Project Design Phase-II

Technology Stack (Architecture & Stack)

Date:	21-12-2025
Team ID:	
Project Name:	Automated Network Request Management in ServiceNow
Maximum Marks:	4 Marks

Technical Architecture

The proposed system follows a **multi-tier cloud-based architecture** using the **ServiceNow Platform**.
End users interact through the **ServiceNow Service Portal**, which triggers **business logic via Flow Designer and Workflows**.
Data is securely stored in **ServiceNow tables and custom tables**, while approvals, notifications, and task automation are handled within the platform.

The architecture ensures **scalability, security, automation, and high availability**, suitable for enterprise ITSM operations.

Table-1: Components & Technologies

S.No	Component	Description	Technology
1	User Interface	User interaction through Service Portal for submitting And tracking network requests	ServiceNow Service Portal (HTML, CSS, AngularJS)
2	Application Logic-1	Business logic for request submission, validation, and routing	ServiceNow Flow Designer
3	Application Logic-2	Approval workflow logic and condition-based routing	ServiceNow Workflow / Flow Designer
4	Application Logic-3	Client-side logic for dynamic form behavior	Catalog Client Scripts & UI Policies

S.No	Component	Description	Technology
5	Database	Storage of request records, approvals, logs	ServiceNow Core Tables
6	Cloud Database	Custom structured storage for network request data	ServiceNow Custom Table (u_network_database)
7	File Storage	Storage of proof documents uploaded users	ServiceNow Attachment Storage
8	External API-1	Email notification service	ServiceNow Notification & Email Engine
9	External API-2	User and organizational data lookup	ServiceNow User & Department Tables
10	Infrastructure (Server / Cloud)	Platform hosting and deployment	ServiceNow Cloud (SaaS Platform)

Table-2: Application Characteristics

S.No	Characteristics	Description	Technology
1	Open-Source Frameworks	Frontend frameworks used within the Service Portal	AngularJS (ServiceNow Native)
2	Security Implementations	Role-based access control, ACLs, and data security	ServiceNow ACLs, Role Management, HTTPS
3	Scalable Architecture	Supports increasing users and requests without redesign	Multi-tier SaaS Architecture (ServiceNow Cloud)
4	Availability	High availability with minimal downtime	ServiceNow Managed Cloud Infrastructure
5	Performance	Optimized request handling, approval and notifications	ServiceNow Platform Optimization