



datb – AIMS Asset Information Management System Service Definition for G Cloud 15

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1 Service Description

1.1 Overview

datb's Asset Management Information System (AIMS) is a BIM-compliant, flexible, and configurable asset information management system supporting asset management requirements of all types.

AIMS provides support for the whole lifecycle of complex infrastructure projects from the modelling of asset classes, the quality control of asset data, work management (inspection, maintenance etc.) and defect and risk management.

AIMS drives data quality improvements through its close management of asset class definitions, including versioning in order to support the evolution of data standards without impact on existing asset data. It facilitates a single version of the truth across multiple asset types, increasing decision-making confidence and reducing business risk.

It is available as a full SaaS deployment, including all infrastructure, database, and platform management.

It is configurable in terms of the asset classes that it supports, allowing it to be used to manage information about almost any type of physical or intellectual assets.

AIMS can act as a hub, unifying access to data, spatial information, CAD models, work orders and outcomes, and documents. An open data architecture and inbuilt interfaces allow integration with CAD, GIS, financial, CRM, document control and other systems.

A comprehensive security model allows secure management of data, and the sharing of selected information with partners, whether contractors, clients, or others.

XML, JSON, CSV and Excel data input and output allow efficient loading and delivery of asset information.

Work Management capabilities support definition of standard work types and the delivery of forms to mobile devices for completion when offline.

Linear assets (rail, roads, pipes etc.) are supported, using a variety of geolocation schemes.

Asset type definitions are versioned, accommodating changes to asset data standards over any period.

Asset data is fully temporal – a full history is maintained and enables comparison between selected points in time.

The service is provided in the form of:

- Cloud-hosted, secure and scaleable configuration, test, training and production environments pre-configured with the database and application software. Clients choose environments required, from a single configuration environment to a set of configuration, training, test and production systems.
- Assistance with asset type configuration, data loading and interfacing activities as required.
- Configuration, training, support, design and other activities as required by the buyer to ensure their productive use of AIMS for their chosen purpose.
- Ongoing management of the application environments in terms of backups, patching, security monitoring, regular application updates.

2 Functionality

2.1 Asset Data Dictionary (ADD)

The Asset Data Dictionary maintains the class definitions for the asset types that the system will record.

It allows configuration of:

- Asset type definitions
- Point / area / linear / intangible asset types
- Typed & validated attribute types
- Symmetric / asymmetric relationship type definitions

All asset class definitions are versioned, enabling evolution of asset type definitions throughout programme lifecycle, or as legislative or business changes require it.

All ADD management can be undertaken by the client, enabling the definition and maintenance of complex asset classes without developer intervention. datb's team remains available at all times to assist with configuration activities as required.

2.2 Asset Register

The asset register maintains information about individual assets of types defined within the ADD.

It records:

- Assets and their locations (GIS point, line, polygon, address, linear offset or other)
- Typed attributes (text, numeric, selection, document etc.) with validity controlled by domains
- Attribute visibility / editability / requirement for completion controlled by organisation, role and asset lifecycle stage
- Derived / calculated attributes
- Configurable lifecycle stages (for instance design, construction, handover, maintenance, operation, decommissioning)
- Asset relationships
- Links to resources held in external systems/file stores etc.

The asset register maintains a permanent record of all asset data updates to provide a complete audit trail.

Users can:

- Compare an asset's current state with any point in its history
- View data dictionary and asset register information as they existed at any previous point
- Track data population metrics over time to drive data quality
- See who updated asset definitions and data, and when.

Information types and workflows can be configured to support the recording and management of risks, compliance assessment, inspections, asset installation and handover, commissioning, maintenance and so on as required.

2.3 Work Management

AIMS supports:

- Definition of standard tasks per asset class
- Creation & management of work schedules
- Scheduled, manual or condition-driven assignment of work orders to assets
- Distribution of work orders to mobile devices for offline completion
- Updates of asset data from completed job cards

2.4 IFC integration

AIMS understands the IFC schema and allows mapping between IFC entities/attributes and data dictionary items. IFC files can be ingested and transformed into asset and attribute data. AIMS supports two-way integration via the ability to write IFC files, augmenting them with AIMS sourced data. AIMS features an inbuilt IFC viewer, enabling IFC model data (from design elements) and AIMS native data (from their tagged asset) to be viewed together and updated in either direction.

2.5 Product catalogue

The product catalogue holds manufacturer details, attributes and technical documents for standard products which may be utilised by physical asset performing a role within the assets base. There is support for the proposal of products by sub-contractors and the approval of these products for asset classes within the data dictionary.

2.6 Inventory management

AIMS support the definition and tracking of inventory items, both individually and in batches. A configurable set of workflow processes provide support for ordering, reservation, allocation of spares to work orders and replenishment.

2.7 Visualisations

A variety of asset data visualisations are included, for instance to view the networks of relationships of different types; these can be added to for specific requirements.

2.8 Offline Data Access (ODA)

AIMS Offline Data Access allows the distribution of work orders (and other information such as maintenance manuals, process documentation or reference materials) to users' mobile devices when these have a network connection to AIMS. Users may complete forms or access this information when offline, and entered data is automatically synchronised with AIMS when the device regains Internet connectivity.

This capability requires no installation of applications onto users' devices, relying instead on mobile browser capabilities.

Users are required to log in to AIMS before information is sent to their device, meaning that clients' mobile security policies apply to this capability.

Key ODA features:

- Securely distribute work orders, surveys, manuals, process documentation etc.
- Forms can be completed and data accessed in the field without network connectivity
- Distribute reference information (standards, checklists, operations manuals)
- Automatically synchronise offline data with the AIMS system
- Capture evidence on mobile devices: photos, files, voice memos
- Supports tasks / subtasks allowing structured data capture
- Raise defects / exceptions in the field based on template forms
- Multiple data types (numeric, decimal, yes/no, date, selection from dropdown, text etc.)
- Supports geolocation (position & bearing to location)
- Compatible with just about any mobile device
- No application installation required
- Automatic synchronisation in both directions
- Secure, encrypted transfer to and from the device
- Centralised device registration & management

2.9 Integrations

AIMS is delivered with built-in integrations with GIS, CAD viewers, CRM and others.

Additional integrations are achieved quickly and cost-effectively using the kinodb platform on which AIMS is built.

2.10 Web services

AIMS provides a full suite of web services to access asset definitions and to query, create or update asset data. These apply the security and data validation rules defined within the Asset Data Dictionary.

Asset data can be managed across multiple instances of AIMS operated by different organisations. Both XML and JSON data formats are supported.

2.11 Other

- 'Project items' allow configuration of arbitrary asset-related information, for instance to allow definition and workflow management of risks, decisions, undertakings etc.
- Land Access Management module enables planning and administration of visits to sites owned by other parties in compliance with legal requirements.
- Stage Compliance Reporting provides reporting of the state of cohorts of assets in terms of completion of information, readiness for handover, safety documentation completion etc.
- Consents module provides support for tracking the process of gaining and managing Consents.

3 Technical

AIMS is built using kinodb – a metadata-driven development and deployment platform enabling the specification of entire suites of applications entirely in data, rather than as code. The kinodb platform

handles the technical aspects of the development process, generating the SQL, HTML, and other technical components of the application in real time.

kinodb enables deployment of AIMS using a variety of back-end database platforms (Oracle, MariaDB, SQL Server) in cloud-hosted environments of the client's choice. Our standard implementation is within Oracle's Cloud Infrastructure (OCI) as this provides a cost-effective, secure and reliable platform irrespective of the choice of database.

The use of the kinodb platform insulates applications from the impact of technological changes (web browsers and standards, database versions and so on). The platform is regularly updated to maintain technical currency, to maintain security and to provide additional capabilities to the applications that it supports.

Key features:

- Based on standard relational database technology (Oracle, Microsoft SQL Server, MySQL, MariaDB).
- Systems may be hosted on-premise or by a variety of Cloud hosting providers such as Amazon Web Services (AWS) and Oracle Cloud Infrastructure (OCI). Other cloud hosting providers can be supported as required.
- Management console allows administration of multiple kinodb instances from a single browser, including management of automated backups, application of platform and application updates and so on.
- Users require only a standard browser (IE, Firefox, Safari, Chrome) to access all application functionality.
- Applications employ HTML5 and CSS technologies to provide adaptive behaviours and enabling full compatibility with mobile devices with no change to the application.
- In-built reporting functionality to provide fully integrated reporting.
- Sophisticated XML functionality provides the ability to define and access Web Services as client and / or server.
- No client-side installation is required.
- The security model is intrinsic to the application, allowing configuration for use by the internal organisation, partner organisations and the general public as required.

We work with customers as required to supply training, design assistance, mentoring and other services to ensure that solutions meet requirements.

Systems developed using kinodb are uniquely capable of enhancement and modification to facilitate business change over many years.

3.1 AIMS Service features

AIMS is delivered as a fully managed, ready to use SaaS implementation.

datb can assist with:

- Familiarisation and training
- Design of asset class definitions
- Initial data take-on from existing sources (documents, spreadsheets, other repositories)
- Data cleansing and validation
- Implementation of specific functionality, fully integrated with the AIMS product, to support clients' specific requirements
- Integration with other corporate or external systems as required

- On-site or remote design and consultancy

Hosting activities include patching, periodic product updates, security management, backups, and everything else required to ensure secure and productive use of the application.

4 Getting started with AIMS

AIMS is available as a cloud-hosted SaaS application, with all data retained within the UK.

We can establish a proof-of-concept instance for evaluation and help with loading of your asset data via web services, Excel spreadsheets or CSV files.

Our specialists can assist with defining appropriate asset classes to support any type of asset information, as well as in designing and implementing any required integrations. These might include GIS, CAD, document management and other systems - we have extensive experience of integrations with a wide range of in-house and cloud-based applications.

AIMS is highly configurable; we help clients to define workflows, document types, surveys, and other data within the application to meet their requirements.

Where clients have specific requirements - for instance to assess project risk using a specific technique, or to automate cost estimation - we can augment AIMS' existing functionality to exactly meet these needs.

5 Summary

Characteristic	Description
Lot	2b
Applicability	Organisations requiring any scale of Enterprise Asset Management application, deployed securely to the Cloud, and capable of access across a range of desktop and mobile clients by a range of disparate users.
Contract duration	Flexible
Costs	AIMS is licensed on a per-instance basis, including hosting and technical administration (patching, backups etc.). Additional services are available on a fixed-price or time and materials basis as required.

6 About datb

datb has worked since 2002 with a variety of clients in sectors ranging from local government to financial asset management and global, national, and regional utilities in rail, water and energy sectors.

Our analysts specialise in 'getting inside' the requirements - understanding the business context, not just the technical details, that will enable delivery of a solution that will be accepted by the users and that will deliver real benefit to the organisation.

Our development & deployment framework is genuinely unique and enables the developer to focus on the functionality, not the technical implementation. It is ideally suited to deployment in the Cloud and enables applications to be scaled from supporting a workgroup to the enterprise and beyond.

Our ability to support, maintain and enhance an application delivered years in the past as easily as one delivered last week means that, as requirements and regulations change, existing investments in systems development are protected. Our commitment to maintaining the kinodb platform in line with

new standards safeguards investment and allows applications that were delivered 20 years ago remain up to date in terms of web standards, database versions and browsers.

Whilst we are always ready to perform work for our clients, our provision of hosted and maintained development and test environments allows clients to undertake ongoing development of systems that we deliver.

We have developed a wide range of applications for our clients, from asset management suites to HR systems, organisational learning, workflow management, meetings administration, time management and work recording, case management, asset cost estimation, intellectual property management, and many others.

We have successfully deployed AIMS in support of a number of major infrastructure projects, where it facilitates the communication of asset information throughout the supply chain. We have implemented support for highly-specific business processes, for instance Land Access request management, Undertakings and Assurances, Environmental Surveys and other areas.

Delivered systems include ground-up developments, configurations of our off-the-shelf applications, and migration of legacy (Notes / Access / Excel) applications to fully web-deployed systems.

datb holds ISO27001, ISO9001 and Cyber Essentials + accreditations.

7 Commercials

AIMS is licensed per production instance.

Initial engagement may be on the basis of a Time & Materials arrangement with rates as indicated on datb's SFIA rate card, or as a fixed-price package of work.

Design, training, mentoring and other work may be performed on either Time & Materials or Fixed Price terms as required by the customer.

8 Contact

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