FOURTH TUTORIAL ASSIGNMENT

In a two player strategy game, the first player says 'January 1, 2000' and then players after that say on their turn any date later in time than the previous one by changing at most two of the day, month or year. That is, a player may change only the day, or only the month, or only the year, or the day and month, or the day and year, or the month and year (but not all three at the same time).

The person wins when they are able to say on their turn 'December 31, 2013.' Is there a strategy that will guarantee a win? What is it?

For example, the first player says 'January 1, 2000,' then second player might say 'January 5, 2000.' The first player then might say 'April 5, 2003.' If the second player says 'December 5, 2003,' then the first player can say 'December 31, 2013' and the game is over.

The game is interesting enough if the start date is 'January 1, 2013' and the end date is 'December 31, 2013' and if you add the restriction that only the day or the month can be changed, but not both. You might start by figuring out this game and extending the problem to the game described above. Does your strategy change if you are allowed to change only one of the day, month or year? What if you add the additional parameters of hours, minutes and seconds?