users have a short-term shared lock or a short-term exclusive lock for the document file. If a user requests a short-term exclusive lock and a short-term lock (either short-term shared or short-term exclusive) already exists for the document file, the request is denied. If the request is denied, the software application can view the document file on a read-only basis but cannot edit it. Once a short-term exclusive lock is set, if another user requests a short-term shared lock for coauthoring, that request is denied.

[0029] A short-term shared lock can also be transitioned into a short-term exclusive lock when a coauthoring client encounters a non-coauthorable feature in a document file, or when a user creates a non-coauthorable feature in an otherwise coauthorable document file. The determination of whether a feature is non-coauthorable is made by the software application. Typically, if a feature is not mergeable (i.e., the feature is not supported by the software application's merge engine) the feature is non-coauthorable. An example of a non-coauthorable feature is encrypted text.

[0030] A short-term shared lock and a short-term exclusive lock each have a timeout value associated with them. When the document file is accessed, either by reading or writing, the timeout value is refreshed. The example file lock mode processing module **404** resets the short-term shared lock when either the timeout value for the short-term shared lock is reached (due to inactivity on the document file) or when the document file is closed. Similarly, the example file lock processing module **404** resets the short-term exclusive lock when the timeout value for the short-term exclusive lock is reached, when the software application that requested the short-term exclusive lock closes or when the document file is closed. Other conditions for closing the short-term shared lock and the short-term exclusive lock are possible.

[0031] An example long-term shared lock is set for a document file when explicitly requested by a coauthoring user, typically via a user interface. There is no timeout value associated with a long-term shared lock but the long-term shared lock can be removed by an administrator of the document server **104** or can be removed by an explicit action of the user that requested the long-term shared lock.

[0032] When a long-term shared lock is set for a document file, the example file lock processing module **404** still sets a short-term shared lock on the document server when shared access to the file is requested by a coauthoring client. However, a legacy application that does not support coauthoring is denied full access to the document file and can only view the file in a read-only mode. The legacy application is denied full access to the document file even if the document file is not being edited and does not have a short-term shared lock. In addition, any request for exclusive rights to the file, such as by requesting a short-term exclusive lock, is denied, whether the request is made by a software application that supports coauthoring or by a legacy application that does not support coauthoring.

[0033] In alternative embodiments, other types of locks can also be used. For example, an embodiment may include a long-term exclusive lock. With a long-term exclusive lock, only one user can edit the file and there is no timeout value associated with the long-term exclusive lock.

[0034] FIG. **5** is a flow chart showing an example method **500** for controlling access to server document files. At operation **502**, a request to access a document file stored on a document server is received by the document server. The request is typically generated when a user of the software application at a client device attempts to open the document file with the software application. An example software application used for this purpose is a word processing program like Microsoft Word. The word processing program may be of a version that permits co-authoring of document files or it may be a legacy program that does not permit coauthoring. A determination of the coauthoring capabilities of the word processing program is made at operation **504**.

[0035] The file lock status of the document file is determined at operation **506**. The file lock is stored on the document server, typically via meta data and represents the coauthoring status of the document file. A plurality of file locks can be stored. Example file locks include 1) a short-term shared lock, representing that a software application that supports coauthoring has accessed the document file with the intent to write to it, typically by opening the document file in read-write mode, 2) a short-term exclusive lock, representing that a software application has exclusive access to the document file and 3) a long-term shared lock, representing that a user has made a specific request, typically via a user interface, to designate the document file as one available for file sharing. The request for the example long-term shared lock is an explicit request made independently from opening a document file. Other file locks are possible.

[0036] At operation **508**, the software application is evaluated to determine if the software application is capable of coauthoring. If the software application permits coauthoring, control is passed to operation **510**. At operation **510**, if the file lock status indicates short-term exclusive access, meaning that the document file has been assigned exclusive access to another user, write access to the document file is denied at operation **512**. In this case, the software application is permitted to view the document file on a read-only basis but is not permitted to edit the document file. If the file lock status does not indicate short-term exclusive access, at operation **514** the software application is permitted write access to the document file. In addition, if the file lock has not been set for shared status already, at operation **516**, the file lock is set to short-term shared status.

[0037] Referring back to operation **508**, if the software application does not support coauthoring, control is passed to operation **520** where the file lock status is evaluated to determine if there is a shared file lock. If there is a short-term shared lock, a short-term exclusive lock, or a long-term shared lock already set on the document file, the software application is denied write access to the document file at operation **522**. If however, there is no short-term shared lock, short-term exclusive lock or long-term shared lock set on the document file, the software application is permitted write access to the document file at operation **524**.

[0038] FIG. **6** is a flow chart showing another example method **600** for controlling access to server document files. In the example method **600**, a long-term shared lock is used. Initially, at operation **602**, a request is received at the document server to set a long-term shared lock for a document file. This request is initiated by a client, typically via a user interface on the client. At operation **604**, the server sets a long-term shared lock on the document server for the document file. The long-term shared lock is used to set a shared coauthoring status on the document file independent of a software application attempting to access the document file. In this manner, when a software application does attempt to access the document file, a coauthoring status is already set for the document file.