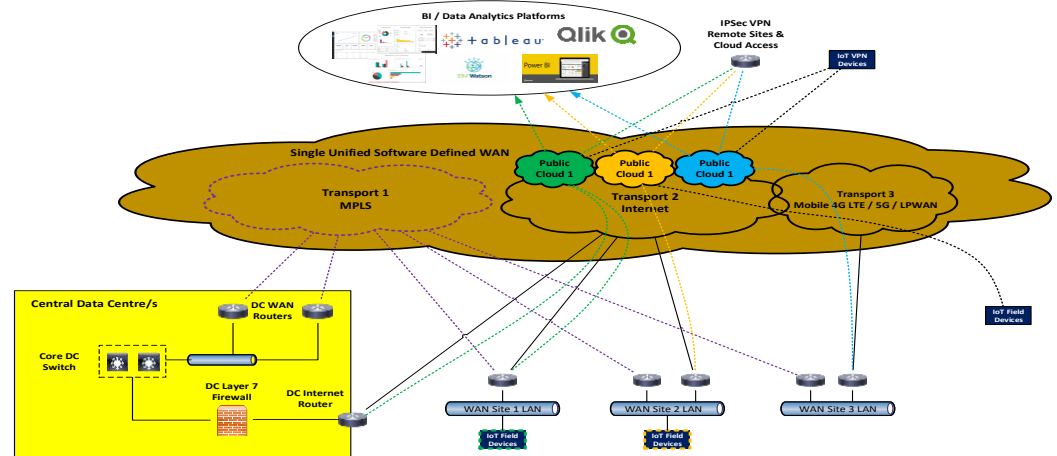




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WAN Design Course – Data Sheet



WAN TOPOLOGIES

As a Network Design Engineer or Architect, it will be extremely likely that multiple WAN technologies, topologies and access types will be encountered across different customers. We explain the most common designs such as L2VPN, L3VPN, Internet based overlays etc in isolation to provide a grounding in where, when and why each would be used along with tips and tricks.

MULTI TOPOLOGY SCENARIOS

Once the different topologies and access methods are explained, we cover how they may interact with each other or why a Network Architect / Design Engineer may select several technologies or topologies to service business requirements or constraints.

WAN SCALING

WAN scaling goes beyond adding more sites to the network, or ensuring the router has adequate throughput. Although these are important considerations, there are many other factors to consider, especially in large scale enterprise WAN environments operating in different regions. We discuss specific points such as network reach, services availability, operational management and global backbone routing.

Course Description

The MNB Networks WAN Design course is a 5 day instructor-led, intermediate technical design course, aimed at providing attendees with an understanding of different WAN technologies and topologies. WAN design for L3VPN, L2VPN VPLS / Pseudowires and Internet based Overlays such as IPSec, GRE, mGRE and SD-WAN will be covered for each of these in isolation, but also where two or more of these technologies are used in tandem for a single network.

The following summary of subject matters will be covered on the course with an interactive, whiteboarding based approach being taken and practical design scenarios presented throughout.

- Section 1: WAN Topologies with Scenarios
- Section 2: Gluing them together – Scenario Based
- Section 3: Regional & Global WAN Design Scaling Considerations
- Section 4: SD-WAN and WAN Automation Tools Design
- Section 5: WAN Migrations (Merger, acquisition, divest, scaling etc scenarios)
- Section 6: High & Low Level WAN Design – Example templates included.

Course Objectives

Networks and application traffic flows are becoming increasingly complex, where it is important for Network Design Engineers and Architects to have a good understanding of the different WAN designs available, along with their characteristics to ensure business applications perform as expected over the WAN which is normally the “bottleneck”.

In particular, it is important to understand the network requirements for applications which require access to public cloud IaaS, PaaS and SaaS platforms in addition to traditional private hosting DCs etc.

The course objectives are listed below.

- Different WAN topologies and access methods / characteristics explained.
- How and when to utilise different WAN designs based on the different topologies available.
- Routing protocol selection in the WAN and why!
- Explain how to articulate various WAN designs in whiteboard and diagram format.
- Stepped process required in gathering WAN requirements then producing a final design.
- Recommended approach to writing WAN Design documents.
- Migration from legacy designs and technology “gotchas”.
- Where automation tools like NSO, Python and Ansible fit into the WAN puzzle.

SD-WAN AND WAN AUTOMATION

SD-WAN brings many benefits to enterprise customers that will be discussed in this course.

We will also highlight and discuss things to plan for that can be easily overlooked prior to deploying SD-WAN based on our experience in real world deployments.

WAN MIGRATIONS

WAN Migrations can be very simple, or extremely tricky depending on the complexity of the infrastructure located on a site. We will be cover migration subject matters including, but not limited to transit sites, route filtering, protocol selection and NNI placement, along with application traffic flow considerations.

WAN DESIGN DOCUMENTATION (HLD / LLD)

Documentation is critical when designing a WAN and we will cover the approaches to use and information that should be included in WAN High and Low Level Design Documents.

For more information on any of our products or services please contact

designteam@mnbnetworks.tech

or visit us on the Web at:

<https://mnbnetworks.tech>



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Course Content & Training Approach

At MNB Networks we believe training should be interactive and although there is a requirement for some slides we try to use the approach - specifically for design discussions - of “a picture tells a thousand words”.

All of our instructors have significant experience in articulating network designs at a high and low level to different audiences and our preferred method is to whiteboard with slides and diagrams as backup or for annotation.

The following points explain the training approach and what is included within the course.

- Approach is “whiteboard wherever possible” with slides and diagrams to backup.
- Interactive discussions, so bring your voice to class (no pressure to participate, but it benefits you and others).
- All content is unique to this course and based on instructor’s real world experience.
- Ideal for engineers transitioning into design from Operations / Project Engineer role.
- Mainly high level “big thinking” design considerations (Network Architecture) with deep dive when required.
- Focus on impact of design decisions in the WAN.

What’s Included?

The following points explain the training approach and what is included within the course.

- 5 days instructor led WAN Design tuition.
- Network Design Workbook with 10 – 15 WAN design ideas.
- High and Low Level Design Templates.
- Online exams with 60 - 70 questions in total (10 per section).
- Course completion certificate.

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Who should attend?

This course is aimed at anyone looking to improve their WAN design skills including but not limited to the following, where we would expect attendees to have CCNP or CCNP level knowledge in routing and switching..

- Operational Network Engineers with interest in design.
- Project Network Engineers.
- Network Consultants.
- Network / Solution Architects.

Course Delivery Method & Times

The course is instructor led and can be delivered on-line or in person. Hours are typically one of the following depending on attendee locations as agreed with MNB Networks.

- Monday – Friday 09:00 – 17:00 UTC
- Monday – Friday 09:00 – 17:00 UTC-4



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