

# CASE STUDY



## US Government Records Microfilm Conversion Project

### BACKGROUND

An agency of the U.S. Government is responsible for maintaining tens of billions of pages of historical records. The agency archived the records on approximately 1.4 million rolls of microfilm, which was the de-facto record management standard from the 1940s through the 1980s. At the time the records were filmed, indexes to specific documents often were not created. Consequently, retrieving information from the microfilm is labor intensive, time consuming and costly. Moreover, the devices used to access the microform records are now becoming technically obsolete.

With advances in ribbon scanning technology making the conversion of microform records affordable, and making the information more accessible, the agency recognized it would realize significant operational and cost advantages and preservation by converting its microfilm records into digital images. GET Imaging was awarded contracts to perform the required microfilm conversion work. To date, GET Imaging has scanned more than 500,000 rolls of microfilm, containing over 5 billion images of sensitive records.

The agency's adaptation and GET Imaging's implementation of nextScan ribbon scanning technology, tracked and quality-assured by Xerox Federal Solutions, makes the project both practical and successful.

### PROJECT TEAM APPROACH

Given the complexity of the agency's project, GET Imaging opted to create and manage a team (i.e. The GET Imaging Team) of industry experts to perform the microfilm conversion work. GET Imaging manages the project, performs all scanning work, and audits the scanned images. GET Imaging chose Xerox to provide the conversion facility, the Xerox Record Center -- a nationally recognized 600 acre archival facility dedicated to the storage, protection and retrieval of vital documents. Additionally, GET Imaging chose Xerox to conduct related security services, perform production control, oversee quality control, and track each step of the conversion process. GET Imaging chose nextScan as its sole supplier of ribbon scanning technology, providing high-speed microfilm scanners, viewing software, and engineering/maintenance support.

GET Imaging constantly scans 2,000 to 3,000 rolls of microfilm each day using 7 nextScan Eclipse 2000 microfilm scanners. About 25 million filmed images per day are scanned. GET Imaging conducts conversion operations 24 hours per day 5 days per week.

Within Xerox's secure records storage center and a dedicated conversion facility, physical, personnel, and information technology security functions are led by Xerox, thus leveraging its expertise in Federal security regulations. Xerox manages the inventory of in-process microfilm records with real-time tracking, while capturing indexing images and creating visual aids to enable the agency to update or validate their own inventory for accuracy. Additionally, Xerox reviews all scanned images to ensure quality and readability.

nextScan furnishes its most up to date ribbon scanning technologies which include the Eclipse 2000 microfilm scanners and an enhanced version of the NextStar PLUS production software. Each nextScan Eclipse scanner captures more than 4,000 filmed images per minute. The nextScan NextStar PLUS software includes VirtualFilm viewer, which the agency uses to search for and retrieve scanned images contained in the delivered ribbon files. The combination of NextStar PLUS and VirtualFilm viewer software allows the agency to continue to largely use its existing workflow policies and procedures much more efficiently. The VirtualFilm viewer is replacing the agency's outdated reader viewer/printers. It is also saving time and labor and allows instant PC access to the scanned images of the records.

## PROJECT WORKFLOW

The GET Imaging Team designed, developed, and implemented a conversion system tailored for the agency's project. The conversion system leverages the team members' existing technologies, practices, and procedures. Simply put, each team member contributes capabilities and resources that it has a long track record of successfully delivering. The conversion system incorporates a workflow that is common to most microfilm conversion projects; however, it is highly customized to satisfy the agency's unique requirements. The workflow involves the following major processes:

- *Shipping & Receiving*—transporting about 50,000 rolls of microfilm per shipment to and from the storage location in refrigerated trailers to safeguard the microfilm records
- *Inventory Control*—verifying the receipt and dispatch of all rolls of microfilm to include capturing a photograph of critical indexing information and notes contain on each roll's label
- *Indexing*—leveraging The agency's existing database and workflows to limit indexing to the microfilm roll level, eliminating the need to manually index every scanned image
- *Scanning*—capturing grayscale ribbon files using JPEG XR compression to greatly reduce SAN storage space while providing digital images that faithfully mirror the legibility of the source microfilm images
- *Auditing*—saving only ribbon files to eliminate all labor associated with framing, de-skewing, an cropping individual images
- *Quality Control*—verifying the output definition assigned to ribbon file and sampling quality across each roll of microfilm to assure legibility
- *Quality Assurance*—performing customer inspection and acceptance function remotely to provide timely review of work in-process before final output
- *Export/Import*—utilizing custom software utilities to export/import the ribbon files and associated index records to high-capacity encrypted USB hard drives to eliminate the need to electronically transmit massive amounts of data while ensuring security of the digitized data

## PROJECT CHALLENGES AND SOLUTIONS

The agency's project presents many challenges that required innovative solutions which are likely relevant for other future large complex microform conversion efforts. The GET Imaging Team's solutions differentiate them from other competitors that provide microform conversion goods and services. Some of these key challenges and solutions follow:

REQUIREMENTS	GET IMAGING TEAM SOLUTION
The GET Imaging Team must transport and store microfilm records at below 55 degrees Fahrenheit	GET Imaging uses a commercial carrier to ship the microfilm records dock-to-dock in refrigerated trailers. The GET Imaging Team conducts the storage and conversion operations at the Xerox Record Center, a climate controlled facility that is compliant with microform archival requirements.
The GET Imaging Team must adhere to stringent Federal information and physical security requirements throughout the conversion process	Xerox furnishes expert security managers that fully understand all applicable government security requirements. Xerox provides a secure processing facility and IT systems equipped for the processing of sensitive records.
The GET Imaging Team must maintain positive control of the all microfilm records and fully documented the Chain of Custody at all times	Xerox tracks and safeguards all microfilm records throughout the conversion process, providing complete inventory of all microfilm records with each exchanged shipment. Xerox provides real-time tracking of all microfilm records in an automated production control system. To date, the agency has enjoyed 100% records accuracy.
The GET Imaging Team must deliver photographs of each roll of microfilm's box label	Xerox captures and associates photographs of the microfilm storage boxes with indexes during the in processing of each shipment of microfilm records. The photographs are retrievable using the software viewer and index records.
The agency requires the conversion of 1.4 million rolls of microfilm...an exceptionally large project	nextScan developed and delivered a scanner that captures up to 4,000 images per minute. GET Imaging scans 2,000 to 3,000 rolls per day. Ultra-high speed scanning reduces labor costs associated with converting the massive quantity of the agency microfilm records.
The agency has many formats of microfilm and quality varies dramatically between rolls	GET Imaging uses ribbon scanning technology to minimize changes in scanner set up for different roll formats; eliminate the need to identify image boundaries; and perform cropping. The GET Imaging captures grayscale images virtually eliminating the need to rescan any rolls and allows for further enhancement of the resulting digital images. nextScan's Lumintec Strobed illumination system provides significantly higher definition images with smaller file sizes.

REQUIREMENTS	GET IMAGING TEAM SOLUTION
<p>The agency requires immediate access to the converted images and has limited storage space</p>	<p>nextScan uses grayscale JPEG-XR (Extended Resolution) format when scanning the microfilm records to digital ribbons. The digital representation of each roll of microfilm in grayscale JPEG-XR format best mirrors the quality of the source microfilm records while greatly reducing storage space requirement. The ribbon files are in full grayscale not just black &amp; white, so the source microfilm records are actually preserved in full original fidelity. JPEG-XR compression dramatically decreases file sizes vs. standard JPEG, thus reducing the agency storage space requirements and speeding retrieval times.</p>
<p>the agency must perform inspection and acceptance of the delivered ribbon files and database records</p>	<p>Xerox and the agency perform quality control reviews on work in-process. Random samples are reviewed using statistically sound techniques thus ensuring deliverables consistently meet contractual requirements. Use of random sampling provides timely feedback, greatly reducing labor required to perform quality reviews.</p>
<p>The agency's existing workflow and database records meet its operational requirements...they need more efficient access and enhanced redundancy</p>	<p>Xerox performs roll level indexing allowing the agency to eliminate its use of microfilm reader viewer/printers without significantly altering its other workflow processes. Excessive indexing costs are avoided by not indexing at the individual document level. Digital copies of documents are the final deliverables, providing the agency with redundant copies of its vital information..</p>
<p>The agency is faced with mounting costs to maintain its obsolete microfilm reader viewer/printers, storage units, and office space dedicated the physical storage of the microfilm</p>	<p>nextScan developed a software viewer that mimics the functionality of a traditional microfilm reader viewer/printer. The agency uses the nextScan Virtual Film viewer to retrieve, view, and print the digital representations (i.e. ribbon files) of the documents. As microfilm records are progressively converted, the agency is freed from maintaining its microfilm reader viewer/printers and storage units. Office space dedicated to storing the microfilm records and performing physical retrievals has been reassigned to other uses.</p>
<p>The agency requires customized import utilities to upload database records and ribbon files into its production system</p>	<p>nextScan developed and delivered a scanner that captures up to 4,000 images per minute. GET Imaging scans 2,000 to 3,000 rolls per day. Ultra-high speed scanning reduces labor costs associated with converting the massive quantity of the agency microfilm records.</p>



## PROJECT INSIGHTS

Leaders of the project team provide insights from their perspective:

◆ GREG REGENS, PRESIDENT

GET Imaging

“For many years, the agency contemplated converting its microfilm records into individual TIFF images files, indexed at the document level. Such an approach would have required extensive manual indexing and quality control work...driving up the project’s cost well beyond The agency’s budget. Only after the agency recognized the advantages of nextScan’s ribbon technology, did it become practical for the agency to convert its huge collection of microfilm records. Since the Eclipse 2000 is the fastest microfilm scanner available, GET Imaging is maximizing the efficiency of our scanner operators. By performing indexing at the microfilm roll level, we are both mirroring the agency’s current workflow and eliminating enormous manual indexing costs. Since image boundaries and appearance characteristics can be adjusted by future users, we don’t have to perform nearly as much quality control work during the conversion process. nextScan ribbon scanning technology allows GET Imaging to complete the conversion work at an affordable price to the agency.”

◆ KURT BREISH, GENERAL MANAGER

nextScan

“Many large governmental and corporate entities have delayed the conversion of critical microfilm and microfiche libraries due to project costs.” It is nextScan’s mission to bring new technology to the marketplace with faster scanning speeds, better image quality and customized workflow so that the cost of projects is reduced and these critical film stores can be preserved at a price point that is affordable.

◆ XEROX PUBLIC SECTOR SOLUTIONS

Xerox

“Xerox Federal Solutions is dedicated to helping Federal agencies enhance their operations to better serve their constituents,” said Bill Cornelius, Transaction Capability Leader of Xerox. “We can think of no more concrete an example than serving on a team working to enable the agency to not only more effectively maintain the records, but also make them visible to their otherwise unaware recipients.”

## ABOUT GET IMAGING



GET Imaging has been converting microfilm, microfiche, aperture cards and paper records since 1998. They have converted tens of billions of records and have an unsurpassed capacity and years of experience successfully executing everything from small to very large and complex conversion jobs across multiple industries. GET Imaging operates a secure 55,000 square foot document management facility equipped with high-volume document conversion scanners. They are an Oklahoma corporation and employ a local workforce. GET Imaging is a Certified Service Disabled Veteran and Small Business (SVDOSB). They also hold GSA Schedule 36. [www.getimaging.com](http://www.getimaging.com)

## ABOUT XEROX PUBLIC SECTOR SOLUTIONS



Xerox Public Sector Solutions helps government agencies transform their operations and business processes to better serve their constituents, now and in the future. Driving innovation through analytics, research and data, we work with 1,700 clients at the federal, state, regional and local level in all 50 states and 34 countries around the world. Learn more at <https://www.xerox.com/en-us/services/public-sector-solutions>

## ABOUT NEXTSCAN



nextScan is the leader in cutting edge technology for the Micrographics Conversion and Document Management Industry. nextScan's patented technology is world renowned for cutting costs and increasing user production. nextScan products are designed with cutting edge camera and lighting components and the latest in image enhancing and document management software. nextScan provides a full conversion solution that far exceeds the speed, functionality and return on investment when compared to other scanners in the market. Some of the industries nextScan serves are government entities, archives, libraries, and conversion service bureaus. nextScan a division of Digital Check Corp. is held and headquartered in Meridian, Idaho, USA. [www.nextscan.com](http://www.nextscan.com)