

Azure ↔ OCI Network Connectivity Troubleshooting Guide

Common Issues & Immediate Checks

1. VPN Tunnel Failure

- Verify matching IPsec policies:
 - Compare IKE versions (v1/v2)
 - Validate encryption (AES256 vs AES128) and hashing algorithms (SHA-256/SHA-384)
 - Check proxy IDs/traffic selectors match exactly

2. Routing Problems

```
bash
# Azure VM: Check effective routes
az network nic show-effective-route-table --ids $(az network nic list --query "[?contains(name,'ubuntu')].id" -o tsv)

# OCI VM: Verify route tables
oci network route-table get --rt-id <route_table_OCID>
```

- Ensure no CIDR overlaps between VCN (OCI) and VNet (Azure)
- Confirm DRG attachments exist in OCI

3. Security Configuration

Azure Checklist:

- NSG allows ICMP/SSH/RDP from OCI CIDR
- ExpressRoute circuit shows "Provisioned" state

OCI Checklist:

- Security lists permit Azure VNet CIDR
- Dynamic Routing Gateway (DRG) attached to VCN

Diagnostic Workflow

text

graph TD

A[No Connectivity] --> B{Physical Link Status}

B -->|Down| C[Check ExpressRoute/FastConnect provisioning]

B -->|Up| D[Verify BGP Session]

D -->|Active| E[Test VM-to-VM Connectivity]

D -->|Inactive| F[Review IPsec Configurations]

Toolkit & Commands

```
powershell
```

```
# Azure ExpressRoute Monitoring
```

```
Get-AzExpressRouteCircuit -Name "Azure_2_OCI_ExpressRoute" -ResourceGroupName "Azure_2_OCI"
```

```
Test-AzPrivateIPAddress -TargetIPAddress 10.15.0.4
```

```
text
```

```
# OCI FastConnect Verification
```

```
oci network fast-connect-virtual-circuit get --virtual-circuit-id <vc_ocid>
```

```
oci network drg get --drg-id <drg_ocid>
```

Configuration Comparison Table

Component	Azure Requirement	OCI Requirement
BGP ASN	12076 (Standard)	31898 (Oracle ASN)
MTU	1500	9000 (Jumbo frames)
Redundancy	Active/Active VPN Gateways	Multiple FastConnect paths

Escalation Path

1. First-line: Cross-check all configurations against [Oracle-Azure Interconnect Guide](#)
2. Second-line: Collect packet captures from both clouds:

```
bash
```

```
# Linux VMs (Both Clouds)
```

```
tcpdump -i eth0 -s 0 -w /tmp/azure-oci.pcap
```

3. Vendor Support: Provide these artifacts:
 - Azure ExpressRoute CIRCUIT ID
 - OCI FastConnect OCID
 - Timestamped traceroutes from both directions

Pro Tips

- Always test with private IPs first to bypass public internet³
- Use `mtr` for continuous path analysis:

```
bash
```

```
mtr -rwbz -i 0.5 -c 100 <target_private_ip>
```

- Schedule maintenance windows during low traffic periods for config changes⁴

Remember: Interconnect provisioning typically takes 5-7 minutes to stabilize. Always allow this buffer before declaring failures. For persistent issues, refer to joint Microsoft-Oracle support channels with full configuration snapshots from both portals.