Lab: Technology Resilience Design (High-Availability & Recovery Architecture)

Module: Strategic Overview & Frameworks

Overview

In this lab, you will take on the role of a **resilience strategy team** responsible for developing a technology resilience framework for a fictional organization.
Your task is to design a **high-availability (HA)** and **recovery architecture** that aligns with the organization's resilience strategy — not just from a technical standpoint, but as part of its **overall business continuity and governance framework.**

This lab ties directly to the **Strategic Overview & Frameworks** module and supports your preparation for **DRI International certifications (ABCP, CBCP, ACRP, CCRP)** by reinforcing the connection between strategic planning, resilience architecture, and risk management.

Scenario

Your company, **"Helios Data Group,"** is a mid-sized analytics firm that provides near real-time data insights to enterprise clients.
A recent review showed that the company's systems have strong security controls but lack formal **resilience architecture** — meaning a single outage could disrupt operations and client contracts.

You have been asked to design a **fit-for-purpose resilience strategy** that includes high-availability and recovery elements.
This strategy should demonstrate how technology design supports business continuity and organizational resilience.

You will have **2 hours to prepare** and **1 hour to present** your results.
You may use **Google** or any online resources to research best practices and frameworks.

Your Task

Work in **teams of 3–4.**
Each team will act as the **resilience strategy unit** for Helios Data Group.
Your deliverable is a **Google Slides presentation** showing your proposed technology resilience design and its strategic alignment to organizational goals.

Your presentation should include:

1. A system overview and classification of critical business functions.
2. Recovery objectives (RTO, RPO, and availability goals).
3. A high-availability and recovery architecture diagram.
4. Strategic rationale for how your design supports business continuity.
5. Key risks, dependencies, and governance considerations.

Step 1: Define Business Priorities

List the company's most important services and systems.
For each, determine:

- Why it is critical to business operations.
- What dependencies it has (people, systems, vendors).
- How long it can be unavailable before major impact occurs.

Use this to define your **strategic resilience priorities.**

Step 2: Establish Recovery Objectives

For each key system or service, define:

- **RTO (Recovery Time Objective):** acceptable downtime window.
- **RPO (Recovery Point Objective):** acceptable data loss threshold.
- **Availability Goal:** e.g., 99.9%, 99.99%.

These targets will guide your architecture and resilience investments.

Step 3: Design Your High-Availability and Recovery Architecture

Develop a **conceptual diagram** showing how systems achieve resilience through:

- Redundant data centers or cloud regions.

- Load balancing and clustering.
- Replication and backup processes.
- Monitoring, failover, and governance controls.

Make it **visually clear and labeled** — your goal is to show strategic design, not technical configuration.

Step 4: Identify Risks and Dependencies

Review your design and identify:

- Single points of failure (SPOFs).
- Third-party or interdepartmental dependencies.
- Organizational challenges (e.g., cost, skills, policy gaps).

Document mitigation strategies and governance mechanisms to manage these risks.

Step 5: Align to the Framework

Explain how your architecture aligns with recognized frameworks such as:

- **ISO 22301:** Business Continuity Management
- **ISO 27001:** Information Security and Availability Controls
- **NIST SP 800-34:** Contingency Planning
- **DRI Professional Practices:** Technology and Infrastructure Resilience

Show how your strategy supports **maturity development** across governance, risk management, and operational domains.

Step 6: Present Your Strategy

Your team will present a **10-minute summary** including:

- A clear overview of your design.

- Key resilience objectives and supporting rationale.
- Visual representation of the HA and recovery architecture.
- Governance approach for maintaining and improving the design.

Each team member should explain part of the architecture or strategy.

Evaluation Criteria

Category	Description	Points
Strategic Alignment	Connects design to resilience strategy, frameworks, and governance	30
Architecture Design	Clear, logical, and realistic HA/DR structure with supporting rationale	30
Risk Awareness	Identifies SPOFs, dependencies, and mitigation strategies	20
Presentation Quality	Clear visuals, teamwork, and professional explanation	20

Total: 100 points

Expected Outcome

By the end of this lab, your team will have developed:

- A **strategic-level resilience architecture** tied to business priorities.
- Clear RTO/RPO definitions that guide technology decisions.
- A governance-focused approach to maintaining availability and recovery readiness.

Key Takeaways

- Strategic resilience connects technology decisions to business outcomes.
- Frameworks like ISO 22301 and DRI practices guide maturity and consistency.
- High availability and recovery design are **strategic enablers**, not just technical solutions.

- Building resilience maturity requires coordination between technology, leadership, and compliance.