

# Real Estate Information Technology

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# Integrating Real Estate Property Information Data Standards into Financial Business Processes

John Cirincione\*

## Abstract

*This paper explores the requirements and solutions for integration of real estate property information data standards into financial industry business processes, and the necessity of adoption. Most business processes do not benefit from open data standards because they are locked within proprietary systems. A commitment to adopt open data standards has the potential to leverage current Information Technology (IT) investments with dramatic improvement in unforeseen ways. However, with data standards, other factors related to technical interoperability, understanding of a given business process, and education are crucial for optimum success. This paper addresses how the Mortgage Industry Standards Maintenance Organization (MISMO) operates with the mission to develop, promote, and maintain open specifications for real estate information as a data standards body to facilitate business processes more efficiently.*

Perhaps no other industry has such an enormous investment in collecting real estate data as the traditional mortgage and financial industries. Over the decades, lending institutions, real estate professionals, government service agencies, consultants, and numerous others have spent tens of billions of dollars collecting real estate data in proprietary formats that require redundant re-key efforts without ever leveraging benefits from reuse. Most information that has already been collected by others to the same business is not readily available, so it needs to be collected again, redundantly.

Needless to say, we are going through a communications and computing revolution. Within this context, there is a clear shift in attitudes towards the development and benefits of common data standards. The competitive mandate to seamlessly integrate systems between business relationships has created a growing need to adopt a common and freely open data standard infrastructure. Standardization is the reason for the success of the Internet, the World Wide Web, e-Commerce, and the emerging wireless revolution.

Just as the Internet has changed the way we access information and share information, data standards enable new ways we can seamlessly share and integrate real estate information throughout a work flow process.

Systemic changes underway in capital markets only increase the need for efficient data interchange in the mortgage industry. The many cross-over points where one open data standard interfaces with other standard efforts demands portable capability

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across industry verticals. Integrating open data standards into solutions and business processes provides the path to achieve this goal. This requirement cannot be met without a commitment to the concepts of Open Standards and Interoperability.

## What is an Open Standard?

The term “open standard,” as measured by Google ranking, is the one developed by Bruce Perens. His definition lists a set of principles that must be met by an open standard:

1. **Availability:** Open Standards are available for all to read and implement.
2. **Maximize End-User Choice:** Open Standards create a fair, competitive market for implementations of the standard. They do not lock the customer in to a particular vendor or group.
3. **No Royalty:** Open Standards are free for all to implement, with no royalty or fee. Certification of compliance by the standards organization may involve a fee.
4. **No Discrimination:** Open Standards and the organizations that administer them do not favor one implementor over another for any reason other than the technical standard’s compliance of a vendor’s implementation. Certification organizations must provide a path for low- and zero-cost implementations to be validated, but may also provide enhanced certification services.
5. **Extension or Subset:** Implementations of Open Standards may be extended, or offered in subset form. However, certification organizations may decline to certify subset implementations, and may place requirements upon extensions (see Predatory Practices).
6. **Predatory Practices:** Open Standards may employ license terms that protect against subversion of the standard by embrace-and-extend tactics. The licenses attached to the standard may require the publication of reference information for extensions, and a license for all others to create, distribute, and sell software that is compatible with the extensions. An Open Standard may not otherwise prohibit extensions.

Simply put, “an open data standard means your software and systems works with mine, independent of vendor, like Web browsers and Web servers.”

## What is Interoperability?

The encyclopedia refers to interoperability as connecting people, data, and diverse systems. The term can be defined in a technical way or in a broad way, taking into account social, political, and organizational factors.

To be interoperable, one should actively be engaged in the ongoing process of ensuring that the systems, procedures, and culture of an organization are managed in such a way as to maximize opportunities for the exchange and re-use of information, whether internally or externally.

Organizations will need commitment to an interoperability focus on real estate property information open standards, collaboration, and staff retraining. While these commitments may seem self-evident, if the organization does not fully embrace the interoperable architectures, then long-term success in integrating standardized real estate information processes into business processes will likely be problematic. A change in the corporate culture can be difficult without adopting an effective business context solution.

## **Why Commit to Interoperability?**

Without a corporate or enterprise commitment to interoperability and a concept of open systems, an organization cannot effectively integrate standardized real estate property information services and processes into their overall business processes. Historically, real estate data and technology have been implemented as in proprietary format internal to a given department or an organization. As a result, over time the enterprise implements systems from multiple technology vendors, each system accessing mission specific tasks without interoperable systems.

A framework policy of interoperability makes possible enterprise-wide sharing of real estate data. It is also possible to leverage and extend the value of legacy applications.

The team should build a document with the appropriate data standards and body specifications that provides engineering guidelines for implementation and optimal success. An excellent example of such a document is the specifications provided by the Mortgage Industry Standards Maintenance Organization (MISMO). This organization has published specifications that support mortgage insurance application, mortgage insurance, secondary, bulk pricing, real estate services, credit reporting, and underwriting processes. The specifications are freely available via the MISMO website for industry implementation.

MISMO is a financial standards body organization that was chartered by the Mortgage Bankers Association (MBA) in 1999 as a non-profit subsidiary. It develops XML-based data standards for the mortgage industry and operates in an open, transparent and vendor-neutral manner. MISMO supports community collaboration by providing the [www.mismo.org](http://www.mismo.org) website, electronic balloting, community email listservs, conference calls, three face-to-face meetings per year, and periodic interim meetings.

## **A Commitment to Retraining and Educating Staff**

There will be resistance to change. There will be fear, uncertainty, and doubt resulting from a change in corporate culture brought on by a commitment to the interoperable enterprise and the integration of real estate property information into business processes. These are normal responses in the face of change—especially when the organization does not include staff in the process of change. It is human nature to struggle to protect “turf.”

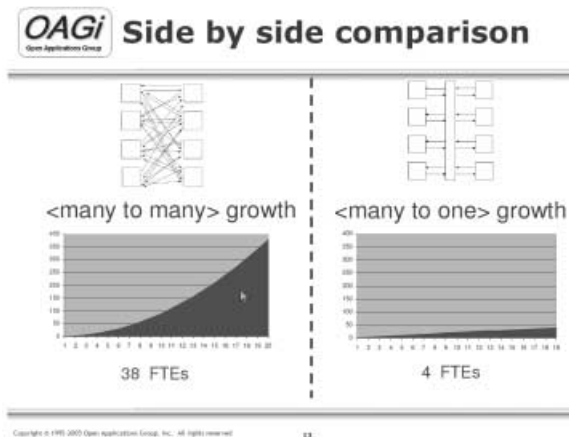
It is imperative that an organization commit to staff training and communication programs. The staff needs to know and understand the planned changes and

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approaches to implementing technology for improved business processes. They must have a forum for not only expressing concerns but also for providing input to a structured vision.

The Mathematics of Scaling Up cost benefits study in Exhibits 1–3 illustrates the potential value proposition for dramatic costs and benefits by adopting open data standards and leveraging current Information Technology (IT) investments by using four FTEs (Full-Time Equivalents) to do the same work typically required by thirty-eight FTEs.

### Exhibit 1 The Mathematics of Scaling Up



### Exhibit 2 Examples of Industry Changes

The mathematics of scaling up – *without* data standards:

For traditional point to point or <many to many> integration:

The number of possible connections among any number of items is  $n(n-1)$  for two-way connections.

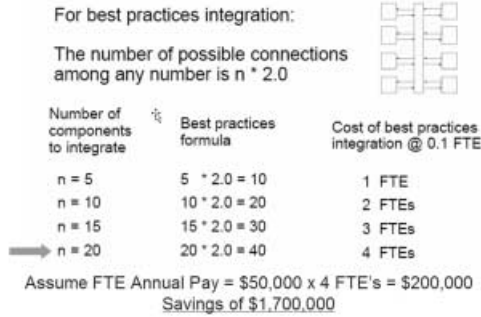


Number of components to integrate	Apply traditional formula	Cost of traditional integration @ 0.1 FTE
n = 5	$5(4) = 20$	2 FTEs
n = 10	$10(9) = 90$	9 FTEs
n = 15	$15(14) = 210$	21 FTEs
n = 20	$20(19) = 380$	38 FTEs

Assume FTE Annual Pay = \$50,000 x 38 FTE's = \$1,900,000

### Exhibit 3 Value Proposition

The value proposition for data standards development



### Conclusion—What Users Must Do

An organization committed to adopting open data standards and interoperability is able to maximize the value and reuse real estate information. An interoperable organization is also able to exchange this information effectively with other equally interoperable bodies, allowing effective and seamless reuse of real estate data and improved efficiencies by avoiding redundant data re-key efforts.

Changing internal systems and practices is a far from simple task. But the benefits for those who make use of information are incalculable.

### References

Open Geospatial Consortium. [www.opengeospatial.org](http://www.opengeospatial.org).  
 Mortgage Industry Standards Maintenance Organization. [www.mismo.org](http://www.mismo.org).  
 Bruce Perens, SourceLabs.  
 Open Applications Group Inc. (OAGI) [www.openapplicaitons.org](http://www.openapplicaitons.org).