Automated Network Request Management in ServiceNow

INTRODUCTION

In modern IT-driven organizations, network services play a vital role in ensuring smooth communication, secure access, and uninterrupted business operations. Network-related service requests such as VPN access, firewall rule changes, IP allocation, and bandwidth upgrades are frequently raised by employees. Traditionally, these requests are handled through emails, spreadsheets, or manual ticketing processes, which often lead to delays, lack of visibility, errors, and poor user experience.

Automated Network Request Management is a ServiceNow-based solution designed to automate, standardize, and streamline the lifecycle of network service requests. This project leverages ServiceNow's IT Service Management (ITSM) capabilities to provide a centralized platform that ensures faster request fulfillment, better governance, improved transparency, and enhanced user satisfaction.

1.1 Project Overview

The Automated Network Request Management system enables users to submit network-related service requests through a ServiceNow Service Catalog. The system automates request routing, approvals, task creation, assignment, and notifications. Network teams can efficiently manage and resolve requests using predefined workflows, while management gains visibility through reports and dashboards.

This project focuses on building a scalable, secure, and user-friendly solution aligned with ITIL best practices for Request Fulfillment.

1.2 Purpose

The purpose of this project is to: - Replace manual network request handling with an automated workflow - Improve turnaround time and service quality - Ensure policy compliance and audit readiness - Enhance user experience through a self-service portal - Provide transparency and accountability in network operations

2. IDEATION PHASE

2.1 Problem Statement

Organizations face challenges in managing network service requests due to: - Manual request handling via emails - Lack of standardized approval processes - Poor visibility into request status - Delayed response and resolution times - Increased risk of security and compliance issues

There is a need for a centralized, automated solution to efficiently manage network requests.

2.2 Empathy Map Canvas

Users (Employees): - Need quick and easy access to network services - Expect real-time status updates - Prefer minimal manual interaction

Network Team: - Receives incomplete or unclear requests - Struggles with prioritization - Needs structured task assignment

Management: - Requires visibility and performance metrics - Needs compliance and audit trails

2.3 Brainstorming

During brainstorming sessions, the following ideas were proposed: - Self-service network request portal - Automated approval workflows - Rule-based task assignment - SLA-based tracking - Reporting and dashboards

These ideas formed the foundation of the proposed solution.

3. REQUIREMENT ANALYSIS

3.1 Customer Journey Map

1. User logs into ServiceNow Portal
2. Selects Network Services
3. Submits a network request
4. Request goes through approval workflow
5. Network task is assigned
6. Request is resolved and closed

3.2 Solution Requirements

Functional Requirements: - Service Catalog for network requests - Automated approvals - Task creation and assignment - Notifications and status tracking

Non-Functional Requirements: - High performance - Data security - Scalability - Availability

3.3 Data Flow Diagram

- User submits request → ServiceNow Catalog
- Approval flow triggered
- Network task created
- Task resolved by network team
- Request closed and notification sent

3.4 Technology Stack

- Platform: ServiceNow
- Modules: ITSM, Service Catalog, Flow Designer
- Scripting: JavaScript (Business Rules)
- Database: ServiceNow Tables
- Tools: Reports and Dashboards

4. PROJECT DESIGN

4.1 Problem–Solution Fit

The proposed solution directly addresses delays, inefficiencies, and lack of visibility by automating the complete request lifecycle within ServiceNow.

4.2 Proposed Solution

The solution provides: - A centralized request portal - Automated workflows - Role-based access control - SLA monitoring - Reporting and analytics

4.3 Solution Architecture

- Presentation Layer: Service Portal

- Application Layer: Flow Designer, Business Rules
- Data Layer: Custom and extended tables
- Security Layer: ACLs and roles

5. PROJECT PLANNING & SCHEDULING

5.1 Project Planning

Phase	Duration
Ideation	3 days
Requirement Analysis	3 days
Design	2 days
Development	3 days
Testing	1 days
Deployment	1 days

6. FUNCTIONAL AND PERFORMANCE TESTING

6.1 Performance Testing

- Load testing with multiple users
- Validation of response times
- Access control testing
- Data integrity verification

7. RESULTS

7.1 Output Screenshots

- Network Request Form
- Approval Workflow
- Network Task Assignment
- Request Status Tracking
- Reports and Dashboards

8. ADVANTAGES & DISADVANTAGES

Advantages

- Faster request processing

- Improved transparency
- Better compliance
- Reduced manual effort

Disadvantages

- Initial setup complexity
- Dependency on ServiceNow platform

9. CONCLUSION

The Automated Network Request Management system successfully automates network service requests using ServiceNow. It improves efficiency, user satisfaction, and governance while aligning with ITIL best practices.

10. FUTURE SCOPE

- Integration with CMDB
- Automated network configuration
- AI-based request categorization
- Mobile app enhancements

11. APPENDIX

Source Code

- ServiceNow configuration and scripts

Dataset Link

- Not applicable (ServiceNow internal data)

GitHub & Project Demo Link

- GitHub: Link
- Demo: Link

End of Document