

Enabling IPv6 at Comparis.CH

A Case Study

Gert Döring, Riyadh, May 7 2015



Agenda

- Project scope and Introduction
- Phase I
 - assessment, planning and budgeting
- Phase II
 - training and testing
- Phase III
 - IPv6-enablement of production website



Introduction

- Who is Comparis.CH?
 - major swiss e-commerce portal
 - no. 84 in Alexa Top100-ranking for CH
 - targeting consumers, not businesses
- Project goal and scope
 - enable IPv6 for web site
 - no previous in-house IPv6 experience
 - no (user-visible) downtime allowed
 - bring in external consulting to help

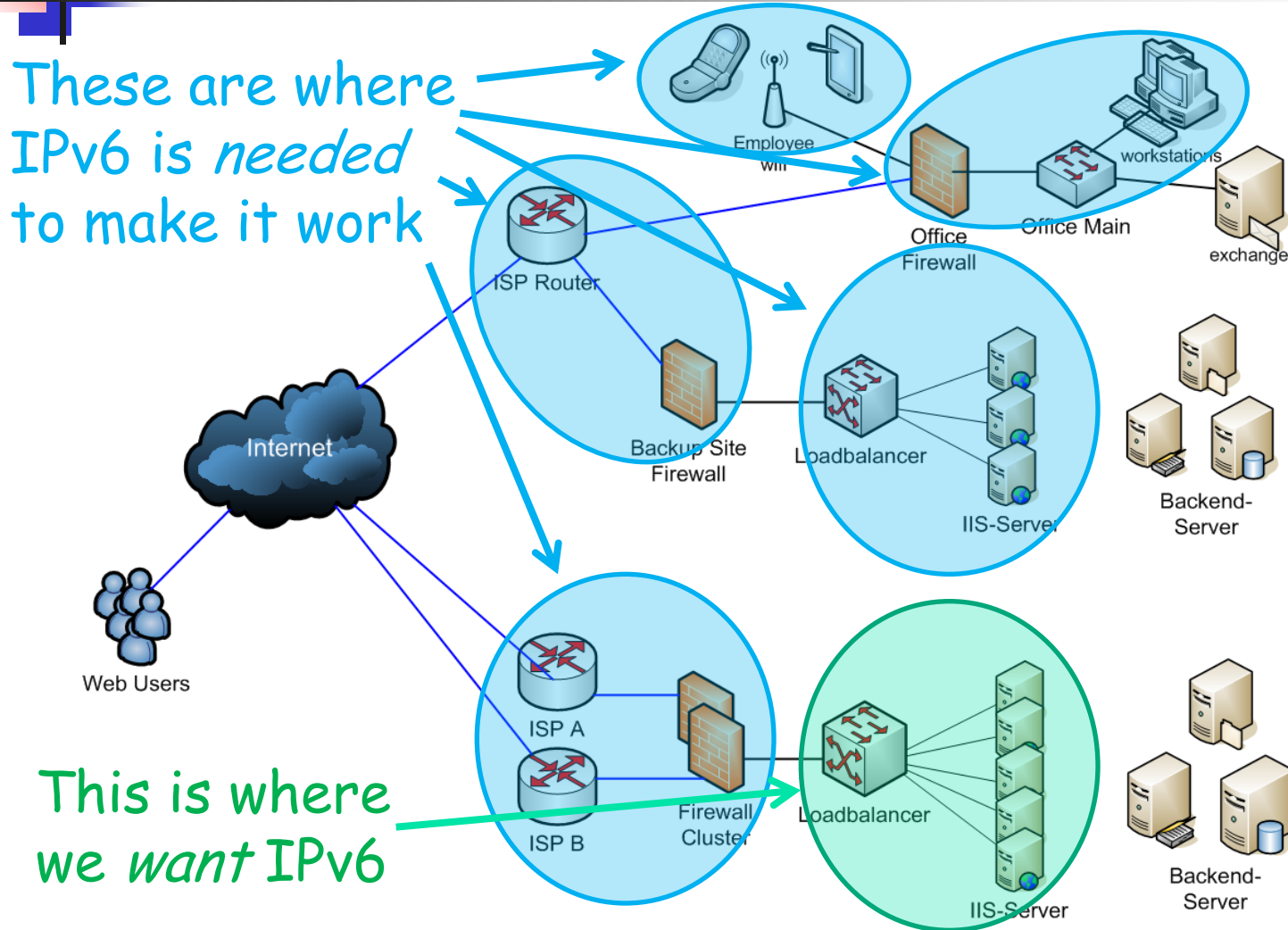


Phase I: planning

- Started out with innocent question in 2014: „how much should we budget if we want to roll out IPv6 next year?“
- answering involved detailed analysis of
 - network and server infrastructure
 - custom application software
 - external services involved
- ... and quite a bit of calling vendors and suppliers to assess IPv6 readiness...

Phase I: the components

These are where IPv6 is needed to make it work



This is where we want IPv6

Backup Site and Office

Production Site



Phase I: the results

- identify which parts of the network need to get IPv6
 - Internet uplinks
 - firewalls, load balancers, frontend servers
 - office and wifi network (enable testing by developers!)
 - no IPv6 on iSCSI network, DB backend network
- identify components that might need to be replaced
 - checkpoint firewalls, alteon load balancers, windows servers are all IPv6 capable
 - no capital investment needed!
- overall time budgeted: about 60 days
 - roughly 40% testing and lab, 50% application testing
 - 10% actual IPv6 rollout

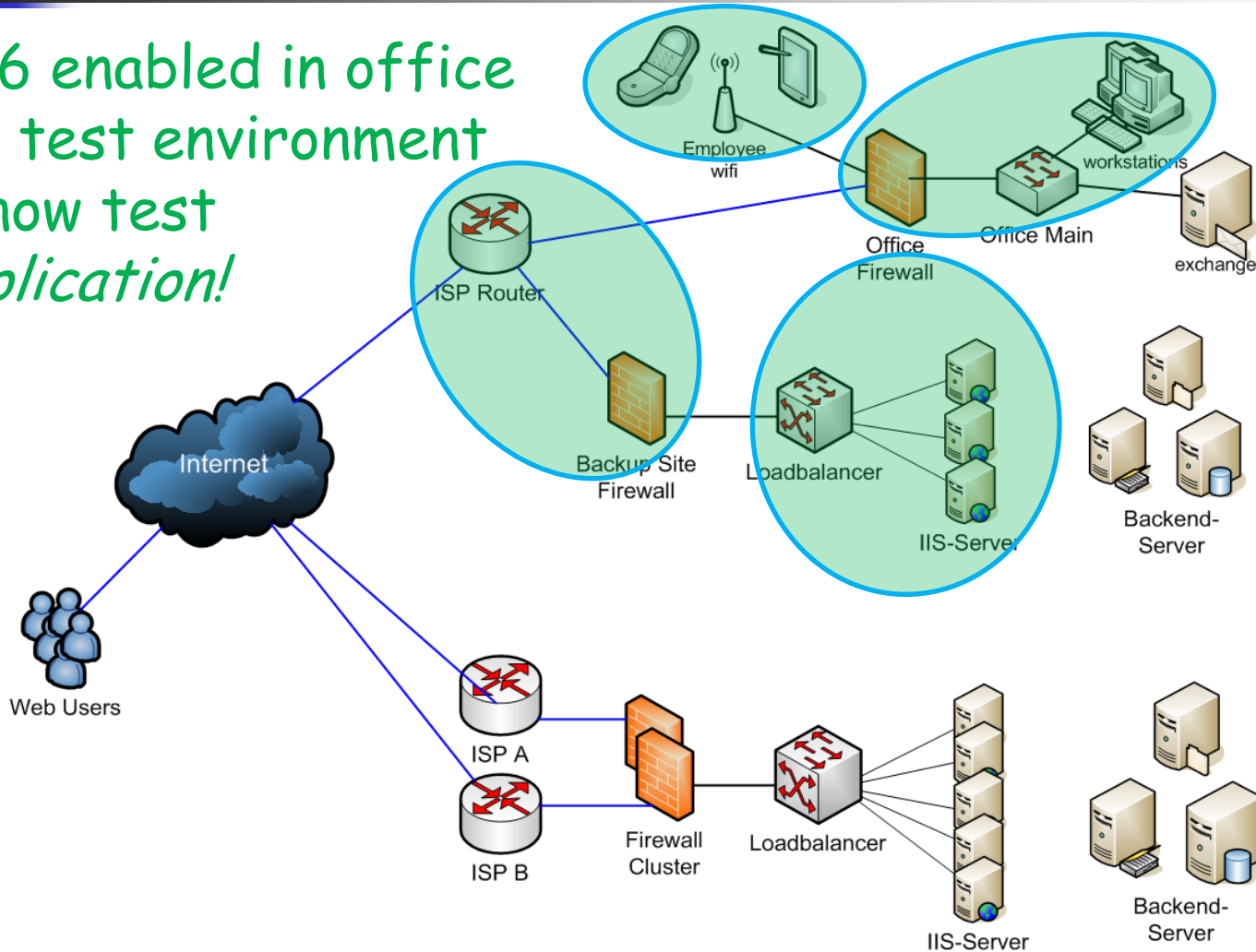


Phase II: build experience

- No prior IPv6 experience in-house
- in-depth technical experience with IPv4 networking
- focus on training, and hands-on experience:
- 1 week IPv6 in-depth training for key personnel
- based on that, comparis team enabled IPv6 in development site and office network
 - same firewall, loadbalancer, server as in production
 - gain experience with IPv6 without risk, clarify questions
- 1 day workshop to discuss remaining issues

Phase II: some parts with IPv6

IPv6 enabled in office
and test environment
→ now test
Application!



Backup Site and Office

Production Site



Phase III: production site

- Preparation work, no external impact:
 - get IPv6 address space (PI network) from RIPE NCC
 - get Internet Providers to set up IPv6 BGP for PI addresses (same setup as for IPv4)
 - analyze web application for hidden IPv4 dependencies, like „client IP address is logged into a database that only holds 32bit integers“ – took about 3 months in total, done by application teams (roughly 25 days budgeted - 5 teams, 1 week for each team)

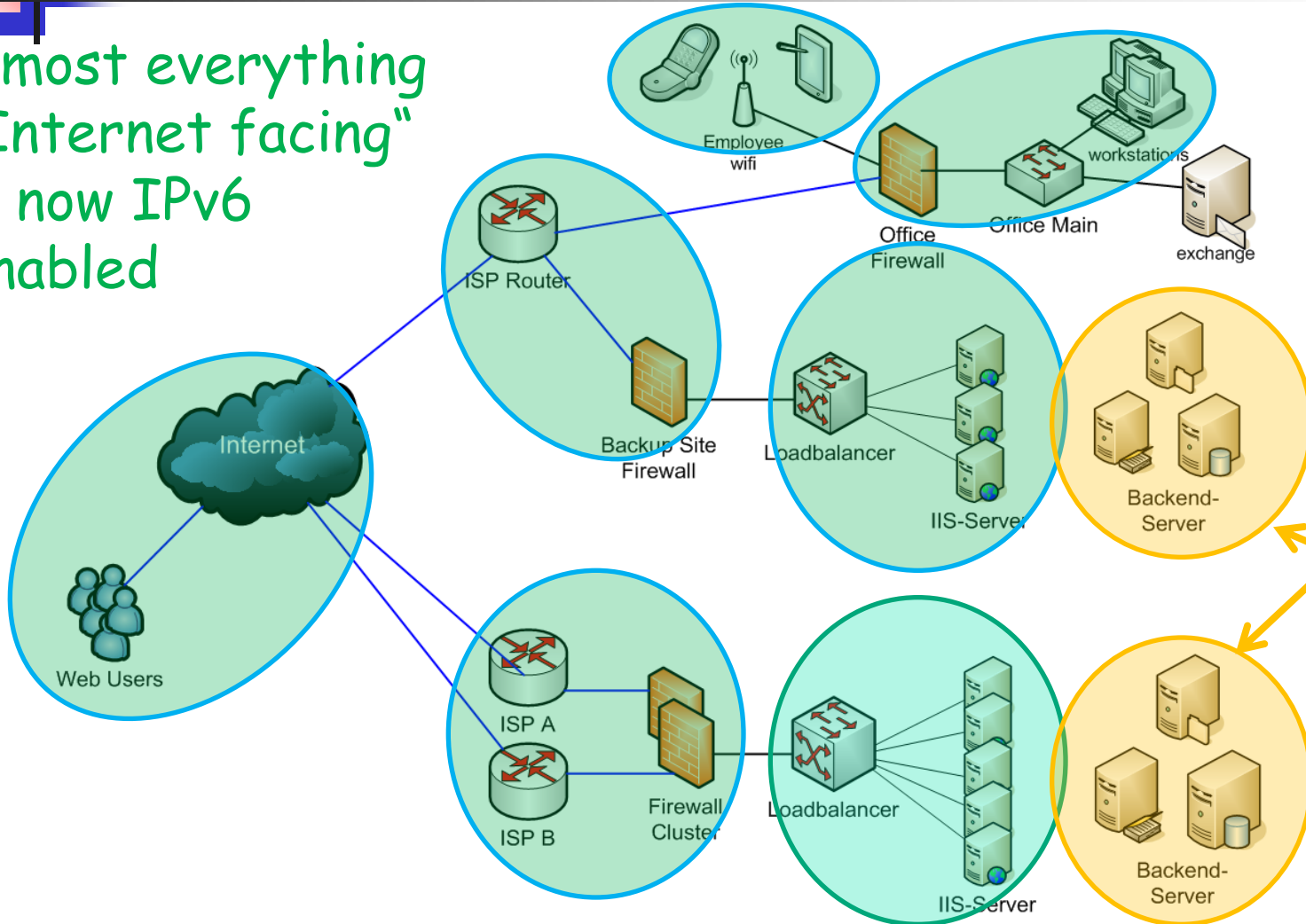


Phase III: production site

- early April 2015: „Turn It On!“
 - Comparis team rolled out IPv6 on all components
 - Gert Döring on standby to help, but not needed
 - benefit from experience built in Phase II
 - production traffic re-routed to backup site, so production site could be changed without risking issues for customers
- IPv6 usage on web servers about 10% today
 - some consumer ISPs in switzerland have IPv6 „on by default“ today, others are still in planning phase
 - big jump expected in early July (Swisscom)
 - no reason to be worried – it just works

After Phase III

almost everything
„Internet facing“
is now IPv6
enabled



Backup Site and Office
Production Site

no need
for IPv6

is the work done now?

NO! still no IPv6 here!

The screenshot shows a web browser window displaying the comparis.ch website. A network tool overlay is visible, showing a list of domains and their IP addresses. The IP address 195.93.85.9 for adserver.adtech.de is circled in blue. A blue arrow points from the text 'NO! still no IPv6 here!' to this IP address.

www.comparis.ch	2001:67c:2e38:100::40
ad-dc2.adtech.de	195.93.85.9
adserver.adtech.de	195.93.85.9
aka-cdn.adtech.de	23.74.182.179
comp-ssl.wemfbox.ch	212.47.171.71
sdc.comparis.ch	2001:67c:2e38:100::41
www.google-analytics.com	2a00:1450:4016:804::200e
www.google.com	2a00:1450:4016:804::2004
www.googleapis.com	2a00:1450:4016:804::200a

- IPv6-enable all the 3rd party elements on the web site
- IPv6-enable e-mail services (not in scope for this project)
- IPv6-enable B2B communication to partners



recommendations to share?

- Detailed assessment of a complex network and application environment will take some time, if done properly
- assessment is fundamental for successful IPv6 deployment without „expensive surprises“ later on (like, having to replace equipment and not having budgeted for it)
- taking enough time to build experience and confidence with the in-house personnel will help to make production roll-out successful
- for complex setups, having a test environment where all components can be thoroughly tested before touching production equipment is a major benefit



Q&A?

- Thanks for your attention
- questions welcome now, or via mail to

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