



# ORACLE®

## File Store Provider

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# File Store Provider

## Overview

- **Business Case for Abstracted File Store**
- **What is File Store Provider?**
- **Functionality Overview**
  - File System
  - Relational Database
- **Setup and Configuration**
  - Partitions and Storage Rules
  - Examples
- **Important Considerations**

# File Store Provider

## Business Case for Abstracted File Store

- **Need enhanced management of files on file system**
  - Overcome limitations associated with directory structure
  - Overcome limitations with number of files per directory
- **Need to integrate repository management with database management**
  - Consistent monitoring processes
  - Consistent backup/recovery processes
  - Leverage db technologies for de-duplication and compression
- **Need to leverage different storage devices**
  - Content Addressed Storage (CAS) systems
  - Write-only devices

# File Store Provider

## What is File Store Provider?

- **A content server component that implements a file store system for data management**
- **Allows configuration of files stored in the file system**
  - Vault and weblayout directory path construction
- **Allows for multiple file stores per content server instance**
- **Allows for storage of files in relational database**
- **Allows custom file stores to be implemented**
  - For other storage devices like CAS and WORM

# File Store Provider

## Functionality Overview

- **Compatibility**
  - Content 10gR3 and later
  - For DB storage, Oracle DB 10g and later
- **File System Configurations**
  - Multiple, configurable vault and weblayout locations
  - Rule-based storage definition
- **Database Configurations**
  - Vault and/or weblayout in database
- **“Webless” store (File System or DB)**
  - Any files not converted will not be copied to weblayout location
  - Web URL will redirect to vault location

# File Store Provider

## Setup and Configuration

- Component “bundled” with content server but not enabled by default
- Component creates three new metadata fields
  - xPartitionId
  - xWebFlag
  - xStorageRule
- Default file store needs to be “upgraded” after installation of component before new functionality can be used



### Providers

Provider	Descriptor	Type	Connection State	Last Activity Date	Action
<b>SystemDatabase</b>	System I	database	15 out of 15 conn	3/11/07 5:32 PM	<a href="#">Info</a> <a href="#">Test</a>
<b>SystemServerSocket</b>	System :	incoming	good	3/11/07 5:32 PM	<a href="#">Info</a> <a href="#">Test</a>
<b>refinery_10gR3</b>	Connect	outgoing	good	3/11/07 5:32 PM	<a href="#">Info</a> <a href="#">Test</a>
<b>DefaultFileStore</b>	Default I	FileStore	good		<a href="#">Info</a> <a href="#">Test</a>

# File Store Provider

## Partitions

- Create different storage locations for files
- Content distributed across known partitions in round-robin fashion (when used in a Storage Rule)

Partitions			
Partition Name	Partition Root	Is Active	Action
n n <b>mypartition1</b>	C:\stellent3\partition1		 

Partition Name: mypartition1

Partition Root:

Capacity Check Interval:

Slack Bytes:

Duplication Methods:

Is Active:

# File Store Provider

## Storage Rules

- Allows explicit configuration of how and where files are stored
- Can have multiple rules
- Can use DB storage and FS storage on same instance

**Edit File Store Provider**

---

Provider Name

Provider Description

---

**Storage Rules**

---

Metadata Implementor

---

By configuration, the storage rule is assigned to a revision via the xStorageRule metadata field. If this value is not set, the system chooses the 'default' rule. In most usage scenarios, this field is hidden from the user interface and controlled via a content profile. However, if so desired, the administrator may choose to make it visible on the user interface.

Storage Rules



# File Store Provider

## Storage Rules: Example 1

Storage Rule Name MyRule1

**File system only**

Files will be stored on the file system only. The location of the files is specified by the storage vault information. Web files are stored on the vault and weblayout directories unless the 'Is Webless' option is checked. The webless filestore will apply only to files that require conversion and is tied to the metadata field xWebFlag.

**JDBC Storage**

Files will be stored on the file system. Renditions on the file system. Use the options below to force renditions to be stored on the file system.

Renditions

Vault Path  
C:/stellent3/partition1/vault/\$dDocType

**Is Webless**

Web-viewable Path  
C:/stellent3/partition1/weblayout/groups/\$dSecurityGroup

[Show Path Metadata](#)

The following rules are applied to web locations where there is expectations of parsing the relative URL for security and content ID information. By default, the URL may have its security attributes preceded by the 'groups' specifier and completed by the 'documents' specifier. After documents, the parser assumes that the next directory is the Content Type i.e. dDocType, which is then followed by the dDocName plus extension. However, the parser also recognizes the 'sg' directory as the beginning of the dispersion directory. Once 'sg' is encountered as a segment in the URL path, the parser searches for the 'd' segment. Once the 'd' segment is found, it proceeds to get the dDocName plus extension information.

Vault Path

C:/stellent3/p

Web URL File Path

Web-viewable Path

C:/stellent3/p

\$\$HttpRelativeWebRoot2\$groups/\$dSecurityGroup/\$dDocName\$\$RenditionSpecifier\$\$RevisionLabel\$\$ExtensionSe

Web URL File Path

\$\$HttpRelativeWebRoot2\$groups/\$dSecurityGroup/\$dDocAccount\$/documents/\$dDocType/\$dDocName\$\$RenditionSpecifier\$\$RevisionLabel\$\$ExtensionSe

OK

Reset

Cancel

Custom vault and weblayout paths specified

Custom config parameter specifies Web URL Path

# File Store Provider

## Storage Rules: Example 1 (contd.)

### Added to config.cfg

```
HttpRelativeWebRoot2=/idc3_1/
```

### Added to httpd.conf (Apache)

```
IdcUserDB idc3_1 "C:/stellent3/data/users/userdb.txt"  
Alias /idc3_1 "C:/stellent3/partition1/weblayout"  
<Location /idc3_1>  
    DirectoryIndex portal.htm  
    IdcSecurity idc3  
    Allow from all  
</Location>
```

# File Store Provider

## Storage Rules: Example 1 (contd.)

### Content Information

Content Actions E-mail

Content ID: TEST2

Revision: 6

Type: ADACCT - Acme Accounting Department

Title: test2

Author: sysadmin

Comments:

**Storage Rule Marked in Metadata**

C:\stellent3\partition1\vault\adacct

Name	Size	Type	Date Modified	Attributes
4.TXT	2 KB	Text Document	9/4/2007 2:44 PM	A
5.TXT	2 KB	Text Document	9/4/2007 2:51 PM	A
6.TXT	2 KB	Text Document	9/4/2007 2:54 PM	A
7.TXT	2 KB	Text Document	9/4/2007 2:56 PM	A
9.TXT	2 KB	Text Document	9/4/2007 3:22 PM	A
10.TXT	2 KB	Text Document	9/4/2007 3:26 PM	A

Native File: [README.TXT](#)

Discussion: [Create Discussion](#)

# File Store Provider

## Storage Rules: Example 2

Vault Path

```
$PartitionRoot$/vault/$dDocType/$dDocAccount/$dID$$ExtensionSeparator$$dExtension$
```

Web-viewable Path

```
 $#env.WeblayoutDir$groups/$dSecurityGroup/$dDocAccount$/documents/$dDocType/$dDocName$$RenditionSpecifier$$RevisionLabel$$ExtensionSeparat
```

Web URL File Path

```
 $HttpWebRoot$groups/$dSecurityGroup/$dDocAccount$/documents/$dDocType/$dDocName$$RenditionSpecifier$$RevisionLabel$$ExtensionSeparator$$
```

Vault Path

```
$PartitionRoot$/vault/$dDocType/$dDocAccount$
```

**Parameterized Vault Path (\$PartitionRoot\$)**  
**Round-robin selection from all enabled partitions**

# File Store Provider

## Storage Rules: Example 2 (contd.)

### Content Information

Content Actions E-mail

**Content ID:** TEST5  
**Revision:** 1  
**Type:** ADACCT - Acme Accounting Department  
**Title:** test5  
**Author:** sysadmin  
**Comments:**  
**Partition ID:** mypartition2  
**Web Flag:**  
**Storage Rule:** wwFsRule\_My  
**Security Group:** Public  
**Checked Out By:**  
**Status:** Released  
**Formats:** text/plain

## Storage Rule and Partition ID Marked in Metadata

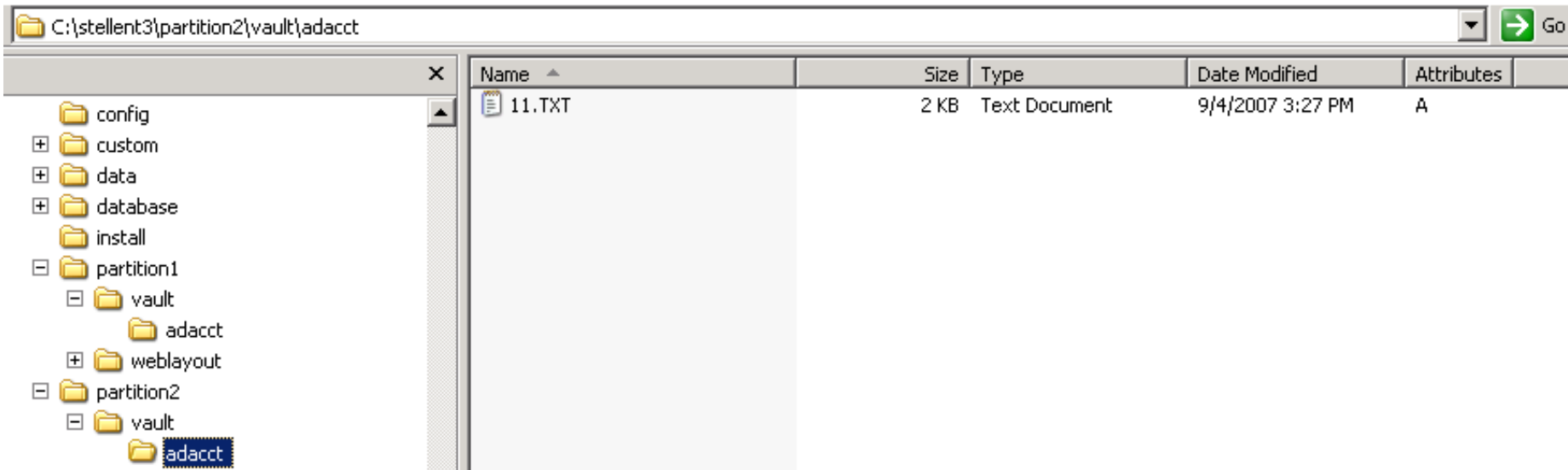
**Partition ID:** mypartition2  
**Web Flag:**  
**Storage Rule:** wwFsRule\_MyRule2

### Links

**Web Location:** <http://ecm/idc3/groups/public/documents/adacct/test5.txt>  
**Native File:** [README.TXT](#)  
**Discussion:** [Create Discussion](#)

# File Store Provider

## Storage Rules: Example 2 (contd.)



### Different vault location on disk

- Notice there is no separate weblayout under “partition2”
- Weblayout files are in usual location

# File Store Provider

## Storage Rules: DB Storage

- Choose database storage for one or more of the Storage Rules
- Choose to keep some renditions on disk

**File system only**

Files will be stored on the file system only. The location of the files is specified by the storage path information below. Files are stored in both the vault and weblayout directories unless the 'Is Webless' option is checked. The webless filestore will apply only to files that require conversion and is tied to the metadata field xWebFlag.

**JDBC Storage**

Files will be stored in the database unless the system has been configured to store specified renditions on the file system. Use the options below to force renditions to be stored on the filesystem and not in the database.

Renditions

---

**Is Webless file store**

Web Files  
Vault Files

# File Store Provider

## Storage Rules: DB Storage

Table Data Indexes Model Constraints Grants Statistics UI Defaults



Add Column Modify Column Rename Column Drop Column Rename Copy

Column Name	Data Type	Nullable	Default	Primary Key
DID	NUMBER	No	-	1
DRENDITIONID	VARCHAR2(30)	No	-	2
DLASTMODIFIED	TIMESTAMP(6)	Yes	-	-
DFILESIZE	NUMBER	Yes	-	-
DISDELETED	VARCHAR2(1)	Yes	-	-
BFILEDATA	BLOB	Yes	-	-
				1 - 6

**FileStorage table stores all appropriate renditions as blobs**

Table Data Indexes Model Constraints Grants Statistics UI Defaults Triggers Dependencies SQL

Query Count Rows Insert Row

EDIT	DID	DRENDITIONID	DLASTMODIFIED	DFILESIZE	DISDELETED	BFILEDATA
	12	primaryFile	06-SEP-07 08.25.15.765000 AM	1523	-	[datatype]
	12	webViewableFile	06-SEP-07 08.25.15.984000 AM	1523	-	[datatype]
						row(s) 1 - 2 of 2

[Download](#)

**Table can store any number of renditions**



# File Store Provider

## Important Considerations

- **Data Types**
  - Consider keeping web files on disk for WCM deployments
  - Consider FS storage for DAM deployments (especially video)
- **Storage Rule Configurations**
  - Avoid exposing File Store Provider metadata fields to end users (they are hidden by default)
  - Set values via Profiles (OnRequest or OnSubmit)
- **Webless Configurations**
  - Even if you have IBR, consider enabling “webless” store to avoid duplication of unconverted files (zip, exe, etc.)

# File Store Provider

## Important Considerations (contd.)

- **Keep Security Information in Web URLs**
  - Removing Security Group and Account information from web path will cause security checks to be disabled
- **Consider use of partitions to avoid too many files in a folder**
  - Scanning apps where everything goes into the same Security Group or Document Type
- **Remember that, when using DB storage, files are stored in Content Server's system database**
  - Component sample showing how to change this will be available in future release

# File Store Provider

## Important Considerations (contd.)

- **Even when files are stored in DB, file system cache is maintained (default 365 days)**
- **Updating Storage Rule metadata value of a document will cause the file to be moved to the new store!!**
  - Move content between stores by updating xStorageRule metadata
- **Rules can be added and enabled at any time**
  - Allows easy method to combat disk saturation
  - Allows for “archive” stores (searchable but no new additions)

# File Store Provider

## Questions? Comments?

- **Contact Information**

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- **For more information about File Store Provider, see**

- [http://download.oracle.com/docs/cd/E10316\\_01/cs/cs\\_doc\\_10/documentation/admin/admin\\_FS\\_provider\\_10en.pdf](http://download.oracle.com/docs/cd/E10316_01/cs/cs_doc_10/documentation/admin/admin_FS_provider_10en.pdf)