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## Solution Architecture

### Project Design Phase – Calculating Family Expenses using ServiceNow

#### 1. Overview

The solution architecture provides a clear technical blueprint for automating and managing family expenses through the ServiceNow platform. It ensures seamless data flow, automation of processes, and real-time analytics for effective financial management.

#### 2. Architectural Layers

**User Interface Layer:** Enables users to access dashboards, enter expenses, and view reports through ServiceNow portals and mobile applications.

**Application Layer:** Comprises Flow Designer, Business Rules, and Script Includes to handle logic for expense tracking, approval workflows, and automatic budget calculations.

**Data Layer:** Stores expense data, family member profiles, and budget categories securely in ServiceNow tables.

**Integration Layer:** Uses Integration Hub and REST APIs to connect with external finance systems and send email/SMS notifications.

**Analytics Layer:** Uses Performance Analytics and reporting dashboards for visual insights into monthly or annual family expenses.

**Security Layer:** Enforces ACLs and Role-Based Access Controls (RBAC) to protect sensitive data.

#### 3. System Flow

The architecture ensures a systematic process where users enter expenses, the system validates data, triggers automated calculations and approvals, stores results securely, and displays insights through dashboards.

#### 4. Benefits

- Automated calculations and approval workflows
- Real-time data visualization and analytics
- Secure and centralized data management
- Scalability for multiple family members and expense categories

## Solution Architecture Diagram

# Solution Architecture

Calculating Family Expenses using ServiceNow

