

TWG Meeting Summary 2010-08-25

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Issues from the summary of the previous meeting

- International tile proxies: No-one has come forward with a credible plan for hosting one, but we still need one to reduce latency and improve user experience in parts of the world far from London.
- The wiki server seems to be doing fine at serving the wiki. But can't handle that and tile proxying, so it's worth looking at getting a dedicated tile proxy server.
- Unified UNIX auth: It's not a pressing problem. Tom's going to look at centralising the configuration management.
- Redundancy: We now have more redundancy due to running two front-end web servers, but still have a single point-of-failure at the database server.
 - The new front-end setup (using Apache/Passenger instead of lighttpd) has better queueing behaviour, and can gracefully restart rails daemons so there's fewer 500 errors from the site and API.
 - A new gem for date parsing is being used which should be more efficient.
 - It's possibly worth getting a 4th backend API server, but the need isn't clear at the moment.
- Team: We're still having trouble finding people who're able to work with the existing team in a constructive manner.
- Backups: Still need a better solution for DB backups. **Grant** to contact IC to find out if we can take advantage of their existing off-site backup processes, and if so what are the costs? DB backups currently 60-70GB "custom" and compressed.
- Login capture policy: **Andy** to write a policy on login/password capture. Websites must not, local apps should not.
- Need to upgrade OAuth version to latest, but this needs some development work as the structure of the plugin/gem has changed.

Other items

- Replication: Is it worth getting a second DB server to replicate smaug as a fail-over option and possibly act as a read slave?
 - Brings time for recovery from catastrophic failure (e.g: smaug explodes) down from ~2 weeks to 12-24h. Cost ~£15k.
 - Would be better to move core servers (DB, rails back+frontends) to a proper server room. Would need about half a rack. Is it worth getting someone with some traction at UCL (e.g: Steve or Muki) to approach the UCL data centre admins?
 - Current options for replication for up-to-date read slaves with Postgres seem rather immature. Version 9 will have some of these features, but is worth waiting until it's properly released and proven to be stable.

- *What's the board's opinion on an acceptable level of recovery time?*
- Tile proxy: **Grant** to talk to Imperial College (IC) about getting an extra 2u & IPs for a new, dedicated tile proxy server. (Cost ~£800 per year)
- Currently yevaud is purging ~10% of all tiles per week. The oldest tile is about 35 days old. Needs bigger disks & more RAM to reduce churn levels. It's going to get worse as more people in more of the world view the tiles.
- OWL: Options for moving OWL to its own server:
 - Replace katie (nominatim server) with a new server and use katie for OWL.
 - Use old gazetteer server for OWL after upgrading the disks in yevaud and using the replaced disks in gazetteer.
- German hosting request: They want some space to host a machine - they're currently held back by slow disks. They would provide the machine. TWG didn't see a problem with this as long as the bandwidth requirements weren't huge.
- Policy on inclusion of alternative tile layers on the main page:
 - Clear purpose: The layer must provide more or significant information that other layers don't.
 - Global coverage: The layer must work and be consistent world-wide.
 - Able to take the load: The server that the layer is served from must be able to keep up with the number of requests.
 - Non-commercial? There was a discussion about this. Can't just add everything from 3rd party providers. Maybe limit to 1 layer per provider?
- Recent smaug memory upgrade: from the munin graphs it looks like the disk IO is less saturated and the load average and CPU IO wait time have also both visibly decreased. The weekly planet dump also now completes the same day instead of taking over 24 hours.

Hardware needed

	High Priority	Medium Priority	Low Priority
Immediate need	New tile cache at IC (~4,500 GBP)	More disks for yevaud (~600 GBP)	
Planned requirement (next 6mo)		More RAM for yevaud (~1,100 GBP)	Upgrade puff and fuchur (~3,000 GBP each) Expand off-site backup / get from IC.
Low urgency (6-18mo)		Machine to run OWL.	More RAM for errol (~1,100 GBP) New machine for nominatim (~3,500 GBP)

Benefits:

- New tile cache at IC: Better user experience, faster access to tiles. Takes some load off yevaud, meaning lower render queue lengths, fewer dirty tiles served, quicker turn-around.
- More disks for yevaud: Better user experience, faster access to tiles due to no need to re-render flushed tiles.
- More RAM for yevaud: Better user experience, faster tile rendering due to better DB caching.
- Upgrade puff and fuchur: Lower chance of downtime due to machine failure. Better upgrade path (current machines are quite old).
- Expand off-site backup / get from IC: Easier / faster / more reliable recovery from failure.
- Machine to run OWL: Better user experience on the main site's history tab.
- More RAM for errol: Able to run more stuff on the development server, improving dev facilities for those without access to big iron.
- New machine for nominatim: Better user experience, faster geocoding query responses (note: somewhat mitigated by the loaned SSD [from Matt ~£500], but need a more permanent solution).