



Six Reasons to Consider Lotus Domino as a Web Application Platform

In today's marketplace, there are many options for developing web applications. There is another choice that has been around for quite some time and has many powerful features to offer that the others can't completely rival - Lotus Domino.

There are six features any company considering development of a web application (Internet or Intranet) should know about Domino:

- Built-in security
- Support for multiple development languages/Internet standards
- Unstructured or relational data storage
- Domino Offline Servers (DOLS)
- Combination client-server/web applications
- Scalability

Let's explore each of these features in more detail.

Built-In Security

Because the Domino web server is only one part of the larger Notes/Domino family, developers automatically inherit the robust security model native to Domino. Developers don't have to concern themselves with building database tables and infrastructure to support secure access to their applications. They simply leverage the Domino security model, which offers both name-and-password authentication and the more secure SSL (Secure Sockets Layer).

The Domino security model allows for the easy creation of users and groups that are then assigned access privileges to the various parts of the application. Access is further refined through the use of developer-defined "roles" as well as readers and authors fields, which control visibility and access to data in the database.

Over time, the Domino HTTP and mail server have also proven to be very secure against unwanted attacks, such as viruses. Of course, with any platform, it is possible, but Domino has proven to be less susceptible to these types of attacks.

Support for multiple development languages/Internet standards

Much of the hype regarding the release of the Microsoft .NET platform has been its support of multiple programming languages - ASP, Visual Basic and C# in particular.

This concept is nothing new to Domino. Since as early as release 4.5 (mid 1990's), Domino has supported HTML, JavaScript, and Java, as well as its own formula language and LotusScript (a close cousin to Visual Basic). With the current version R5, this support has been expanded even more to better support existing technologies and extend into other areas, such as XML.

The Domino web developer has the choice of using any or all of the available options in a single web application, a powerful feature when just one may not fit the bill. Through LotusScript and Java, the world is also opened up to other API's, such as COM and OLE through LotusScript, or access to custom Java classes and servlets. For the non-Domino developer, Lotus also makes the entire Domino object model available through COM and Java.

Offering such a wide range of choices also makes finding developers with the right skill set easy. Whether a developer comes from a Microsoft background (ASP and VisualBasic) or a Sun background (JavaScript and Java), he'll feel at home in Domino. Even beginning and junior programmers can create effective Domino applications sticking with simple HTML and the Lotus formula language.

While Domino has its own HTTP engine, Java Virtual Machine and servlet engine, it can also be configured to work with other engines, such as Apache or IIS for HTTP, and WebSphere or Tomcat for Java.

Unstructured or relational data storage

In addition to being a web server, application server and mail server, Domino is also its own database server. The Domino database model is "document-centric" in contrast to the relational model used by Oracle, Microsoft SQL or IBM DB2. This unstructured document-centric data model offers some incredible flexibility in how data is stored. For example, not all documents (records) of a given type need to have the same fields. This allows the database to only store what it needs for any given circumstances. The unstructured database also allows for easy storage of rich text content, attachments, and embedded objects.

An unstructured database is not best suited for every situation. For these occasions, Domino offers the option of attaching to virtually any relational database in a number of ways.

For real-time access to relation data, Domino offers the built-in DECS (Domino Enterprise Connection Services) or the more advanced add-on LEI (Lotus Enterprise Integration) server. Both offer real time synchronization of Domino with the back-end data source, but LEI also offers additional features for batch processing.

If real-time access to the relational data is not required, Domino offers their LotusScript ODBC or LotusConnectors classes, as well as access through the Domino formula language.

Domino Offline Services (DOLS)

Domino has long been known for its replication capabilities, the ability to maintain synchronized copies of a database on multiple computers - either servers or client workstations. Up until recently, though, for a client to replicate a database from the server to the local workstation and work disconnected, the user had to have the Notes Client software installed.

With the introduction of DOLS, though, it is now possible for users with only a web browser to replicate data to their local computer and work with data in a disconnected mode through the web browser. Upon reconnecting to the Domino server, the user can go back "online" and synchronize the local replica with the server replica.

This creates great possibilities for web applications that need to work in a disconnected mode, such as is the case with field technicians using laptop computers. And like so many other Domino features, this is done with little to no additional programming.

Combination client-server/web applications

Long before the Internet and the Domino web server, Notes had been a robust client-server platform for applications. The introduction of the Domino web server in the mid 90's extended all of the existing capabilities to this new notion of the web. Domino/Notes continues to be a very robust client-server platform.

This gives developers the unique option of deploying applications that are a combination of client access and web browser access, or even PDA access. Especially in cases where a business already has an existing Notes application, it is relatively easy to extend this application to have a web front-end as well. This provides the best of both worlds, while encouraging code re-use. In some cases, the same code may be used for both interfaces.

Scalability

One of the reasons Domino makes an excellent choice for building web applications is its scalability. Domino has a long history of being supported on many operating systems. In the current version, these include Windows NT, Windows 2000, Linux, Unix (HP, AIX) and OS400.

For companies running multiple Domino servers, the servers don't have to be on the same platform; it is common to see a mixed environment. Since IBM purchased Lotus, IBM has positioned Domino as the lower-volume web server choice and WebSphere as the higher-volume choice. However, a Domino server running on a high-end Unix, Linux or OS400 server is quite capable of handling an immense volume of traffic. The additional ability to cluster servers together, even across different operating systems, allows Domino to scale even further.

There are a number of compelling reasons to consider Domino for your business's web applications. We haven't mentioned cost -- a Domino Server license can be purchased for under \$2,000. With a reasonable investment, you can be well on your way to leveraging the power, flexibility and scalability of Domino in your business.

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