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COURSE BROCHURE

Implementing Cisco SD-WAN Solutions and Design Training Course

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Implementing Cisco SD-WAN Solutions and Design Training Course

Implementing Cisco SD-WAN Solutions and Design Training Course is a 1-week training course for enterprise network architects, infrastructure systems engineers, and operations leads, and each participant prepares an SD-WAN Network Architecture Specification and Migration Plan. Distributed organisations face operational bottlenecks and compliance exposure when backhauling cloud and operational technology traffic across rigid private circuits. Jupiter Prime Training delivers this course to establish dependable, secure wide area network architectures that support critical digital transformation initiatives.

Why Implementing Cisco SD-WAN Solutions and Design Matters Now

Distributed enterprises operate across hybrid cloud environments and sensitive operational technology networks, exposing weaknesses in traditional multiprotocol label switching architectures. Inefficient traffic routing inflates transit expenditure and introduces application latency across power utility substations, transport hubs, and regional operations. Furthermore, modern enterprises must reconcile direct internet breakouts with stringent regulatory frameworks, including the National Cybersecurity Authority NCA Essential Cybersecurity Controls ECC-2:2024 control 1-2-1 and subdomain 4-2, alongside Communications, Space & Technology Commission CST Decision Number 506/1445 cloud connectivity requirements. Grounded in the MEF 70.1 SD-WAN Service Attributes and Service Framework, MEF 90 test standards, and the Cisco 300-415 ENSDWI curriculum, modern software-defined networking ensures resilient transport independence, programmatic policy enforcement, and verified data sovereignty.

Who Gains Most from Implementing Cisco SD-WAN Solutions and Design

- Enterprise network architects responsible for designing secure overlay topologies across heterogeneous public and private underlays
- Infrastructure systems engineers managing zero-touch provisioning, control plane security, and cloud edge connectivity
- Telecom operations leads overseeing enterprise transport service level agreements and wide area network incident resolution
- Cybersecurity systems specialists governing branch security segmentation, firewall policy integration, and regulatory connectivity standards

A multi-functional enterprise infrastructure cohort comprising network architects, cloud operations engineers, and security governance specialists gains most, as coordinated cross-domain participation aligns wide area network policy enforcement with organisational data protection objectives.

Implementing Cisco SD-WAN Solutions and Design Capabilities

Participants build actionable proficiencies to design, deploy, and govern resilient software-defined enterprise overlays across diverse corporate, industrial, and cloud environments.

- Design multi-tenant controller fabrics — fabric availability and administrative sovereignty
- Align underlay connectivity services with application performance thresholds — traffic prioritisation and latency mitigation
- Specify control and data plane cryptographic policies — edge router authentication and confidentiality
- Build application-aware routing rules — real-time path steering across multiple carrier circuits
- Test centralised security inspection and direct internet breakout policies — branch egress integrity and firewall governance
- Calculate circuit capacity requirements and failover metrics — mission-critical uptime for industrial and operational sites

Key Implementing Cisco SD-WAN Solutions and Design Terms

- Control Plane — The centralised software layer comprising vSmart controllers that orchestrates overlay routing and topology enforcement via Overlay Management Protocol.
- Management Plane — The single-pane administrative portal provided by vManage for configuration templates, telemetry collection, and network-wide policy orchestration.
- Orchestration Plane — The device discovery mechanism managed by vBond to facilitate initial network address translation traversal and mutual node authentication.
- Overlay Management Protocol — A proprietary signalling protocol that exchanges routing reachability, edge transport locators, and encryption keys across edge devices.
- Transport Locator — A core routing attribute identifying the system internet protocol address and encapsulation method of an edge physical interface.
- Zero-Touch Provisioning — An automated deployment workflow that authenticates and configures edge routers remotely upon physical power and underlay connection.

Implementing Cisco SD-WAN Solutions and Design Day by Day

Day 1: Orchestration Architecture and Underlay Connectivity

- MEF 70.1 Architecture Principles — Defining Standard Service Boundaries and Network Interfaces
- Controller Plane Deployment Models — Sizing Multi-Tenant vManage, vSmart, and vBond Instances
- Control Plane Security Mechanisms — Verifying Device Certificates and Root Trust Authorities
- Underlay Connectivity Service Integration — Evaluating Carrier Multi-Protocol Label Switching and Broadband Circuits
- Transport Locator Attribute Modelling — Mapping Physical Interfaces to Custom Colour Labels

Day 2: Control Plane Routing and Overlay Construction

- Overlay Management Protocol Mechanics — Distributing Prefix Reachability and Cryptographic Keys
- Virtual Network Segmentation Structures — Implementing Virtual Private Networks for Traffic Isolation
- Zero-Touch Provisioning Workflows — Validating Device Identity and Secure Bootstrap Parameters
- Dynamic Edge Peering Topologies — Constructing Hub-and-Spoke and Partial-Mesh Overlay Tunnels
- BGP and OSPF Service Routing — Peering Local Branch Subnets with SD-WAN Edge Devices

Day 3: Centralised Policies and Application-Aware Routing

- Centralised Control Policy Frameworks — Restricting Path Advertisements and Influencing Routing Handoffs
- Centralised Data Policy Architecture — Enforcing Traffic Redirection and Symmetrical Tunnel Preferences
- Application-Aware Routing Profiles — Setting Jitter, Latency, and Packet Loss Steering Thresholds
- Quality of Service Queuing Models — Prioritising Industrial Control and Voice Collaboration Packets
- Direct Internet Access Breakout Rules — Securing Local Branch Egress for SaaS Platforms

Day 4: Security Architecture, Cloud OnRamp, and Regulatory Controls

- Enterprise Branch Security Stacks — Embedding Zone-Based Firewalls and Intrusion Prevention Profiles
- CST Decision Number 506/1445 Compliance — Aligning Cloud Transit Paths with Data Residency Demands
- NCA ECC-2:2024 Subdomain 4-2 Controls — Implementing Audited Isolation for Hosted Infrastructure Interconnects
- Cisco Cloud OnRamp for Multi-Cloud — Automating Secure Transit Gateways in Public Cloud Providers
- Operational Technology Zone Isolation — Safeguarding Substation Telemetry and SCADA Traffic Traversal

Day 5: Enterprise Migration Execution and Operational Governance

- Legacy WAN to SD-WAN Cutover Strategies — Orchestrating Phased Branch Sites and Dual-Homed Routers
- MEF 90 Conformance Testing Principles — Validating Policy Execution and Failover Recovery Benchmarks
- Real-Time Network Telemetry and Troubleshooting — Isolating Packet Drop and Tunnel Flap Anomalies
- Disaster Recovery Orchestration Procedures — Simulating Split-Brain Scenarios and Controller Failovers
- Architecture Blueprint Consolidation — Finalising the Phased Cutover and Compliance Package

Applying Implementing Cisco SD-WAN Solutions and Design After the Course

- Audit active enterprise wide area network circuits to quantify application latency thresholds and identify underlay carrier consolidation opportunities.
- Establish standardised branch configuration templates that integrate automated zero-touch onboarding with mandatory baseline security policies.

Implementing Cisco SD-WAN Solutions and Design Questions FAQ

What is Implementing Cisco SD-WAN Solutions and Design and why does it matter now?

Implementing Cisco SD-WAN Solutions and Design is the systematic engineering of centralised software-defined wide area network architectures. It enables dynamic transport agility, programmatic branch security, and verifiable traffic steering, replacing fragile legacy routing protocols across mission-critical enterprise environments.

Which roles gain most from Implementing Cisco SD-WAN Solutions and Design?

Enterprise network architects, infrastructure systems engineers, and operations technical leads gain the most practical benefit. The curriculum directly serves professionals accountable for WAN modernization, carrier circuit governance, branch site reliability, and regulatory network security compliance.

How does Implementing Cisco SD-WAN Solutions and Design differ from legacy routing and basic enterprise switching?

Legacy routing relies on distributed, device-by-device configuration files across physical hardware. Implementing Cisco SD-WAN Solutions and Design decouples control, data, and management planes, establishing automated zero-touch onboarding, application-aware dynamic traffic steering, and centralised cryptographic policy orchestration.

What does a participant bring back from Implementing Cisco SD-WAN Solutions and Design?

Participants return with validated methods to architect and govern software-defined overlays. They bring an actionable transition framework, verified template models, and operational troubleshooting approaches to accelerate digital infrastructure migrations while enforcing regulatory compliance.

Implementing Cisco SD-WAN Solutions and Design: The Way Forward

The SD-WAN Network Architecture Specification and Migration Plan equips engineering leaders to execute controlled branch transitions without disrupting live operations. Used directly by infrastructure decision-makers, this document guides initial carrier circuit selection and security zoning. Engineering teams should revisit the specification following initial branch deployment to incorporate empirical telemetry metrics and refine dynamic steering thresholds.