An Overview of the Land Records/GIS Integration Initiative for Assessment Officials
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Overview
The integration of land records and GIS/CAMA could be the next significant impact on local government management and automation. With the PRIA launch of the land records/GIS integration initiative, the land records community is realizing integration benefits even before the GIS/CAMA community. Simply put, integration means that land records are linked, enabled, or connected to GIS/CAMA functionality and data sets; this allows users and uses to access one set of records from another. Familiar keys to a GIS/CAMA user, such as PINs (parcel identification numbers), UPIs (uniform parcel identifiers), property owner names, or situs/location addresses, can also be used to access instruments, such as deeds, mortgages, satisfactions, right-of-ways, easements, or releases. Conversely, if instruments are indexed by UPI number or PIN, then GIS maps and CAMA records can easily be accessed or organized. The assessment community will be a major benefactor of this integration because many key updates for the CAMA system may originate with recorded documents and instruments. With integration can come significant workflow improvements: CAMA updates are available in a more timely manner and fewer errors occur with chain of title and property transfers.

This connectedness ensures that the record cross-references are accurate and correct. Staff is responsible for these cross-references and verifications; therefore a focus on record accuracy greatly heightens successful record utilization. The title preparer is still responsible for accurately preparing the records for recordation including any UPIs or PINs.

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This integration is so powerful that new revenue streams are now possible. Revenue streams and return on investment are substantial and can easily cover any cost of system integration. By using modern economic models, such as net present value and internal rate of return, new land records/GIS integration revenue streams will garner much attention. The most critical revenue stream of all may be better, faster, and more accurate updates of key data needed to keep the tax roll current.

A Possible Scenario
A resident wants to add a deck to his or her property, but before he can apply for a building permit, the township code enforcement officer says a map showing the residence’s setback to the side and rear property lines is

Editor’s Note: This article is based on a Property Records Industry Association (PRIA) brief that is part of the recently approved PRIA land records/GIS integration initiative (May/June 2010). Other deliverables and tasks for this initiative include several briefs, workshops, blogs, wikis, Webinars, and the like. The bibliography at the end of this article lists currently available PRIA materials concerning the LR/GIS initiative. More details on this multiyear initiative are available at www.pria.us. The statements made or opinions expressed by authors in Fair & Equitable do not necessarily represent a policy position of the International Association of Assessing Officers.
needed. The only information the resident has is the property tax bill with the PIN and of course the address.

The resident goes to the recorder of deeds office in the county courthouse annex and asks for assistance. The recorder’s office staff member asks the resident, “Where is your property?” The resident gives the staff member the PIN and the situs (location) address; the PIN is entered into the computer; and the map is displayed on a computer screen that faces the resident, along with the following information:

- The property owner’s name
- The situs address, another key step in verifying the proper property
- Key assessment data from the CAMA system, which further verifies the property owner’s name and mailing address, current valuation, property size and last year’s tax payments
- The resident’s house on the aerial photograph, another verification step.

“Yes,” the resident says, “that is my property, next to the one on the corner! Could I please get a hardcopy of the map in color, 8.5 × 11?” “Yes,” the staff member replies. The resident says, “Could I also get a copy of my deed instrument from when we refinanced our home?” “Sure,” says the staff member, “it is right here too for a small charge.” The resident is pleased to receive all the necessary information in one convenient place. “You wouldn’t happen to have the floodplain map handy for my property as well?” “Yes, I can add that to the map before we print it, I’ll just have to zoom out a bit.” The resident walks away with a map he can use for the deck application with the township, all for a nominal sum, without having to visit multiple offices.

This scenario is not at all far-fetched. And, in fact, if the resident had been slightly more computer savvy, he or she could have done much of the same work at home on the Internet for a small additional fee and saved the trip to the courthouse annex.

The convenient by-product of this approach is that all the building permits for property improvements (e.g., decks) are organized and available later for assessment staff when they conduct their valuation reviews for the next year.

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PRIA Land Records/GIS Initiative
The objective of the PRIA initiative is to link familiar land records functions and processing with map and geographic functions and entities available elsewhere, normally in a county’s GIS and CAMA systems. Integration allows for GIS functionality to be used to access or query traditional land records by other nontraditional keys, such as PIN, UPI, tax account, property owner’s name, or situs (location) address information. Traditional keys such as deed book and page, instrument number, or grantee or grantor still need to be available and supported. However, more keys are available for accessing land records via integration. Integration also offers new methods of map access to find land records, for example, print the deeds and valuation records for all properties affected by a proposed street widening along Fourth and Fifth Avenues. Integration also allows for unique access and unambiguous cross-referencing among related records. This access and unique cross-referencing should be consistent over time and from year to year.

Land records, assessment/tax records, addresses, and GIS map/records have often been developed on a stand-alone basis, with integration only recently being discussed. These programs could be viewed as stand-alone automation, or silos, as they are commonly described. Integration is often difficult to effect since commercial off-the-shelf (COTS) software usually focuses on specific solutions. Other functional software may be home-grown, or local technical staff may not have the expertise to undertake complex system design and implementation, much less integration among diverse third-party software products with source code unavailable for modifications. Moreover, integration is not often attempted because any automation project involves risk and the more functions or interfaces included, the riskier a project can become. In other cases, different departments or elected officials are each responsible for their own functions and integrating them often has no high-level patron or promoter.

Risks
The risks of integration are as follows:

- Stand-alone third-party COTS products do not allow for (easy) integration.
- The focus or responsibility most often is at the departmental level.
- Separately elected officials may have little impetus to work together or coordinate their functions, activities, or automation; the enterprise perspective is often missing or lacking.
- Local technical staff lacks the skills to understand, much less undertake, integration.
- The cost of integration is often high, and few possible funding sources are available.
- The benefits of integration have not been well defined (until now).
Benefits
Nevertheless, some governments and organizations have found that integration can provide considerable benefits in its own right. Integration has a synergistic effect in which the whole sums to more than the component parts. In some cases, this synergy is palpable and even fundable. If integration is done properly, this synergy can improve most functions, even at the departmental level. This value-addedness strengthens each of the contributing processes in measureable ways. Shortened workflows and more efficient daily processes can affect productivity and costs on a daily basis in multiple departments. There are fewer errors and transfer mistakes.

The benefits of integration are as follows:

- With more records easily accessible and linked together, more information or knowledge is available.
- New methods, or keys, are available to access familiar records.
- With more staff examining and checking the same records, errors are minimized and mistakes are reduced.
- New access methods allow for support of new functions.
- New access methods and new functions allow for new funding sources and new revenue streams.
- Integration allows for more workflow intersections, improves timing, and establishes update/maintenance triggers, for example, desktop valuations.
- Workflow intersections allow for speedier processing, less data redundancy, and timing efficiencies.

Summary
Land records/GIS integration makes strong economic and business sense. With integration, a county's land records, GIS, tax/assessment/valuation, and address data are more valuable. The collective records are much more useful to more people. Because key record cross-referencing begins before instrument recordation, land records/GIS integration is initiated at the start of many key workflow processes.

Bibliography


Urban and Regional Information Systems Association (URISA) and International Association of Assessing Officers (IAAO). 1999. GIS guidelines for assessors, 2nd ed. Park Ridge, IL: URISA; Chicago: IAAO.

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Glossary of Terms for Land Records/GIS Integration

12 Steps of Land Record Modernization. A global view of all the activities of a modern clerk or recorder’s office to provide new and better methods for storing, accessing, and using land records by a local government agency and its partners. Would include larger integration opportunities with GIS, addressing, and CAMA/assessment systems and workflows.

Cover sheet. Used in some locales to collect consistent instrument details on the first sheet of the document submission.

Grid parcel identification number (GPIN). A potential common identifier developed from the X–Y property centroids, usually calculated and stored by the GIS. The GPIN focus helps to ensure that any changes in a parcel’s boundary or line work will generate a unique new key. The GPIN has other attributes that need to be understood prior to adoption—some good and some bad.

Legal descriptions. Textual descriptions of real property boundaries. Not always included in some instruments in some locales. Usually needed to verify a property’s location, shape, and size.

Mailing address. United States Postal Service designation of the property owner. Separate and distinct from the situs/location address. The mailing address may relate to a Post Office box. Should be stored in digital systems as a series of separate fields using the U.S.P.S. mailing address standard.

Monuments. Physical locations related to a property that have a certain permanence attached to them regarding the legal description and boundaries of the property. Monuments are often referenced in legal descriptions (in recorded instruments, such as deeds) and are used in mapping.

PIN (parcel identification number). Key or identifier used by assessors to identify property taxation and valuation records. Note that multiple formats of the one identifier may exist due to various computing system implementation and staff utilization/interpretation.

Property Records Industry Association (PRIA). Organization of clerks, recorders, registers, title community, and industry members who are responsible for land records and public recording of documents.

Pixels. Picture elements, associated with a scanned image or document or a picture or (aerial) photograph in a GIS context.

Short legal. Term often referring to a lot number or previously recorded instrument, such as a subdivision plat, where the short legals are referenced and/or drawn or mapped.

Situs address. The location or place address of a property, house, business, or residence, as distinct from the mailing address. An addressing format or standard should be used to ensure consistent capture of situs addresses across multiple county functions, departments, and levels of government.

State plane coordinate (SPC). Used in most GIS formats for simplified mapping onto a planar coordinate system usually defined for a large portion of a state. Every county is normally in only one SPC system. GIS easily calculates from SPC to other projections or to latitude and longitude.

UPI (uniform [or universal] property [or parcel] identification number). Shared identifier, as used in Pennsylvania, that can represent a full legal description. Implies that the map, the legal description, and UPI number are synchronized over time. A common identifier that can be used by multiple agencies/departments/governments to identify real property by referencing map features, deeds or instruments, and the like. Can become a new index field for recording and searching for documents.

Urban and Regional Information System Association (URISA). Association of GIS professionals.

Vectors. Graphic elements normally drawn from endpoints with points of change described along the boundary, usually representing boundaries of a parcel, deed, right-of-way, or legal description.