
Subject: [PATCH] nfsd: remove hard-coded dereferences to name-to-id and id-to-name caches

Posted by [Stanislav Kinsbursky](#) on Wed, 11 Apr 2012 11:18:58 GMT

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These dereferences to global static caches are redundant. They also prevents converting these caches into per-net ones. So this patch is cleanup + precursor of patch set, which will make them per-net.

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

fs/nfsd/nfs4idmap.c | 50 ++++++-----

1 files changed, 24 insertions(+), 26 deletions(-)

diff --git a/fs/nfsd/nfs4idmap.c b/fs/nfsd/nfs4idmap.c

index 322d11c..2ff4470 100644

--- a/fs/nfsd/nfs4idmap.c

+++ b/fs/nfsd/nfs4idmap.c

@@ -183,8 +183,9 @@ warn_no_idmapd(struct cache_detail *detail, int has_died)

static int idtoname_parse(struct cache_detail *, char *, int);

-static struct ent *idtoname_lookup(struct ent *);

-static struct ent *idtoname_update(struct ent *, struct ent *);

+static struct ent *idtoname_lookup(struct cache_detail *, struct ent *);

+static struct ent *idtoname_update(struct cache_detail *, struct ent *,

+ struct ent *);

static struct cache_detail idtoname_cache = {

.owner = THIS_MODULE,

@@ -244,7 +245,7 @@ idtoname_parse(struct cache_detail *cd, char *buf, int buflen)
goto out;

error = -ENOMEM;

- res = idtoname_lookup(&ent);

+ res = idtoname_lookup(cd, &ent);

if (!res)

goto out;

@@ -260,11 +261,11 @@ idtoname_parse(struct cache_detail *cd, char *buf, int buflen)
else

memcpy(ent.name, buf1, sizeof(ent.name));

error = -ENOMEM;

- res = idtoname_update(&ent, res);

+ res = idtoname_update(cd, &ent, res);

if (res == NULL)

goto out;

```
- cache_put(&res->h, &idtoname_cache);
+ cache_put(&res->h, cd);
```

```
error = 0;
```

```
out:
```

```
@ @ -275,10 +276,9 @ @ out:
```

```
static struct ent *
```

```
-idtoname_lookup(struct ent *item)
```

```
+idtoname_lookup(struct cache_detail *cd, struct ent *item)
```

```
{
```

```
- struct cache_head *ch = sunrpc_cache_lookup(&idtoname_cache,
```

```
-      &item->h,
```

```
+ struct cache_head *ch = sunrpc_cache_lookup(cd, &item->h,
      idtoname_hash(item));
```

```
if (ch)
```

```
return container_of(ch, struct ent, h);
```

```
@ @ -287,10 +287,9 @ @ idtoname_lookup(struct ent *item)
```

```
}
```

```
static struct ent *
```

```
-idtoname_update(struct ent *new, struct ent *old)
```

```
+idtoname_update(struct cache_detail *cd, struct ent *new, struct ent *old)
```

```
{
```

```
- struct cache_head *ch = sunrpc_cache_update(&idtoname_cache,
```

```
-      &new->h, &old->h,
```

```
+ struct cache_head *ch = sunrpc_cache_update(cd, &new->h, &old->h,
      idtoname_hash(new));
```

```
if (ch)
```

```
return container_of(ch, struct ent, h);
```

```
@ @ -359,8 +358,9 @ @ nametoid_show(struct seq_file *m, struct cache_detail *cd, struct
cache_head *h)
```

```
return 0;
```

```
}
```

```
-static struct ent *nametoid_lookup(struct ent *);
```

```
-static struct ent *nametoid_update(struct ent *, struct ent *);
```

```
+static struct ent *nametoid_lookup(struct cache_detail *, struct ent *);
```

```
+static struct ent *nametoid_update(struct cache_detail *, struct ent *,
```

```
+      struct ent *);
```

```
static int      nametoid_parse(struct cache_detail *, char *, int);
```

```
static struct cache_detail nametoid_cache = {
```

```
@ @ -426,14 +426,14 @ @ nametoid_parse(struct cache_detail *cd, char *buf, int buflen)
```

```
set_bit(CACHE_NEGATIVE, &ent.h.flags);
```

```

    error = -ENOMEM;
- res = nametoid_lookup(&ent);
+ res = nametoid_lookup(cd, &ent);
    if (res == NULL)
        goto out;
- res = nametoid_update(&ent, res);
+ res = nametoid_update(cd, &ent, res);
    if (res == NULL)
        goto out;

- cache_put(&res->h, &nametoid_cache);
+ cache_put(&res->h, cd);
    error = 0;
out:
    kfree(buf1);
@@ -443,10 +443,9 @@ out:

```

```

static struct ent *
-nametoid_lookup(struct ent *item)
+nametoid_lookup(struct cache_detail *cd, struct ent *item)
{
- struct cache_head *ch = sunrpc_cache_lookup(&nametoid_cache,
-      &item->h,
+ struct cache_head *ch = sunrpc_cache_lookup(cd, &item->h,
      nametoid_hash(item));
    if (ch)
        return container_of(ch, struct ent, h);
@@ -455,10 +454,9 @@ nametoid_lookup(struct ent *item)
}

```

```

static struct ent *
-nametoid_update(struct ent *new, struct ent *old)
+nametoid_update(struct cache_detail *cd, struct ent *new, struct ent *old)
{
- struct cache_head *ch = sunrpc_cache_update(&nametoid_cache,
-      &new->h, &old->h,
+ struct cache_head *ch = sunrpc_cache_update(cd, &new->h, &old->h,
      nametoid_hash(new));
    if (ch)
        return container_of(ch, struct ent, h);
@@ -493,12 +491,12 @@ nfsd_idmap_shutdown(void)

```

```

static int
idmap_lookup(struct svc_rqst *rqstp,
- struct ent *(*lookup_fn)(struct ent *), struct ent *key,
- struct cache_detail *detail, struct ent **item)
+ struct ent *(*lookup_fn)(struct cache_detail *, struct ent *),

```

```

+ struct ent *key, struct cache_detail *detail, struct ent **item)
{
    int ret;

- *item = lookup_fn(key);
+ *item = lookup_fn(detail, key);
    if (!*item)
        return -ENOMEM;
    retry:
@@ -506,7 +504,7 @@ idmap_lookup(struct svc_rqst *rqstp,

    if (ret == -ETIMEDOUT) {
        struct ent *prev_item = *item;
- *item = lookup_fn(key);
+ *item = lookup_fn(detail, key);
        if (*item != prev_item)
            goto retry;
        cache_put(&(*item)->h, detail);

```

Subject: Re: [PATCH] nfsd: remove hard-coded dereferences to name-to-id and id-to-name caches

Posted by [bfields](#) on Wed, 11 Apr 2012 22:07:07 GMT

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On Wed, Apr 11, 2012 at 03:18:58PM +0400, Stanislav Kinsbursky wrote:

> These dereferences to global static caches are redundant. They also prevents
> converting these caches into per-net ones. So this patch is cleanup + precursor
> of patch set, which will make them per-net.

This isn't applying to my latest tree; could you look into that and resend?

I've applied and pushed out your cleanup patches, but not yet the two cache-containerization patches.

--b.

```

>
> Signed-off-by: Stanislav Kinsbursky <skinsbursky@parallels.com>
>
> ---
> fs/nfsd/nfs4idmap.c | 50 ++++++-----
> 1 files changed, 24 insertions(+), 26 deletions(-)
>
> diff --git a/fs/nfsd/nfs4idmap.c b/fs/nfsd/nfs4idmap.c
> index 322d11c..2ff4470 100644
> --- a/fs/nfsd/nfs4idmap.c

```

```

> +++ b/fs/nfsd/nfs4idmap.c
> @@ -183,8 +183,9 @@ warn_no_idmapd(struct cache_detail *detail, int has_died)
>
>
> static int      idtoname_parse(struct cache_detail *, char *, int);
> -static struct ent *idtoname_lookup(struct ent *);
> -static struct ent *idtoname_update(struct ent *, struct ent *);
> +static struct ent *idtoname_lookup(struct cache_detail *, struct ent *);
> +static struct ent *idtoname_update(struct cache_detail *, struct ent *,
> +    struct ent *);
>
> static struct cache_detail idtoname_cache = {
>     .owner = THIS_MODULE,
> @@ -244,7 +245,7 @@ idtoname_parse(struct cache_detail *cd, char *buf, int buflen)
>     goto out;
>
>     error = -ENOMEM;
> - res = idtoname_lookup(&ent);
> + res = idtoname_lookup(cd, &ent);
>     if (!res)
>         goto out;
>
> @@ -260,11 +261,11 @@ idtoname_parse(struct cache_detail *cd, char *buf, int buflen)
>     else
>         memcpy(ent.name, buf1, sizeof(ent.name));
>     error = -ENOMEM;
> - res = idtoname_update(&ent, res);
> + res = idtoname_update(cd, &ent, res);
>     if (res == NULL)
>         goto out;
>
> - cache_put(&res->h, &idtoname_cache);
> + cache_put(&res->h, cd);
>
>     error = 0;
> out:
> @@ -275,10 +276,9 @@ out:
>
>
> static struct ent *
> -idtoname_lookup(struct ent *item)
> +idtoname_lookup(struct cache_detail *cd, struct ent *item)
> {
> - struct cache_head *ch = sunrpc_cache_lookup(&idtoname_cache,
> -     &item->h,
> + struct cache_head *ch = sunrpc_cache_lookup(cd, &item->h,
>     idtoname_hash(item));
>     if (ch)

```

```

> return container_of(ch, struct ent, h);
> @@ -287,10 +287,9 @@ idtoname_lookup(struct ent *item)
> }
>
> static struct ent *
> -idtoname_update(struct ent *new, struct ent *old)
> +idtoname_update(struct cache_detail *cd, struct ent *new, struct ent *old)
> {
> - struct cache_head *ch = sunrpc_cache_update(&idtoname_cache,
> -      &new->h, &old->h,
> + struct cache_head *ch = sunrpc_cache_update(cd, &new->h, &old->h,
>      idtoname_hash(new));
> if (ch)
> return container_of(ch, struct ent, h);
> @@ -359,8 +358,9 @@ nametoid_show(struct seq_file *m, struct cache_detail *cd, struct
cache_head *h)
> return 0;
> }
>
> -static struct ent *nametoid_lookup(struct ent *);
> -static struct ent *nametoid_update(struct ent *, struct ent *);
> +static struct ent *nametoid_lookup(struct cache_detail *, struct ent *);
> +static struct ent *nametoid_update(struct cache_detail *, struct ent *,
> +      struct ent *);
> static int      nametoid_parse(struct cache_detail *, char *, int);
>
> static struct cache_detail nametoid_cache = {
> @@ -426,14 +426,14 @@ nametoid_parse(struct cache_detail *cd, char *buf, int buflen)
> set_bit(CACHE_NEGATIVE, &ent.h.flags);
>
> error = -ENOMEM;
> - res = nametoid_lookup(&ent);
> + res = nametoid_lookup(cd, &ent);
> if (res == NULL)
> goto out;
> - res = nametoid_update(&ent, res);
> + res = nametoid_update(cd, &ent, res);
> if (res == NULL)
> goto out;
>
> - cache_put(&res->h, &nametoid_cache);
> + cache_put(&res->h, cd);
> error = 0;
> out:
> kfree(buf1);
> @@ -443,10 +443,9 @@ out:
>
>

```

```

> static struct ent *
> -nametoid_lookup(struct ent *item)
> +nametoid_lookup(struct cache_detail *cd, struct ent *item)
> {
> - struct cache_head *ch = sunrpc_cache_lookup(&nametoid_cache,
> -      &item->h,
> + struct cache_head *ch = sunrpc_cache_lookup(cd, &item->h,
>      nametoid_hash(item));
> if (ch)
> return container_of(ch, struct ent, h);
> @@ -455,10 +454,9 @@ nametoid_lookup(struct ent *item)
> }
>
> static struct ent *
> -nametoid_update(struct ent *new, struct ent *old)
> +nametoid_update(struct cache_detail *cd, struct ent *new, struct ent *old)
> {
> - struct cache_head *ch = sunrpc_cache_update(&nametoid_cache,
> -      &new->h, &old->h,
> + struct cache_head *ch = sunrpc_cache_update(cd, &new->h, &old->h,
>      nametoid_hash(new));
> if (ch)
> return container_of(ch, struct ent, h);
> @@ -493,12 +491,12 @@ nfsd_idmap_shutdown(void)
>
> static int
> idmap_lookup(struct svc_rqst *rqstp,
> - struct ent *(*lookup_fn)(struct ent *), struct ent *key,
> - struct cache_detail *detail, struct ent **item)
> + struct ent *(*lookup_fn)(struct cache_detail *, struct ent *),
> + struct ent *key, struct cache_detail *detail, struct ent **item)
> {
> int ret;
>
> - *item = lookup_fn(key);
> + *item = lookup_fn(detail, key);
> if (!*item)
> return -ENOMEM;
> retry:
> @@ -506,7 +504,7 @@ idmap_lookup(struct svc_rqst *rqstp,
>
> if (ret == -ETIMEDOUT) {
> struct ent *prev_item = *item;
> - *item = lookup_fn(key);
> + *item = lookup_fn(detail, key);
> if (*item != prev_item)
> goto retry;
> cache_put(&(*item)->h, detail);

```

>