

# Automated Network Request Management in ServiceNow

## Project Overview

This project is designed to develop and implement an automated and streamlined solution for managing network-related service requests within the ServiceNow platform. It focuses on providing a seamless experience for end users to submit, track, and receive updates on network service requests through a user-friendly self-service portal. The solution leverages ServiceNow's powerful workflow engine, customizable service catalog, and approval processes to ensure that requests are accurately captured, validated, routed, and fulfilled efficiently. Where applicable, the system integrates with network automation tools and scripts to automate the fulfillment of standard requests, reducing manual efforts and minimizing errors.

## Objectives

- Provide a centralized and user-friendly self-service portal for network service requests.
- Automate the request intake process using dynamic forms tailored to specific network services.
- Implement approval workflows to ensure compliance and proper governance.
- Enable real-time communication and status updates for both requesters and technicians.
- Integrate with existing network automation or orchestration tools to automate routine tasks.

## Technical Architecture

- **ServiceNow Platform:** Utilizes ServiceNow's Service Catalog, Workflow Engine, and Notification Modules.
- **Workflow Engine:** Automates routing, approvals, task assignments, and escalations.
- **Integration Layer:** REST APIs, MID Server, or custom scripts to interface with network automation tools.
- **Self-Service Portal:** User interface for submitting requests, viewing status, and receiving notifications.

- **Security:** Role-based access controls for request submission, approval, and task fulfillment.

## Benefits

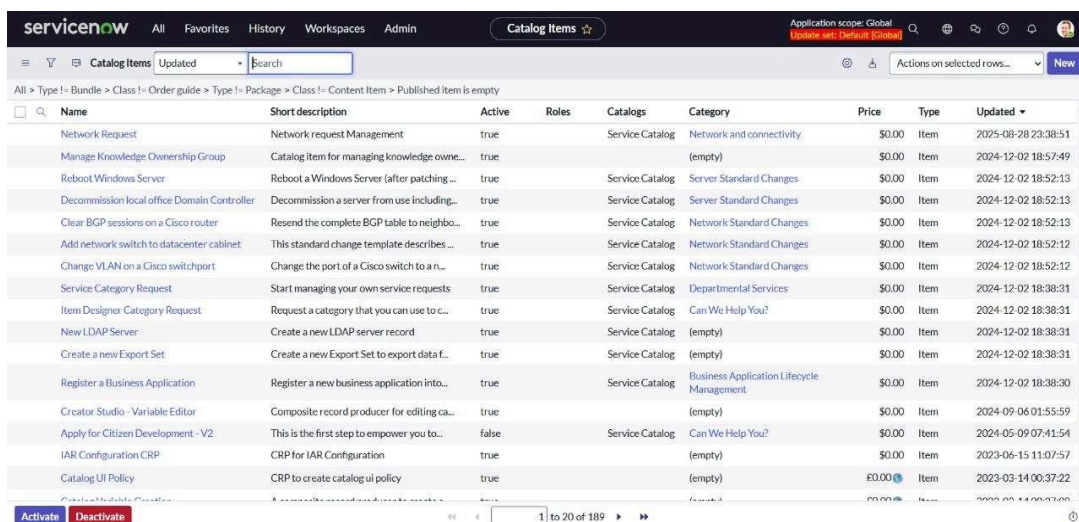
- **Efficiency:** Automates manual network request handling, reducing processing time.
- **Accuracy:** Ensures requests are complete and compliant before fulfillment.
- **Visibility:** Provides transparent status tracking for both users and IT teams.
- **Scalability:** Easily extendable to add new request types or integrate additional automation tools.
- **User Experience:** Simplifies the network service request process through an intuitive portal.

## Process and Procedure

This section outlines the step-by-step process and internal procedures followed from request submission to fulfillment, ensuring automation and governance within ServiceNow.

### 1. Request Submission

- **User Access:** End users access the ServiceNow self-service portal to submit network-related service requests.
- **Service Catalog Selection:** Users select the appropriate network service catalog item (e.g., IP address allocation, VPN access, firewall rule change).
- **Dynamic Form Completion:** Users fill out dynamic forms tailored to the request type. These forms capture all necessary details such as requester info, device IPs, VLAN IDs, business justification, and any special requirements.
- **Validation:** Real-time validation checks ensure mandatory fields are filled, data formats are correct, and any conditional logic is in place.



The screenshot displays the ServiceNow 'Catalog Items' page. The interface includes a top navigation bar with 'All', 'Favorites', 'History', 'Workspaces', and 'Admin'. A search bar is present, and the application scope is set to 'Global'. The main content area shows a table of catalog items with columns for Name, Short description, Active status, Roles, Catalogs, Category, Price, Type, and Updated date. The table lists various network-related services such as 'Network Request', 'Manage Knowledge Ownership Group', 'Reboot Windows Server', and 'Decommission local office Domain Controller'. At the bottom, there are buttons for 'Activate' and 'Deactivate', and a pagination indicator showing '1 to 20 of 189' items.

Name	Short description	Active	Roles	Catalogs	Category	Price	Type	Updated
Network Request	Network request Management	true		Service Catalog	Network and connectivity	\$0.00	Item	2025-08-28 23:38:51
Manage Knowledge Ownership Group	Catalog item for managing knowledge owne...	true			(empty)	\$0.00	Item	2024-12-02 18:57:49
Reboot Windows Server	Reboot a Windows Server (after patching ...	true		Service Catalog	Server Standard Changes	\$0.00	Item	2024-12-02 18:52:13
Decommission local office Domain Controller	Decommission a server from use including...	true		Service Catalog	Server Standard Changes	\$0.00	Item	2024-12-02 18:52:13
Clear BGP sessions on a Cisco router	Resend the complete BGP table to neighbo...	true		Service Catalog	Network Standard Changes	\$0.00	Item	2024-12-02 18:52:13
Add network switch to datacenter cabinet	This standard change template describes ...	true		Service Catalog	Network Standard Changes	\$0.00	Item	2024-12-02 18:52:12
Change VLAN on a Cisco switchport	Change the port of a Cisco switch to a n...	true		Service Catalog	Network Standard Changes	\$0.00	Item	2024-12-02 18:52:12
Service Category Request	Start managing your own service requests	true		Service Catalog	Departmental Services	\$0.00	Item	2024-12-02 18:38:31
Item Designer Category Request	Request a category that you can use to c...	true		Service Catalog	Can We Help You?	\$0.00	Item	2024-12-02 18:38:31
New LDAP Server	Create a new LDAP server record	true		Service Catalog	(empty)	\$0.00	Item	2024-12-02 18:38:31
Create a new Export Set	Create a new Export Set to export data f...	true		Service Catalog	(empty)	\$0.00	Item	2024-12-02 18:38:31
Register a Business Application	Register a new business application into...	true		Service Catalog	Business Application Lifecycle Management	\$0.00	Item	2024-12-02 18:38:30
Creator Studio - Variable Editor	Composite record producer for editing ca...	true			(empty)	\$0.00	Item	2024-09-06 01:55:59
Apply for Citizen Development - V2	This is the first step to empower you to...	false		Service Catalog	Can We Help You?	\$0.00	Item	2024-05-09 07:41:54
IAR Configuration CRP	CRP for IAR Configuration	true			(empty)	\$0.00	Item	2023-06-15 11:07:57
Catalog UI Policy	CRP to create catalog ui policy	true			(empty)	\$0.00	Item	2023-03-14 00:37:22

## 2. Request Validation and Logging

- **Automatic Logging:** Once submitted, the request is automatically logged in the ServiceNow Incident/Request Management module with a unique tracking ID.
- **Initial Validation:** The system performs automated checks (e.g., duplicate request detection, compliance with network policies) and flags issues for manual review if necessary.

The screenshot shows the 'Catalog Item - Network Request' form in ServiceNow. The form is titled 'Catalog Item - Network Request' and includes a search bar and a 'Run Point Scan' button. The form is divided into several sections: 'Item Details', 'Process Engine', 'Picture', 'Pricing', and 'Portal Settings'. The 'Item Details' section is active and shows the following fields: Name (Network Request), Application (Global), Catalogs (Service Catalog), Category (Network and connectivity), State (None), Checked out (None), and Owner (System Administrator). The 'Process Engine' section shows the Short description (Network request Management) and the Description (Network request Management). The 'Picture' section shows a placeholder for a picture. The 'Pricing' section shows a placeholder for pricing. The 'Portal Settings' section shows a placeholder for portal settings.

The screenshot shows the 'Catalog Item - Network Request' table in ServiceNow. The table is titled 'Catalog item = Network Request' and includes a search bar and a 'Run Point Scan' button. The table is divided into several sections: 'Variables (9)', 'Variable Sets (1)', 'Catalog UI Policies (2)', 'Catalog Client Scripts', 'Available For', 'Not Available For', 'Categories (1)', 'Catalogs (1)', 'Catalog Data Lookup Definitions', 'Related Articles', and 'Related Catalog Items'. The table has columns for 'Type', 'Question', and 'Order'. The table contains 9 rows of data.

Type	Question	Order
Single Line Text	Please provide address here	200
Multiple Choice	Is this a new connection or a relocation	300
Single Line Text	If this is a relocation, Please provide ...	310
Container Start	Location & DeviceType	400
Container Start	Service Details	410
Select Box	Type of devices	420
Single Line Text	Provide device details	430
Container Start	Additional Information	500
Single Line Text	If any, Please write here	510

### 3.Approval Workflow

- **Route for Approval:** Based on the request type and sensitivity, the system triggers a predefined approval workflow. For example:
  - Low-risk requests may require a single-level approval from the network team lead.
  - High-risk or sensitive requests trigger multi-level approvals (e.g., security officer, network manager).
- **Approval Notifications:** Approvers receive notifications via email and ServiceNow dashboards, including request details and action buttons (approve/reject/comment).
- **Escalations and Reminders:** If approvals are not actioned within defined SLAs, automated reminders and escalations are triggered.
- **Approval Outcome:** If approved, the request proceeds to fulfillment. If rejected, the requester is notified with comments and may be prompted to modify and resubmit.

The screenshot shows the ServiceNow Workflow Studio interface for a workflow named 'Network Request'. The workflow is currently in 'Active' state. The main canvas displays the workflow logic, starting with a 'Service Catalog' trigger. The actions are: 1. Get Catalog Variables from Network Request, 2. Create Network Database Table Record, 3. Ask For Approval, 4. If if Approve (with a 'then' branch), and 5. Update Network Database Table Record. An 'ERROR HANDLER' section is also visible, with a note: 'If an error occurs in your flow, the actions you add here will run.'

On the right side, the 'Data' panel shows the flow variables. Under 'Trigger - Service Catalog', there is a 'Requested Item Record' with variables: 'Run Start Time UTC' (Date), 'Table Name' (Text), and 'Run Start Date/Time' (Date). Under '1 - Get Catalog Variables', there are several variables: 'type\_of\_devices', 'if this is a relocation please provid...', 'is this a new network connection...', 'provide device details', 'if any please write here', 'proof\_of\_documents', 'please provide address here', 'opened\_on\_behalf\_of', 'phone\_number', 'user\_name', and 'email\_id'. Under '2 - Create Record', there are no variables listed.

The screenshot shows the 'EXECUTION DETAILS' for the 'Network Request' workflow. The workflow is in 'Completed' state. The 'Test Run - Completed' button is visible. The 'Open flow' and 'Open context record' buttons are also present. The 'Show Action Details' button is visible. The 'FLOW STATISTICS' section shows the workflow was run by 'System Administrator' on '2025-09-15 08:01:19' and took '318ms' to complete. The 'TRIGGER' section shows 'Catalog Item Requested'. The 'ACTIONS' section lists the following actions and their completion status:

Action	State	Start time	Duration
1. Get Catalog Variables from Network Request	Completed	2025-09-15 08:01:19	32ms
2. Create Record	Completed	2025-09-15 08:01:19	12ms
3. Ask For Approval	Completed	2025-09-15 08:01:19	245ms
4. If if Approve	Flow Logic - Evaluated - False	2025-09-15 08:01:19	15ms
5. Update Record	Completed	2025-09-15 08:01:19	11ms

The 'ERROR HANDLER' section is empty.

## 4. Fulfillment Process

- **Task Assignment:** Upon approval, ServiceNow creates fulfillment tasks and assigns them to the appropriate network operations team or automation system.
- **Automated Execution (Optional):** For standard, repeatable requests, ServiceNow integrates with network automation tools (like Ansible, Cisco DNA Center) to automatically apply configurations or changes.
- **Manual Execution:** For requests requiring manual intervention, technicians receive task details and perform the required changes.
- **Status Updates:** As tasks progress, ServiceNow updates the request status in real-time, notifying the requester and updating dashboards.

The screenshot shows the ServiceNow 'Order Status' page for request REQ0010001. The page includes a navigation bar with 'All', 'Favorites', 'History', 'Workspaces', and 'Admin'. A search bar and a status indicator 'Order Status: REQ0010001' are also present. A green notification bar at the top states 'Thank you, your request has been submitted'. Below this, the order details are listed: 'Order Placed: 2025-09-18 06:37:17', 'Request Number: REQ0010001', and 'Estimated Delivery Date of Complete Order: 2025-09-20'. A table displays the order item with columns for Description, Delivery Date, Stage, Price (ea.), Quantity, and Total. The table shows one item: 'Network Service Request' with a delivery date of '2025-09-20' and a quantity of '1'. The stage is represented by a progress bar with four circles, the first of which is green. The total price is shown as a teal bar with a minus sign. At the bottom, there are buttons for 'Back to Catalog', 'Continue Shopping', and 'Home'.

Description	Delivery Date	Stage	Price (ea.)	Quantity	Total
Network Service Request	2025-09-20	▶ ● ● ● ●		1	
				Total	-

## 5. Completion and Closure

- **Verification:** Technicians confirm the successful completion of the request, documenting any relevant notes or issues encountered.
- **Requester Confirmation:** In some cases, the requester is asked to verify that the network service is working as expected.
- **Request Closure:** The request is marked as completed and closed within ServiceNow. All related data is archived for audit and reporting purposes.
- **Feedback Collection:** Optionally, users may be prompted to provide feedback on the service experience for continuous improvement.

## 6. Monitoring and Reporting

- **Dashboard Monitoring:** Network and IT managers monitor real-time

dashboards for pending requests, approval bottlenecks, SLA compliance, and fulfillment efficiency.

- **Periodic Reporting:** Automated reports on request volume, approval times, fulfillment duration, and customer satisfaction are generated and shared with stakeholders.
- **Audit and Compliance:** All request workflows, approvals, and fulfillment actions are logged.

## Summary Flowchart (High-Level)

User submits request → Validation → Approval workflow → Fulfillment (automated/manual) → Completion → Feedback → Reporting

## Conclusion

The Automated Network Request Management project will significantly enhance how network service requests are handled within the organization by leveraging ServiceNow's automation capabilities. This initiative aims to reduce manual effort, improve turnaround times, and increase overall user satisfaction by providing a transparent and automated request management system.

## Output Screen:

