

# SOA: Delivering sustainable business value

## The benefits of SOA

### Agile

Systems can rapidly evolve to meet changing business needs.

### Business-oriented

Changes in system use can be planned and implemented using only business-level knowledge of the services involved: technology-specific knowledge is not required.

### Reduced Cost

Your business can respond quickly and cost-effectively to changing market conditions.

Expensive legacy systems can be replaced, with minimal business impact.

### Why choose IPL?

IPL has a long history of successfully delivering excellent value SOA business and technical consultancy and SOA-based software solutions.

Our track record in SOA solutions development is exceptional. Our proven development methodology lets us cut through technical complexity, manage risk and focus on delivery. We deliver reliable, efficient and accurate systems, to a precise schedule.



## SOA: Easier, cheaper, quicker.

### What is SOA?

Service-oriented architecture (SOA) is an approach to system design in which core business functions are implemented as autonomous services.

'Autonomous' means that each service serves a single purpose and that services do not interact with each other directly, but are orchestrated to implement a business process via the passing of messages between them using well-defined interfaces.

Each service fulfils a contract, so that other services or applications can use a service without requiring any knowledge of how the functionality is actually implemented.

*E.g. An application might require an 'invoicing service' to invoice a customer for a sale. A message containing the customer details and sale line items would be passed to the 'invoicing service'. The 'invoicing service' might send the invoice by post or by email but the application need not be concerned with this level of detail. All it knows is that the contract will be fulfilled, i.e. the customer will be invoiced.*

Services defined in this way can be easily re-used in different contexts or in multiple business domains.

This allows custom applications to be built almost entirely from existing services, so that systems can be adapted to support new business processes quickly and cost-effectively.

### Benefits to your organisation

SOA can give your organisation agility, allowing you to quickly respond to changes in the market. Systems can be adapted without technical knowledge of the implementation of existing services, and the adaptation is far cheaper than changes to a traditional bespoke system.

SOA systems developed by IPL have many other benefits including:

- Easier integration with existing applications.
- A flexible architecture with lower long-term maintenance costs.
- A data integration layer allowing data to be easily shared between multiple applications.
- Rapid development of custom applications.
- The ability to combine services to implement business processes: changes to a business process are easily reflected in software.

### Challenges in establishing SOA systems

IPL understands the challenges associated with SOA adoption and our experience will help you overcome these. The challenges include:

- Organisational changes, as SOA services start to exchange messages across divisional or company boundaries.
- Effective testing, requiring new test environments and message based testing tools.
- New security models, as application-level security is not appropriate when SOA services are shared between applications.
- To gain the maximum value from SOA service re-use, software design needs to consider business processes and strategy.

## Case Studies

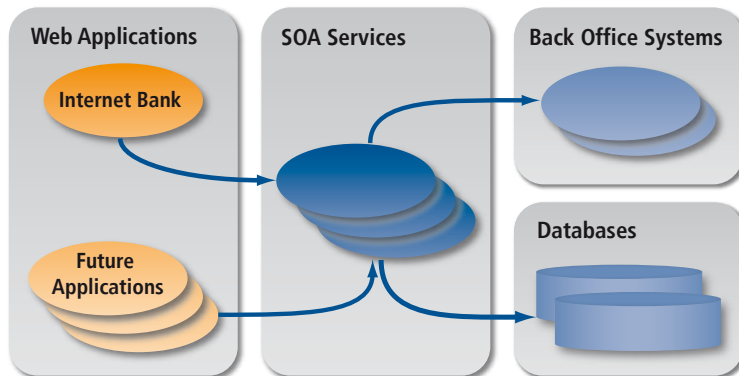
### Online banking system

One of the UK's leading financial services providers committed to undertake a complete refresh of its internet banking service and IPL was chosen, following a lengthy selection procedure, to develop, build, test and deliver this strategically vital project.

The SOA application is based on Microsoft ASP.NET MVC 2 and .NET 4 and Microsoft SQL Server 2008 hosted on Windows Server 2008 R2. The online bank needs to be highly available and secure and interfaces with multiple back office systems vital to the day to day administration of the organisation's business.

The technologies and tools IPL used provide a modern, stable and flexible web application platform upon which new business capabilities can be based, at the same time allowing for existing business capabilities to be improved and extended. The core of the web application has been written such that it can be simply re-used for applications other than the online bank.

The new online bank application has the functionality, richness and "look and feel" demanded of a modern, up to date online banking application. It makes it easier for customers to quickly service their accounts and buy the products they require, and the SOA application gives the organisation improved opportunities to roll out new products and target them to customers according to their needs.



Online banking system architecture diagram

### National collision reporting – NPIA

The National Policing Improvement Agency (NPIA) and the Department for Transport (DfT) selected IPL to develop software for CRASH, a national police system to improve the efficiency, accuracy and timeliness of the collision reporting process.

The SOA system is implemented using Java Web Services, Oracle WebLogic Server and Oracle Database hosted on Red Hat Linux. CRASH integrates seamlessly with existing police systems, both local and national, to ensure information is always disseminated as required.

As well as the cost savings from reduced paperwork due to replacement of the current manual reporting methods, CRASH will bring further savings to UK police forces as the SOA system is quick and inexpensive to update, ensuring that it continues to meet policing needs and adapts to legislative change.

### Is SOA right for you?

Although the benefits which can be gained through the adoption of SOA are real and IPL has seen these firsthand, there is a tendency for some vendors to over-hype these advantages and sell SOA as the solution to every systems engineering problem.

If you are unsure whether SOA is the most beneficial approach to your development, our consultants would be happy to discuss this with you in more detail.

IPL has many years of experience of software development in other architectural frameworks and our highly skilled development teams can engage and deliver on whatever strategy you choose.

### Contact IPL

Please contact our sales team to discuss how IPL can meet your needs. Whether you need a consultant to explore your business requirements and recommend a strategy, talented developers to bring relevant skills to an existing project or a programme manager and development team to take responsibility for timely delivery of a solution, IPL has flexible engagement options which will ensure your success.

*"IPL has a good understanding of NPIA's standards and strategies, [...]. This effort to understand what is driving the client and working within its strategies / approaches is pretty unique, particularly when compared to large providers who would enforce their own approaches on NPIA."*

Programme Manager Network Infrastructure, NPIA



Member of the Oracle PartnerNetwork.

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