

strongSwan - Bug #3285

Virtual IPs on FreeBSD cannot set IPv6 addresses

03.12.2019 16:45 - Chris Ryder

Status:	Feedback	Start date:	03.12.2019
Priority:	Normal	Due date:	
Assignee:		Estimated time:	0.00 hour
Category:		Resolution:	
Target version:			
Affected version:	5.8.1		
Description			
<p>Running StrongSwan 5.8.1 on a FreeBSD 12.1 machine, acting as a roaming VPN client it appears that StrongSwan is only able to assign IPv4 addresses to the tun interface. IPv4 traffic works fine, and I have other VPN clients (iOS and Mac OS X built-in clients) connect to the VPN server and get both IPv6 and IPv4 addresses assigned correctly. However, on the FreeBSD client, StrongSwan reports the following when it brings up the VPN:</p> <pre>..... scheduling reauthentication in 86170s maximum IKE_SA lifetime 86350s installing new virtual IP 81.XX.XX.XX created TUN device: tun0 installing new virtual IP 2001:XXX:XXXX:XXXX::XXXX created TUN device: tun1 failed to add address on tun1: Invalid argument installing virtual IP 2001:XXXX:XXXX:XXXX::XXXX failed selected proposal: ESP:AES_CBC_256/HMAC_SHA1_96/NO_EXT_SEQ CHILD_SA vpn{2} established with SPIs c740b4b1_i 65f904ab_o and TS 81.XX.XX.XX/32 === 81.XX.XX.YY/ 29 ZZ.ZZ.ZZ.ZZ/28 connection 'vpn' established successfully</pre> <p>Digging into the `failed to add address on tun1: Invalid argument` message, I think the problem is that in https://wiki.strongswan.org/projects/strongswan/repository/revisions/master/entry/src/libstrongswan/networking/tun_device.c#L168 the SIOCAIFADDR ioctl (and other friends) is being used, which I think only supports IPv4 address on FreeBSD/Darwin - for IPv6 I think SIOCAIFADDR_IN6 and friends are needed. I don't have any experience of that level of networking code though, but the source for the FreeBSD ifconfig tool https://github.com/freebsd/freebsd/tree/master/sbin/ifconfig shows a difference between inet and inet6 code paths: https://github.com/freebsd/freebsd/blob/master/sbin/ifconfig/af_inet.c https://github.com/freebsd/freebsd/blob/master/sbin/ifconfig/af_inet6.c</p> <p>There is also a sample of how to set IPv6 addresses on Darwin which looks similar: https://gist.github.com/icpz/65476f8c1ae4c0451b2f67c3fcc2244</p>			
Related issues:			
Related to Issue #974: Charon crash on Mac OS with IPv6 Virtual IP		New	30.05.2015

History

#1 - 03.12.2019 16:54 - Tobias Brunner

- Status changed from New to Feedback

That's a known issue. See the (very old) commit in the *tun-device-ipv6* branch. Since I had no IPv6 connectivity at the time (and nobody really seemed interested), I never tested it (don't know if it even is complete).

#2 - 03.12.2019 16:58 - Chris Ryder

Ah, I hadn't managed to find that branch - I'll see if I can get that code updated to work in my FreeBSD scenario, thanks!

#3 - 03.12.2019 17:33 - Tobias Brunner

- Related to Issue #974: Charon crash on Mac OS with IPv6 Virtual IP added