EXPANDING POSSIBILITIES
IN THE CLOUD

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THE FUTURE'S IN THE CLOUD

The Cloud enables organisations to take advantage of cost savings, rapid scalability and unmatched disaster recovery options. BJSS has expertise and experience in Azure platforms and services.

Our Azure-certified consultants, supported by our Cloud framework, are experienced in guiding clients from strategic Cloud advisory to 24/7 managed operations.

From an initial assessment that identifies opportunities to deploy Cloud technologies, to developing and running the service, the BJSS

offering is completely modular. Clients can choose components, or an end-to-end solution. Our framework considers the cultural impact on an organisation and can be adapted as part of a maturity activity as required.

BJSS supports the entire development life-cycle from Proof of Concepts, to development and support - and facilitates a seamless transformation that embraces Agile and DevOps. This end-to-end solution allows clients to adopt Cloud, and get to market quickly.

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To read more about the journey

Microsoft Partner

▦ Microsoft

Gold Application Development
Gold Application Integration
Gold DevOps
Gold Data Analytics
Gold Data Platform
Silver Cloud Platform
Silver Datacenter
Silver ISV

CLOUD READINESS

A new lease of life for legacy investments.

New and updated platforms, operating processes and skills are important. But an understanding and alignment of vision, purpose and culture between business functions are vital to successful Cloud adoption.

BJSS' 120-point Cloud Readiness Assessment (CRA) brings together stakeholders from across the organisation to rigorously review the platforms, processes and resources required for successful transition to the Cloud.

With extensive experience supporting Cloud adoption programmes for clients in multiple sectors, our guidance – supported by our assessment framework - provides a robust view of readiness.

Structured interviews with leaders and Subject Matter Experts across the organisation help to build a cohesive and comprehensive suite of insights into organisational strengths and weaknesses.

A simple, grading scheme crystallises communication of barriers to adoption and informs the actions required to facilitate a smooth transition to the Cloud.

The framework ensures the IT strategy is aligned with business needs and that the organisation has the capability and cultural cohesion to deliver and operate effectively, post-transformation.
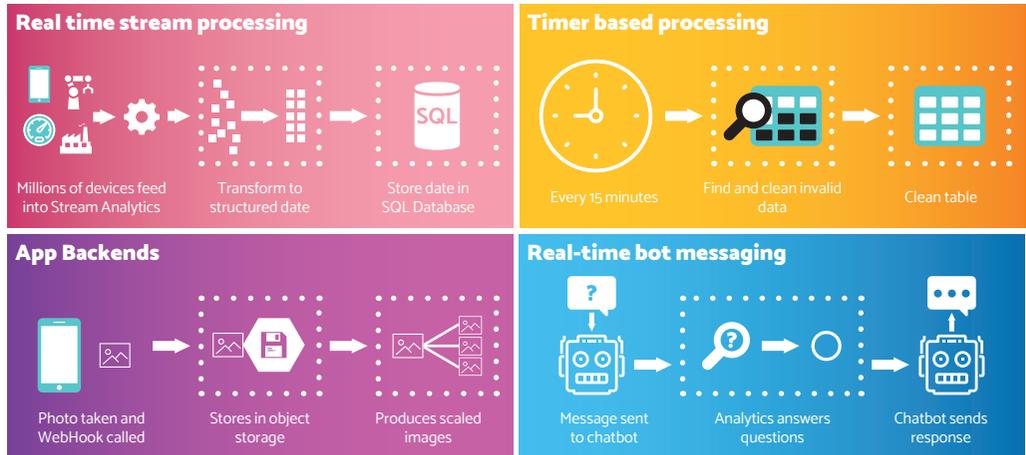
SERVERLESS COMPUTING

Focus on core products rather than owning, managing and operating servers.

A key benefit of Cloud is that organisations can focus less on their IT infrastructure and more on delivering their core products and services.

Now, with Serverless computing, they can rapidly accelerate their product development pipeline without waiting for, or worrying about, infrastructure.

In Serverless environments, your applications still run on servers, but you don't own, manage, or maintain them. The Cloud provider takes responsibility for this in much the same way you consume other Cloud services.

Real time stream processing

Millions of devices feed into Stream Analytics | Transform to structured date | Store date in SQL Database

Timer based processing

Every 15 minutes | Find and clean invalid data | Clean table

App Backends

Photo taken and WebHook called | Stores in object storage | Produces scaled images

Real-time bot messaging

Message sent to chatbot | Analytics answers questions | Chatbot sends response

Underpinned by a deep knowledge of the capabilities offered by Cloud providers, and delivery experience in high-profile transformation engagements, BJSS has expertise in helping organisations to modernise with Serverless computing.

After understanding the business strategy – and the need to modernise – an organisation-wide application review is undertaken to recommend which segments of the organisation would benefit from a rapid migration to Serverless. A refactor or replatform exercise is then implemented to support other applications impacted by the modernisation agenda.

At the same time, BJSS develops credible exit strategies to limit the likelihood of the organisation facing vendor lock-in.

These strategies cover the swap outs of proprietary management frameworks and building operational tooling wherever available.

Payment Cloud Technologies (PCT) offers an innovative product that allows its clients to deliver banking services via the Cloud.

The platform delivers rapid market entry for reliable and robust banking-grade financial services which support any digital portal, including iOS and Android. As PCT's delivery partner, BJSS designed and built the product.

BJSS was selected based on its Queen's Award for Enterprise-winning Enterprise Agile® delivery approach, and its platform agnostic experience of Cloud services.

A Microsoft Azure-based technology stack was chosen based on PCT's specific requirements. The product includes several WCF-based Microservices that implement business logic and provide access to third-party systems.

Combined with a customer-facing website and over-the-counter APIs, these services are packaged in Microsoft's Cloud Service product and benefit from load balancing along with auto-scaling and self-healing facilities.

A collection of data storage technologies underpin the system. Microsoft SQL Azure stores account records while Microsoft's CosmosDB stores high volume transactional data leveraging its low latency properties with guaranteed high-availability. A collection of Microsoft Storage Queues connects the Microservices and third-party systems, enabling the system to smooth out peaks in load while remaining responsive. This multi-tenant Cloud-based solution is scalable, secure and flexible, allowing PCT to provide an offering that can grow with its clients' needs.

> "BJSS' understanding of Cloud technology, and the benefits it can bring, were crucial to the successful delivery of our exciting new consumer banking project."
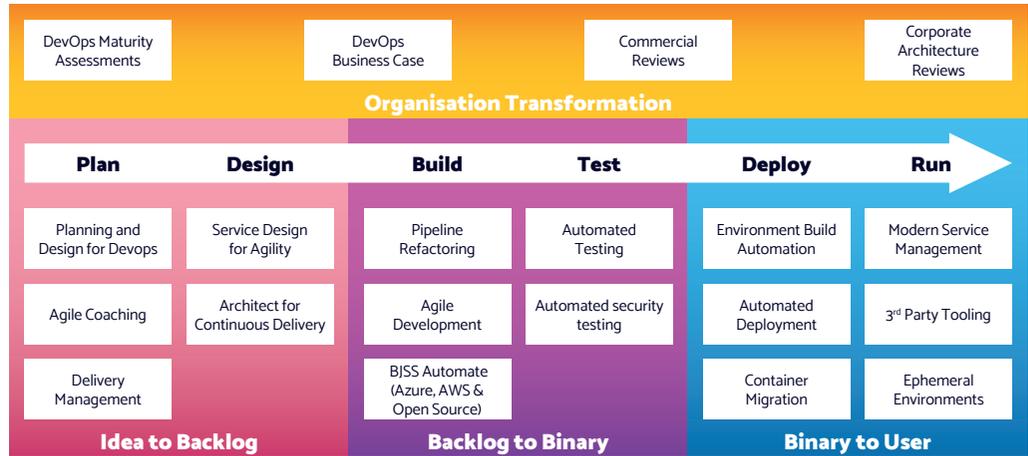
Rob Liddell, Projects Director, PCT

CASE STUDY

DEVOPS

Using the Cloud to maximise throughput.

DevOps has matured over the last five years and the Cloud has helped organisations remove the traditional infrastructure constraints associated with development projects. While Platform Automation, Platform as a Service offerings and Supplier Quick-Starts have all contributed to major time and cost, DevOps and the Cloud can offer so much more.

By combining Cloud and DevOps, throughput is improved. This builds an environment that encourages innovation while increasing product quality through faster feedback.

DevOps Maturity Assessments		DevOps Business Case	Commercial Reviews		Corporate Architecture Reviews
Organisation Transformation					
Plan	**Design**	**Build**	**Test**	**Deploy**	**Run**
Planning and Design for Devops	Service Design for Agility	Pipeline Refactoring	Automated Testing	Environment Build Automation	Modern Service Management
Agile Coaching	Architect for Continuous Delivery	Agile Development	Automated security testing	Automated Deployment	3rd Party Tooling
Delivery Management		BJSS Automate (Azure, AWS & Open Source)		Container Migration	Ephemeral Environments
Idea to Backlog		**Backlog to Binary**		**Binary to User**	

In the DevOps Delivery pipeline an 'idea' passes through three phases: Idea to Backlog, Backlog to Binary and finally, Binary to User. The Cloud adds to this with a richer, scalable and cost-effective environment.

Idea to Backlog
Ideas are captured and an architecture that facilitates smaller and more regular deployments designed. Not only does the Cloud provide the Solution Architect with a perfect platform for Microservices architectures, but it is also possible to re-host or re-platform legacy systems and take advantage of services to improve throughput through testing and deployment.

Backlog to Binary
Pipelines as a Service, enabled by Cloud, enable teams to work collaboratively from the outset. Ephemeral environments can be spun up for testing,

technical spikes and trying out new ideas. By building a pipeline in the Cloud, the rapid feedback that is so important in this phase is easy to achieve.

Binary to User
Production-grade Containers and Serverless Computing in the Public Cloud have moved Platform Automation to the next level. The CMDB is the Cloud and it is updated instantly. The run-book can be fully automated and become part of the Delivery Pipeline, and Product Owners can obtain detailed information about who is using the application, where they are and how they are using it.

BJSS has been at the forefront since the inception of the DevOps movement. The company's DevOps approach is proven and has been applied to many large-scale software deliveries, including some of the largest public sector and enterprise deployments in the UK.

Hospital Corporation of America Guiding digital transformation in healthcare services.

HCA Healthcare UK is a leading provider of cutting-edge treatment across its network of facilities and partnerships, and part of HCA Healthcare.

A desire to provide better and faster online services to help their clients, HCA Healthcare UK decided to harness the agility of the Cloud.

As a starting point, HCA Healthcare UK engaged BJSS to conduct a readiness assessment to determine which of their current applications were suitable for a public Cloud environment, and to devise a migration strategy to assist with move to the Cloud.

Using the BJSS Cloud Readiness Assessment Framework, the six-week organisational review analysed and categorised HCA Healthcare UK's 250 applications. BJSS delivered clear insight and a suite of recommendations informing HCA Healthcare UK's transition to the Cloud including:

- Cross-functional review of organisational readiness, highlighting areas of critical development required to support transition.

- Recommendations for application suitability for transition to Microsoft Azure Cloud with supporting technical, financial and legal considerations.

- Migration strategy and Cloud platform assessment, with strong recommendation to transition suitable applications to Microsoft Azure Cloud.

- Defined business outcomes and financial impact for Cloud adoption including the first year run costs in the Cloud.
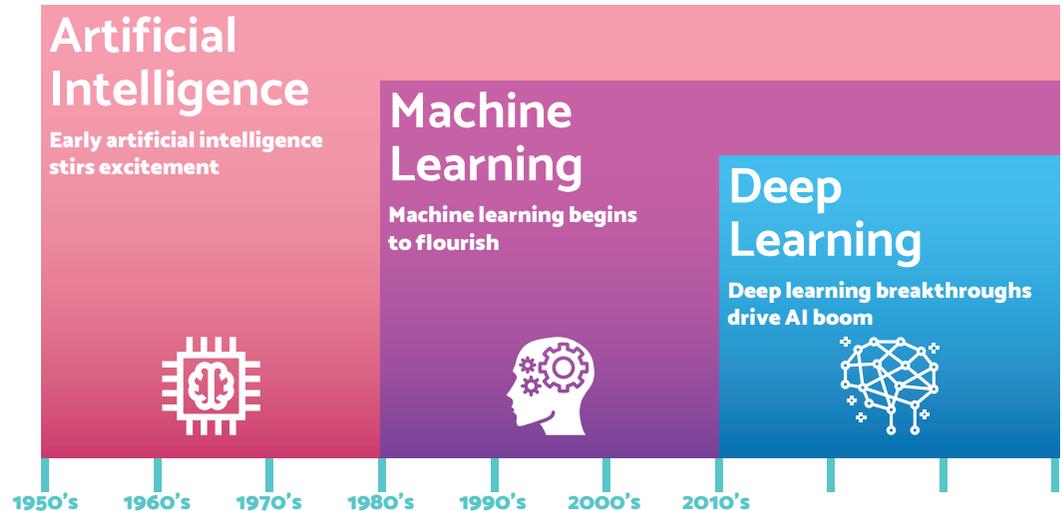
Following the BJSS Cloud Readiness Assessment, HCA Healthcare UK is equipped with a clear view of organisational maturity for Cloud adoption and a recommended approach for an 18-month application migration strategy.

CASE STUDY

AI/MACHINE LEARNING

Unlock powerful new capabilities and efficiencies by teaching machines to learn.

Artificial Intelligence is an important tool for organisations looking to automate processes, reduce the cost of operation, or fuel innovation. The scale of transformation AI will drive cannot be underestimated. Chat Bots, Machine Learning and Intelligent Process Automation are helping more and more business solve difficult problems, improve the customer experience and increase revenues. The range of applications is huge from fraud detection and financial forecasting to customer churn prediction. But, despite the positive influence AI-supported activities have on business, successfully enabling these insights is not always straightforward.

Artificial Intelligence
Early artificial intelligence stirs excitement

Machine Learning
Machine learning begins to flourish

Deep Learning
Deep learning breakthroughs drive AI boom

1950's 1960's 1970's 1980's 1990's 2000's 2010's

Delivering great AI projects requires people with a mix of capabilities and experience. Our teams include conversational and experience designers, researchers, cognitive architects, Data Scientists, Cloud engineers and a small army of software developers. They work collaboratively to deliver scalable AI solutions, across sectors, that help clients improve insights and data accuracy, grow revenue and improve efficiency.

BJSS increases the success rate of AI projects by conducting readiness audits to ensure alignment of data availability, assessing security implications and considering any legal ramifications.

The BJSS service offers an accelerated and cost-effective Alpha service using its ML reference architecture to quickly test Proof of Concepts and create industrialisation roadmaps. When the success criteria is met, the project moves into Beta for integration with back-end systems and rollout to real users and business value.

BJSS has architected, designed, and delivered secure, scalable and extensible platforms for the delivery of multilingual AI chat services.

Based on Azure, the platform delivers conversation and personalisation engines that manage conversation, sentiment analysis, language identification, anonymisation and personalisation of content.

The engines are orchestrated using Azure Step Functions and enable the integration of any AI services such as Azure Comprehend or Azure Lex.

All services are fully deployed using automated deployment techniques, and then fully tested at each stage of the integration and deployment pipeline.

Access is possible from any channel - mobile, web or voice. By using the Internet of Things together with

Azure Cognito Federated Identities, secure real-time chat channels can also be established.

In addition to the technical solution, BJSS also helps clients to navigate the complexities of designing and testing conversations, ensuring that they meet the strict guidelines set by legal and compliance teams.

CASE STUDY

AZURE ARCHITECTURE ASSESSMENT

Azure Architecture Assessment

Public Cloud applications, platforms and infrastructure can dramatically increase agility and cut costs. But Cloud technology is still evolving, creating concern amongst organisations that their business-critical data is safe and that the rate of business change is properly supported. As they guide their organisations towards the Cloud, CIOs must address to these concerns. They should also engage a partner with the expertise and practical experience of delivering at-scale Cloud solutions.
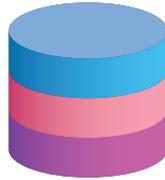
The BJSS Azure Architecture Assessment includes strategies, checklists and patterns to help organisations compare their workload against Azure best practices, and obtain guidance to produce stable and efficient systems, enabling them to focus resources addressing on functional requirements.

BJSS' experience in Cloud has informed the development of an Azure Architecture Assessment, providing a comprehensive assessment of proposed Cloud initiatives.

BJSS delivers Azure architecture reviews based on the five pillars of security, reliability, performance, cost, and operational excellence.

Reviews help clients build and deploy more rapidly whilst reducing risk. As part of the review, clients benefit from a detailed report highlighting the business impact of their design decisions and offering best practice workload guidance.

The review enables organisations to design reliable, secure, efficient, and cost-effective systems in the Cloud. Architecture assessments add to the growing set of resources available to Azure customers to help optimise how they build and operate on the Microsoft Cloud.

The BJSS Azure Architecture Assessment has been developed to help Cloud architects build the most secure, high-performing, resilient, and efficient infrastructure for their applications.

Build and deploy faster

Stop guessing capacity needs, test systems at scale, and use automation to make experimentation easier by building Cloud-native architectures.

Lower or mitigate risks

Understand where you have risks in your architecture, and address them before your applications are put into production.

Make informed decisions

Determine how architectural decisions and/or trade-offs might impact the performance and availability of your applications and business outcomes.

Learn Azure best practices

Access training and whitepapers that provide guidance based on what we have learned through reviewing customers' architectures on Azure.

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