

Enterprise Application Integration



THE COGNITO MOBILE SERVICES DELIVERY PLATFORM

In this paper we will cover the following topics:-

1. Finding value in business information and processes
2. Cognito's Mobile Workforce Services Delivery Platform
3. The Cognito value proposition

Enterprise Application Integration (EAI) is a term used to describe the process of connecting the various IT systems and process of a company together in order to deliver additional value. This practice has existed for some time and it has been achieved using a combination of component-based software development, the distribution of software services with common interfaces and a mapping of business rules onto the underlying IT applications and infrastructure.

Today, there is an emerging set of standards which make it possible for companies to build common tools and applications more rapidly and which share a standard communications structure, this is termed a "Services Oriented Architecture" or SOA. Standardised SOA development tools and software components are available from a range of suppliers which has the potential to bring down a company's overall EAI costs.

Using SOA tools, companies like Cognito are able to take their expertise in particular areas of the business process and rapidly develop solutions that deliver additional value, and which integrate tightly with existing IT systems and processes.

I. Finding value in business information and processes

Business Information

Any business has two types of information: the retained knowledge of its staff; and the recordable information which is held in paper form, or electronically. Electronic storage of business data is predominantly as database tables, (even an Excel spreadsheet is a simple form of database table), in all likelihood there will be a range different data stores adopted at different times in the company's life.

Examples of business data include:

- Customer information held in a CRM system
- Financial information about customers and suppliers
- HR information about staff and company policies
- IT directory and group policy information
- Resource directories: People, cards, stock, tools etc
- Tasks to be performed
- Status information on jobs, people, etc.
- SLA information for various customer contracts
- Maps and GIS data
- GPS derived asset location information
- Points of interest

The connection into these data stores will be through some form of communications protocol that allows the user to retrieve data from, and post it to, the table.

It may be able to do this directly to the database, by reading and writing to the tables, however it is more likely, there will be an application layer that does this. In the case where an application layer is involved, it may not be possible to talk directly to the database, and data will be transmitted through the application using some form of proprietary data structure. The application layer may itself have a published API that makes it possible for third party software to talk to it (for example SAPs NetWeaver platform), or it may be necessary to build a custom adapter for a system with no API.

The various database tables and the interfaces (known as “connectors”) to proprietary application data structures may be linked together (integrated) using a Service Oriented Architecture (SOA). In SOA, an “Enterprise Service Bus” (ESB) is envisaged, a common rail that all the components are attached to and over which the information is exchanged asynchronously (because all the various databases will respond in their own time) using a common message type such as Java Message Service (JMS) or TIBCO.

Business Process

In any business, the retained knowledge of staff and the standard behaviours and practices (or rules) of the business represent a key part of its value. How a company does things is as important as what it does and how it records it.

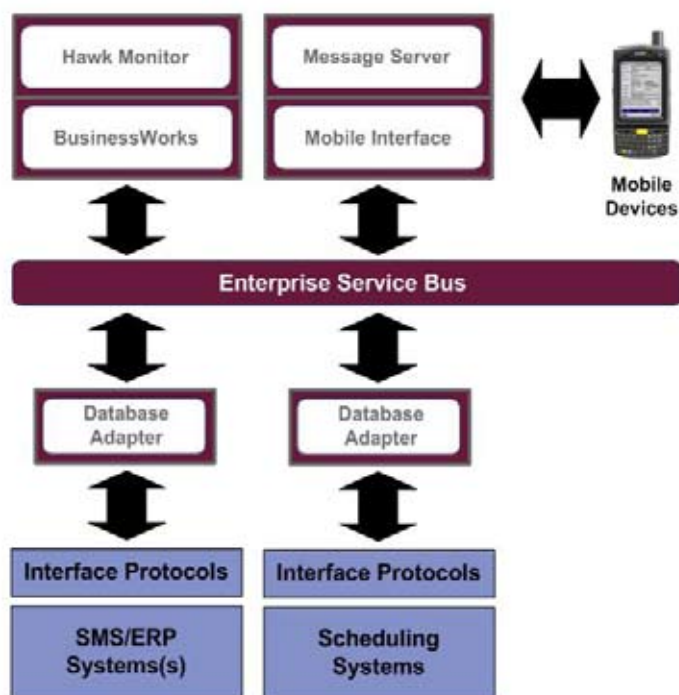
Capturing this retained knowledge accurately is a key step in the development of IT systems that add true value to the business. In addition, the better job a company does in capturing what it does that makes it special, the better it can eliminate inconsistencies and inefficiencies. It will also be better placed to innovate, and be better protected from damage due to loss of key staff.

2. Cognito's Mobile Workforce Services Delivery Platform

A system which enables the exchange of information between IT systems and which accurately captures the business process provides a platform for innovation, both in new applications and also new working methods. Working proactively to extend the scope of the system will give new insights and outputs that are valuable to the business and will create new opportunities for efficiency improvements and cost reduction, and therefore a path to sustainable competitive advantage and shareholder or stakeholder value.

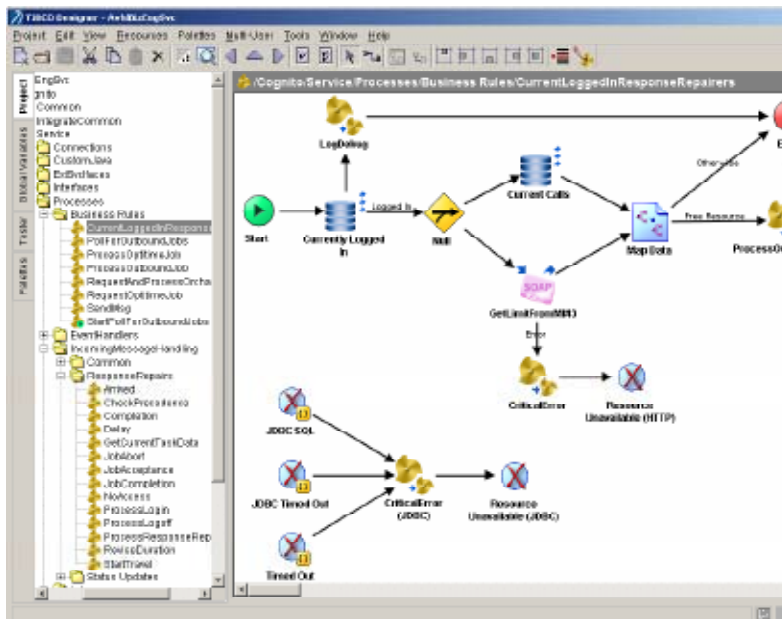
Effective solutions will combine a deep understanding of the business and make it possible to derive new value from across the enterprise. The more that it is possible to interpret and manipulate business data and workflow rules, the better the opportunity will be for innovation and, as a result, sustainable competitive advantage.

Such a system is the Cognito Mobile Workforce Services Delivery Platform (SDP). The SDP is built on a component-based (and therefore re-useable) Java architecture and uses a SOA approach to the integration of all sources of Mobile Workforce Data and the delivery of business-transforming information based on a complete interpretation of the business process information it reveals. The SDP holds the company's business process logic, is capable of data transformation, sequencing and orchestration based on business rules.



In order to implement the SDP, Cognito consultants leverage the company's nearly 20 years of experience in business process analysis to capture the business rules and workflow.

Because the SDP is an SOA architecture, rapid development tools can be used to quickly and accurately develop an architecture that fits the unique requirements of an individual business.



Cognito is therefore able to extend the ESB and use it as a common information bus to link into other new functional components of a Mobile Workforce Management solution, such as location data, Lone Working technology or a Scheduling Engine.

Links into existing corporate IT systems can be made using either a customised approach, or through standard vendor-certified off-the-shelf adapters. In both cases, Cognito solutions are tightly integrated with deep application-specific features based on mature and reliable technology designed to meet mission-critical requirements featuring bidirectional message flow, error handling and logging, deployment flexibility, performance, and scalability. Over 50 Standard adapters are available for all leading enterprise applications such as SAP and Oracle applications, Lotus Notes, Database adapters for Oracle, SQL Server, Sybase, DB2 plus support for component or object-based development models such as COM, LDAP, CORBA and others.

All this data can be presented for interpretation or analysis, either visually through a display console application or through the generation of reports, using something like Crystal Reports or Business Objects. The console may also be web-services enabled and used through a web browser.

3. Summary: The Cognito value proposition

- Rapid integration of current and legacy back-end systems with Mobile Workforce operations
- Managed, supported service
- Simplified introduction of new Mobile Workforce Management (MWM) systems such as resource scheduling via our MWM Services Delivery Platform
- Use of industry standard technology to keep cost down and deliver quickly (Java and SOA architecture)
- “One stop shop” for project design delivery and management, and total problem ownership
- Adaptable solutions to meet customers current and future needs – Not “Shrink wrapped”



About Cognito

With over 150 successful solutions in place and more than 20,000 subscribers, Cognito is the leading expert in Mobile Workforce Management systems and practice.

Cognito is the only company with the experience to tie together the key components of tracking, real-time data and scheduling and to deliver them to organisations as a powerful mixture of consultancy, design, delivery and support. Our Solutions impact directly on business performance by improving efficiency, reducing costs and increasing profitability.

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