

Site Interconnection by tunnels

draft-yong-intarea-inter-sites-over-tunnels

Lucy Yong lucy.yong@huawei.com

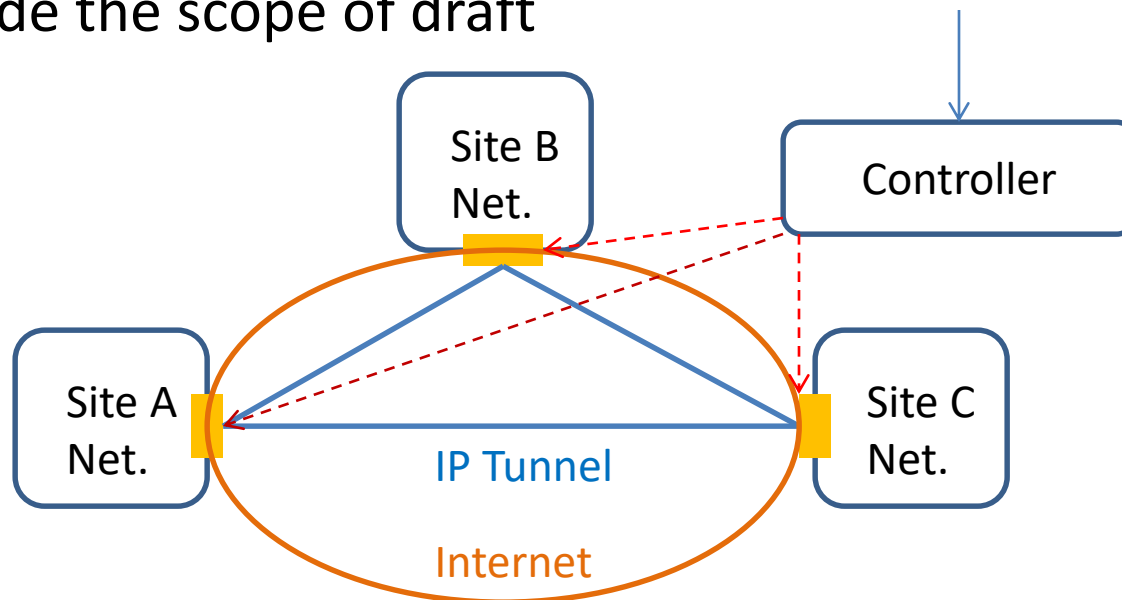
Linda Dunbar linda.dunbar@huawei.com

Tom Herbert tom@herbertland.com

Nov. 2016, Seoul , South Korea

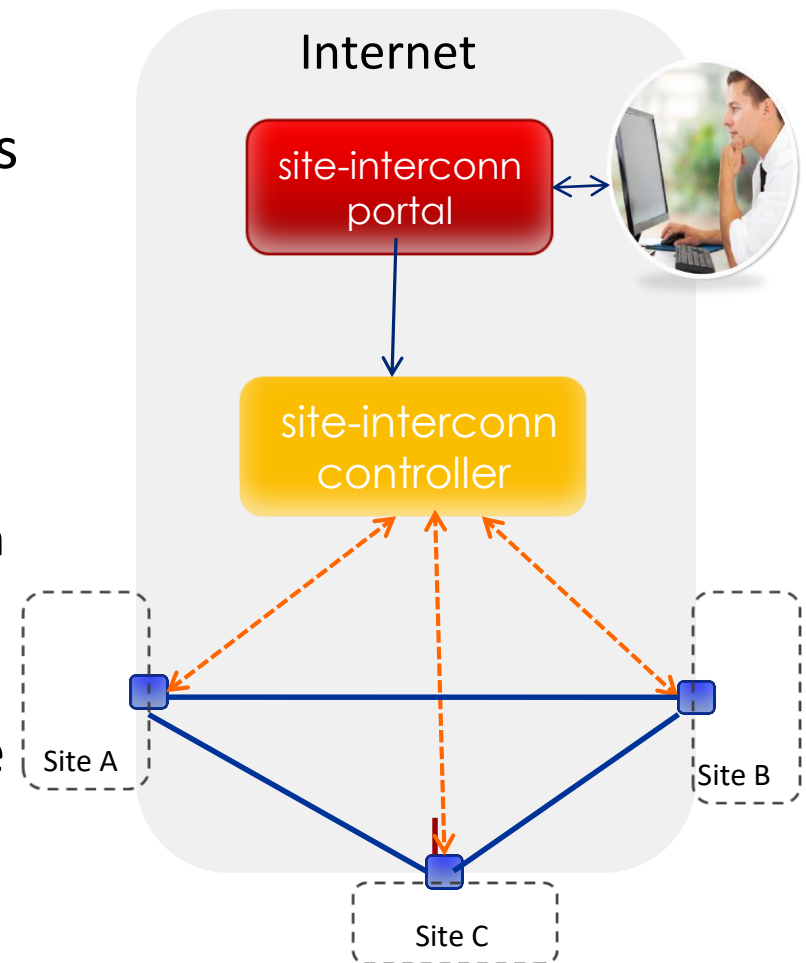
About this draft

- Specify the solution for site interconnection by IP tunnels
 - describe solution architecture and functional components
 - specify site interconnection requirements
 - describe tunnel solution to meet the requirements
- Site interconnection policy and prefix routing among sites is outside the scope of draft



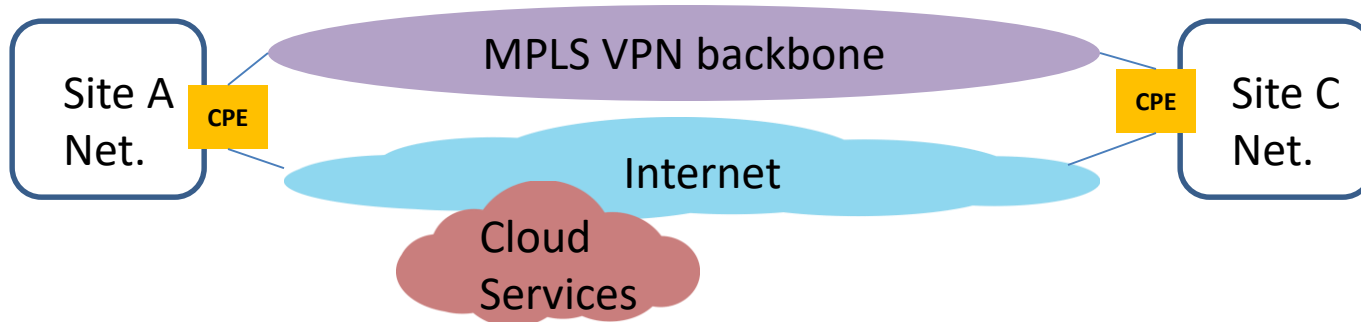
Why work on this?

- an enterprise company with multiple sites wants interconnecting its site networks over Internet,
 - self constructs a private network among sites by use of GW & tunnels
 - no need to buy a VPN service from service provider for site interconnection
- Tunnel technology and software capability enable this application over Internet



Tunnel usage in SD-WAN

- Service Providers offer SD-WAN to enterprise customers (i.e. enhanced provider-managed VPN services)
 - a CPE device is placed at each customer site
 - the CPE connects to both provider backbone and Internet
 - the CPE provides traffic steering according to customer traffic policy
 - IP tunnel over Internet is configured between a pair of CPEs for site communications
 - see draft-dunbar-intarea-private-networks-over-thinCPE



Content outline

1.	Introduction.....	3
1.1.	Motivation of sites interconnection by IP tunnels.....	3
2.	Terminology.....	4
2.1.	Requirements language.....	4
2.2.	Terms defined in this document.....	5
3.	Sites interconnection solution architecture.....	5
4.	Key properties of sites interconnection over IP tunnels.....	7
4.1.	Network sites interconnection properties.....	7
4.2.	Tunnel transport properties for sites interconnection.....	8
5.	Site traffic encapsulation.....	9
6.	Tunneling multicast and broadcast traffic.....	9
7.	Tunnel transport over IP.....	9
7.1.	Tunnel transport mode.....	9
7.2.	MTU and fragmentation.....	10
7.3.	Checksum.....	10
7.4.	Congestion management.....	10
7.4.1.	Congestion detection.....	10
7.4.2.	Congestion notification.....	10
7.4.3.	Tunnel ingress traffic control.....	10
7.5.	Tunnel traffic hop count and DSCP value setting.....	10
7.6.	Middle box considerations.....	10
8.	Sites interconnection security.....	10
9.	Tunnel configuration.....	11
10.	Tunnel tools.....	11
11.	Operational considerations.....	11
12.	IANA considerations.....	11
13.	Security considerations.....	11
14.	References.....	11
14.1.	Normative References.....	11
14.2.	Informative Reference.....	11
15.	Authors' Addresses.....	12

Next steps

- This is v00, seek comments/suggestions on the subject in general and the scope of this draft
- Work on unfinished sections