

Streamlining Ticket Assignment for Efficient Support Operations

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1. INTRODUCTION

1.1 Project Overview

This project, "**Streamlining Ticket Assignment for Efficient Support Operations**," is a strategic initiative within the ServiceNow administration domain aimed at revolutionizing how support tickets are handled from creation to initial assignment. The core objective is to move beyond conventional, often manual, assignment methods to a highly efficient, automated, and intelligent system. This transformation is critical for enhancing the speed of service delivery, ensuring tickets reach the most qualified personnel, and optimizing the utilization of support resources. This project seeks to significantly improve operational metrics, including average assignment time, first-contact resolution rates, and overall customer satisfaction. It directly addresses the challenges associated with inefficient manual triage, skill mismatches in assignments, and uneven workload distribution among support teams, thereby fostering a more agile and responsive support environment.

1.2 Purpose

The primary purpose of this project is to mitigate and eliminate the inefficiencies inherent in the traditional ticket assignment processes. Furthermore, a lack of sophisticated assignment mechanisms can result in disproportionate workloads, causing burnout for some agents while others remain underutilized. This project aims to establish a robust, automated, and scalable ticket assignment framework within ServiceNow. The ultimate goal is to enhance the overall effectiveness and efficiency of support operations, directly contributing to improved service level agreement (SLA) adherence and elevated customer and agent satisfaction. This documentation serves as a comprehensive record of the project's ideation, design, implementation strategy, testing, and anticipated outcomes.

2. IDEATION PHASE

2.1 Problem Statement

The current state of ticket assignment within our organization's support operations presents several significant challenges that impede efficiency and service quality:

- **Excessive Manual Intervention:** A substantial portion of incoming tickets requires manual review and assignment by a frontline agent or team lead. This manual process is time-consuming, prone to human error, and creates bottlenecks, particularly during peak hours, directly delaying the initiation of problem resolution.
- **Inaccurate Routing and Frequent Re-assignments:** Without robust, automated intelligence, tickets are frequently misassigned to individuals or groups who lack the specific expertise, access, or authorization to resolve the issue. This leads to a high volume of re-assignments, which adds administrative overhead, frustrates both the customer and the agents involved, and artificially inflates resolution times.
- **Uneven Workload Distribution:** The existing assignment mechanisms often fail to consider the real-time capacity and current workload of agents or groups. This results in an uneven distribution of work, where some teams or individuals become overloaded and experience burnout, while others may be underutilized, leading to inefficiencies and potential resource waste.

- **Lack of Skill-Based Assignment:** The inability to systematically match ticket requirements (e.g., specific technical domain, software expertise, hardware knowledge) with the precise skills of available agents means that valuable time is lost as tickets are manually shuffled to find a suitable expert.
- **Limited Transparency and Reporting:** The current assignment process lacks comprehensive, real-time visibility into assignment patterns, bottlenecks, and the effectiveness of assignment decisions. This hinders management's ability to identify areas for improvement, optimize resource allocation, and proactively address performance issues.
- **Scalability Challenges:** As the volume of support tickets increases, the reliance on manual or rudimentary assignment methods makes it difficult to scale support operations efficiently without proportionally increasing staffing levels, which is unsustainable in the long term.

These problems collectively contribute to extended resolution times, decreased operational efficiency, reduced agent morale, and ultimately, diminished customer satisfaction.

2.2 Empathy Map Canvas

An Empathy Map for a Support Agent (Primary User):

Says	Thinks	Does	Feels
"I spend too much time just figuring out who should take this."	"There has to be a smarter way to assign tickets."	Manually reviews ticket descriptions and categories.	Frustrated by time wasted on non-resolution tasks.
"I keep getting tickets outside my expertise."	"Am I actually helping anyone, or just forwarding work?"	Frequently re-assigns tickets to other groups/agents.	Overwhelmed by irrelevant tickets, underutilized in their actual skill set.
"My queue is overflowing, and others seem less busy."	"Why am I always swamped while others have downtime?"	Works late or rushes through tasks to clear backlog.	Stressed, unfairly burdened, potential burnout.
"Where is the right group for this complex issue?"	"I wish the system just knew where this ticket should go immediately."	Consults colleagues or internal wikis for assignment guidance.	Uncertain about correct routing, feeling inefficient.
"It's hard to track my daily assignment efficiency."	"How can I prove I'm handling my share, or more?"	Relies on basic dashboard views that don't show assignment accuracy.	Lacking clear metrics of their assignment contribution or impact.

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An Empathy Map for an End-User (Customer):

Says	Thinks	Does	Feels
"My ticket has been open for hours, and no one's looked at it."	"Did my message even go through? Is anyone working on this?"	Checks ticket status frequently.	Anxious, impatient, feeling ignored.
"They reassigned my ticket again? What's going on?"	"Are they competent? Do they know what they're doing?"	Calls or chats with support for updates on reassignment.	Annoyed, frustrated by repeated delays, losing confidence in support.
"Why isn't this fixed yet? It's a simple issue."	"Is it really that hard to find someone who can fix this?"	Escalates the issue to a manager if possible.	Impatient, undervalued, considering alternative support channels.
"I wish I knew who was working on my problem."	"Is there a specific person responsible for my issue, or is it just 'the team'?"	Waits for email updates or proactively checks the portal.	Detached, lacking a personal connection to the resolution process.

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An Empathy Map for a Support Manager:

Says	Thinks	Does	Feels
"Our average assignment time is too high."	"How can I optimize our team's efficiency without hiring more?"	Reviews metrics on a weekly or monthly basis.	Concerned about meeting SLAs and operational costs.
"We have too many reassigned tickets."	"Are my agents getting the right training, or is our routing flawed?"	Conducts manual audits of ticket re-assignments.	Frustrated by wasted effort and lost productivity.
"Some agents are overwhelmed, others are bored."	"How can I balance the workload fairly and effectively across my team?"	Tries to manually redistribute tickets.	Stressed about team morale and potential burnout.
"We need better data on how tickets are getting assigned."	"I need real-time insights to make better staffing and training decisions."	Requests custom reports from IT or tries to pull data manually.	Lacking immediate visibility, relying on retrospective analysis.

2.3 Brainstorming

The brainstorming sessions involved key stakeholders from IT Service Management, support teams, and ServiceNow administrators. The goal was to generate a wide range of ideas for improving ticket assignment, leveraging ServiceNow's capabilities.

Key Themes and Ideas Generated:

1. Leveraging Native ServiceNow Assignment Features:

- **Enhanced Assignment Rules:** Utilize and expand ServiceNow's out-of-the-box Assignment Rules by creating more granular rules based on a combination of fields (Category, Subcategory, Configuration Item, Location, Urgency, Impact, Keywords in Short Description).
- **Skill-Based Routing:** Implement and extensively use the Agent Skills feature. Define comprehensive skill sets for agents and configure assignment rules to match required skills to incoming tickets.
- **On-Call Scheduling Integration:** Ensure assignment rules respect on-call rotations defined in the ServiceNow On-Call Scheduling module.

2. Advanced Automation and Workflow Orchestration:

- **Flow Designer for Complex Logic:** Replace or augment existing Business Rules with Flow Designer for more visual, maintainable, and powerful assignment workflows. This allows for multi-step logic, subflows, and integrations.
- **Custom Business Rules/Script Includes:** For highly specific or performance-critical logic that cannot be achieved with Flow Designer or standard assignment rules (e.g., sophisticated round-robin within a group considering individual agent capacity, dynamic group selection based on complex data lookups).
- **Dynamic Assignment based on CI/Service:** Develop logic to automatically assign tickets related to specific Configuration Items (CIs) or Business Services to their respective support teams (e.g., Network issues to Network team, HR system issues to HRIS team).

3. Real-Time Workload Management:

- **Advanced Work Assignment (AWA) Exploration:** Investigate and potentially implement AWA for real-time, push-based routing of incidents and service requests. This would allow for sophisticated routing queues, agent capacity management, and presence awareness.
- **Custom Capacity Management:** If AWA is not feasible initially, explore custom solutions (e.g., tracking active incidents per agent via a custom field or metric) to prevent over-assignment and enable more even workload distribution.

4. Intelligence and Predictive Capabilities:

- **Predictive Intelligence for Assignment:** Explore using ServiceNow's Predictive Intelligence (Classification framework) to train a model based on historical ticket data. This model could suggest the optimal assignment group or even an individual agent, improving accuracy and speed. This could be used for auto-assignment or as a suggestion for agents.
- **Natural Language Understanding (NLU):** Integrate NLU for analyzing the short description and description fields to automatically populate categories, subcategories, or suggest assignment groups.

5. Monitoring and Reporting Enhancements:

- **Custom Dashboards:** Develop dedicated dashboards for managers and team leads to monitor assignment efficiency (e.g., average assignment time, re-assignment rate, agent workload, backlog per group).
- **Performance Analytics:** Leverage Performance Analytics (if licensed) for in-depth trend analysis, forecasting, and identification of bottlenecks in the assignment process.

6. User Experience (UX) for Agents:

- **Improved Agent Workspace Experience:** Ensure the new assignment mechanisms seamlessly integrate into the Agent Workspace, providing clear indicators of why a ticket was assigned to them and what skills are required.
- **Contextual Assignment Suggestions:** Provide agents with intelligent assignment suggestions when manual intervention is required, reducing decision fatigue.

The brainstorming sessions emphasized a phased approach, starting with foundational improvements using existing ServiceNow features and progressively integrating more advanced capabilities like AWA and Predictive Intelligence.

3. REQUIREMENT ANALYSIS

3.1 Customer Journey Map

To understand the impact of streamlined ticket assignment, we've mapped the journey of an end-user submitting an IT incident and how the improved process enhances their experience and the efficiency of the support team.

Scenario: End-user (Employee) Reports a Laptop Malfunction Incident

Step	User Action	User's Goal	Current User Feeling (Pain Points)	Proposed User Feeling (Benefits)	Support Agent Action (Current)	Support Agent Action (Proposed)
1. Incident Submission	User logs into ServiceNow portal/mobile app and submits a new Incident ticket, describing "Laptop keyboard not working."	To report the issue quickly and easily.	Hopeful, but also a bit apprehensive about how long it will take.	Confident, secure in knowing the system is smart.	User fills out a form, system may suggest categories based on keywords.	User fills out a form, system may suggest categories based on keywords.
2. Ticket Creation & Initial State	System creates the incident.	Confirmation that the issue has been registered.	Waiting, status is "New", no assigned agent. "Is anyone	Instant confirmation with a clear "assigned to" placeholder (e.g.,	Ticket sits in a generic "New Incidents" queue.	Ticket is immediately processed by automated rules.

Step	User Action	User's Goal	Current User Feeling (Pain Points)	Proposed User Feeling (Benefits)	Support Agent Action (Current)	Support Agent Action (Proposed)
3. Initial Assignment Process	(Passive) User waits for an agent to pick up the ticket.	For the ticket to be routed to the correct team/person.	Anxious about delays. "Who will get this? Do they know about laptops?"	Feeling of efficiency. "It's being routed automatically."	Frontline agent reviews the ticket, reads description	Automated Process: System identifies "Laptop keyboard" keywords, determines category, "Hardware" and if it needs "Laptop Support" subcategory. Automatically applies assignment rule.
4. Assignment & Notification	User receives an email/notification that their ticket has been assigned.	To know who is responsible for their ticket.	Relief, but if it's reassigned later, frustration. "Is this the right person?"	High confidence. "This looks like the right person/team."	Ticket is manually assigned to "Desktop Support Group." If wrong, another manual re-assignment	Automated Process: Ticket is <i>automatically</i> assigned to "Hardware - Laptop Support Team" based on rule + agent skills/availability.
5. Agent Pickup & First Contact	User waits for the assigned agent to contact them.	To get an update or start of resolution.	Patient, but still passive. "When will they call?"	Proactive contact. "They're already on it!"	Assigned agent reviews the ticket. If incorrect, agent reassigns to another group.	Assigned agent (correctly skilled) reviews ticket, immediately prepares for diagnosis or contacts user.

Step	User Action	User's Goal	Current User Proposed Feeling (Pain Points)	User Feeling (Benefits)	Support Agent Action (Current)	Support Agent Action (Proposed)
6. Resolution & Closure	User confirms issue is resolved.	Their problem is fixed.	Satisfied.	Highly satisfied, positive experience with efficient support.	Agent resolves issue, closes ticket.	Agent resolves issue, closes ticket.

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Key Improvements from Streamlining:

- **Reduced "Time to Assign":** Significantly decreases the duration from ticket creation to initial assignment.
- **Increased "First Pass Resolution":** Higher likelihood of tickets landing with the correct team/agent on the first attempt.
- **Improved User Experience:** Reduced anxiety, faster acknowledgment, and more efficient resolution.
- **Enhanced Agent Efficiency:** Agents spend less time on triage and more time on actual problem-solving.

3.2 Solution Requirements

To successfully implement the "Streamlining Ticket Assignment for Efficient Support Operations" project, the following functional and non-functional requirements must be met:

3.2.1 Functional Requirements:

- **FR1: Automated Initial Assignment:** The system must automatically assign new Incident and Service Request records to the appropriate assignment group and/or individual based on predefined criteria.
 - **FR1.1:** Assignment based on Category, Subcategory, and Configuration Item (CI).
 - **FR1.2:** Assignment based on keywords found in Short Description and Description fields.
 - **FR1.3:** Assignment based on Caller's Location or Department.
- **FR2: Skill-Based Routing:** The system must be able to route tickets requiring specific skills to agents possessing those skills.
 - **FR2.1:** Ability to define and manage agent skills.
 - **FR2.2:** Ability to define required skills for specific types of tickets.
 - **FR2.3:** Prioritize assignment to agents with matching skills who are available.

- **FR3: Workload Balancing:** The assignment logic must consider the current workload and availability of agents within an assignment group to ensure equitable distribution.
 - **FR3.1:** Prevent over-assignment to a single agent or group.
 - **FR3.2:** Support round-robin or least-busy assignment strategies where applicable.
- **FR4: Re-assignment Logic:** The system must support intelligent re-assignment if an initially assigned ticket requires escalation or transfer.
 - **FR4.1:** Automated re-assignment when an agent explicitly transfers a ticket to another group/agent.
 - **FR4.2:** Automated re-assignment based on escalation rules (e.g., after a certain time unaddressed).
- **FR5: On-Call Schedule Integration:** The assignment process must integrate with the ServiceNow On-Call Scheduling module to ensure tickets are assigned to currently available on-call staff.
- **FR6: Manual Override Capability:** Support managers and authorized agents must have the ability to manually override automated assignments when necessary.
- **FR7: Auditability and Logging:** All automated and manual assignment decisions, including changes in assignment group or assigned to, must be fully logged within the ticket's activity stream for audit purposes.
- **FR8: Reporting and Analytics:** The system must provide comprehensive reporting capabilities on assignment efficiency.
 - **FR8.1:** Report on average time to assign a ticket.
 - **FR8.2:** Report on the number of re-assigned tickets and their reasons.
 - **FR8.3:** Report on agent workload distribution.
 - **FR8.4:** Report on assignment accuracy (e.g., number of tickets resolved by the initially assigned group).

3.2.2 Non-Functional Requirements:

- **NFR1: Performance:** The automated assignment process must complete within acceptable timeframes (e.g., sub-5 seconds) to avoid any noticeable delay in ticket creation or update.
- **NFR2: Scalability:** The solution must be capable of handling a significant increase in ticket volume without degradation in performance or accuracy.
- **NFR3: Configurability:** Assignment rules and logic must be easily configurable by ServiceNow administrators without requiring extensive coding changes.
- **NFR4: Reliability:** The assignment system must operate consistently and accurately without frequent failures or errors.
- **NFR5: Maintainability:** The solution components (Business Rules, Flow Designer flows, Script Includes, Assignment Rules) must be well-documented, modular, and easy to maintain and update.

- **NFR6: Security:** Access to configure and manage assignment rules must be restricted to authorized personnel only.
- **NFR7: Usability (for Admins/Managers):** The interfaces for managing assignment logic and monitoring performance should be intuitive and user-friendly.

3.3 Data Flow Diagram

(A visual diagram is crucial here, but for this text-based format, I will describe the flow and the interacting components. In a 40-page report, this section would include detailed swimlane diagrams, entity-relationship diagrams for relevant tables, and potentially sequence diagrams for complex logic.)

High-Level Data Flow for Ticket Assignment:

1. Event Trigger: Ticket Creation/Update

- **Source:** End-user (ServiceNow Portal/Email/Chat), Agent (Manual Creation), Integrations (e.g., Monitoring Tools).
- **Data Input:** New or updated Incident or sc_req_item record fields (e.g., short_description, description, category, subcategory, cmdb_ci, caller_id.location, urgency, impact).
- **Initiates:** A server-side event (e.g., after insert, before update Business Rule, or Flow Designer trigger).

2. Pre-Processing & Data Enrichment (Optional but Recommended)

- **Component:** Business Rules, Script Includes, NLU Model (if implemented).
- **Process:**
 - Normalize/standardize input data.
 - Derive category, subcategory from short_description using keyword analysis or NLU.
 - Set priority based on urgency and impact.
- **Output:** Enriched ticket record with standardized data ready for assignment logic.

3. Assignment Logic Engine

- **Component:**
 - **ServiceNow Assignment Rules:** Primary mechanism for rule-based matching.
 - **Flow Designer:** Orchestrates complex multi-step assignment, calls custom logic.
 - **Business Rules:** For highly specific, custom server-side logic not covered by Flow Designer/Assignment Rules.
 - **Script Includes:** Reusable functions for complex calculations (e.g., availability checks, custom round-robin).

- **Advanced Work Assignment (AWA):** (If implemented) Manages queues, agent capacity, and real-time push.
 - **Predictive Intelligence (PI):** (If implemented) ML model providing assignment group/assigned to suggestions.
- **Process:**
 - **Evaluation Hierarchy:**
 - **Step A: Direct Assignment Rules:** Check for exact matches on Category, CI, etc.
 - **Step B: Skill Matching:** If direct rules fail, or a skill is specified, query sys_user_has_skill and sys_user for available agents with required skills.
 - **Step C: Workload Balancing/Availability:** If multiple agents match, consult user_status (AWA) or custom active task counts to find the least busy or next available.
 - **Step D: Predictive Intelligence (Suggestion/Auto-Assign):** Consult PI model for the most probable assignment group/agent.
 - **Step E: Default/Fallback Assignment:** If no specific rule matches, assign to a default triage group (e.g., "Service Desk Tier 1").
 - **Data Consultation:** Accesses sys_user_group, sys_user, cmn_schedule (for On-Call), sys_user_has_skill tables.
- **Output:** Determined assignment_group and assigned_to values.

4. Ticket Update & Commit

- **Component:** ServiceNow's GlideRecord operations.
- **Process:** The Incident or sc_req_item record is updated with the assignment_group and assigned_to fields.
- **Output:** Persisted ticket record with updated assignment information.

5. Notification & Logging

- **Component:** ServiceNow Notifications, Activity Stream.
- **Process:**
 - Trigger email/SMS/in-app notifications to the assigned agent/group and the caller.
 - Add entries to the ticket's activity_stream detailing the assignment change and who made it (system or user).
- **Output:** Communication to stakeholders, audit trail.

6. Reporting Data Capture

- **Component:** ServiceNow Metrics, Performance Analytics (if licensed).

- **Process:** Capture timestamps for assignment events, re-assignment counts, and agent workload data.
- **Output:** Data points for dashboards and analytical reports.

Entities Involved (High-level):

- Incident Table
- sc_req_item Table
- sys_user Table (Users/Agents)
- sys_user_group Table (Assignment Groups)
- sys_user_has_skill Table (Agent Skills)
- cmn_schedule / cmn_rota (On-Call Schedules)
- cmdb_ci Table (Configuration Items)
- Custom tables for specific assignment logic parameters (if any).

3.4 Technology Stack

The implementation of the "Streamlining Ticket Assignment for Efficient Support Operations" project will primarily leverage the robust capabilities of the ServiceNow platform, complemented by standard web technologies where applicable.

- **Primary Platform:**
 - **ServiceNow Enterprise Platform (SaaS):** The foundational cloud-based platform where all configurations, development, and operations will take place. This includes the underlying database, application servers, and integration hub.
- **Core ServiceNow Modules Utilized:**
 - **Incident Management:** The primary module for managing and routing incidents.
 - **Service Catalog / Request Management:** For handling and assigning service requests initiated through the Service Catalog.
 - **Configuration Management Database (CMDB):** Used for identifying Configuration Items (CIs) and linking them to specific support groups.
 - **User and Group Management (sys_user, sys_user_group):** Essential for defining agents, their roles, groups, and membership.
- **ServiceNow Development and Automation Tools:**
 - **ServiceNow Studio / Application Creator:** For managing custom applications and development artifacts.
 - **ServiceNow Assignment Rules:** Out-of-the-box feature for defining declarative assignment logic based on field values.

- **ServiceNow Business Rules (Server-side JavaScript):** For executing custom server-side logic (GlideRecord queries, updates, complex conditional logic) before or after record operations.
- **ServiceNow Flow Designer:** A low-code/no-code environment for building powerful, visual workflows, integrating actions, and orchestrating complex assignment logic across multiple tables and systems. This will be a primary tool for designing dynamic assignment processes.
 - **Spokes and Actions:** Utilizing existing spokes (e.g., ITSM, Notification) and creating custom actions for specific assignment sub-routines.
- **ServiceNow Script Includes (Server-side JavaScript):** For creating reusable, modular server-side functions that can be called from Business Rules, Flow Designer, or other scripts, essential for complex calculations (e.g., custom workload balancing algorithms, advanced skill matching).
- **ServiceNow Agent Skills:** Native feature for defining skills and associating them with agents (sys_user_has_skill table), crucial for skill-based routing.
- **ServiceNow Advanced Work Assignment (AWA):** (Optional/Advanced, dependent on project scope and licensing) A real-time routing engine that pushes work items to agents based on capacity, presence, and skills, providing sophisticated workload management.
- **ServiceNow Predictive Intelligence:** (Optional/Advanced, dependent on project scope and licensing) Machine Learning capabilities for training classification solutions to suggest or automatically assign records based on historical data patterns.
- **ServiceNow System Properties:** For managing configurable parameters of the assignment logic without code changes.
- **ServiceNow Scheduled Jobs:** For any batch processing or periodic clean-up related to assignment metrics or data.
- **Reporting and Analytics:**
 - **ServiceNow Reporting Engine:** For creating standard list and aggregate reports on assignment metrics.
 - **ServiceNow Dashboards:** For creating interactive, visual displays of key performance indicators (KPIs) related to assignment efficiency.
 - **ServiceNow Performance Analytics (Optional):** For advanced trend analysis, forecasting, and detailed breakdown of assignment performance over time.
- **Integration Technologies (If applicable for external data/systems):**
 - **REST/SOAP Web Services:** For integrating with external systems that might influence assignment (e.g., HR systems for employee data, monitoring tools for alert-based incident creation).
 - **IntegrationHub:** ServiceNow's integration platform for orchestrating complex integrations.

- **Version Control:**
 - **ServiceNow Source Control (Git Integration):** For managing development changes, enabling team collaboration, and maintaining a history of configurations.
- **Security:**
 - **Access Control Lists (ACLs):** To secure data and ensure only authorized users can configure or view sensitive assignment information.
 - **Roles and Groups:** For managing user permissions.

This technology stack provides a comprehensive set of tools to design, implement, monitor, and maintain a highly effective and streamlined ticket assignment system within the ServiceNow ecosystem.

4. PROJECT DESIGN

4.1 Problem Solution Fit

The proposed solution for streamlining ticket assignment is meticulously designed to directly address and resolve each of the identified problems, ensuring a strong problem-solution fit.

Identified Problem	Proposed Solution Component(s)	How it Solves the Problem
Excessive Manual Intervention	Automated Assignment Rules, Flow Designer Workflows, Predictive Intelligence (Auto-Assign)	By implementing sophisticated rules and workflows, the majority of tickets will be automatically routed upon creation, significantly reducing the need for manual triage. Predictive Intelligence can further automate this by learning from historical assignments.
Inaccurate Routing & Frequent Re-assignments	Advanced Assignment Rules (Category, CI, Keywords, Location), Skill-Based Routing, Predictive Intelligence	Granular rules ensure tickets match specific criteria for the correct team. Skill-based routing guarantees agents have the necessary expertise. Predictive Intelligence improves initial assignment accuracy, minimizing subsequent re-assignments and associated delays.
Uneven Workload Distribution	Advanced Work Assignment (AWA), Custom Capacity Management Logic (Script Includes/Flow Designer)	AWA intelligently distributes work based on agent capacity and presence, preventing overloading. Custom logic can be built to mimic this for specific scenarios, ensuring work is spread equitably, reducing agent burnout, and improving overall team productivity.
Lack of Skill-Based Assignment	Agent Skills, Skill-Based Assignment Rules, Flow Designer with Skill Matching Logic	Explicitly defines and tracks agent skills. Assignment logic leverages these skills to ensure tickets requiring specific expertise are routed to qualified agents, eliminating manual searching for the right expert and improving first-contact resolution rates.

Identified Problem	Proposed Solution Component(s)	How it Solves the Problem
Limited Transparency & Reporting	Custom Dashboards, Performance Analytics, Detailed Activity Logging	New reports and dashboards will provide real-time visibility into assignment times, re-assignment rates, agent workloads, and bottlenecks. Performance Analytics offers deeper insights into trends and areas for continuous improvement. The activity log provides an auditable trail.
Scalability Challenges	Automated Workflows (Flow Designer), AWA, Configurable Rules	Automated processes can handle increased ticket volumes without a proportional increase in manual effort. The configurable nature of the solution allows for easy adaptation to new teams, skills, and services as the organization grows.

4.2 Proposed Solution

The proposed solution for "Streamlining Ticket Assignment for Efficient Support Operations" is a multi-faceted, layered approach built predominantly within the ServiceNow platform. It combines native features with custom automation and, where applicable, advanced intelligence capabilities to create a robust and adaptive assignment system.

Key Components and Implementation Strategy:

1. Foundational Assignment Rules (ServiceNow OOB):

- **Rule Prioritization:** A clear hierarchy of assignment rules will be established.
- **Criteria-Based Assignment:**
 - **Category & Subcategory:** The primary drivers for initial assignment to broad functional groups (e.g., "Hardware" to "Hardware Support," "Software - HR" to "HR Systems Team").
 - **Configuration Item (CI):** For specific CIs, tickets will be routed to their owning support group (e.g., tickets on "Exchange Server 01" go to "Email Server Team").
 - **Location & Department:** For regional or departmental support models, tickets from specific locations or departments will be routed to dedicated local support teams.
 - **Urgency & Impact:** High-priority tickets may be routed to specialized "Critical Incident Response" teams or given higher priority in queues.
- **Keyword/Description Analysis:** Implement Business Rules or Flow Designer logic to parse short_description and description fields. Keywords (e.g., "printer offline," "VPN connection issue") will dynamically populate categories/subcategories or directly influence assignment group selection, even before formal category selection.

2. Skill-Based Routing (Agent Skills):

- **Skill Definition:** A comprehensive set of technical and functional skills will be defined (e.g., "Network Troubleshooting," "Windows Server Admin," "SAP Support," "French Language").
- **Agent Skill Mapping:** Support agents will be accurately mapped to the skills they possess with proficiency levels.
- **Ticket Skill Requirement:** Assignment rules or Flow Designer will identify required skills for specific ticket types.
- **Intelligent Skill Matching:** The system will attempt to match tickets to agents who possess all required skills and are available.

3. Advanced Workflow Automation (Flow Designer & Script Includes):

- **Orchestrated Assignment Flows:** Complex assignment logic will be orchestrated using Flow Designer. This allows for:
 - Conditional branching (e.g., "If Category is X AND Urgency is High, then assign to Group A, else if Category is Y, assign to Group B").
 - Looping through potential assignees.
 - Calling reusable Script Includes for custom logic.
- **Custom Capacity Management:** If AWA is not fully deployed, Script Includes will be developed to query current active assignments for agents within a group and assign to the agent with the lowest current workload (e.g., least number of open P1/P2 incidents).
- **Round-Robin Distribution:** Within groups of equally skilled and available agents, a custom round-robin logic can be implemented via Script Includes to ensure fair distribution.
- **Escalation and Re-assignment Flows:** Automated flows will handle:
 - Re-assignment if a ticket breaches a certain unassigned threshold or if an agent explicitly re-assigns.
 - Escalation paths for unassigned high-priority tickets.

4. Advanced Work Assignment (AWA) - (Strategic Integration):

- **Real-time Capacity & Presence:** AWA will be configured to consider agent presence (e.g., Online, Away, Offline) and real-time capacity (number of active work items).
- **Queue-Based Routing:** Tickets will be routed into specific queues (e.g., "Hardware Queue," "Network Queue"), and AWA will push tickets from these queues to the best-suited, available agent.
- **Channel Integration:** If applicable, AWA can unify assignment across multiple channels (Chat, Phone, Incident).
- **Decision Point:** Implementation of AWA will be contingent on licensing, current platform version, and the complexity of real-time routing requirements. It represents a significant step up in sophistication.

5. Predictive Intelligence (PI) - (Intelligent Augmentation):

- **Classification Solution:** A PI classification solution will be trained using historical Incident and Service Request data.
- **Assignment Group/Assigned To Prediction:** The trained model will learn patterns between ticket fields (short description, category, CI) and their historical assignment groups/agents.
- **Application:**
 - **Auto-Assignment Suggestion:** The model's prediction can be displayed to agents as a suggestion in the Agent Workspace, helping them make faster and more accurate manual assignments.
 - **Automated Assignment (Controlled):** For high-confidence predictions, the system can be configured to automatically assign the ticket without human intervention, with a clear audit trail.
- *Decision Point:* PI implementation will require sufficient historical data volume and quality to train accurate models.

6. Monitoring and Reporting Framework:

- **Custom Dashboards:** Develop dedicated dashboards in ServiceNow for support managers, displaying:
 - Average Assignment Time (by category, group, priority).
 - Number of Re-assignments (by initial group, reason).
 - Agent Workload (active tickets per agent, per group).
 - Backlog trends.
 - Assignment accuracy.
- **Performance Analytics (PA):** If PA is available, it will be leveraged for advanced analytics, trend visualization, and historical comparisons to continuously optimize the assignment process.

Phased Implementation Approach: The solution will likely be implemented in phases:

- **Phase 1: Foundational Automation:** Focus on implementing enhanced Assignment Rules, core Flow Designer workflows, and comprehensive Agent Skill mapping.
- **Phase 2: Intelligent Augmentation:** Integrate Predictive Intelligence for suggestions and potentially AWA for initial queues.
- **Phase 3: Continuous Optimization:** Leverage reporting and PA to refine rules and algorithms.

This solution will transform ticket assignment from a reactive, manual process into a proactive, intelligent, and highly efficient operation within ServiceNow.

4.3 Solution Architecture

The solution architecture for "Streamlining Ticket Assignment for Efficient Support Operations" is designed as a layered, modular system leveraging the native capabilities and extensibility points of the ServiceNow platform. This approach ensures scalability, maintainability, and alignment with ServiceNow best practices.

(In a 40-page report, this section would include detailed diagrams such as Architectural Overviews, Component Diagrams, Data Flow Diagrams with specific ServiceNow tables, and potentially Sequence Diagrams for critical assignment logic flows.)

Architectural Layers:

1. Presentation Layer:

- **ServiceNow Service Portal:** End-users interact here to submit incidents and requests. The improved assignment process ensures faster updates on their tickets.
- **ServiceNow Agent Workspace / UI16:** Support agents and managers interact with the platform here. The streamlined assignment reduces manual effort for agents and provides better visibility for managers.
- **Custom Dashboards:** Built within ServiceNow for real-time monitoring and reporting for managers and team leads.

2. Application Logic Layer (ServiceNow Core):

- **IT Service Management (ITSM) Applications:**
 - **Incident Management:** The primary application for handling break/fix issues.
 - **Service Catalog & Request Management:** For fulfilling predefined service requests.
- **Configuration Management Database (CMDB):** Provides the foundational data for Configuration Items (CIs) and their relationships, critical for CI-based assignment.
- **Common Service Data Model (CSDM):** The solution will adhere to CSDM principles for consistent data definitions and relationships (e.g., linking Incidents to Services, Business Applications, and their owning groups).

3. Process Automation & Orchestration Layer:

- **Event Engine:** Triggers (sys_trigger) based on new record inserts or updates on incident and sc_req_item tables.
- **Business Rules:**
 - **Before Insert/Update Business Rules:** Used for initial data cleansing, setting default values, or basic pre-assignment logic. Can also initiate complex flows.
 - **After Insert/Update Business Rules:** Trigger Flow Designer flows or Script Includes for more complex processing after a record is saved.
- **Flow Designer:** The central orchestration engine for complex assignment workflows.
 - **Triggers:** On Incident or Request Item creation/update.

- **Logic Flows:** Conditional logic, decision trees, loops to evaluate assignment criteria.
 - **Actions:** Utilize standard ServiceNow actions (e.g., "Look Up Records," "Update Record") and custom actions (developed as Script Includes or Action Designer actions) for specific assignment calculations.
 - **Subflows:** Modularized, reusable flows for common assignment patterns (e.g., "Find Best Agent," "Escalate Ticket").
- **Script Includes:** (Server-side JavaScript)
 - Houses reusable functions for advanced logic:
 - Workload balancing algorithms (e.g., custom round-robin, least-busy).
 - Complex skill matching logic.
 - Custom availability checks.
 - Integration with external systems if required for assignment (e.g., fetching agent availability from a workforce management system).
- **ServiceNow Assignment Rules:** Declarative rules configured to handle straightforward, rule-based assignments (e.g., Category X goes to Group Y). These will be evaluated by the Flow Designer or Business Rules.
- **Agent Skills (sys_user_has_skill):** Stores agent-to-skill mappings, utilized by assignment logic to match required skills on tickets to available agents.
- **Advanced Work Assignment (AWA):** (If implemented) Acts as a dedicated routing engine.
 - **Work Item Queues:** Tickets are pushed into AWA queues.
 - **Agent Affinity, Capacity, Presence:** AWA intelligently routes based on configured affinity rules, real-time agent capacity, and their presence status.
- **Predictive Intelligence (PI):** (If implemented)
 - **Classification Framework:** Trains a machine learning model on historical ticket data (Incident, sc_req_item).
 - **Prediction Output:** Provides a confidence score for predicted assignment groups/agents, which can be consumed by Flow Designer for auto-assignment or suggestions.

4. Data Layer:

- **ServiceNow Database:** Stores all transactional and configuration data.
 - **Core Tables:** incident, sc_req_item, sys_user, sys_user_group, cmdb_ci, cmn_schedule, sys_user_has_skill.
 - **Metric/Logging Tables:** sys_audit, sys_journal_field, metric_instance (for performance monitoring).

- **Data Models:** Adherence to CSDM for consistency and reporting.
5. **Integration Layer:** (External to core assignment but may interact)
- **IntegrationHub / REST API:** For potential future integrations with HR systems (for accurate employee data), monitoring tools (for proactive incident creation), or external knowledge bases.

Workflow Example (Simplified):

1. **User creates Incident** (Presentation Layer updates Data Layer).
2. **After Insert Business Rule Triggered** (Application Logic Layer).
3. **Flow Designer Streamline Assignment Flow Initiated** (Process Automation Layer).
4. **Flow Logic:**
 - Reads Category, Subcategory, CI from Incident record (Data Layer).
 - Calls Assignment Rule engine (Process Automation Layer).
 - If no direct match, calls Script Include for skill-based lookup (sys_user_has_skill in Data Layer).
 - If AWA is enabled, pushes ticket to relevant AWA queue.
 - If PI is enabled, requests prediction from PI model.
 - Determines assignment_group and assigned_to.
5. **Flow Updates Incident Record** with determined assignment (Process Automation Layer updates Data Layer).
6. **Notifications Triggered** to assigned agent/group (Application Logic Layer).
7. **Dashboard/Reports Updated** with new metrics (Data Layer for Reporting Layer).

This architecture provides a scalable and flexible framework for intelligent ticket assignment, designed to grow and adapt with the organization's needs.

5. PROJECT PLANNING & SCHEDULING

5.1 Project Planning

The project "Streamlining Ticket Assignment for Efficient Support Operations" will follow an Agile project management methodology, allowing for iterative development, continuous feedback, and flexibility to adapt to evolving requirements. The project will be broken down into sprints, with defined deliverables and regular review cycles.

5.1.1 Project Goals and Objectives (Recap):

- **Reduce Average Ticket Assignment Time:** Target reduction of X% (e.g., 50%) from current baseline.
- **Improve Assignment Accuracy:** Aim for Y% (e.g., 90%) of tickets correctly assigned on first pass.

- **Enhance Agent Efficiency:** Reduce time spent on manual triage by Z% (e.g., 30%).
- **Increase Customer Satisfaction:** Measured by improved feedback related to response times and resolution efficiency.
- **Optimize Workload Distribution:** Achieve more balanced workload across support teams.

5.1.2 Project Scope:

- **In-Scope:**
 - Automated assignment for Incident records.
 - Automated assignment for Service Request items (sc_req_item).
 - Implementation of advanced ServiceNow Assignment Rules.
 - Development of Flow Designer workflows for complex assignment logic.
 - Configuration of Agent Skills and skill-based routing.
 - Development of custom Script Includes for advanced features (e.g., custom workload balancing, if AWA is not fully utilized).
 - Creation of custom reports and dashboards for assignment metrics.
 - User Acceptance Testing (UAT) for key stakeholders.
 - Deployment to production environment.
- **Out-of-Scope (Initial Phase):**
 - Integration with external systems for assignment (e.g., external CRM, HR systems).
 - Full implementation of Advanced Work Assignment (AWA) beyond initial pilot queues.
 - Full-scale deployment of Predictive Intelligence for auto-assignment (will start with suggestions).
 - Assignment for other ITIL processes (e.g., Problem, Change, Knowledge) unless explicitly added in future phases.
 - Major changes to existing Incident/Request forms not directly related to assignment.

5.1.3 Key Roles and Responsibilities:

Role	Responsibilities
Project Sponsor	Overall project champion, secures resources, removes high-level roadblocks, approves major decisions.
Project Manager	Oversees project planning, execution, monitoring, and closure; manages scope, timeline, budget, and risks.
ServiceNow Lead Admin/Developer	Designs, develops, and configures the technical solution in ServiceNow; ensures best practices.

Role	Responsibilities
ServiceNow Developer(s)	Implements assignment rules, Flow Designer flows, Business Rules, Script Includes.
Business Analyst (BA)	Gathers and documents detailed requirements, translates business needs into technical specifications, facilitates stakeholder communication.
Support Team Lead(s)	Provides input on current assignment challenges, validates proposed solutions, assists with UAT.
QA / Tester(s)	Develops test plans and test cases, executes functional and performance testing, reports defects.
Training Coordinator	Develops and delivers training materials for agents and managers on the new assignment process.

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5.1.4 Risk Management:

Risk Category	Risk Description	Mitigation Strategy	Contingency Plan
Technical	Complex assignment logic leads to performance degradation.	Thorough design review, performance testing, iterative optimization, modular Script Includes.	Implement fallback to simpler rules; prioritize performance for critical paths; scale instance resources if necessary.
Data Quality	Inaccurate Category/CI data causes incorrect assignments.	Data cleansing efforts before implementation; robust validation rules on forms; NLU for data interpretation.	Manual correction of misassigned tickets in initial phase; enhance training for users filling forms.
Scope Creep	New requirements are introduced post-design freeze.	Strict change control process; clear definition of MVP (Minimum Viable Product); regular stakeholder communication.	Prioritize new requirements for future phases; secure additional resources/timeline extension if critical for current phase.
User Adoption	Agents resist new automated assignment methods.	Early stakeholder engagement; comprehensive training; communication plan highlighting benefits; champion program.	Provide temporary manual override options; gather feedback for system adjustments; additional 1-on-1 coaching.
Resource Availability	Key ServiceNow developers/admins become unavailable.	Cross-training within the team; maintain detailed	Engage external consultants for critical tasks; re-prioritize project backlog.

Risk Category	Risk Description	Mitigation Strategy	Contingency Plan
		documentation; identify external backup resources.	
Integration Issues	Problems with connecting to other systems (e.g., HR for skills).	Thorough API testing; use standard ServiceNow IntegrationHub for robust connections.	Fallback to manual data updates for critical data; limit initial scope of integration until stable.

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5.1.5 Communication Plan:

Audience	Frequency	Medium	Content
Project Sponsor	Bi-weekly	Steering Committee Meeting, Email Updates	Project status, key decisions, budget, risks, major milestones.
Project Team	Daily/Weekly	Stand-ups, Team Meetings, Collaboration Tools	Progress updates, roadblocks, sprint planning, task assignments.
Support Team Leads	Bi-weekly	Working Sessions, Email Updates	Detailed solution walkthroughs, feedback collection, UAT planning.
End Users/Agents	Monthly/Ad-hoc	Email Announcements, Knowledge Articles, Training Sessions	Updates on upcoming changes, benefits, training schedules, how-to guides.
IT Leadership	Monthly	Management Briefings, Dashboards	High-level progress, strategic alignment, key metrics, resource utilization.

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5.1.6 Deployment Strategy: The deployment will follow a structured approach, typically involving:

1. **Development Instance:** All initial configuration and coding.
2. **Test Instance:** Unit testing, integration testing, and initial performance testing.
3. **UAT Instance:** User Acceptance Testing by business stakeholders.
4. **Production Instance:** Final deployment. A detailed deployment plan will include rollback procedures, communication to end-users, and a post-implementation support phase. Changes will be packaged as an update set or application for migration.

5.2 Project Scheduling

Phased Project Timeline (Example - assuming 12-16 weeks for initial rollout):

Phase	Duration	Key Activities	Deliverables
Phase 0: Project Initiation & Planning	2 Weeks	Kick-off, detailed planning, resource allocation, environment setup.	Project Plan, Communication Plan, Initial Risk Register, Environments Configured
Phase 1: Foundation & Core Automation	4 Weeks	Configure basic Assignment Rules, develop core Flow Designer flows (Category/CI based), initial Agent Skills setup.	Core Assignment Flows (MVP), Initial Assignment Rules, Agent Skill Definitions
Phase 2: Advanced Logic & Enhancements	4 Weeks	Implement Skill-based routing, custom Script Includes (e.g., basic workload balancing), explore PI/AWA integration.	Advanced Assignment Logic, Custom Script Includes, PI/AWA Proof-of-Concept
Phase 3: Reporting & Testing	3 Weeks	Develop custom dashboards, extensive functional testing, performance testing, UAT.	Functional Test Results, Performance Test Report, UAT Sign-off, Reporting Dashboards
Phase 4: Deployment & Training	2 Weeks	Final configuration, end-user training, deployment to Production, post-go-live support.	Production Deployment, Training Materials, Go-Live Communication, Post-Go-Live Support Plan
Phase 5: Post-Implementation Review & Optimization	Ongoing	Monitor performance, gather feedback, refine rules, identify future enhancements.	Performance Reports, Feedback Analysis, Backlog for Future Enhancements

Assumptions for Scheduling:

- Dedicated project team resources are available as planned.
- Required ServiceNow licenses (e.g., for AWA, PI, PA) are procured and available.
- Timely feedback and approvals from stakeholders.
- ServiceNow instances are available and properly maintained.
- Data quality for historical assignments is sufficient for PI training (if applicable).

Dependencies:

- Availability of ServiceNow environment and developer instances.
- Input and validation from support teams on assignment logic.
- Integration with HR system for accurate user data (if automating agent skill population).

6. FUNCTIONAL AND PERFORMANCE TESTING

Thorough testing is paramount to ensure the "Streamlining Ticket Assignment" solution is robust, accurate, and performs optimally before deployment to the production environment. This section outlines the testing strategy, types of testing, and key considerations.

6.1 Functional Testing

Functional testing will verify that each component of the automated assignment system works according to the defined requirements and business logic.

6.1.1 Test Strategy:

- **Unit Testing:** Individual components (Business Rules, Script Includes, Flow Designer actions) will be tested in isolation by developers immediately after creation.
- **Integration Testing:** Verify that different components of the assignment solution (e.g., a Business Rule triggering a Flow, a Flow calling a Script Include) work together seamlessly.
- **System Testing:** End-to-end testing of the entire assignment process, from ticket creation through automatic assignment and notification.
- **Regression Testing:** Ensure that new changes do not negatively impact existing functionality within ServiceNow.
- **User Acceptance Testing (UAT):** Business stakeholders (support team leads, managers) will validate the solution against real-world scenarios to ensure it meets operational needs.

6.1.2 Test Cases (Examples):

Test					
	Case ID	Description	Pre-conditions	Test Steps	Expected Results
	FT-001	Basic Category-Based Assignment (Incident)	User (any) logged in.	<ol style="list-style-type: none">1. Navigate to Incident creation.2. Fill Short Description: "Cannot access network drive."3. Select Category: "Network."4. Do NOT manually select Assignment Group/Assigned To.5. Submit Incident.	<p>Incident is created. Assignment Group is automatically set to "Network Support." Assigned To remains empty (or assigned by round-robin within group if configured). User receives "Ticket Assigned" notification.</p>
	FT-002	Skill-Based Assignment (Incident)	Agent "John Doe" has skill "SAP Basis."	<ol style="list-style-type: none">1. Navigate to Incident creation.2. Fill Short Description: "SAP application performance issue."3. Select Category: "Software," Subcategory: "SAP."4. Do NOT manually select Assignment Group/Assigned To.	<p>Incident is created. Assignment Group is automatically set to "SAP Applications Support." If "John Doe" is available and has lowest workload, Assigned To is "John Doe." User receives "Ticket Assigned" notification.</p>

Test					
Case ID	Description	Pre-conditions	Test Steps	Expected Results	Pass/Fail
FT-003	CI-Based Assignment (Incident)	CI "Server001" is owned by "Infrastructure Team."	<p>Group/Assigned To.</p> <p>5. Submit Incident.</p> <p>1. Navigate to Incident creation.</p> <p>2. Fill Short Description: "Server001 is down."</p> <p>3. Select Configuration Item: "Server001."</p> <p>4. Do NOT manually select Assignment Group/Assigned To.</p> <p>5. Submit Incident.</p>	<p>Incident is created.</p> <p>Assignment Group is automatically set to "Infrastructure Team."</p> <p>User receives "Ticket Assigned" notification.</p>	
FT-004	Re-assignment & Audit Trail	Incident assigned to "Network Support."	<p>1. As assigned agent (e.g., from Network Support), open assigned incident.</p> <p>2. Change Assignment Group to "Server Support."</p> <p>3. Save Incident.</p> <p>4. Check Activity Stream.</p>	<p>Incident is re-assigned to "Server Support."</p> <p>Activity Stream logs: "Assignment Group changed from Network Support to Server Support by [Agent Name]."</p> <p>New assignee receives notification.</p>	
FT-005	Manual Override (Manager Role)	Incident assigned automatically to "Desktop Support."	<p>1. As a user with itil_admin or manager role, open assigned incident.</p> <p>2. Manually change Assignment Group to "Field Services."</p> <p>3. Manually change Assigned To to "Jane Doe."</p> <p>4. Save Incident.</p> <p>5. Check Activity Stream.</p>	<p>Incident is updated with manual assignment.</p> <p>Activity Stream logs: "Assignment Group changed from Desktop Support to Field Services by [Manager Name]."</p> <p>"Assigned To changed to Jane Doe by [Manager Name]."</p> <p>New assignee receives notification.</p>	
FT-006	No Matching Rule / Fallback Assignment	No specific assignment rule	<p>1. Navigate to Incident creation.</p> <p>2. Fill Short Description: "General</p>	<p>Incident is created.</p> <p>Assignment Group is automatically set to the configured "Default</p>	

Test ID	Case Description	Pre-conditions	Test Steps	Expected Results	Pass/Fail
	configured for this type.	inquiry."	3. Select Category: "Other." 4. Do NOT manually select Assignment Group/Assigned To. 5. Submit Incident.	Triage Group" (e.g., "Service Desk L1"). User receives "Ticket Assigned" notification.	

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6.2 Performance Testing

Performance testing will ensure that the automated assignment logic does not introduce undue latency or impact the overall performance of the ServiceNow instance, especially under peak load conditions.

6.2.1 Test Strategy:

- **Load Testing:** Simulate a high volume of concurrent ticket creations to assess the system's response time and resource utilization during assignment.
- **Stress Testing:** Push the system beyond its expected capacity to identify breaking points and understand degradation patterns.
- **Scalability Testing:** Evaluate how the system performs as the number of assignment rules, agents, and skills increases.
- **Response Time Measurement:** Focus on the time taken from ticket submission to the completion of the assignment process (i.e., when the assignment_group and assigned_to fields are populated).

6.2.2 Tools and Methodology:

- **ServiceNow ATF (Automated Test Framework):** While primarily for functional testing, ATF can be used for basic performance checks by running scenarios repeatedly and measuring execution times.
- **Third-Party Load Testing Tools:** Tools like JMeter, LoadRunner, or other web performance testing tools can be configured to simulate a large number of concurrent API calls (e.g., REST API for incident creation) and measure the end-to-end response time including assignment.
- **ServiceNow System Logs and Metrics:** Monitor instance health, transaction response times, CPU, and memory utilization during performance tests. Analyze Business Rule and Flow execution times.
- **Synthetic Transactions:** Set up synthetic transactions to monitor assignment performance in a production-like environment continuously.

6.2.3 Performance Metrics to Monitor:

- **Average Assignment Time:** The key metric to track, measuring the time from ticket creation to final assignment.
- **Max Assignment Time:** Identify any outliers or long-running assignment processes.
- **Concurrent Ticket Assignment Throughput:** Number of tickets assigned per minute/hour under load.
- **Database Query Performance:** Monitor any slow queries triggered by assignment logic (e.g., complex GlideRecord queries in Script Includes).
- **CPU and Memory Utilization:** Ensure the assignment process doesn't consume excessive instance resources.
- **Flow Designer / Business Rule Execution Times:** Identify any specific automated processes that are bottlenecks.

6.2.4 Performance Test Scenarios (Examples):

Scenario ID	Description	Load Profile	Expected Outcome (Target Metrics)
PT-001	Peak Hour Incident Inflow	100 Incidents/minute for 30 minutes.	Average Assignment Time < 5 seconds. No significant increase in instance CPU/Memory. No transaction timeouts.
PT-002	Complex Assignment Rule Evaluation	50 Incidents/minute, involving complex Flow Designer with multiple lookups.	Average Assignment Time < 7 seconds. Database query response times remain within acceptable limits. Flow Designer execution times are optimized.
PT-003	Skill-Based Assignment with Large Agent Pool	75 Incidents/minute, requiring skill matching across 200 agents.	Average Assignment Time < 8 seconds. Skill lookup queries are efficient. Workload balancing logic (if custom) performs well under concurrent access.
PT-004	Concurrent Manual Overrides	20 Concurrent managers performing manual re-assignments.	Manual assignment updates complete within 2-3 seconds. Activity stream logging is instantaneous. No deadlocks or data integrity issues.

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6.2.5 Performance Optimization Considerations:

- **Efficient Scripting:** Write optimized GlideRecord queries, minimize client-side scripting affecting server-side operations, and avoid unnecessary loops.
- **Indexing:** Ensure relevant fields used in assignment queries are properly indexed in the database.
- **Flow Designer Optimization:** Design flows with efficiency in mind, avoid redundant steps, and leverage subflows.
- **Caching:** Utilize caching mechanisms where appropriate (e.g., for frequently accessed configuration data in Script Includes).
- **Asynchronous Processing:** For very complex or non-critical steps, consider using asynchronous Business Rules or Flow actions to prevent synchronous delays.

7. RESULTS

7.1 Output Screenshots

Types of Screenshots to Include:

- **Before & After Assignment (Incident/Request):**
 - Screenshot of a newly created Incident/Request Item *before* automated assignment (e.g., "Assignment Group" and "Assigned To" fields empty).
 - Screenshot of the *same* Incident/Request Item *after* automated assignment, showing the populated "Assignment Group" and "Assigned To" fields.
 - Screenshot of the Activity Stream showing the system's assignment entry.
- **Assignment Rule Configuration:**
 - Screenshots of key Assignment Rule configurations (e.g., Category-based rule, CI-based rule, Skill-based rule).
 - Highlighting conditions, script includes (if used), and assignment group/user.
- **Flow Designer Workflow:**
 - Overview screenshot of the main "Streamline Ticket Assignment" Flow.
 - Detailed screenshots of specific sections or decision points within the Flow (e.g., "Determine Category," "Match Skills," "Assign to Least Busy").
 - Screenshots of custom actions or subflows.
- **Business Rule Configuration:**
 - Screenshots of any critical Business Rules used for pre-assignment data enrichment or post-assignment logic.
- **Script Include Code (Partially):**
 - Screenshots of key snippets from custom Script Includes, highlighting important functions (e.g., workload balancing algorithm, complex skill matching).
- **Agent Skills Configuration:**

- Screenshot of the "Skills" list.
 - Screenshot of an Agent's User record showing their assigned skills.
- **Custom Dashboards & Reports:**
 - Screenshot of the "Ticket Assignment Efficiency Dashboard."
 - Individual report screenshots (e.g., "Average Assignment Time by Category," "Re-assignment Rate Trend," "Agent Workload Overview").
 - Performance Analytics dashboards (if implemented), showing trends over time.
- **User Interface Experience:**
 - Screenshot of the Agent Workspace showing an automatically assigned ticket.
 - Screenshot of an email notification sent after assignment.
- **Configuration Item (CI) Data:**
 - Screenshot of a sample CI record showing its "Support Group" or "Owning Group."

Each screenshot should be clearly labeled with a title and a brief description explaining what it demonstrates and its relevance to the project. Ample screenshots, with detailed annotations, will contribute significantly to the page count and clarity of the report.

8. ADVANTAGES & DISADVANTAGES

This section provides a balanced view of the benefits realized and potential drawbacks or challenges encountered or anticipated with the "Streamlining Ticket Assignment for Efficient Support Operations" project.

8.1 Advantages (Benefits)

1. **Significant Reduction in Assignment Time:**
 - **Automation at Scale:** Eliminates manual triage for a large percentage of incoming tickets, drastically reducing the time from ticket creation to initial assignment.
 - **Faster Service Initiation:** Leads to quicker commencement of work on issues, contributing to overall faster resolution times and improved SLA adherence.
2. **Improved Assignment Accuracy:**
 - **Rules-Based Consistency:** Ensures consistent and accurate routing based on predefined, objective criteria, reducing human error.
 - **Skill-Based Matching:** Guarantees tickets are assigned to agents with the precise skills required for resolution, minimizing re-assignments.
 - **Intelligent Prediction (if implemented):** Predictive Intelligence further refines accuracy by leveraging historical data patterns.
3. **Enhanced Operational Efficiency:**
 - **Reduced Manual Effort:** Frees up frontline agents and team leads from repetitive assignment tasks, allowing them to focus on resolving issues.

- **Optimized Resource Utilization:** Distributes workload more evenly across teams and agents, preventing burnout and ensuring that all resources are effectively utilized.
- **Streamlined Workflows:** Automated flows reduce bottlenecks and hand-offs, making the entire support process smoother.

4. Increased Customer Satisfaction:

- **Quicker Response and Resolution:** Customers experience faster acknowledgment and resolution of their issues due to efficient routing.
- **Reduced Frustration:** Less frustration from re-assignments and delays, leading to a more positive service experience.
- **Improved Communication:** Timely notifications keep customers informed about their ticket's status.

5. Better Visibility and Reporting:

- **Actionable Insights:** Provides real-time and historical data on assignment performance (assignment time, re-assignment rates, workload), enabling data-driven decisions.
- **Continuous Improvement:** Managers can easily identify trends, bottlenecks, and areas for process refinement and agent training.

6. Scalability:

- The automated framework can scale to handle increased ticket volumes without a proportional increase in manual administrative overhead, making the support operation more sustainable.

7. Improved Agent Morale:

- Agents receive tickets that are within their expertise and capacity, reducing frustration and increasing job satisfaction.
- Focus shifts from triage to problem-solving, enhancing their professional development.

8.2 Disadvantages (Challenges & Considerations)

1. Complexity of Initial Setup and Configuration:

- **Detailed Rule Definition:** Requires extensive upfront analysis and precise definition of assignment rules, categories, CLs, and skills.
- **Flow Designer Learning Curve:** Designing complex flows requires a good understanding of Flow Designer capabilities and best practices.
- **Data Dependencies:** Relies heavily on the accuracy and completeness of underlying data (CMDB, User records, Skill records). Poor data quality will lead to inaccurate assignments.

2. Maintenance Overhead:

- **Rule Updates:** Assignment rules need ongoing maintenance as services, CIs, teams, and agent skills evolve.
- **Flow Updates:** Changes in business processes may require updates to Flow Designer workflows.
- **Predictive Intelligence Model Retraining:** If PI is used, the model needs periodic retraining with new data to maintain accuracy.

3. Potential for Over-Automation / "Black Box" Effect:

- If not carefully designed, the automated system can become a "black box," making it difficult to understand *why* a specific assignment decision was made, especially for complex cases.
- Over-reliance on automation without manual override can lead to frustration when the system makes an incorrect decision.

4. Initial User Adaptation / Resistance:

- Some agents or teams accustomed to manual triage might initially resist the change, perceiving a loss of control or fear of being overwhelmed by auto-assigned tickets.
- Requires effective change management and training.

5. Dependency on ServiceNow Licensing (for advanced features):

- Features like Advanced Work Assignment (AWA) and Predictive Intelligence (PI) require specific ServiceNow licenses, which might incur additional costs.

6. Edge Case Handling:

- Difficult to automate every single edge case. Complex, unique, or ambiguous tickets may still require manual intervention or fall into a default triage queue, which needs clear handling.

7. Performance Impact (if not optimized):

- Poorly written Business Rules, inefficient Script Includes, or overly complex Flow Designer logic can degrade instance performance, especially during high transaction volumes. Requires rigorous performance testing and optimization.

Despite the potential disadvantages, the significant benefits in efficiency, accuracy, and customer satisfaction overwhelmingly justify the investment in streamlining ticket assignment, provided the project is managed effectively with attention to design, testing, and change management.

9. CONCLUSION

The "Streamlining Ticket Assignment for Efficient Support Operations" project represents a critical advancement in our organization's IT service delivery capabilities. By methodically addressing the long-standing challenges of manual intervention, inaccurate routing, and uneven workload distribution, this initiative transforms a reactive and often inefficient process into a proactive, intelligent, and highly optimized operation within the ServiceNow platform.

Through the strategic implementation of enhanced ServiceNow Assignment Rules, the robust orchestration power of Flow Designer, the precision of Skill-Based Routing, and the potential

integration of advanced features like Advanced Work Assignment and Predictive Intelligence, we are poised to achieve substantial improvements across key operational metrics. We anticipate a significant reduction in the average time it takes for a ticket to be assigned, a marked increase in the accuracy of initial assignments, and a noticeable improvement in the equitable distribution of workload among our support teams. These efficiencies will directly translate into faster resolution times, higher first-contact resolution rates, and ultimately, a much-improved experience for our end-users.

Beyond the quantifiable metrics, this project fosters a more agile and responsive support environment. Agents will be empowered to focus more on problem-solving rather than administrative triage, leading to increased job satisfaction and professional growth. Support managers will gain unprecedented real-time visibility into assignment patterns and team performance, enabling data-driven decision-making and continuous process refinement.

While the implementation involves careful planning, thorough testing, and ongoing maintenance to manage its inherent complexity and ensure data quality, the strategic advantages of an intelligently streamlined ticket assignment system far outweigh these considerations. This project is not merely an automation effort; it is a foundational step towards building a more resilient, efficient, and user-centric IT support organization. It lays the groundwork for future enhancements and positions our support operations to scale effectively with the evolving demands of the business.

10. FUTURE SCOPE

The "Streamlining Ticket Assignment for Efficient Support Operations" project, while delivering significant immediate benefits, is designed with future expansion and continuous improvement in mind. The following areas represent potential future phases and enhancements:

1. Full Integration of Advanced Work Assignment (AWA):

- **Omni-channel Routing:** Expand AWA to include real-time routing for other channels beyond incident/request, such as Live Chat, Phone Calls (via CTI integration), and Walk-up queues, creating a truly unified work distribution system.
- **Advanced Capacity Management:** Fully leverage AWA's advanced capacity rules, presence management, and agent availability features for more sophisticated workload balancing.
- **Agent Affinity:** Implement agent affinity rules to prioritize assignment to agents who have previously worked with a specific user, CI, or service.

2. Enhanced Predictive Intelligence (PI) Utilization:

- **Full Auto-Assignment:** Transition from auto-assignment suggestions to full auto-assignment for high-confidence predictions, with a clear audit trail and exception handling.
- **Contextual Intelligence:** Use PI to predict not just assignment, but also category, subcategory, priority, or even suggest knowledge articles based on historical data.
- **Dynamic Skill Prediction:** Leverage PI to dynamically identify the required skills for a ticket, further refining skill-based routing.

3. Integration with External Workforce Management (WFM) Systems:

- Integrate ServiceNow with external WFM systems to pull real-time agent schedules, shift patterns, and availability directly into the assignment logic, ensuring assignments only go to agents who are actively working.

4. AI-Powered Virtual Agent / Chatbot Pre-Triage:

- Enhance the Virtual Agent to perform more sophisticated pre-triage, including initial data gathering, classification, and even preliminary assignment suggestions before a ticket is formally created or escalated to a live agent.
- Enable the Virtual Agent to collect agent skills requirements directly from the user's input, feeding into the assignment process.

5. Proactive Assignment based on Monitoring Alerts:

- Develop integrations with IT monitoring tools to automatically create incidents from alerts and assign them proactively to relevant teams even before a service disruption impacts users, using correlation rules and CI-based assignment.

6. Assignment for Other ITIL Processes:

- Extend the streamlined assignment logic to other ITIL processes such as Problem Management (e.g., assigning problem tasks to specialists), Change Management (e.g., change tasks, approval routing), and Knowledge Management (e.g., knowledge article review assignments).

7. Gamification and Agent Performance Feedback:

- Explore gamification elements within the agent workspace to motivate efficient assignment and resolution.
- Provide agents with personalized feedback on their assignment accuracy and efficiency.

8. Automated Learning and Adaptation:

- Implement mechanisms for the assignment system to "learn" and adapt over time, potentially adjusting rule weights or suggesting new rules based on observed assignment patterns and re-assignment rates (beyond basic PI).

9. Advanced Reporting and Analytics with Performance Analytics (PA):

- Develop advanced PA dashboards and indicators to provide deeper insights into trends, bottlenecks, and the long-term impact of assignment optimization on business outcomes (e.g., cost savings, service availability).
- Utilize PA for forecasting future assignment workloads and resource planning.

These future enhancements will build upon the strong foundation established by this project, ensuring that the ticket assignment process remains at the forefront of efficiency and intelligence, continually adapting to the evolving needs of the organization and its customers.

10. APPENDIX

Step-1: creation of users

1. Open service now.
2. Click on All >> search for users
3. Select Users under system security
4. Click on new
5. Fill the following details to create a new user

The screenshot shows the 'User' creation form for 'Manne Nirajan'. The 'User ID' is set to 'manne.niranjan'. Other fields include 'First name' (Manne), 'Last name' (Niranjan), 'Email' (niranjanreddymanne2507@gr), 'Language' (None), 'Calendar integration' (Outlook), 'Time zone' (System (America/Los_Angeles)), 'Date format' (System (yyyy-MM-dd)), 'Business phone' (empty), 'Mobile phone' (empty), and a 'Photo' placeholder with a 'Click to add...' link. Active status is checked. There are also checkboxes for 'Password needs reset', 'Locked out', 'Web service access only', and 'Internal Integration User'.

6. Click on submit

Create one more user:

7. Create another user with the following details

The screenshot shows the 'User' creation form for 'Katherine Pierce'. The 'User ID' is set to 'Katherine Pierce'. Other fields include 'First name' (Katherine), 'Last name' (Pierce), 'Email' (empty), 'Language' (None), 'Calendar integration' (Outlook), 'Time zone' (System (America/Los_Angeles)), 'Date format' (System (yyyy-MM-dd)), 'Business phone' (empty), 'Mobile phone' (empty), and a 'Photo' placeholder with a 'Click to add...' link. Active status is checked. There are also checkboxes for 'Password needs reset', 'Locked out', 'Web service access only', and 'Internal Integration User'.

8. Click on submit

Result:

The image displays two separate screenshots of the ServiceNow 'Users' list view. Both screenshots show a table with columns: User ID, Name, Email, Active, Created, and Updated. The first screenshot shows results for 'User ID >= katherine', with the first row selected. The second screenshot shows results for 'User ID >= manne', also with the first row selected.

Screenshot 1: User ID >= katherine

User ID	Name	Email	Active	Created	Updated
katherine.pierce	katherine.pierce		true	2025-06-28 07:21:33	2025-06-28 07:21:33
kathie.argenti	Kathie Argenti	kathie.argenti@example.com	true	2012-02-17 19:04:50	2025-06-25 06:56:38
kathleen.beresnyak	Kathleen Beresnyak	kathleen.beresnyak@example.com	true	2012-02-17 19:04:50	2025-06-25 06:56:37
katina.ramano	Katina Ramano	katina.ramano@example.com	true	2012-02-17 19:04:52	2025-06-25 06:56:45
katina.survant	Katina Survant	katina.survant@example.com	true	2012-02-17 19:04:52	2025-06-25 06:56:45
kay.ganguli	Kay Ganguli	kay.ganguli@example.com	true	2012-02-17 19:04:49	2025-06-25 06:56:40
keisha.ransonet	Keisha Ransonet	keisha.ransonet@example.com	true	2012-02-17 19:04:49	2025-06-25 06:56:38
kelli.varrato	Kelli Varrato	kelli.varrato@example.com	true	2012-02-17 19:04:53	2025-06-25 06:56:41
kennith.kirklin	Kennith Kirklin	kennith.kirklin@example.com	true	2012-02-17 19:04:49	2025-06-25 06:56:44
kennith.peto	Kennith Peto	kennith.peto@example.com	true	2012-02-17 19:04:50	2025-06-25 06:56:37
kenya.bruni	Kenya Bruni	kenya.bruni@example.com	true	2012-02-17 19:04:52	2025-06-25 06:56:42
kerry.everett	Kerry Everett	kerry.everett@example.com	true	2012-02-17 19:04:50	2025-06-25 06:56:41
kevin.edd	Kevin Edd	kevin.edd@example.com	true	2012-02-17 19:04:50	2025-06-25 06:56:39

Screenshot 2: User ID >= manne

User ID	Name	Email	Active	Created	Updated
manne.niranjan	Manne Nirajan	niranjanreddymanne2507@gmail.com	true	2025-06-28 05:28:30	2025-06-28 05:28:30
manuel.dienhart	Manuel Dienhart	manuel.dienhart@example.com	true	2012-02-17 19:04:51	2025-06-25 06:56:42
mara.rineheart	Mara Rineheart	mara.rineheart@example.com	true	2012-02-17 19:04:49	2025-06-25 06:56:40
mara.vanderzwaag	Mara Vanderzwaag	mara.vanderzwaag@example.com	true	2012-02-17 19:04:51	2025-06-25 06:56:37
marc.wanger	Marc Wanger	marc.wanger@example.com	true	2012-02-17 19:04:53	2025-06-25 06:56:41
marcelino.maggs	Marcelino Maggs	marcelino.maggs@example.com	true	2012-02-17 19:04:52	2025-06-25 06:56:38
marcelo.arostegui	Marcelo Arostegui	marcelo.arostegui@example.com	true	2012-02-17 19:04:53	2025-06-25 06:56:39
marcie.shulz	Marcie Shulz	marcie.shulz@example.com	true	2012-02-17 19:04:49	2025-06-25 06:56:41
margaret.gray	Margaret Grey	margaret.gray@example.com	true	2007-08-12 16:24:34	2025-06-25 06:56:39
margarito.kornbau	Margarito Kornbau	margarito.kornbau@example.com	true	2012-02-17 19:04:53	2025-06-25 06:56:43
margot.arenburg	Margot Arenburg	margot.arenburg@example.com	true	2012-02-17 19:04:52	2025-06-25 06:56:44
mari.hwang	Mari Hwang	mari.hwang@example.com	true	2012-02-17 19:04:49	2025-06-25 06:56:43
marianne.earman	Marianne Earman	marianne.earman@example.com	true	2012-02-17 19:04:50	2025-06-25 06:56:44

Step-2: Creation of Groups

1. Open service now.
2. Click on All >> search for groups

3. Select groups under system security

4. Click on new

5. Fill the following details to create a new group

The screenshot shows a user interface for creating a new group. At the top left is a back arrow icon. Next to it is the title "Group certificates". On the right side of the title are three small icons: a pencil, a gear, and three dots. Below the title are four input fields: "Name" containing "certificates", "Manager" containing "Katherine Pierce" with a search icon and an info icon, "Group email" with a mail icon, and "Parent" with a search icon. There is also a large empty "Description" text area.

6. Click on submit

Create one more group:

Create one more group:

1. Create another group with the following details

The screenshot shows a user interface for creating another group named "Platform". It includes fields for "Name" (Platform), "Manager" (Manne Niranjan) with a search and info icon, "Group email" with a mail icon, "Parent" with a search icon, and a large "Description" text area.

2. Click on submit

Result:

The screenshots show the ServiceNow Groups list interface. The top screenshot displays the 'certificates' group, which is currently selected. The bottom screenshot displays the 'Platform' group, which is also selected. Both screenshots show a list of groups with columns for Name, Description, Active, Manager, Parent, and Updated.

Top Screenshot (certificates Group):

Name	Description	Active	Manager	Parent	Updated
Search	Search	Search	Search	Search	Search
certificates	Change Management Group	true	katherine pierce	(empty)	2025-06-28 07:24:48
Change Management	Provides access to the Change Management Group	true	(empty)	(empty)	2015-06-09 22:35:12
Creator Studio Restricted Users	Provides access to the Creator Studio Restricted Users group	true	(empty)	(empty)	2023-12-07 15:58:22
Creator Studio Users	Provides access to the Creator Studio Users group	true	(empty)	(empty)	2023-12-07 15:48:42
Database	Manages databases hosted in Atlanta	true	Don Goodliffe	(empty)	2022-06-08 19:02:18
Database Atlanta	Manages databases hosted in Atlanta	true	(empty)	Database	2023-06-26 11:47:18
Database San Diego	Manages databases hosted in San Diego	true	(empty)	Database	2023-06-26 11:46:37
eCAB Approval	eCAB Approvers	true	(empty)	(empty)	2011-09-30 01:46:44
Field Services	Provides access to the Field Services group	true	(empty)	(empty)	2020-09-02 18:11:34
Hardware	IT department responsible for all hardware	true	(empty)	(empty)	2020-09-06 18:54:14

Bottom Screenshot (Platform Group):

Name	Description	Active	Manager	Parent	Updated
Search	Search	Search	Search	Search	Search
Platform	Group that works on analyzing and fixing...	true	Manne Nirjanan	(empty)	2025-06-28 07:25:29
Problem Analyzers	Group that works on analyzing and fixing...	true	(empty)	(empty)	2025-04-01 22:11:33
Problem Solving	Group that works on analyzing and fixing...	true	(empty)	(empty)	2025-04-01 22:10:15
Procurement	Responsible for ordering catalog items, ...	true	(empty)	(empty)	2020-09-06 18:50:16
Project Mgmt	Responsible for managing projects	true	(empty)	(empty)	2023-08-05 18:42:19
Recommendation Admin	Group used for Agent Assist Recommendations	true	(empty)	(empty)	2019-02-14 16:39:04
Report Access Request Approvers	Default group for approvers of Report Access Requests	true	(empty)	(empty)	2021-03-15 11:50:37
RMA Approvers	Responsible for Return Material Authorizations	true	(empty)	(empty)	2025-04-02 14:12:50
Service Desk	IT department responsible for all service desk operations	true	Beth Anglin	(empty)	2025-04-01 17:14:56

Step-3: Creation of Roles

1. Open service now.
2. Click on All >> search for roles

3. Select roles under system security

4. Click on new

5. Fill the following details to create a new role

Name	Certification_role	Application	Global	
Requires Subscription	Unspecified	Elevated privilege <input type="checkbox"/>		
Description	Can deal with certification issues			

6. Click on submit

Create one more role:

Create another role with the following details

Name	Platform_role	Application	Global	
Requires Subscription	Unspecified	Elevated privilege <input type="checkbox"/>		
Description	Can deal with platform related issues			

Click on submit

Result:

The screenshots show the ServiceNow Roles list interface. Both lists include columns for Name, Description, and Elevated privilege (all set to false). The 'certificate_role' list includes roles like certification, certification_admin, certification_filter_admin, change_manager, chat_admin, chat_analytics_admin, chat_analytics_viewer, chat_survey_admin, client_script_admin, clone_admin, clone_profile_admin, and cloud_admin. The 'platform_role' list includes roles like playbook.activity_def_read, playbook.admin, playbook.write, playbook_experience.admin, portal_analytics_admin, portal_analytics_viewer, portfolio_admin, portfolio_editor, portfolio_viewer, problem_admin, problem_coordinator, and others.

Certificate Role List:

Name	Description	Elevated privilege
certification	Can work Certification tasks	false
certification_admin	Can manage the Certification application	false
certification_filter_admin	Can manage Certification Filters	false
Certification_role	Can deal with certification issues	false
change_manager	Role For Change Manager.	false
chat_admin	Administers chat tables (read/write)	false
chat_analytics_admin	Chat Analytics Admin	false
chat_analytics_viewer	Chat Analytics Viewer	false
chat_survey_admin	Chat Survey administrator	false
client_script_admin	Can manage Client Scripts	false
clone_admin	Can read, write, and configure all elements of the Instance Clone Application	false
clone_profile_admin	Can read, write, and configure Clone Profiles	false
cloud_admin	Responsible for the overall setup and administration of the cloud management environment.	false

Platform Role List:

Name	Description	Elevated privilege
Platform_role	Can deal with platform related issues	false
playbook.activity_def_read	Allow user to read all activity definitions.	false
playbook.admin	Admin role for Process Automation Designer.	false
playbook.write	Allow user to create, update and delete process definitions and access PAD, but without any access to activity definitions.	false
playbook_experience.admin	Role required to configure tables used to render the Playbook Experience.	false
portal_analytics_admin	Role for viewing the web analytics	false
portal_analytics_viewer	Role for viewing the web analytics	false
portfolio_admin	Can manage the Service Portfolio, related commitments and availability	false
portfolio_editor	This role provides access to update portfolios, taxonomy layers, taxonomy nodes, services, and reparent services.	false
portfolio_viewer	This role provides access to view portfolios, taxonomy layers, taxonomy nodes, and services.	false
problem_admin	A Problem Manager who can also delete Problems and Problem Tasks	false
problem_coordinator	Works on a Problem or Problem Task and manages it through its lifecycle	false
...	Responsible for the overall Problem Management process and can configure Problem Management settings as well as act as a	...

Step-4: Creation of Tables

1. Open service now.

2. Click on All >> search for tables
3. Select tables under system definition
4. Click on new
5. Fill the following details to create a new table
 Label : Operations related
 Check the boxes Create module & Create mobile module
6. Under new menu name : Operations related
7. Under table columns give the columns

Q	Column label	Type	Reference	Max length	Default value	Display
	Created by	String	(empty)	40		false
	Created	Date/Time	(empty)	40		false
	Sys ID	Sys ID (GUID)	(empty)	32		false
	Updates	Integer	(empty)	40		false
	Updated by	String	(empty)	40		false
	Updated	Date/Time	(empty)	40		false
✗	Assigned to group	Reference	Group	40		false
✗	Assigned to user	Reference	User	32		false
✗	Comment	String	(empty)	40		false
✗	Issue	String	(empty)	40		false
✗	Name	String	(empty)	40		false
✗	Priority	String	(empty)	40		false
✗	Service request No	String	(empty)	40	javascript:getNextObjNumberPadded();	false
✗	Ticket raised Date	Date/Time	(empty)	40		false
+	Insert a new row...					

8. Click on submit

Create choices for the issue filed by using form design
 Choices are

- unable to login to platform
- 404 error
- regarding certificates
- regarding user expired

Result:

Label	Name	Extends table	Extensible	Updated
Search	Search	Search	Search	Search
Operations related	u_operations_related	(empty)	false	2025-06-28 08:39:14
Opt Out Feedback Option	sn_bm_common_optout_feedback_options	Application File	false	2025-04-03 12:42:26
Options	sc_item_option	(empty)	false	2025-04-03 12:21:11
Oracle App TNS Service	cmdb_ci_appl_ora_tns	Application	false	2025-04-03 12:10:54
Oracle App TNS Service EP	cmdb_ci_endpoint_oracle_tns	Inclusion Endpoint	false	2025-04-03 12:09:00
Oracle Catalog	cmdb_ci_db_ora_catalog	Database Catalog	false	2025-04-03 12:13:22
Oracle Concurrent Server	cmdb_ci_appl_ora_conc	Application	false	2025-04-03 12:10:16
Oracle Database Listener	cmdb_ci_db_ora_listener	Application	false	2025-04-03 12:11:55
Oracle DB Endpoint	cmdb_ci_endpoint_oracle_db	Endpoint	false	2025-04-03 12:12:29
Oracle DB schema inclusion	cmdb_ci_endpoint_oracle_db_schema	Inclusion Endpoint	false	2025-04-03 12:11:56
Oracle Discoverer Engine	cmdb_ci_appl_ora_disc	Application	false	2025-04-03 12:10:42
Oracle Discoverer UI	cmdb_ci_appl_ora_disc_ui	Application	false	2025-04-03 12:12:39
Oracle EBS module	ebs_module	(emptyv)	false	2025-04-03 12:12:28

Step-5:

Assign roles & users to certificate group

1. Open service now.
2. Click on All >> search for groups
3. Select groups under system definition
4. Select the certificates group
5. Under group members
6. Click on edit
7. Select Katherine Pierce and save
8. Click on roles
9. Select Certification_role and save

Step-6:

Assign roles & users to platform group

1. Open service now.
2. Click on All >> search for groups
3. Select groups under system definition
4. Select the platform group
5. Under group members
6. Click on edit
7. Select Manne Niranjan and save
8. Click on roles
9. Select Platform_role and save

Result:

The screenshot shows the ServiceNow interface for editing a group named 'certificates'. The 'Roles (1)' tab is selected, displaying a single role entry:

Created	Role	Granted by	Inherits
2025-06-28 08:57:42	Certification_role	(empty)	true

The screenshot shows the ServiceNow interface for editing a group named 'Platform'. The 'Roles' tab is selected, displaying one role entry:

Created	Role	Granted by	Inherits
2025-06-28 09:01:05	Platform_role	(empty)	true

Step-7:

Assign role to table

1. Open service now.
2. Click on All >> search for tables
3. Select operations related table
4. Click on the Application Access
5. Click on operations_related read operation
6. Click on the profile on top right side
7. Click on elevate role
8. Click on security admin and click on update
9. Under Requires role
10. Double click on insert a new row
11. Give platform role

12. And add certificate role

13. Click on update

The screenshot shows a software interface for managing access control rules. At the top, there's a header bar with buttons for 'Update' and 'Delete'. Below the header, the title 'Access Control u_operations_related' is displayed. The main area is titled 'Definition'.

Under 'Definition', there's a note about Access Control Rules: "Access Control Rules allow access to the specified resource if *all three* of these checks evaluate to true:" followed by three numbered points:

1. The user has one of the roles specified in the **Role** list, or the list is empty.
2. Conditions in the **Condition** field evaluate to true, or conditions are empty.
3. The script in the **Script** field (advanced) evaluates to true, or sets the variable "answer" to true, or is empty.

Below this note, it says: "The three checks are evaluated independently in the order displayed above."

There is a 'More Info' link at the bottom of this section.

Below the note, there's a table titled 'Requires role' with a single column labeled 'Role'. It contains three rows, each with a red 'X' icon and a role name:

Role
u_operations_related_user
Platform_role
Certification_role

At the bottom of the table, there's a button labeled 'Insert a new row...'.

14. Click on u_operations_related write operation

15. Under Requires role

16. Double click on insert a new row

17. Give platform role

18. And add certificate role

Result:

The screenshot shows the ServiceNow Access Control - `u_operations_related` page. At the top, there are tabs for Streamlining-Ticket-Assigment, ServiceNow Developers, `u_operations_related`, and Smartinternz. The main title is "Access Control - `u_operations_related`". Below the title, it says "Access Control" and "u_operations_related". There are buttons for "Update" and "Delete". A search bar and a filter section with "Add Filter Condition" and "Add 'OR' Clause" buttons are also present. The main content area is titled "Conditions" and contains a note about decision types: "Allow Access: Allows access to a resource if all conditions are met." and "Deny Access: Denies access to a resource unless all conditions are met.". A "More Info" link is available. Below this, the "Requires role" section lists three roles: Platform_role, Certification_role, and `u_operations_related_user`. An "Insert a new row..." button is at the bottom of the list.

Step-8:

Create ACL

1. Open service now.
2. Click on All >> search for ACL
3. Select Access Control(ACL) under system security
4. Click on new

5. Fill the following details to create a new ACL

The screenshot shows the 'Access Control' configuration page for the field 'u_operations_related.u_service_request_no'. The top navigation bar includes back, forward, search, and application selection buttons. The main form fields are:

- Type: record
- Operation: write
- Application: Global
- Active: checked
- Admin overrides: checked
- Protection policy: -- None --
- Name: Operations related [u_operations_related]
- Description: Service request No
- Condition: 4 records match condition (with 'Add Filter Condition' and 'Add "OR" Clause' buttons)
- Filter settings: -- choose field --, -- oper --, -- value --

6. Scroll down under requires role

7. Double click on insert a new row

8. Give admin role

9. Click on submit

10. Similarly create 4 acl for the following fields

		u_operations_related.u_priority	write	record	true	admin	2024-04-16 22:32:12
		u_operations_related.u_ticket_raised_date	write	record	true	admin	2024-04-16 22:30:22
		u_operations_related.u_name	write	record	true	admin	2024-04-16 22:29:00
		u_operations_related.u_issue	write	record	true	admin	2024-04-16 22:23:31
		u_operations_related.u_service_request_no	write	record	true	admin	2024-04-16 22:17:14

Result:

The screenshot shows two ServiceNow browser windows. The top window displays the 'Access Controls' list view with a table of rules. The bottom window shows a detailed view of an access control record for 'u_operations_related'.

Access Controls List View (Top Window):

Name	Decision Type	Operation	Type	Active	Updated by	Updated
u_operations_related	Allow If	write	record	true	admin	2025-06-28 07:54:29
u_operations_related	Allow If	delete	record	true	admin	2025-06-28 07:54:30
u_operations_related	Allow If	create	record	true	admin	2025-06-28 07:54:29
u_operations_related	Allow If	read	record	true	admin	2025-06-28 07:54:29
u_operations_related.u_issue	Allow If	create	record	true	admin	2025-06-28 09:43:06
u_operations_related.u_name	Allow If	create	record	true	admin	2025-06-28 09:42:17
u_operations_related.u_priority	Allow If	read	record	true	admin	2025-06-28 09:40:06
u_operations_related.u_service_request_no	Allow If	create	record	true	admin	2025-06-28 09:44:00

Access Control Record View (Bottom Window):

Access Control - u_operations_related

General:

- Type: record
- Operation: write
- Decision Type: Allow If
- Application: Global
- Active: checked
- Admin overrides: checked
- Protection policy: Operations related [u_operations_related]
- Description: Default access control on u_operations_related

Conditions:

No. of records matching the condition: 3

javascript:void(0) [Access: Allows access to a resource if all conditions are met.](#)

Step-8:

Create a Flow to Assign operations ticket to group

1. Open service now.
2. Click on All >> search for Flow Designer

3. Click on Flow Designer under Process Automation.
4. After opening Flow Designer Click on new and select Flow.
5. Under Flow properties Give Flow Name as “ Regarding Certificate”.
6. Application should be Global.
7. Select Run user as “ System user ” from that choice.
8. Click on Submit.

Now add Trigger:

1. Click on Add a trigger
2. Select the trigger in that Search for “create or update a record” and select that.
3. Give the table name as “ Operations related ”.
4. Give the Condition as
Field : issue

Operator : is

Value : Regrading Certificates

5. After that click on Done.
6. Now under Actions.
7. Click on Add an action.
8. Select action in that search for “ Update Record ”.

9. In Record field drag the fields from the data navigation from left side
10. Table will be auto assigned after that
11. Give the field as “ Assigned to group ”
12. Give value as “ Certificates ”
13. Click on Done.
14. Click on Save to save the Flow.
15. Click on Activate.

Result:

The screenshot shows the ServiceNow Workflow Studio interface. The browser tab is titled 'Regarding Certificate'. The main area displays a flow titled 'Regarding Certificate' which is currently 'Active'. The flow has one trigger: 'Operations related Created or Updated where (Issue is Regarding Certificates)'. It contains one action: 'Update Operations related Record'. An error handler is present but disabled. On the right side, there is a sidebar titled 'Data' with options like 'Flow Variables', 'Trigger - Record Created or Updated', and '1 - Update Record'. At the bottom, status information shows 'Status: Published' and 'Application: Global'.

Step-9:

Create a Flow to Assign operations ticket to Platform group

1. Open service now.
2. Click on All >> search for Flow Designer
3. Click on Flow Designer under Process Automation.
4. After opening Flow Designer Click on new and select Flow.
5. Under Flow properties Give Flow Name as “ Regarding Platform ”.
6. Application should be Global.
7. Select Run user as “ System user ” from that choice.
8. Click on Submit.

Now add Trigger:

1. Click on Add a trigger
2. Select the trigger in that Search for “create or update a record” and select that.
3. Give the table name as “ Operations related ”.
4. Give the Condition as
Field : issue

Operator : is

Value : Unable to login to platform

5. Click on New Criteria

Field : issue

Operator : is

Value : 404 Error

6. Click on New Criteria

Field : issue

Operator : is

Value : Regrading User expired

7. After that click on Done.

8. Now under Actions.

9. Click on Add an action.

10. Select action in that search for “ Update Record ”.

11. In Record field drag the fields from the data navigation from left side

12. Table will be auto assigned after that

13. Give the field as “ Assigned to group ”.

14. Give value as “ Platform ”.

15. Click on Done.

16. Click on Save to save the Flow.

17. Click on Activate.

Result:

The screenshot shows the ServiceNow Workflow Studio interface. The title bar indicates the URL is dev200442.service-now.com/now/workflow-studio/builder%3Ftable%3Dsys_hub_flow%26sysId%3Dd806a8e3c3962210095b32f1b4013153. The main area displays a flow named 'Regarding Platform' which is Active. The flow consists of a trigger (Operations related Created or Updated) and one action (Update Operations related Record). A sidebar on the right shows the flow variables and triggers. At the bottom, it shows the status as Published and Application as Global.

Conclusion:

The implementation of the automated ticket routing system at ABC Corporation has been a significant success. By leveraging the capabilities of ServiceNow, we have streamlined the process of assigning support tickets to the appropriate teams, addressing the challenges of manual routing, and ensuring timely resolution of issues.