

DMVPN Iron A/B replacement with GTT Edge solution

ROC-24, 25-26 September 2018

Ahmed Benallegue

ahmed.benallegue@ecmwf.int

Agenda

- Background/Status of the DMVPN
- GTT Edge router solution
- Next steps

Background/Status of the DMVPN

- 2007: IPsec VPN Backup for the RMDCN
- 2008: 14thROC, DMVPN testing
- 2009: 15thROC, Large-Scale Operational Pilot
- Dynamic Multipoint VPN (DMVPN) is a proprietary Cisco Internetwork Operating System (IOS) solution for building IPsec and GRE (Generic Routing Encapsulation)
- Proposal made at ROC-23
 - Consider replacing Iron A/B connectivity with GTT Edge solution
 - Consider replacing the DMVPN solution with GTT Edge solution
- General comments
 - The infrastructure is very rarely used
 - No 24/7 365 days support

Background/Status of the Iron A/B connectivity

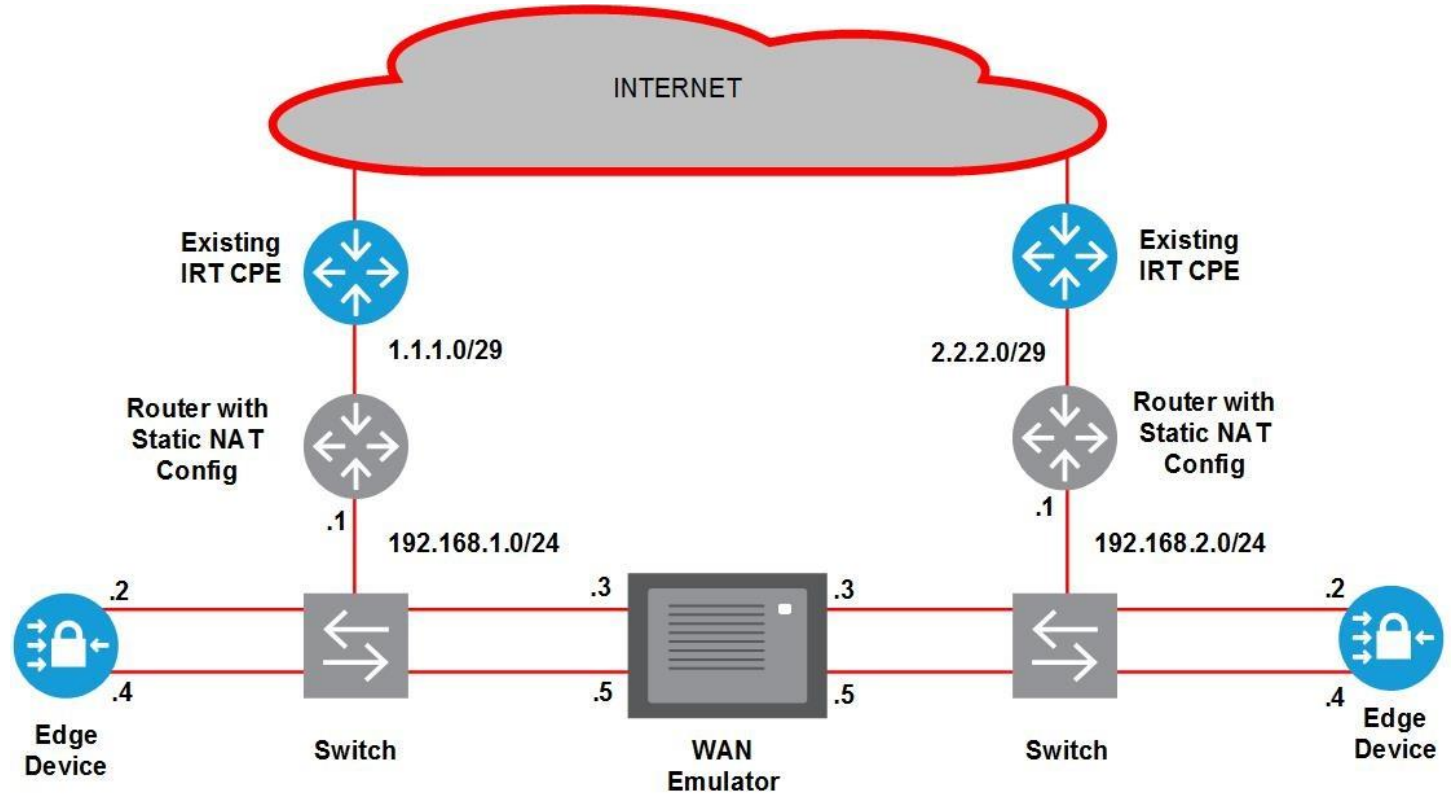
- Iron A – 1 site (on 25/09/2018)
 - IPSec connectivity over Internet connection provided by Interoute/GTT
 - May have an additional CPE Device depending on the available Internet connectivity in that location.
- Iron B – 5 sites (on 25/09/2018)
 - IPSec connectivity over Internet connection provided by the User Site
 - Internet connectivity needs to adhere to the following parameters:
 - Connections should be statically addressed with publicly routed IPv4 Addresses.
 - There should be no NAT within the provider network
 - There should be no port filtering within the provider network

GTT Edge router solution

- Based on the “Interoute” Silver Peak SD-WAN product
 - Load balancing
 - Intelligent routing
 - WAN optimisation and acceleration
- Caveat – GTT has their own SD-WAN flavour
 - Long-term viability of the Interoute solution

GTT Edge router solution

- Edge SD-WAN Pilot Test
 - Network topology
 - Agreed with GTT
 - Deployed in our brand new development environment “Felsina”
 - Plan outline



GTT Edge router solution

- Edge SD-WAN Pilot Test
 - Phase 1 - Preparation- July/August 2018
 - Provision and test 2 lines on ECMWF-CE routers as proposed by GTT – ECMWF/GTT
 - Provision and deploy the Edge SD-WAN routers – ECMWF/GTT
 - Phase 2 - Configuration - September/October 2018
 - Configure the two routers – ECMWF/GTT
 - Phase 3 - Proof of Concept - November 2018/February 2019
 - Simulate and validate the following use cases - ECMWF
 - Feel and touch of the solution
 - Traffic re-routing
 - Site-to-site tunnel
 - Traffic acceleration
 - Firewall capabilities (virtual Palo Alto)
 - Report outcome of tests to GTT- Action on ECMWF/GTT

Next steps

- Consider terminating the current DMVPN pilot
- Clarify the long-term viability of the Edge SD-WAN solution
- If the PoC is successful, consider including the Edge SD-WAN solution to the TCR discussions
 - As a replacement for Iron A/B connectivity
 - As a back up for sites with no backup, e.g.: Canada (Copper site)

Questions