

will continue to run whenever a non-severe error occurs. However, some errors are severe and the reconciler service cannot continue to run. In such cases, the reconciler will stop after logging the error event.

In order for the WorkFolder Reconciler service to reconcile all public folders that contain WorkFolders, it needs write access to these folders. In the preferred embodiment, the WorkFolder Reconciler is an NT Service, with an associated account. Thus, this account must have the appropriate access rights on every server that is running the WorkFolder Reconciler to accomplish its task.

In a specifically preferred embodiment, the WFX program presents the WorkFolder information to the user through a conventional Microsoft Windows GUI protocol with pull-down menus and tool bars. A WorkFolder may be created and edited using standard commands such as insert, delete, copy, cut, and paste.

FIG. 5 is an illustration of a conflict mediation dialog box 170 which is presented to a user during an attended reconciliation procedure. As discussed above, when a user saves an edited Workfolder and a conflict is detected, the user whose changes created the conflict (typically the second user to save an updated WorkFolder) is presented with a mediation dialog containing conflict resolution data and prompted to resolve. In this example, two conflicts are present. As shown, the conflict dialog box 170 indicates the data element that changed 172, the change that was made by the present user 174, the conflicting change entered by a previous user 176 and the previous user's ID 178. Given this information, the user can then resolve the conflict on an item-by-item basis by selecting which of the two values to preserve. Alternatively, the user can indicate that all changes introduced by a specified ID be preserved, e.g., by pressing the appropriate function button 180.

FIG. 6 is a screen display which shows conflicting sub-items that result when a conflict requiring mediation occurs but mediation is not immediately performed (i.e., during unattended reconciliation). When a WorkFolder with a conflict element is retrieved and viewed, both versions of the conflicting element are presented as sub-elements 184, 186 under a special conflict heading 182. In this example, a conflict was created when one user defined the status of Invention Disclosure "started" while a second user defined the status as "not started." The conflict is resolved when a user with the proper authority selects which of the two sub-items 184, 186 to preserve.

The invention has been described in detail with particular reference to certain preferred embodiments thereof, but it will be understood that variations and modifications can be effected within the spirit and scope of the invention.

What is claimed is:

1. A method of automatically resolving data conflicts in a shared data environment where a plurality of users can concurrently access at least portions of a master data file comprising the steps of:

- creating a local data file which is a copy of at least a portion of said master data file;
- detecting an attempted update of said master data file with said local data file;
- determining if any changes made to said local data file by a first user are in conflict with changes made to said master data file by a second user;
- updating said master data file with non-conflicting changes made to said local data file; and
- in response to determining that a particular change to said local data file conflicts with a change to said master data file:

- (a) notifying at least one user of said particular data conflict;
- (b) presenting said user with conflict resolving information related to said particular data conflict;
- (c) receiving user input indicating how said particular conflict should be resolved; and
- (d) resolving said particular data conflict in accordance with said user input.

2. The method of claim 1, wherein said at least one notified user includes at least one of said first and second user.

3. The method of claim 1, wherein said presenting step includes the step of displaying at least a portion of the conflicting data in said local data file and said master data file.

4. The method of claim 3, wherein said at least one notified user includes said first user and said presenting step further includes displaying the identify of said second user.

5. A method of automatically resolving data conflicts in a shared data environment where a plurality of users can concurrently access at least portions of a master data file having one or more data elements and existing in a shared storage area, said method comprising the steps of:

creating a local data file which is a copy of at least one of said one or more data elements of said master data file in a local storage area;

detecting an attempted save of an edited version of said local data file by a first user;

determining for each changed data element in said edited local data file whether updating a corresponding data element in said master data file with said changed data element will conflict with a change made to said corresponding data element in said master data file by a second user;

completing said save by:

(a) updating said corresponding data element in said master data file with said changed data element if no conflict will be created; or

(b) initiating an attended conflict reconciliation dialog with at least one of said first and second user if a conflict will be created and, according to the results of said dialog, either updating said corresponding data element in said master data file with said changed data element, or preserving said corresponding data element in said master data file.

6. The method of claim 5, wherein:

the step of determining further includes the step of detecting whether said edited version of said local data file contains a new data element; and

and the step of completing further includes the step of adding said new data element to said master data file.

7. The method of claim 5, wherein the step of determining further includes the step of comparing said changed data element to one of said corresponding data elements in said master data file, wherein a conflict does not exist if said changed data element and said compared data element are the same.

8. A method of automatically resolving data conflicts in a shared data environment where a plurality of users can concurrently access at least portions of a master data file having one or more data elements and existing in a shared storage area, said method comprising the steps of:

creating a local data file which is a copy of at least one of said one or more data elements of said master data file in a local storage area;

detecting an attempted update of said master data file by a first user with an edited version of said local data file;