Orion Health

SERVICE DEFINITION

G-Cloud 12

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TABLE OF CONTENTS

1   The Service

1.1   Amadeus Overview

Amadeus is an award-winning interoperability platform which supports the development of Integrated Digital Care Record solutions including Population Health Management and Precision Medicine tools. Amadeus is a standards-based and scalable integration platform consisting of components interacting via industry standard interfaces to support the acquisition and aggregation of data to create a trusted single citizen record, which can be access by health and care professionals.

The proven platform scales to accommodate data generated by new models of care, to support the journey from population health management to precision medicine. Amadeus's API management layer allows third party developers to build new capabilities on the platform, creating an innovative healthcare ecosystem. Amadeus is offered as a cloud-based platform, hosted via Amazon Web Services (AWS).

The modular nature of Amadeus allows for components to be added over time depending on individual organisation needs. Amadeus can include the following core and optional modules:

- **Clinical Portal** – presenting a single shared integrated patient record to power workflows, support optimisation and service re-design
- **Integration Engine** – integrating and aggregating data from systems, devices, facilities and organisations to current industry standards
- **Enterprise Master Patient Index** – aggregating and semantically normalising data, improving data quality and reducing errors in healthcare
- **Clinical Data Repository** – stores data pushed from source systems, making it available to the Clinical Portal or third-party applications via the Open API infrastructure
- **Medicines Viewer** - a consolidated view of a patient's medication history viewed within the Clinical Portal
- **Notifications** – facilitates automatic notification to users based on significant events related to a patient's care
- **Problem List** – a central source of truth for allergy, alerts, and diagnosis management
- **Terminology Services** – automatically incorporates standard medical terminology into the solution
- **Single Sign On** – enhancing user workflow with seamless in-context system launches
- **Open APIs** – enables third party developers to access the rich data and services held in Amadeus
- **Care Pathways** – enable predictable, optimised workflows to support and manage programs of care and chronic conditions
- **Collaborative Worklists** – stratified by common characteristics, citizens can be added to a list that is shared by multiple users enabling a multidisciplinary approach to coordinated care
- **Patient Portal** – providing citizens with access to their own care record to support health and wellbeing
- **Virtual Care** – empowering patients in their homes through remote monitoring technology

- **Discover Analytics** – helping organisations keep patients healthy by identifying and stratifying risks in their population through graphical analysis
- **Intelligence** – brings the power of Machine Learning to our data, to predict outcomes to minimise waste, reduce operating costs and help clinicians make more accurate decisions.

1.2   Benefits of Amadeus

Through Orion Health's extensive deployment of Amadeus and supporting clinical functionality to care providers, Orion Health has developed an extensive benefits realisation register supported by real customer use cases and examples. The benefits register gives the detail of realised benefits supporting a view on how benefits have been achieved as clinical, operational, financial, risk (as a mitigation to risk) and citizen. Working with Orion Health our customers have realised significant benefit through technology projects and change programmes, some of which are detailed:

- **Single integrated view of data from multiple sources**, optimise clinician time by aggregating data in a single system and enables more timely decision-making at the point of care.
- **Highly scalable platform**, Amadeus combines Orion Health's extensive data integration and health integration exchange experience with modern technology and a distributed architecture to handle massive volumes of high-velocity data.
- **Robust privacy capability,** provides controlled access to patient information based on user roles and the sensitivity of patient data.
- **Foundation platform for population health and precision medicine**, through seamless integration with our care management and patient engagement applications, Amadeus allows you to proactively identify, manage, and transition at-risk patients in real time.
- **Intelligent modelling**, Amadeus enables predictive modelling that identifies and stratifies the at-risk patients in a population and provides the data to drive rapid decision making.
- **Supports innovation with APIs and BI interfaces**, Amadeus provides secure access to all its data via APIs and ANSI SQL interfaces to Orion Health as well as third party applications.

2   Data Backup/Restore, Disaster Recovery and Business Continuity

Business Continuity of the system is assured through the ITIL aligned IT Service Continuity Management process. Orion Health uses DevOps tooling and processes to support a continuous delivery approach where the configuration for all aspects of the hosted service are stored offsite in configuration control including infrastructure, operating system, applications, security, monitoring, resilience and deployed directly using automation. This enables rigorous control to every aspect of the service and also to recommission the service rapidly into a new environment in the event of a disaster by using automation to redeploy from configuration control directly onto the bare cloud platform and attaching the databases containing the solution data.

The Disaster Recovery (DR) architecture is set up to provide for a continuous flow of data from the production facility to the disaster recovery facility. The architecture provides for a mirrored version of Production Data. To facilitate the continuous flow of data, Orion Health employs a process whereby the database log transactions are continuously shipped to the disaster recovery facility. This replication sets the stage for a client's Recovery Point Objective. This will ensure that during a switchover to the DR facility, the most up-to-date data will be present in the DR facility up until the last segment from the production facility is received.

The Orion Health solution utilises the unique capabilities of Amazon Web Services (AWS) to provide disaster recovery capabilities that far exceed what is able to be provided through traditional data centre-hosted implementations.

3 Onboarding and Offboarding Support

Orion Health has been working in the UK for over 19 years, with over 70 NHS and other healthcare providers as customers throughout the UK and Ireland with a vastly experienced UK team with over 800 years of combined industry experience supporting customer solutions delivering care at over 2,200 healthcare organisations to a combined population of over 17 million. We combine our experience with a standard delivery approach, our best practice ITIL aligned project delivery methodology called EMPOWER (Effectively Managing Projects the Orion Way, with Effective Reuse), with our standard Integrated Digital Care Record (IDCR) platform, our cloud based engineering approach, our standard products and standards based data and application integrations.

3.1 Implementation Approach

Due to the variable nature of customer projects, we do not provide a standard fee for implementation services, and therefore implementation costs are not included within the pricing document. An initial discovery phase will be carried out to obtain information relating to customer requirements. Information obtained during this phase will be used to agree and price all variable components.

Our standard IDCR implementation is based on our experience of working with our NHS customers and includes verified, standardised components for the display of an integrated, single patient record. Whilst the components of the IDCR can be customised, our approach allows for speed to benefit for our customers with components such as Login, Role Based Access Control, Privacy and Consent, Person Banner, Demographics, Dynamic Person Summary, Encounter Snapshot and Detail, Active Alerts detail, Diagnosis and Problems, Referrals and Results amongst the many standardised components immediately available 'out of the box'.

The Orion Health EMPOWER methodology supports a standardised approach to the delivery of integration projects with standard process, tasks, artefacts, resource roles, dependencies and risks across each stage of the product lifecycle defined by the complexity of the project. The approach includes defined phases tasks and resources to undertake appropriate design and delivery either in a traditional 'waterfall' approach or through an interactive or agile approach.

The phases include the Planning and Design phase, which includes the design tasks including Undertake Design Workshops, Agree initial design and any changes, Detailed Client Requirements, Client Infrastructure Design and Acceptance Criteria, Client Data/Integration, 3rd Party Dependencies, Orion Health 3rd Party Dependencies, Project Plan and Schedule, Interface and Functional Design, Access Control and RBAC Design, Clinical Change Design; and the Executing - Build and Configure phase, which includes build tasks including Setup Environments, Setup Infrastructure Instances (Test, Dev, Pre-Prod, Prod), Deploy Orion Health UKI Solution Base, Core UKI Configuration Build, Integration Development, Data Migration, Peer Review and Unit Testing, Training Workshop.

3.2 Training

Training is included as an optional component of the deployment services costs and will be scoped and agreed as part of the Planning and Design phase of the agreed programme or project.

Presented in an easy-to-use, intuitive graphical user interface, Amadeus is designed to be easy for staff to learn and use, supporting rapid uptake with minimal training.

Orion Health offers a wide range of training courses and materials to facilitate rapid adoption of the solution. Training is offered through:

- Online Academy - online self-paced modules with quizzes and file submissions graded by an experienced Orion Health trainer
- Instructor-led - face to face training with an experienced Orion Health trainer often at the customer site
- Webinar - instructor-led training with the convenience of a virtual learning environment.

A 'Train the Trainer' approach is often recommended, whereby Orion Health provide the local team with the knowledge and skills necessary to establish an ongoing end user program independent of Orion Health resources.

3.3   Offboarding

Orion Health understand the importance of developing a contract exit strategy and plan, and as such, will work with the customer to develop an appropriate exit plan based on our established data migration methodology. The 'open architecture' approach of Amadeus ensures that several options for data migration are available to support any agreed exit plan. Orion Health recognise that the exit plan will contain all the detail necessary to affect a smooth and orderly termination of the services and hand-over to the customer or a new service provider.

4   Service Management

Orion Health provides an industry standard ITIL aligned support service which can be tailored to the client's needs. Our support services includes standard 3rd line support through the UK based Customer Support Service (CSS) Desk, operating 24 hours a day, 7 days a week, 365 days a year, and a comprehensive managed service for the Orion Health applications and supporting architecture through the Orion Health Application Managed Service (AMS). Both the CSS and AMS operations are supported through the ITIL aligned service support and service delivery process of:

- Incident Management – through the provision of the Service Desk function the process is responsible for receiving and processing service requests, for assisting users, and for coordinating incident resolution.
- Problem Management – the process aims is to resolve the root cause of service incidents, and to prevent the recurrence of such incidents and provides Incident Management with temporary fixes, workarounds and permanent solutions to issues.
- Change Management – ensure all changes to the architecture and its components (Configuration Items) are authorised and documented and appropriately managed to ensure that impact on the system is kept to a minimum
- Release Management - responsible the deployment of changes to the architecture to ensure deployment is effective, secure and verifiable.
- Configuration Management – ensures appropriate documentation on the status of the architectural components, the component items, to make available a working baseline for all other service support and service delivery processes.
- Service Level Management – undertakes the tasks of maintaining the customer support organisation's Service Catalogue and maintaining and monitoring agreements for internal and external service performance.
- Availability Management - monitors the achieved availability levels to sustain the availability of the architecture to meet agreed Service Levels and where necessary, undertakes corrective measures.
- Capacity Management – involves the planning of future system demand as the basis for planning future capacity needs, resulting in the Capacity Plan.
- IT Service Continuity Management – through the regular analysis of vulnerabilities, threats and risks continuity management defines and plans all measures and processes for unpredicted events of disaster.

5   Service Levels

5.1   Availability

Orion Health offers high availability solutions that are operational 24/7, 365 days per year. Typically, the only downtime is for scheduled maintenance (i.e. upgrades) which are usually scheduled for off-peak hours when there are minimal users online. Most Orion Health customers experience availability of at least 99.9%, with some operating at 99.99%.

5.2   Performance

The Amadeus platform architecture provides high availability in all components of the service using elastic scaling infrastructure, connection load balancers with service health monitoring, multiple redundant nodes geographically distributed over two or more availability zones, and block level data replication.

5.3   Incident Management

Orion Health operates a standard Incident Management process as part of our ITIL aligned CSS Desk. Customers can log service incidents and service requests via a toll-free support telephone number and an online support ticketing system, called Support Tracker. Orion Health ensure that the client is kept updated with the actual status of the issue by adding all communication to the Support Tracker incident. Orion Health extends the Incident Management operation to deliver a Problem Management function to ensure analysis of root causes and to prevent Incidents from happening in the future. The Problem Management function is supported the Field Action Request (FAR) process to ensure resolution of Problems across the Orion Health global and UK and Ireland customer base. The Problem Management function is supported by appropriate documentation and customer community activities including through the customer knowledge portal, called DOKI.

6   Commercial Approach

6.1   Ordering and Invoicing Process

The scope of deliverables will be agreed between the customer and Orion Health in accordance with specific customer requirements and detailed in the Order Form.

Orion Health will invoice the customer in accordance with agreed Milestones or on a monthly Time and Materials basis in arrears and based on our rate card. Payment of invoices will be subject to Orion Health's payment terms as detailed.

6.2   Payment terms

Orion Health's standard payment terms are thirty (30) days from receipt of invoice. Orion Health reserve the right to charge a commercial rate of interest on accounts that are overdue by more than thirty (30) days.

6.3   Contract Termination

Contract termination is offered in accordance with standard terms and process detailed within the contract, which includes the right to terminate should either party become insolvent or bankrupt or be in material breach of the contract.

7   Technical Requirements

The technical requirements of the service will vary dependant on the modules taken within the Amadeus platform and the scope of the individual customer project. The service is browser-based and requires secure HTTPS connection. The following table lists the minimum supported technologies:

Technology	Version/Standard
Database Servers	Oracle Microsoft SQL Server
Desktop Operating Systems	Windows 7 or above macOS
Browsers	Google Chrome Microsoft Edge Internet Explorer 11 Mozilla Firefox Mozilla Firefox Extended Support Release (ESR) Safari
Mobile Browsers	Mobile Mozilla Firefox Mobile Safari Mobile Google Chrome

Table 1 - Minimum supported technologies