

# Lincoln Cable TV Advisory Board

## Navigator Hardware/Software Subcommittee Report

Draft 5-9-07

### **FINDING:**

Time Warner performed a "beta test" of the Navigator software in the City of Lincoln. They did so in a manner that violated normal industry practice, degraded provided services without compensation to users, and without appropriate notice to those impacted.

### **BACKGROUND**

In accord with common practice in both civilian and military software development, an "alpha test" of software is performed by the developers and/or people within the developing organization. The purpose is to identify and correct critical flaws that impact operability and prevent the software from satisfying the basic requirements that prompted its development. A second level test, "beta test," is performed by people from the using community ("users") who are not part of the developing company or organization. The beta test is typically the first time that the software is exposed to people outside the developing company or organization. The purpose of beta testing is to identify and correct errors that become apparent only by the large-scale exercising of the software. Errors that are typically identified are those peculiar to many different types of hardware configuration, errors appear only when particularly idiosyncratic conditions exist, and those that are caused through some highly repetitious event.

These two test levels are considered, in common practice, as an important part of software development. It is necessary and appropriate to perform beta testing with a large number of people who would be expected to use the software. A company needing to do beta testing will typically ask for volunteers. The volunteers are notified that the software is experimental, is expected to have errors, and is expected not to deliver final functionality. In exchange for some compensation, the volunteers exercise that software and report findings back to the developers. Compensation is typically free software, occasionally money, and certainly recognition in the form of a letter or email in appreciation.

If Navigator had been a mature product it would have been launched in many cities simultaneously. However, Lincoln was elected by Time Warner as an early market to use the software. The Lincoln roll-out of the Navigator software was accompanied with great hype about the wonderful advantages and potential of Navigator. There was no indication that the software was not a fully tested and mature product. In fact, the software was buggy, subject to crashes, was missing promised functionality, and had very poor graphics. The functional deficiencies impacted both digital and analog access for the digital cable customers. In the opinion of software experts, its performance was at best early beta and at worst still in alpha testing. Hundreds of complaints were received by the Cable TV Advisory Board and it has been reported that thousands were received by Time Warner customer service.

Time Warner was reasonably responsive in fixing complaints about the new software. There were many releases of upgrades to the software. This is a necessary and appropriate part of beta testing and further corroborates the opinion that it was, in fact, beta testing. Time Warner was following appropriate and necessary software engineering practice. However, Time Warner did not notify users as to the status of the software, did not ask their permission to utilize them as beta testers, and did degrade the functionality and reliability of the cable system without compensation. Time Warner did not follow common beta test practice with respect to its customers.

It is our belief that the Navigator software is now reasonably stable. Continued development is expected to bring full functionality.

### **RECOMMENDATION 1:**

Since beta testing did result in a loss of functionality without compensation, it is recommended that Time Warner be required to rebate to each digital cable customer 15% of their total cable television bill for each month during which the customer performed beta testing. The Board believes this period to be from first installation of Navigator into the customer's home until the end of the March 2007 billing cycle. We recommend the total bill rather than just the increment for digital service because total cable access, analog and digital, was affected. The board believes this rate of rebate is reasonable because of the inconvenience caused to customers, the failure to render service at a quality expected from past experience by customers, and for partial loss of access to services.

### **RECOMMENDATION 2:**

Because Time Warner did not follow common notification and compensation practice in the beta testing of Navigator, it is recommended that Time Warner be asked to establish a testing policy, including appropriate and timely notification, indication of potential problems and difficulties, methods for collecting user opinions and findings, and compensation of users, for all future major software releases. Major software release is defined as replacement of more than 25% of existing software code or requiring significant modification of user documentation or significant retraining of users. This policy is subject to review and approval by the City Council upon the advice of the Cable TV Advisory Board.