Project Design Phase

Solution Architecture

Date: 02 November 2025
Team ID: NM2025TMID02114
Project Name: Optimizing User, Group, and Role Management with Access Control and Workflows
Maximum Marks: 4 Marks

Goal of the Architecture:

1. Improve efficiency in managing users, groups, and roles within the ServiceNow platform.
2. Implement secure, dynamic access control policies to maintain data confidentiality and integrity.
3. Automate workflows for user access provisioning, role assignment, and approval processes.
4. Minimize manual administrative tasks and reduce the risk of human error in access control.
5. Ensure compliance, accountability, and transparency in all user-related operations.

Key Components:

1. **User Management Module** – Handles user creation, modification, and removal, ensuring proper identification and data consistency.
2. **Group Management System** – Organizes users into functional teams or departments, enabling role-based collaboration and access assignment.
3. **Role-Based Access Control (RBAC)** – Assigns permissions based on defined roles to ensure secure, rule-driven access management.
4. **Workflow Automation Engine** – Utilizes Flow Designer to automate task assignments, approvals, and notifications for project activities.
5. **Access Control Layer (ACLs)** – Enforces data access restrictions at the record and field levels based on user roles.
6. **Audit and Compliance Module** – Maintains logs of user actions, role assignments, and access requests for transparency and regulatory adherence.

Development Phase:

1. Define and configure the **user, group, and role hierarchy** within ServiceNow.
2. Set up **Access Control Lists (ACLs)** to restrict data access based on user and group roles.
3. Develop **automated workflows** using Flow Designer for project task approvals and role assignments.
4. Conduct **testing** of user onboarding, role modification, and access revocation scenarios.
5. Integrate **audit trails and reporting features** for activity tracking and compliance validation.

Solution Architecture Description:

The proposed **Solution Architecture** provides a **secure, scalable, and automated framework** for managing users, roles, and workflows within ServiceNow.

It combines **Role-Based Access Control (RBAC)** and **workflow automation** to streamline access provisioning and task management. All users are centrally managed, and permissions are dynamically assigned based on group memberships and designated roles.

The **Workflow Engine (Flow Designer)** automates approvals, status updates, and task completions—reducing delays and ensuring compliance with organizational policies.

To enhance governance, an **Audit and Compliance Layer** captures all access and workflow activities, providing real-time visibility into system changes. This structure ensures accountability and prevents unauthorized actions.

Overall, this architecture minimizes administrative overhead, strengthens data security, and promotes operational efficiency across the project management lifecycle, aligning with modern enterprise identity and access management standards.

Example - Solution Architecturure Diagram: