



ATM, Frame Relay and IP Interworking Training Course

1 – 5 February 2027
Singapore

ATM, Frame Relay and IP Interworking Training Course

Ref: 1652_222073 **Date:** 1 – 5 February 2027 **Location:** Singapore **Fees:** 5700 Euro

Overview

ATM, Frame Relay and IP Interworking Training Course is a one-week advanced programme for engineers and architects who operate, troubleshoot or retire mixed legacy WAN environments. It develops a structured approach to ATM cells and adaptation, Frame Relay virtual circuits, IP carriage, service and network interworking, traffic contracts, congestion mapping, routing, evidence-led fault isolation and controlled migration. Participants leave with an Interworking and Migration Plan through practical work developed by Agile Leaders Training Center.

Who Should Attend

- Telecommunications engineers responsible for carrier or enterprise WAN services
- WAN architects designing interworking or migration arrangements
- Network operations specialists supporting ATM and Frame Relay infrastructure
- IP engineers integrating routed services with legacy transport
- Service assurance teams investigating end-to-end degradation
- Infrastructure managers planning legacy WAN retirement

Participants should understand IP addressing, routing, Layer 2 services and basic traffic analysis. The course is not tied to one vendor platform.

Departments and Industries

The course supports organisations that retain ATM or Frame Relay dependencies while operating routed IP networks.

- Telecommunications engineering, architecture and service design
- Network operations, service assurance and field support
- Banking, government, transport and utilities
- Carriers, managed service providers and large enterprises
- Technology risk, continuity and infrastructure transformation

Learning Objectives

By the end of this course, participants will be able to:



- Explain ATM, Frame Relay and routed IP forwarding models
- Map PVC, SVC, DLCI, VPI and VCI relationships
- Evaluate AAL5, LLC/SNAP and VC multiplexing encapsulation
- Relate ATM traffic contracts to Frame Relay and IP quality of service
- Diagnose signalling, congestion, fragmentation and routing faults
- Plan controlled migration from legacy WAN services to routed IP

Course Agenda

Day 1: ATM, Frame Relay and IP Foundations

- ATM cells, virtual paths, virtual channels and service categories
- Frame Relay frames, DLCIs, PVCs, LMI and committed information rate
- IP addressing, subnets, routing and interface dependencies
- Layer boundaries and end-to-end service maps
- Mixed WAN topology and dependency register

Day 2: Interworking Architecture and Encapsulation

- Network interworking and Frame Relay service interworking
- AAL5, LLC/SNAP, VC multiplexing and Frame Relay SSCS
- Classical IP over ATM, ATMARP and InATMARP
- PVC and SVC provisioning, signalling and address resolution
- Encapsulation decision matrix and packet-path walkthrough

Day 3: Traffic Management and Quality of Service

- ATM traffic management, policing, shaping and cell-loss priorities
- Frame Relay FECN, BECN, DE and congestion response
- CLP, DE and congestion mapping through an interworking function
- IP precedence, DSCP, queuing and service-class alignment
- Quality-of-service policy and traffic-contract validation

Day 4: Operations, Monitoring and Troubleshooting

- Interface, PVC and virtual-channel state verification
- Fragmentation, reassembly, MTU and encapsulation mismatches
- Routing adjacency, reachability and asymmetric-path diagnosis
- Counters, captures, alarms and fault domains
- Scenario lab: isolate an end-to-end interworking failure

Day 5: Migration to Routed IP

- Legacy inventory, application dependencies and risk classification
- Target-state routed IP architecture and coexistence patterns
- Pilot scope, rollback criteria and acceptance tests
- Phased cutover, coordination and service assurance
- Capstone: legacy WAN migration plan

Practical Exercises

Suggested activities use diagrams, configuration evidence and operational records.

- Suggested activity: trace DLCI, VPI and VCI relationships
- Suggested activity: select encapsulation for a Classical IP over ATM case
- Suggested activity: map congestion signals to an IP service class
- Suggested activity: build a phased legacy WAN migration plan

FAQs

What does ATM Frame Relay IP interworking mean?

It covers functions, encapsulations, addressing and operational rules that allow services or protocol data to cross ATM, Frame Relay and routed IP environments.

Does the course cover network and service interworking?

Yes. Participants compare service translation with network interworking in which ATM transports connectivity between Frame Relay endpoints.

How is Classical IP over ATM addressed?

The course examines logical IP subnets, AAL5, ATMARP, InATMARP, PVC and SVC operation and IP-to-ATM address resolution.

Is this a vendor configuration course?

No. It is standards-led and architecture-focused and does not promise vendor certification.

Why study legacy WAN technologies during migration?

Existing dependencies, traffic contracts and failure modes must be understood to support coexistence, testing, rollback and continuity.



Conclusion

Participants take back an Interworking and Migration Plan covering topology, virtual circuits, encapsulation, addressing, traffic treatment, monitoring evidence, target architecture, pilot controls and phased cutover. It helps technical and operational teams expose dependencies, test assumptions and coordinate migration without treating the current network as a black box.