NCSHA

Entry Name	**NCHFA's Electronic Document and Records Management Solution**

> Fill out the entry name *exactly* as you want it listed in the awards program.

HFA	**North Carolina Housing Finance Agency**
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Entry form with description, check(s), and visual aids (optional) must be received by NCSHA by **Monday, July 1, 2013.**

Use this header on the upper right corner of each page.

HFA **NC Housing Finance Agency**
Entry Name **Electronic Document and Records Management Solution**

Communications	Homeownership	Legislative Advocacy	Management Innovation
☐ Annual Report ☐ Promotional Materials and Newsletters ☐ Creative Media	☐ Empowering New Buyers ☐ Home Improvement and Rehabilitation ☐ Encouraging New Production	☐ Federal Advocacy ☐ State Advocacy	☐ Financial ☐ Human Resources ☐ Operations ☒ Technology
Rental Housing	**Special Needs Housing**	**Special Achievement**	**Are you providing visual aids?**
☐ Multifamily Management ☐ Preservation and Rehabilitation ☐ Encouraging New Production	☐ Combating Homelessness ☐ Housing for Persons with Special Needs	☐ Special Achievement	☒ YES ☐ NO

Background

Like most HFAs, the North Carolina Housing Finance Agency administers many diverse programs and generates tons of documents annually. In fact, about 86 tons of our paper, managed by our Office Services team, is being stored at an offsite secured storage company. To further complicate matters, each of our programs has different and complex data, documentation, retention and workflow aspects. In 2010, every document we generated was still being printed and stored. Because there was a desire for electronic documents, some of the printed documents were then scanned and stored in an imaging system called PagePoint. PagePoint was not a workflow solution, but just a snapshot of documents taken at the end of the process.

Storing a document in PagePoint meant there were now at least two copies, a paper copy and an electronic copy. But often there were even more. Having no electronic workflow system meant several copies of one file were regularly created. A single loan file could easily have one copy for the underwriter, one for legal, one for servicing. This not only created more paper, but also more confusion. Which file is the "real" file? When a change was made, was the change reflected in all versions of the file? It became apparent that "one version of the truth" was needed.

Too much paper, too much duplication and too much wasted time hunting for the final version of the truth. NCHFA needed more than an imaging of files. We needed a way to reduce costs and improve and streamline processes. Offices Services teamed up with IT to find a solution.

The NCHFA Solution – Electronic Documents and Records Management (EDRM)

> **"… hunting through paperwork is a pain. Things go missing – once it's gone, it's gone."**
> *– Charlene Smith, Manager of Hardest Hit, NCHFA*

The Agency needed a complete Electronic Document and Records Management Solution (EDRM), and with the onset of the Hardest Hit Fund (HHF) Foreclosure Prevention Program, we needed it now. With the prospect of making 21,000 loans, Hardest Hit was going to generate millions of documents.

The right solution couldn't be found in an off-the-shelf product. It needed to be embedded within the Agency's IT infrastructure, integrated into our Business-to-Business web portals and internal Line-of-Business (LOB) systems, and focused on delivering a comprehensive, Agency-wide, end-to-end solution to monitor and oversee the management of paper and electronic documents and records. Core requirements included:

- To replace, where feasible, Agency paper records with electronic records
- To provide policies and controls that comply with government regulations and industry best practices surrounding the management of electronic documents and records
- To deliver a solution that supports, and optimizes where needed, existing business processes across the Agency
- To provide a holistic solution to managing the complete lifecycle of electronic documents and records – from creation to retention to disposition
- To integrate the management of paper records with electronic records
- To reduce Agency costs by reducing (if not eliminating) the amount of paper documents stored

For our Hardest Hit Fund program, on average 2,000 documents are uploaded or generated daily and some documents are many pages long. Creating the EDRM system was a successful pilot for our Agency-

wide solution. The Hardest Hit Fund system works beautifully – no paper is generated and files are easily captured and retrieved through the Agency's HHF Portal and internal LOB systems because of a robust capture, indexing and storage system.

After the EDRM solution was built to support the HHF program, NCHFA implemented the EDRM solution for other Agency programs. To date, our concentration has been on loan and project documents, but looking forward, NCHFA will expand the solution to cover operational documents, including executive, HR and financial documents.

The accomplishments of our EDRM system are many and significant. They include:
- Document generation via document templates maintained by business users
- Document versioning – the ability to store, track, and restore documents as they change
- Document indexing (tagging) with Agency metadata for document retrieval
- Seamless integration with the Agency's web portals and LOB systems
- Document capture integration with the Agency's multi-function device printers (MFPs) and dedicated scanners
- Improved and standardized business processes
- Reduction/elimination of paper files sent offsite for permanent storage
- Accessibility – view on demand – no need to pull boxes from offsite storage
- Coming soon:
  - Records management including file plans and records retention
  - Document conversions (Microsoft Office to PDF-A for long term archival storage)
  - The beginnings of true records management and not just "records keeping"

These accomplishments are huge. They save time and money and increase efficiencies by improving and streamlining processes, reducing the possibility of errors, reducing (and hopefully eliminating) the need for costly offsite secured storage of tons of paper. NCHFA's EDRM solution is a comprehensive end-to-end solution for managing **all** Agency electronic documents and records.

Our EDRM Solution Meets the NCSHA Criteria

It's Innovative and achieves measurable improvement in agency operations
- *Paperless* -- for both internal and business-to-business operations.
- *Partner and staff time saver* – When electronic files are received via NCHFA's online portals, the documents are automatically organized, routed and ready to review. No expense and staff time needed to receive, route, organize, track and store a paper file.
- *Capture/Retrieval and Line of Business Integration* – Rather than a stand-alone document management solution, our EDRM solution works seamlessly with all our LOB systems. In this easy-to-use system, documents can be viewed and uploaded directly into the repository from within our proprietary and off-the-shelf systems.
- *Document Generation* – Why spend time creating the same documents manually over and over again when they can be automatically generated? The solution utilizes document templates, stored in separate document libraries within SharePoint that are maintained by program staff, not IT. The templates can be updated in real time whenever a change to the base document is necessary. With

one push of a button, entire loan closing packages are generated in Microsoft Word by marrying the loan data with the necessary document templates. With another push of the button, HHF loan closing docs are converted to PDF and published to the web portal for download by the Counseling Agency partner. For the 500 HHF loans closings per month, this automated process saves at least 1,400 staff hours by cutting a two-to-four hour manual process down to less than 15 minutes.

Replicable

Although proprietary, NCHFA's EDRM solution is built upon out-of-the box Microsoft SharePoint functionality leveraging SharePoint's Managed Metadata Services, Site Collections, Document Libraries, and Record Center. The entire repository is housed within several SharePoint Site Collections and their backing SQL Databases. KnowledgeLake Capture products are integrated within the MS SharePoint platform and used for document capture or "point of entry" into the document repository. Collabware CLM, records management software for SharePoint, is used for records retention and file plan management. All three products are engineered to work together to create a seamless environment and infrastructure for document and records management.

Responds to management challenge or opportunity and provides benefits that outweigh costs

How many staff hours would it take to process hundreds of HHF applications daily if the documents were received and processed as paper files? With our EDRM HHF solution, the Agency receives an average of 2000 documents per day. To date, over 1 million documents have been received, reviewed, and stored electronically. How much would that cost to process and store all that paper? The one-time cost of building the system will quickly pay for itself by the reduced staff time needed for processing, no off-site storage costs and no staff time needed to hunt for lost documents.

Demonstrates effective use of resources

NCHFA's EDRM solution was built not as a standalone system for one program, but as an architectural platform that could be consumed and utilized by its entire IT infrastructure. The solution has been rolled out across all of the Agency's programs and LOB systems. New programs, such as the NC Home Advantage Mortgage™ program, have been able to immediately launch and be quickly integrated into the LOB systems. Existing data management programs, such as the Mortgage Credit Certificate system, were enhanced to include the EDRM solution.

Achieves strategic objectives

This project clearly achieved its goal. It developed the organizational structure to encourage and support the initiative of Document Management as a sustainable, achievable core strategy for the Agency in support of its mission. Our up-front investment in our EDRM system is already saving time and money, improving efficiencies and providing a better experience for our customers, partners and staff.

EDRM Capture and Retrieval Solutions

NCHFA developed an architecture that allows for multiple document capture and retrieval solutions. Depending upon the business need and process, staff can choose from 3 different capture solutions. Storing documents within a central repository provides "one version of the truth" accessible directly within our LOB and web portal systems.

Capture Solutions

Internal

1. Upload one document at a time via the LOB System
Staff scan documents at Multi-function device/printer (MFP) then upload via the LOB System into the Document Repository. Upon upload, the document is indexed with metadata by the LOB System.

MFP → Workstation → LOB System

2. Scan and index a batch of documents
Staff scan a batch of documents with document separator sheets at the MFP or dedicated high speed scanner. The batch is held in queue and then reviewed, indexed, and sent to the repository by staff at their desk via KnowledgeLake Capture desktop software.

Scanner → Workstation
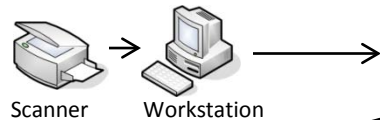
3. Upload electronic document
Staff can upload documents that originate electronically (Office documents, PDFs, etc.) directly into the repository via KnowledgeLake's Connect desktop software

Workstation

External

Partners upload documents via online web portals
PDF documents are uploaded and indexed with metadata via NCHFA's external facing web portals.

Workstation → LOB System
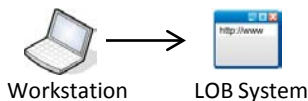
Retrieval Solutions

Internal

View/Retrieve documents
Once documents are indexed with metadata and uploaded into the Document Repository, they are accessible via the LOB Systems (both proprietary and off-the-shelf systems) directly within the context of the project/loan.

LOB System

API
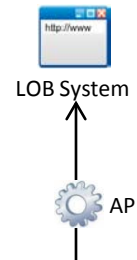
SharePoint Farm and Document Repository

KnowledgeLake Capture Server

SharePoint Web Servers
with
KnowledgeLake
Imaging & Collabware
Records Mgmt

SharePoint Database

Document Repository
NCHFA leverages SharePoint's out-of-the box Site Collections and Document Libraries to store documents. KnowlegeLake Capture and Index tools are integrated to provide a robust capture/index solution.

API
NCHFA developed a custom API to upload and retrieve documents from SharePoint within it's LOB Systems

API
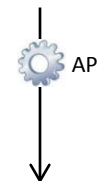
External

We Portal

View/Retrieve documents
Partners can view uploaded supporting documents at any time. For our HHF program, loan closing packages are published to the HHF web portal for execution by the partners.

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EDRM Typical Business Process

Although business processes vary, the following diagram demonstrates the flow of electronic documents via NCHFA's LOB Systems and EDRM solution for its Hardest Hit Fund.

External web portal

| Application Created | → | Supporting Documents Uploaded | | Loan Documents downloaded | → | Loan Closing | → | Executed loan documents uploaded |

Application Submitted

Documents Published to Portal

Internal LOB System

| Reviewed/ Underwritten | → | Loan Closing Documents Created | | | | Executed Loan Documents reviewed | → | Documents transferred to Record Center |

Documents auto generated using document templates and 3rd party software: Aspose Words

Document Repository

Records Center

Documents transferred to Record Center for retention. Converted to PDF-A

EDRM Line-of-Business Integration

The screenshot below was taken from our MISTR Data system. Although the full list is not visible, over 50 documents are a part of this HHF case file. They include application documents, correspondence, and closing documents.   Staff view documents by clicking on the PDF icon or by launching the "Document Browser"

EDRM Line-of-Business Integration – Document Browser

The screenshot below was taken from our MISTR Data system's document browser. Staff click the document link on the left to render/view the document on the right side of the screen