Project Design Phase: Solution Architecture

Date: 15 February 2025

Team ID: LTVIP2025TMID29711

Project Name: Optimizing User, Group, and Role Management with Access Control and Workflows

Maximum Marks: 4 Marks

Solution Architecture

Definition:

Solution architecture is a complex process that bridges the gap between business problems and technology solutions. Its primary goals include identifying the optimal tech solution, clearly communicating the software's structure and behavior to stakeholders, defining features and development phases, and providing detailed specifications for management and delivery.

Our Project’s Solution Architecture Overview

□ *Problem Summary*

Organizations often struggle with manual user, group, and role management, leading to access inconsistencies, security vulnerabilities, and inefficient onboarding processes.

□ *Proposed Architecture Highlights*

- **Platform:** ServiceNow (Scoped App)
- **Core Components:**
  - User Table Extension
  - Custom Role Management Table
  - Workflow Engine (Flow Designer)
  - Access Control Rules (ACLs)
  - Notifications & Approvals
- **Technology Used:**
  - JavaScript (ServiceNow Scripting)
  - Flow Designer

- ACLs (Access Control Lists)
- REST API (for external integrations)

Data Flow Description

- **User Onboarding:** A manager submits a request, triggering the ServiceNow Flow Designer. The system creates the user record, assigns relevant groups and roles, and sends notifications to stakeholders.
- **Role Management:** Administrators can define custom roles and associated permissions. Access control is then evaluated based on these assigned roles.
- **Audit & Tracking:** All user updates are logged, with dashboards available for administrators and managers to review access mappings.

System Diagram

[Placeholder for a flowchart or system diagram]

(Visual representation of User Interface → Workflow Engine → Role Table → Access Rules → Notifications)

Figure 1: Solution architecture and data flow for ServiceNow-based user-role management system.

Reference

AI on AWS for Clinical Research