

AppStack

A cloud-native platform for Greece's digital public sector services

Nikos Kormpakis / Tech Lead SRE / GRNET
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GRNET

Government Entity / GR NREN

Cloud/Network/Service Provider

GRNET

Ministry of Education



Ministry of Digital Governance

gov.gr

Portal + Services

gov.gr

Multiple Services

gov.gr

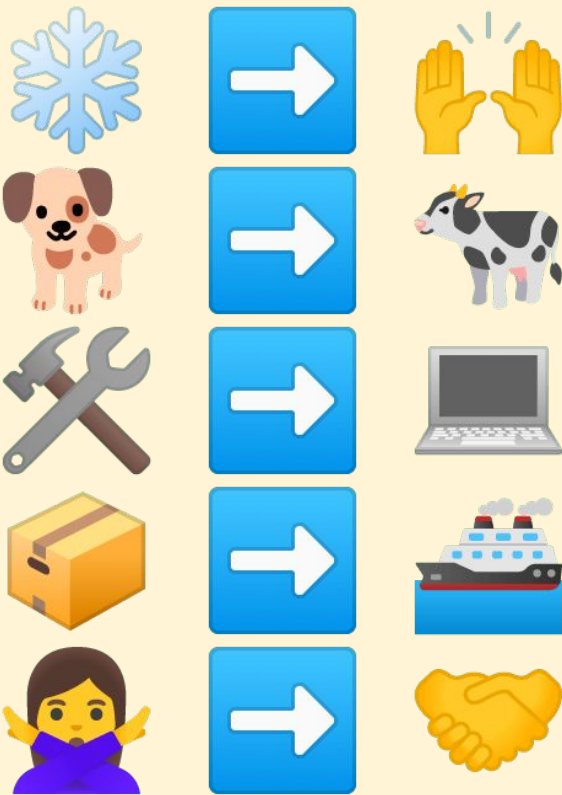
Rapid Changes

gov.gr
Self-hosted

“Old” Services

Dilos gov.gr Edupass DGC EIDAS Firstreg Forma Panelladikes
Auth Drivers Copernicus BDR HARMONI Eudoxus Apella
~okeanos ~okeanos-global ~okeanos-knossos Diavlos Zeus
Delos365 AcademicID HIDM ViMa Argo DNS NTP Mail AaaS
parltv FOD Eduroam Gitlab Redmine Phabricator Phabricator
Phabricator Artifactory JIRA Piwik Wordpress Limesurvey Sympa
Pyxida MoinMoin Confluence Massmail TravelExpenses
SecureNotes XMPP Chat Webdns4 Nextcloud OpenVPN LDAP
FTP SnipeIT Netbox Syslog RADIUS Observium Mon LG IDP
AbuseIO Jenkins Puppet FAI Icinga Prometheus Munin
Elasticsearch Graphite Grafana Bacula Sentry Harbor
PostgreSQL MariaDB





Accept Snowflakes
Cattle vs Pets
Automate
Containerize
Collaborate

Platform

A unified computing environment for services, providing a seamless experience for both developers and SREs

Common

entrypoints

interfaces

tools

experience

AppStack

GRNET's approach on platform engineering

Containers

CI/CD

SRE Approach

**Self-hosted
FOSS
Procedures
Recipes
Documentation
No vendor lock-in
Industry standards
Unified experience for all
In-house Tooling
SLO-based monitoring**

**Kubernetes
GitLab CI
Sentry
Harbor
Prometheus
Grafana
Elastic
PostgreSQL
FluxCD**

HAProxy

BIRD

Kubespray

Kubernetes

Calico

Kured

FluxCD

ingress-nginx

ECK

Prometheus Operator

Grafana

Ansible

Puppet

Ganeti

modsecurity

repmgr

Kured

Cert-manager

Filebeat

nfs-subdir-external-provisioner

Ironic

cloud-init

Packer

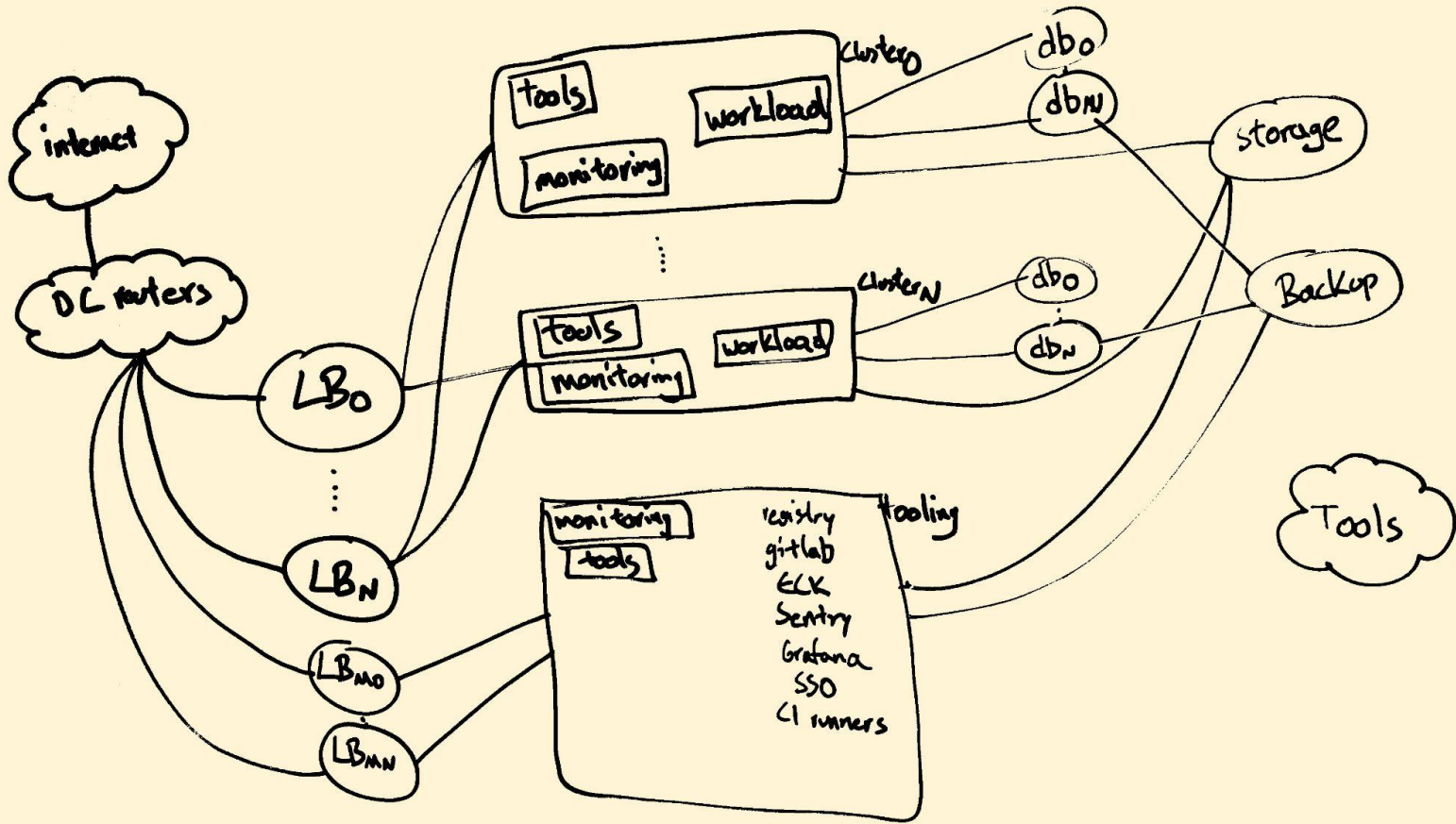
pgbouncer

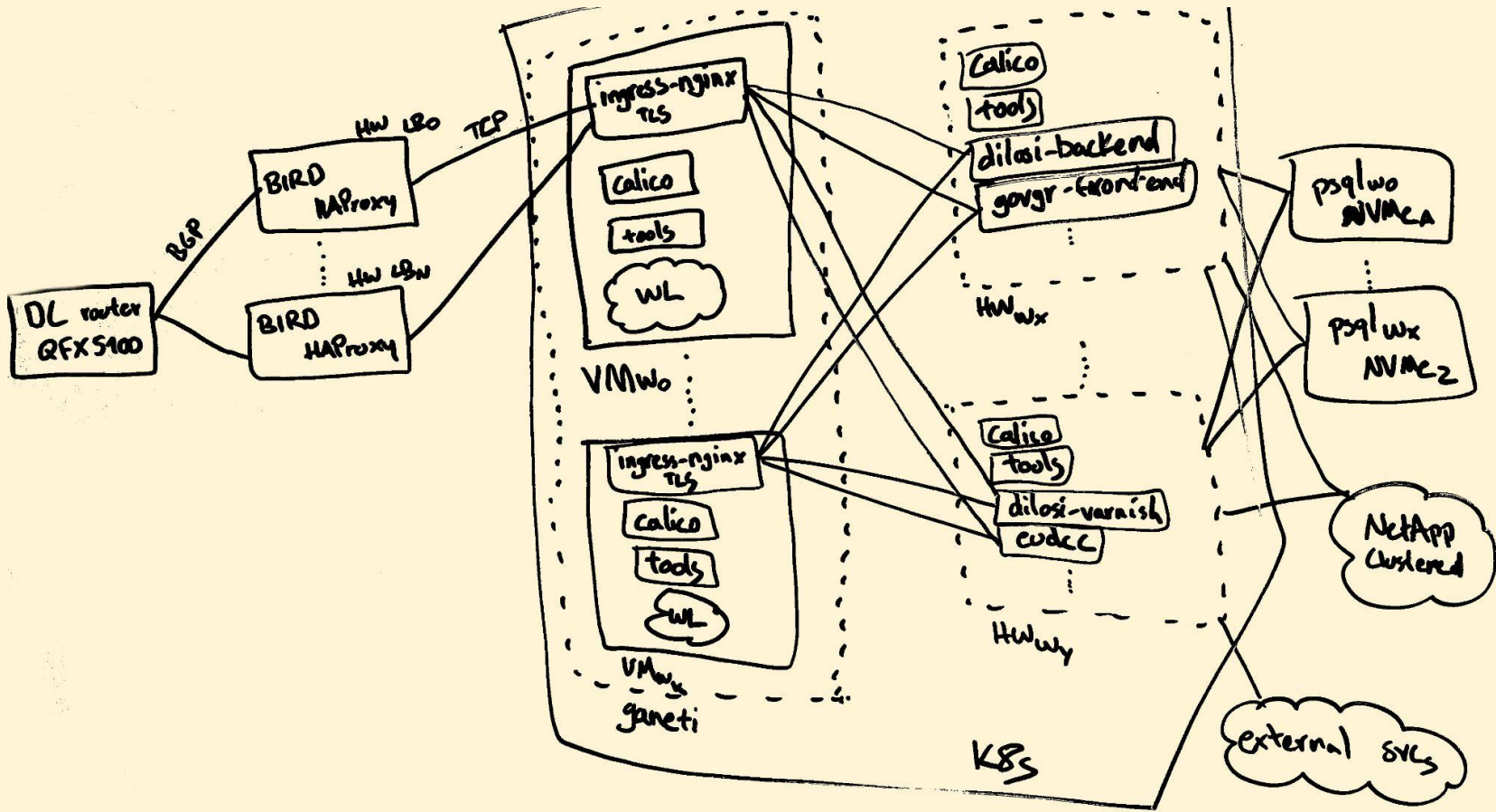
Architecture

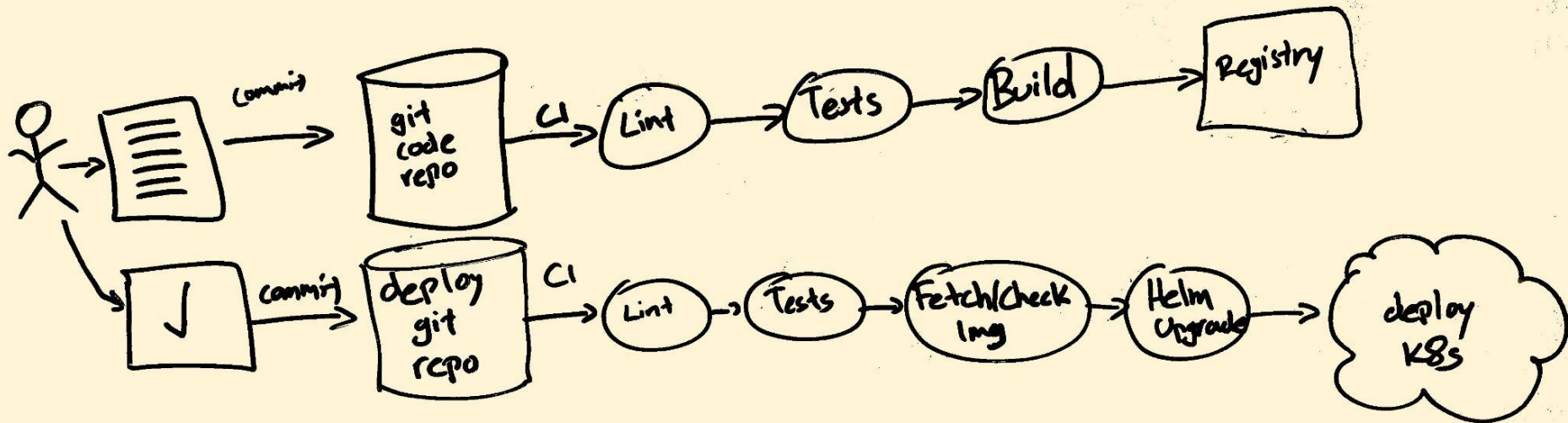
1TiB Storage
250GiB DB
100 Pods
25 Services
30 VMs
10 BMSs



40TiB Storage
6TiB DB
900 Pods
200 Services
150 VMs
50 BMSs



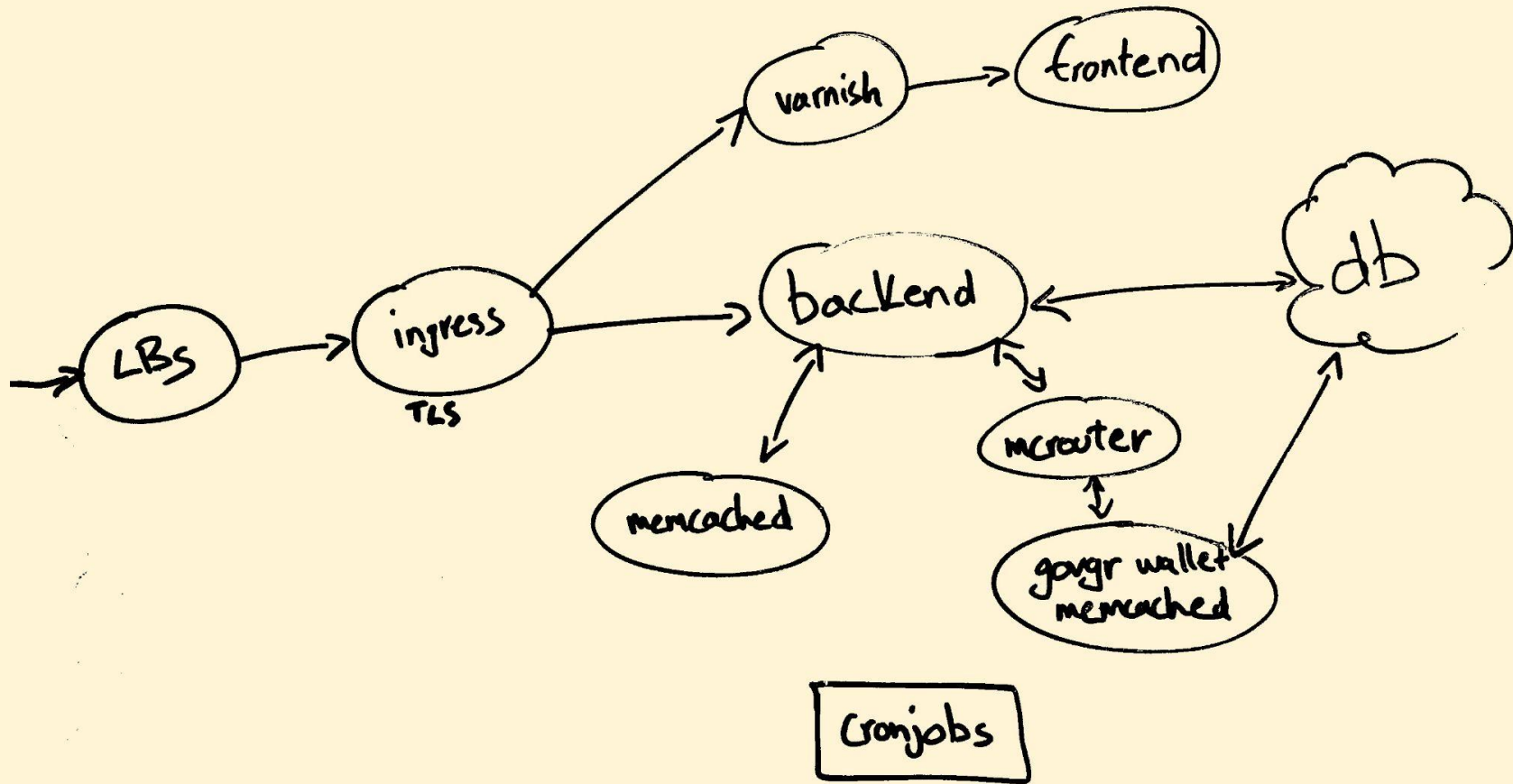




Dilosi

Django
React
PostgreSQL
pgbouncer
Memcached
mcrouter
Varnish
nginx

218,000,000 transactions
8,020,000 citizens
1,000,000 IDs
4,000-20,000 r/s
180 types
100-670 docs/sec



Next?

Ephemeral environments
Improved backups for DBs
Object storage
CDN
Automated onboarding
Observability/Tracing improvements
Advanced security policies
Move platform to Openstack
New stress test infrastructure
New SSO infrastructure
Complete SLO-based monitoring
Fully automated upgrades
Improved secrets management
Central portal for developers
...

