Knight Capital Reading

Estimated time needed: 5 minutes

Knight Capital was a financial service company on the stock exchange and was one of the largest traders in the U.S. market. Their market share was 17.3 of the New York Stock Exchange and 16.9 of NASDAQ.

The company had a retail liquidity program and wanted to replace old SMARS code with new RLP code. Their strategy was to repurpose a flag that turned it on and off. The old code was a power pipe peg that remained on the server. They were going to upgrade it, switch the flag, and then start running the new code. So, what could go wrong?

On August 1, 2012, they manually upgraded seven of the eight servers. A system administrator upgraded seven of them and forgot to upgrade the eighth server. They went into test mode and thought they were testing servers when they flipped the switch. Instead, the eighth server ran real transactions on the real Internet to the tune of a $640 million loss.

This caused a major disruption in the prices of 148 companies listed on the New York Stock Exchange. Incoming parent orders were processed. The defective power pipe peg sent millions of child orders resulting in 4 million executions of 154 stocks of more than 397 million shares in approximately 45 minutes. The next day Knight Capital was out of business—bankrupt— because someone did not upgrade that eighth server. The old code ran, and it made transactions it should not have made.

What could they have done differently to prevent this type of error?

This case is a great example of how using Continuous Delivery to automate deployments could have avoided one server being configured differently from any other server. Without automation, every deployment is an opportunity for human error and a chance of breaking the application. Automated deployment and testing for a test environment, staging environment, and production-like environment would have ensured that the change would not have caused this catastrophe.

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