Inmagic® *Content Server* Workgroup Configuration Technical Guidelines

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Inmagic® *Content Server*

Today's organizations are depending more and more on content and information management solutions to ensure that individual business units are provided with timely and relevant information to maximize their productivity. Inmagic® *Content Server* combines the advantages of a robust and flexible database management environment with high-speed search and categorization. Built-in Web publishing capabilities allow content to be published to a corporate intranet or the Internet. And, unlike more complex content management systems, Inmagic *Content Server* is a system that can be deployed for use quickly and cost-effectively with only minimal support from the IT staff.

Inmagic *Content Server* uses a two-tier client/server architecture, with Microsoft® SQL™ Server providing the server component of the architecture. The product operates on local and wide area networks. It operates on the Web, and provides support for rapid Web site deployment. The information provided below describes the basic operating environments for both clients and server(s).

If you have any questions regarding this information, please contact your Inmagic representative at 1-800-229-8398.

The Components of Inmagic *Content Server*

Inmagic *Content Server* includes two major components:

CS/TextWorks – is the Windows client that provides the following major functional capabilities:

- Ability to set up and modify a database
- Password protection at the database, field or record level
- Specification of field types for all fields in the database
- Full-text searching including keyword, term, phrase, Boolean, proximity and comparison searches
- Scripting capabilities for JavaScript or VB Script
- Drag-and-drop forms designer to create reports
- Full data entry capabilities including spell checker, thesaurus, various import/export functions, and validation controls
- Printing support.

CS/*WebPublisher PRO* – services the Web client and provides the following major functional capabilities:

- Database driven publishing of content from any Inmagic database to a browser or Web environment
- Ability to create interactive forms, using a variety of third-party tools
- Support for customizing reports to match your Web site design
- Full support, via XML, for reading and writing content from a database
- Access to the templates in Inmagic's Web Forms Library for easy integration with local intranet or Internet designs
- XML Web Services for integration.

Inmagic *Content Server* Workgroup Configuration

The workgroup configuration is designed for a single server environment. An embedded version of Microsoft SQL Server 2000 Desktop Engine (MSDE 2000) is included with the *Content Server* workgroup configuration and is the only database that is supported in this configuration. MSDE 2000 supports databases up to 2 gigabytes. Without affecting performance, MSDE supports up to 8 simultaneous database transactions. We therefore recommend this configuration for customers with 5 – 20 concurrent Windows desktop and Web clients and up to 100,000 queries per day.

Sample *Content Server* workgroup configuration diagrams are shown on the following pages.

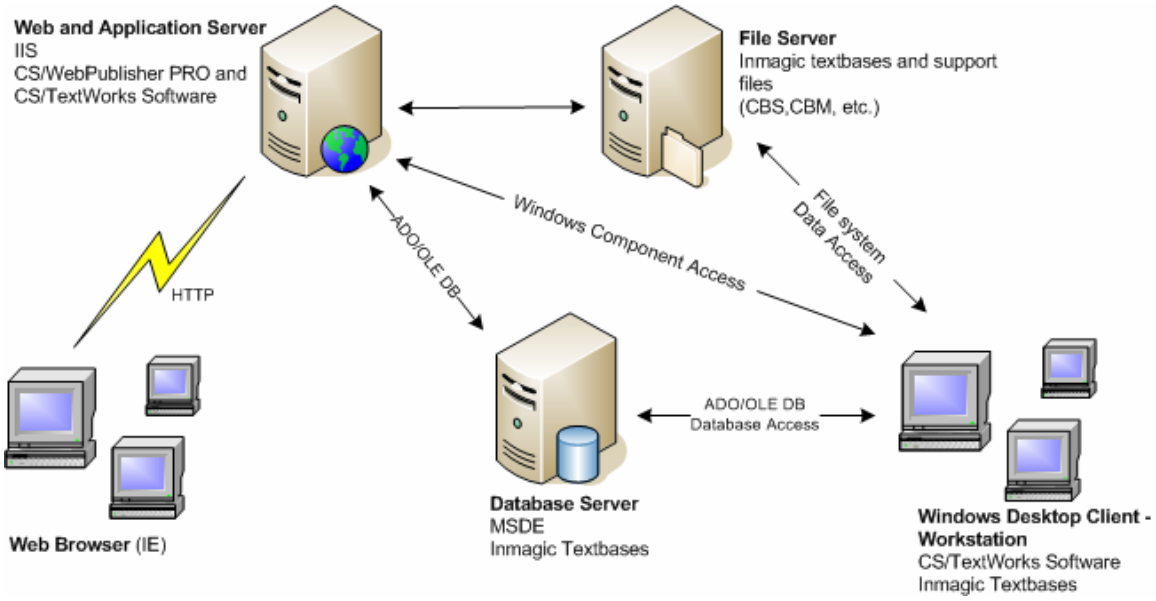

Figure 1. Sample intranet configuration

Figure 1 demonstrates an intranet configuration where all servers reside within a company's intranet. For this example, Web server, database server and file server are on separate boxes but not required. The Web browser access encompasses both internal end users and remote internal users accessing using VPN, etc.

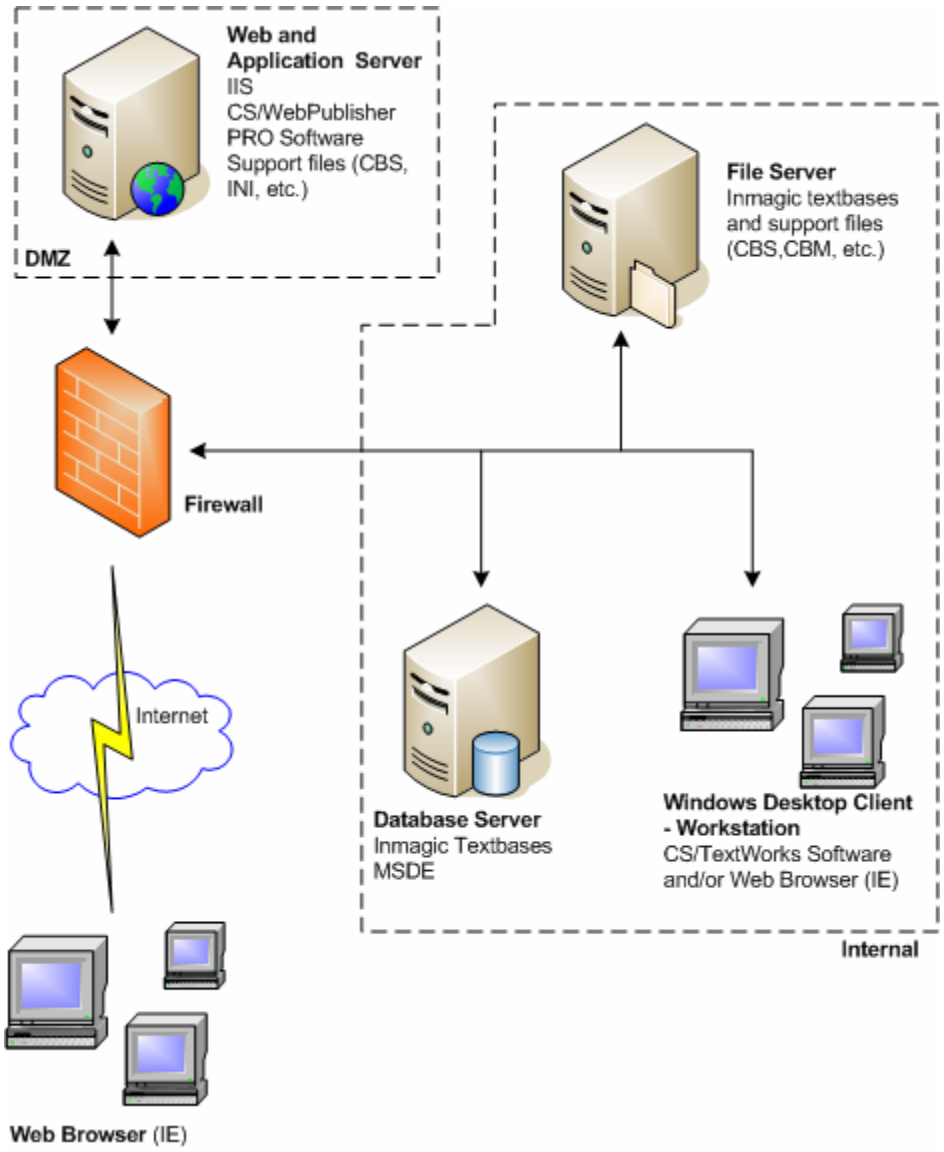

Figure 2. Sample Internet and intranet configuration

Figure 2 demonstrates Internet and intranet configuration with a firewall. The database server is shown as a single box.

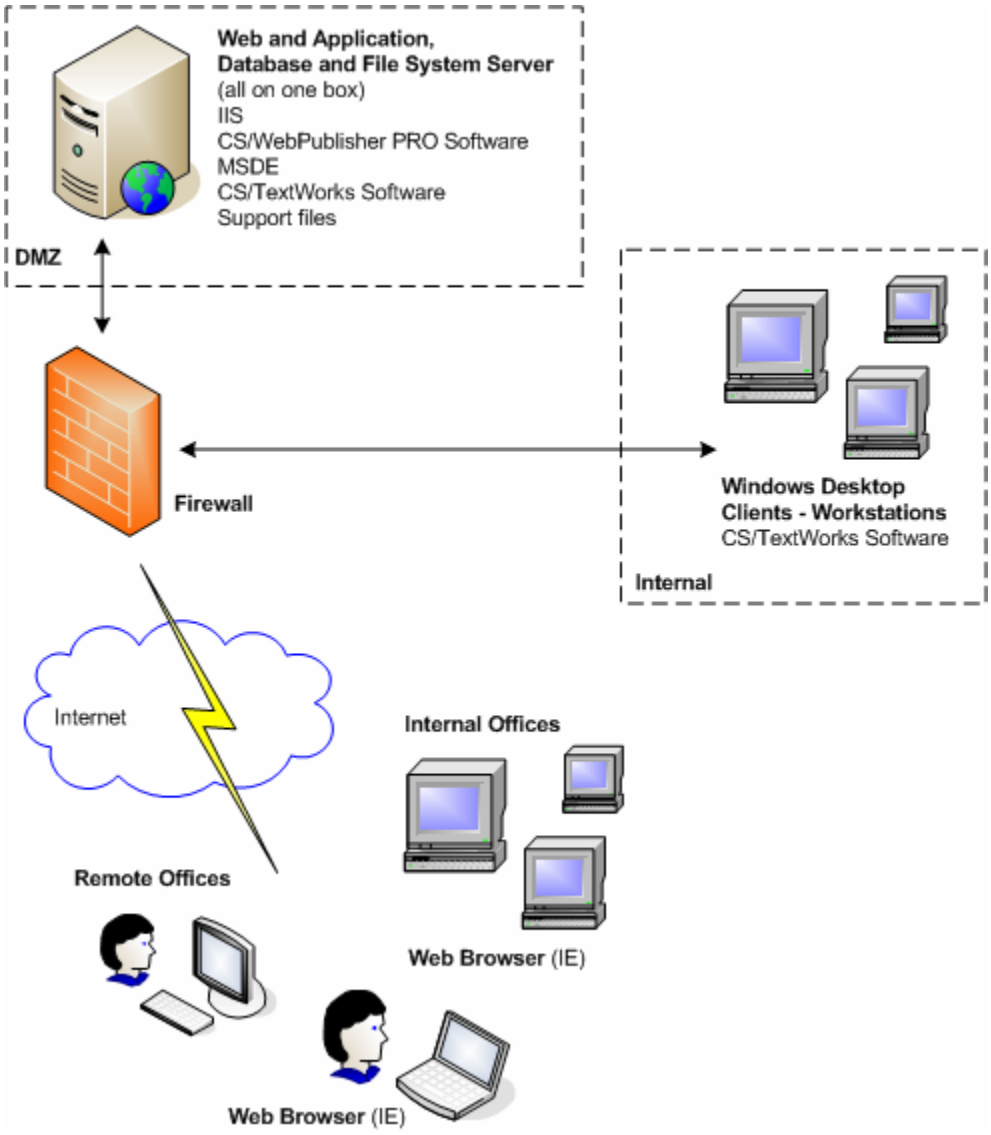

Figure 3. Sample internet configuration

Figure 3 demonstrates where the Inmagic database and support files can reside behind a firewall. One server can be used reducing hardware costs.

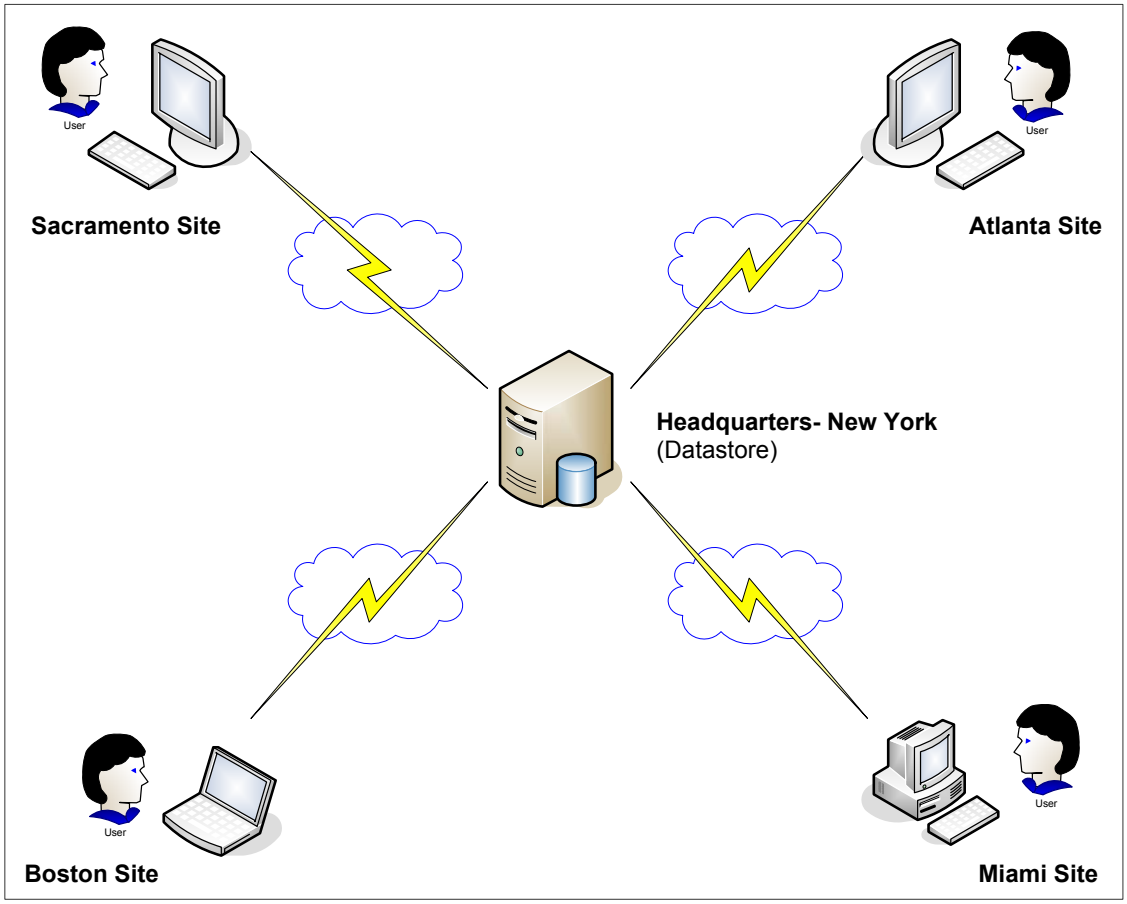

Figure 4. Multi-site configuration, central database used

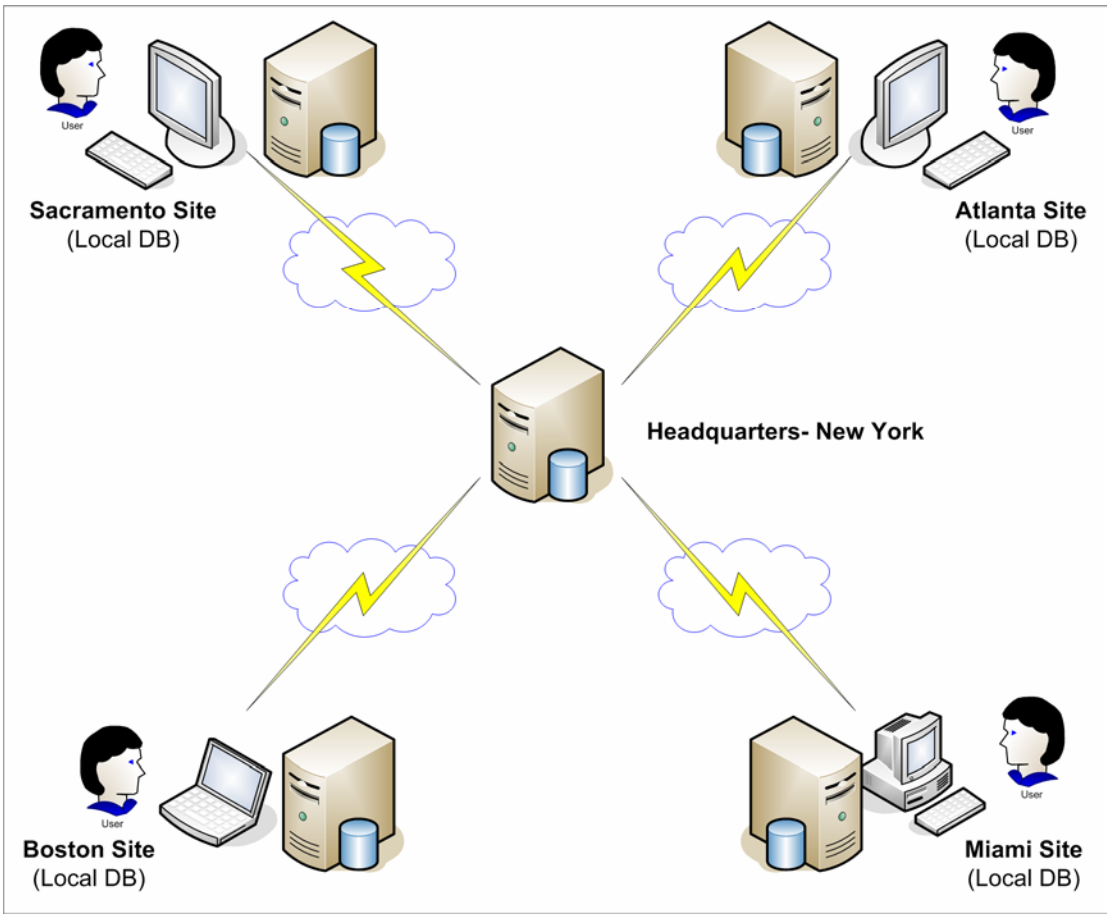

Figure 5. Multi-site configuration, central and local database used

With a multi-site configuration, there are various configuration options.

- Database replication provided by MSDE can be used if local databases are desired or needed. Depending on the business requirement, snapshot, transactional or merge replication can be configured and scheduled to run automatically.
- Each site can connect and use databases at a main, common site. Given a network bandwidth that provides acceptable performance, this can be used as an alternate configuration to having local databases.
- When replication is used with the workgroup configuration, all the databases must be MSDE per Microsoft and Inmagic license requirements.

Operating Environment Guidelines – Server Specifications

The Database Server is used to store the Inmagic *Content Server* control database and all user databases created using *Content Server.* In some environments, it may be desirable to install Inmagic *Content Server* on a separate file server to maximize performance. The Database Server requirements vary depending on the number of concurrent users, the type of content that is to be maintained: meta-data or bibliographic data only, full-text records, etc. Inmagic recommends that you discuss your requirements with our technical representatives in order to determine the minimum system configuration that will best meet your needs.

The following *Content Server* operations are known to consume large amounts of system resources and are recommended to be performed them off-peak business hours, if possible –

- Batch modify
- Import
- Load new textbase/database

The minimum system requirements are:

- IIS, Microsoft's Web server, is required to support CS/*WebPublisher PRO*.
- Although CS/*WebPublisher PRO* supports both ISAPI and CGI, Inmagic recommends ISAPI for better performance.
- Microsoft XML Core Services 4.0 SP2 will be automatically installed during setup, if not already installed.
- MDAC version 2.7 SP1 or greater is required.
- The .NET framework version 1.1 or greater is required.
- Internet explorer version 6 or greater

Database server:

Note: A dedicated database server is recommended.

Processor	Pentium or compatible, 540 MHz
Memory	At least 512MB recommended
Hard Drive	MSDE requires 44 MB Additional disk space is required for the textbases. The size depends on the projected size and anticipated amount of data.
Operating System	One of the following: Windows 2003 Server Standard Edition Windows 2003 Enterprise Edition Windows 2000 Professional with Service Pack 3 Windows 2000 Server with Service Pack 2 Windows 2000 Advanced Server with Service Pack 2 Windows 2000 Datacenter Server with Service Pack 2 Windows XP PRO with Service Pack 2
Software	Microsoft SQL Server 2000 Desktop Engine (MSDE) with Service Pack 3
Drive	CD-ROM drive

Web server:

Processor	Pentium or compatible, 540 MHz
Memory	At least 512MB recommended
Hard Drive	500 MB available disk space minimum, 1GB recommended
Operating System	One of the following: Windows 2003 Server, Standard Edition Windows 2003 Enterprise Edition Windows 2000 Professional with Service Pack 3 Windows 2000 Server with Service Pack 2
Software	CS/*WebPublisher PRO* Microsoft Internet Information Services (IIS) version 5.0 (Win2000) Microsoft Internet Information Services (IIS) version 6.0 (Win2003) Microsoft Internet Explorer version 6.0 or greater

Operating Environment Guidelines – Client Specifications

The minimal Windows client operating requirements for CS/TextWorks are:

Processor	Pentium or compatible, 330 MHz minimum
Memory	256 MB
Hard Drive	50 MB
Operating System	One of the following: Windows 2003 Server, Standard Edition Windows 2003 Enterprise Edition Windows 2000 Professional with Service Pack 3 Windows XP PRO with Service Pack 2
Software	Microsoft Internet Explorer version 6.0 or greater

Inmagic *Content Server* and MSDE

Because Inmagic *Content Server* workgroup configuration includes its own textbase engine for creating and maintaining the content, much of the database management functionality resides in this textbase engine and depends on MSDE primarily as a data store. This allows end-users to create new databases (textbases) easily and quickly requiring little to no support from the database administrator or systems administrator.

Key benefits provided by the textbase engine include:

- Fields and records have no size limitations. An entire document can be stored in a record without utilizing large objects.
- Repeating fields are supported without the user having to design additional tables, e.g. multiple authors of a document, subject terms describing a Web page, notes about a presentation, etc. There is no limit to the number of repetitions per record, and any field other than an automatic, link, access or computed field can repeat.
- Date information is recognized in a wide variety of text formats that occur naturally, including partial dates (“March 2003”), alphabetic or numeric representations (“March 31, 2003”, “3/31/03”), and copyright dates (“C1998”). These dates sort chronologically and can be used in calculations.
- Inmagic provides native support for indexing words. *Content Server* maintains its own word indexes in support of rapid retrieval.
- There are a number of sorting patterns supported especially useful for text, including:
  - Ability to ignore leading articles (“The Hague” files under H)
  - Ability to file numbers numerically even when they are embedded in text (“volume 10” files after “volume 9”)
  - Ability to ignore punctuation
  - Correct filing of Library of Congress classification numbers, often used in corporate library and information centers
  - Correct filing of Universal Decimal Classification numbers, used in many countries to organize document collections

With these capabilities, Inmagic *Content Server* provides great flexibility to users in creating and maintaining databases of unstructured content.

Accessing data from a textbase or the database

To ensure data integrity, SQL database tables may not be directly accessed for inserting data. Attempting to write data directly to the SQL database tables will likely corrupt the ability to update or utilize the data record and its indexes required for searching and other important data manipulation within *Content Server.*

Inmagic provides a robust XML API, ODBC driver and a SOAP interface that allows for data access.

Inmagic *Content Server* Workgroup Configuration Security

Content Server workgroup configuration defaults to using SQL Authentication for its MSDE database security.

Content Server workgroup configuration supports the use of Basic and Integrated Windows authentication on the Internet Information Services (IIS) Web server.

Inmagic *Content Server* Backup and Restore Recommendations

- √ Identify a regular backup strategy that will protect the *Content Server* data. Note that data is contained in the database and several flat files.
- √ Identify an on-site and off-site backup strategy, as applicable, including who needs to do what task and when it is scheduled.
- √ Identify what is to be backed up and the frequency.

Backup and Restore Methodologies Recommendations

Content Server Workgroup configuration uses Microsoft's MSDE database. The following two methods by which the textbase may be backed up and restored can be used for your *Content Server* data.

Manual Backup and Restore

Content Server textbases can be manually backed up through the *Content Server* Administration utility selecting "Back Up Textbase". The backup will backup MSDE database, all external textbase files and create six backup files - .dat, .cac, .cba, .cbs, .ini, and .log. The .dat file would be the MSDE database backup. The other five files are the backup for the external textbase files.

To restore, all six files will need to be in the same directory accessible by *Content Server*. Via the *Content Server* Administration utility, the data is restored by selecting "Restore Textbase". Through the "Restore Textbase" selection, the backup file directory is simply pointed to and the textbase is restored.

Combination of Manual and Automated Backup and Restore (Recommend)

Typically, external textbase files do not change often. They are primarily static unless there is a textbase change (such as a structure change or a form change). These changes could change the external files. If so, a manual backup is recommended when this is done.

Since the records and indexes that reside inside the MSDE database change often, the MSDE database needs to be backed up often. A database backup script is provided with *Content Server* that can be used to backup the *Content Server* data. This batch job can be scheduled to run in the timeframe and frequency desired so that the MSDE database is backed up automatically.

To restore the data, the .dat file generated by the script together will need to be placed with the latest external textbase backup files in the same directory accessible by *Content Server*. Note that all six files will need to have the same name with different extensions. The *Content Server* Administration utility is then used and "Restore Textbase" is selected. Through the "Restore Textbase" selection, the backup file directory is simply pointed to and the textbase is restored.

If SQL Server tools are available; they may be used to schedule automatic backups. The textbase files outside of the database are not backed up using these tools. A manual process, "Backup Textbase" in the *Content Server* Administrator utility, would be used to back up the textbase files outside of the SQL database.

About Inmagic, Inc.

Inmagic is the leading provider of advanced content catalog solutions to corporations and governments worldwide. Since its founding, Inmagic has been a key driver of innovations that help information-intensive organizations gain the greatest value possible from their knowledge assets. Inmagic clients integrate content from multiple internal and external repositories to build specialized content catalogs that manage, categorize and publish their critical knowledge assets for maximum business advantage. Inmagic solutions are installed in more than 7,000 organizations in over 50 countries.

Contact Inmagic, Inc.
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