Questions about Executive Stock Options

The date is December 31, 2004 and you have accepted a job working for Cisco, the large network equipment company. As part of the compensation package, Cisco has given you the choice of a $25000 cash bonus or call options on 50000 shares of their stock. The calls are European, and expire in 5 years. The strike price will be set at $40 per share. You have to make a decision by tomorrow which to accept.

The Compass site contains historical information on the company's stock (symbol CSCO) and on traded options as of 12/31/2004. Another file shows interest rates on that date. Using this information, prepare a report addressing the following issues.

- **Question 1.** Assume the call options are just like standard exchange-traded calls, except that you are not allowed to sell them to somebody else. What are the options worth using a standard binomial model? Are you comfortable with this valuation? What factors does the model not know? Would these factors make the options more or less attractive? Which bonus would you pick?

- **Question 2.** Assume that there are no restrictions or costs to selling short the stock, but the options contracts will not *vest* unless you are still employed by the company on the expiration date. In other words, the options are cancelled if you resign or are fired. How might you incorporate this provision in your valuation? Suppose it only applies if you quit (i.e. the options do vest if you are fired). Would you now choose the options or the cash.

- **Question 3.** What is the company attempting to do by offering you the options? What financial engineering problem are they trying to solve? Does their strategy make sense?

- **Question 4.** Later in 2005, Cisco came up with an original financial engineering product to try to convince regulators that executive stock options should <u>not</u> be valued with standard options pricing models. See the New York Times article on Compass describing their invention, called Esors. If Cisco is successful in selling the Esors, will they be happy if investors discount them a lot relative to no-arbitrage models? Is there any down side to this strategy?