

Packet Tracer Lab 24

Critical Site Outage

Incident ID: INC-1024

Difficulty

Advanced

Estimated Time

20–40 Minutes

Skills Covered

- Enterprise Infrastructure Troubleshooting
- Core Network Validation
- Layer 3 Interface Verification
- OSPF Neighbor Analysis
- Routing Table Verification
- Data Center Incident Response
- Structured Troubleshooting Methodology
- Operational Validation

Scenario

Shortly after scheduled infrastructure maintenance, users across multiple regional offices begin reporting widespread loss of access to centralized corporate resources hosted at headquarters.

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Branch office users can still communicate locally, however corporate services, internal department resources, and centralized applications hosted within the headquarters environment have become unavailable.

Initial monitoring indicates the enterprise WAN remains operational, but multiple business-critical services are inaccessible.

You have been assigned to investigate the incident, restore headquarters connectivity, validate enterprise services, and document your findings.

Customer Report

Reported By: Corporate Operations Center

Users Affected: Multiple Regional Offices

Business Impact

- Headquarters resources unavailable
- Centralized business applications inaccessible
- Corporate file services unavailable
- Internal departmental resources unavailable

Issue Started

Immediately following scheduled infrastructure maintenance.

Priority

Critical

Goal

- Identify the cause of the headquarters outage.
- Restore enterprise connectivity.
- Validate headquarters infrastructure.
- Verify centralized services.

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- Document your findings.

Environment

The lab environment includes:

- Headquarters Core Infrastructure
- Three Regional Branch Offices
- Enterprise WAN
- OSPF Dynamic Routing
- Layer 3 Core Switch
- Internal DNS Server
- Corporate File Server
- Multiple Workstations

Known Variables

Known Variables

- Branch office local connectivity remains operational.
- Branch users successfully communicate with their local default gateways.
- Branch-to-branch communication remains operational.
- OSPF neighbor relationships between branch routers remain established where applicable.
- Headquarters departmental resources are currently unavailable from the branch offices.
- Headquarters server network: **192.168.40.0/24**
- DNS Server: **192.168.40.10**
- File Server: **192.168.40.20**
- Headquarters Finance VLAN Gateway: **192.168.10.1**

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- Headquarters HR VLAN Gateway: **192.168.20.1**
- Headquarters IT VLAN Gateway: **192.168.30.1**
- Scheduled infrastructure maintenance was completed immediately before the incident.
- Follow a structured troubleshooting methodology before making configuration changes.

Troubleshooting Mindset

During troubleshooting, think through the following questions:

- Is the issue isolated to one branch or enterprise-wide?
- Is local branch connectivity functioning?
- Can branches communicate with one another?
- Is the WAN operational?
- Are routing relationships established?
- Where does communication stop?
- Has recent infrastructure maintenance affected headquarters connectivity?

Focus on identifying the failed infrastructure component before making configuration changes.

Expected Outcome

By the end of this lab, headquarters connectivity should be restored and centralized corporate services should once again be accessible from every regional office.

Users should also be able to explain the structured troubleshooting process used to isolate and resolve the incident.

Optional BridgeOpsOne Workflow

This section is optional but recommended for users who want a more realistic operations-center experience.

1. Create an Initial Update

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Create an initial customer-safe incident update describing the issue.

Example topics:

- Multiple departments reporting connectivity issues
- Internal applications inaccessible
- Investigation in progress

Use the Generate feature if needed to clean and professionalize your update.

2. Save Timeline Updates

During troubleshooting, provide 2–3 operational updates describing:

- What you are investigating
- What has been ruled out
- Progress toward resolution

Add these updates to your incident timeline within the Command Center.

Focus on keeping updates:

- Professional
- Concise
- Customer safe

3. Create a Final Resolution Statement

Once connectivity has been restored, create a final resolution update summarizing:

- What caused the issue
- Actions taken
- Current environment status
- Monitoring and validation steps

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Real-World Relevance

This issue simulates realistic troubleshooting commonly encountered in:

- Network Operations Centers (NOC)
- Enterprise Operations
- Critical Infrastructure Monitoring
- Data Center Operations
- Network Engineering

The purpose of this lab is to develop:

- Infrastructure troubleshooting skills
- Enterprise operational thinking
- Core network validation
- Incident communication
- Operational restoration

Deliverables

At the conclusion of this lab, users should be able to:

- Explain the issue.
- Describe the troubleshooting methodology.
- Restore headquarters connectivity.
- Validate enterprise services.
- Communicate findings clearly.

Hints

If you become stuck during troubleshooting, consider the following:

- Verify local connectivity before assuming a complete enterprise outage.

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- Compare working branch services with unavailable headquarters services.
- Validate routing before assuming server failure.
- Review interface status on core infrastructure devices.
- Follow a structured troubleshooting methodology instead of guessing.