VALLEY TECHLOGIC

# Computers and Time:
A History of Time Related Bugs

1970
Many COBOL systems only used a 1 number interger to represent time, IE 8 to represent "1968". The fix was expanding the date field to two numbers, which was a stretch on storage for systems at the time.

1975
The first overflow related time problem occurred. The 12-bit field on the DECsystem-10 operating system overflowed, causing numerous crashes until a new system was developed.
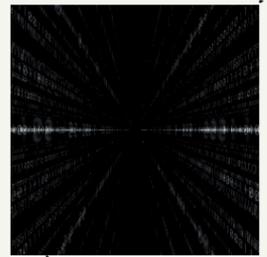
1997
On November 2, 1997 unpatched Domain/OS systems became unusable when time rolled past 47 bits.

1999
In many systems 9/9/99 was used as a rogue value to indicated an unresolved date, so issues occurred when September 9, 1999 rolled around.

2000
The infamous Y2K problem, which was mostly fixed by the time the date actually rolled around. Engineers had to work tirelessly to switch the previous two digit year value to four ahead of the New Year.

2010
Along came the "Y2.01k" which mostly effected SMS processes. Problems with encoding lead to dates being incorrectly read for some phones, although the glitch also caused 20 million bank cards in Germany to stop working as well.

2013
The Deep Impact Space Craft lost communication with earth on August 13, 2013. This occurred after a clock counted 2^{32} tenth-seconds past January 1, 2000

2038
All systems currently operating on a 32 bit Unix and Unix-like operating systems will need to be upgraded to 64 bits before January 19. 2038. So many individual applications, protocols and file formats will be affected by this potentially it's been nicknamed the "computer apocalypse".