

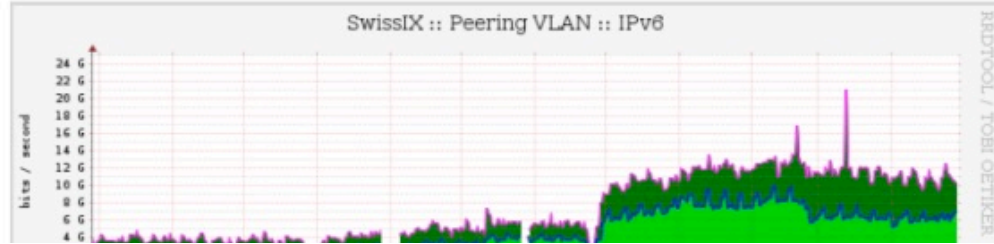
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Poor man's explanation why IPv6 is stalling in Switzerland

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Fun Facts – IPv6



- Only 10% IPv6 traffic on the peering mesh
- Still 90% IPv4 traffic



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Reasons

- IPv6 not enabled in the datacenter
 - Really?
- Legacy traffic
 - Twitter, Github, Skype, ...
 - VPNs
- Know your eyeballs!

Classes of eyeballs

- Mobile networks 3G/4G/5G
 - no IPV6
- Public wifi
 - Homoeopathic presence
- SoHo
 - Major ISPs
- SME
 - You can get it, if you really want but you must try, try and try
- Enterprise
 -

Definition of SME internet access

- Copper or fiber if possible / present / allowed
- Fixed IPv4 address(es)
- Bridge or DMZ that allows own firewall
- Monthly fee < CHF 200

IPv6 experience

ISP	IPv6 SoHo	IPv6 SME
UPC	✓	✗
Quickline	✓	✗
Glattnet	✗	✗ Same product as SoHO Project stopped?
Green	No experience	✗ Only on Swisscom infrastructure
Swisscom	✓	✗ Buggy to broken
Fiber7	✓	✓

Swisscom: Business Internet Services



IPv6

What is IPv6? Do I need IPv6? The Internet is based on an address plan. Each computer/device is allocated an IP address to enable them to communicate with each other. The current IPv4 address plan is slowly but surely running out of addresses. The new IPv6 address plan allows a larger number of addresses for the increasing number of devices with Internet access. **If you use your Internet connection normally, we recommend continuing to use IPv4.**

Deactivate IPv6

Bad marketing!

DMZ routing is breaking every other day

Source: 2a02:121e:152a:1::1

Ticket 5-733262220189

Traceroute

Destination

Web address, IP address or host name

e.g. -www.google.ch-, -195.186.1.162-, -MyPC-

Cancel

Results

Traceroute to 2a02:121e:152a:414::240 in progress, 30 hops max

1	2001:4d98:3ffd:4::67	5ms	4ms	
2	2001:4d98:3ffd:4::67	2ms	124ms	6ms
3	2001:4d98:3ffd:4::67	4ms	64ms	
4	2001:4d98:3ffd:4::67	8ms	6ms	5ms

Results

Traceroute to 2a02:121e:152a:414::200 in progress, 30 hops max

1	2001:4d98:3ffd:4::64	5ms	4ms	3ms
2	2a02:121e:152a:1::1	1ms	66ms	1ms

Manual solution

Ticket 5-733262220189

Static IPv6 routes

Active	Status	Destination subnet prefix
<input checked="" type="checkbox"/>	Enabled	2a02:121f:79:60::/64
<input checked="" type="checkbox"/>	Enabled	2a02:121f:79:61::/64

Static IPv6 routes

Active	Status	Destination subnet prefix	Gateway
<input type="checkbox"/>	Error	2a02:121f:79:60::/64	2a02:121f:79:1::240
			2a02:121f:79:1::240
			2a02:121f:79:1::240
			2a02:121f:79:1::240

Static IPv6 routes

Active	Status	Destination subnet prefix	Gateway
<input checked="" type="checkbox"/>	Enabled	2a02:121f:79:60::/64	2a02:121f:79:1::240

Results

Traceroute to 2a02:121f:79:60::204 (2a02:121f:79:60::204%4294967295),30 hops max

1 2a02:121f:79:1::240

1ms 1ms 1ms

2 2a02:121f:79:60::204

670ms 1ms 1ms

What can we do?

- Teach people, IPv6 is only scary if you don't know about it
 - Marketing, Administration, Support, Apprentices
- Stop disabling IPv6 as a permanent solution
- Report problems and issues to ISP or vendor
- Ask for IPv6 every time you are in contact with an ISP

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Questions?

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