Untangling and Restructuring CTDB

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What are we talking about?

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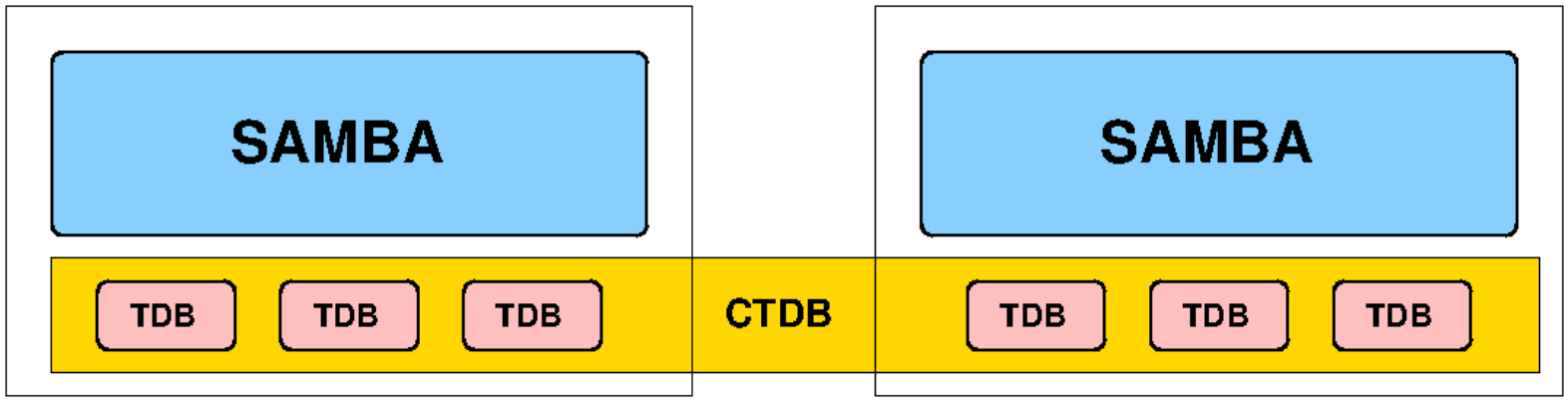
What is CTDB?



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- Cluster database and database recovery
- Cluster-wide messaging transport for Samba
- Service management and monitoring
- IP address management, failover and consistency checking

The plan?

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- Reduce barrier to entry for new CTDB developers
- Encourage wider use
- Parallelise CTDB database daemon?
- Remove non-database functions from database daemon
- Cleanly split out cluster, service, IP management

The plan?

How do we get there?

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The plan?

How do we get there?

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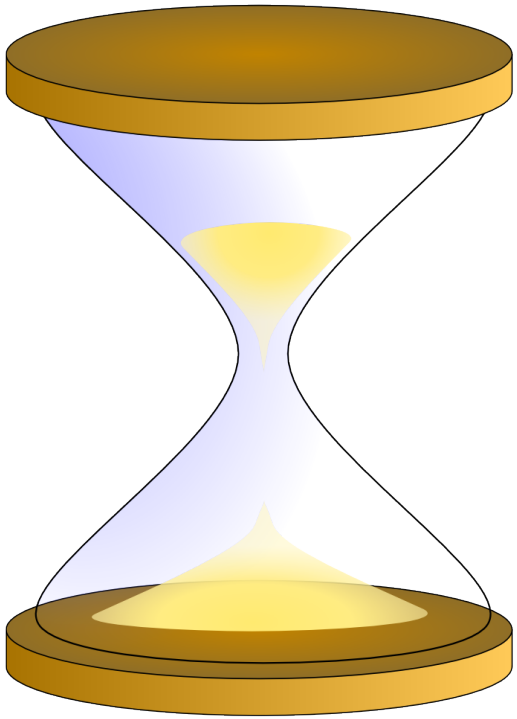
- So far it has looked very little like I described...
- Slow progress...
- ...one bite at a time...

Twelve months of untangling



Twelve months of untangling

What has been happening?

- Recovery helper
- NFS support factoring
- IP allocation
- NAT gateway
- LVS support
- TCP connection killing
- Recovery lock
- Monitoring in recovery daemon

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Recovery helper

- Actually a bug fix to avoid recovery deadlock...

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- Drop in replacement for existing recovery code

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- Sample `nfs-ganesha-callout`

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- Now have `CTDB_NFS_CALLOUT` configuration variable
- Default is `nfs-linux-kernel-callout`
- Sample `nfs-ganesha-callout`
- José has been working on `nfs-ganesha-callout` recently

IP allocation

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- Next step: IP allocation daemon?

NAT gateway

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- Simplified IP takeover code due to absence of single public IP

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- Helper invoked directly from event script

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Recovery lock

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- Want to split this...

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- Or: `CTDB_RECOVERY_LOCK=\`
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- Recovery lock not split yet

Monitoring in recovery daemon

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- Continuously revisit and improve. . .

The pattern?

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Helpers!

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The pattern?

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- Helpers!
- Call-outs!

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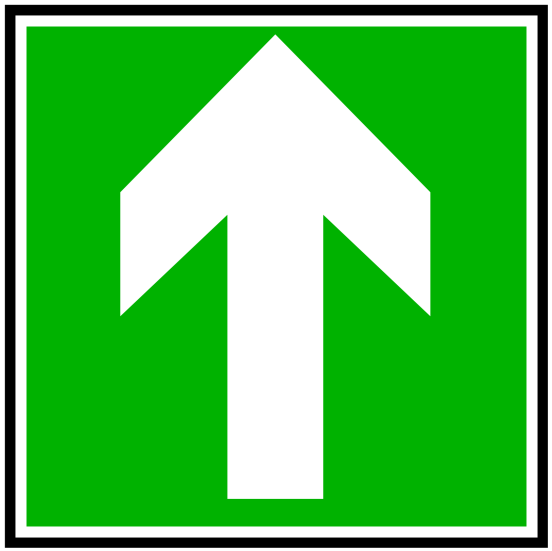
The pattern?

Helpers for incremental re-write

- Helpers can be used for writing shiny new code...
- ...to replace self-contained parts of the code
- Works well for infrequently executed code
- Most of the code we want to move out is (relatively) infrequently executed...
- A lot of it needs to be made more self-contained first!

What's next?



What's next?

Split the recovery lock

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Split the recovery lock

- Drop support for "`ctdb setreclock ...`"
- What do you do when it fails?
- Split recovery lock into separate cluster & recovery locks
- Split out election code
- Drop recovery lock?
- Depends on handling of election during recovery

What's next?

Split out election handling

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- Should we then run as a separate daemon?

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Split out election handling

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- Should we then run as a separate daemon?
- Would this daemon do the recovery master validation?

What's next?

Public IP management/takeover

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- Improve API to IP allocation algorithm module?

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- IP address reloading helper

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- IP address reloading helper
- IP takeover run helper
- Move public IP state into a replicated database?
- Move TCP connection tracking ("tickles") into a replicated database?

Legal Statement

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