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Successfully Managing Fraud

Within Turbine's Massively Multiplayer Worlds

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turbine®

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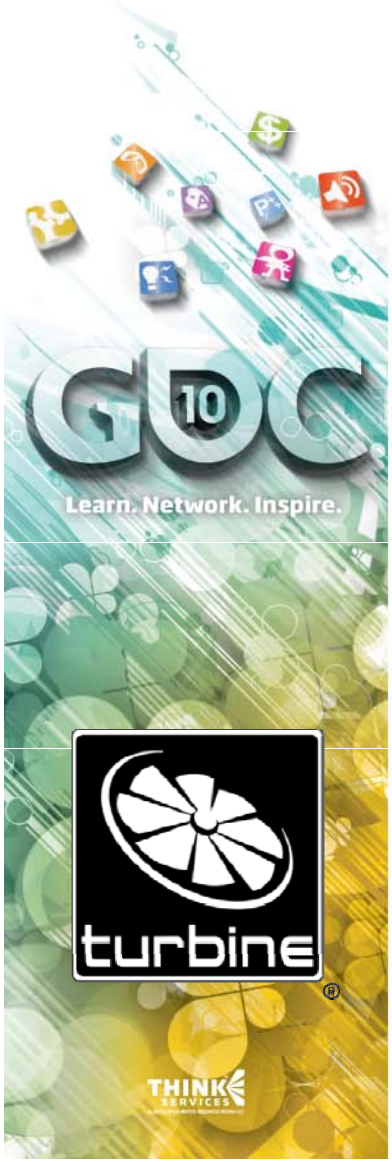

About Me

- **Alexander Engel**
  - Anti-Fraud Supervisor – **Turbine Inc.**
  - Senior Game Master – **Turbine Inc.**
- Leads anti-fraud team across all of Turbine's franchises

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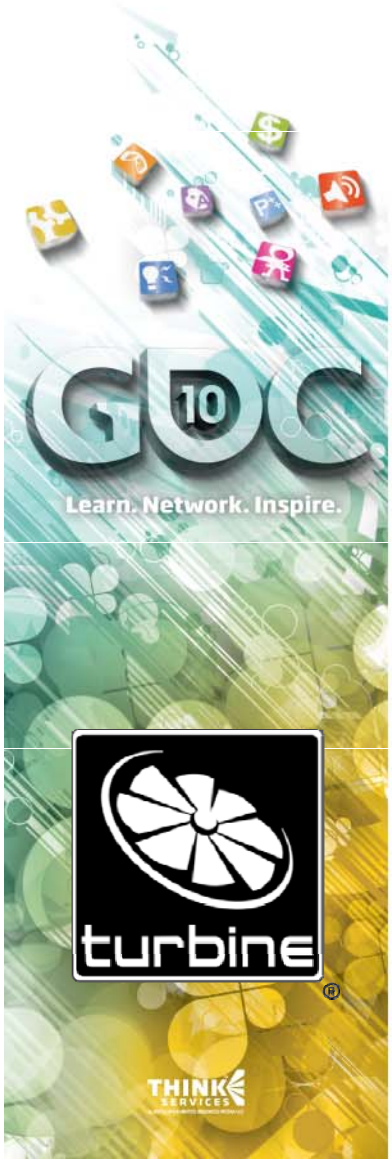
About Turbine



Founded:

1994

Employees:

300+ (Boston/SF)

Franchises:

The Lord of the Rings Online™

Dungeons & Dragons Online®

Asheron's Call®

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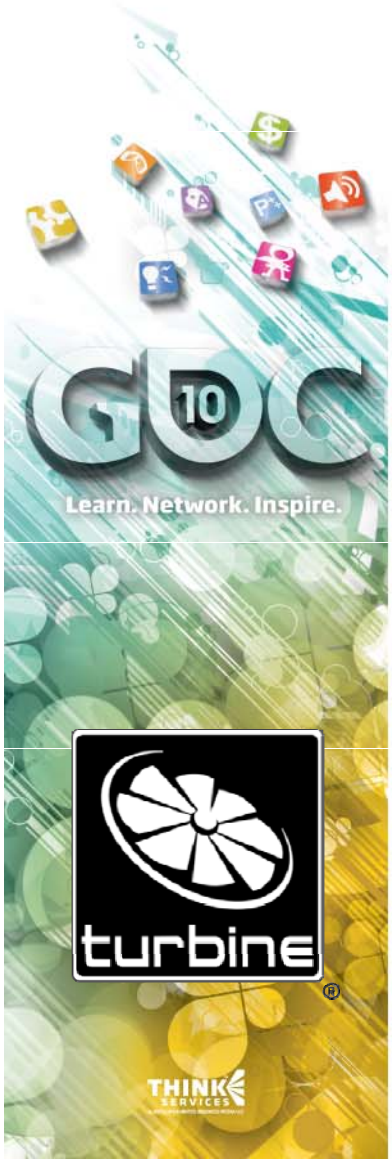
Goals



- Preparation for and prevention of fraud
- The sources of fraud
- The problems caused by fraud
- Educating our customers
- Turbine's results using these methods

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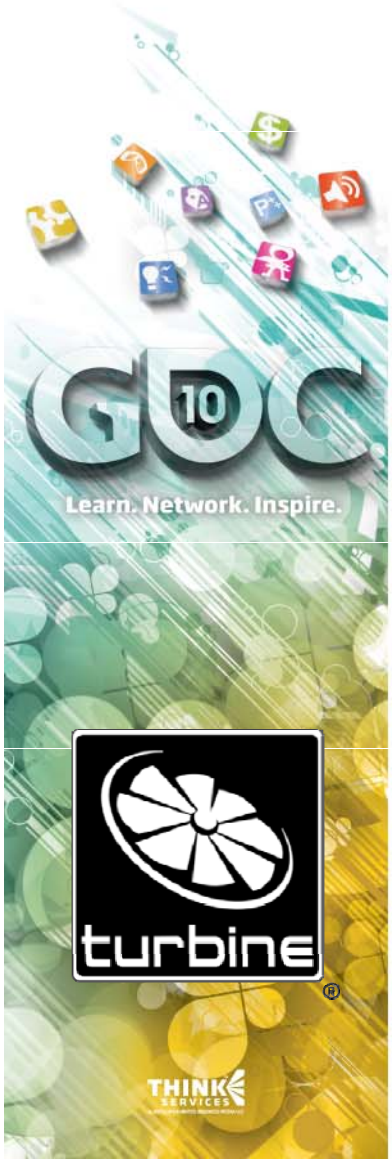
What is fraud to Turbine?



- Unauthorized RMT sellers
- Fraudulent credit card purchases
- Compromised accounts

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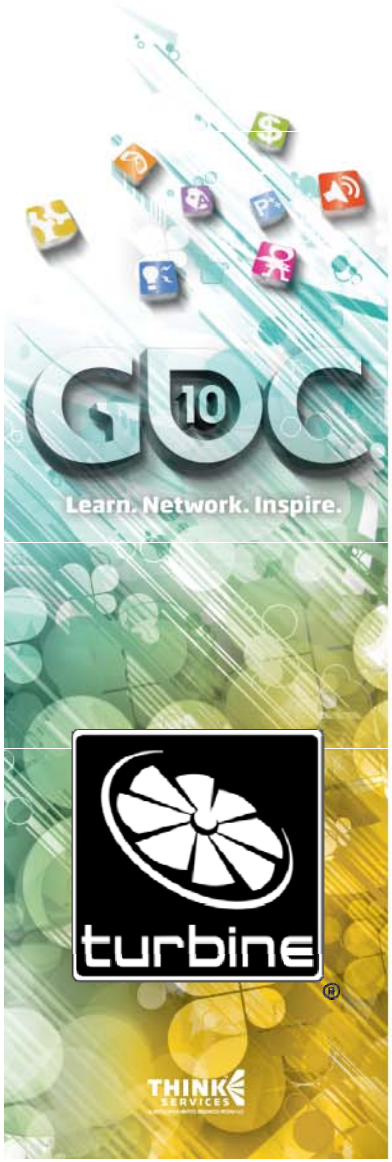
Detriments of Fraud



Fraud leads to spamming

- Harassment
- Decreases the quality of your service

Fraud encourages account theft

- Spoof websites and e-mails
- Compromised accounts

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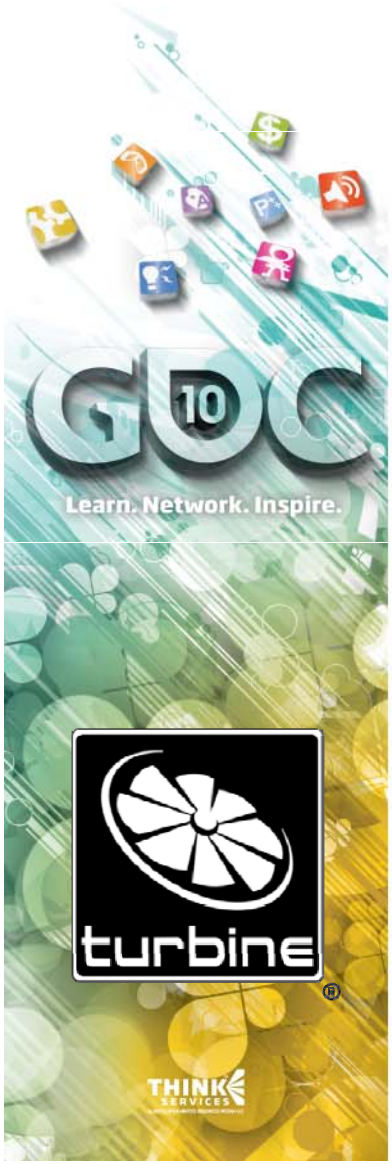
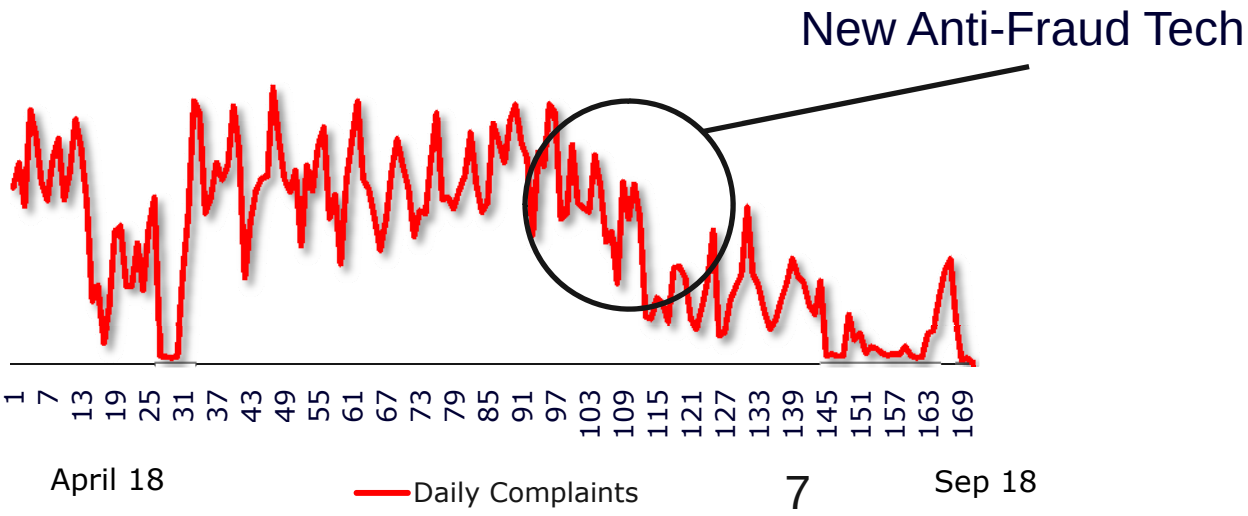


Fraud Costs

- Fraud raises costs within Customer Service
  - Spamming creates complaints and tickets
    - Drives up overhead
    - Churns players
  - Account compromise is costly
    - Investigating requires time
    - Reimbursement requires time



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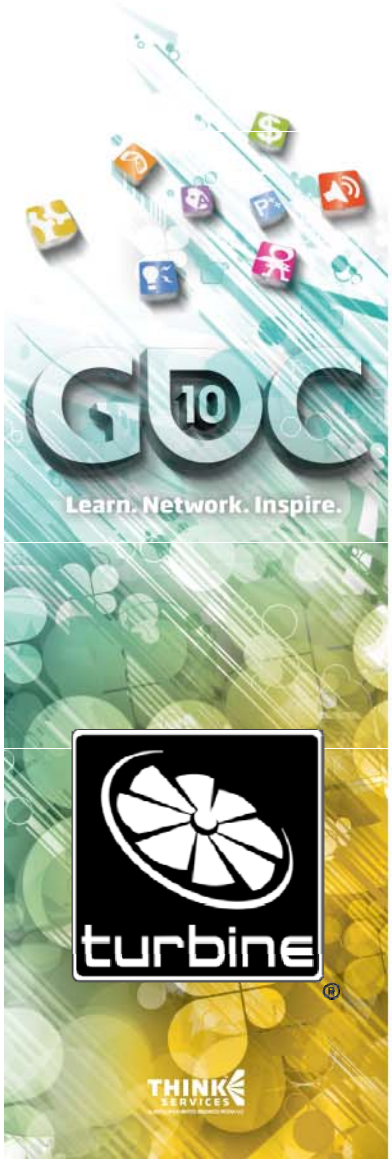
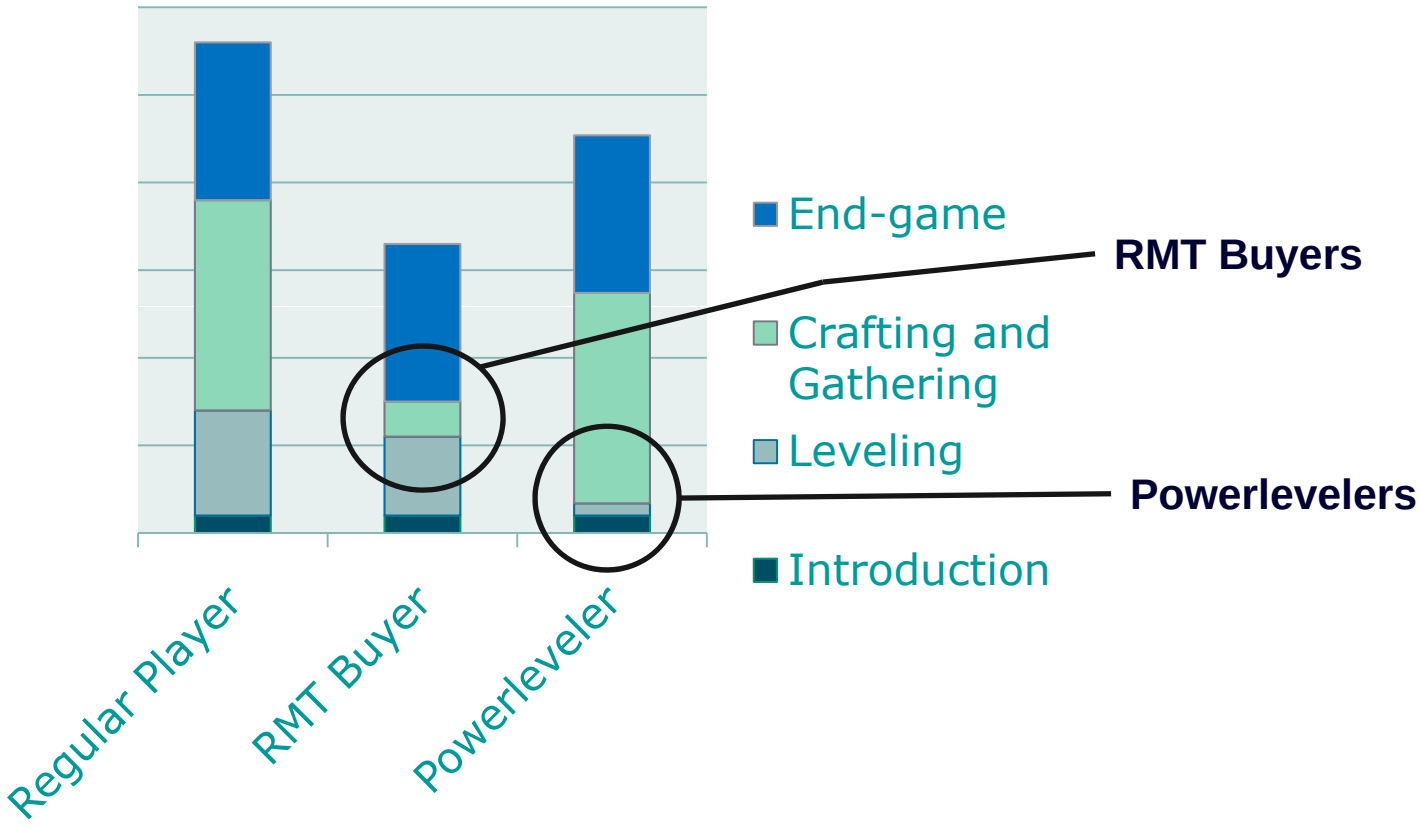
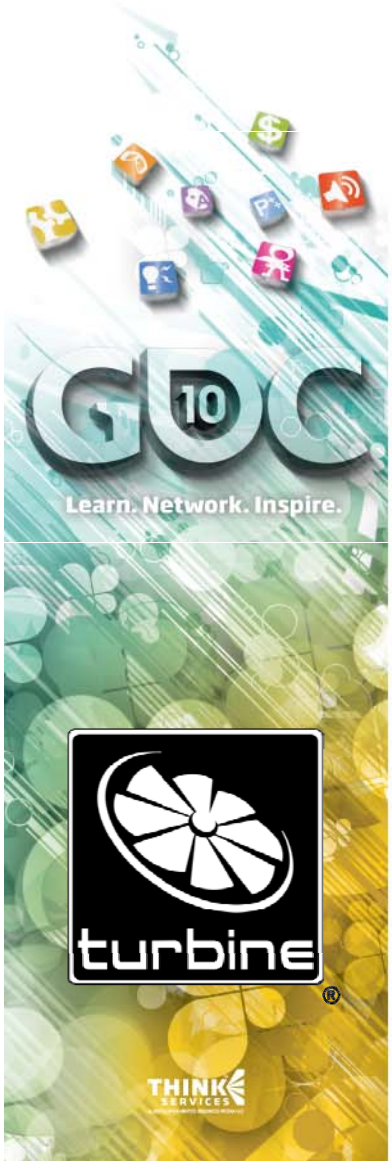
Long-Term Effects



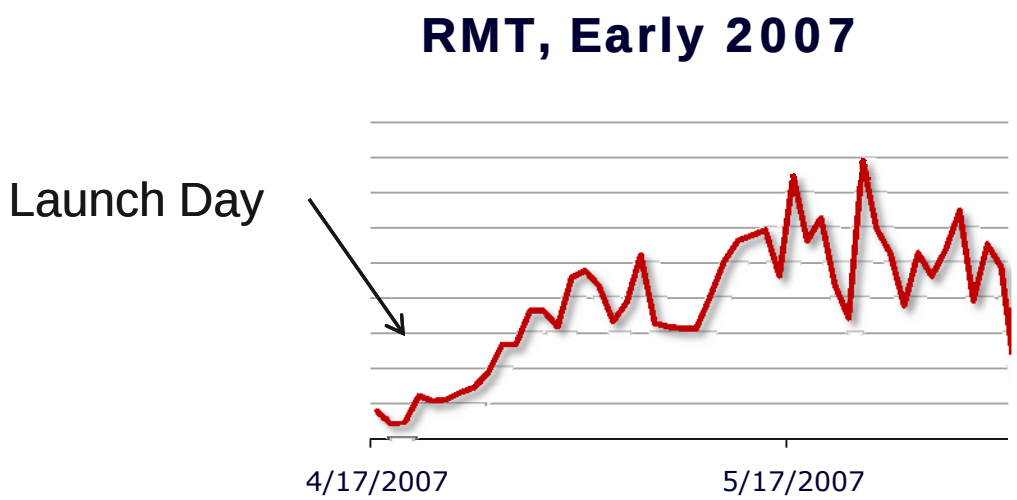


Fraud can drive down the lifetime value of your customers.

Fraud Prevention



- Turbine takes an aggressive stance
  - Active since LOTRO's launch
  - Barriers to account creation
  - Educating customers
    - Decreases demand, recidivism
  - Remove repeat RMT buyers



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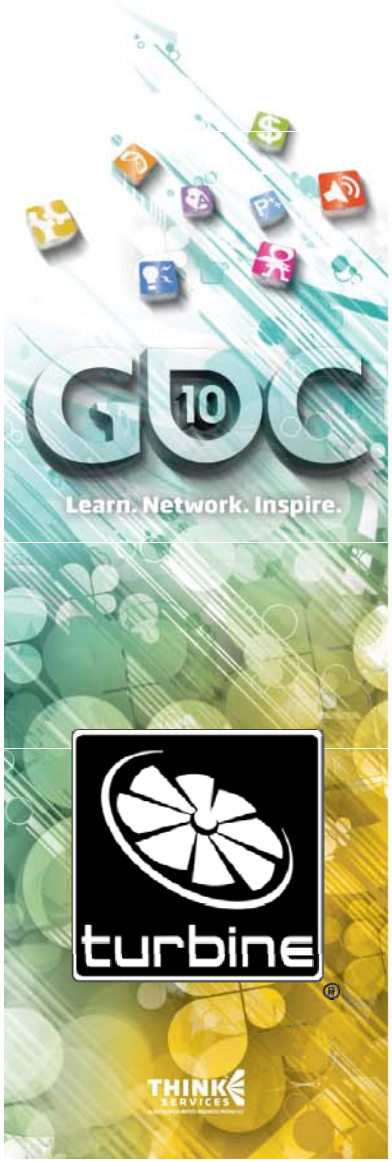
What Did Not Work?



- Swinging the Banhammer
  - Mass suspensions on single variables
    - Not a good idea
    - Really not a good idea
    - Worst, ineffective
  - Severe punishment for first-time buyers
    - No need
    - Education works

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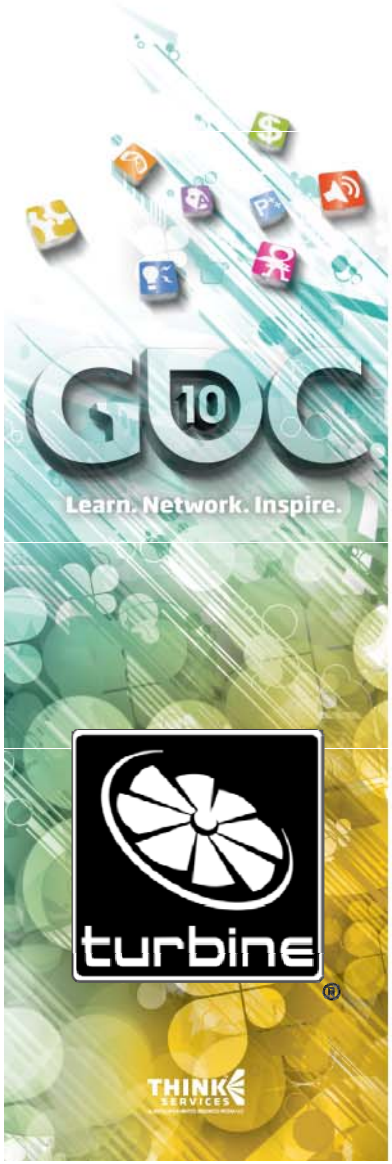
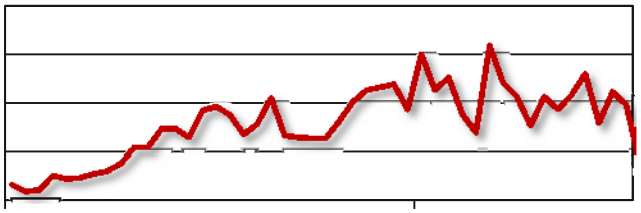
Mass Suspensions



- In early May 2007, Turbine suspended users based on excessive playtime
  - RMT farmers returned
  - Some players were suspended
  - Negative feedback about suspensions persisted into 2008

RMT, Early 2007



4/17/2007 5/17/2007

No decrease in RMT activity during this time

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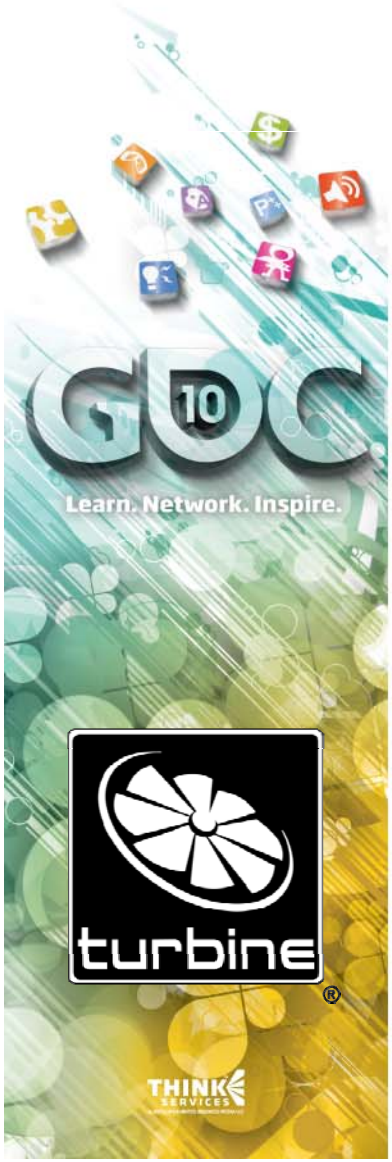
Punishing Minor Offenses



"Being a relatively new player I had never heard anything about this person doing anything wrong…"

"It's my fault that I never read the policy, but I did not realize that purchasing gold online was against your user policy…"

Punish first-timers lightly, punish repeaters heavily

"Now that I have been enlightened as to your policy regarding gold purchasing, this won't happen again…"

"I do not deny I violated the player code of conduct, but as I was unfamiliar with this aspect, it meant nothing to me."

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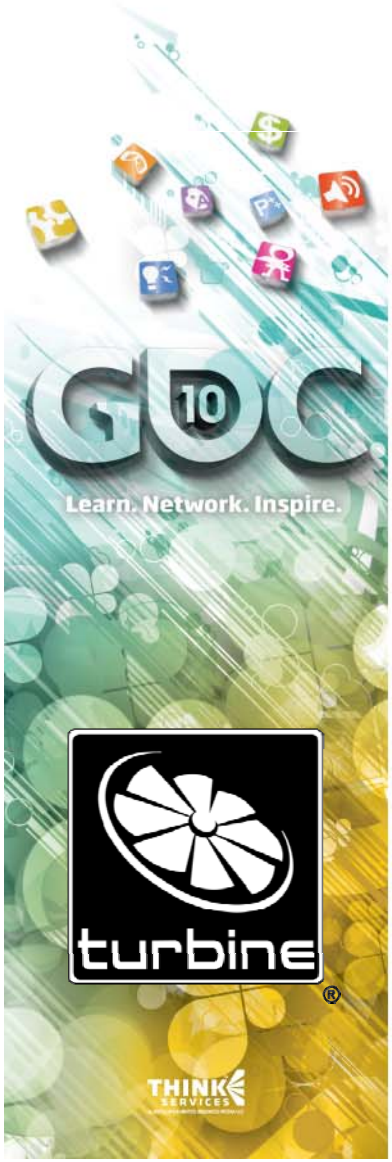
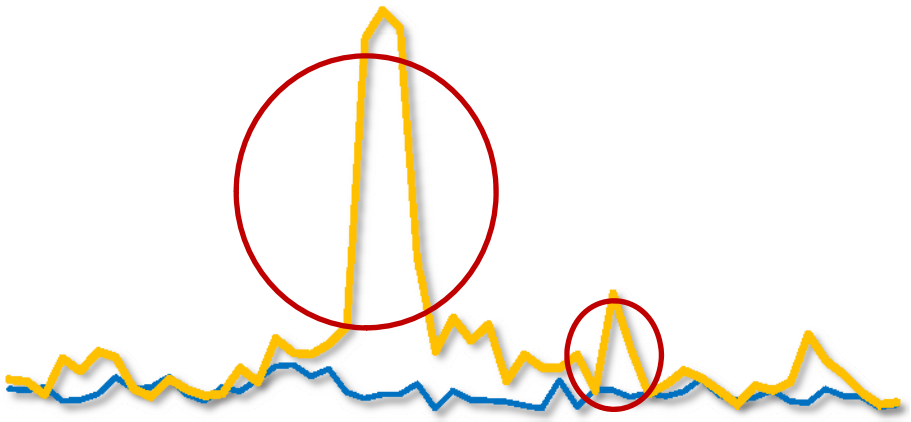
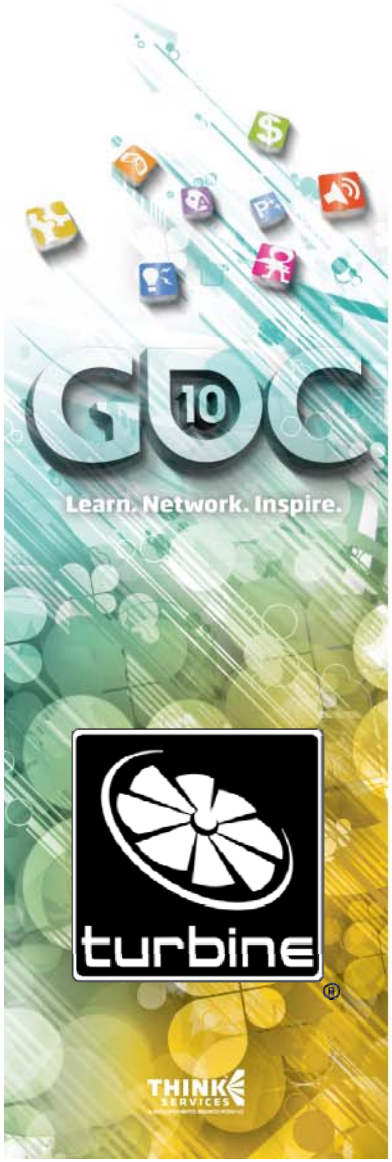
What Did Work?



- **Detection**
  - Better tools
  - Monitoring all registration flows
  - Monitoring all avenues of acquiring money
  - Better spam detection
- **Prevention**
  - Risk-assessment partnering
  - Education





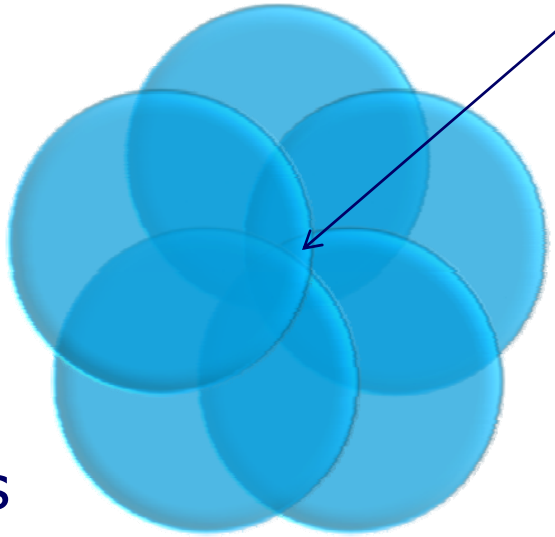
Detection

High Probability (~99% or higher)

IP address

Age of account

Class / profession

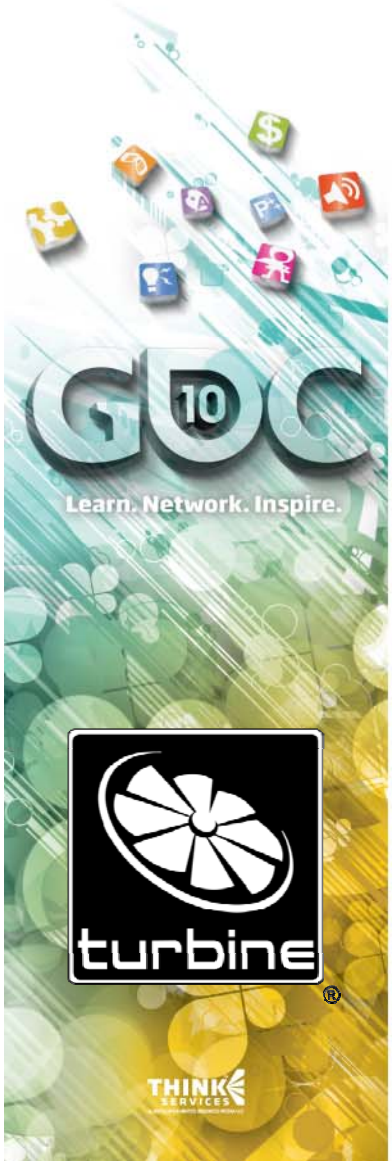


Monsters killed

Level / skills

These factors are all dependent on…

Robust Databases



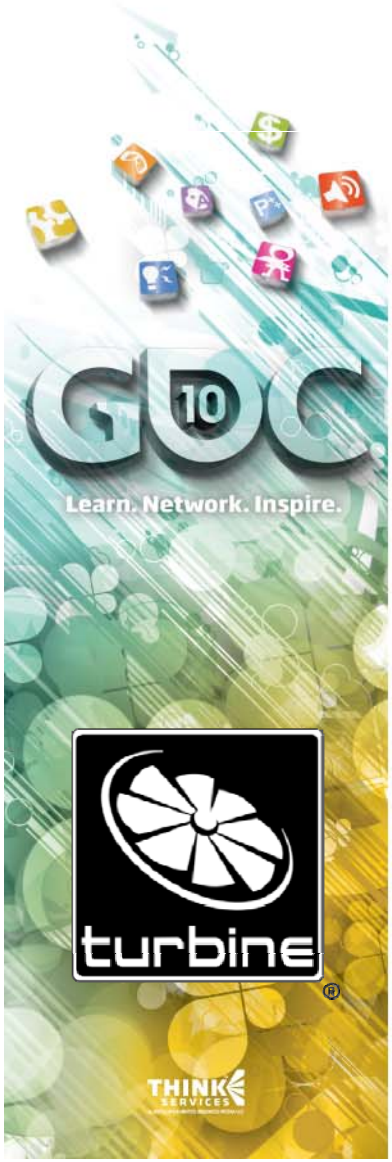
- Flexible Queries
  - MSSQL
    - Anti-fraud works with DBA
    - Queries can be modified

Example:

- Items looted from Chest A
- Count of Items ≥ 200
- Sort by day
- Show name, username

- Persistent Data
  - Data must persist!
    - Data over time
    - Historical metrics
    - Assessing severity
  - Real-time over cached
    - Essential for exploits

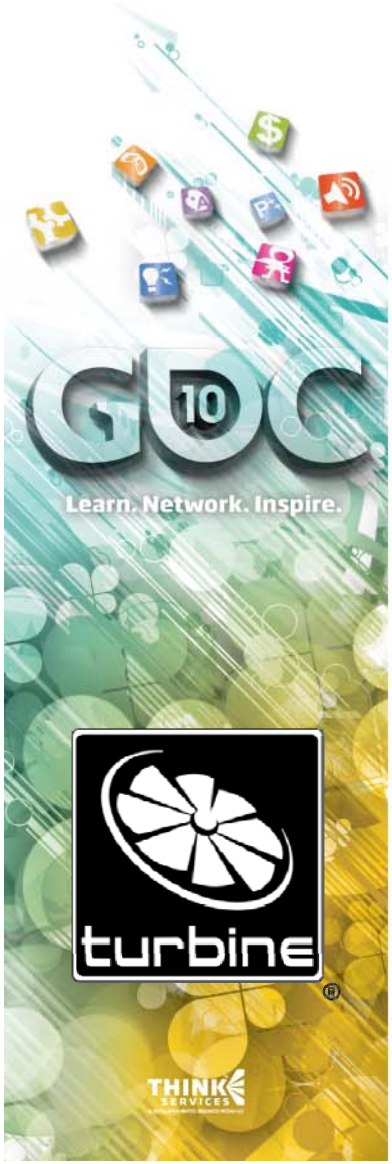
Spam Prevention



There are two principles of spam prevention:

- Be Quick
  - Right-click reporting
  - In-game spam mail
    - Report button
    - Can be purged
- Be Easy
  - Right-click is easier than Help menu
  - Clearly defined buttons
  - Filter common spam

Preventing Fraud at Sign-up



Pull data

acklist

rwefds42gf34743@
rewfsd423fd3232@
rewfds54h5454@
rewfds43ty4343@
sdfsd423sfd323432@
sdfsd423fsd2332423@
dsfsd423fds3242sdfds@
sdfsd423fds32423@
sdfsd423fsd32432@
rewfd65434d3434@
dsfsd53gdf32233@
sdfsd423fsd324@
rewfsd7643fd3443@

Whitelist com areas

r sign-ups

Not exactly subtle …

Modify as needed

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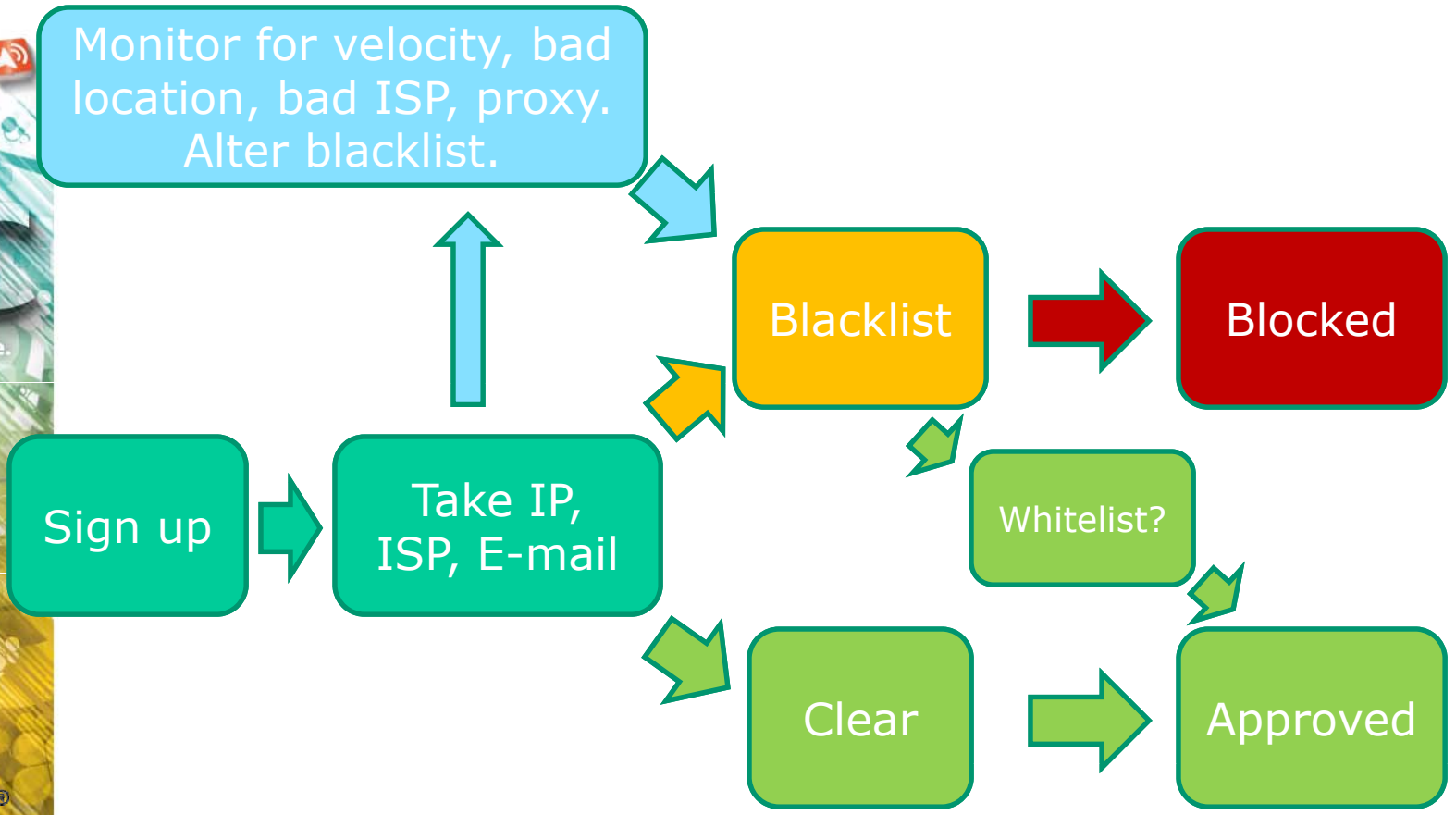
Sample Sign-up Flow



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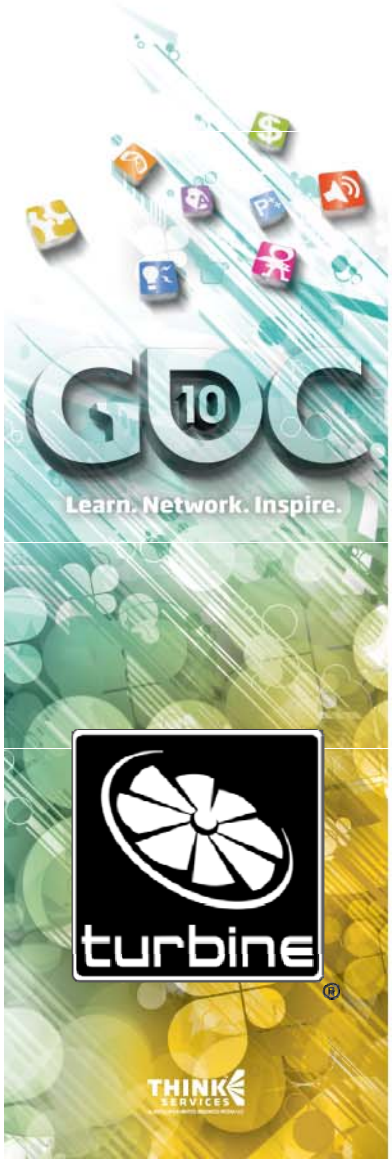
Family and Friendly Fraud



- Family Fraud
  - Clear charges
  - Make TOS and EULA clear
  - Turbine vs. "The Lord of the Rings"
- Friendly Fraud
  - Discourage account sharing
  - Create barriers to account theft
    - Authenticators
    - Warnings
    - PIN numbers
    - Secret questions

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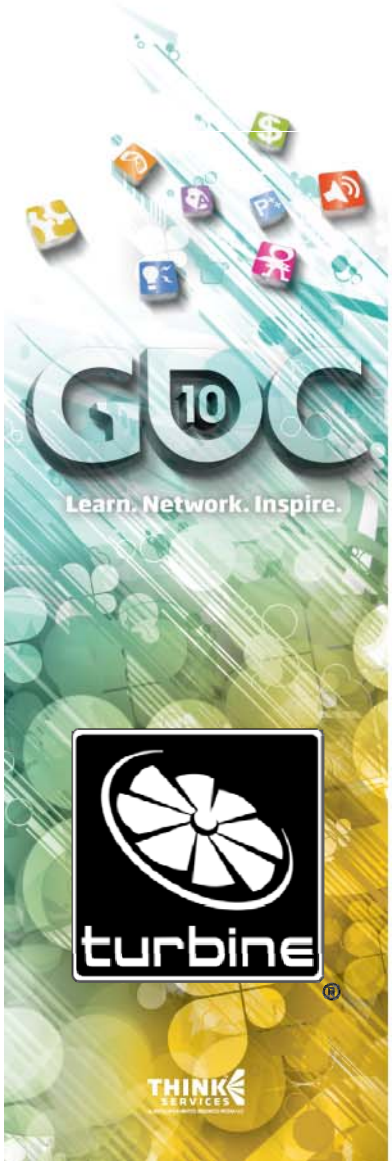
Educate Your Customer



The cheapest way to prevent future fraud is by decreasing the incentive to defraud your company

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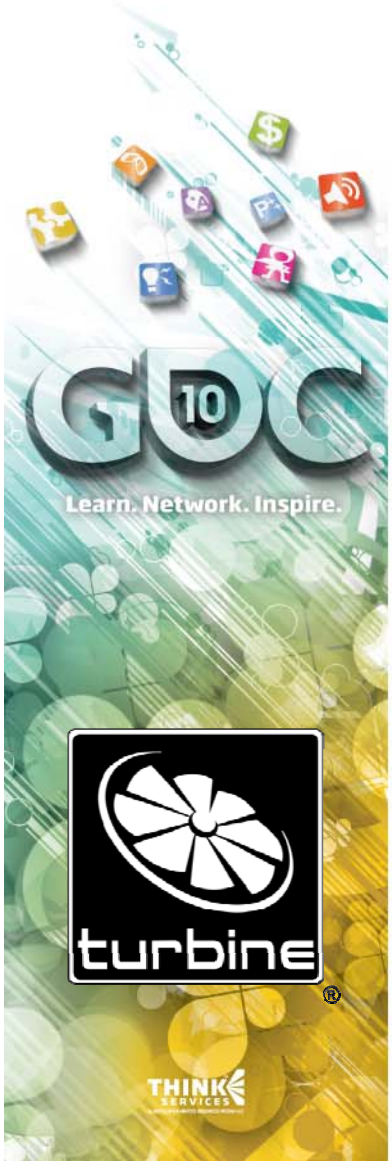
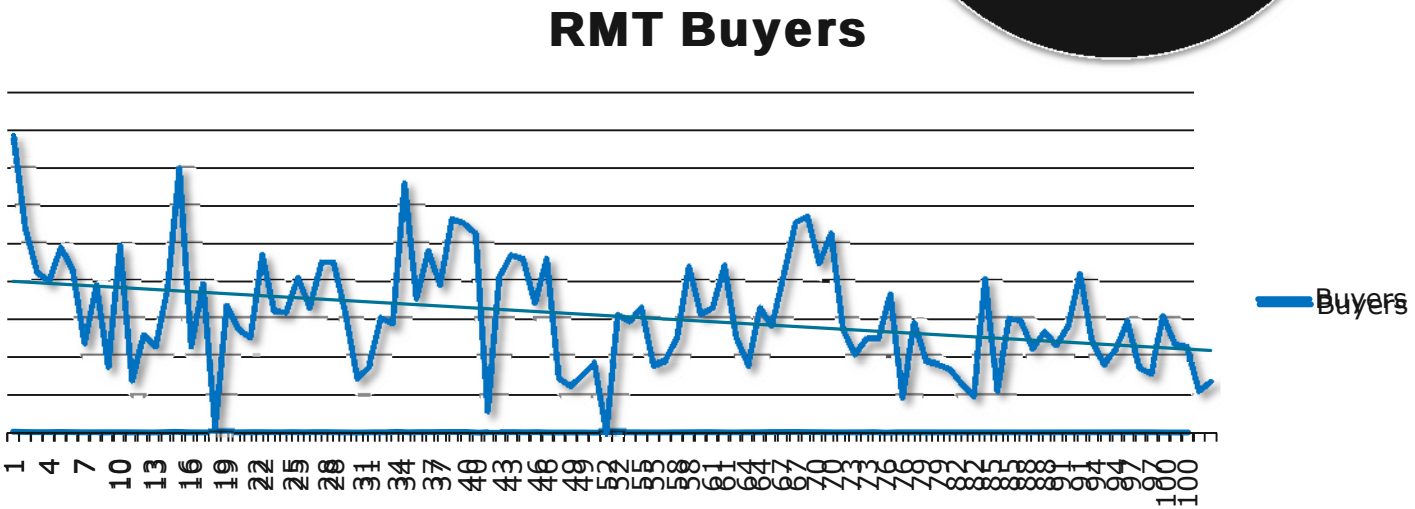
Turbine's Results



Turbine decreased fraud to a minimal level by reducing the incentive to engage in Real Money Transactions, while increasing our efficiency in removing fraudulent accounts.



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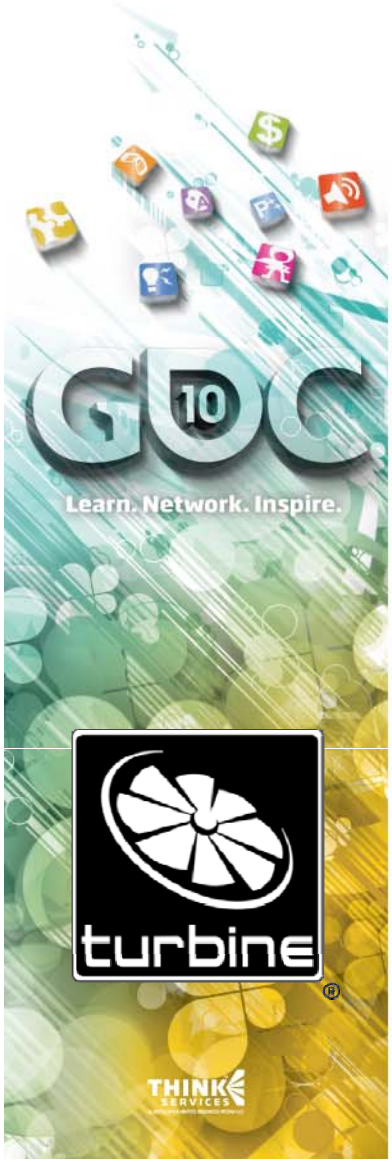
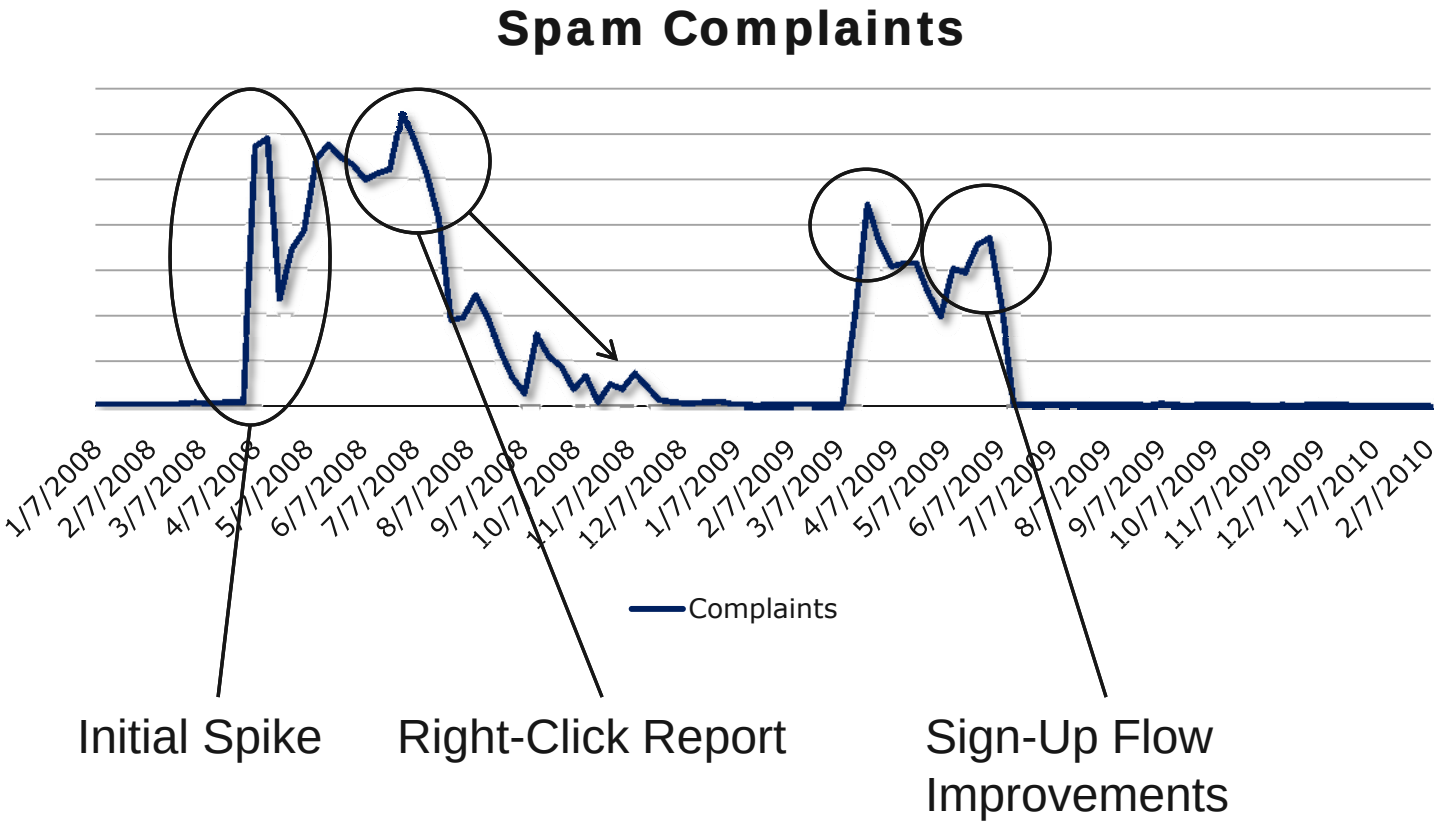
Impact on Fraud





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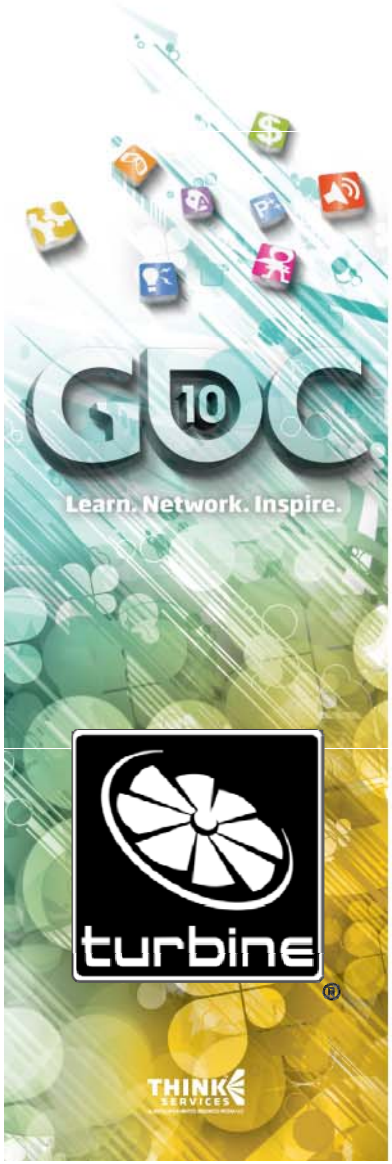
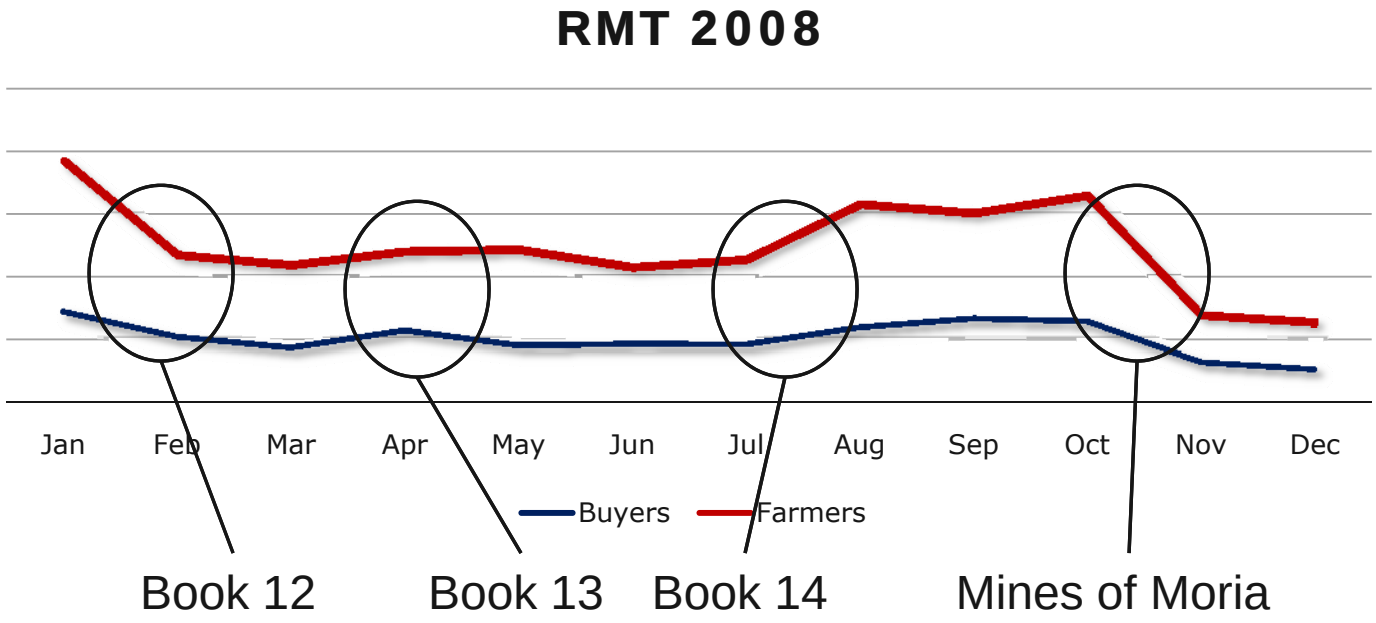
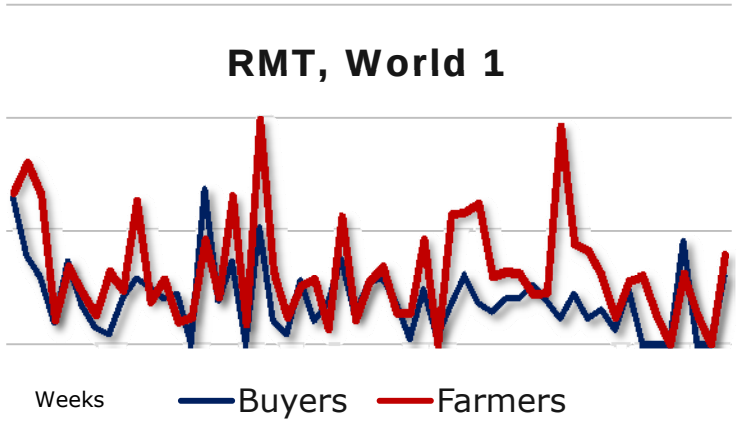
2008







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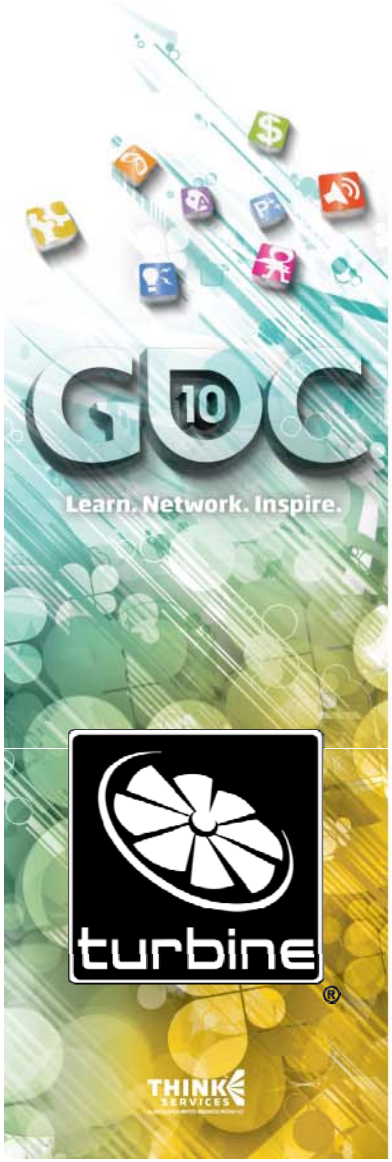
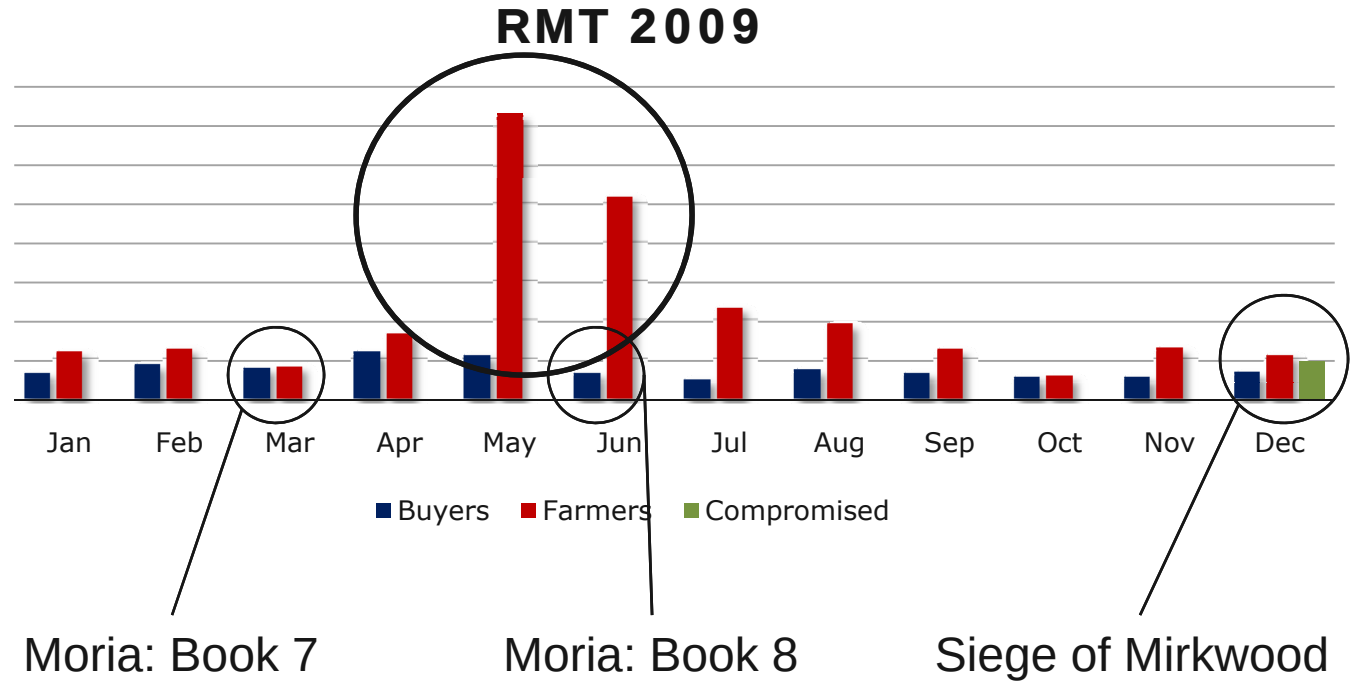
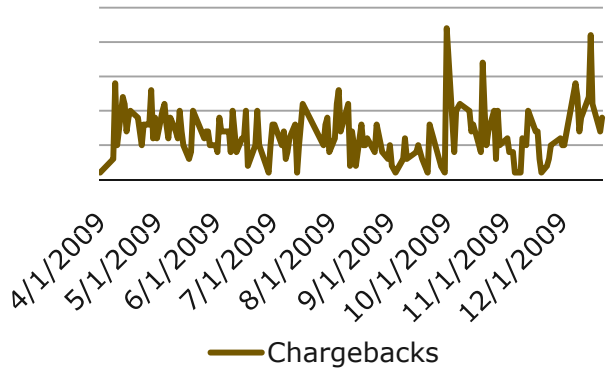
2009

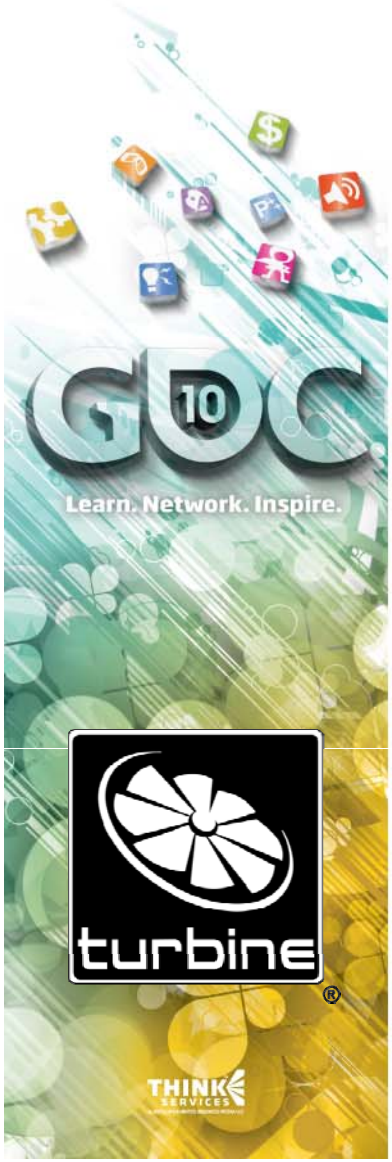




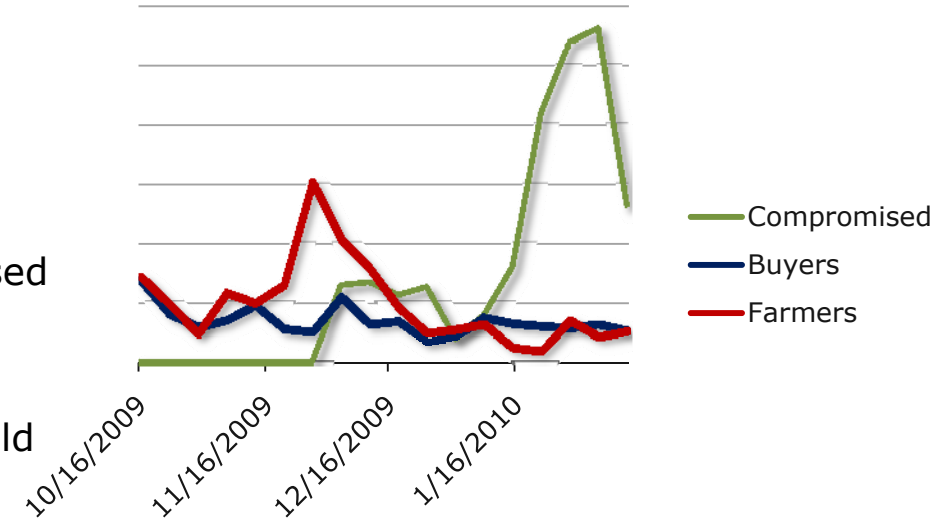


- Chargebacks remain relatively constant
  - 0.27% chargeback rate
  - Majority came back to Turbine
  - Rise due to DDO re-launch volume

Compromised Accounts

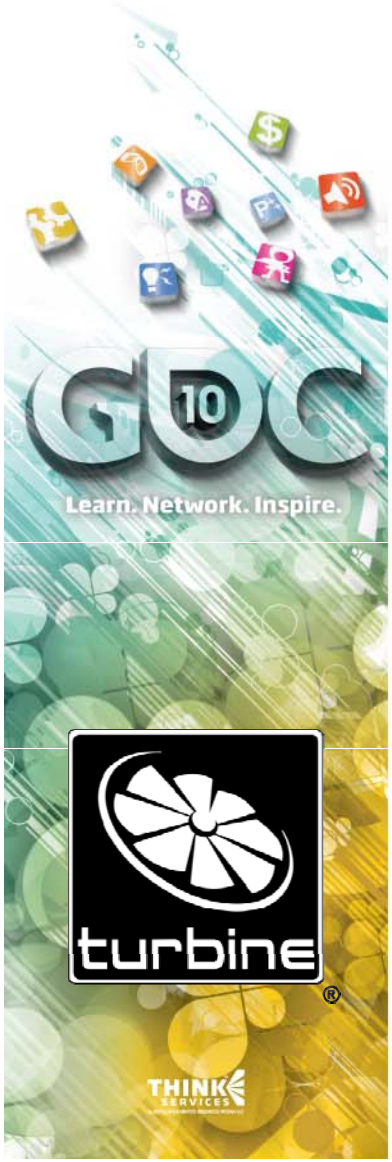


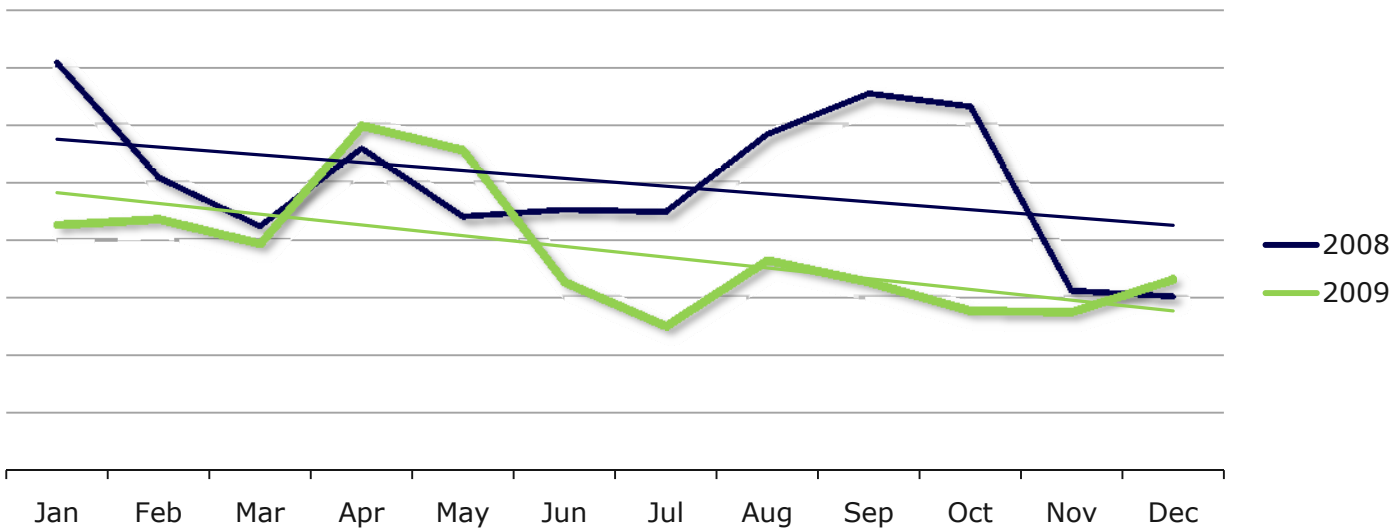
- Rise in 2009
- Over three months:
  - Farmers decreased
  - Buyers decreased
  - Compromised increased
- More compromised accounts needed
  - Varied amounts of gold



- Compromised accounts linked to:
  - Same username / password
  - Keyloggers
  - Viruses / Malware
  - Common passwords
    - NY Times / Imperva: Top 5000 passwords used in 20% of accounts
- Continues to be an issue into 2010

Years Compared





- 2009 had fewer buyers than 2008
- Numbers for both years
  - 2008: 2.5% engaged in RMT at some point
  - 2009: 2.0% engaged in RMT at some point
  - 2008 – 2010: 0.4% chose to continue after a warning
- RMT fraud varied
  - 2 RMT farmers per buyer
  - 5 compromised accounts per buyer
  - Diminished by 2009

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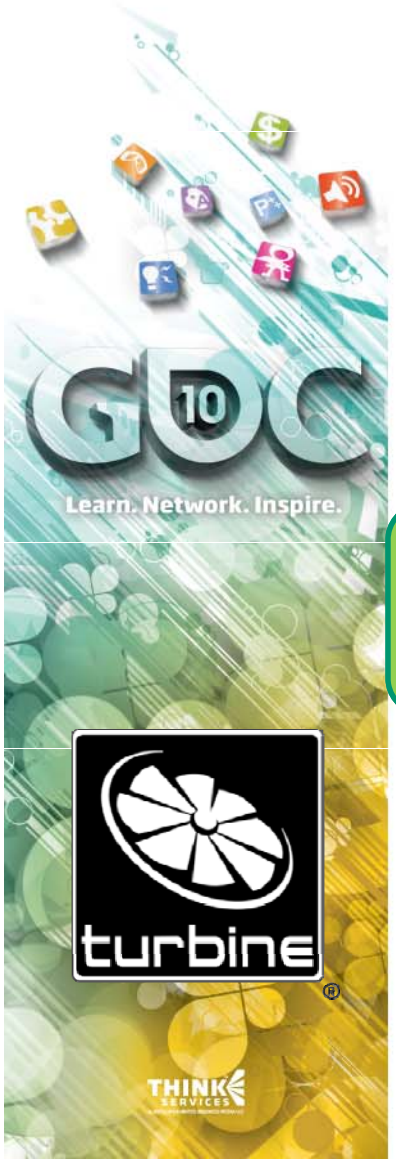
Final Thoughts

Fraud and RMT will happen. But …



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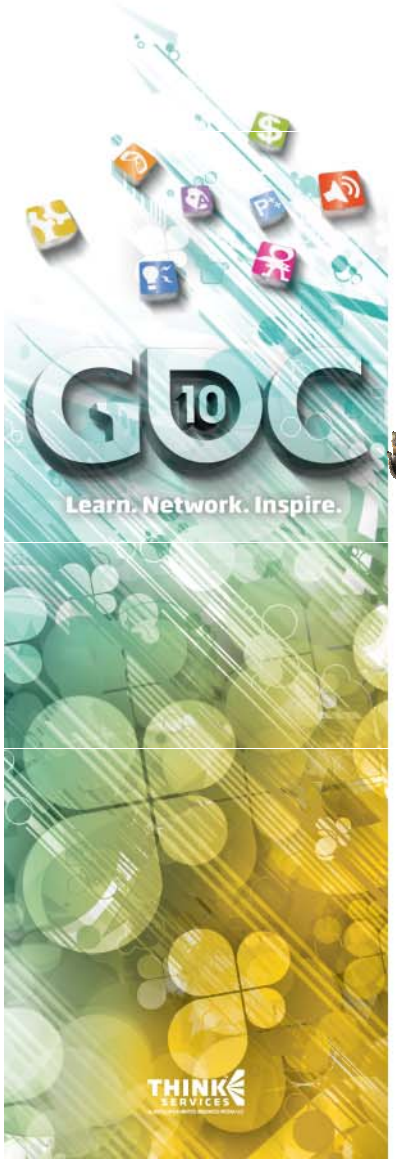

Q&A / Discussion

Or contact me at aengel@turbine.com