



U. S. ELECTION ASSISTANCE COMMISSION

VOTING SYSTEM TESTING AND CERTIFICATION PROGRAM

1201 New York Avenue, NW, Suite 300

Washington, DC. 20005

July 7, 2010

In response to the ES&S DS200 System Lockup Analysis for Unity v. 3.2.0.0, the EAC finds that the report provides an insufficient explanation and analysis of the root cause of the anomaly. The EAC requests clarification of the following questions prior to EAC acceptance of this report.

Overall issues:

- The title of the document references 3.2.0.0 REV 1. Currently this fix is not part of that tested configuration, test campaign and report.
- Insufficient details and descriptions of the investigation and test parameters, setups, raw data, and results to enable the EAC to assess the thoroughness and completeness of the research.

By Section:

- 1.2 – It is not clear what analysis was performed on the returned equipment or if validation tools were used to check the validity of the installed software.
- 1.3 – What hardware problems were examined?
- 1.4 – How many machines were tested? How was it determined a battery change was necessary? If a battery is bad would it cause THE symptom to be exhibited? How many units had the batteries replaced relative to the units that failed?
- 1.5 – To what extent does the core dump alter the certified configuration and will this feature remain on? If it remains on then how was the software tested?
- 1.6 – It is unclear exactly what was done each day in terms of testing. Were tests repeated multiple times each day on the same unit or only performed once per day on a unit?
- 1.8 – What are the statistics of the “perceptible difference”?
- 1.10 – What was done for the “constant operation” and was anyone interacting with the screen in the chamber? What was the unit chartered to do, and what were the criteria for no demonstrated symptoms?

- 1.16 – We would like a copy of the report “USB traces analysis and interpretationV1-1.doc”
- 1.18 – In the second bullet, what parameter caused the x-call failure?
- 1.21 – Was the problem still present even after fixing the memory management problem and a failing x-windows call?
- 1.22 – It is stated that the touch test is “most prone” to cause the shutdown issue. Are there other causes for the shutdown? In the last paragraph, how long was the “substantial testing” and what were the before and after statistics?
- 1.23 – The “Summary” is not a clear and cogent summation of the problem and the determination of root cause. In addition, the summary also brings new issues to light. For example, the statement about pressing the “hotspot” on wake up was never discussed as a possible cause of the shutdown.

In summary the EAC requests a concise description of the root cause and an engineering/technical description of how the changes proposed solve the symptom. In addition the EAC needs to see a mapping of how the various discoveries relate to the final solution, i.e. memory management, double free and x windows along with a set of recommended test conditions to replicate the anomaly so that the test case can be validated to detect if the modification has remedied the problem.

Please let me know if you have any questions regarding this letter or the requested information. EAC looks forward to receiving this information so it can work with the VSTL to adequately test the purposed fix to this issue.

Brian J. Hancock

A handwritten signature in black ink, appearing to read "Brian J. Hancock". The signature is fluid and cursive, with the first name "Brian" and last name "Hancock" clearly legible.

Director, Testing and Certification

cc: iBeta Quality Assurance