

Position # 031370

IS Systems Development Services Consultant/Administrator

Division of Technology, Security & Data Services

Bureau of Information Technology Services / Development, DBA & Middleware Section

Middleware Architect

POSITION SUMMARY

Under the broad policy guidance of the Bureau of Information Technology Services (BITS) Development, DBA, and Middleware Supervisor, this position provides expert-level leadership in the design, development, and secure implementation of Middleware platforms. This includes the collaboration, integration, and observability needs of Middleware platforms and the automation and integration with ETF's data and development systems from inception to completion. The position serves as a project and technical advisor and chief architect for application hosting and system development tool chain architectures and activities. This position will provide expertise to assist ETF with delivering high quality software solutions for ETF Legacy systems, new systems development, and the implementation of new business solutions expeditiously and efficiently.

As a Middleware Architect and automation and integration educator, this position provides leadership and guidance for developing strategic highly complex secure application hosting, Middleware automation, collaboration and observability frameworks, and systems integration by performing the most advanced level of technical process and research analysis to acquire knowledge in the pursuit of creating and managing high value, strategic, innovative, and secure architectural solutions. It focuses on creating choices for BITS' business and technical partners by means of research, experimentation, and recommendations. This position provides Middleware leadership in identifying, establishing, and adopting innovative approaches for development of business and/or technical solutions including new tooling, frameworks, methodologies, and the generation of procedures, policies, and standards for the Middleware platform and collaboration and observability frameworks at ETF. This position will lead efforts to maintain, modernize, and enhance ETF's Middleware platform and collaboration and observability frameworks to enable integration and delivery of solutions. This includes leading meetings and standups with technical teams/product owners to refine requirements for defining strategy, the selection of new tools, and their implementation and adoption.

This position provides leadership to resolve technical and solution issues and makes recommendations on suggested alternatives to resolve issues and problems. Specifically, this position provides technical support, administration, consulting, disaster recovery, and security configuration of the Middleware platforms including the collaboration, integration, and observability aspects. This position provides leadership in all aspects of Middleware including strategy, technical design, development, implementation, governance, and testing utilizing mainframe, web, mobile, cloud platforms and Software as a Service. This position will collaborate with technical staff at ETF, ETFs enterprise architects (EA), DET and other state agencies, security, product owners, and vendors to make sure product acceptance criteria is clear, meets technical users' needs and requirements, and is implemented effectively.

This position will lead efforts to continuously improve processes based on feedback from retrospectives, development and monitoring of key performance metrics, and communication with major stakeholders. The position provides representation on enterprise-wide committees and interagency work groups and has the responsibility for implementing and managing the department's solutions architecture in partnership with ETFs enterprise architects and DET's architects to comply with state and ETF policies and procedures. ETF is committed to serving our members and employers with the highest quality services possible while simultaneously pursuing new high-value initiatives. This position participates in the application change control process, project meetings, and Technical Architecture Review Committee (TARC). This position will also work with BITS management and key stakeholders to develop key performance indicators (KPI's) and metrics.

GOALS AND ACTIVITIES

40% Goal A. Leadership and architecture for Middleware and platform solutions

- A1. Provide consultation and direction to other professional IS development staff on Middleware and cloud principles, ensuring compliance with established standards, and establishing task assignments and ongoing processes.
- A2. Provide advanced technical design and development consultation to developers in the adoption of automation frameworks for containerization, observability, and orchestration of Middleware and cloud technologies.
- A3. Provide expert technical architecture direction to BITS staff, including applications development, enterprise architects, security, technical, and managers regarding technology solutions and services, and configuration standards.
- A4. Provide technical project leadership and expertise for projects that cross multiple technology platforms.
- A5. Serve as a consultant in the review and verification of technical feasibility as well as performance impact of technology deployment.
- A6. Provide technical and subsystem-specific expertise and direction to both user and vendor staff for the implementation of technology projects which have significant impact on the technologies in use at ETF. Interact with technical support, operations, and vendor staff to ensure coordination of their efforts with project team efforts.
- A7. Evaluate and recommend disaster recovery/COOP designs, strategic plans, and solutions to foster a pro-active, customer centric systems approach.
- A8. Define, research, and select new technology services and solutions as part of the continuous improvement and modernization of Middleware and our applications development and deployment platforms.
- A9. Prepare conceptual reports and management presentations to concisely inform management and other interested parties of technical capabilities. Prepare inputs to budget requirements for continued operations of systems.
- A10. Develop project and technical architecture review documentation that will flow through the governance process.
- A11. Establish and administer technical policies and standards through partnership with the enterprise architects to identify and adopt best practices on technical architectural design and selection. Communicate these items to both technical and non-technical stakeholders.
- A12. Collaborate with enterprise architects in standardizing the architectural design and selection process that ensures input from all impacted areas for the adoption of a modernized Middleware platform and the cloud consistent with industry standards.
- A13. Develop policies, procedures, and standards for the use of, and compliance with, complex or emerging Middleware and cloud technologies within ETF, including technological standards for application development, development tool chain, and integration methodologies. This may include tool selection and implementation, orchestration, observability, containers, automated testing, coding standards, build and code promotion, source code management, and integration methodologies.
- A14. Work with BITS management and sections to foster an environment of providing business solutions through technical innovation.
- A15. Collaborate with the BITS technical architect and BITS technical leads to maintain the technical reference model which provides a set of standard technologies which reduces overall complexity and increases cost efficiency.
- A16. Work with BITS and business staff on long range strategic technology planning.

- A17. Prepare Request for Proposal or Request for Bids. Evaluate products, prepare bid specifications, rank proposals, recommend vendors and identify integrations with existing applications.
- A18. Represent the section, bureau, division, department and/or state on interagency committees/task forces or in ventures to facilitate/advise the provisioning of information and technology. Prepare and present materials as needed.

35% Goal B: Provision of leadership and guidance in the development, implementation, and modernization of Middleware technologies and platforms.

- B1. Direct efforts to define, research, and select tools, techniques, standards, and methodologies for innovative Middleware solutions.
- B2. Design and develop innovative and secure Middleware solutions for modernizing ETF's application hosting, collaboration, and observability frameworks and its automation and integration with existing and new systems.
- B3. Research, define, and direct the implementation of new tools in application hosting and their automation and integration with existing tools for new and legacy applications using agile methodology.
- B4. Direct the design of prototypes and tests for complex and emerging systems to provide the best integration and delivery of business solutions.
- B5. Provide direction to teams of Middleware, application developers, infrastructure, and data professionals in the implementation and adoption of Middleware principals and cloud technology through various technical projects.
- B6. Direct the definition of requirements and acceptance criteria for application hosting automation and the Middleware platforms for off-the-shelf software, cloud and software-as-a-service solutions, and integrations between systems.
- B7. Incorporate security policies, principles, and practices into ETF's Middleware platform and collaboration and observability frameworks as well as the application hosting automation, container, and orchestration requirements.
- B8. Work with Middleware and application development management staff to develop actionable KPI's and observability regarding the Middleware platform and application hosting automation, including setting goals and objectives, collecting measures, and calculating metrics.
- B9. Design and write development code to perform data extraction, transmission, conversion, or other utility needs within the backend systems.
- B10. In cooperation with other server technicians, install and support server hardware and software systems, operating systems, management software, and server-based applications.
- B11. Lead the development of changes with other existing and emerging systems or subsystems to ensure integration and compatibility.
- B12. Prepare and present materials to broad audiences including developers and managers to aid in the adoption of Middleware and cloud principles to include the creation/hosting of regular coaching and learning opportunities to examine and review innovative tools, frameworks, methodologies, and practices for web, mobile, and cloud business solutions.

20% Goal C: Provision of technical expertise in the resolution of production issues

- C1. Ensure effective operation of critical systems by timely – often immediate response to – system malfunctions and problems; respond to business users' problems, requests, and plans.

- C2. Perform complex research and analysis of technical architecture issues that impact the deployment of new or existing infrastructure or application architectures.
- C3. Serve as a technical escalation point for other technical areas as it relates to Middleware, application hosting, Linux, and observability architectures, integrations, solutions, and troubleshooting.
- C4. Work with product owners and business analysts on software maintenance issues, including reviewing for clarity, prioritization, and acceptance criteria.
- C5. Act as liaison between customers/end-users and technical staff, both vendor and internal, including tracking problems and resolutions.
- C6. Prepare status reports and/or communications for management to highlight progress, identify obstacles, root cause, timeline to resolution, and recommended actions for incidents and/or problems.
- C7. Track system problems and their resolution using ETF's IT request system.
- C8. Monitor, manage, and resolve service and incident requests in a timely manner.
- C9. Maintain and support the standard Middleware platform and the collaboration, integration, and observability frameworks in cooperation with agency technical staff and architects. Examples of this service side software and tools include IBM Liberty Web Application Server, Apache TomCat, Red Hat Linux, Dynatrace, GitHub, Jira, MuleSoft, Okta, SoCure, etc.
- C10. Train and provide consultation to Middleware staff on the use of Linux and Middleware tools and technologies, the implementation of applications with application server software, and advance troubleshooting techniques including observability tools and problem resolution.
- C11. Work with BITS management and the technical architect to create and maintain a schedule/roadmap of general ETF technology upgrades with consideration for vendor dependencies to help plan for current and upcoming budgets.
- C12. Monitor ETF, DET, and other state agency technology choices and trends in IT hardware and software and consult with appropriate ETF staff on the impacts of those decisions.
- C13. Participate in business and IT change control, ensuring that all tickets go through the proper vetting and approval processes.
- C14. Perform prime-shift and non-prime shift on-call support as directed.

5% Goal D. Performance of other duties as assigned

- D1. Carry out special assignments that meet the needs of the agency including the preparation of special reports or documents as requested.
- D2. Meet with BITS management and staff to evaluate progression on tasks, identify and resolve issues, and plan for future projects and initiatives.
- D3. Research and evaluate new tools and technologies. Utilize Gartner for innovative approaches, research, and best practices
- D4. Stay up to date on development processes and modern technologies utilizing web resources and independent study, online training, books, internal documents, attending in-house, local and out-of-state training seminars, conferences, and workshops.
- D5. Participate on technical governance groups and TARC as assigned.
- D6. Perform additional duties as assigned.

KNOWLEDGE, SKILLS, AND ABILITIES

1. Expert skill and knowledge of the administration, configuration, and maintenance of web application server software such as IBM WebSphere, Liberty, Apache Tomcat, etc.
2. Expert skill and knowledge of the administration, configuration, and maintenance of http servers such as IBM HTTP Server, Apache etc.
3. Expert skill and knowledge of the administration, configuration, integration, and maintenance of Middleware platform tools such as Dynatrace, MuleSoft, OpenShift, Kubernetes, Okta, SoCure, etc.
4. Expert skill and knowledge of Linux Operating System installation, configuration, and administration.
5. Expert skills using scripting languages such as Windows batch, Unix shell, Python, and Perl.
6. Expert skills and knowledge of automating CI/CD pipelines, containers, and orchestration.
7. Expert ability to troubleshoot application servers on local and wide area networks including support of DNS, firewalls, directories, and SSL Certificates and tools such as Snort and WireShark.
8. Expert skills with automation, observability frameworks, and Middleware tools design, configuration, and sustainability.
9. Expert knowledge of web security and associated vulnerabilities.
10. Expert ability to debug and troubleshoot (both during development and in production) and the various troubleshooting approaches that can be used.
11. Expert knowledge of modern cloud (IaaS, PaaS, SaaS) concepts, architecture, and service models.
12. Advanced skills using development software such as Java, React, C, C#, C++, etc.
13. Advanced skill gathering requirements and evaluating new technologies in the marketplace.
14. Advanced knowledge of application systems, including multi-tier technologies and the application development life cycle processes.
15. Advanced knowledge of Agile principles, including the Scrum methodology.
16. Advanced skills using project management methodologies, tools, and techniques including project/work plan development and management, preparation of project artifacts such as charter, scope, fiscal, status updates, cost-benefit, and risk analyses and the coordination of projects and people.
17. Skilled in supporting, managing, or designing solutions and working with teams in a DevOps environment.
18. Knowledge of collaboration tools such as SharePoint, Microsoft Teams, Jira, and LucidCharts.
19. Knowledge of build automation tools such as Maven and/or Gradle.
20. Expert skill in testing of solutions including performance, integration, and regression testing.
21. Knowledge and experience with cloud computing platforms like Amazon Web Services, Microsoft Azure, Google Cloud Platform, etc.
22. Knowledge and skill applying industry standard best practices in a Middleware environment with regards to developing, deploying, hosting, observing, securing, supporting homegrown and 3rd party applications.
23. Ability to design business solutions that leverage strengths (and insulate-from weaknesses) of solutions to meet customer requirements.
24. Knowledge of the administration, configuration, and maintenance of tools in the application development tool chain such as Git, GitHub, Bit Bucket, Jenkins, Subversion, Selenium, Junit, Crucible, or Fisheye.
25. Knowledge of integrated development environments like My Eclipse, IntelliJ IDEA, etc.
26. Knowledge of business analysis and application design techniques and prototyping.
27. Knowledge of Behavior-Driven Development (BDD) and Test-Driven Development (TDD).
28. Knowledge with relational databases like DB2 and SQL Server (includes logical/physical data modeling and writing SQL).
29. Knowledge of branching strategies such as pre/post commit, pull requests, patching, feature, hotfix, bugfix, maintenance, etc.
30. Knowledge of IT Management frameworks and tools such as ITIL LEAN, value stream mapping and business process mapping
31. Expert ability to work effectively with, lead, and coordinate staff at all levels of responsibility and authority throughout the department and other state agencies, business partners, employers and third-party administrators.

32. Excellent verbal and written communication skills, including highly effective communication in small and large group settings, including public speaking.
33. Expert ability to recommend, negotiate, direct and implement change and adoption of new technology.
34. Highly effective time management, organizational, analytical and evaluation skills.
35. Ability to strategize, anticipate industry disruptions, and plan for future state.
36. Ability to facilitate the development of strategic and operational project plans.
37. Ability to assess and articulate strengths and weaknesses of vendors/offerings.
38. Skill managing technological vendor partnerships and solutions.
39. Knowledge of large organization / government evaluation, procurement, design, implementation, support and end-of-life process(es).
40. Ability to take initiative to assertively represent business needs, to stand firm when necessary and to compromise, when possible, to diplomatically challenge assumptions, and to make recommendations to business and technical staff at all levels of responsibility and authority throughout the department.
41. Ability to maintain confidential information in accordance with policies, guidelines, and direction from manager.
42. Ability to understand and comply with all ETF and enterprise security standards, policies, processes, and procedures.