HOW OUR SREs SAFEGUARD NANOSECOND PERFORMANCE – AT SCALE – IN AN ENVIRONMENT BUILT TO FAIL

JILLIAN HAWKER
1. UNDERSTANDING THE TRADING ENVIRONMENT
2. EXPERIENCING DISASTER
3. MITIGATING THE RISK

A DIFFERENT PERSPECTIVE ON SRE
MARKET MAKING

WHAT IS A MARKET MAKER?

EXCHANGES NEED MARKET MAKERS

TODAY, EXCHANGES ARE ELECTRONIC
OUR PRODUCTION ENVIRONMENT
A DIFFERENT PERSPECTIVE ON SRE

1. UNDERSTANDING THE TRADING ENVIRONMENT
2. EXPERIENCING DISASTER
3. MITIGATING THE RISK
EXPERIENCING DISASTER

The New York Times

Knight Capital Says Trading Glitch Cost It $440 Million
BY NATHANIEL POPPER  AUGUST 2, 2012 9:07 AM

Troubled broker Knight Capital may be for sale

REUTERS

U.S. MARKETS  AUGUST 1, 2012 / 8:36 PM / UPDATED 9 YEARS AGO

Error by Knight Capital rips through stock market

THE WALL STREET JOURNAL

Loss Swamps Trading Firm
Knight Capital Searches for Partner as Tab for Computer Glitch Hits $440 Million

USA TODAY

MONEY

Knight Capital fined $12M for trading violations

FINANCIAL TIMES

Knight Capital glitch loss hits $461m
A DIFFERENT PERSPECTIVE ON SRE

1. UNDERSTANDING THE TRADING ENVIRONMENT
2. EXPERIENCING DISASTER
3. MITIGATING THE RISK
HOW DO YOU RETAIN CONTROL?

• EXPLICIT CHANGES
• IN-HOUSE APPLICATIONS
• SIMPLIFIED TRADING STACK
• PHYSICAL HARDWARE
MITIGATING THE RISK

- **Millions** of trades per day on >60 exchanges
- **600** different applications
- **35,000** changes per year
- Moving **230TB** of data a day at 10GB a second
- **1500** servers globally
- **10,000** highly customized components
- **14,000** releases per year
- Latency optimized to nanoseconds
“CULTURE BEATS STRATEGY EVERY TIME”
BETSY BEYER, SITE RELIABILITY ENGINEERING