# Technical Proposal: AWS Private VPC & VPN Integration with Snowflake

## Project Summary

This proposal outlines a secure and scalable implementation plan to integrate AWS VPC and VPN services with Snowflake while ensuring that Snowflake is not accessible from the public internet. The solution will be tailored to support the client’s hospitality analytics infrastructure.

## Objectives

- Restrict Snowflake access from the public internet.

- Create a secure, private VPC architecture in AWS.

- Configure VPN connectivity to Snowflake.

- Ensure zero downtime and minimal service disruption.

- Provide consultation for future infrastructure scaling or adjustments.

## Proposed Solution

1. \*\*VPC Setup\*\*

- Create a VPC across multiple Availability Zones.

- Public and private subnets for separation of concerns.

- Route Tables and Network ACLs to enforce access control.

2. \*\*VPN Configuration\*\*

- Deploy AWS VPN Gateway.

- Create a Site-to-Site VPN connection to Snowflake.

- Configure routing to allow private subnet traffic to flow securely.

3. \*\*Snowflake Security\*\*

- Utilize Snowflake network policies to restrict IP access.

- Recommend use of Snowflake PrivateLink for added security (if supported).

4. \*\*Infrastructure as Code (IaC)\*\*

- Provide Terraform modules for VPC and VPN infrastructure.

- Use variables to allow reusability and flexibility.

5. \*\*Testing & Validation\*\*

- Confirm VPN tunnel connectivity.

- Validate private subnet access to Snowflake.

- Security checks to confirm no public exposure.

## Deliverables

- Secure AWS VPC with public/private subnets.

- Configured AWS Site-to-Site VPN to Snowflake.

- Infrastructure documented via Terraform.

- Draw.io Architecture Diagram.

- Implementation and handover documentation.

## Timeline & Milestones

| Phase | Task | Duration |

|-------|------|----------|

| 1 | Discovery & Requirements | 1 day |

| 2 | VPC Setup | 2 days |

| 3 | VPN Configuration | 1 day |

| 4 | Snowflake Connectivity | 1 day |

| 5 | Validation & Handover | 1 day |

Total Estimated Duration: \*\*5–7 Business Days\*\*

## Assumptions & Dependencies

- Access to AWS environment and permissions.

- Snowflake configuration and network policy access.

- VPN method is approved and supported by Snowflake.

- Client-side coordination for change management.

- CI\CD for IaC ?

## Appendix

- AWS Certified Solutions Architect – Associate

- 8+ years in cloud network engineering

Architecture Diagram

Refer to the attached Draw.io diagram for visual representation.

### Links

<https://d-9067473142.awsapps.com/start/#/?tab=accounts>

<https://d-9067473142.awsapps.com/>

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