Software Defined Edge WAN (SDEWAN)

Overview and Roadmap

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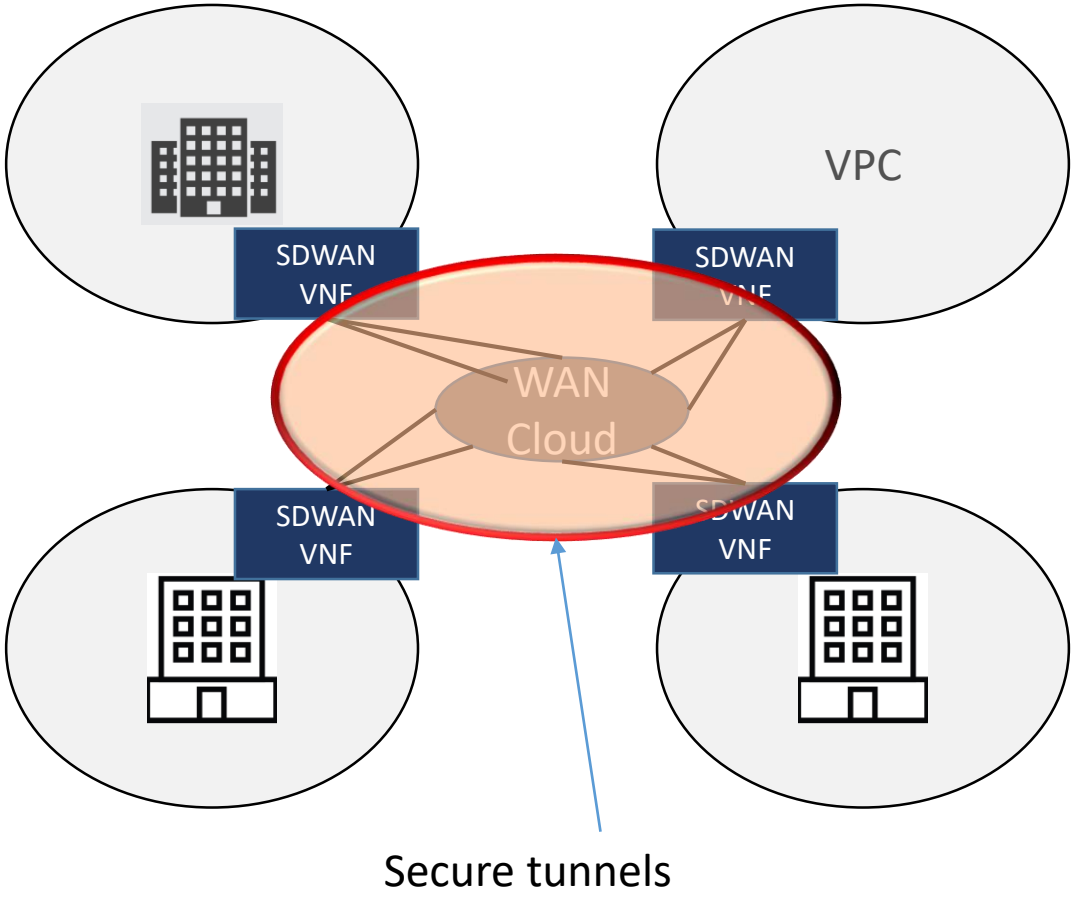
Agenda

- Background
- Needs
- SD-EWAN overview
- Current status and roadmap

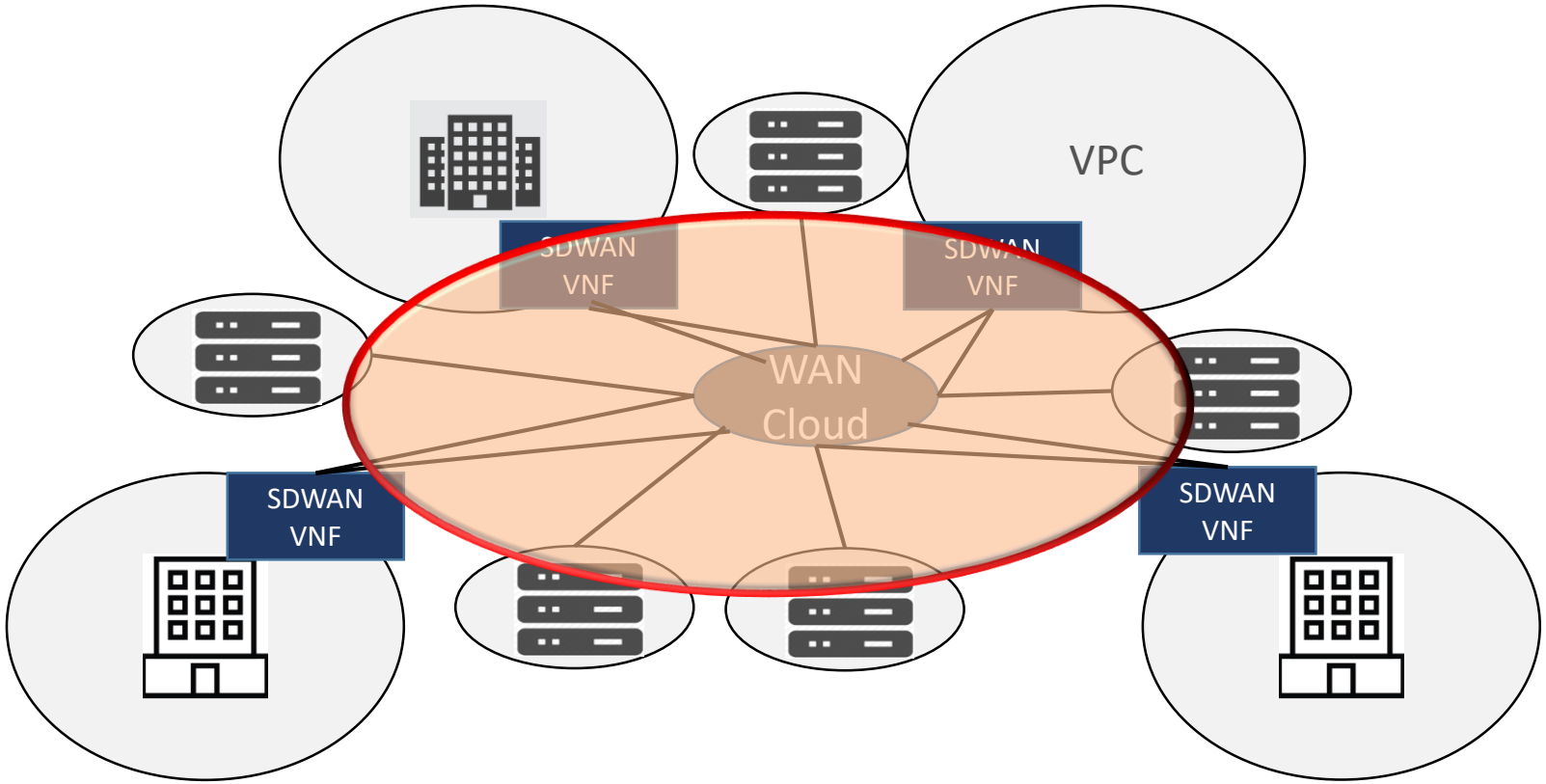
Traditional SDWAN



To Connect multiple office security over public WAN links.

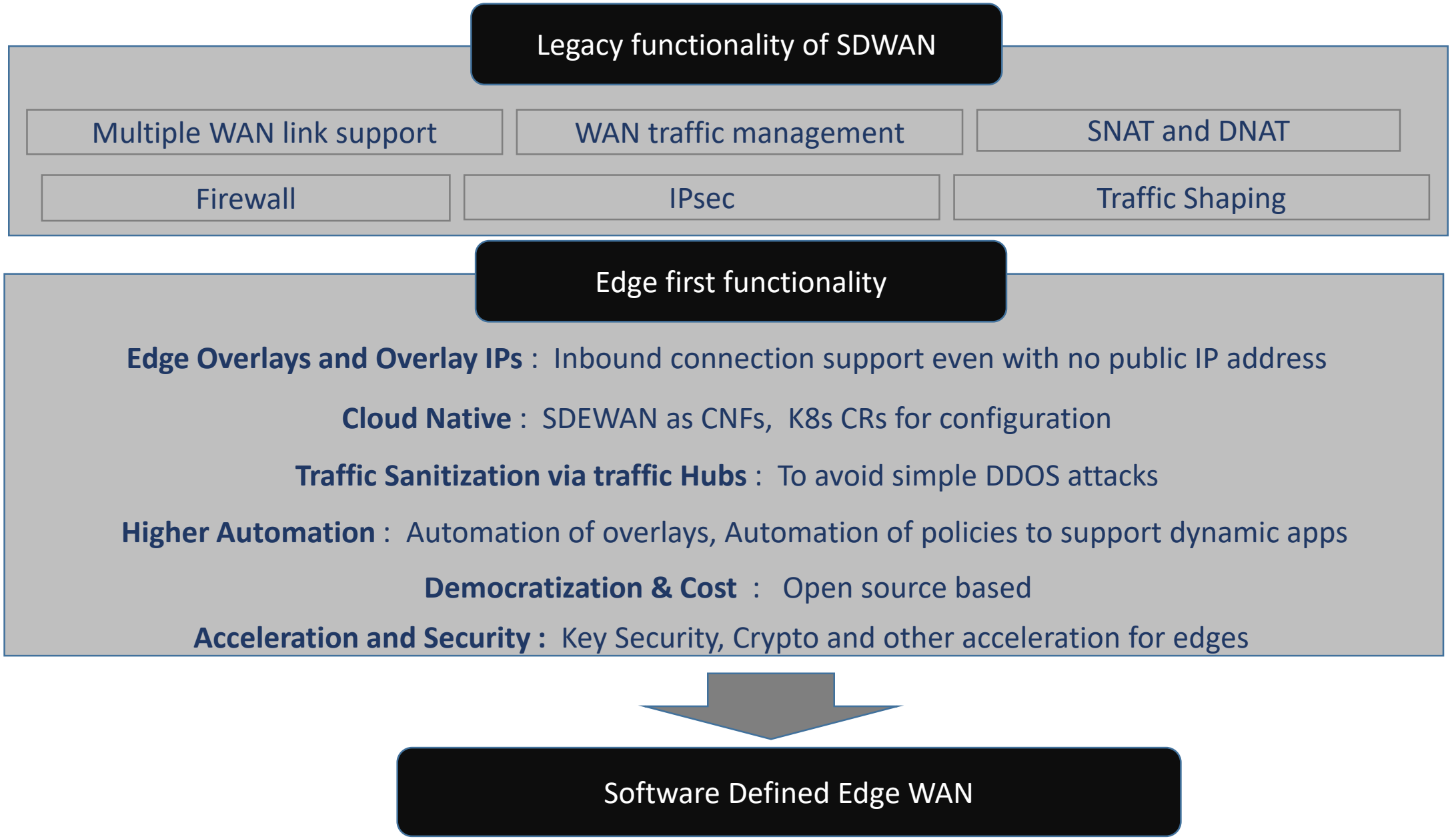
- Multiple WAN Links
- WAN traffic management
- Stateful inspection firewall
- Source and Destination NAT
- Ipsec based security

Enterprise Edge sites are like any private office
But.. With some unique challenges

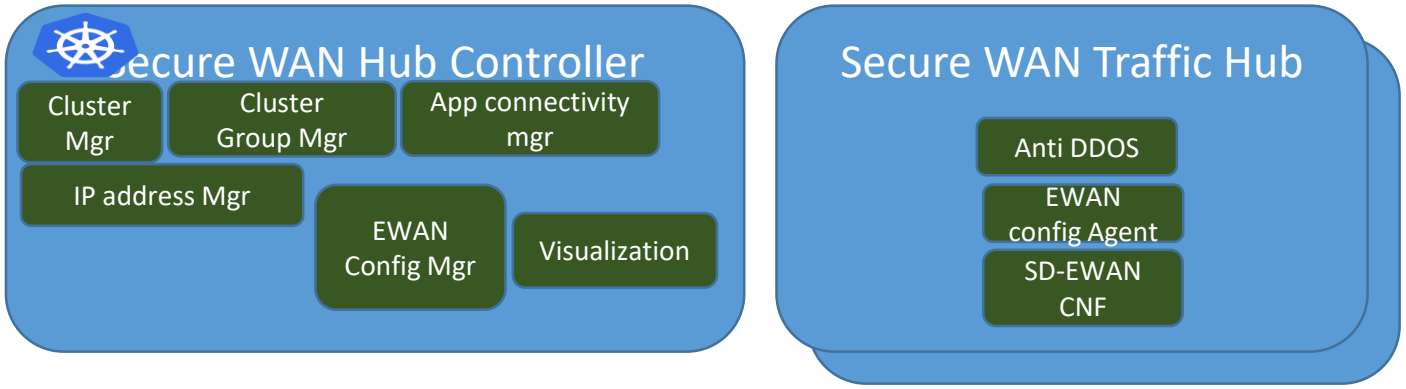


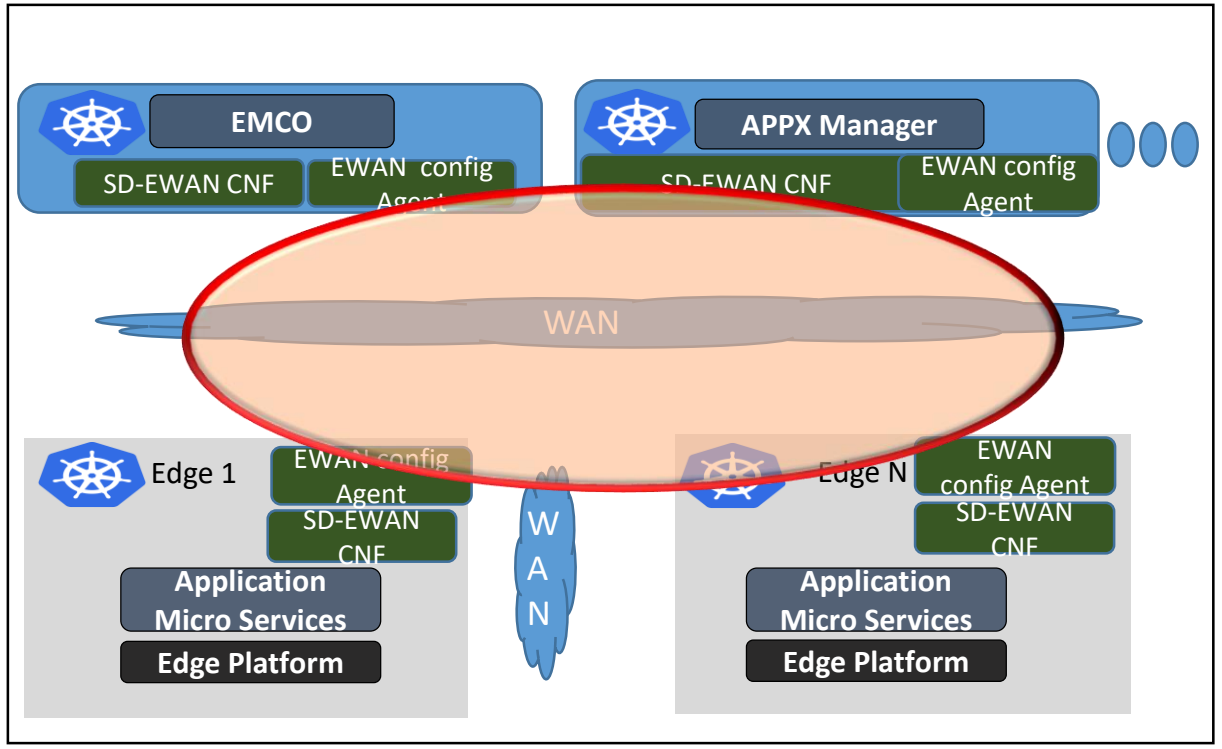
- Edges are resource constrained
- Edges are cost sensitive
- Edges may not get either static or dynamic public IP addresses
- Edge POD Subnet & Cluster subnet could be overlapping with other Edges
- Edge applications & K8s API server is expected to reachable from outside (inbound connections)
- WAN links to Edges are bandwidth constrained and susceptible to simple DDOS attacks from Internet

SD-EWAN (Edge first SDWAN) Requirements



SD-EWAN Solution Proposal (All green items)





SD-EWAN Solution

- OpenWrt user space packages
- Cloud Native
- Zero touch automation
- Solution to all Edge challenges identified
- Centralized controller for configuration
- Traffic Hub for sanitization
- Optimization with Intel IA accelerators and HW RoT.

- No changes to applications
- Supporting both green field and brownfield requirements
- Work with third party SD-WAN VNFs (future)

SD-EWAN Current Status and Roadmap
(Subject to resources availability from Intel & community)

Q2, 2020 (Planned and Resourced)

- Containerization of OpenWrt
- RESTful API
- Cloud Native configuration via K8s CRs for MWAN3, Firewall, SNAT/DNAT and Ipsec
- Optimization with Intel IA accelerators (QAT, AES-NI)
- A platform feature of ICN

Q4, 2020

- Cloud Native configuration for Traffic Control
- Centralized Management for automation (Overlay IP address Management, Restful API)
- Traffic Hub Controller
- Acceleration for private key operations

Yet to planned

- IPv6 support
- Robustness
- Integration controllers with EMCO for supporting dynamic application deployment
- Certificate private key confidentiality via HW root-of-trust
- Making it Smart-NIC/OVS ready
- Third party security tools in Traffic Hub

Q&A