Software Development

Current Offerings

28 June 2023

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1 Description

Our DNS as an organization is in software development and systems integration, designing, delivering, supporting and migrating complex solutions for a range of organizations including government, large enterprises and SME's.

We strive to maintain the highest standards for systems design and delivery. We are corporate members of the BCS, our staff are Prince 2, TOGAF and Agile trained and qualified and achieve skills certification in the technologies with which we work.

An important aspect of our approach is to ensure all our work is based around a robust quality framework underpinned by an understanding of appropriate and relevant standards for software development. These include on one hand working to standards such as WCAG for UI / UX development, while also understanding and complying with OWASP standards for secure web design and development.

We have successfully applied and been accepted on government procurement frameworks and comply with the security by design principles that underpin these frameworks.

In the IT industry, implementation technologies come and go. We have a wide range of long-standing technology skills, for example:

a) RDBMS solution development around ORACLE, Ingres, Informix, Sybase, SQL Server, MariaDB, Postgres, H2 and Derby.

b) Programming in Typescript, Angular, C, C++, C#, Java, ABF, OpenROAD, Linux scripting.

c) Using TP monitors such as TUXEDO, and then Web applications using HTTP Servers, J2EE applications servers such as WebSphere and WebLogic, using servlet engines such as Tomcat and in Net.

d) Extensive experience in all aspects of integration: Portal, BPM, Enterprise Service Bus, asynchronous messaging using IBM MQ or open source technologies such as Active MQ and data integration technologies such as ETL and MDM.

e) We also have extensive experience of data fusion, data analytics and the design of solutions that deliver intelligence to the people that need to take action.

f) We design, deliver and support solutions hosted in the cloud, predominantly in AWS, progressively evolving these to make increasing use of new cloud services to drive down cost and maximize the ability of our customers to respond rapidly to new opportunities.

We operate in a competitive world and face significant pressure from off-shore and near-shore software development companies. We compete effectively with them as follows:

a) Most of our projects come from existing customers who see the effectiveness and productivity of our people, the quality of our processes and our ability to deliver quickly because we already understand their business.

b) Working with our customers means we can deliver more quickly and more cost effectively than our off-shore and near-shore competitors.

c) Much of our work is with Government where security clearances are needed and are difficult to obtain if one is not a citizen, which means we compete on a more level playing field with other local companies.

d) Part of our business focusses on technologies which have been deployed for many years, a particular example being with customers that still

operate the Ingres RDBMS. There are few new customers seeking to deploy these technologies, which means there is a small and shrinking market for services. However, the available skills base is shrinking even faster meaning there is great business for a company of our size to support organizations with mission critical systems based on technologies such as Ingres.

e) Organizations running systems or heritage technology still have to move to the web and to the cloud and our expertise in migration projects and web technologies makes us an ideal partner to help manage a controlled migration that continues to "sweat the asset" by refactoring and service enabling business logic, then converting the existing UI code into web interfaces which can be integrated into business processes if required.

f) There are few "green field" sites, and most customers have a fundamental migration problem as they try to evolve their systems from on-prem solutions to hybrid and then to the cloud. Our extensive skills in integration underpin our ability to help organizations migrate to the cloud in a planned and controlled manner within an acceptable cost envelope.

Historically a large enterprise solution might require significant investment even to deliver a proof of concept, primarily because the costs of the usability maintainability, scalability, security, reliability, business continuity and so on involved a very significant investment in the infrastructure before a line of code was written.

Using the cloud means that by adopting standard cloud design patterns, we can help organizations to create a prototype, then rapidly scale it up and integrate it with existing cloud services to provide the enterprise strength infrastructure.

We are skilled in the design and development of cloud-based solutions exploiting AWS and can deliver cost effective mission critical solutions in that environment in conjunction with an integration or migration project connecting new applications into the organizations existing information systems.

2 Commercial Terms

We can contract with you under either your or our standard terms and conditions.

We will develop a proposal that documents the requirements you have described to us; describes the solution we propose to meet those requirements and records the risks and assumptions we make and on which our proposal is based.

We provide you with a statement of work (SOW) to sign which refences our proposal, the agreed standard terms and conditions and which defines the commercial framework for delivering the project including our respective responsibilities and mechanisms for managing the project, identifying when the project is complete and agreeing payment terms. The project starts when we both sign this SOW.

3 Service benefits

The following are the benefits to a customer from taking our service. You should carefully consider whether you can achieve these benefits before you contract with us:

a) Common Values:

i) During our project initiation phase, it is vital that we understand your organization's values and the way you operate.

ii) In particular we need to understand whether cost is your driver, which is very common in the retail sector, whether time to market/time to value dominates your thinking which is very common in the finance sector, or whether innovation drives your model meaning that you would welcome suggestions from us that might raise cost but would significantly increase value.

iii) We need to understand what "Good Looks Like" from the perspective of your organization so that we structure our approach appropriately, provide deliverables in an acceptable order and deliver you the necessary reports to give you confidence in progress.

iv) We need to understand how your organization works and how we deal with issues where we depend on you.

b) Project Management:

i) When we deliver a project, we manage all of the activities that we are responsible for delivering.

ii) We report to the project sponsor who can be confident that the project will not change except with formal agreement and under change control.

iii) We take a risk-based approach to management which means we maintain a shared risk register in which all the risks relevant to the project must be recorded.

iv) That also means we adopt a policy of transparency based on no surprises.

v) If we become concerned that you are not able to meet a responsibility which would cause the project to overrun and oblige you to write a change note for additional funding as a consequence, we will raise this with you so that you have time to resolve the problem and deliver your commitment in the required timeframe.

vi) We will maintain a Target Price Status Report (TPSR) which records time and effort expended, forecast time and effort to go and variation against plan so you know whether or not we are falling behind.

c) Quality

i) We need to understand the level of quality that is appropriate to your market so that we deliver an acceptable solution but do not over engineer it.

ii) We need to understand what aspects of quality you value and the order in which you want them to be delivered.

d) Methodology:

i) We must agree on a common operating model.

ii) Historically organizations used the waterfall method and organizations like us delivering fixed price often still use this model.

iii) Many organizations now use the Agile methodology, which means that there is significant flexibility to re-organize and change the order of work as we progress where we have contracted on a model of MUST, SHOULD and COULD.

Our design process is robust and during this phase we will work with you to explicitly rule in, rule out or flag as needed but out of scope a number of design features:

a) Depending on whether this is an internal solution or a public facing solution.

b) Requirements to comply with a corporate style guide or branding, to be multi-lingual or to be able to be white labelled.

c) Integrated security model, for example to integrate with a corporate directory.

d) Obligations to comply with specific security standards.

e) Obligations to comply with other regulatory standards such as in UI design.

f) Obligations to be portable across multiple cloud providers.

4 Deploying and Operating the Service

a) Project initiation phase. During this phase we will:
   i) Carry out a discovery phase to ensure that we understand the organization and to test that all our assumptions are valid. It may be necessary to adjust the plan and agree a change note if that is not the case.
   ii) Ensure that the project infrastructure is in place and all staff are provisioned with accounts and access on the relevant systems.
   iii) Develop the project plan and put in place the relevant jira tasks through which we can control the project.
   iv) Ensure effective project reporting is in place.
   v) Ensure that the deliverables have completion criteria.
   vi) Ensure that there is a documentation plan agreed which defines the required documentation set to be created and maintained.
   vii) Set up the shared working area for all documents and artefacts, typically split between a documentation base in SharePoint or equivalent and a knowledge base in Atlassian Confluence or equivalent.

b) Start to execute the plan working either in a Kanban or Sprint model. The following are important phases:
   i) Adopting project standards that define how each artefact should be developed, reviewed and tested. Generally, we expect to bring these to each project.
   ii) Splitting the team into separate sub-teams each with specific responsibilities.
   iii) Setting up the development and deployment architecture so that from the first possible point, we have the deployment mechanisms to build in the development tools then deploy into the run time architecture, firstly to test then to production.
   iv) Create an example of each type of artefact and prove that they technology architecture works by delivering an example transaction that spans all aspects of the technology.
   v) Ensure the functional and regression testing architecture is in place.
   vi) Progressively harden the run time architecture to prove the various design components such as security, performance, business continuity and disaster recovery, monitoring and capacity planning.
   vii) Develop the business logic as deliverable end to end threads.

c) Ensure clear completion criteria are in place so we know when we have finished.

d) If the plan changes ensure that for any addition to the scope, work is removed from scope to keep within budget or else a change note is raised to increase the budget.

e) Project Reporting:

   i) Have a monthly project steering committee meeting.

   ii) Provide regular project reporting by exception.

f) Manage the project completion criteria and terminate the project when the deliverables have been provided and accepted.

g) Move into the support phase if appropriate.

5 Supporting Documentation

The needs of each project are different. The documentation plan should be defined and agreed in the project initiative phase.

Typically, a project documentation plan / documentation set will include:

a) System design documentation. Typically, this is recorded in MS Word documents that reference specific assets such as the data base model, but increasingly can be recorded in system architecture tools such as Sparx.

b) Project standards.

c) Task descriptions recorded in Jira.

d) Unit, system and UAT test scripts.

e) User guide

f) Operations procedures.

g) Application help documents.

h) Support desk searchable FAQ pages.

6 How Support Works

On a software development project, we typically have two support portals. The first is for internal incidents and the second is for customer/user issues. Both are maintained using Atlassian service desk and issues raised feed directly into Jira. The user raising the support query can then track progress of the issue through to resolution.

The support manual is a key deliverable for any project because it will define all aspects of the level of service:

a) How level 1, level 2 and level 3 support is structured and the responsibilities of individual roles, particularly if people from different organizations share the overall support function.

b) The response times expected when an issue is raised, depending on its severity.

c) The obligations of a person raising a support issue in terms of the information that must be provided and the response time required for further information requests.

d) A key issue we cover in this support manual relates to the use of multiple communications channels:

i) All communications around an issue must be via the support desk interface to ensure that we have a single common shared view of the truth.

ii) Email should not be used. If for some reason it is, then relevant information must be copied into the support issue records.

iii) Whether or not telephone, instant messaging or teams is used to follow up issue investigation, and if so, what are the authorized contact details.

iv) Whether support includes use of products such as team viewer and the use of remote access tools to take control of a user's screen to investigate problems and issues.

v) Note if you take our Remote Management solution for all workstations running this supported application then this is available.

e) The KPI's by which you will measure us.

f) Any penalties that are incurred if we fail to meet our KPIs.

g) Whether or not we provide a permanent head count on future support and development and any obligation to have a permanent on-site presence.

The nature of support will depend on whether we are delivering a solution which is used internally or is a public facing website through which customers of our customer will interface.

7 What is not included

While our service offerings are comprehensive, it is important to clearly outline the elements that are not included within the scope of our standard agreements. This ensures that all parties have a mutual understanding of the service boundaries and can plan accordingly. The following items are typically not included in our standard service agreements:

a) Hardware Procurement and Maintenace: We do not provide or maintain physical hardware, including servers, networking equipment, or end-user devices. These must be managed and supported by your organization or designated third-party provider.

b) Third-Party Software Licensing and Support: Licenses for third-party software and associated support are not included. You are responsible for obtaining and maintaining any necessary software licenses and vendor support agreements.

c) End-User Training: While we may provide basic documentation and initial training to key personnel, extensive end-user training is not included in our standard scope. Should additional training be required, this can be arranged under a separate agreement.

d) On-Site Support: Our standard support services are provided remotely. On-site support visits are not included but can be arranged at an additional cost if necessary.

e) Custom Development Work: Any bespoke development or customization outside the agreed project scope will not be included.

f) Data Entry and Data Migration: While we can assist with the setup and configuration of data migration tools, the actual data entry and migration tasks are typically your responsibility unless otherwise specified in the project scope.

g) Regulatory Compliance: Ensuring compliance with specific regulatory requirements is not included. While we can advise on best practices, the responsibility

for compliance with industry regulations (e.g., GDPR, HIPAA) rests with your organization.

h) Content Creation and Management: Creation, management and maintenance of content for websites or applications, such as text, images, videos and other media are not included in our standard offerings.

i) Infrastructure Costs: Costs associated with cloud hosting, including but not limited to AWS or other cloud service providers, are not covered under our stand agreements. These are billed directly by the provider and managed by your organization.

8 How we may change the service from time to time

All our contracts have a mechanism for termination by either side as well as an expiry date.

All our contracts lay out our obligations to deliver to you, typically covering scope of work, time we will apply to the project, limits on costs and requirements to deliver to specific milestones.

During the course of any contract, it may be appropriate to change any of the above and our contracts layout the mechanism for changing a contract using a Contractual Change Note (CCN).

9 Terminating our service

All our contracts have a natural expiry date. On occasions we agree with customers on an automatic renewal. All our contracts have termination clauses by which either party may terminate a contract.

As a responsible supplier we recommend including in our contracts provisions for assist in the handover of any responsibilities we were discharging to an internal team or a replacement supplier if requested, in which case provided we have received payment of all outstanding invoices and are not otherwise in dispute, we charge you at our standard professional services rates on a time and materials basis to carry out such a hand over.

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