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# PRACTICE

THOMSON  
WEST

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# INNOVATIONS

MANAGING IN A CHANGING LEGAL ENVIRONMENT

## Portals

STRATEGIES FOR ENTERPRISE APPLICATION INTEGRATION

BY KINGSLEY MARTIN WEST ADVISORY BOARD MEMBER

Portals rose to prominence in the heady days of the dot-com boom, but interest has waned along with the fortunes of the early Internet companies. However, the current lack of attention to portal development cannot be attributed to a flaw in the underlying concept; rather, it seems likely that innovators forecasted adoption rates that far exceeded the actual rate of acceptance by users.

### What Is a Portal?

There is a degree of misunderstanding regarding the nature of a portal. The Web site at [whatis.techtarget.com](http://whatis.techtarget.com), which provides definitions for many IT-related terms, defines portal as

“... a term, generally synonymous with gateway, for a World Wide Web site that is or proposes to be a major starting site for users when they get connected to the Web or that users tend to visit as an anchor site.”



KINGSLEY MARTIN

*cont'd on p2*

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*cont'd from p1* When applied to an organization such as a law firm, the modified term enterprise portal must be expanded to capture the concepts of

- a common gateway
- a common technology architecture
- customization to meet individual and group computing needs

It is frequently thought that a portal is an application. In fact, an enterprise portal is not an application, although it can be built upon the application products of one or more

*“The purpose of a portal is to integrate technology resources”*

vendors. A portal is a computing framework that defines how individual applications and information resources work together to present a unified working environment that serves the business needs of an organization, its clients, and its employees.

The purpose of a portal is to integrate technology resources, thereby maximizing system utilization, reducing technology budgets, and implementing management control.

### An Evolutionary Model of Data Processing

The need to introduce formalism and system integration was foreseen more than 25 years ago by Cyrus F. Gibson and Richard L. Nolan. In that article, the authors outlined a four-stage evolutionary model of enterprise data processing.

- The first stage, initiation, is characterized by the application of technology to core business tasks that are most capable of automation, such as the adoption of technology by law firm financial departments.
- The second stage, expansion (also referred to as contagion), is characterized by rapid uncontrolled growth of applications.
- As technology budgets rise and management sees little emphasis on project and expense controls, technology enters the third stage, formalization, during which the firm implements controls, standards, and procedures.
- The fourth stage, maturity, is marked by the organization's recognition of the need to integrate systems into a planned architecture.

By the standards of the Gibson-Nolan model, most law firms today are in the expansion (i.e., contagion) stage, facing out-of-control budgets and little project oversight. A portal strategy may be the key to moving toward the formalization and maturity stages of the Gibson-Nolan model. Developing a plan for strategic information systems marks the transition to formalization, while enterprise application integration (EAI) highlights the maturity stage of development.

### Current Methodology

In many instances, technicians with little knowledge of the practice of law have constructed legal technology systems for attorneys with little interest in technology. The unfortunate result is often a portfolio of independent application silos. One example is the Windows desktops many of us view each morning, which lack any guidance regarding how to use the system to serve our clients' needs.

From a design viewpoint, the current methodology applies a bottom-up, inductive design technique

ILLUSTRATION BY DEREK LEA

that seeks to derive general theories from individual instances, thereby building legal information systems from discrete applications. In developing a strategic information systems plan, law firms would be well advised to add a top-down, deductive design methodology that starts from general premises and works through a process of reasoning to derive specific results. In a deductive model, planning is initiated by first capturing the business and practice needs of the firm.

While this article cannot discuss in detail the methods of constructing a law office technology framework, following the deductive model will likely produce a pyramid structure of object hierarchies that capture the needs of planning, management, operations, and infrastructure systems.

### The Role of Web Technology

Gibson and Nolan could not have foreseen the scope of recent technology innovation, but the tools to move toward an integrated architecture are becoming available. In the early days, integration was founded on a homogeneous platform (typified by the Wang Professional Computer). Today, a single program cannot serve the diverse needs of law firms. This does not mean, however, that we cannot achieve unification. The rise of Web technology permits organizations to transition toward an integrated platform, based on a heterogeneous substrate of computer systems.

Web-based development—at least in simplified terms—proposes a three-tier architecture, separating presentation, logic, and data layers.

- For the most part, early portal development is based on integration at the presentation (or browser) layer, allowing independent applications to be accessed from a common interface. Although technologies such as cascading style sheets (CSS) allow developers to create a common design theme, this approach cannot achieve the financial benefits of system integration because it will likely be based on a fragmented application structure.
- The second method of integration is based on the logic or application layer. Frequently, firms must either buy or build middle-tier components in order to achieve interapplication integration. Technologies such as Component Object Model (COM) and Common Object Request Broker Architecture (CORBA) promise improved methods of integration.
- Finally, a third method of unification operates at the data layer and is based on the assumption that different groups often share common information needs. While it is likely that applications will maintain independent data structures, technologies such as Structured Query Language (SQL) procedures allow the development of

common data warehouses, while EXtensible Markup Language (XML) promises improved interapplication communication of data.

### The Importance of Planning

Portal development marks the formalization and maturation stages of technology. However, it should not be assumed that portals are easy to build or that lawyers will quickly accept the new computing paradigm. It may require five or more years for a law firm to achieve integration. In the short term, law firms should embrace the lessons of EAI, because technology is inexorably moving towards componentization. Failure to foresee the consequences risks costly mistakes.

Law firms can make progress towards integration in the current challenging fiscal period by understanding the critical importance of initiating a strategic information systems plan before they incur the expense of new software acquisitions.

## MS SHAREPOINT: IS THERE A SHAREPOINT IN YOUR FUTURE?

BY KINGSLEY MARTIN  
WEST ADVISORY BOARD MEMBER

One of the most important tactical decisions in portal construction is the choice of a development and deployment platform. Law firms have many options:

- An out-of-the-box solution, such as LawPort or Plumtree
- A custom-built portal developed by in-house staff or in conjunction with outside consultants
- Expansion from an existing infrastructure application, such as the messaging platform, document management system, or financial services application
- An independent development platform, such as SharePoint™, or a working environment customized to a law firm's needs built on the SharePoint platform, for example, Elite Encompass

As law firms have discovered, platform selection is critical. Over the years, firms have found it necessary to migrate from numerous prior technologies. As the amount of data maintained in legacy systems grows, the cost of migration can exceed the initial purchase price and include the risk of abandoning vital information. *cont'd on p10*

# Marketing THE Law Firm THROUGH MEDIA RELATIONS

BY BARBARA SESSIONS

WINSTON & STRAWN

When I first came to professional services marketing, I was told that it was easy to handle media relations. I worked at a major New York City public relations firm, and the firm's business-to-business division leader told me to "just get your message out there." That advice seemed simple enough at the time, and there is something about it that rings true even today. But as any experienced marketer knows, the execution isn't so easy.

Full control of a firm's messaging is not realistic even for the chief marketing officer. There are several factors that must be considered, including the following:

- What is the message?
- Is there more than one message?
- Who is delivering the message?
- Will the message be delivered in a way the audience understands?



BARBARA SESSIONS

Media relations work often has a certain cachet among lawyers because of the "fame" it can bring. When one's name appears in a positive context, the media relations program seems to be an unmitigated success—at least to that particular individual. And although marketers rarely overlook the value of pleasing an internal audience, there is real merit to a coordinated media effort. Media placements provide credible, independent verification of the message being communicated; they are relatively inexpensive in both time and money (depending on who is used to approach the media), and they afford the opportunity to reuse and repackage placements for other purposes or secondary audiences.

Of course, there needs to be a clear plan in place for media relations to be an effective tool. The goal or goals must be

well established, the message must be clear and credible, and the intended audience must be targeted carefully. Even then, a little bit of luck doesn't hurt!

## Establishing Goals

Many law firms today use media relations to supplement the comprehensive branding campaigns that have become increasingly popular with service entities. Although media relations are rarely the cornerstone of a branding campaign, they can be a strong reinforcement when handled correctly. For example, some extremely effective branding efforts have been geared toward regional identity or practice or industry specialties.

It has been difficult for full-service global firms to brand effectively—not because they have difficulty strategizing their goals, but because it is hard for them to differentiate themselves from competitors. Furthermore, disseminating a message to all the countries where there are buyers of legal services is like crossing a minefield. These difficulties point up the increased need for all firms, especially those with global aspirations, to maintain a clearly articulated and regularly reinforced message.

Some firms have created clearly defined goals by performing a media audit. For example, a firm might pull all of its media coverage for a certain time period to evaluate how the firm is perceived and conduct interviews with members of an intended audience. An audit can help a firm determine whether it is perceived positively by the market, or whether the market has a perception of the firm at all. An audit is a worthwhile exercise even for those who believe they are in touch with the firm's reputation. Intelligence on marketplace perceptions is also available from independent research firms.

## The Clear and Credible Message

Mixed messages, unclear messages, or messages that are



not credible—any one of these can kill your efforts. Communications expert Barbara Miller likes to drive home a salient point when training attorneys: “The message is the message received.” In other words, the message is about what your audience hears, not what you intend for them to hear.

Given this reality, investigation is critical to determine how culture, geographic location, and other factors may alter an audience’s perception of your message. For instance, Accenture (formerly Andersen Consulting) had to perform extensive research to determine how its name change would be perceived within varying cultures. Some early concepts were discarded because of their negative translations. The name change became part of Accenture’s messaging strategy, and its research was essential to the credibility of its message and the effectiveness of its

launch. For law firms, additional research is necessary because restrictions can apply regarding the use of marketing and public relations in other countries.

Of course, this presumes that you have some control over how the message is received by reporters. The story idea you pitch could be unleashed like a deformed monster by a reporter who has a different idea in mind. It can happen; there is genuine risk involved. The best way to avoid big mistakes is to maintain credible messages and reinforce them regularly.

Perhaps the worst mistake a law firm can make is to attempt to launch a media relations effort with a message that simply is not credible. We’ve all seen it—a firm trying to reposition itself in the marketplace and failing miserably because its message is not credible with key audiences.

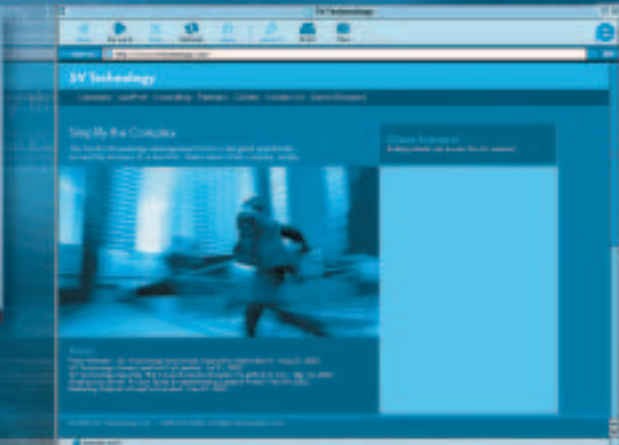
Sometimes a firm sends too many messages (or messengers) out into media channels in an effort to raise the firm’s visibility and thereby creates confusion in the marketplace. Such an approach also diminishes the credibility of a firm.

A few firms have successfully permitted practice groups to launch their own brands, raising awareness of a particular group’s expertise in small, directed segments of the market. The lawyers are able to direct the message to a very narrow audience to avoid confusion in the marketplace. However, this can be a risky strategy unless it is executed well. It is certainly more expensive for law firms to make this kind of investment, and sometimes competition for media resources arises within the law firm. However, practice group branding can be an excellent reinforcement of the firm’s expertise when directed to specific audiences.

### Targeted Audience

There are two audiences to target when you pitch a story idea. The first audience is the readership of a publication that closely coincides with your intended audience (usually clients, prospects, or legal recruits). The second audience is the reporters at the publication. Choosing media outlets is generally far easier than framing a great message. Still, just as you can never fully predict how the story line will get developed, it is difficult to know where your story ideas will end up. You may pitch only to the trade publications in a narrow market, and the article seems *cont’d on p10*

ILLUSTRATION BY KEVIN GHIGLIONE



# Marty Metz

CEO, SV TECHNOLOGY, INC.

BY LISA KELLAR

LEBOEUF, LAMB, GREENE & MACRAE L.L.P.

Marty Metz is a leading expert in the use and deployment of intranet and extranet technologies. Metz is CEO of SV Technology, Inc., which makes LawPort—one of the few legal-specific portals on the market today. Metz was formerly chief technology officer for Brobeck, Phleger & Harrison LLP. He has 19 years of law firm management experience (13 of which were spent directly managing technology), and he led the development of two law firm intranets. Metz speaks widely on legal technology and management topics.



LISA KELLAR

## A Complete Web Strategy

Metz and colleague Marcus Liban formed SV Technology in 1999, with the goal of helping law firms re-engineer their information systems toward browser-based computing. They developed an approach

referred to as a “complete Web strategy,” which SV Technology helps firms implement. Major criteria of this strategy include the following:

- Information should be published on an intranet, an extranet, and the Internet in one action, with data being exposed to all three environments based on security and publishing rights.
- Content management should be simple and not require

content managers to be Web technicians.

- Extranets can be built quickly and consistently, with most data automatically accessible and with only minimal attorney intervention or action.
- Design and functionality should be consistent, yet customizable throughout all sites.

Most technicians and knowledge managers would agree that these criteria are sound. However, only a handful of firms have actually implemented a solution that meets all of them.

## LawPort—Serving Three Web Zones

This is where Metz earns the title of practice innovator. Under his direction, LawPort was built with these goals directly in mind and it puts into practice what many preach. In Metz’s words,

*Based on several years of working with Web technologies to improve how my firm shared information, I felt certain there was a need for a product to manage the three firm Web zones: intranet, extranet, and Internet. More important, my vision for the product was born out of 19 years of working in law firms and attempting to understand and solve the law firm technology problem, which was magnified by multiple interfaces, lack of data normalization across applications, and overall technical complexity.*

*“We are moving the firm to focus all resources through the browser as passively as possible—removing the burden of ‘building’ a page.”*

LawPort links a firm’s intranet, secure client extranets, and public Internet sites to a central data warehouse. Any data element that is stored inside the firm can be shown to the appropriate audience and delivered to any of the three Web zones through LawPort. This normalization of data delivery permits a smooth and complete Web strategy that minimizes extra development, maintenance, and training by leveraging the same publishing model for all three Web zones.

Many attorneys mistakenly think that an extranet is an entirely separate system—the term extranet actually describes a method for accessing information. An extranet is a Web-based interface to a private network that offers limited access to external users. What differentiates an extranet from an intranet is that an intranet is available only to members inside the firm, whereas an extranet allows access by clients, co-counsel, and other parties. According to Metz,

*It is virtually impossible to host the same information both inside and outside your firm without significant effort and opportunity for error. If a firm is already working internally with critical information—and it should be—then it shouldn’t re-create that same information somewhere else. The result is an expensive and time-consuming system with plenty of room for mistakes.*

LawPort (version 3.01) also approaches client matters in a unique way, by automatically building a site for each and every client and matter in the firm. Metz describes the approach this way:

*We are moving the firm to focus all resources through the browser as passively as possible—removing the burden of “building” a page. These matter pages not only become the workspace for lawyers, but through security and membership, these same pages are extended to clients as an extranet. We feel this is the only way that extranets will be successful, by eliminating the “extra” work required to build, add content, and manage them.*

In a short time, SV Technology has fared quite well. More than 20 firms now use LawPort, including Gibson, Dunn

& Crutcher; Baker Botts; Baker, Donelson, Bearman & Caldwell; Womble Carlyle Sandridge & Rice; Foley & Lardner; and Fulbright & Jaworski.

### **Technology As a Strategy**

When asked about his role as an innovator, Metz replies that he has always been a bit of a contrarian. “I don’t believe anyone can be an innovator when all they do is go with the flow.” Throughout his career, Metz always reviewed technology with an eye for ways in which it could make a strategic difference.

*I enjoyed thinking about how technology should begin to solve the problems that it fostered. After a quick turn trying to change the way people worked with Lotus Notes, I turned to the Internet for the tools to build one of the first law firm intranets—that was 1995 for a firm in Seattle, Wash. When I went to Brobeck in August of 1996, armed with that experience, we dove headfirst into the intranet. The results were fantastic and we really changed how the firm worked.*

LawPort is just one way in which Metz helps a firm achieve its knowledge management goals. His practice also provides consulting services that help firms build a culture for collaboration and sharing of firm intellectual assets, with or without LawPort. He provides best-practices strategies, facilitates new applications, and helps develop new processes where needed.

Metz feels SV Technology has been successful because its insight is that the problem is more about culture and process change than it is about technology. Accordingly, the company provides advice on how to foster change in an environment that likely needs some. Metz sums it up as follows:

*I have always eschewed technology for the sake of change—if it did a new thing in an old way, it probably wasn’t necessary. Or even an old thing in a new way, it probably didn’t warrant the effort. My focus is how a firm can reinvent itself through technology.*

# FROM BUYING A BOOK TO LICENSING CONTENT: *Information Acquisition*



During the past two decades, we have experienced a revolution in the way information is purchased, accessed, and stored. In simpler times, information was embodied in a physical object that could be purchased, shelved, read multiple times, shared, moved, and archived. With electronic media, a new set of rules is evolving.

Although you pay for content, you never physically or contractually own it. In fact, you never really purchase information at all—you rent it. Not only do the rental rules have date boundaries, but they also include complex regulations on how information can be accessed, as well as stringent parameters on who is considered an “authorized user.” There are also defined user rights for browsing, printing, and sharing, even within a single organization.

Acquisition policies for printed materials have been in place for many years at most established research centers. These policies now cover electronic media, usually via a purchase checklist. A typical checklist includes content coverage and updates, hardware requirements, password authorization, compatibility with existing systems, archival rights, and copyright.

## Model Licensing Agreements

Copyright and licensing negotiations go hand in hand, but are becoming a bit of a brier patch for both vendors and licensees. Part of the problem is the ongoing proliferation of electronic products and the lack of model licensing agreements.

There are pros and cons for model agreements. On the one hand, model agreements offer consistency in terms and conditions, standardized contract provisions, cost savings from reduced negotiation time, reduction of legal risk (if drawn up by an attorney) and—hopefully—less legalese. On the other hand, though, are issues regarding currency, flexibility, and comprehensiveness.

There are standard licensing models available on the Web. For example, the Licensing Models Web site at [www.licensingmodels.com](http://www.licensingmodels.com) offers models covering four types of customers: single academic institutions, academic consortia, public libraries, and corporate or other special libraries. These standard licenses were sponsored and developed in close cooperation with four major subscription agents: EBSCO, Harrassowitz, RoweCom, and Swets Blackwell. These companies have long provided bibliographic and management services to libraries; the negotiation and management of licenses for electronic information is a natural extension of that expertise. (However, the corporate model alone is 14 pages, so succinctness has not yet been accomplished. Then again, if you compare the standard corporate license to the Federal Procurement Guidelines, which cover everything from pencils to aerospace vehicles, 14 pages may be ideal.)

## Issues in Negotiations

In the absence of a standardized agreement, perhaps the first step is to have each side put forward points that are negotiable or nonnegotiable. So often when a license is being drafted, each side becomes adversarial and nothing is accomplished. It is important to remember that in the art of negotiation there is not an “I win, you lose” outcome, nor is there a perfect contract. A successful result is a contract that works for both parties. There is a fine line between asserting your rights and being confrontational.

So, if a research center is going to establish a licensing policy, what issues should be addressed?

- Always write down your minimum requirements. This is like a “bill of rights” for the licensee. You might address questions such as these: Are you insisting that training be offered? Is technical support available 24/7,

# Policies in the 21st Century

BY LINDA WILL GREENBERG TRAUIG L.L.P.

or limited to particular business hours? Who is responsible for authenticating passwords? Who takes care of additional hardware costs?

- You should review your existing licenses. Make a list of consistent points from license to license. Examine points that you liked or did not like or that were successful or failed. Also, make notes where you could deviate or improve.
- Review model licensing principles from other sources to see where you could improve your existing policy. The University of California provides an excellent list at [sunsite.berkeley.edu/Info/principles.html](http://sunsite.berkeley.edu/Info/principles.html).

## Essential Elements

License agreements differ greatly, but there are some key clauses that should be in every written agreement.

### PREAMBLE

The preamble defines the purpose and direction of the agreement. The preamble identifies the parties and their addresses, the owners of the content, and the content to be licensed.

### PARTIES TO THE AGREEMENT

This section includes the names, addresses, and contact details for all parties to the agreement. This section should also state that the licensor owns the content and is making an agreement with the licensee. This information needs to be included only once. Thereafter, it is best to use the names of the parties to avoid confusion.

### DEFINITIONS

Any term that seems to be unclear or whose use is different from the first meaning in a dictionary should be defined. Such terms might include authorized use, content, commercial use, premises, and territory. Definitions can be scattered throughout the contract or attached as an appendix.

### SUBJECT

It is very important that the content covered by the agreement and the content format (e.g., video, Internet, full text) is very clear.

### RIGHTS

This section is the heart of the contract. It is sometimes referred to as permission or permitted use. It explains in a clear and succinct manner which rights are being granted

to the licensee by the provider. These rights can include the viewing, reproducing, archiving, e-mailing, and printing of content, and interlibrary loans.

### LICENSING FEE

The discussion of the licensing fee includes when and how payment will be made. Taxes and additional costs for training, equipment, maintenance, and updating may also be specified. There are many different pricing models, including pay per user, pay as you go, consecutive users, total population, and flat rate.

### LICENSOR OBLIGATIONS

The key licensor obligation is to provide content, but additional issues include format, server access, technical support, notification of content changes, and upgrades.

### LICENSEE OBLIGATIONS

The main licensee obligation is to use the content in the manner spelled out by the terms and conditions of the license. The provider also may require that the licensee be responsible for controlling any illegal use, keeping statistics, and implementing control features.

### TERMS OF AGREEMENT

This section identifies the period of time during which the agreement is in effect and specifies how and when the agreement will be terminated or renewed.

### COPYRIGHT OWNERSHIP

It is very important that the agreement spell out who owns the rights and which rights are being licensed.

### Some Advice

When you negotiate an agreement you should identify your needs, consider the needs of the information provider, and seek a reasonable compromise. Identify a goal and solicit the input of others, especially end users. Determine whether there is a comparable alternative product and whether you are willing to settle for it. Do your homework, and know your price or budget. Communicate neutrally. Negotiation is about discussion; both parties want the process to be successful. Do not be intimidated, but do not be adversarial. Negotiating does not need to be a walk through a briar patch—instead, it can be a process that will leave both parties feeling successful.



LINDA WILL

## Marketing the Law Firm Through Media Relations

*cont'd from p3* newsworthy enough to get picked up by mainstream publications. With reporters, experience often dictates who is likely to be most interested in your idea.

### Understanding the Risks

Media relations is not for the faint of heart. Some lawyers are skittish about dealing with reporters because they have been burned in the past. This is an understandable mindset. These individuals need media training to help them feel comfortable with press interviews. They need to anticipate questions and must understand the concepts of “off the record” and “not for attribution.” More important, the individuals driving the media effort must have a clear concept of how their clients will react to a story quoting

their lawyers, especially if the topic relates directly to them. The greatest risk to any law firm is to have one of its lawyers comment publicly on a case when the client wants “no comment” or espouse a position that is adverse to a client in another matter. Sensitivity to the client’s position seems obvious, but it is overlooked time and again in someone’s haste to grab the spotlight. Don’t get sucked in!

### Conclusion

Media relations is a powerful tool if used wisely. Do your research. Plan your message carefully. Make the message credible, and reinforce it whenever possible. Train your messengers. Understand your audience. And remember that a little bit of luck doesn’t hurt.

## MS SharePoint: Is There a SharePoint in Your Future?

*cont'd from p3* SharePoint Portal Server (SPS), developed by Microsoft Corporation, defies simple pigeonholing. SPS serves as a hub through which applications and information resources can be deployed to create a customized knowledge workplace facilitating centralized information management. SPS 2001 packages a number of products supporting the deployment of an integrated solution.

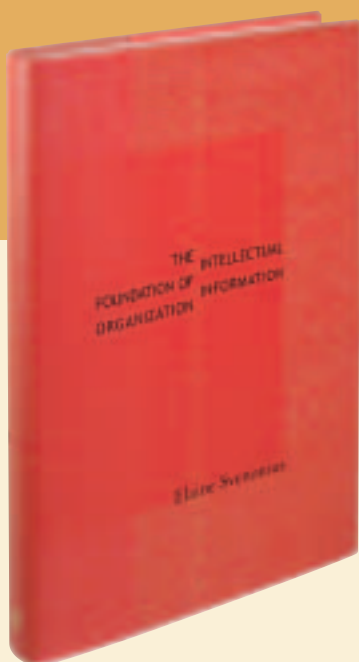
- Full-text search features and tools for navigating the Web support Microsoft® Office products, Corel® WordPerfect®, Lotus Notes, Acrobat, and HTML, along with subscription and categorization capabilities.
- A document management component is tightly integrated with Microsoft Office 2000, offering check-in and check-out, versioning, profiling, publishing, and approval capabilities. (However, larger firms may not be ready to abandon their costly investment in specialized DMS applications due to concerns regarding scalability.)
- A digital dashboard-based user interface comes out of the box with end-user customizable Web parts that support searching, category browsing, news and announcements, discussions, and subscriptions, thereby offering the capability to integrate a wide range of applications into a seamless desktop. For example, law firms can deploy work product retrieval databases

and provide secure access to summary financial data, calendaring, project management, newsfeeds, contact lists, and many other resources.

While the same results can be achieved with other solutions, SharePoint gives firms a substantial head start, a growing number of commercial off-the-shelf applications, and a rich source of developer materials available through many Internet communities.

A few firms have already announced deployment of SharePoint, including Faegre & Benson (approximately 400 attorneys), Montgomery, McCracken, Walker & Rhoads, LLP (approximately 160 attorneys), and Eisenhower & Carlson PLLC (approximately 30 attorneys). Many other firms are currently evaluating the software as a future deployment platform.

For many firms, the novelty of the software is a source of concern. In its current iteration, the software limits document repositories to 1 million documents (it can search 3.5 million documents), does not support clustering, and lacks easy-to-administer backup tools. Nevertheless, law firms should pay careful attention to developments coming from the software powerhouse in Redmond. In many ways, SharePoint feels like Windows® version 1.0. It is a great tool for testing proof of concept with various practice groups. It also promises to be a viable platform for future modular software deployment.



## The Intellectual Foundation of Information Organization

By Elaine Svenonius

REVIEWED BY JOHN E. DUVALL

HOGAN & HARTSON L.L.P.

In *The Intellectual Foundation of Information Organization* (MIT Press 2000), Elaine Svenonius explores the intellectual foundation that underlies traditional systems for organizing information and discusses how that foundation continues to support information organization in the digital age. In her analysis, Svenonius makes extensive use of the linguistic concepts of vocabulary, semantics, and syntax.

Systems for organizing information operate under many constraints—they must be economical, maintain continuity with the past, and cope with the ambiguities and redundancies of natural languages. The first organizational step is identifying the purpose of the information. Information is abstract, even when it is embodied in physical objects such as documents.

Documents are individual bibliographic entities. Works are sets of documents containing similar or related information. Editions are subsets of works that differ in publishing particulars. In most libraries, the receipt of an edition of a work triggers the making of a bibliographic record.

After reviewing the work of Cutter, Lubetzky, and others, Svenonius restates the five objectives of a full-featured bibliographic system as

- Finding
- Collocating
- Choosing
- Acquiring
- Navigating

### Bibliographic Languages

Bibliographic languages are special-purpose languages that are used to create bibliographic records. Bibliographic

languages utilize distinctive vocabulary, semantics, and syntax. Svenonius describes several varieties of bibliographic languages.

### Work Languages

Work languages are bibliographic languages used for describing works and their intellectual attributes. Work languages use a combination of “uncontrolled” terms taken from the document embodying the work and “controlled,” or normalized, descriptions. Normalized descriptions, for example, are necessary to collocate works by a particular author. Names that are nonunique are usually disambiguated (distinguished) by adding references to dates, places, or institutions that are associated with an author and help distinguish a particular name from similar names. Once a normalized description is chosen, variant name forms are mapped to it, traditionally by see references. In online systems of organization, such mapping can be transparent to the user.



JOHN DUVALL

### Document Languages

Document languages describe the individual documents that contain the intellectual content of works. The starting point is a description of the physical item. Document language is also used to convey publication and access information. Access details (e.g., library call numbers or an Internet address) serve the acquisition objective by showing where the document can be located.

### Subject Languages

Subject languages are intended to describe the content of a document and to support objectives of collocation and navigation by retrieving “all and only relevant documents” (127). Subject languages utilize a controlled *cont'd on p12*

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## The Intellectual Foundation of Information Organization

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(normalized) vocabulary in which meanings are restricted and relationships are made explicit. The resulting vocabulary is orderly, in that each term refers to one concept and each concept is expressed by one term.

### Semantics

Svenonius also describes several types of semantics used in bibliographic languages.

### Referential Semantics

Referential semantics deals with limiting the meanings of terms. Since homonyms (words of different origins that come to coincide in form) and polysemes (words with multiple meanings) can cause unwanted documents to be retrieved, these must be disambiguated. Homonyms and polysemes can be disambiguated by adding qualifiers or notes that limit their meanings and by placing them appropriately in the hierarchy of information organization.

### Relational Semantics

The goal of relational semantics is to achieve subject collocation by making relationships between terms explicit. Synonyms are handled by choosing one term and including references from other terms. Morphologically related terms can be linked automatically using their common stems. Semantically related terms require human intervention. Links between related terms also contribute to subject collocation. Although there has been a lack of rigor in defining “relatedness,” this may be unavoidable. Useful relationships between terms are often lexically indeterminate.

### Types of Hierarchies

Hierarchical relations have considerable navigation power, since knowledge domains are structured hierarchically. Common types of hierarchies are

- Genus–species (or inclusion)
- Perspective (where a concept is considered from various points of view)
- Whole–part

The choice of the type of hierarchy depends on the structure of the discipline or the nature of the vocabulary. Hierarchical relationships are the product of human thought and cannot be created automatically.

### Conclusion

The trend today is from largely enumerative to largely synthetic languages. Enumerative languages do not use syntax—all allowable expressions are enumerated. Synthetic languages use simple syntax to concatenate terms into strings or headings. In a precoordinate language, a professional concatenates terms into strings during indexing; in a postcoordinate language, a searcher concatenates terms during searching.

Svenonius foresees the continued development of two systems that must work together: machine-assisted systems to catalog and classify documents, and expert systems that incorporate semantic knowledge. But in the end “[a]utomation efforts can only proceed so far before coming up against a semantic barrier” (198).