**Backup and Recovery Strategies Document**

**1. Backup Strategy**

Ensuring data protection and business continuity requires a well-structured backup strategy. The organization follows multiple backup methodologies to minimize data loss and ensure quick recovery.

**1.1 Backup Types**

1. **Full Backup:** Performed **weekly** to capture a complete snapshot of all critical data.
2. **Differential Backup:** Conducted **daily**, storing only data changes since the last full backup.
3. **Transaction Log Backup:** Executed **every 4 hours** to preserve all database transactions for minimal data loss.
4. **Real-time Replication:** Continuous data synchronization with a secondary system to ensure redundancy.

**2. Recovery Objectives**

Recovery objectives define the acceptable limits for system restoration and data loss.

* **Recovery Time Objective (RTO):** Systems must be restored **within 2 hours** to resume normal operations.
* **Recovery Point Objective (RPO):** Data recovery will ensure **no more than 15 minutes** of data loss.

**3. Backup Locations**

To mitigate risks associated with hardware failures, cyberattacks, or natural disasters, backups are stored across multiple secure locations:

* **Primary Data Center:** Houses the main operational backups for quick recovery.
* **Geographically Dispersed Secondary Data Center:** Ensures business continuity in case of primary data center failure.
* **Cloud Backup with Military-Grade Encryption:** Secure, scalable, and accessible storage solution for additional redundancy.
* **Offline Tape Backups for Critical Data:** Provides long-term, tamper-proof archival storage.

**4. Recovery Procedure**

A structured recovery process ensures minimal downtime and data integrity in case of an incident.

1. **Immediate System Isolation:** Identify and contain the affected systems to prevent further damage.
2. **Comprehensive Damage Assessment:** Analyze the scope of data loss and impact on operations.
3. **Backup Restoration from Most Recent Clean Point:** Recover data from the latest uncorrupted backup.
4. **Data Integrity Verification:** Validate the restored data to ensure completeness and accuracy.
5. **Gradual System Restoration:** Reintroduce recovered systems in a controlled manner to avoid further disruption.
6. **Post-Incident Analysis:** Conduct a thorough review to determine root causes and improve future resilience.

**Conclusion**

This backup and recovery strategy ensures data security, minimizes downtime, and guarantees business continuity. By implementing a multi-layered approach to backup storage and a structured recovery process, the organization is well-prepared for potential data loss scenarios.