MPLS vs SD-WAN

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Software Defined Networking (SDN)

For example:

- An organisation has multiple routers, switches and wireless access points

- All devices are managed through a single controller (usually a web based application)

- The controller is:
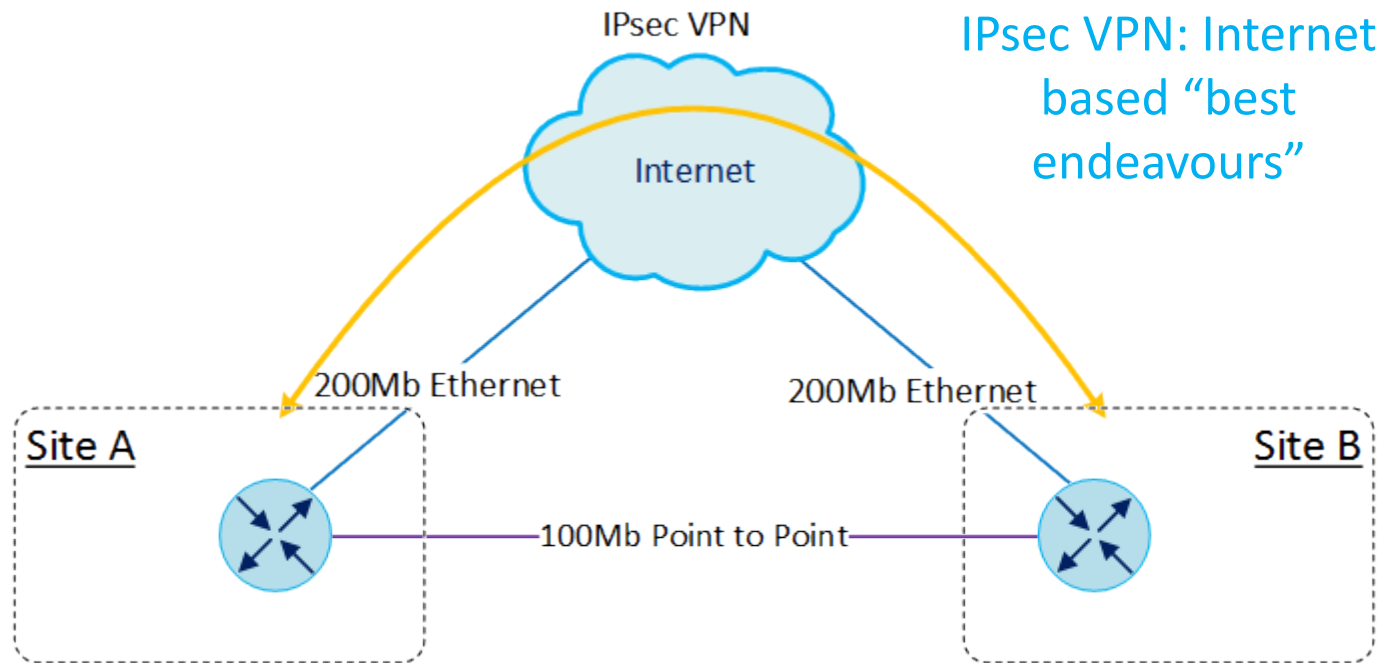 - Monitoring the network
  - Controlling network functions

Software Defined WAN (SD-WAN)

- Utilises SDN technology to create and manage a Wide Area Network, i.e. site to site connectivity

- SD-WAN "promises":
  - Lower operational costs
  - Improved WAN management
  - End-to-end network visibility
  - Improved WAN Security
  - Improved Agility

Scenario 1: Connecting two sites

IPsec VPN

Internet

IPsec VPN: Internet based "best endeavours"

200Mb Ethernet

200Mb Ethernet

Site A

Site B

100Mb Point to Point

Point to point: SLA Backed consistent performance

Scenario 1: Connecting two sites

Cloud Controller centralises management of on-premise routers and can be used to optimise routing

SD-WAN Controller

Internet

Internet based "best endeavours"

200Mb Ethernet

200Mb Ethernet

Site A

Site B

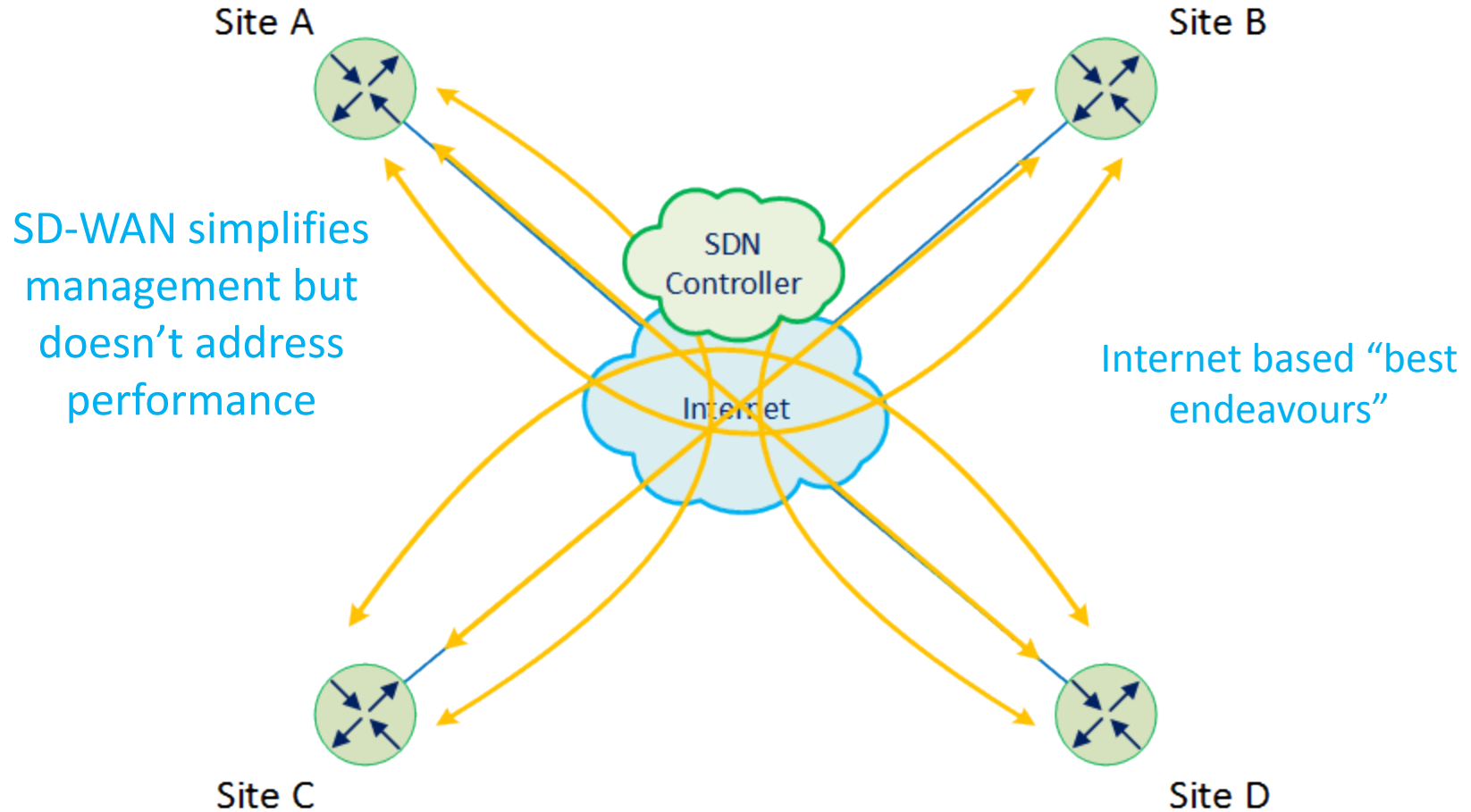100Mb Point to Point

SLA Backed consistent performance

Scenario 2: Connecting four sites
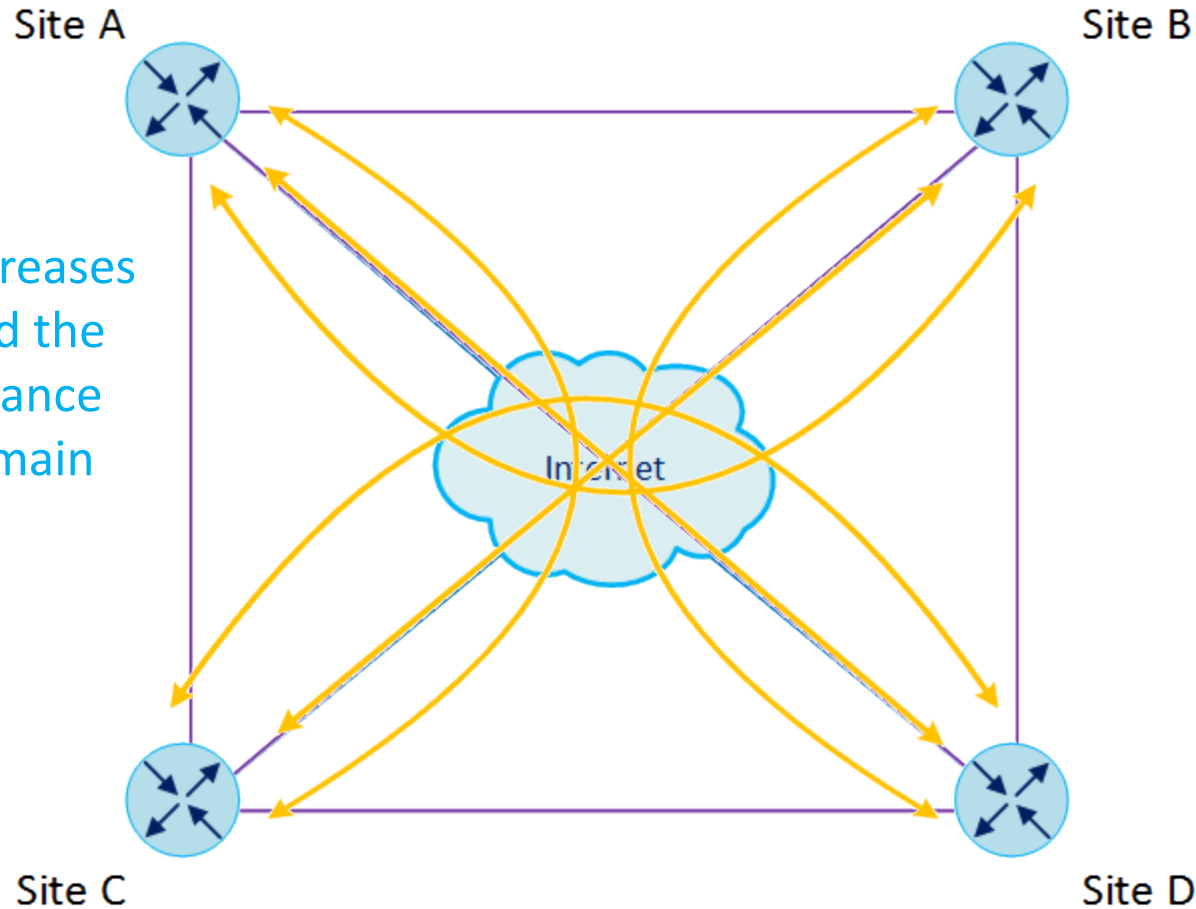
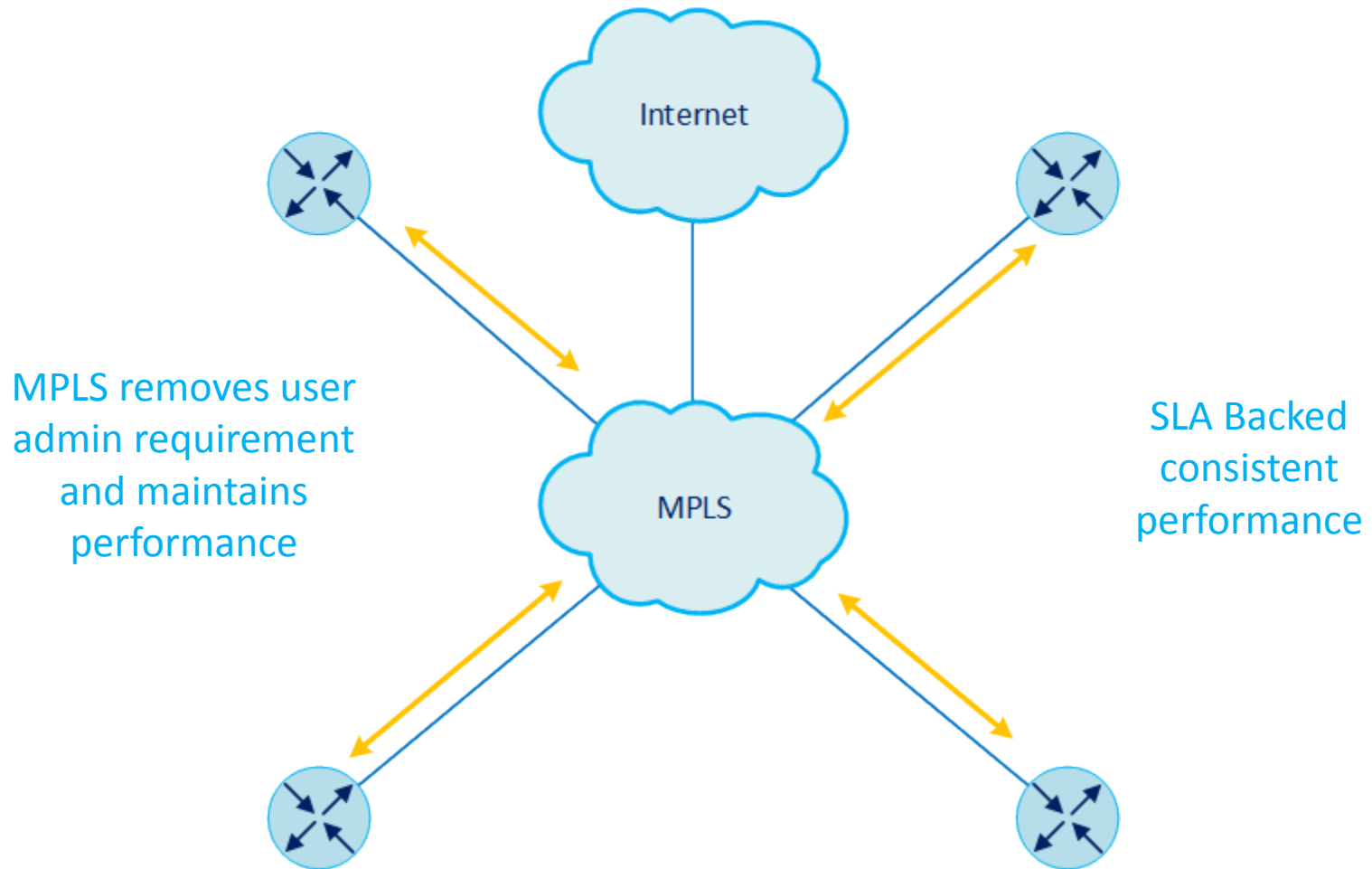Adding sites increases complexity and the same performance challenges remain

Scenario 2: Connecting four sites

SD-WAN simplifies management but doesn't address performance

Internet based "best endeavours"

Scenario 2: Connecting four sites

Comparison

MPLS	SD-WAN
Service provider managed, "fixed" configuration	Customer managed through centralised controller
Network Monitoring	Network Monitoring
Operates over broadband and Ethernet access circuits	Operates over broadband and Ethernet access circuits
Single ISP	ISP agnostic
On-premise hardware agnostic	Single Hardware provider
Secure private network	Secured internet traffic
Inherent SLAs	Optimised public network

MPLS vs SD-WAN – Which is best?

MPLS

- Better for hands off customer management
- Better for consistent, SLA backed performance
- Better for supporting applications with high performance requirements
- Lower cost (usually)

MPLS vs SD-WAN – Final thoughts

- SD-WAN solutions need connectivity, they do not provide connectivity themselves

- Price comparison should look at the TCO including all circuits, hardware, subscriptions and support

- What features or services are actually required?

- The final solution may be SD-WAN, MPLS or both.

Hybrid of SD-WAN, P2P, MPLS