

Resilience

in de praktijk



Van **failure**
voorkomen
naar **failure**
omarmen.

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Remi Bergsma

Engineer with a passion for automation.

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100%

Functional uptime.

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Alles kan
stuk.

Alles gaat
stuk.



Buigen of barsten?



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Wees flexibel :-)



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Omar failure



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Accepteer **failure!**



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Wat is de kans?



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Maak de kans 100%!



<https://github.com/Netflix/chaosmonkey>

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Omarm failure

The Netflix logo, consisting of the word "NETFLIX" in white, bold, sans-serif capital letters, set against a red rectangular background.

Chaos Monkey

- The original Monkey (2009)
- Randomly terminates instances in a cluster
- Simulates failures inherent to running in the cloud
- During business hours
- Default for production services

A small version of the Netflix logo, with the word "NETFLIX" in white on a red background.

@garethbowle

<https://github.com/Netflix/chaosmonkey>

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Oarm failure

NETFLIX

Latency Monkey

Doctor Monkey

Janitor Monkey

Conformity Monkey

Security Monkey

Etc etc..



<https://github.com/Netflix/chaosmonkey>

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Omarm failure

RESILIENCE

[ri-zil-yuhns]

The power to be able to recover readily from adversity or challenge.



https://en.wikibooks.org/wiki/Transportation_Geography_and_Network_Science/Resilience

Design for failure

(voor functionele uptime van 100%)



Applicatie
moet blijven
functioneren
na een failure.

Design for failure

(voor functionele uptime van 100%)

- wees een **realist**, veronderstel **failure**
- **automatiseer** alles, echt **alles**
- **ontkoppel componenten** zo veel mogelijk
- voorkom **single-points-of-failure**
- scale **OUT**, not **UP**
- pas waar mogelijk **self-healing** toe
- **encrypt** data waar mogelijk



Automatiseer alles!



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“Pets versus Cattle”



lizzy.company.nl
(scale-up)

web0235.company.nl
(scale-out)

Impact van failure

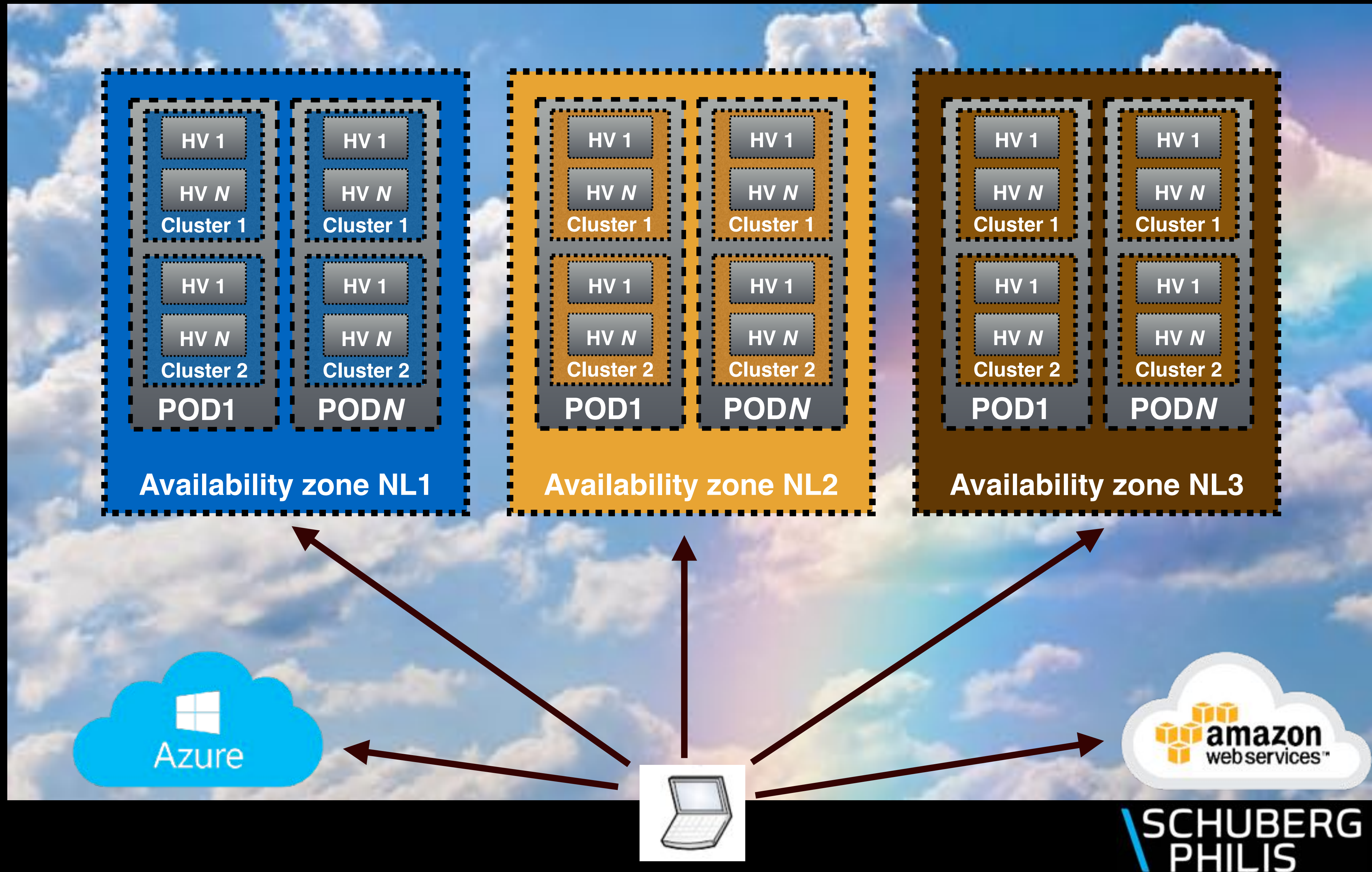


Impact van failure

FAILURE DOMAIN



Mission Critical Cloud



“Moving up the stack”



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Kortom: Omarm failure & be happy!



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Vragen?

Stel ze nu!

Of volg me op [Twitter](#)



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Bedankt!

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Credits

<http://www.conservationmagazine.org/wp-content/uploads/2013/04/girl-with-tree.jpg>
<http://thecorner.eu/wp-content/uploads/2016/04/resilience-777x400.jpg>
http://3.bp.blogspot.com/-YS_E4PLI-48/VQzN8bbeqml/AAAAAAAAA1IQ/YA_2sVjnmsA/s1600/Science%2BChannel%2BWhat%2BCould%2BPossibly%2BGo%2BWrong.jpg
http://i.telegraph.co.uk/multimedia/archive/01963/cloud_1963447c.jpg
http://www.nkineede.nl/cat_graphics/G9/9302.jpg
<http://tegelizr.nl/tegeltjes/alles-kan-stuk-alles-gaat-stuk.png>
<http://tr2.cbsistatic.com/hub/i/r/2014/10/03/0e67bcf0-55ba-46a6-be25-18e5d647a907/thumbnail/770x578/feea73776c8cfa400c146b1f462e2304/chaosmonkey.png>
<https://www.packetmischief.ca/wordpress/wp-content/uploads/2013/04/failure-domain-atomic-bomb.jpg>
<https://image.slidesharecdn.com/openstacksummitspring2014-openstackscale-outnetworkingarchitecture-2015-05-13-140513223946-phpapp01/95/openstack-scaleout-networking-architecture-14-638.jpg?cb=1400331230>
https://upload.wikimedia.org/wikipedia/commons/thumb/4/45/Resilience_cycle.jpg/500px-Resilience_cycle.jpg
<https://cdn.meme.am/cache/instances/folder926/600x/64621926.jpg>
<http://cdn.mos.cms.futurecdn.net/cb08aa1c246ead664f25c45a58a41f0d.jpg>
<https://tctechcrunch2011.files.wordpress.com/2014/11/stacks.jpg?w=738>
<https://conceptdraw.com/a155c4/p32/preview/640/pict--cloud-failure-cloud-round-icons-vector-stencils-library>
<https://i.imgflip.com/1is8gr.jpg>
http://i.telegraph.co.uk/multimedia/archive/01870/basket_1870914b.jpg
<http://www.resilience-education.org/wp-content/uploads/2014/05/wordblock-3.png>
https://media.amazonwebservices.com/AWS_Cloud_Best_Practices.pdf
<https://image.slidesharecdn.com/09awscloudsymposiumtorontodr-161012205827/95/disaster-recovery-and-business-continuity-toronto-fsi-symposium-october-2016-3-638.jpg?cb=1476306074>
https://www.cloudops.com/wp-content/uploads/2014/11/6415460111_dff858ea87_z.jpg
<http://anxietyink.com/wp-content/uploads/2013/10/popscreencdn.jpg>
<http://combiboilersleeds.com/image.php?pic=/images/chance/chance-6.jpg>
<http://www.pen-outwrite.org/wp-content/uploads/2015/05/Image-Eric-Kilby-Embrace-Sculpture1-700x467.jpg>

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