Items shared through Social Media may affect more than one user’s privacy—e.g., photos that depict multiple users, comments that mention multiple users, events in which multiple users are invited, etc. The lack of multi-party privacy management support in current mainstream Social Media infrastructures makes users unable to appropriately control to whom these items are actually shared or not. Computational mechanisms that are able to merge the privacy preferences of multiple users into a single policy for an item can help solve this problem. However, merging multiple users’ privacy preferences is not an easy task, because privacy preferences may conflict, so methods to resolve conflicts are needed. Moreover, these methods need to consider how users’ would actually reach an agreement about a solution to the conflict in order to propose solutions that can be acceptable by all of the users affected by the item to be shared. Current approaches are either too demanding or only consider fixed ways of aggregating privacy preferences. In this paper, we propose the first computational mechanism to resolve conflicts for multi-party privacy management in Social Media that is able to adapt to different situations by modelling the concessions that users make to reach a solution to the conflicts. We also present results of a user study in which our proposed mechanism outperformed other existing approaches in terms of how many times each approach matched users’ behaviour.