Synanetics

Advancing Healthcare
Through Interoperability

GCloud 15 – Service Definitions

Cloud Architecture Design and Strategy

Service	Definition
Cloud Consultancy	Align business strategy with cloud adoption opportunities. Assess cloud adoption readiness. Develop cloud costing models. Perform cost benefit analysis. Develop use cases and express opportunities for cloud service utilisation. Evaluate public and private cloud options. Draft information technology strategy. Design security architectures. Develop cloud migration strategy. Design governance structures. Advice on legal compliance.
Current State Assessment	Analyse current state business and clinical processes. Identify information requirements and map workflows. Review identity and access management systems. Identify data sources and data users. Evaluate application alignment with cloud hosting options. Identify integration options and approach.
Cloud Architecture	Microservice architecture design. Evaluate storage and compute options. Evaluate use of managed resources. Design for high availability design. Ingress and egress pattern design. Security design. Design for cost visibility and attribution. Design for performance and scalability
Application Design	Advise on use of containerisation and microservice architectures for high availability, componentisation, performance, scalability and cost control. Advise on use of API managers to improve interoperability, service discovery and security. Advise on adoption of standards such as HL7 , FHIR and IHE.
Cloud Provisioning	Design cloud account structure and resource hierarchy. Implement networks. Implement identity, access management and directory services. Configure storage and compute engines. Set up monitoring and alerting frameworks.
Migration Services	Develop migration, failover and contingency plans. Develop data extraction and conversion software. Audit data quality. Appraise data migration technical options. Instantiate and test integrations. Manage identity migration. Manage service transition. Monitor service delivery.
Testing and Quality Management	Develop test strategy and test plans. Assess application functionality and establish principles of test coverage. Build test data resources. Build automated test frameworks. Build test result reporting and analysis tooling. Execute tests and evaluate results. Instantiate continuous development and regression test

	frameworks. Embed testing processes into release management procedures.

Cloud Integration Services

Service	Definition
Analysis and Design	Assess the information required to support business and clinical processes. Determine the technical capability of systems and applications. Review the appropriate use of data exchange standards such as HL7v2, HL7v3, FHIR and IHE. Document message flows. Consider the impact of information governance requirements on information flows. Design integrations with national systems such as the NHS Personal Demographics Service.
Interface Development	Use cloud native resources and microservice frameworks such as Kubernetes into enable data interactions between systems. Perform message routing and transformation. Enforce data standards. Implement a security framework such as OAuth2 and public key infrastructures. Apply consent to the release of data.
Interface Testing	Build automated test harnesses using technology such as Postman to prove the behaviour of interfaces. Work with system users to establish data scope and boundaries and perform end-to-end testing between systems. Simulate the execution of business and clinical processes.
Interface Support	Install/configure cloud based monitoring software to measure transaction throughout, queue sizes, rate of message rejection and errors. Integrate monitoring software with the Synanetics Service Desk. Provide 24x7 telephone, email and service desk incident reporting. Liaise with third-party system support teams to resolve incidents. Measure and report service performance.

Cloud Service Delivery, Operations Support and Maintenance

Service	Definition

Incident Management and Request Fulfilment

Synanetics operates the Atlassian Service Desk for incident/request capture and progress reporting. Incidents and requests can also be reported via telephone and email.

Typically, robotic monitoring and alerting solutions will be integrated with the service desk to automate incident detection.

Standard response and resolution targets are as follows.

These can be customised to meet customer requirements.

Priority	Definition	Response Time	Target Resolution Time
Emergency	Typically, this signifies that the service is not available, or a participant cannot interact with it. The issue will be worked on continuously regardless of time of day. A company director will be immediately informed. Progress reports every hour.	1 hr Any time	4 hours
High	The issue will be at the head of a support engineer's queue and will be worked on as a priority during normal working hours. A company director will be informed if the issue hasn't been resolved within 4 hours. Progress reports will be issued every 4 hours during the working day.	1 hr 9.00am to 6.00pm Mon-Fri	1 day
Normal	The issue will be worked on by a support engineer if there are no higher priority tasks in the engineer's queue. A daily progress report will be issued unless a different reporting schedule is agreed.	1 working day	5 days
Low	This a background task. It will receive the periodic attention it requires. There is no formal reporting of progress unless otherwise	1 working day	Not defined

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The person reporting an incident or raising a request sets its priority and determines when the incident is closed.

All incidents, however reported, are ticketed and progress tracked. Emergency and high priority incidents are automatically escalated to director level.

Service and performance level objectives are agreed with our client and are measured and reported on a periodic basis (by default monthly.

Our standard service operates 24x7 although the this can be customised to meet customer requirements.</td></tr>
<tr><td>Change and Configuration Management</td><td>Synanetics facilitates change control process which is applied to the configuration and software in all operational environments. All changes to these environments are logged, and logs are published for external audit.

Change control processes operate for emergency and non-emergency changes. Approval levels and authorisation processes are agreed with our clients.

The Synanetics service desk management software enables formalisation of the processes for requesting, analysing and approving change with integration into work ticketing and service level reporting processes.

Synanetics assesses the impact of change in terms of:
- clinical safety risk;
- security risk;
- operational risk;
- impact on service users;
- impact on service levels;
- contractual compliance;
- legislative compliance;
- development effort required;
- training requirements;</td></tr>
</table>

	- impact on operational processes; - documentation requirements; - testing requirements. Non-emergency changes are packaged into releases by Synanetics. The release schedule, documentation and testing requirements are determined on an engagement-by-engagement basis. Synanetics employs appropriate source code and configuration control software.
Operations Management	Synanetics operates a rota system to ensure that appropriately operators are available according to client requirements Operational tasks such as backup and patching are automated wherever feasible. Manual routing tasks are scheduled with the Synanetics Service Desk, and work tickets automatically generated, tracked and reported. Typically Synanetics installs/configures monitoring software which collects key metrics about service performance and alerts are generated for metrics which are out of bounds. Monitoring software is integrated with the Synanetics Service Desk. Alerts are responded to by Synanetics support engineers as incidents. Evidence is available of actions taken. Statistics are correlated in monthly service report.
Access Management	Synanetics works with its clients to ensure appropriate cloud identity and role management processes are in place. Synanetics staff are security cleared to an appropriate level. Access and configuration changes to security or availability sensitive resources is tightly controlled and audited to appropriate standards.
Security Management	Synanetics advises on security architectures and undertakes risk assessments. We implement appropriate breach detection and monitoring tooling. We work with our clients

	to define incident response procedures. Security incident response procedures are regularly rehearsed. Synanetics has standard internal information governance policies which cover: • Records Management Procedure; • Information Handling Procedure; • Access Control Procedure; • Business Continuity Procedure; • Incident Management Procedure; • Information Governance Policy. • These can be tailored to client requirements. All staff involved in service delivery, operations, support and maintenance receive regular security training.
Service Continuity Management	Synanetics advises on high availability configuration for cloud resources and advises on balancing service continuity objectives with legal and information governance compliance. Synanetics configures cloud resources for high availability and undertakes periodic failover and resiliency testing. Procedures for managing service continuity incidents are planned and rehearsed in line with our customers' requirements.
Asset Management	Synanetics manages asset catalogues and regularly reviews use of cloud resources to ensure that assets are cost effective and functionally optimal.
Service Level Management	Service levels are determined on an engagement-by-engagement basis. Synanetics installs monitoring software, where appropriate, to monitor service availability. Service level adherence is reported automatically where feasible and on-line dashboards published. Service level adherence and remediation plans are documented as part of a periodic (usually monthly, service review process.

Compliance Management	Synanetics advises on compliance with legal and domain specific information governance standards including GDPR. Operational staff are briefed on compliance requirements and evidence of the impact of changes is assessed as part of the change control process. Synanetics can, at the requirement of our clients, perform periodic compliance audits.

Care Planning

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Standard response and resolution targets are as follows.

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The person reporting an incident or raising a request sets its priority and determines when the incident is closed.

All incidents, however reported, are ticketed and progress tracked. Emergency and high priority incidents are automatically escalated to director level.

Service and performance level objectives are agreed with our client and are measured and reported on a periodic basis (by default monthly.

Our standard service operates 24x7 although the this can be customised to meet customer requirements.

Collaborative Care Planning	• Real-time, multi-agency, collaborative care and care pathway planning, Regional, multi-agency care pathway and care planning collaboration
Share Care Record integration	• Out of the box integration with the Interweave Platform or other FHIR compatible SHCRs

Integrations	• Standard FHIR API Based integrations support a wide range of local system e.g. EPRs, GP systems, and Shared Care Records
Low-code forms designer for building care plans	Clinician focused form builder with defined clinical concepts to ease mapping to and from existing data sources. AI assisted mapping of data elements. Mobile enabled design surface with live Realtime preview
Resilience	Multi Zone regional resiliency for strong RTO / RPO

Managed FHIR Store

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