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

## sambaXP 2011

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Samba Team / SerNet

2011-05-10

# 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
- 3.3.0 (summer 2008): rewrite by Volker Lendecke,
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- 3.3.0 (summer 2008): rewrite by Volker Lendecke,
  - pragmatic simplification
  - kept idmap style of the config variables

- sambaXP 2009: Michael Adam presents a started new rewrite
  - separate idmap config under running daemon
  - studied the lost behaviour problems and later workarounds

- 3.6.0 (spring/summer 2011): Rewrite completed
  - many integrated commits to idmap layer

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- 3.3.0 (summer 2008): rewrite by Volker Lendecke,
  - pragmatic simplification
  - removed some of the config options
- sambaXP 2009: Michael Adam presents a started new rewrite
  - resurrect older config, solve recurring issues
  - studied the hard failures / problems we have caused early
- 3.6.0 (spring/summer 2011): Rewrite completed
  - move to required / consistent / coherent state

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  - removed some of the config options
- sambaXP 2009: Michael Adam presents a started new rewrite
  - remove alloc config, make mapping atomic
  - unified the lwm dir backend problem, cut long maintenance
- 3.6.0 (spring/summer 2011): Rewrite completed
  - more integrated smoother tdb configurations

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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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  - deprecated:
    - idmap backend
    - idmap uid
    - idmap gid
  - new:
    - idmap config * : backend
    - idmap config * : range
  - 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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# 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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- especially clean up `idmap_ldap` option parsing
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  (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!