

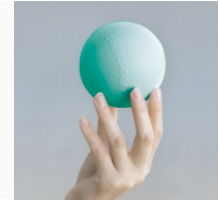


A new Name Server Infrastructure for .de & more

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Cartagena December 2010, ICANN /ccNSO Meeting



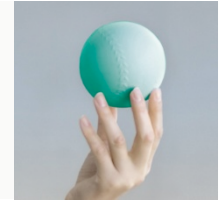
Starting point

13.0 million domains and an average of some 9 billion queries a day being served, but ...

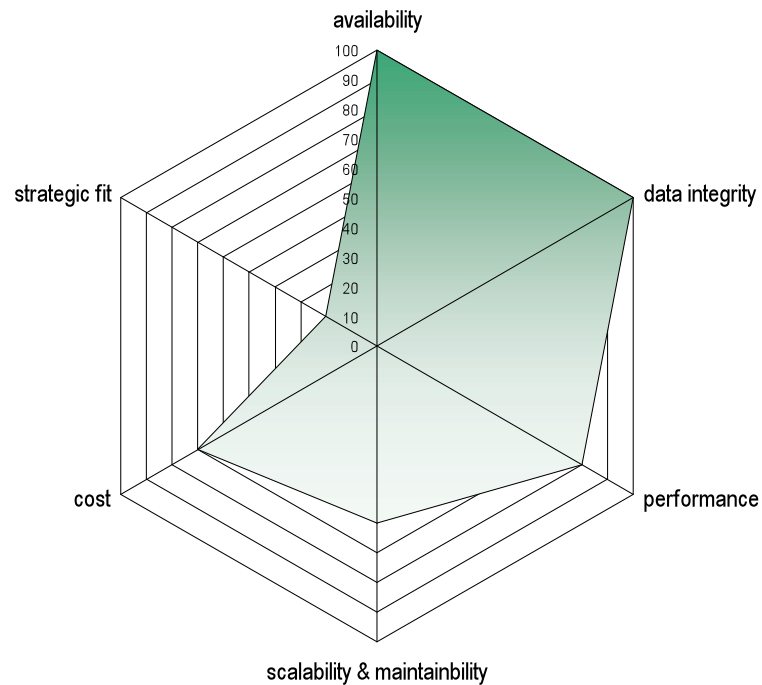
- **query load grows** steadily  and specified performance headroom is not met by every location
 - simply adding additional hardware would lead to inappropriate heterogeneity and thus to **costly error-prone maintenance** processes
- ➔ in contrast, a maintenance process is desired that caters for both simple and fast adoptions, necessary because of
- even more load / scaling needs
 - additional zones to be served
 - defective hardware

➔ **Setup enhanced architecture, new equipment and optimized processes**

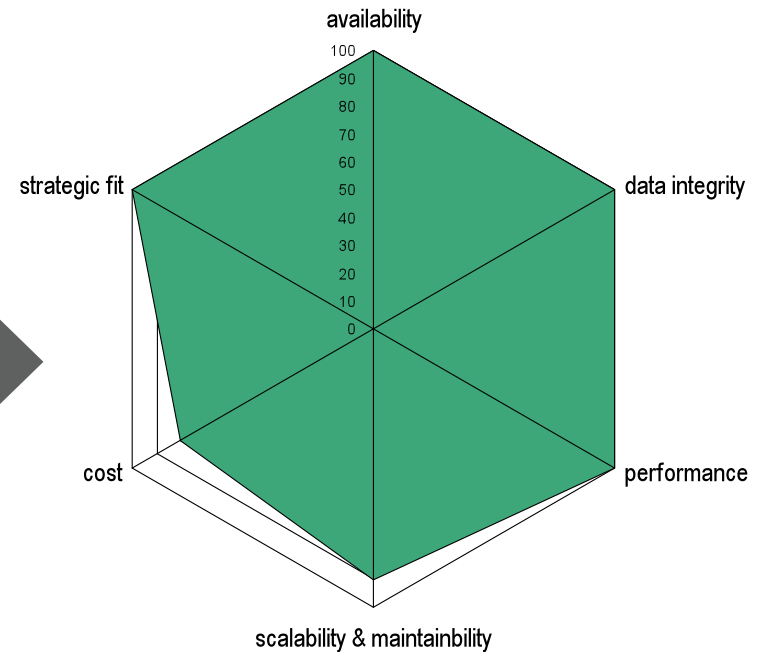
Design criteria by priority



1. data integrity and availability
2. performance
3. scalability and maintainability
4. strategic fit
5. cost



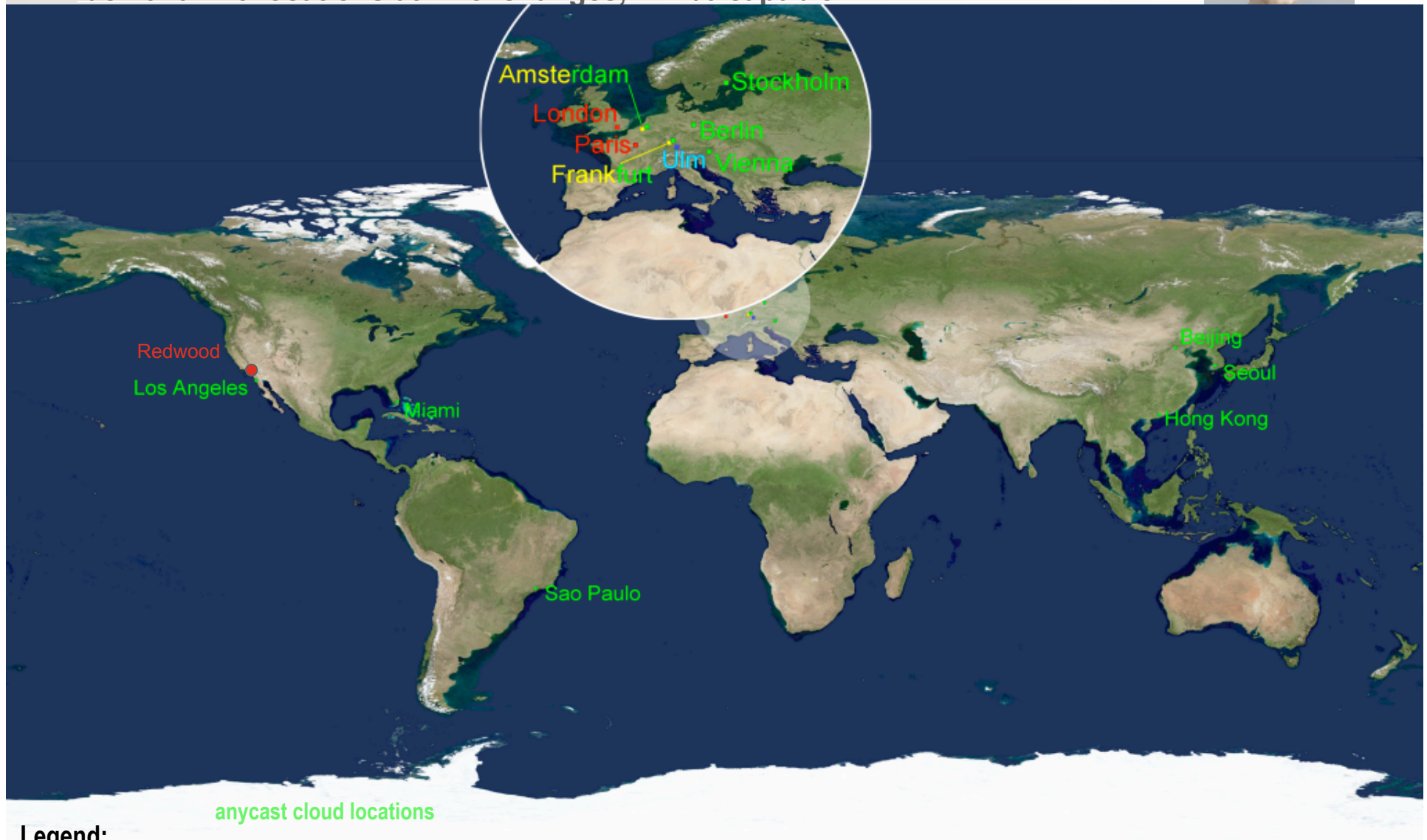
← 2010



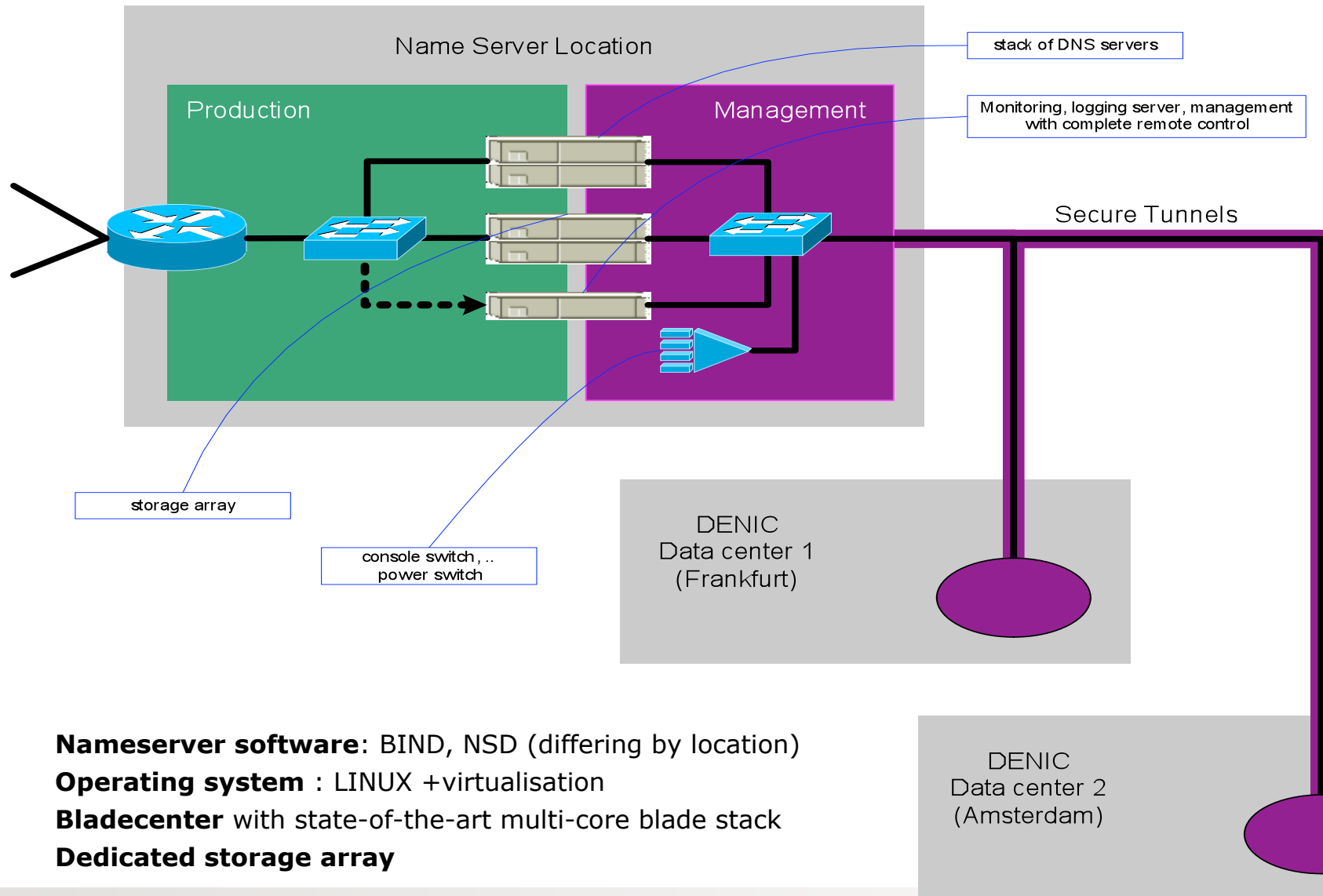
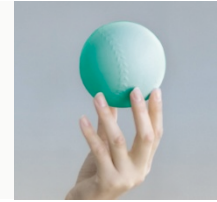
2010 →



.de 2010: 16 locations at 11 exchanges, IPv4/6 capable



Hardware architecture (schematic)



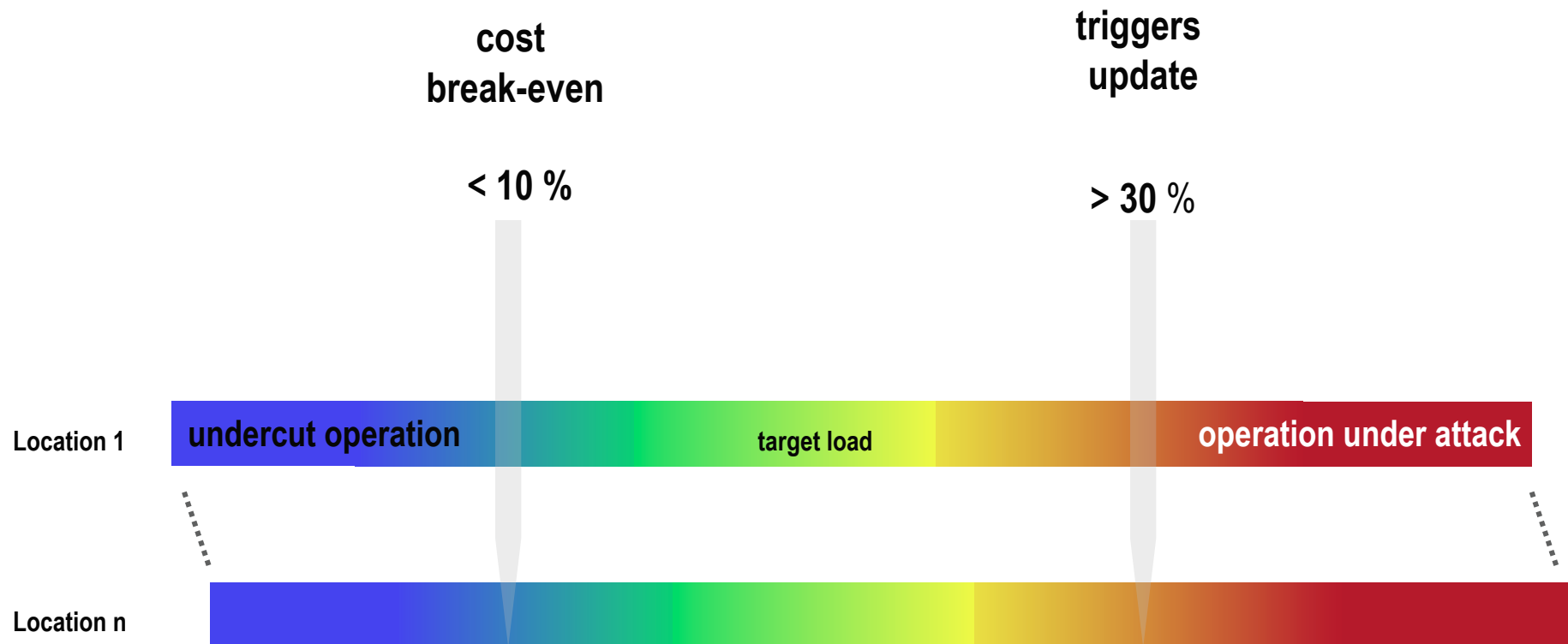
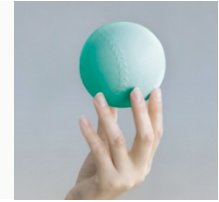
Nameserver software: BIND, NSD (differing by location)

Operating system : LINUX +virtualisation

Bladecenter with state-of-the-art multi-core blade stack

Dedicated storage array

Initial scaling



➔ max overall query load > 3 million q/sec, some 250 billion queries a day

How can this be even more interesting for you?



DENIC has been operating its name server infrastructure for over a decade and has a proven excellent track record of availability and response time

We are **offering** our **name server infrastructure to other ccTLD's**

- based on a cost sharing model → decrease expenditure
- to serve the community with an independent neutral DNS delivery → (pre-)answer gov. inquiries
- employing high-performance redundant infrastructure → reliability
- guaranteed service levels, custom monitoring & quality assurance → defined quality

😊 **Primary or Backup DNS Service**

Please contact me or DENIC to setup a project to build a name service according to your needs like for example our customer nic.at has done.

... even more locations are in preparation ...

Questions?



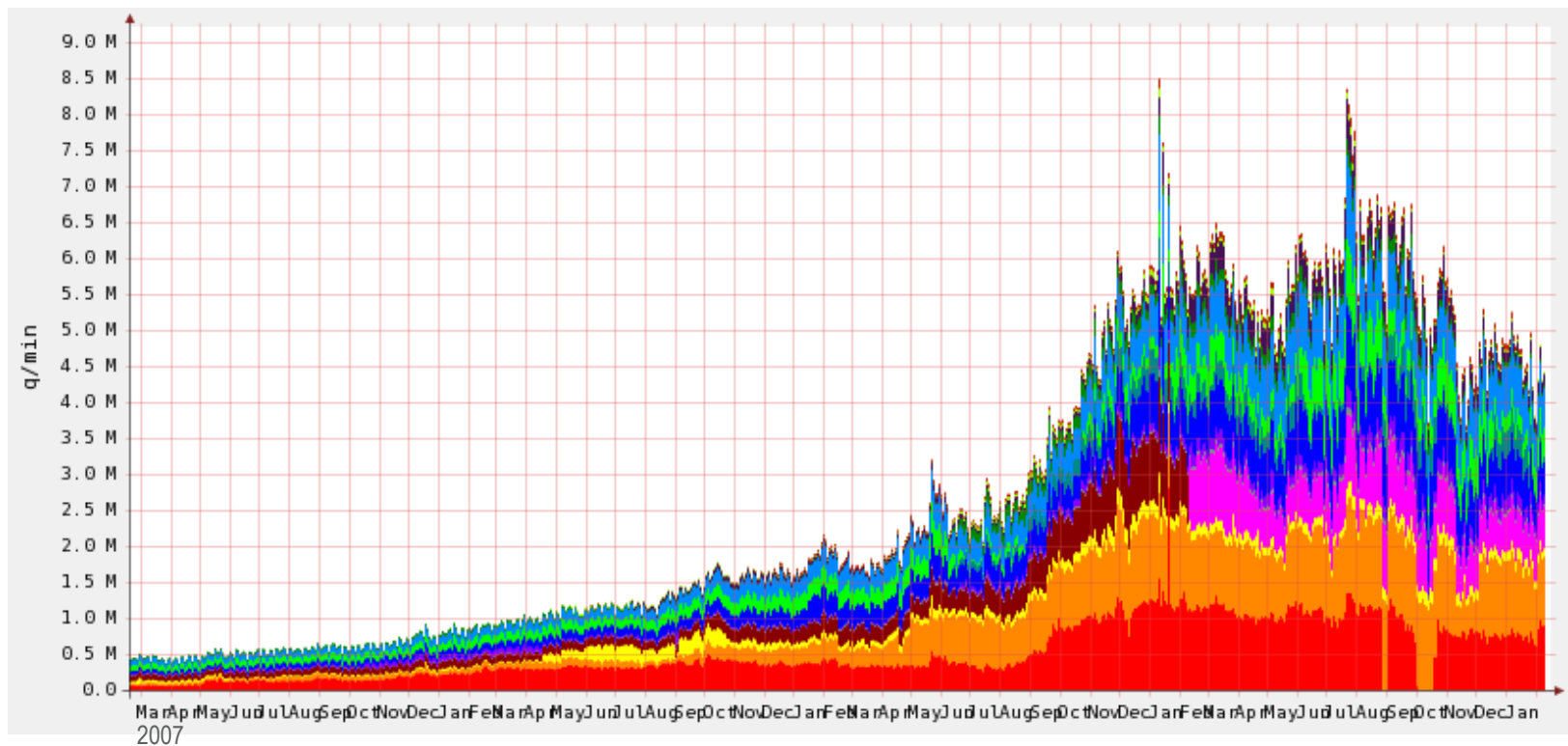
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Query load – status quo



.de query load (4 years overview until Januar 2010)



max. query load: ~ 8.5 million q/min
average query load recently: ~ 6 million q/min

