

Job Description – Systems Architect			
Reports to	Head of Division, Digital Health and Information Systems	Directorate/Department	Division of Digital Health and Information Systems
Number of Direct Reports	Technical officers, and developers assigned to continental data platform implementation	Division	Division of Digital Health and Information Systems
Number of Indirect Reports	External software vendors and national technical counterparts engaged in system integration	Job Family	Technical Leadership & Systems Engineering
		Level	P4
Job Grade	P4	Location	Addis Ababa, Ethiopia
Profile Verified by:		Profiling Date	January 27, 2026

AU Values	• Respect for Diversity and Teamwork • Think Africa Above All • Transparency and Accountability	• Integrity and Impartiality • Efficiency and Professionalism • Information and Knowledge Sharing
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Context
The Africa Centres for Disease Control and Prevention (Africa CDC) is a specialized technical institution of the African Union established to support public health initiatives of Member States and strengthen the capacity of their public health institutions to detect, prevent, control, and respond effectively to disease threats. The Sovereign Data for Health (SD4H) initiative is a catalytic investment designed to transform Africa's Primary Health Care (PHC) data ecosystem into an integrated, intelligent, and secure continental system. The initiative aims to reduce preventable maternal deaths by establishing real-time health data ecosystems that empower Member States to make timely, data-driven decisions. The project focuses on three pilot countries (Ethiopia, Botswana, and Senegal) to demonstrate scalable models for digital PHC transformation. Africa CDC seeks a Systems Architect to lead the technical design, engineering, and deployment of continental data infrastructure. This role will focus on upgrading the Central Data Repository (CDR), building OKAPI, Africa CDC's centrally governed digital health intelligence platform, and ensuring the architecture supports real-time analytics for decision-making, contributing to the long-term evolution of Africa CDC's continental digital health and health intelligence infrastructure.

Main Functions

The Systems Architect provides technical engineering leadership for the design, development, and deployment of Africa's continental health data infrastructure. The incumbent will serve as the technical architect for the Africa CDC Central Data Repository (CDR) and OKAPI platform, ensuring that the architecture is secure, scalable, interoperable, and aligned with international standards. The incumbent will work closely with national technical teams, software developers, and data scientists to ensure that the technical infrastructure supports the SD4H initiative's strategic objectives of data sovereignty and health intelligence, under the strategic direction of the Division of Digital Health and Information Systems.

Specific Responsibilities

A. Continental Architecture Design and Development

1. **Technical Specifications:** Design the technical specifications for the Integrated PHC Digitalization and MCH Interoperability Framework, ensuring alignment with OpenHIE and OKAPI standards, and Africa CDC architectural guidance.
2. **Interoperability Layer:** Develop the OKAPI Interoperability Layer, a middleware solution capable of ingesting data from heterogeneous sources (DHIS2, FHIR-based servers, CommCare, etc.) and normalizing it for the CDR.
3. **Data Pipelines:** Architect secure data pipelines to ingest non-traditional health data, specifically Behavioral and Infodemic Intelligence (BIIM) and social listening data streams, into the RMNCAH dashboards.
4. **Security and Governance:** Implement security-by-design principles, including encryption and access controls, to ensure full compliance with AU data governance and sovereignty protocols.

B. National System Integration and Technical Assistance

1. **Country Support:** Provide specialized technical assistance to Ministries of Health in Ethiopia, Botswana, and Senegal to upgrade their national data hubs for interoperability with the Africa CDC platform, in coordination with Africa CDC country engagement mechanisms.
2. **Sandbox Environment:** Design and deploy the OKAPI Sandbox environment, allowing Member States to test data exchange protocols and validate interoperability standards before full-scale integration.
3. **Integration Support:** Work with national technical teams to resolve integration bottlenecks between Electronic Community Health Information Systems (eCHIS), Electronic Health Records (EHRs), National Health Management Information Systems (HMIS), and Civil Registration systems.

C. Dashboard and Analytics Engineering

1. **Backend Development:** Supervise the backend development of Continental RMCH Dashboards, ensuring the database structure supports high-performance querying and real-time trend analysis.
2. **Analytics Integration:** Collaborate with data scientists to integrate approved and validated AI/ML models into the platform for predictive risk analysis of maternal mortality trends.
3. **Scorecard Support:** Ensure the architecture supports the visualization of the RMNCAH Scorecard indicators for AU-level accountability.

D. Supervision & Documentation

1. **Vendor Management:** Supervise external software developers and technical vendors contracted, in accordance with Africa CDC procurement and contract management procedures, to build specific components of the OKAPI architecture.

Specific Responsibilities

2. **Documentation:** Produce detailed technical documentation, including API documentation, system architecture diagrams, and implementation guides for Member States.
3. **Capacity Building:** Build the technical capacity of national teams to independently manage and evolve the systems beyond the project period.

Key Relationships

Internal Relationships		
Who	Frequency	Why
• Head of Division, DHIS	Weekly	Strategic guidance, oversight, and alignment
• Health Data Analyst / AI Engineer	Bi-weekly	Coordination on data infrastructure and analytics integration
• Data Governance & Interoperability Advisor	Weekly	Coordination on architecture standards and governance compliance
• RMNCAH Division	Monthly	Coordination on health indicators and scorecard requirements
• Software Development Team	Daily	Technical direction, architectural guidance, and quality assurance
External Relationships		
Who	Frequency	Why
• Ministries of Health (Ethiopia, Botswana, Senegal)	Monthly	Technical assistance, integration support, capacity building
• National Technical Teams	Bi-weekly	Troubleshooting, integration support, training
• International Standards Bodies (HL7, IHE)	Quarterly	Alignment with global health data standards
• Technical Partners (OpenHIE, DHIS2 Community)	As needed	Technical collaboration, best practices sharing

Academic Requirements and Relevant Experience

- A master's degree in computer science, software engineering, health informatics, data engineering, or a related technical field with a minimum of ten (10) years of relevant professional experience.
- OR
- A bachelor's degree in computer science, software engineering, health informatics, data engineering, or a related technical field with a minimum of twelve (12) years of relevant professional experience.

Experience

- A minimum of three (3) years of experience at a supervisory level is required.

Academic Requirements and Relevant Experience

- Demonstrated experience with OpenHIE architecture and global health data standards (e.g., HL7 FHIR, ICD-11, SNOMED CT, IHE profiles).
- Proven track record of engineering large-scale data platforms, data warehouses, or federated data systems (experience with DHIS2 integration is a distinct advantage).
- Experience working with government ministries or international organizations in Africa is highly desirable.
- Proficiency in modern programming languages (e.g., Java, Python, JavaScript or equivalent languages used in large-scale data platforms) and backend frameworks.
- Strong expertise in database management (SQL, NoSQL) and cloud infrastructure (AWS, Azure, or similar).
- Experience with API management, microservices architecture, and containerization (Docker, Kubernetes).

Required Skills

- **Systems Architecture:** Ability to design complex, scalable, and secure systems that meet organizational and technical requirements.
- **Technical Leadership:** Proven ability to lead technical teams and manage external vendors.
- **Problem Solving:** Strong analytical and problem-solving skills to address integration challenges.
- **Communication:** Ability to translate business/public health requirements into robust technical specifications.
- **Project Management:** Experience managing complex technical projects with multiple stakeholders.
- **Data Governance:** Understanding of data governance, security, and privacy principles.
- **Stakeholder Management:** Ability to work effectively with government officials, technical teams, and international partners.

Leadership Competencies

- **Strategic Perspective:** Understands how technical architecture supports organizational strategy and health outcomes.
- **Developing Others:** Actively mentors technical staff and builds capacity of national technical teams.
- **Change Management:** Manages organizational and technical change required for system adoption.
- **Managing Risk:** Identifies and mitigates technical, security, and operational risks.

Core Competencies

- **Building Relationships:** Builds and maintains effective working relationships with technical teams, government officials, and partners.
- **Responsibility:** Sets high standards of quality and compliance for technical work.
- **Learning Orientation:** Stays current with evolving health data standards and architectural best practices.
- **Communicating with Impact:** Communicates technical concepts clearly to diverse audiences.

Functional Competencies

- **Analytical Thinking and Problem Solving:** Applies rigorous analysis to resolve complex integration challenges.
- **Job Knowledge:** Serves as a leading technical expert in health information systems and data architecture.

- **Drive for Results:** Demonstrates persistence in delivering functional platforms and operational systems.
- **Continuous Improvement Orientation:** Focuses on testing, validation, and iterative improvement of systems.

Note

The requirements and responsibilities contained in this job description do not create a contract of employment and are not meant to be all-inclusive. It may be changed by the role manager during employment on an as-needed basis.

TENURE OF APPOINTMENT: The appointment will be made on a fixed-term contract for a period of twelve (12) months, aligned with the SD4H grant duration. The first three (3) months will be considered as a probationary period. The contract may be renewed subject to funding availability, satisfactory performance, and agreed deliverables.

GENDER MAINSTREAMING: The Africa CDC is an equal opportunity employer, and qualified women are strongly encouraged to apply.

REMUNERATION: The salary attached to the position is based on the AU P4 Grade scale for recruited staff, inclusive of all allowances (Housing, Post Adjustment, Education, etc.). The salary is subject to a deduction of 15% as a gratuity contribution to the AU pension scheme.