

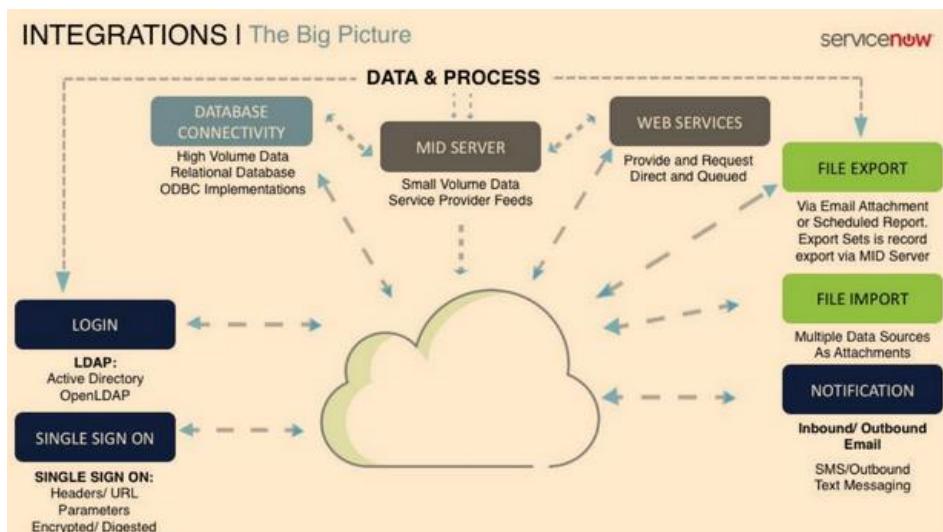
Project Design Phase-II

Technology Stack (Architecture & Stack)

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| Project Name | Automated Network Request Management in ServiceNow |
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Technical Architecture:

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2



Guidelines:

- Include all the processes (As an application logic / Technology Block)
- Provide infrastructural demarcation (Local / Cloud)
- Indicate external interfaces (third party API's etc.)
- Indicate Data Storage components / services
- Indicate interface to machine learning models (if applicable)

Architectural Diagram Description:

Cloud-based ServiceNow instance with User Interface (Service Portal) connecting to Application Logic (Flow Designer, Approval Engine). Data stored in ServiceNow DB. External interfaces to email services and network APIs. Deployed on ServiceNow Cloud.

Table-1 : Components & Technologies:

| S.No | Component | Description | Technology |
|------|---------------------------------|---|--|
| 1. | User Interface | Web-based portal for request submission and tracking. | ServiceNow Service Portal, JavaScript, HTML/CSS. |
| 2. | Application Logic-1 | Workflow and automation for request processing. | ServiceNow Flow Designer. |
| 3. | Application Logic-2 | Approval and routing logic. | ServiceNow Approval Engine. |
| 4. | Application Logic-3 | Notification handling. | ServiceNow Notification Service |
| 5. | Database | Storage for requests, approvals, and audit logs. | ServiceNow Instance Database (Glide). |
| 6. | Cloud Database | Managed cloud DB service. | ServiceNow Cloud DB. |
| 7. | File Storage | Storage for attachments in requests. | ServiceNow Attachments Module. |
| 8. | External API-1 | Integration with email providers. | SMTP/API for emails (e.g., Microsoft Graph if integrated). |
| 9. | External API-2 | Integration with network management tools. | REST APIs for tools like Cisco ACI or similar. |
| 10. | Machine Learning Model | (Optional) Predictive analytics for request routing. | ServiceNow Predictive Intelligence (if applicable). |
| 11. | Infrastructure (Server / Cloud) | Cloud-hosted platform. | ServiceNow Cloud (SaaS), no local servers. |

Table-2: Application Characteristics:

| S.No | Characteristics | Description | Technology |
|------|--------------------------|--|--|
| 1. | Open-Source Frameworks | Limited use; relies on proprietary platform with some open integrations. | JavaScript libraries like jQuery if custom. |
| 2. | Security Implementations | RBAC, encryption, audit trails, and compliance checks. | ServiceNow Security Operations, OAuth, Encryption Modules. |
| 3. | Scalable Architecture | Microservices-like workflows in cloud. | ServiceNow's elastic scaling, multi-instance support. |
| 4. | Availability | High availability with redundancy. | ServiceNow's 99.99% SLA, load balancers. |
| 5. | Performance | Optimized for quick responses. . | Caching in ServiceNow, optimized queries. |

References:

1. <https://www.servicenow.com/community/s/cqfn76974/attachments/cqfn76974/architect-kb/23/2/ITSM%2520Reference%2520Architecture%2520v1.pdf> (ITSM Reference Architecture from ServiceNow, blending frameworks like TOGAF for architecture principles).
2. <https://www.servicenow.com/docs/bundle/zurich-integrate-applications/page/product/automation-center/concept/automation-center-workflow-arch.html> (Automation Center architecture in ServiceNow, covering workflows for managing automation requests and tasks).
3. https://www.servicenow.com/docs/bundle/zurich-it-service-management/page/product/planning-and-policy/concept/c_RequestManagement.html (Official ServiceNow documentation on Request Management, including catalog items and fulfillment flows).
4. <https://www.servicenow.com/docs/bundle/zurich-impact/page/product/impact/reference/architecture-blueprint.html> (ServiceNow Architecture Blueprint accelerator for developing architecture artifacts).
5. <https://www.itential.com/resource/demo/enable-network-infrastructure-automation-in-a-servicenow-flow-with-itentials-latest-release-of-its-servicenow-app/> (Demo on enabling network and infrastructure automation within ServiceNow flows using integrations like Itential).