laptop computer, personal data assistant, or cellular device. The client **102** can include input/output devices, a central processing unit ("CPU"), a data storage device, and a network device. Typical input/output devices include keyboards, mice, displays, microphones, speakers, disk drives, CD-ROM drives, and flash drives. Computer readable media, such as the data storage device, provide for data retention. By way of example, computer readable media can include computer storage media and communication media. Computer storage media includes volatile and nonvolatile, removable and non-removable media implemented in any method or technology for storage of information such as computer readable instructions, data structures, program modules or other data. Communication media typically embodies computer readable instructions, data structures, program modules or other data in a modulated data signal such as a carrier wave or other transport mechanism and includes any information delivery media. The term "modulated data signal" means a signal that has one or more of its characteristics set or changed in such a manner as to encode information in the signal. Among the plurality of information stored on the data storage device is a client operating system ("OS") and client applications. The client OS is a program that manages the hardware and software resources of the client system. The client applications utilize the resources of the clients **101**, **102** to directly perform tasks specified by the user. The network device enables the clients **101**, **102** to send and receive data to/from the server **104**. Other configurations for the clients **101**, **102** are possible.

[0019] The document server **104** is a file server that is accessible in a network such as a LAN or the Internet. The document server **104** stores a plurality of files. These files can include both software application files and document files, as described further herein. The document server **104** controls access to the document files it stores. In example embodiments, the document server **104** can be located within an organization or can be part of an Internet-based shared document system. An example Internet-based shared document system is a SHAREPOINT® team services portal server services provided by Microsoft Corporation of Redmond, Wash. An example shared document server is Microsoft Office SharePoint Server 2007 provided by Microsoft Corporation of Redmond, Wash. Other configurations can be used.

[0020] FIG. **2** shows the example client **102** in more detail. The client **102** includes both non-legacy applications **202** that support coauthoring and legacy applications **204** that do not support coauthoring. For example, a new version of a word processing program, for example Microsoft Word provided by Microsoft Corporation of Redmond, Wash., may include functionality that permits multiple users to simultaneously open document files, edit those document files, and seamlessly merge the shared results. A previous version of the word processing program may not include all of this functionality. For example, a legacy application may allow only single users to open and edit document files at one time. However, both the new version and the legacy version may have a need to access the same document files from the document server **104**.

[0021] FIG. **3** shows the example document server **104** in more detail. The document server **104** includes an example document access processing module **302** and document files **304**.

[0022] The example document access processing module **302** controls the access to the document files **304**. For example, the document access processing module **203** can determine whether a software application can open and edit a file with full read-write access, can open a file with read-only access, or cannot have any access to the file. The example document access processing module **302** also determines whether a software application may share a document file with other software applications that have permission to coauthor the document file.

[0023] Referring now to FIG. **4**, the example document access processing module **302** includes a file sharing processing module **402** and a file lock processing module **404**.

[0024] The example file sharing processing module **402** determines if a software application supports coauthoring. The example file sharing processing module **402** also determines whether a document file being accessed by a software application supports coauthoring. The determination of whether a document file supports coauthoring is typically made by evaluating the meta data associated with the document file. For example, in one embodiment, the meta data associated with each document file includes a field that indicates whether or not the particular file supports coauthoring.

[0025] The example file lock processing module **404** controls the setting, resetting, and processing of file locks stored on the document server. A file lock is used to control write access to the document file. The file lock is typically stored in meta data and referenced by the document file. In some embodiments, file lock meta data may be stored in a database on the document server. In other embodiments, file lock meta data may be stored in the document file. A document file may reference one or more file locks. The document access processing module **302** uses the coauthoring status of the software application and the file lock status of a document file to determine whether a software application is permitted have write access to the document file.

[0026] In examples described herein, the document access processing module **302** is programmed to process one or more different types of file locks. For example, in one embodiment, three example types of file locks are a short-term shared lock, a short-term exclusive lock, and a long-term shared lock.

[0027] An example short-term shared lock is set on the document server when a software application that supports coauthoring requests access to a document file. With a short-term shared lock, the software application has full read-write permissions to the file. If a second software application that also supports coauthoring requests access to the same document file, the second software application will also be granted full read-write permissions to the file and will be permitted to edit the file simultaneously with the first software application. Additional software applications that support coauthoring are also granted full read-write permissions to the file in the same manner. However, if a software application that does not support coauthoring requests access to a document file that has a short-term shared lock, the request for full read-write access is denied by the document access processing module **302** and the software application is only permitted read access to the document file.

[0028] An example short-term exclusive lock is set on the document server when a software application desires exclusive write access to a document file. A short-term exclusive lock can be granted for both software applications that support coauthoring and legacy applications that do not support coauthoring. The file lock processing module **404** sets a short-term exclusive lock when requested by a user and no other