Technology evolution drives towards e-government

Extending public services and streamlining government operations…

Divisional Director at OITUK, Dr Vijay Magon, discusses how the combination of mature technologies and newer innovations underpin the Government's mandate for online services.

The public sector has traditionally handled large paper volumes and complex record sets, managed internally at departmental level, via a range of technologies including imaging, document management and workflow. Nowadays, a whole range of pressures are driving organisations to provide web-based facilities that enable external bodies to interact with the core information systems. At its simplest level, members of the public, and multiple government departments, must now link together to extend public services and streamline the government operations, as demanded by Tony Blair. This paradigm shift must operate within the laws of the existing Freedom of Information Act, the Data Protection Act, and for some organisations, the Public Records Office (PRO) regulations. OITUK deliver governmental solutions that address these critical issues.

In hindsight, three key stages towards e-government have been evolving over a 20 year period, with OITUK actively deploying solutions within each stage.

Stage 1

Data capture technologies such as imaging, COLD and microfilm digitisation have eased the burden of those huge paper mountains, through electronic availability of information:

- HM Prison Service have used imaging to help create a 'paperless' office environment, to demonstrate that technology can contribute significantly to office productivity;
- HM Customs & Excise have used imaging to manage the paper-based supplier VAT records to support VAT-registered businesses;
- MoD Medical Records have digitised some 45 million images into an electronic document repository to support retrieval requests from around the UK.

Stage 2

Document management and workflow facilities have improved departmental efficiencies in finding information and handling particular cases:

- South Yorkshire Pensions Authority process high volumes of pension related correspondence to and from the Authority's former and current employees, managed on a case basis within the document management repository;
- Essex County Council and Kent County Council scan invoices for ongoing authorisation via workflow within their finance departments. Essex also match invoices to COLD procurement mainframe reports for enhanced sales tracking;
- Swindon & Marlborough NHS Trust created electronic patient records and halved the volume of paper health records, including barcode recognition integrated with the Trust's Patient Administration System (PAS) for improved processing of patient cases;
- Princess Alexandra Hospital (Harlow NHS Trust) combined document management facilities and record tracking to always know the location and status of patients' electronic and paper records.

Stage 3

Newer web-based content management and portal technologies now deliver the business transaction information in a highly personalised manner, enabling the same information repository to be shared in an authorised environment by multiple government agencies and members of the public:

- At North Tyneside Council, over 350 staff distributed around the Newcastle area are involved with social benefit claims processing. The OIT system links them to First Software's Revenues and Benefits Calculation software and has virtually eradicated paper from the Revenues and Benefits Departments;
- Camden County Council have deployed a web-based content management system in their housing maintenance department to enable council workers across all departments to view job statuses. Access to the public for progress checks and queries are a natural extension for the e-government mandate.

There is a clear trend towards the centralised use of the electronic document within the business process and we have seen a gradual transition from using document management systems for electronic filing to using such systems on the desktop, integrated with the core business operations.

The portal aspect, in particular, provides the key framework for addressing access to the public and departmental workers for government processes, providing an e-business platform in line with the Government mandates for online services. The content portal provides the web and form facilities for public access, and the workflow drives back office administration to capture, process and archive the transactions.

The web portal screen is profiled to the particular user, and utilises the underlying content management engine to manage document access and security. The idea is that relevant electronic documents, scanned images,

reports, workflow tasks, email and more are driven to the portal rather than the user needing to search for them each time. By linking the portal to other applications, including office tools, schedulers, collaborative discussion facilities and line-of-business systems, a 'virtual office' is created, from which departmental workers can perform business operations.

OITUK

OITUK, part of Graphic Data (UK), has been exclusively licensed in western Europe since 1994, to deliver content management solutions based upon the established OIT product suite from OIT Inc. (USA). The suite encompasses imaging, workflow, COLD, document management, character recognition and XML forms processing modules, with facilities delivered via web browsers, traditional Windows platforms, PDA devices or via the Virtual Office portal. OITUK extend this suite with the content portal technology, OITPORTAL, which allows users to view customised content from OIT, and the OIT Records Manager module, which provides record life-cycle facilities, such as access rights, tracking, retention, and disposal management. OITUK drive the turnkey project deployments, with services including business analysis, specification, installation, roll-out, training and support. The OIT product suite has been successfully deployed with over 3,000 organisations in both the public and commercial sectors. The full scope of the integrated content management suite is as follows:

- **Electronic document management**
- **Internet/Intranet/Extranet delivery**
- **Document imaging**
- **Electronic forms processing (web)**
- **Records management**
- **Storage management and archiving**
- **Workflow**
- **Portal profiles**
- **COLD/Microfiche handling**
- **XML business application integration**
- **Collaboration facilities**

These integrated software components from OITUK form a market-mature, integrated suite with associated software longevity, an ongoing future development vision and high quality levels of support.

Streamlined benefits within the public sector

The various implementations described earlier were deployed for diverse reasons – some to drive costs down through improved efficiencies, others to fit with regulatory compliances, others again to take advantage of new technologies to promote enhanced public services. Over the years, OITUK have assisted government bodies in assessing some of these benefits, and indeed the software lends itself to ongoing assessment and iterative improvement via sophisticated reporting facilities. From our experiences, we have constructed the following matrix that highlights four broad areas of benefit achievable with the integrated content management approach.

Physical cost benefits:

- Staffing redeployments
- Paper purchase savings
- Microfilm/Microfiche savings
- Postal cost savings
- Phone bill savings
- Accounted filing space savings

Service control benefits:

- Speed and ease of implementing business process changes;
- Improved appreciation of how specific business activities function and perform;
- Lower audit costs via visibility of regulatory compliances, standards and procedures;
- In some cases, the ability to keep the department afloat!

Service analysis benefits:

- Process bottleneck analysis and visibility;
- Visibility at micro-level of the status of any given transaction – the who, why, where and when concerning business cases;
- Staff productivity measurements;
- Ongoing process improvement;
- Reduction of errors;
- Increased public service levels.

Service efficiency benefits:

- Faster business reviews or case handling;
- Parallel routing of shared documents/ process items among individuals;
- Automatic prioritisation of workloads;
- Delegation and escalation procedures;
- Alerts for 'nearly due' and alarms for 'overdue' work items;
- Work categorisation simplifies the management of high work volumes;
- Automatic work re-routing during staff sickness or vacations;
- Faster access/grouping to individual documents that make up a 'case';
- Scope for reduced 're-key' (and error introduction) between applications;
- Potential to link to public user communities;
- Workflow participation for staff at home, on the road or at diverse office locations via internet, mobile phone (standard/WAP) or PDA devices.

In conclusion, Dr Magon suggests that "the road to e-government is already paved with the right supporting technologies, being a mixture of older but proven back office tools, coupled with newer web-based portal mechanisms to deliver integrated services beyond the departmental level".

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