**Magnolia International Ltd.**

# Magnolia CMS

Spurring Innovation and Increasing Customer Satisfaction
in the Finance Industry

Magnolia International Ltd.

7/5/2010

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# Executive Summary

Magnolia CMS is a leading content management system (CMS) favored for its ease-of-use and availability under an open source license. It provides a powerful editing interface that allows content authors to preview content exactly as it would appear on publication, and best-of-breed Java technology for enterprise-grade reliability and scalability.

One of Magnolia CMS' largest group of customers is from the financial sector, which includes banks, insurance companies and other financial institutions. Magnolia CMS offers a number of unique advantages for customers in this industry, including such benefits as:

- An open source licensing model
- Compliance with industry standards
- Consistent content delivery across channels
- A robust technical platform that allows easy extensibility and customization.

The purpose of this white paper is to examine the key challenges faced by financial sector companies in using Web technology to reach customers, develop new value-added services and differentiate themselves from competition. An overview of how Magnolia CMS can assist in addressing these challenges is provided, together with case studies and customer testimonials of how Magnolia CMS has successfully met the needs of real-world organizations in this industry.

**Customer Testimonial:**

" *Magnolia is easily the best execution of an open source, enterprise CMS in the marketplace today.*

Tom Manos, EVP/CTO, Concursive Corporation

# Benefits of Web Content Management Systems

A Web content management system (CMS) provides companies in the financial sector with the tools they need to build an engaging and persuasive Web experience to customers, prospects, employees and management.

The benefits of using a CMS to create Web-based services are many:

- Faster time-to-market and competitive advantage due to on-the-fly content creation
- Increased customer satisfaction through consistent presentation of services and data across channels
- Improved internal efficiency via "create once, use many" paradigm
- Faster and cheaper integration with heterogeneous partner/customer IT systems
- Protection of sensitive corporate and customer data from theft or damage
- Enforcement and compliance with industry-wide best practices
- Scalable to shifts in customer demand levels
- New customer acquisition through innovation and value-added services
- Higher return on investment (ROI) through platform extensibility

The following sections will discuss these business benefits in detail.

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Typical Business Scenarios for a CMS

- Employees at a financial institution turn to their intranet for information about products, rates, rules and exceptions. Ideally, this is done through an internal document management system that interfaces with a centralized content store.
- Retail-level sales and service staff obtain a point-of-sale view, via the intranet, of contextually relevant information about a prospect or customer.
- Marketing easily syncs documents from the intranet with their public and private Internet versions, to advertise new offerings on the public Web site.
- Executive management's dashboard is automatically generated and updated, allowing secure, Web-based access to real-time business intelligence.

# Background

Financial services comprises the world's largest industry in terms of earnings and capitalization, encompassing a broad range of organizations in insurance, retail and investment banking, asset management, and related sectors.

Over the last 30 years, deregulation and consolidation have homogenized and commoditized many financial products and services. This has resulted in intense competition among financial institutions to create innovative products and services in attempts to attract new customers, capture a larger share of each customer's assets, and lower transaction costs. Technology is critical to accomplishing these goals, so it should come as no surprise that the industry is among the largest investors in Web information technologies.

For most banking and financial organizations, a Web presence - both marketing and transactional - has become vital for customers who want to research products and services, make comparisons of products and services, and want to execute transactions online.

These online banking, insurance, and investment customers tend to be younger, wealthier, and better educated than those who rely on retail branches. With increased customer interaction, a company will experience an increase in deposits and business referrals, eventually leaving its late-adopting competitors behind. Thus, engaging online storefronts are now key to attracting capital and reducing turnover.

A recent Gartner study[1] bears this out. According to the study, branch networks are diminishing in importance, with most retail banks in North America and Western Europe predicted to shut down 10 percent or more of their traditional branches by 2013. Gartner also notes that the mainstream adoption of Web banking means that financial institutions must stop treating the Internet as a distinct delivery channel. Instead, they should use the Web's attributes to improve customer communication and build competitive differentiation.

Benefits of the Web for customers

- Convenience (self-serve and personal service)
- Provides access to valuable real time information such as stock prices
- Wealth of value-added services
- Cuts across time and geographic limitations

Benefits of the Web for financial institutions

- Cost per transaction is a fraction of that for traditional delivery channels
- Increases market share or leadership
- Deepens customer relationships
- Increases product penetration per customer
- Shows intrinsic value from the new technology
- Increases revenues
- Offers deeper insight into user behaviour and desires

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1. http://www.gartner.com/it/page.jsp?id=1272313

## Typology of Financial Services Websites

Financial services websites range in functionality and complexity. The simplest marketing sites offer static information like branch locations, product lists and FAQs. The most complex can serve as an entire virtual bank, offering numerous products and services, including individualized interaction with financial advisors.

Most financial institutions provide three kinds of websites:

- **Public Internet sites** provide information to the general public. In more advanced cases, they permit users to apply for loans, buy insurance policies, or open new accounts.
- **Private Internet sites** require user authentication, and allow customers to securely access services related to their private accounts.
- **Intranet sites** are intended solely for use within the organization, by company employees at retail locations or call centers. They are usually optimized to assist with customer service or account administration.

Financial websites fall into five general categories in ascending order of complexity, as shown in the chart below.
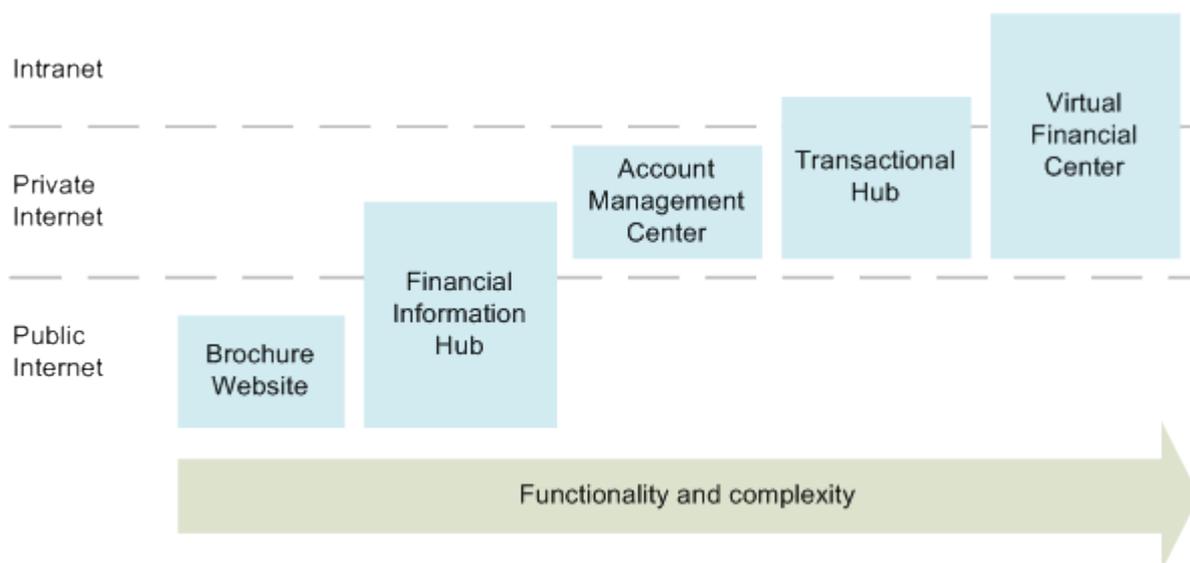


- **Brochure-style websites** lack interactive features and serve mostly static content, such as branch locations, product lists, and frequently asked questions.
  *Example: Charles Schwab Bank (http://www.schwabbank.com)*
- **Financial information hubs** add simple interactive features not tied to particular customer accounts, such as real time updates of interest rates, loan payment calculators, and email contact submission forms. It is at this level that the split between content and features starts to become pronounced.
  *Example: Mint.com  (http://www.mint.com)*
- **Account management centers** offer special functions for customers with existing accounts, including sign-in, balance verification, administration (such as changing passwords or email addresses) and service requests. Implementation of these features requires secure communication with corporate systems behind the firewall.
  *Example: HSBC Bank (http://www.hsbc.co.uk)*
- **Transactional hubs** allow customers to originate and fund new accounts, transfer funds between accounts, invest in financial instruments, apply for and receive loans in real time, and perform other

complex financial transactions. Since such complex financial transactions create new business relationships for the bank, the security and functionality must increase proportionally.
*Example: Bank of America (http://www.bankofamerica.com)*

- **Virtual financial centers** are the most advanced of the financial webites. They provide customer relationship management (CRM) functions alongside enterprise-level transactional infrastructure. Multi-channel integration allows all transactions functions to be made available as integrated network services, regardless of whether the customer is consuming the service at a retail branch, over the Web or through a mobile device.
*Example: Egg Bank (http://www.egg.com)*

A CMS provides the tools needed to build and manage all of the above types of sites, catering to the diverse needs of customers, prospects, employees and management. The CMS does not just manage content; it affects the entire user experience, including sign-in, visual appearance (themes), access control and delivery channel (personal computers, mobile devices and others).

## Build versus Buy

In any IT investment decision, the "build versus buy" question invariably raises its head. Whether a solution should be built entirely from scratch using in-house engineering teams, or whether it should be purchased as a ready-made, vendor-supported product from the marketplace, is a key decision and one that can significantly affect both the deployment timeline and the total cost.

Many financial institutions attempt to develop enterprise content management systems in-house. Even when following best practices, however, such projects can be complex endeavors. Each change or revision, or even a simple change in content, has the potential to break the site, thus requiring blueprinting, development, QA, internationalization, usability testing, and possible exposure to focus groups before it is finally published. This process is often unwieldy and extraordinarily expensive, making it difficult to deliver products and services in a timely manner. The concomitant engineering and QA for each subsequent release is also slower, less focused, and more expensive. This results in a significant, often hidden "tax" on build decisions.

As opposed to this, where a vendor solution is used, available documentation, training and commercial support is usually available and in sync with the latest software releases. Self-serve user manuals provide a way for users to directly update content or data without needing special programming expertise. Additional specialized training and support can be purchased as needed, without overloading internal staff. Requests for new features can be channelized through a standard process, requiring the involvement of fewer people; this reduces the length and complexity of the development cycle.

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# Key Selection Criteria

For institutions that have traditionally focused on retail branches and high street presence, the selection of a CMS to handle enterprise-wide content management and delivery poses a number of important considerations. Some of these are discussed in the following sections.

## Simplicity and Ease of Use

In most Web application deployment projects for financial institutions, the organization's IT group is intimately involved in post-deployment support, ranging from technical support to hands-on training and maintenance. Applications on which users must be specially trained usually require extensive IT support in the first few months of deployment. This produces complex organizational workflows where routine tasks such as page editing and content creation can often take days or weeks, instead of the few hours that they would typically require.

If the organization's content management system offers a simple user interface that can be easily understood with minimal training, it can go a long way towards reducing training and support costs, and making the entire IT investment project a success. For example, a "What You See Is What You Get" (WYSIWYG) user interface allows users to make changes to pages "in place" and view these changes immediately. Built-in editing controls allow editors to directly modify and preview different sections of the page, add new pages and link or re-link pages together. Since no special expertise is needed to maintain or update sites, marketing and business staff can update content on their own within minutes instead of weeks.

> **Business Benefit**
>
> - Faster time-to-market and competitive advantage due to on-the-fly content creation

## Multi-Channel Content Delivery

A financial content management system must be capable of presenting information using multiple channels, with different displays and themes for various users, and different levels of security and access control. Systems with built-in multi-channel capabilities eliminate the need for separate vendor solutions for every service or channel.

Selecting a content management system that supports multiple channels is of particular importance in the current information age, where new devices and formats regularly appear in the marketplace. Under this scenario, redeploying content from one site to another, or reformatting it for new mobile devices, can be easily accomplished through the use of configurable templates. The application should also make it easy to syndicate and broadcast "feeds" of news, announcements, and events, for integration with third-party, consumer-facing mobile devices (for example Apple iPhone) or Web applications (such as Google Reader).

> **Business Benefit**
>
> - Increased customer satisfaction through consistent presentation of services and data across channels
> - Improved efficiency: Create content once, use it many times!

## Standards Compliance

Integration is a key challenge for financial institutions. Most of them have heterogeneous environments, such as different software for ATMs, online banking and customer relationship management. The challenge is to combine them through a unified Web experience. Therefore, compliance with generally accepted technical standards or industry norms is a key challenge to consider when selecting an appropriate solution.

The immediate benefit of standards compliance is that it makes it easier to link a financial organization's systems together, both internally between business units and departments, and externally with those of its partners and customers. Over the longer term, it may also assist the organization in transitioning from a tightly-integrated, closed environment to a more services-oriented architecture (SOA) without compromising security and reliability.

A number of open standards are currently in use in the financial industry. According to a study in late 2008, the Spring Framework has been implemented in 78% of Enterprise Java environments. As the Spring Framework is today a ubiquitous standard, any content management application that is due for consideration must include Spring Framework support. Similarly, ensuring that the selected application runs well in any standard Enterprise Java (J2EE) environment, and is capable of interfacing with standardized content stores (JSR-170 compliance), can go a long way to reducing the overall deployment time and cost.

Content repositories should be able to hold multiple page translations, so that content can be easily localized to different geographical regions with the same features, look and feel. It should be simple to upload documents into repositories, either though a Web interface or by leveraging digital asset management (DAM) tools. Content should also be exportable in Extensible Markup Language (XML), which serves as a common dialect for application inter-operability and thereby makes it possible to present users with "live" information, such as stock prices, news announcements, event listings and special offers. Standards-based repositories integrate nicely with legacy applications and thus provide the best technology for creating information hubs.
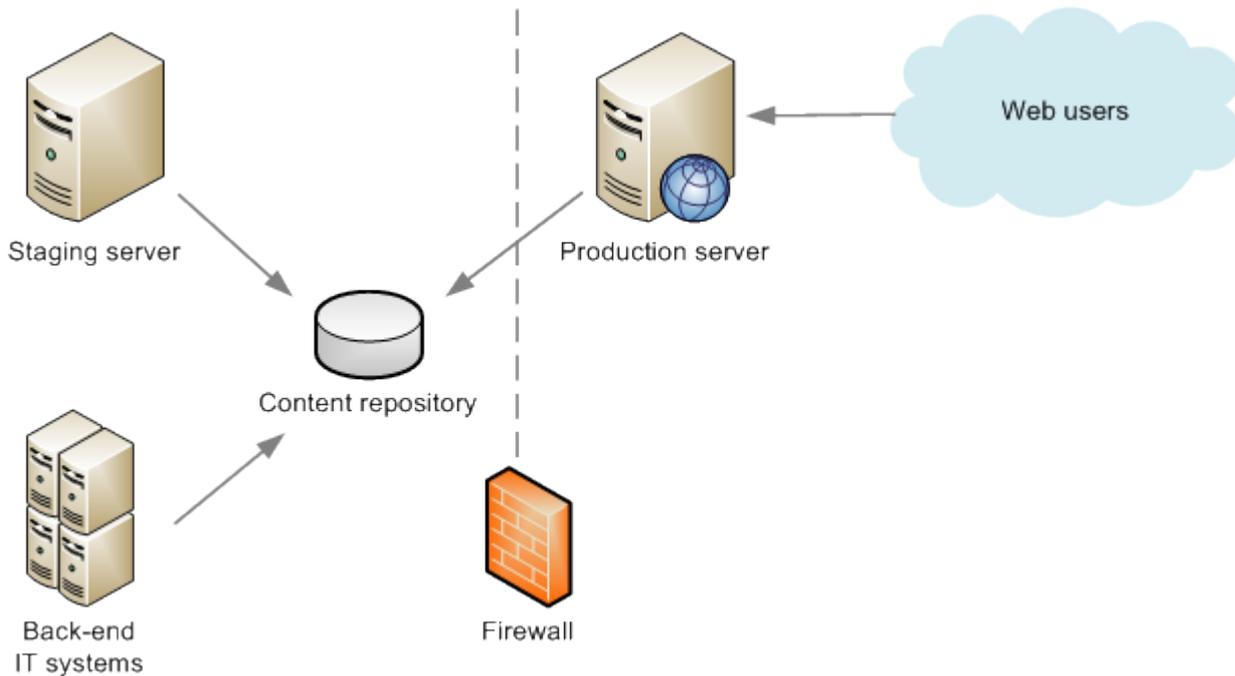
> **Business Benefit**
>
> • Faster and cheaper integration with heterogeneous partner/customer IT systems

## Security and Scalability

Any application selected for use in a financial organization must have a robust security model, including the power to control and lock down any part of user rights and permissions. It must support risk management, by authorizing employees to edit and create content page by page, section by section, or site by site. It should also support integration with the organization's existing authentication and authorization environment, thereby enabling "single sign-on" for all of the organization's Web properties.

To ensure optimum availability and resilience of Web-based financial services, a high-performance content management system should also separate staging and production environments. In the typical scenario, content is drafted and refined on the staging server, and pushed to the production server when it's ready to be published. The production server can run different domains and privacy settings simultaneously, in order to deploy a Web site, a private Web site, or an intranet site. Both the content repository and the production server should be able to cluster and scale to enterprise-class workloads.

This architecture is illustrated in the following diagram:



Only the production server communicates with users outside the corporate firewall; this ensures that all data in the content repositories, staging server, and back-end IT systems is safe behind the firewall.

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**Business Benefit**

- Protection of sensitive corporate and customer data from theft or damage

- Enforcement and compliance with industry-wide best practices

- Rapid response to shifts in customer demand levels

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## Extensibility and Innovation

In the highly competitive financial services industry, technology can be (and is) a key differentiator. Feature-rich, engaging online storefronts are key to attracting capital and acquiring new customers. The explosion of social media, coupled with the ready availability of "always on" portable mobile devices such as netbooks and smartphones, offers numerous customer touchpoints for financial institutions to exploit. Technology can aid this process, providing value-added services and seamless access across devices and platforms.

Any IT investment decision must take into account both current requirements and future requirements. A good content management system will allow developers to add new features over time without compromising existing services. Building each feature as an individual service encourages innovation without compromising existing architecture. Utilizing open standards and well-specified application programming interfaces (APIs), as opposed to proprietary content silos, ensures that the end result integrates well with legacy applications and provides a robust platform for future innovation.

> **Business Benefit**
>
> - New customer acquisition through innovation and value-added services
> - Higher return on investment (ROI) through longer-term platform extensibility

## Cost

Last, but not least, is cost. While corporate IT budgets can easily run into the millions, the proverb "a penny saved is a penny earned" is as applicable here as it is anywhere else. Some of the factors that can dramatically increase the cost of an IT investment project are:

- Equipment costs
- Software licensing costs (per seat or per location)
- Customization costs
- Personnel training and support costs
- Operational costs, including hosting, maintenance and backup

Like any capital investment project, an IT investment project too is associated with implementation and operational risks. A solution that reduces overall cost, while keeping the overall risk profile within approved risk tolerances is immediately worthy of consideration.

> **Business Benefit**
>
> - Lower total cost of ownership without compromising features and reliability

To summarize, therefore, a viable solution for financial organizations must incorporate the following attributes:

- Simple, easy to use interface
- Fast development cycle
- Compliance with industry standards
- Multi-channel content delivery
- Robust security model
- Scalable and extensible
- Vendor-led support and training
- Low total cost of ownership (TCO)

# Introducing Magnolia CMS

Magnolia CMS is an open-source, highly scalable CMS written in Java. Built and maintained in Switzerland by Magnolia International, it is experiencing rapid adoption in the finance industry because of its intuitive interface, seamless integration, enterprise-grade reliability, Java-based extensibility, open source, and open standards.

Magnolia's largest group of Enterprise Edition customers is from the financial sector, which includes banks, insurance companies and other financial institutions. Current Magnolia CMS customers in the financial sector include:

- Lloyds Bank TSB International Private Banking
- Van Lanshot Bankiers
- ING Bank NV Amsterdam
- Intesa Sanpaolo
- BSI
- Banca Popolare di Vicenza
- La Mondiale Europartner
- Allianz NL
- MGM Assurance
- Swisscanto Asset Management AG
- GMAC Bank (now Ally.com)
- First Citizens Bank of Trinidad (firstcitizenstt.com)

These customers have selected Magnolia CMS because it fares well against the key selection criteria discussed earlier, as shown below:

| Selection Criteria | Magnolia CMS Features |
|---|---|
| Simple, easy to use interface | • WYSIWYG interface with in-place editing controls<br>• Immediate preview of content as it will appear in production<br>• Rich templating kit<br>• Configurable themes |
| Fast development cycle | • Agile development methodology<br>• Rapid release cycle<br>• Speedy bug fixes via community support |
| Compliance with industry standards | • Written in Java for enterprise-grade reliability<br>• Interfaces with standard JSR-170 content repositories<br>• Data import and export in common formats, including XML |

| | |
|---|---|
| Multi-channel content delivery | • Centralized content repository<br>• Configurable templates for different channels<br>• Easy redeployment of content between channels without quality compromises |
| Robust security model | • Granular access control system<br>• Per-user privileges<br>• Supports integration with third-party authentication systems (e.g.: LDAP) |
| Scalable and extensible | • Separation of authoring and production instances<br>• Scalable to enterprise-class workloads<br>• Modular architecture for plug-in functionality<br>• Robust technical platform for innovation |
| Vendor support and training | • Extensive documentation, tutorials and videos<br>• Commercial support, training and consultancy<br>• Service level agreements<br>• Certified partners for integration assistance |
| Low total cost of ownership (TCO) | • Open source license<br>• Self-serve administration and maintenance<br>• Community support |

# Benefits of Magnolia CMS for Financial Institutions

Magnolia CMS comes with a number of unique features that make it ideally suited to the needs of financial organizations. These are discussed in the following sections.

## Ease of Use

Magnolia CMS offers a "What You See Is What You Get" (WYSIWYG) user interface, which allows editors to change pages "in place" and view their changes immediately. Magnolia CMS uses a template-based architecture that allows editors and content authors to define page types and subsections; it then presents a composite view with built-in editing controls for each subsection, allowing these users to directly modify different sections of the page and see the changes take effect instantly. As a result, business and non-technical users can begin using Magnolia CMS with minimal training, reducing the overall time-to-market for new products by enabling on-the-fly content creation.

## Configurable Themes and Templates

Magnolia CMS comes with a Standard Templating Kit (STK) that allows for easy definition of new templates and themes. These themes can be universally applied to common page elements to quickly alter their appearance, and these may be further customized to user requirements.

This is of particular importance to financial institutions, which typically have significant investments in corporate branding and identity, and wish to enforce this across all their online properties. Magnolia CMS' configurable themes make it easy to create and enforce a particular style and color scheme for all content pages, thereby creating a robust and uniform user experience.

## Multi-Channel Content Delivery

Financial industry customers may use multiple devices and platforms to access their financial data, yet must be presented with a consistent view in all cases. Magnolia CMS supports this requirement with its highly-configurable templating architecture, which allows developers to create skeletal pages, or sections of pages, that are dynamically replaced with content at run-time. These configurable templates ensure that content moved to a new channel or site will conform to that site's style, without affecting reliability and speed of delivery.

Magnolia CMS also implements a centralized content repository (based on Apache Jackrabbit) that can be used to store hierarchical, structured and unstructured content. By using a standards-based content store, Magnolia CMS has the ability to input and output content in non-proprietary formats, thereby allowing it to "talk" to a wide variety of third-party applications and services.

To illustrate, consider that special offers for particular users of a private web site could be created once and stored in Magnolia CMS' centralized content repository. Magnolia CMS could be used to display these offers to those users on the Web, while ensuring that the same offers also appear in the intranet view for employees talking to qualified customers on the phone. The same content could also be formatted, via a simple template change, for transmission to the users' mobile devices, ensuring that the user's "view" of the organization is always in-sync and up-to-date with the Internet and intranet applications.

This standardization of Web assets, coupled with centralized data storage, can dramatically reduce a financial firm's TCO, and ensures that the same content can be easily redeployed from one channel to another, by non-

technical business or marketing employees. The result: content is presented to the user in a consistent manner, regardless of the channel used to request it.

## Standards Compliance

Magnolia CMS is written in Java and integrates easily with Java-based services. Support for standardized JSR-170 content repositories and the Groovy scripting language make it easy to integrate Magnolia CMS with other data sources and applications. Magnolia CMS also supports the Freemarker and JSP templating languages.

To enable better interoperability between financial institutions, Magnolia CMS supports International Financial eXchange (IFX), which is an open, standard for financial data exchange. Magnolia CMS also supports the Java DataBase Connectivity (JDBC) standard, allowing it to interface with internal account management and customer relationship databases.

Magnolia CMS is a good citizen in the data center, offering out-of-the-box integration with ubiquitous standards and data formats such as Extensible Markup Language (XML) and Representational State Transfer (REST). This allows it to be easily integrated with third-party providers of XML-encoded data (e.g.: interest rates, call center wait times), and with email messaging services for real-time alerts and notifications. Magnolia CMS is also renowned for its ease of integration with back-end enterprise systems.

## Security

Magnolia CMS offers a granular access control system, allowing administrators to precisely define the rights and privileges available to each user of the application. Magnolia's security model is heavily based on Java Authentication and Authorization Service (JAAS), allowing easy integration with multiple authentication mechanisms and policy-based access control. Magnolia CMS also comes with community-provided extensions for Lightweight Directory Access Protocol (LDAP) authentication, allowing IT administrators to rapidly link Magnolia CMS into existing authentication environments.

This robust security model helps protect corporate assets from theft or damage, while simultaneously ensuring that the organization's existing investment in IT architecture and security is not compromised.

## Scalability

In compliance with current best practices, Magnolia CMS implements separate staging and production environments, ensuring optimum availability and resilience of Web-based financial services. This separation has multiple benefits:

- It allows experimentation and testing to be performed in the staging environment without affecting the production environment.
- It allows content problems to be identified in an "almost real" environment prior to the content going live.
- It provides an additional layer of security, as it becomes possible to disallow login access to the production environment (which is on the public Internet) while still allowing editors to access the staging environment (which can be placed behind a secure firewall).

## Extensibility and Innovation

Magnolia CMS provides a robust and scalable platform for future extensibility and innovation. Magnolia's modular architecture allows developers to easily create, test and integrate custom component to address a specific requirement or use case. There also exist a large number of third-party modules addressing common functionality in the Magnolia online code repository; developers can freely use these as a base to extend Magnolia CMS' core functionality.

Magnolia CMS also offers a robust platform for application development as Web sites increase in complexity. Referring back to the typology discussed earlier in this document, it is clear that Magnolia CMS offers useful functionality for each category of Web sites.

| Category | Magnolia CMS Features |
|---|---|
| Brochure Website | • Powerful WYSIWYG controls for "in place" editing<br>• Customizable templates and themes for a consistent look and feel<br>• Separation of content from layout<br>• Easy to develop and maintain by non-technical marketing or business staff |
| Financial information hub | • Support for multiple input and output formats, including XML and RSS<br>• Standardized and centralized content repository<br>• Caching and clustering for scalability and high availability |
| Account management center | • Integration with existing authentication systems<br>• Granular access control<br>• Enterprise Java (J2EE) and scripting support |
| Transactional hub | • Open standards for integration with third-party services<br>• Separation of staging and production environment |
| Virtual financial center | • Modular architecture for easy integration of custom functionality |

## Rapid Development Cycle

The financial industry relies on technology as an enabler of new products and services, and any content management solution must be capable of quick integration with new standards or third-party applications and services. Magnolia engineers follow agile software development methodologies and the "release early, release often" motto, delivering frequent releases without compromising technical performance and design. Common principles of agile development, including test-driven development, frequent communication and self-organizing teams, are visible in Magnolia CMS' development methodology.

Magnolia's yearly conference often includes talks by financial and other enterprise users, and there is always a lively exchange of outside experiences. Magnolia also has a large and growing community of users, developers, designers, ISVs and consultants. Many development partners contribute code back to Magnolia CMS, speeding the pace of feature development and innovation.

## Low Cost of Ownership

Magnolia CMS comes in three flavours: the Enterprise Edition Pro, the Enterprise Edition and the Community Edition. The Community Edition is offered to users free of charge under the GNU General Public License. The other two editions are commercial packages that provide additional functionality and include service level agreements (SLAs), vendor support, and other business benefits.

Adopting Magnolia CMS eliminates the software licensing costs that must be paid for proprietary systems, and also avoids any licensing litigation risks. This in itself represents a significant cost saving per year, and when you further consider that upgrades are free, that the software runs efficiently on older hardware, and that free technical support is available via community forums and mailing lists, the potential savings in equipment upgrades, specialized training and consultancy are significant.

It is worth noting, however, that most financial institutions using Magnolia CMS first experiment with the Community Edition, and then upgrade to and license the Enterprise Edition once real development work begins.

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### Open Source and the Financial Industry

Awareness of open source software is high in the financial industry, according to the latest Actuate Annual Open Source Survey.

The main perceived benefits of open source software are:

- Absence of licensing costs
- Vendor independence
- Overall flexibility

The proportion of companies using open source software has steadily increased, reaching 45% in the U.S. in 2009. Furthermore, 52% of U.S. financial institutions state that open source is either their preferred option or explicitly considered when procuring software. Gartner sees this as an ongoing trend.

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## Commercial Support and Training

Magnolia International offers high quality support, including application and infrastructure updates and training by Magnolia engineers to quickly bring development teams up to speed. Various levels of service agreements are also available, providing runtime support with guaranteed response times. Magnolia also offers training courses for system administrators and developers.

Partners are important providers of custom support and development services. Magnolia certified partners are able to integrate existing applications into Magnolia, and develop custom functionality for specific needs with a high level of professionalism. Because Magnolia CMS is open source, core developers can be called on for backup support, and when one customer encounters an issue, a fix is generally quickly provided to other users as well.

# Case Study: Lloyds TSB

Lloyds TSB International Private Banking is a division of one of the worlds most trusted financial institutions – the Lloyds TSB Group. Lloyds has been a leading British financial institution since 1765, and the International Private Banking division was founded in 1919. Lloyds TSB Bank is the only British bank to have a AAA credit rating.

Lloyds TSB used to manage their content by having the business users write out drafts in Microsoft Word, which would then be emailed to web masters who would manually re-format it for the Intranet or Internet sites and then upload it by FTP. Consider the challenges they faced:

> *The intranet and the Internet pages were riddled with duplicate content; some were updated to more recent versions while the others lagged. With such a complicated business process, it was difficult to tell who was responsible for keeping content updated and curated day to day.*

In 2005, they decided to standardize on a CMS solution to solve this problem once and for all, and chose Magnolia Enterprise Edition. Today, their webmasters are free to actually do web development, and the centralized document store is generating new and exciting efficiencies for their business. Commenting on the improvements wrought by adopting Magnolia CMS, Gilles Ducret, J2EE Architect, Lloyds TSB IPB notes:

> *For me Magnolia is a CMS framework and its strength is that it is very open and very easy to integrate with other applications. You have to code the integration but it is very easy and easy to do that in a very standard way.*

Read the complete Lloyds TSB case study on the Magnolia CMS Web site at http://www.magnolia-cms.com/home/clients/case-studies/lloyds.html

## Conclusion

This paper has explored how Magnolia CMS is increasingly being used by financial sector companies to enable them to cost-effectively deliver secure, high-quality services to their customers and provide competitive differentiation.

Magnolia CMS' powerful graphical interface, multi-tiered publishing process, support for third-party modules, rich templating kit and open source license make it an ideal solution for the custom requirements of financial sector companies, allowing them to spur innovation and increase customer satisfaction within their industry in an economical and efficient manner.

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## Additional Resources

Magnolia CMS Web site: http://www.magnolia-cms.com/

Case Studies: http://www.magnolia-cms.com/home/clients/case-studies.html

Features: http://www.magnolia-cms.com/home/magnolia-cms/evaluation/features.html

License and Pricing: http://www.magnolia-cms.com/home/magnolia-cms/pricing.html

Support: http://www.magnolia-cms.com/home/magnolia-cms/editions/enterprise-edition.html.