

Enterprise Ready Intelligent Capture

How Government Agencies Can Succeed in Making Critical Improvements to Paper-bound Functions

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Executive Summary

Whether at the federal level, state, or even county or township, government finds itself on the front lines of a raging battle to understand, manage and process paper documents. Tax returns, health records, social services cases, DMV applications, and land records create a torrent of paper that can challenge any organization. Overwhelmed by paper documents, and the problems of processing them, government has earned a reputation for spending too much on processes and delivering too little services in return.

The burden of paper is made more acute by the decentralized nature of most government organizations. Offices and facilities are spread across diverse locations and the workforce is similarly diverse. Add to that the sheer number and assortment of agencies and bureaus across military, civilian, federal, state and local governments and the result is a steep mountain to climb.

Rising concerns over data privacy and accuracy make the manual processing of paper an increasingly serious problem for government agencies. Hand delivering paper documents is no longer adequate to comply with changing regulations and compliance demands. At a time when scrutiny of government has never been higher, the expense and inefficiency of paper-bound process has most government agencies looking for solutions that use automation to accelerate document input, eliminate errors and lost data, provide a clear audit trail and remove cost.

Which is exactly the premise behind Enterprise Ready Intelligent Capture (ERIC) — a coordinated approach to document input and processing that combines distributed and centralized scanning with fax and electronic conversion across numerous department applications through a standard capture portal.

For government organizations with a multitude of paper documents being generated in multiple locations, Enterprise Ready Intelligent Capture can supply some much needed control. This paper explores “Enterprise Ready Intelligent Capture” as a way for agencies to make critical improvements to long-standing paper-bound functions.

Enterprise Capture

Over the past 20 years, capture systems have evolved from simple solutions for basic scanning into sophisticated systems for enterprise-wide document automation. Scanning documents to eliminate paper is a great place to start, but the goal of current best practices is the fully automated extraction of all relevant data from whatever the data source may be. Enterprise Capture (EC) is the process of preparing information contained in those documents to be extracted, classified, indexed, verified and exported in formats that can be used to enable business initiatives or meet compliance and litigation requirements.

Enterprise Capture is the “onramp” through which both physical and electronic documents will pass on their way to back-end databases and business systems. To be truly Enterprise-wide in the transportation business, these solutions must be able to operate in a centralized location and also remotely through an intuitive, Web interface easy enough for any non-technical user to operate. They must be able to scale to input millions of documents a day in a

41% of all forms are still manually
filed or keyed into systems.

- Association for Information and
Image Management (AIIM)

Only 14% of organizations
are using enterprise capture
across multiple processes and
departments.

- Association for Information and
Image Management (AIIM)

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production setting or recognize and classify a single document scanned on an MFP at a truck stop. They must be able to support multiple document types, languages and even data types — handwriting, typed print, bar code or check boxes. And they must be able to handle a wide variety of exceptions.

Enterprise Ready Intelligent Capture (ERIC)

Government agencies are well positioned to take advantage of the many benefits of Enterprise Capture. However, to accomplish all that's needed for Enterprise Capture, you need to engage a capture system which brings a number of capabilities to the task. Use the following as a benchmark to help you evaluate the benefits with a number of key attributes that must be considered.

ERIC Attributes

Capture technology is more sophisticated and less expensive to deploy today, but buyers should be wary of unsubstantiated vendor functionality claims. Consider the following attributes in your strategic planning efforts.

Accessibility – Improved access to information for workers across the enterprise is the number-one “soft-dollar” benefit for implementing EC. Accessibility also implies an EC architecture that allows for processes to be “called” outside the formal capture solution, as well as the ability to access and receive multiple documents and forms from a variety of sources including paper, email, fax and electronic documents.

Affordability – In most cases, an ERIC solution should be able to demonstrate an ROI of one year or less. Vendor pricing should take into consideration “casual” or occasional users. Obviating the need for custom coding or frequent intervention from IT and empowering business users to configure their own solution is key to cost control. Ability to completely automate — go paperless — with a capture solution is also highly desirable.

Configurability – Non-technical workers will be able to configure capture software to create new workflows, accept new document types and work centrally or remotely through a thick-or thin-client, Web-based interface — without direct IT intervention or support. Configurability also implies the ability to configure the solution to mirror existing workflows, if desired, rather than forcing customers to create workarounds to accommodate technology constraints. Configurability should include a library of already existing APIs and “rules” to help enable existing processes.

Extensibility – Extending the functionality of the initial implementation beyond its original intended use is desirable. Enterprise Capture solutions should be transferrable to other departments or for other processes. The ability to re-use EC technology is critical.

Flexibility – The ability to provide flexible Web services capabilities is an important attribute. Customers should be able to leverage EC investment throughout the enterprise by enabling organizations to define services and integrations to match their unique architectures. In other words, SOA (service-oriented architecture) is enabled. Also, look for flexible recognition including OCR (machine print recognition), ICR (handprint and free-form handwriting recognition), OMR (bubble and check box), barcode recognition and multiple recognition with voting and CAR/LAR (handwriting on checks).

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Interoperability – Integrate easily with existing enterprise software stack including Case Management, ECM, ERP and Workflow solutions is key. Interoperability allows for “calls” outside the standard EC solution and ability to integrate into existing processes and workflows. The solution should leverage industry Web services standards including http, html, SOAP and xml as well as imaging standards including TWAIN and ISIS.

Manageability – An ERIC solution needs to be easily administered from central console or remotely through Web interface as required by the organization. Native auditing and reporting capabilities need to be part of the EC solution as well as the ability to feed more sophisticated report writers with limited or no IT intervention necessary. Auto-classifying documents as part of an existing business process should also be enabled.

Modularity – Modularity allows for the deployment of portions of an ERIC solution. For example, start with a centralized solution and add on a Web-based distributed solution at some later date, with the ability to easily add additional users as needed. With modularity, capture tasks can be broken down into separate, discrete process steps such as scan, capture, classify, index, validate and export.

Reliability – An ERIC solution should be highly reliable, stable and meet availability requirements of the organization. A high level of recognition accuracy (90%) is a must to ensure user productivity.

Scalability – This attribute enables easy, dynamic scaling of the number of users. The use of multi-threading allows processing speeds to scale and alleviates process bottlenecks.

Security – An ERIC solution needs to maintain its own security levels for system administrators to easily add and delete users, while leveraging exiting enterprise security protocols and Internet security standards for distributed, Web-based applications.

Usability – Usability implies intuitive, easy-to-understand screens and commands for both non-IT power users and entry-level workers with little or no technical acumen.

Enterprise Capture Value, Benefits and ROI

The scenario below is the story of government agency that is a current Datacap/ IBM FileNet ECM client. The value components were gleaned from real-world examples in which the end-users determined what the ROI was for their solution after it had been implemented for at least one year.

State Department Revenue Services – Centralized Capture Model

The goal of this agency was to enable tax returns to be reviewed faster and improve turnaround time for sending out checks to taxpayers. Deployment spanned 50 full-time, qualified tax reviewers with additional skilled and unskilled labor for peak tax-return season to scan influx of paper documents.

Industries such as banking,
healthcare and transportation
have adopted similar systems,
often with advanced capabilities.

While the use of electronic filing is growing, a large data-entry department is still needed to handle the significant number of paper returns. The use of software to compute tax returns continues to grow, but most software users still file returns by sending a paper return through the mail.

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Goals:

- Capture printed tax returns with OCR to automate data entry.
- Utilize 2-D barcode capture wherever possible to streamline the process.
- Further automate process of handling over million returns per year.
- Have home workers perform data entry and verification on thin client.

Solution:

- IBM hardware and FileNet Content Manager (P8) ECM. Case Management and scanning solution supported by IBM.
- IBM Datacap Taskmaster Capture for Enterprise Capture Solution.

Results:

- Browser-based verification reduces administrative work as no software needs to be installed or maintained on client machine.
- More accurate data captured and indexed on central ECM.
- Cut data entry time in half and staff by 25% over time. Over \$1.5 million in savings per year.
- Productivity reports, with metrics on each reviewer and on how long each return is in system, available for department heads.
- Ability to provide almost instantaneous status on return for taxpayers.
- Revenue collection per employee increased by 50%.
- 80%-plus improvement in number of returns processed per day.

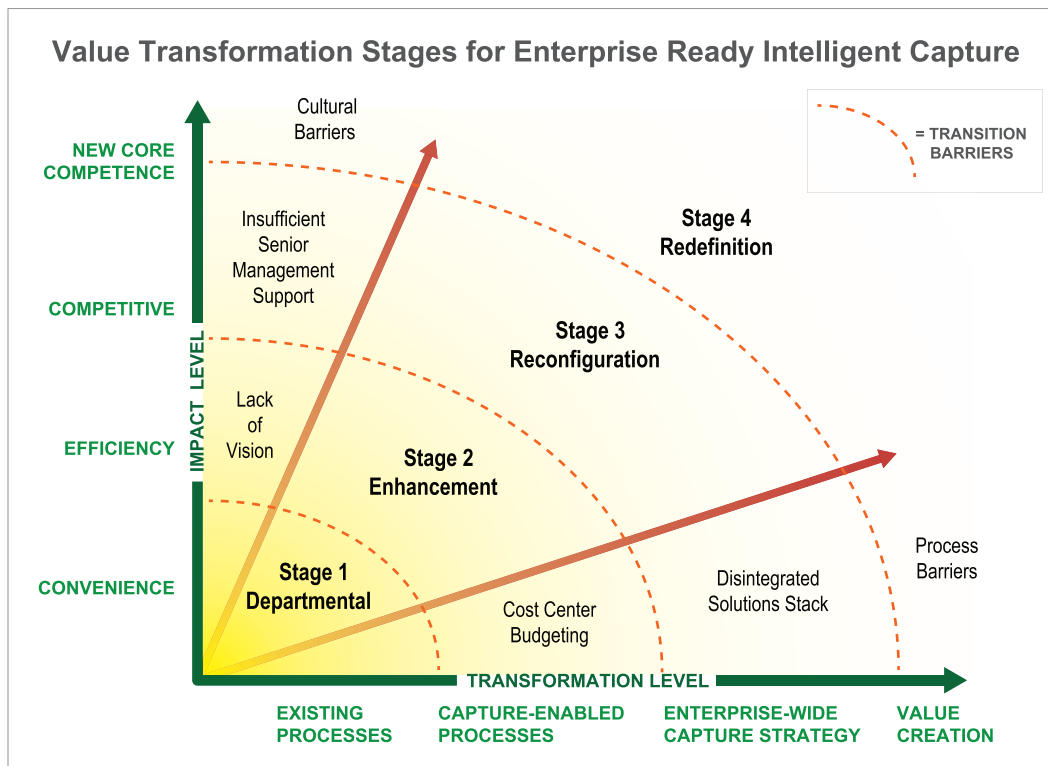
Value Proposition

Assume that current business processes are not free. There is a cost to completing critical tasks that can easily be measured in worker productivity and other quantifiable expenses such as out-dated electronic and paper-based processes including retrieval times, storage, printing, copying and shipping as well as the risks associated with lost or misfiled records.

As a result, most government agencies use at least some form of imaging, particularly within Finance and HR departments. Other industries such as banking, healthcare and insurance have adopted similar systems, often with advanced capabilities to “recognize” typed and handwritten information from applications, forms, invoices and a variety of paper documents. These capabilities, commonly called Optical Character Recognition (OCR) have been deployed for nearly two decades.

While it's well documented that capture can produce a quantifiable return on investment, these applications are just the beginning of what can be accomplished with Enterprise Ready Intelligent Capture if deployed throughout the enterprise for a variety of use cases. Without a strategic plan in place that includes enabling technologies taking advantage of the opportunities will be infinitely more difficult.

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As the graphic above implies, achieving enterprise readiness for intelligent capture is a multi-stage process. Most organizations that have capture solutions in place fall into either the first or second stage. Overcoming both cultural and process barriers are critical to reaching higher levels of transformation vis-à-vis Enterprise Ready Intelligent Capture (ERIC).

Making the Financial Case for ERIC

Once an agency has a strategic plan in place which identifies intelligent capture opportunities and has buy-in from senior management, making the financial case is the next critical step. The most popular financial justification model used by IT today is ROI, which has a multitude of variations and definitions depending on the industry, company or individual who creates the model.

Doug Hubbard, author of the book *How to Measure Anything*, suggests that clear definition of how to measure success is a key success factor for any financial analysis. “Business managers need to realize that some things seem intangible only because they just haven’t defined what they are talking about. Figure out what you mean and you are halfway to measuring it.”

Hubbard, who has worked extensively with IT professionals and organizations throughout the world on building technology justifications adds, “Management needs a method to analyze options for reducing uncertainty about decisions.”

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ROI for Enterprise Capture

What most ROI calculations have in common is the desire to measure costs, benefits, risks, flexibility and value. Hubbard urges managers to “be creative” and use tools they already have at their disposal or adopt measurement tools that already exist. Consider the following five key ROI categories and the components to consider when assembling an ERIC ROI model.

Costs

- Software License, Maintenance and Implementation Fees
- Necessary Software License Upgrades
- Custom Software Development
- System Configuration Changes
- System Integration Expenses
- Additional Hardware or Hosting Expenses
- Impact on Network and Web Infrastructure
- User Training and Learning Curve Impact
- Administrative Support from IT, Helpdesk

Benefits

- Improved Worker Productivity
- Reduced Operational Expenses
- Reduced IT and Vendor Intervention
- Creation of New Information Views
- Reduced Risk Associated with Paper

Risks

- Solution Does Not Meet Requirements
- Implementation Costs Outweigh Benefits
- Process Improvement Minimal
- Users Not Prepared for Change
- No Value Added to Customers

Flexibility

- Extend Solution Beyond Initial Use Case
- Integration with Existing ERP, ECM Solution
- Little or No Ongoing IT, Vendor Intervention Required
- Configurable by Business Users for the Way They Do Business
- Intuitive Interface Accessible Locally or Through Web
- Little Training Necessary Even for Unskilled Workers

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Value

- Improve Customer Satisfaction
- Create Additional Revenue Streams
- Support Improved Decision Making
- Establish Competitive Advantage
- Increase Productivity with Existing Staff

When developing an ROI “checklist,” information technology and business owners should outline which business and technology elements are necessary to support a successful implementation. EC solutions need to be flexible enough to complement the way organizations conduct business, provide financial return, and also be able to offer opportunities for expanding capabilities beyond the initial use case.

IBM Datacap Enterprise Capture Architecture: Built for Growth

IBM Datacap Taskmaster Capture is deployable in both thick- and thin-client versions. Support for multi-threading allows for the easy addition of servers to eliminate processing bottlenecks in high-speed scanning environments. Datacap takes advantage of cloud-enabled environments, virtualization technologies, SOA-based architectures and standard Web services.

The Datacap solution integrates with existing ERP or ECM solutions by exporting scanned, indexed and verified content to those systems; it also has the ability to be “called” for a business process by those enterprise solutions when needed. An example would be the bundling or packetizing of content or a single “case” or matter.

Datacap supports capture and processing of images originating from email, fax, traditional scanners and multifunction peripherals (MFP). These images can enter the system through the Taskmaster Web client, the thick client, directly using email and fax servers and through network folders.

The Taskmaster server is the core server, handing out tasks with batches of images to Rulerunner stations to process. The Taskmaster Web server hosts the Website and manages information from Taskmaster. IBM’s Datacap Taskmaster Capture RV2 Web application displays information about the current status of batches and other relevant activities.

Rules: Fundamental to ERIC

The ability for “rules” to be applied to a capture process, without IT or programmer intervention is a fundamental building block for Enterprise Ready Intelligent Capture (ERIC). In other words, business users, not IT, can learn to apply and adapt their systems by configuring rules. As Taskmaster moves batches of images through the capture process, the actual processing is managed by Rulerunner Service, a configurable rules engine that can handle layers of complexity.

Taskmaster supports email, fax, scanners and multifunction devices through a Web client, the thick client, and using email, fax servers and network folders.

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Taskmaster includes a large library of pre-scripted procedural rules that can be assembled into a hierarchy of rule sets that control every aspect of the capture process. Often derived from existing client implementations, a rule could be something as simple as verifying the required length and characters in a field intended for a Social Security number. In addition, users have the ability to create their own rules to support existing or newly designed workflows.

IBM/ Datacap: Enterprise Ready and Beyond

Since well before IBM made the decision to acquire Datacap in August 2010, Datacap's Taskmaster team has had a single-minded focus on delivering an efficient, flexible, scalable and highly configurable platform for the enterprise capture customer. The primary objective has always been to help clients reduce the amount of manual labor and steps necessary to complete a business-critical process, while exposing the business user to an unprecedented amount of control over that process. This allows the user to create their own capture workflows with little or no intervention from IT or a systems consultant.

Now that Datacap is part of the IBM ECM family of products, users can expect much tighter integration with the IBM solutions and partner stack.

Datacap Future

Now that Datacap is part of the IBM ECM family of products, users can expect much tighter integration with the IBM solutions and partner stack. For instance, in September, Datacap announced the integration of IBM's Classification Module into the product suite for analytics-based document classification. Datacap Taskmaster has also been integrated into IBM's Production Image Edition (PIE). IBM can now claim "provides a single product that manages the entire lifecycle of document imaging."

EMA Perspective

Government agencies often find that their process-reliance on paper inhibits optimum efficiency, increases compliancy risk and hinders service. Agencies looking to leverage capture technology in departmental, centralized or distributed implementations should consider the attributes of Enterprise Ready Intelligent Capture in their strategic planning efforts.

Rules-based capture solutions like IBM Datacap Taskmaster Capture that allow users to easily reconfigure process steps or include additional capabilities or actions within a process are more desirable within a complex enterprise setting, as global transportation organizations often are, where simple capture solutions do not easily meet requirements.

The IBM Datacap solution has a 20-year-plus track record of delivering innovative, stable, scalable products and support for a variety organizations and industries. Now, as an integral part of the IBM family of ECM solutions, Datacap Taskmaster is poised to deliver on the promise of a complete enterprise class document lifecycle management solution. Datacap has to be included in any Enterprise Ready Intelligent Capture solution conversation and certainly deserves to be part of any agency's Enterprise Capture shortlist.

About Enterprise Management Associates, Inc.

Founded in 1996, Enterprise Management Associates (EMA) is a leading industry analyst firm that provides deep insight across the full spectrum of IT and data management technologies. EMA analysts leverage a unique combination of practical experience, insight into industry best practices, and in-depth knowledge of current and planned vendor solutions to help its clients achieve their goals. Learn more about EMA research, analysis, and consulting services for enterprise line of business users, IT professionals and IT vendors at www.enterprisemanagement.com or blogs.enterprisemanagement.com. You can also follow EMA on [Twitter](#) or [Facebook](#).

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