

# TAKING ON A DATA MIGRATION

## Overcoming the fear of a technology upgrade



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Most organizations understand that their information is as critical to their success as personnel and equipment. This is especially true for those involved in right of way projects. With so many different pieces of data to rely on, ensuring your staff has immediate access to what's needed, when it's needed, only makes good business sense.

Just think how many ways the information you have collected can influence your right of way activities. Project information is needed by field agents, the project team, internal management and the accounting department, among others, thereby making your company's information one of its most valuable assets. However, many organizations are still struggling with accessing their own information because it's housed in various formats and in different places. From paper files and scanned documents to PDFs and TIFFs, accessing this information when your staff needs it may be causing an unnecessary loss in productivity.

### Creating Efficiencies with Technology

To keep your organization productive, you may need to upgrade your technology and move all your data into a centralized system. This means that sooner or later, you will likely need to consider a data migration. Data migration involves transferring information from various sources into a single software solution. It requires extracting data from its original source, correcting errors, reformatting it and loading it into one easily accessible location. Once it's centralized and ready for use, right of way agents and other staff can access reports quickly and enter new information easily. In turn, the updated data becomes immediately available to other users.

A data migration and technology upgrade is simply a part of staying competitive in today's business world.

Understandably, company representatives want assurance that the process will be completed seamlessly and without damage to the original data. While such concerns are justified, the need for a data migration need not serve as a roadblock for an organization that wants to upgrade its technology. With new techniques and proper planning, the efficient transfer of information offers a valuable opportunity for improving the bottom line.

### Data Migration Challenges

The issues and challenges associated with data migrations will vary from one organization to another. For many, information is stored in different file formats, housed on multiple computers and subject to closely guarded proprietary techniques. The right technology can overcome these issues and make the necessary modifications so that the information is stored centrally and consistently within the organization's database.

For example, there are usually variations in how the staff has input information into a database or spreadsheet. Unless the data fields are specifically defined, as with many online forms, it's nearly impossible for a company to avoid inconsistencies caused by abbreviations and other format discrepancies. To demonstrate the kinds of challenges frequently associated with data migrations, the following examples may be helpful.

#### Example 1 - Abbreviations

During the process of identifying and acquiring right of way, an organization may find that multiple tracts are titled to the same individual. However, if the individual's contact information has been entered into the system in inconsistent ways, the system may view one person as multiple individuals.

In this first scenario, there is no way to verify if the same person owns all three properties.

<b>Tract #1</b>	John Doe
<b>Tract #5</b>	John Doe
<b>Tract #7</b>	John Doe

In this second scenario, it is easy to see that the first two John Does have the exact same address, and are therefore the same person. However, the abbreviations used for the street and state for Tract #7 might make it appear to be a different owner. In a data migration, a matching logic can alleviate this problem.

<b>Tract #1</b>	John Doe 2522 Johnson Street Houston, Texas
<b>Tract #5</b>	John Doe 2522 Johnson Street Houston, Texas
<b>Tract #7</b>	John Doe 2522 Johnson St Houston TX

Maintaining separate records for each tract can result in duplication of the data if appropriate precautions are not taken during the data migration process. However, using the right technology can cleanse the information, thereby ensuring accuracy and consistency without the need for manual intervention and scrubbing. By using an advanced approach, the system can produce a report that identifies potential duplications. With this kind of increased project efficiency, right of way agents and project planners do not have to search multiple files for information on tracts owned by the same individual.

### Example 2 – Inconsistent Formats

Similar to the issue with street and state abbreviations, there might be other kinds of variations in the current system. Consider, for instance, the different ways a telephone number can be input:

(614) 555-1212
614-555-1212
614.555.1212
614 555 1212
6145551212

A data migration can convert all these variations into one standard format – whichever one you select – and ensure consistency in the data.

### Example 3 – Condensing Files

Duplicate data on the same tracts stored in different formats can be condensed into one file in a single format. For instance, an organization could have a spreadsheet with information on multiple tracts, and also have file-sharing on its network for associated documents for those tracts.

Many organizations use a file-naming convention or folder structure to associate the scanned/electronic documents with the tabular/tract data. With proper planning, this data can be brought together. Through data migration, the information is extracted from the two sources and associations are created as data is loaded into the new system. Done correctly, this can streamline the process of accessing all the information for your projects and tracts, regardless of the original format.

However, small oversights can result in missing documents. If this happens, chaos and a sense of distrust in the new system might occur among the end users. Extra care must be taken for data validation and the treatment of orphan documents. These are documents that cannot be associated with the appropriate projects or tracts because the convention established may not work. Typically, this is the result of something as minor as a typo. In these cases, the information can be manually arbitrated, but building appropriate reports can ease the process of addressing these exceptions.

### Example 4 – Ownership Percentage

Oftentimes, there can be a variation in how property ownership is entered into the system. For instance, consider a scenario where one tract is owned by three individuals and each person owns a different percentage. In this case, different spreadsheet formats were used to display what percentage of the tract was owned by each individual:

<b>Owner A</b>	<b>15</b>	<b>Owner A</b>	<b>.15</b>
<b>Owner B</b>	<b>25</b>	<b>Owner B</b>	<b>.25</b>
<b>Owner C</b>	<b>60</b>	<b>Owner C</b>	<b>.60</b>
	<b>100</b>		<b>1.00</b>

Such variability in data entry is common when clear guidelines have not been provided for entering the data. It can also occur when using an uncontrolled environment like a spreadsheet. Although each set of data is accurate, migrating from two spreadsheets into a single system may result in inaccuracies, depending on how the ownership is interpreted in the system. A data migration can extract information from the two spreadsheets and consistently assign ownership of the tract by percentages as follows:

<b>Owner A</b>	<b>15%</b>
<b>Owner B</b>	<b>25%</b>
<b>Owner C</b>	<b>60%</b>
	<b>100%</b>

## Success Stories

It is a common misconception that information that exists in a variety of forms and files cannot be migrated without serious disruption to a company's workflow or that the information cannot be retained in its original format. However, with proper planning and leveraging the right set of technology, organizations can reach effective solutions to address these concerns.

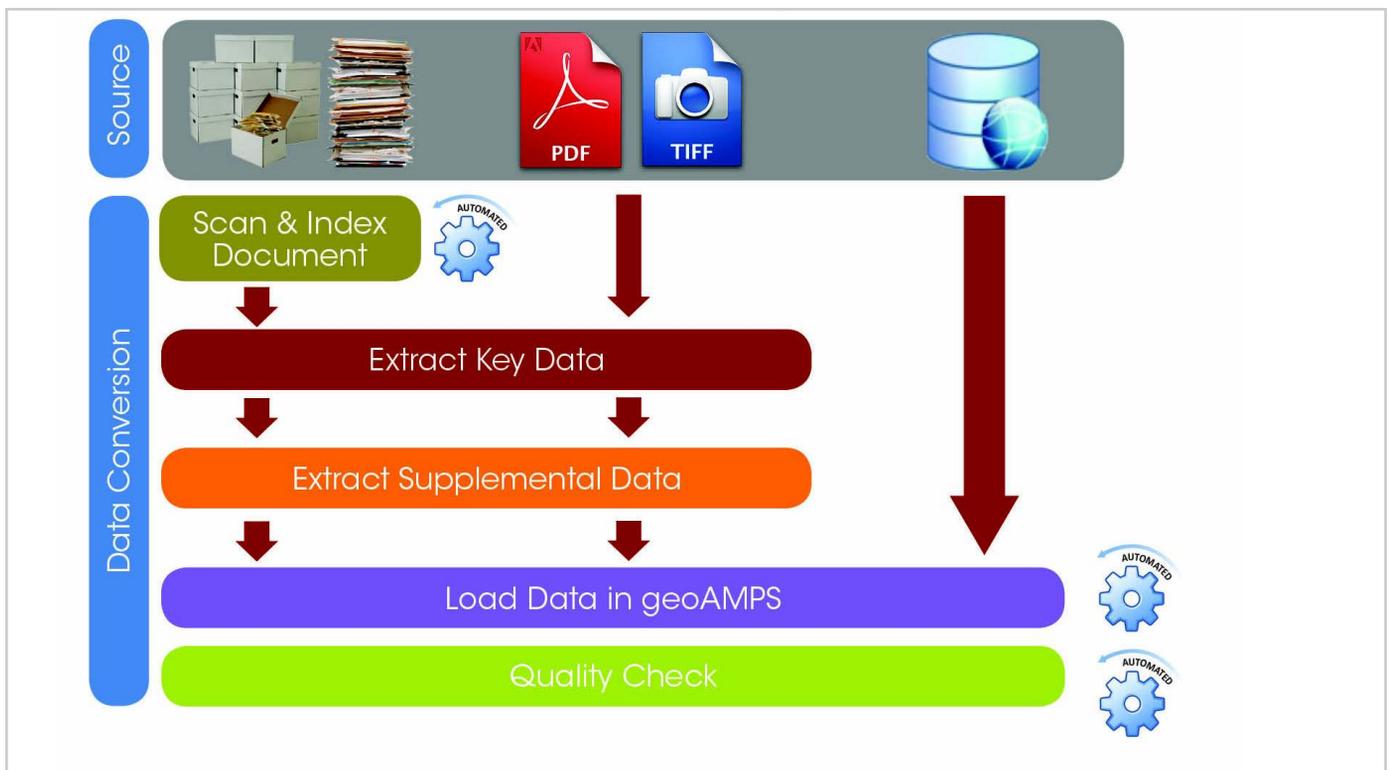
One of our clients decided to improve the efficiency of its right of way project oversight through a data migration. The organization's existing spreadsheet system was difficult to use and lacked technical support. The information included parcel owner name, corporation, address and telephone number, but it was inconsistently stated in the various fields and columns of the spreadsheet. The existing files were comprised of a series of spreadsheets providing information on 14 projects and 5,697 tracts. This information was extracted from 14,575 scanned documents. Configuring the appropriate computer software, doing the necessary quality checks and providing the necessary technical support were critical to the successful migration. Once completed, the process successfully integrated the data into a consistent format that was easy to use. This particular data migration project was planned over a two-week period and executed overnight without any issues.

A second client posed a more complex challenge. This particular company sought migration of data for 1,148 projects. These projects included 49,633 tracts and 523,879 documents. Not only did the organization want the efficiency of having information stored centrally and presented consistently, it also wanted the information reconfigured back to the original format in which it had invested much time and resources. So, as the migration progressed, the software reconfigured the data in real time to preserve the original format while achieving centralization and consistency. The business continues to use the system, which has been a key part of its organizational strategy. The data migration was planned over a one-month period and executed overnight without issues.

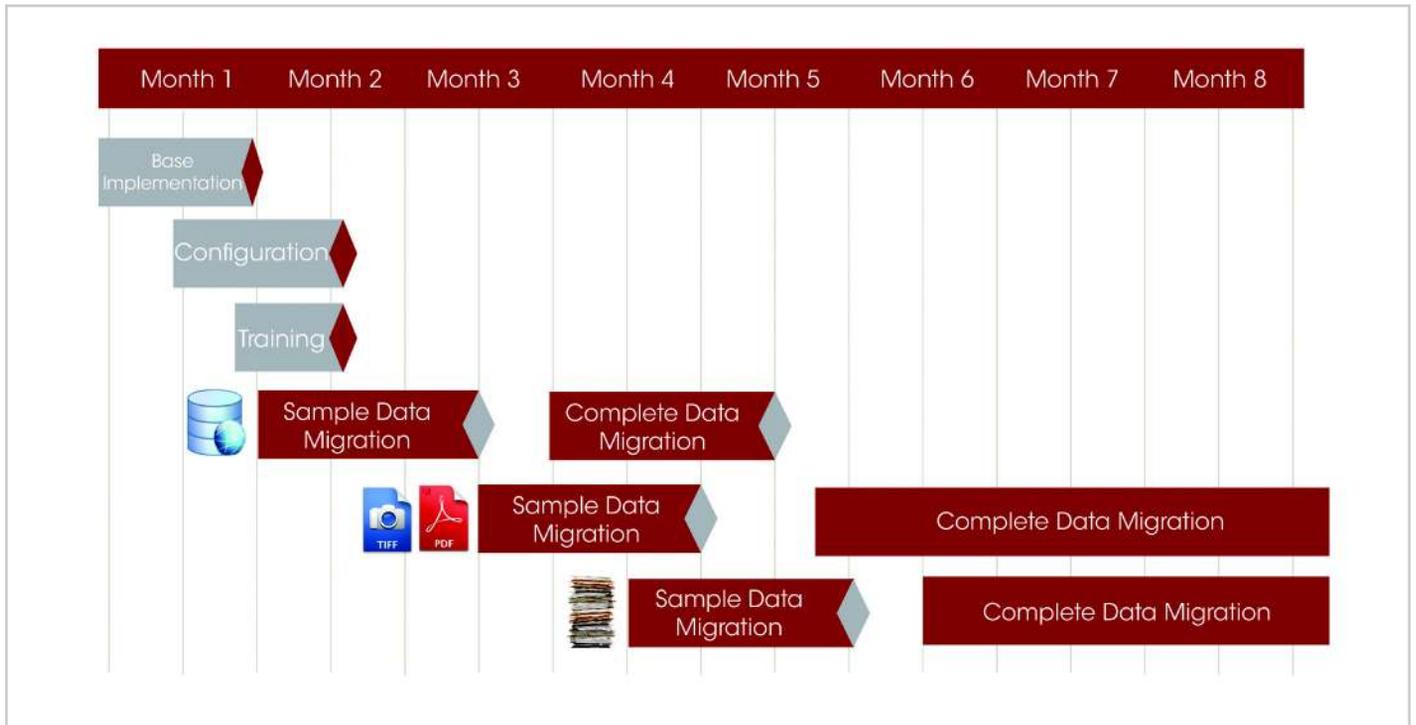
## Developing a Plan of Action

A data migration project should dedicate adequate time to specify, build and rigorously test the new system. Selecting a provider that starts planning for a data migration early and has an established approach will make a technology upgrade a smoother and quicker process. Also, if all the key issues and main concerns are identified and addressed up front, the right technological solution can be determined in the most cost-effective manner. Figure 1 shows an example of the stages involved.

Figure 1: Stages of Data Migration



**Figure 2:** Estimated Timeline for Data Migration



There is no one-size-fits-all solution, and data migrations require close collaboration between business and technology teams. While each migration project can be somewhat unique, organizations can use a general framework to plan a successful project implementation. Figure 2 shows an estimated timeline of custom-tailored migration solution.

A personalized solution can be created using these basic steps:

- 1) Identify the current storage environment, including known issues.
- 2) Create a data migration plan and timeline, including success criteria that helps identify the end of the project.
- 3) Develop and design requirements for moving the data.
- 4) Create the migration architecture for the data migration, addressing any security concerns surrounding protecting the data during the migration process.
- 5) Develop and test extensively, ensuring accuracy and reliability.
- 6) Implement the data migration through a pilot phase with an eventual roll-out into a complete migration.

### A Strategic Approach

Data migrations are challenging and can lead to problems if not completed properly. However, the choice of not doing a data migration can leave an organization with information wrought with errors and inconsistencies, leading to decreased productivity.

When your right of way organization decides to implement a new technology solution that is both user-friendly and easy to manage, ask questions, do the research and learn as much as you can about the plan your technology provider is creating. With the different types of software currently available, moving from one format to another is a low risk if the migration is handled by competent individuals who are familiar with the needs of right of way professionals. By carefully selecting a provider that uses a strategic and methodical approach, your technology upgrade can be quick, efficient and make a positive difference in your business.

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