

# Data Architecture

## Introduction

The purpose of this document is to describe the data model and table structure used in the Automated Network Request Management application developed in ServiceNow. The data architecture ensures that all network-related requests are stored in a structured, secure, and auditable format to support automation, reporting, and tracking.

## Overview of Custom Tables

To store and manage network request information, a custom table named Network Database has been created. This table acts as the central data repository for all network service requests submitted through the ServiceNow Service Catalog.

Attribute	Value
<b>Table Label</b>	Network Database
<b>Table Name</b>	<b>u_network_database</b>
<b>Application Scope</b>	Global
<b>Purpose</b>	Store structured data captured from Service Catalog network requests

## Custom Table: u\_network\_database

The u\_network\_database table stores all essential details related to network requests, including requester information, device details, assignment details, and work status. The table is populated automatically through Flow Designer automation when a catalog item is submitted.

The screenshot shows the ServiceNow Table Definition interface for the 'u\_network\_database' table. The top navigation bar includes 'Table', 'Network DataBase Table', and standard CRUD buttons: Delete, Update, Delete All Records, and a back arrow. A tooltip explains that a table is a collection of records in the database. The table definition section shows the label 'Network DataBase Table' and name 'u\_network\_database\_table', both marked with asterisks indicating they are required fields. The application is set to 'Global'. Below this, there are tabs for 'Columns', 'Controls', and 'Application Access'. The 'Columns' tab is active, displaying a list of 16 columns with their labels, types, references, maximum lengths, default values, and display settings. The 'Controls' tab shows various UI controls like checkboxes, dropdowns, and date pickers. The 'Application Access' tab lists users and groups with their access levels. At the bottom, there are buttons for 'Delete', 'Update', and 'Delete All Records', along with a 'New' button. A 'Related Links' section at the very bottom includes links to Form Builder, Design Form, Layout Form, Layout List, and Show Form.

Column label	Type	Reference	Max length	Default value	Display
Customer Document	String	(empty)	40		false
Work Status	String	(empty)	40		false
Created	Date/Time	(empty)	40		false
Device Details	String	(empty)	40		false
Date of Enquiry	Date	(empty)	40		false
Updated by	String	(empty)	40		false
Sys ID	Sys ID (GUID)	(empty)	32		false
Updates	Integer	(empty)	40		false
Customer Address	String	(empty)	40		false
Email	String	(empty)	40		false
Request Number	String	(empty)	40		false
Requested For	String	(empty)	40		false
Updated	Date/Time	(empty)	40		false
Created by	String	(empty)	40		false
Assignment Group	Reference	Group	32		false
Assigned to	Reference	User	32		false

**Figure 1:** Network Database (u\_network\_database) table structure in ServiceNow

## **Field Properties**

To ensure data integrity and process flow efficiency, specific field properties are defined:

- **Reference Fields:**
  - **Assigned To:** References the User table (sys\_user).
  - **Assignment Group:** References the Group table (sys\_user\_group).
- **Choice Field:**
  - **Work Status:** Configured as a choice field to maintain standardized request status values.
- **System Fields:**
  - Fields such as Sys ID, Created, Created By, and Updated are system-generated and read-only.
- **Mandatory Fields:**
  - Request Number
  - Work Status
  - Assigned To (enforced based on workflow stage)

## Table Relationships

The u\_network\_database table maintains relationships with existing ServiceNow tables to leverage platform capabilities:

- **User Table (sys\_user):** Used for requester and assignment references.
- **Group Table (sys\_user\_group):** Used to route requests to appropriate fulfillment teams.

These relationships ensure role-based access control, proper assignment and accountability, and seamless integration with ServiceNow task management.

## Data Flow Overview

The data lifecycle within the application follows this structured flow:

1. User submits a network request via Service Catalog.
2. Catalog variables are captured using Flow Designer.
3. Data is mapped and stored in the u\_network\_database custom table.
4. Records are updated automatically as approvals and fulfilment progress.
5. Final status is recorded for tracking and reporting purposes.

## **Conclusion**

The data architecture of the Automated Network Request Management system ensures a clean, scalable, and auditable data structure. By using a custom table integrated with ServiceNow's native user and group tables, the system supports efficient automation, reliable tracking, and compliance with IT service management best practices.