

PoWA 4

Beta is out!

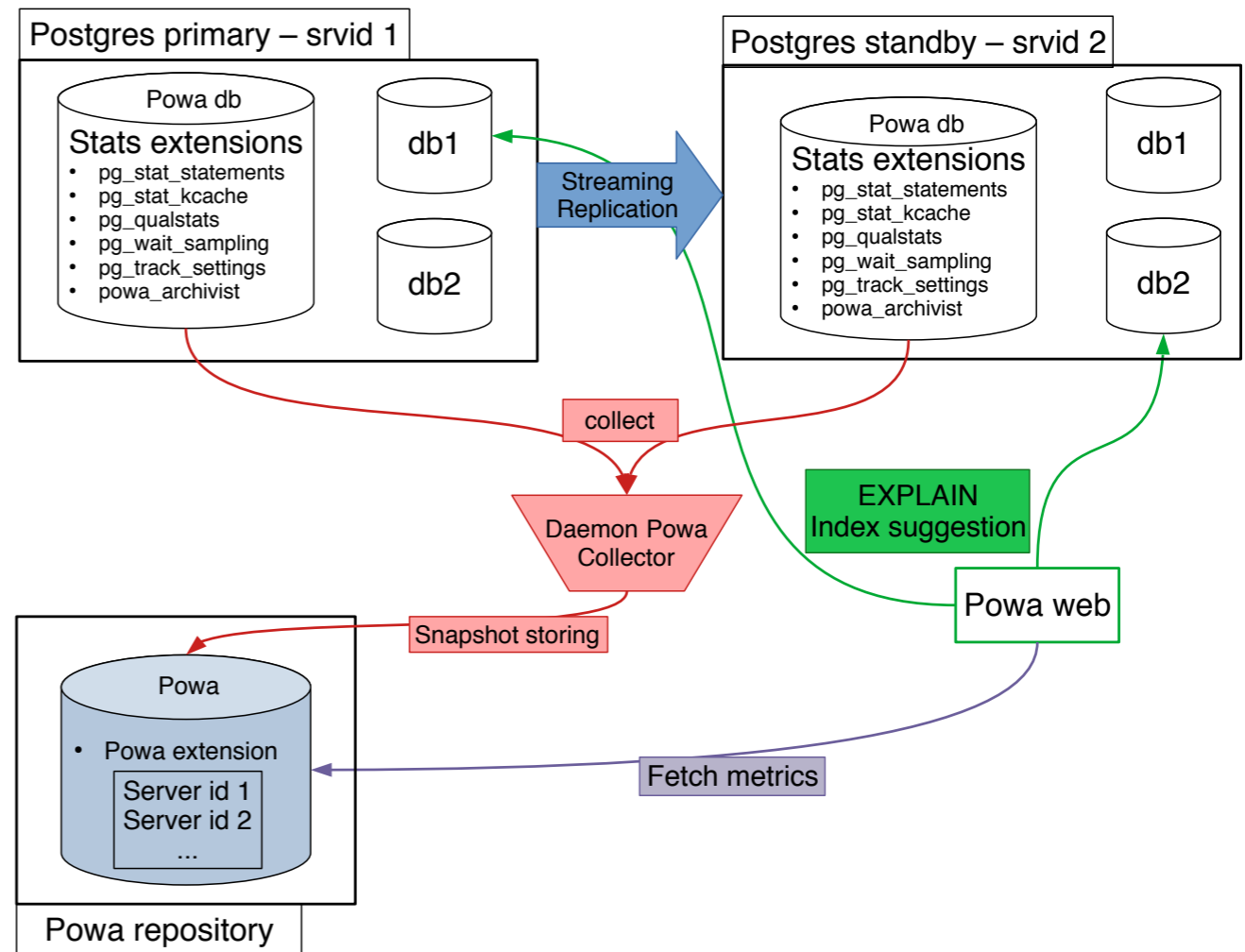
<https://github.com/powa-team/>

What it does

- Insight on realtime workload
- Snapshot statistics on regular interval
 - pg_stat_statements metrics
 - Wait events sampling (thanks to pg_wait_sampling)
 - CPU / physical disk usage (thanks to pg_stat_kcache)
 - Predicate sampling (thanks to pg_qualstats)
 - ...
- Dashboards, displaying charts and graphs
- Wizard to analyse data and perform global index suggestion

New architecture

- Remote mode
- Save data on remote instance
- Works on standby



Multiple instances

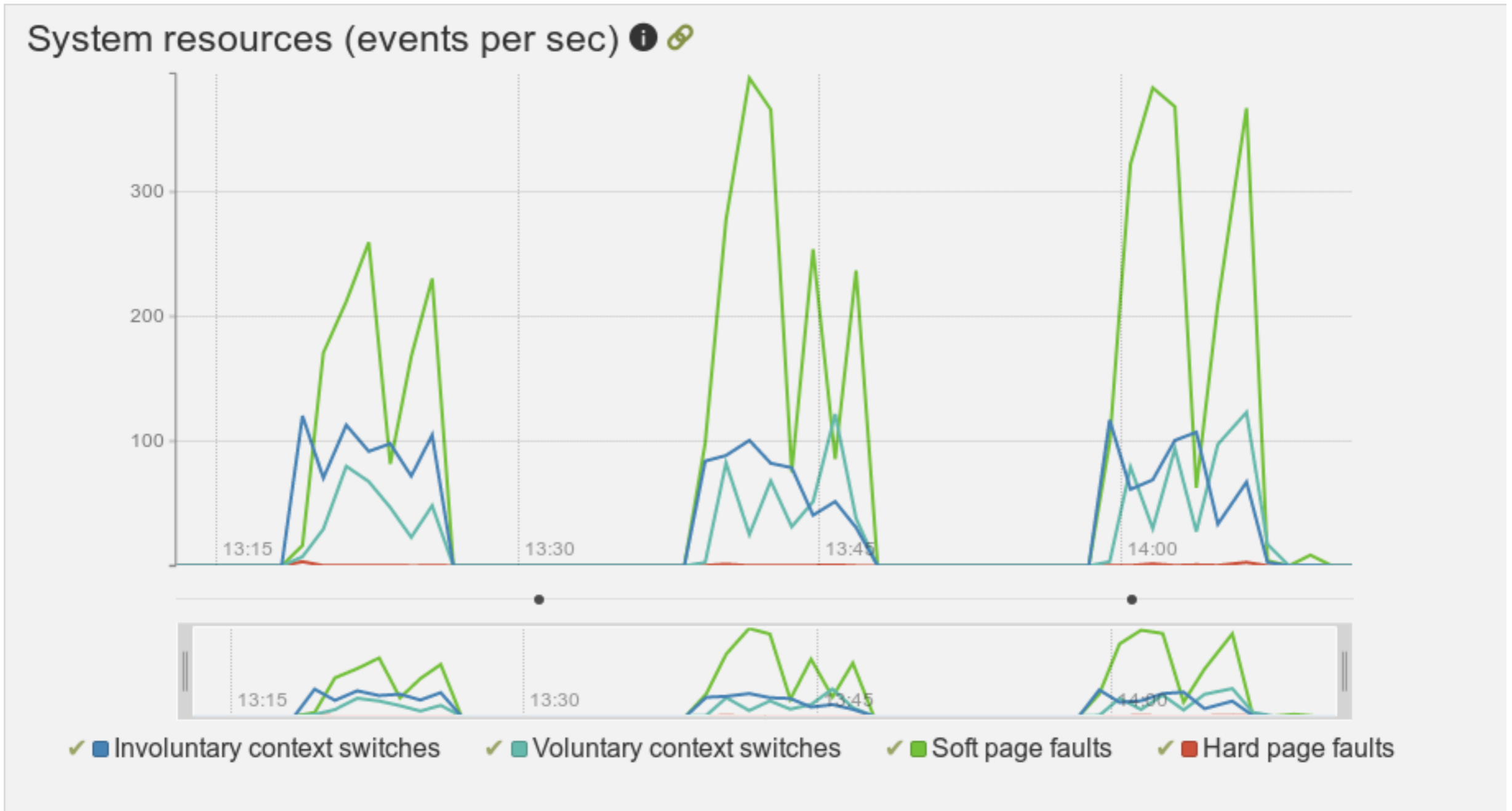
All servers

[Export CSV](#)

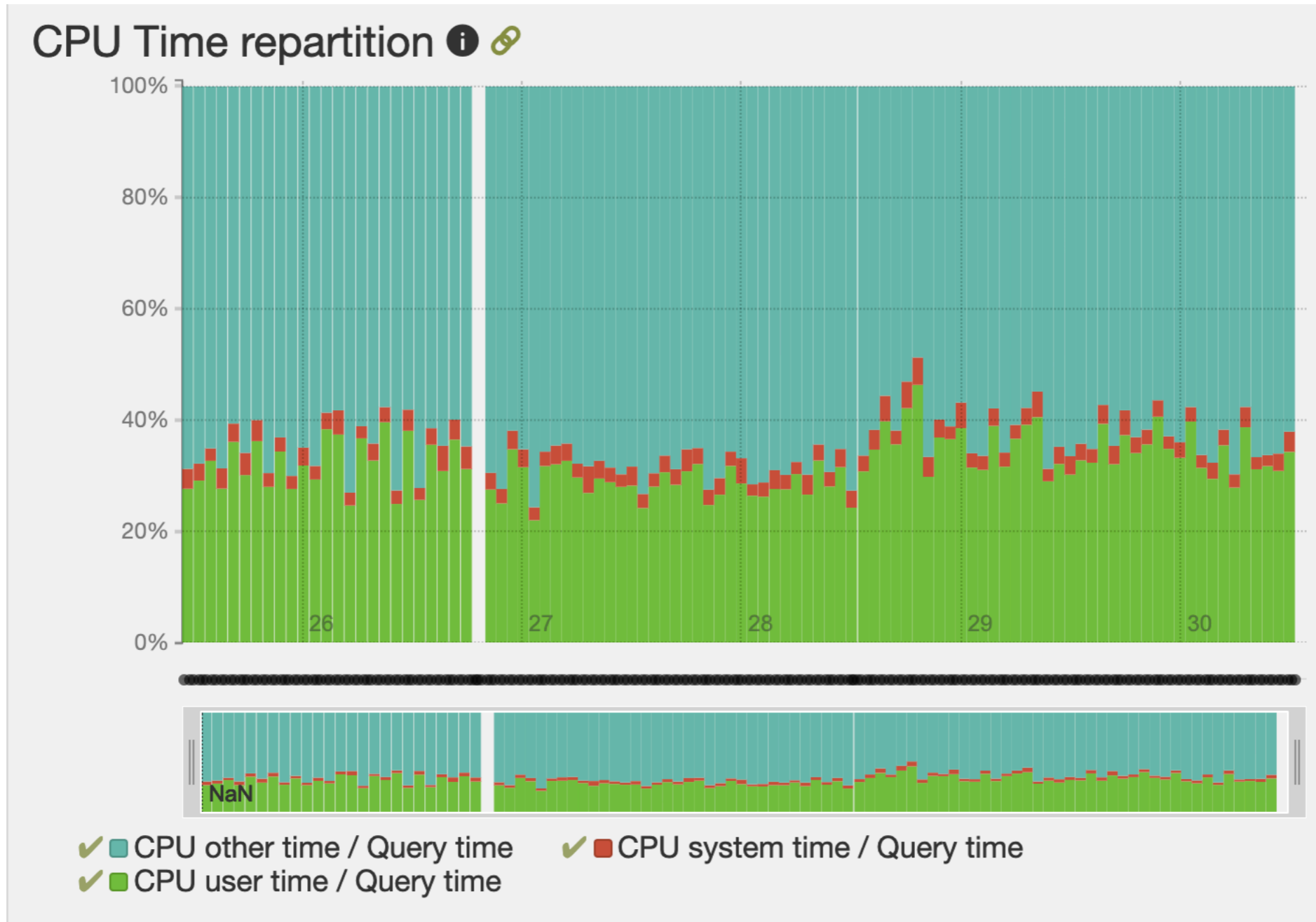
Instance ▾	Hostname	Port
<local>	localhost	5432
primary server	192.168.10.22	5432
standby server	192.168.10.22	5433

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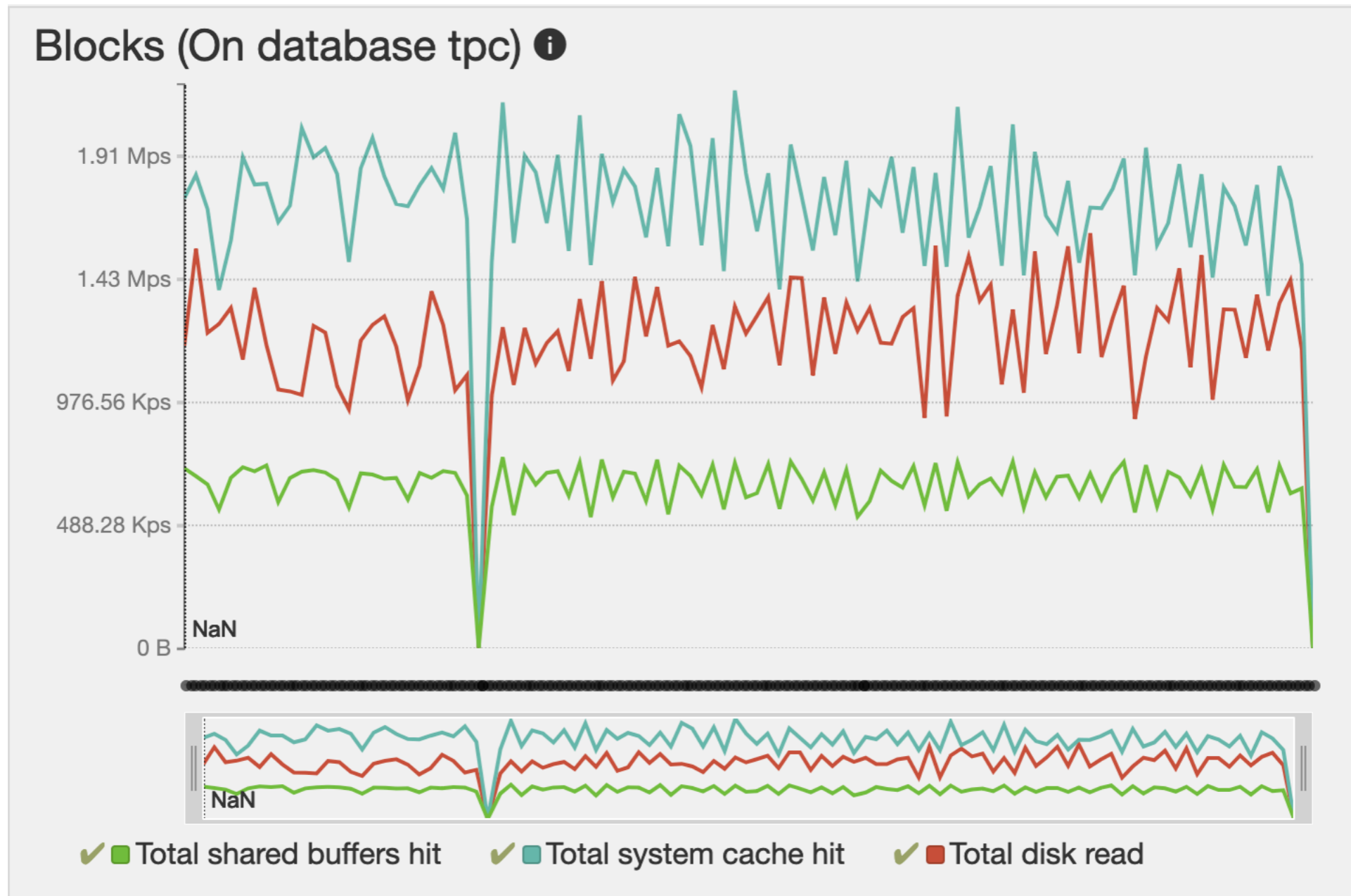
System metrics



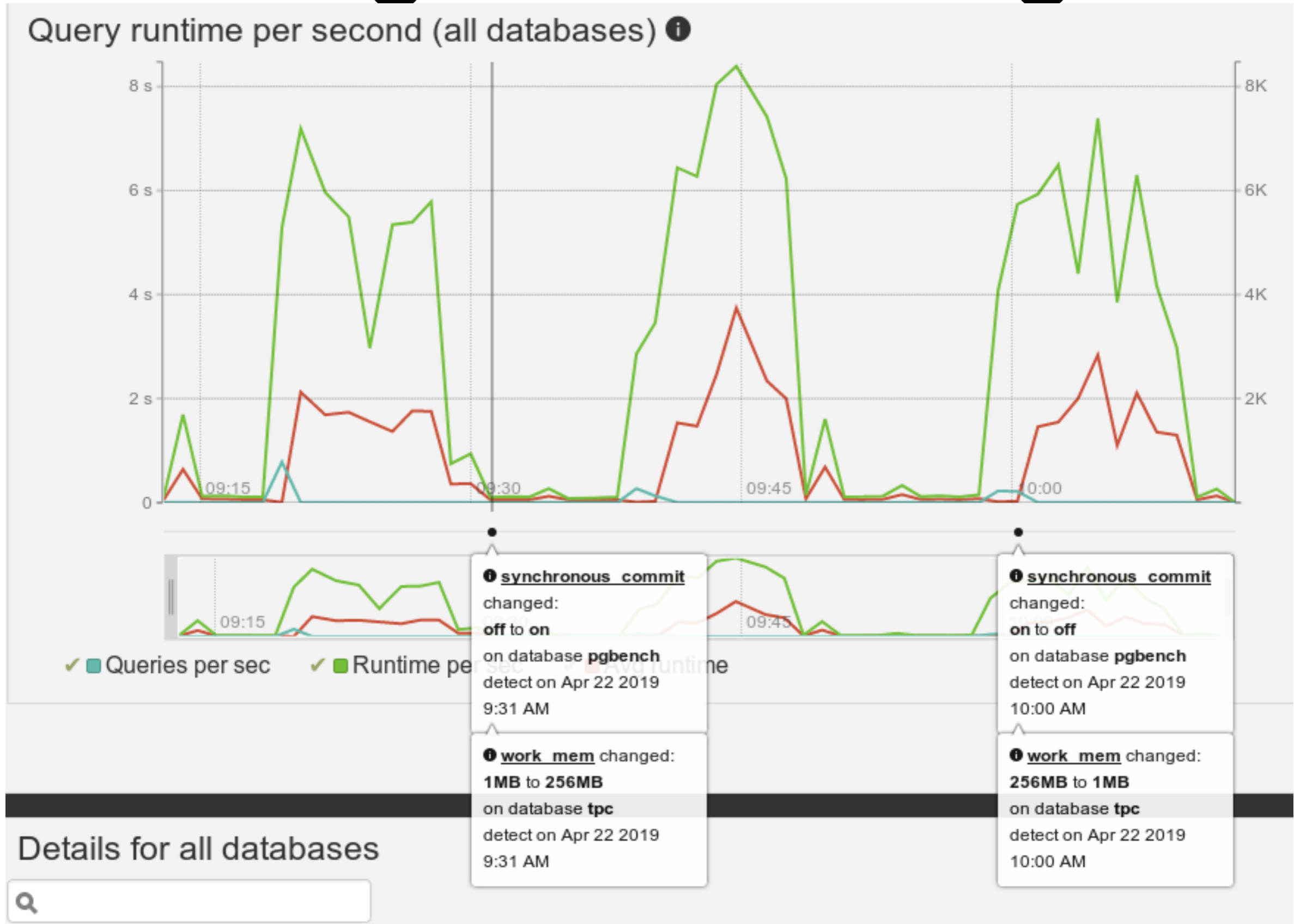
CPU usage



"Real" hit-ratio



Configuration changes



Wait events

Query detail PG Cache IO **Wait Events** Predicates

Wait Events (per second)

19:15 19:30 19:45 20:00

Legend: IO, Activity, Timeout, Buffer pin, IPC, Lock, Extension, Client, Lightweight Lock

Wait events summary

[Export CSV](#)

Event Type	Event	# of events
Lock	transactionid	1,115,383
Lock	tuple	71,752
LWLock	lock_manager	6,806
LWLock	buffer_content	1,130
LWLock	wal_insert	26
LWLock	CLogControlLock	8
LWLock	pg_qualstats	6
LWLock	ProcArrayLock	2

Navigation: < < 1 > >

Global index suggestion

Index	Used by	# Queries boosted
<code>CREATE INDEX ON public.pieces_fournisseurs USING btree(cout_piece, quantite_disponible)</code>	<code>WHERE pieces_fournisseurs.quantite_disponible < ? AND pieces_fournisseurs.cout_piece >= ?</code> <code>WHERE pieces_fournisseurs.cout_piece >= ?</code>	2
<code>CREATE INDEX ON public.commandes USING btree(client_id, date_commande)</code>	<code>WHERE commandes.client_id = ? AND commandes.date_commande >= ? AND commandes.date_commande <= ?</code> <code>WHERE commandes.client_id = ?</code> <code>WHERE commandes.date_commande <= ? AND commandes.date_commande >= ?</code>	6
<code>CREATE INDEX ON public.commandes USING btree(date_commande)</code>	<code>WHERE commandes.date_commande <= ? AND commandes.date_commande >= ?</code>	2
<code>CREATE INDEX ON public.clients USING btree(solde)</code>	<code>WHERE clients.solde > ?</code>	1

Hypothetical index creation error

Reason

No hypothetical index creation error.

Query

Query	Index used	Gain
<code>SELECT COUNT(*) FROM pieces_fournisseurs WHERE cout_piece >= 949;</code>	✓	31.72%
<code>SELECT count(*) FROM commandes cmd JOIN lignes_commandes lc ON lc.numero_commande = cmd.numero_commande WHERE cmd.client_id = 4994;</code>	✓	16.94%
<code>SELECT con.nom ' (' code_pays ')' FROM clients cli JOIN contacts con ON con.contact_id = cli.contact_id WHERE solde > 420;</code>	✓	20.63%
<code>SELECT COUNT(*) FROM commandes WHERE date_commande BETWEEN (2006 '-01-01')::date AND (2006 '-12-21')::date AND priorite_commande LIKE '3-%%';</code>	✓	29.02%
<code>SELECT count(*) FROM commandes cmd JOIN lignes_commandes lc ON lc.numero_commande = cmd.numero_commande WHERE cmd.client_id = 4994 AND date_commande BETWEEN (2006 '-01-01')::date AND (2006 '-12-21')::date;</code>	✓	23.64%
<code>SELECT numero_commande, etat_commande FROM commandes WHERE client_id = 4994 AND date_commande BETWEEN (2006 '-01-01')::date AND (2006 '-12-21')::date;</code>	✓	99.96%
<code>SELECT numero_commande, etat_commande FROM commandes WHERE client_id = 4994 AND date_commande >= (2006 '-01-01')::date;</code>	✓	99.88%
<code>SELECT COUNT(*) FROM commandes WHERE date_commande BETWEEN (2006 '-01-01')::date AND (2006 '-12-21')::date;</code>	✓	26.85%
<code>SELECT numero_commande, etat_commande FROM commandes WHERE client_id = 4994 AND EXTRACT('year' FROM date_commande) = 2006; 949;</code>	✓	88.87%
<code>SELECT numero_commande, etat_commande FROM commandes WHERE client_id = 4994 AND EXTRACT('year' FROM date_commande) = 2006;</code>	✓	99.88%
<code>SELECT COUNT(*) FROM commandes WHERE client_id = 4994 AND priorite_commande LIKE '3-%%';</code>	✓	99.87%

References

- Project: github.com/powa-team/
- Doc: powa.readthedocs.io/
- Demo: <https://dev-powa.anayrat.info>