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Subject: [PATCH 2/3] SUNRPC: traverse clients tree on PipeFS event

Posted by [Stanislav Kinsbursky](#) on Fri, 20 Apr 2012 14:19:43 GMT

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If client is a clone, then it's parent can not be in the list.

But parent's PipeFS dentries have to be created and destroyed as well.

Note: event skip helper for clients introduced

Signed-off-by: Stanislav Kinsbursky <[skinsbursky@parallels.com](mailto:skinsbursky@parallels.com)>

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net/sunrpc/clnt.c | 30 ++++++

1 files changed, 26 insertions(+), 4 deletions(-)

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

index 8a19849..80b59f1 100644

--- a/net/sunrpc/clnt.c

+++ b/net/sunrpc/clnt.c

```
@@ -176,8 +176,16 @@ rpc_setup_pipedir(struct rpc_clnt *clnt, const char *dir_name)
    return 0;
}
```

```
-static int __rpc_pipefs_event(struct rpc_clnt *clnt, unsigned long event,
```

```
-    struct super_block *sb)
```

```
+static inline int rpc_clnt_skip_event(struct rpc_clnt *clnt, unsigned long event)
```

```
+{
```

```
+ if (((event == RPC_PIPEFS_MOUNT) && clnt->cl_dentry) ||
```

```
+    ((event == RPC_PIPEFS_UMOUNT) && !clnt->cl_dentry))
```

```
+ return 1;
```

```
+ return 0;
```

```
+}
```

```
+
```

```
+static int __rpc_clnt_handle_event(struct rpc_clnt *clnt, unsigned long event,
```

```
+    struct super_block *sb)
```

```
{
```

```
    struct dentry *dentry;
```

```
    int err = 0;
```

```
@@ -206,6 +214,21 @@ static int __rpc_pipefs_event(struct rpc_clnt *clnt, unsigned long event,
    return err;
}
```

```
+static int __rpc_pipefs_event(struct rpc_clnt *clnt, unsigned long event,
```

```
+    struct super_block *sb)
```

```
+{
```

```
+ int error;
```

```
+
```

```
+ if (!rpc_clnt_skip_event(clnt, event)) {
```

```

+ error = __rpc_clnt_handle_event(clnt, event, sb);
+ if (error)
+ return error;
+ }
+ if (clnt != clnt->cl_parent)
+ return __rpc_pipefs_event(clnt->cl_parent, event, sb);
+ return 0;
+}
+
static struct rpc_clnt *rpc_get_client_for_event(struct net *net, int event)
{
    struct sunrpc_net *sn = net_generic(net, sunrpc_net_id);
@@ -215,8 +238,7 @@ static struct rpc_clnt *rpc_get_client_for_event(struct net *net, int event)
    list_for_each_entry(clnt, &sn->all_clients, cl_clients) {
        if (clnt->cl_program->pipe_dir_name == NULL)
            break;
- if (((event == RPC_PIPEFS_MOUNT) && clnt->cl_dentry) ||
-     ((event == RPC_PIPEFS_UMOUNT) && !clnt->cl_dentry))
+ if (rpc_clnt_skip_event(clnt, event))
            continue;
        if (atomic_inc_not_zero(&clnt->cl_count) == 0)
            continue;

```

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Subject: Re: [PATCH 2/3] SUNRPC: traverse clients tree on PipeFS event  
 Posted by [Myklebust, Trond](#) on Thu, 26 Apr 2012 18:11:42 GMT  
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On Fri, 2012-04-20 at 18:19 +0400, Stanislav Kinsbursky wrote:

```

> +static int __rpc_pipefs_event(struct rpc_clnt *clnt, unsigned long event,
> + struct super_block *sb)
> +{
> + int error;
> +
> + if (!rpc_clnt_skip_event(clnt, event)) {
> + error = __rpc_clnt_handle_event(clnt, event, sb);
> + if (error)
> + return error;
> + }
> + if (clnt != clnt->cl_parent)
> + return __rpc_pipefs_event(clnt->cl_parent, event, sb);
> + return 0;
> +}

```

Hi Stanislav,

Recursion in the kernel is generally frowned upon due to the stack size

limits. Could you please rewrite the above into a simple loop. Something along the lines of:

```
for(;;) {  
    ...  
  
    if (clnt == clnt->cl_parent)  
        break;  
    clnt = clnt->cl_parent;  
}
```

--  
Trond Myklebust  
Linux NFS client maintainer

NetApp  
Trond.Myklebust@netapp.com  
www.netapp.com

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Subject: Re: [PATCH 2/3] SUNRPC: traverse clients tree on PipeFS event  
Posted by [Stanislav Kinsbursky](#) on Thu, 26 Apr 2012 18:26:51 GMT  
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> On Fri, 2012-04-20 at 18:19 +0400, Stanislav Kinsbursky wrote:

```
>  
>> +static int __rpc_pipefs_event(struct rpc_clnt *clnt, unsigned long event,  
>> +    struct super_block *sb)  
>> +{  
>> + int error;  
>> +  
>> + if (!rpc_clnt_skip_event(clnt, event)) {  
>> + error = __rpc_clnt_handle_event(clnt, event, sb);  
>> + if (error)  
>> + return error;  
>> + }  
>> + if (clnt != clnt->cl_parent)  
>> + return __rpc_pipefs_event(clnt->cl_parent, event, sb);  
>> + return 0;  
>> +}
```

> Hi Stanislav,

>

> Recursion in the kernel is generally frowned upon due to the stack size  
> limits. Could you please rewrite the above into a simple loop. Something  
> along the lines of:

>

```
> for(;;) {
```

```

> ...
>
> if (clnt == clnt->cl_parent)
>     break;
> clnt = clnt->cl_parent;
> }
>

```

Hi, Trond.  
Yes, sure, I can do this.

---

Subject: [PATCH v2 2/3] SUNRPC: traverse clients tree on PipeFS event  
 Posted by [Stanislav Kinsbursky](#) on Fri, 27 Apr 2012 09:00:17 GMT  
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v2: recursion was replaced by loop

If client is a clone, then it's parent can not be in the list.  
 But parent's Pipefs dentries have to be created and destroyed.

Note: event skip helper for clients introduced

Signed-off-by: Stanislav Kinsbursky <[skinsbursky@parallels.com](mailto:skinsbursky@parallels.com)>

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     return 0;
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```

```

-static int __rpc_pipefs_event(struct rpc_clnt *clnt, unsigned long event,
-    struct super_block *sb)
+static inline int rpc_clnt_skip_event(struct rpc_clnt *clnt, unsigned long event)
+{
+ if (((event == RPC_PIPEFS_MOUNT) && clnt->cl_dentry) ||
+     ((event == RPC_PIPEFS_UMOUNT) && !clnt->cl_dentry))
+     return 1;
+ return 0;
+}
+
+static int __rpc_clnt_handle_event(struct rpc_clnt *clnt, unsigned long event,

```

```

+ struct super_block *sb)
{
    struct dentry *dentry;
    int err = 0;
@@ -206,6 +214,20 @@ static int __rpc_pipefs_event(struct rpc_clnt *clnt, unsigned long event,
    return err;
}

+static int __rpc_pipefs_event(struct rpc_clnt *clnt, unsigned long event,
+ struct super_block *sb)
+{
+ int error = 0;
+
+ for (;;) clnt = clnt->cl_parent) {
+ if (!rpc_clnt_skip_event(clnt, event))
+ error = __rpc_clnt_handle_event(clnt, event, sb);
+ if (error || clnt == clnt->cl_parent)
+ break;
+ }
+ return error;
+}
+
static struct rpc_clnt *rpc_get_client_for_event(struct net *net, int event)
{
    struct sunrpc_net *sn = net_generic(net, sunrpc_net_id);
@@ -215,8 +237,7 @@ static struct rpc_clnt *rpc_get_client_for_event(struct net *net, int event)
    list_for_each_entry(clnt, &sn->all_clients, cl_clients) {
        if (clnt->cl_program->pipe_dir_name == NULL)
            break;
- if (((event == RPC_PIPEFS_MOUNT) && clnt->cl_dentry) ||
-     ((event == RPC_PIPEFS_UMOUNT) && !clnt->cl_dentry))
+ if (rpc_clnt_skip_event(clnt, event))
            continue;
        if (atomic_inc_not_zero(&clnt->cl_count) == 0)
            continue;

```

---