
Requirement Analysis Phase

Date

Project Name

Automated Network Request Management in ServiceNow

College Name

Ideal Institute Of Technology

Step-1: Customer Journey Map

End User (Employee):

- Logs into the ServiceNow portal.
- Submits a network-related service request (new connection, relocation, device configuration, etc.).
- Tracks the status of the request in real time.
- Receives notifications on updates and resolution.

IT Approver/Manager:

- Receives automated approval requests.
- Reviews and approves/rejects based on business rules.
- Delegates if needed.

IT/Network Team:

- Receives tasks automatically created by Flow Designer.
- Works on fulfillment with reduced manual effort.

- Updates status in ServiceNow.

Admin/Management:

- Monitors requests and SLA adherence through dashboards.
 - Generates reports for auditing and performance improvement.
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Step-2: Solution Requirement

♦ 1. Functional Requirements

These describe what the system should do.

ID	Requirement Description
FR1	Users (employees) should be able to log in and raise network requests via ServiceNow self-service portal.
FR2	Dynamic forms should capture details (e.g., request type, device, location, description).
FR3	System should auto-populate user details (name, email, contact).
FR4	Approval workflows should trigger automatically based on request type/sensitivity.
FR5	Tasks should be auto-assigned to the appropriate IT/network team.
FR6	Users and technicians should receive automated notifications (email/portal).
FR7	Requesters should be able to track real-time status of their requests.
FR8	System should store request history for auditing and reporting.
FR9	Dashboards should provide analytics on request volume, SLA compliance, and resolution times.

♦ 2. Non-Functional Requirements

Category	Requirement
Performance	System should process and route requests instantly without delays.

Reliability	Ensure 99.5% uptime with ServiceNow cloud infrastructure.
Usability	Intuitive, mobile-friendly self-service portal for employees.
Security	Secure authentication (SSO/MFA) and encryption of request data.
Scalability	Support growing number of users and additional service domains beyond network.
Maintainability	Easy updates and flow modifications through ServiceNow Flow Designer.

◆ **3. Data Requirements**

ID	Data Requirement
DR1	Store user details (employee ID, name, email, phone, department).
DR2	Store network request details (type, description, location, device info).
DR3	Store approval data (approver, status, timestamp).
DR4	Store workflow execution logs and SLA tracking data.
DR5	Store analytics data for reporting (volume, resolution times, trends).

◆ **4. Technical Requirements**

Area	Requirement
Platform	ServiceNow platform (PaaS) with Service Catalog & Flow Designer.
Database	Native ServiceNow database (CMDB, custom tables).
Hosting	ServiceNow cloud-hosted environment.
Integration	Optional integration with orchestration/network automation tools (e.g., Ansible, Cisco APIs).
Notifications	Email and ServiceNow in-app notifications.

◆ **5. Stakeholder Requirements**

Stakeholder	Needs
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Employees (End Users)	Easy way to submit and track network requests.
IT/Network Team	Efficient request handling, reduced manual workload.
Approvers/Managers	Automated, transparent approval workflows.
Admin/Management	Real-time visibility, SLA reports, and audit trails.

Step-3: Data Flow Diagram

Level 0 – Context Level DFD (Overview)

- Input: Employee raises a network request.
- Process: ServiceNow processes request via catalog, workflows, and approvals.
- Output: Request fulfilled, user notified, logs updated.

Level 1 – Detailed DFD

1. Employee submits request → stored in **Network Request Table**.
 2. System triggers approval → assigned to **Approver**.
 3. If approved → **Flow Designer** creates fulfillment tasks.
 4. IT team executes tasks → updates status.
 5. Notifications sent → requester updated.
 6. Data logged into **Request History & SLA Reports**.
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Step-4: Technology Stack Requirement Analysis

◆ 1. Frontend (User Interface)

Component	Technology	Purpose
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Portal	ServiceNow Service Portal / Employee Center	For employees to raise and track requests.
UI Design	ServiceNow Form Designer, Catalog UI Policies	Build intuitive, dynamic forms.

♦ 2. Backend (Server-Side Logic)

Component	Technology	Purpose
Workflow	ServiceNow Flow Designer	Automate approvals, tasks, and notifications.
Business Rules	ServiceNow Scripting (JavaScript)	Apply conditional logic.
Approvals	Role-based Approval Engine	Automate approvals based on type/sensitivity.

♦ 3. Database (Data Storage)

Type	Technology	Purpose
Records	ServiceNow Tables (sc_req_item, task, custom tables)	Store request details and workflow logs.
CMDB	ServiceNow CMDB	Maintain reference to network assets.

♦ 4. APIs & Integrations

Type	Technology	Purpose
Notifications	ServiceNow Email & Notifications Framework	Send updates to users/technicians.
Orchestration	ServiceNow Orchestration / External APIs	Automate fulfillment with external tools.
Analytics	ServiceNow Performance Analytics	Generate dashboards and reports.

◆ **5. DevOps & Infrastructure**

Tool	Purpose
ServiceNow Studio	Development and version control.
Update Sets	Track and migrate changes.
Cloud Hosting	ServiceNow's native cloud hosting.
Monitoring	ServiceNow System Logs & Performance Analytics.

◆ **6. Security Requirements**

Security Layer	Technology
Authentication	SSO, MFA
Data Encryption	ServiceNow platform encryption (AES-256).
Role-Based Access	Admin, Approver, End User, IT Technician.
Audit Trails	ServiceNow built-in logging for compliance.

◆ **7. Optional AI Features (Future Scope)**

Use Case	Technology
Predict request resolution times	ServiceNow Predictive Intelligence
Auto-routing requests to correct teams	ML-based routing in ServiceNow
Sentiment analysis on feedback	NLP Integration