

Finally Curing The Identity Crisis? (ID-Mapping Re-Re-Re-Visited)

sambaXP 2011

Michael Adam

obnox@samba.org

Samba Team / SerNet

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Mini History of ID Mapping in Samba3

- ▶ up to 3.0.24
 - ▶ simple single configuration
 - ▶ idmap backend, idmap uid, idmap gid
- ▶ 3.0.25 (2006/2007): Rewrite by Simo Sorce
 - ▶ introduced a separate idmap daemon (idmapd)
 - ▶ introduced a separate idmap configuration file (idmap.conf)
- ▶ 3.3.0 (summer 2008): rewrite by Volker Lendecke,
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 - ▶ added support for multiple domains
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old: idmap API

```
idmap_methods {  
    unixids_to_sids  
    sids_to_unixids  
    set_mapping  
    remove_mapping  
    dump_data  
}
```

```
idmap_alloc_methods {  
    allocate_id  
    get_id_hwm  
    set_id_hwm  
}
```

old: winbind protocol

WINBINDD_SID_TO_UID

WINBINDD_SID_TO_GID

WINBINDD_UID_TO_SID

WINBINDD_GID_TO_SID

WINBINDD_SET_MAPPING

WINBINDD_REMOVE_MAPPING

WINBINDD_ALLOCATE_UID

WINBINDD_ALLOCATE_GID

WINBINDD_SET_HWM

The layering feels wrong...



new API

idmap API

```
idmap_methods {  
    idmap_sids_to_unixids  
    idmap_unixids_to_sids  
    allocate_id  
}
```

new: winbind protocol

```
WINBINDD_SID_TO_UID  
WINBINDD_SID_TO_GID  
WINBINDD_SIDS_TO_XIDS  
WINBINDD_UID_TO_SID  
WINBINDD_GID_TO_SID  
WINBINDD_ALLOCATE_UID  
WINBINDD_ALLOCATE_GID
```

changes

- ▶ id mappings now atomic
- ▶ speedup especially in cluster environments
- ▶ layering fixed
- ▶ artificial (imho) separation of idmap and alloc removed
- ▶ code changes under the hood did unify a lot:
- ▶ diffstat of the bulk of the patches
32 files changed, 1510 insertions(+), 2874 deletions(-)

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config changes in 3.6

- ▶ removed alloc config:
 - ▶ idmap alloc backend: removed
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 - ▶ Note: it's ok to remove – the code is gone
- ▶ changed default config:
 - ▶ idmap config
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 - ▶ `idmap alloc backend`: removed
 - ▶ `idmap alloc config *`: removed
 - ▶ Note: it's ok to remove – the code is gone
- ▶ changed default config:
 - ▶ `idmap config` now has a default value of `backend: tdb`
 - ▶ `idmap config` now has a default value of `range: 1000-1000000`
 - ▶ `idmap config` now has a default value of `format: 0`
 - ▶ `idmap config` now has a default value of `ignore: 0`
 - ▶ `idmap config` now has a default value of `range_start: 1000`
 - ▶ `idmap config` now has a default value of `range_end: 1000000`

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idmap config default: removed

idmap config idrange: removed

idmap config range: removed

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 - deprecated

QUESTION

What is the difference between idmap alloc config * and idmap alloc config {backend}?

ANSWER

idmap alloc config *: removed
idmap alloc config {backend}: deprecated

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- ▶ deprecated:
 - ▶ domain-level

- ▶ new:
 - ▶ per-domain

- ▶ default config completely systematic with per-domain config
- ▶ the code beneath is much simpler now
- ▶ diffstat:
 - ▶ 16 files changed, 92 insertions(+), 258 deletions(-)

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 - ▶ idmap group
 - ▶ idmap mapfile
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Further changes

- ▶ multiple allocating idmap domains with disjoint ranges
(still need default config writeable for group mapping and
ldapsam:editposix)
- ▶ net idmap dump and net idmap restore are now db-only
(and cluster-aware)
- ▶ request/create multiple mappings in one request:
`wbcSidsToUnixIds, wbinfo --sids-to-unix-ids`
⇒ potentially big speed gain when building local tokens
(Volker Lendecke)
- ▶ net idmap check, net idmap delete (Gregor Beck)

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TODOs

- ▶ further internal code cleanup
- ▶ especially clean up `idmap_ldap` option parsing and secret handling (currently buggy)
- ▶ make `idmap:script` a full-blown idmap module?
(this might require some form of stacking idmap modules)
- ▶ ...
- ▶ Update the documentation!!!

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All peace and harmony now?



Thank you very much!