, we can introduce something like:

```
struct sockaddr_un_kern {  
    struct sockaddr_un un;  
    struct path *path;  
}
```

But even in this case we need to color this structure somehow (for example, set path to NULL for simple connect or bind call) . And to add this color, we have to separate sys_connect () from our sock->ops->connect() call. And I don't really know how to do it since we don't have any info about socket type in sys_connect () in hands. I.e.

we have it, but then we have to add some specific UNIX socket logic to completely generic sys_connect () and sys_bind () .

```
> --b.  
>  
>> Signed-off-by: Stanislav Kinsbursky <skinsbursky@parallels.com>  
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>> +int unix_stream_connect_root(struct path *root, struct socket *sock,  
>> +     struct sockaddr *uaddr, int addr_len, int flags);  
>>  
>> #ifdef CONFIG_SYSCTL  
>> extern int unix_sysctl_register(struct net *net);  
>> diff --git a/net/unix/af_unix.c b/net/unix/af_unix.c  
>> index 641f2e4..a790ebc 100644  
>> --- a/net/unix/af_unix.c  
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>> @@ -759,7 +759,7 @@ out: mutex_unlock(&u->readlock);  
>>     return err;  
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>> +static struct sock *unix_find_other(struct net *net, struct path *root,  
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>>     if (sunname->sun_path[0]) {  
>>         struct inode *inode;  
>> -     err = kern_path(sunname->sun_path, LOOKUP_FOLLOW, &path);  
>> +  
>> +     if (root)  
>> +     err = vfs_path_lookup(root->dentry, root->mnt, sunname->sun_path, LOOKUP_FOLLOW,  
&path);  
>> +     else  
>> +     err = kern_path(sunname->sun_path, LOOKUP_FOLLOW, &path);
```

```

>>     if (err)
>>         goto fail;
>>     inode = path.dentry->d_inode;
>> @@ -979,7 +983,7 @@ static int unix_dgram_connect(struct socket *sock, struct sockaddr
*addr,
>>         goto out;
>>
>>     restart:
>> -     other = unix_find_other(net, sunaddr, alen, sock->type, hash, &err);
>> +     other = unix_find_other(net, NULL, sunaddr, alen, sock->type, hash, &err);
>>     if (!other)
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>> @@ -1053,8 +1057,8 @@ static long unix_wait_for_peer(struct socket *other, long timeo)
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>> -static int unix_stream_connect(struct socket *sock, struct sockaddr *uaddr,
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>> +int unix_stream_connect_root(struct path *root, struct socket *sock,
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>>     /* Find listening sock. */
>> -     other = unix_find_other(net, sunaddr, addr_len, sk->sk_type, hash, &err);
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>> +     int addr_len, int flags)
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>> +     return unix_stream_connect_root(NULL, sock, uaddr, addr_len, flags);
>> +}
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>> static int unix_socketpair(struct socket *socka, struct socket *sockb)
>> {

```

```
>> @@ -1508,7 +1519,7 @@ restart:  
>>     if (sunaddr == NULL)  
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>>     if (other == NULL)  
>>     goto out_free;  
>>  
>> --  
>> To unsubscribe from this list: send the line "unsubscribe linux-nfs" in  
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>> More majordomo info at http://vger.kernel.org/majordomo-info.html
```
