

NewsGator Enterprise Server

**Technical
Whitepaper**

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Introduction:

NewsGator Enterprise Server (NGES) brings RSS inside the firewall with enterprise-class security, scalability, manageability, and deployment. An IT-hosted, server-based application, NGES is built on the same engine that powers NewsGator Online services. In addition, the system features full administrative controls and optional Microsoft Exchange integration, enabling users to read RSS feeds in Microsoft Outlook without installing any client software.

This whitepaper addresses the concerns of technical evaluators looking to understand the IT impact and underlying architecture of NewsGator Enterprise Server. It describes the currently available tools, some unique requirements of corporate IT departments, and how NGES addresses those requirements. It also includes an architectural overview of the product and its system requirements.

Current Tools:

RSS has recently become extremely popular as an information delivery format, but the tools for RSS aggregation have had critical shortcomings that have hampered widespread enterprise adoption. The two predominant types of RSS aggregators--desktop and online--each have its own benefits and drawbacks.

Desktop aggregators such as FeedDemon and NetNewsWire have become very popular among users, allowing them to quickly scan through hundreds of feeds. These applications however require their users to download and install a piece of client software, which is forbidden by many corporate IT policies. In addition, they lack any centralized administrative control. New desktop applications also impose an additional training burden. These deployment and manageability issues along with administrative and training hurdles have prevented desktop aggregators from becoming enterprise standards.

A second class of aggregator addresses the deployment issue, but has its own drawbacks. Online aggregators like NewsGator Online and Bloglines use a web-based interface to allow users to subscribe to RSS feeds without installing any client software. But the very fact that these services reside outside of the corporate firewall makes them unsuitable for delivery of highly sensitive, internal corporate information. Many IT managers simply refuse to allow such information to travel outside the corporate network. Online aggregators also lack centralized administrative control and don't integrate with any corporate security infrastructure components. And even though they are generally easier to use than their desktop counterparts, online aggregators still require users to understand a new paradigm of information management and learn a new interface.

For an RSS aggregator to become an enterprise standard, it must meet the requirements of not only its users, but also the IT departments which support it. Desktop and online aggregators fail to meet these requirements, indicating that a new class of RSS aggregator is required. NewsGator Enterprise Server is the first enterprise RSS server designed to meet the stringent requirements of enterprise IT departments.

IT Requirements:

Quite aside from the functional requirements of end users, corporate IT departments have their own requirements for enterprise systems. To become an enterprise standard, an enterprise RSS server must meet these requirements.

Foremost on the minds of many IT professionals is security. Hosted in the corporate datacenter, NewsGator Enterprise Server keeps data in internal RSS feeds from ever leaving the corporate network. It also features full support for HTTP Authentication and SSL encryption for secure feeds. Integration with Microsoft Active Directory and single sign-on means that there's no need for IT to create and manage an additional user database, and once logged into the Windows domain, there is no need for users to re-authenticate to use the system.

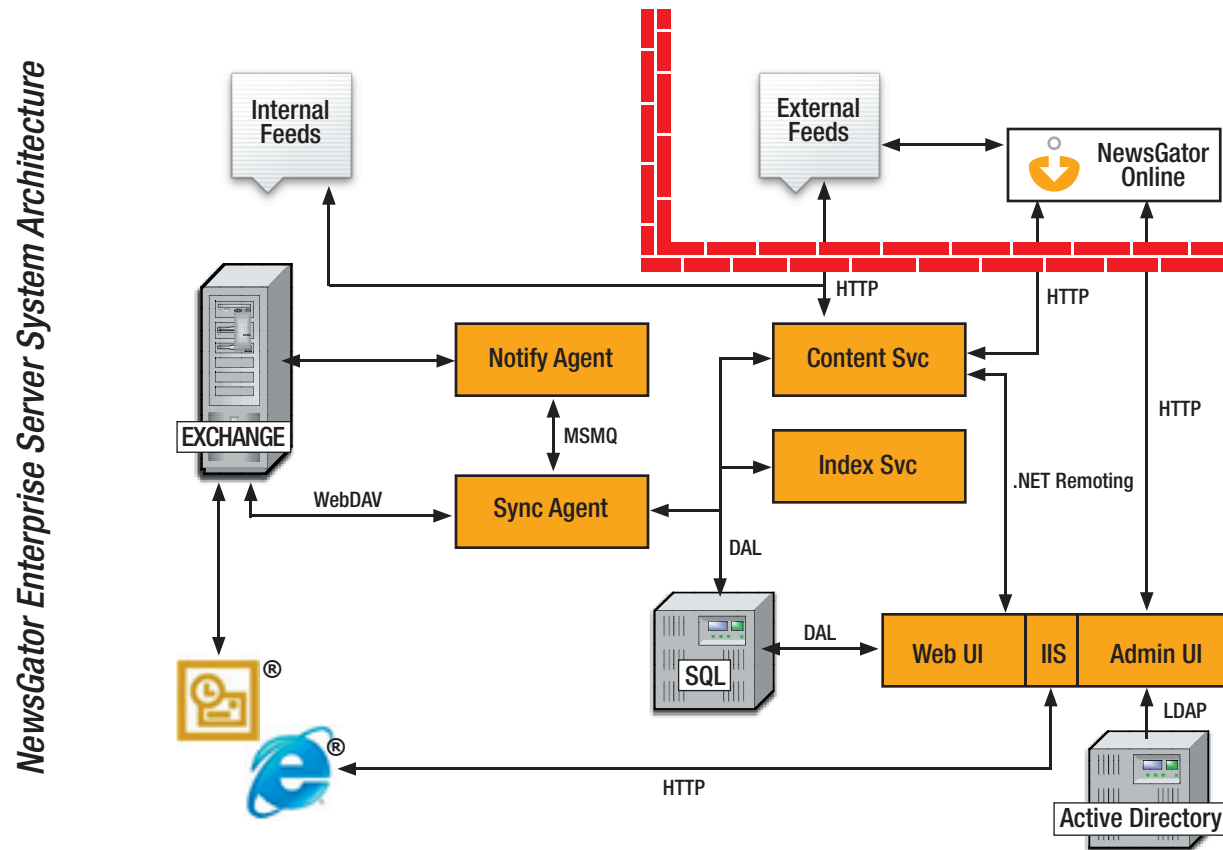
IT managers are also faced with the issue of bandwidth consumption. Traditional desktop aggregators can consume massive amounts of network bandwidth as they periodically poll each of their feeds for updated content. One hundred users subscribed to the same feed with desktop aggregators will consume one hundred times the bandwidth of a single user. Due to its unique architecture, NewsGator Enterprise Server consolidates and reduces bandwidth consumption, periodically retrieving each feed only once, regardless of how many users are subscribed to it. Additionally, the system intelligently times requests, smoothing the traditional "spikiness" associated with RSS.

Deployment and manageability are key considerations in any enterprise software decision. As we've previously discussed, desktop aggregators require client software installation, imposing a substantial deployment and manageability burden on IT. However, NewsGator Enterprise Server is, as its name implies, a server-based application installed not on each desktop and laptop, but rather on one or more servers hosted in the corporate datacenter. Users can access their feeds via a standard web browser or Intranet portal or, when the system is used with Microsoft Exchange, via Microsoft Outlook. Configuration changes and software updates are performed centrally with no need to ever modify the configuration of client machines.

Finally, scalability and performance are critical requirements when considering systems to be deployed to user populations ranging in size from five to fifty thousand or more. Such enterprise systems must be able to scale to support the required number of users at an acceptable level of performance. This requirement is often among the hardest for application vendors to satisfy, as fundamental architectural choices profoundly affect the scalability of a system. NewsGator Enterprise Server is based on the same engine that powers NewsGator Online, which has proven itself to be highly scalable.

Architecture:

NewsGator Enterprise Server consists of a set of services running on an application server, plus a set of web applications running on a web server. Typically, these logical servers reside on a single hardware server.



The system uses Microsoft SQL Server (or MSDE for smaller installations) as its data store and optionally integrates with Microsoft Active Directory for user and group information, and Microsoft Exchange for feed delivery via Outlook and other Exchange clients. It also communicates with NewsGator Online for Smart Feeds and access to the online content archives and index.

The system constantly aggregates and indexes content from internal and external feeds and delivers it to the appropriate Microsoft Exchange mailboxes. When the Content Service finds new content, it inserts it into the SQL database and notifies the Index Service and the Sync Agent. The Index Service indexes the new content for full-text search. The Sync Agent determines which content items need to be delivered to which users, batches the new content items per user, and pushes them into each user's Microsoft Exchange mailbox.

When a user accesses the system via the web interface, he logs in one of two ways. First, if he is already logged into the Windows domain, he is automatically logged in to NGES. Otherwise, he is presented with a login screen. Once the user is logged in, the web application fetches subscription information and feed content from the SQL database. If the user subscribes to new feeds, the web application notifies the Content Service, which (if it's not already polling for that feed) adds the new feed to its queue.

When a user accesses the system via Microsoft Outlook, Outlook is simply communicating with Microsoft Exchange using its native protocol. New feed content is delivered to Outlook whenever it synchronizes with Exchange. Certain operations cause Exchange to notify the Notify Agent, which in turn queues the changes and sends them to the Sync Agent, which updates the SQL database.

System administration is performed primarily via a web interface and a configuration tool. System information is stored in the SQL database. User and group information can be pulled from Active Directory.

The various components of NewsGator Enterprise Server have been designed to use well-understood protocols and technologies including LDAP, DAL, MSMQ, .NET remoting, WebDAV, and UDP. The overall system architecture has been designed to ensure optimal security, performance, and scalability.

SYSTEM REQUIREMENTS:

Server Hardware:

- 20 GB free disk space
- 1 GB RAM
- 1 GHz Processor
- 100 Megabit network adapter

Operating Environment:

- Microsoft SQL Server 2000 (with Service Pack 3) or later, (MSDE acceptable for up to 50 users)
- Microsoft Exchange 2000 (with Service Pack 2) or later, with WebDAV enabled (for optional Exchange integration)
- Microsoft Windows 2000 (or later) Active Directory (for optional Active Directory integration)

Client Software:

- Microsoft Internet Explorer 5.0 or later, Firefox 1.0 or later, Safari 1.2 or later
- Microsoft Outlook 97 or later (for optional Microsoft Exchange 2000 integration)
- Microsoft Outlook 2000 or later (for optional Microsoft Exchange 2003 integration)

Server Operating System:

- Microsoft Windows 2000 Server
- Microsoft Windows Server 2003

Conclusion:

RSS has proven itself to be both powerful and versatile, enabling such diverse enterprise functions as corporate communications, sales lead tracking, customer support, brand monitoring, competitive intelligence, project management, HR due diligence, and knowledge management.

NewsGator Enterprise Server is uniquely designed, engineered, and optimized to provide the rich RSS aggregation services and administrative controls required to enable these applications across the enterprise.