Business Intelligence

Matt White
IIS Manager
Enterprise Controls, Capabilities, and Compliance

June, Day 2010

IT@Intel
Agenda

Business Intelligence (BI)
Intel
Risk Management
BI for Financial Risk
Building BI for Intellectual Property (IP)
  IP Risk Factors
  IP Risk Model
  Conceptual Model
BI for IP Protection
Business Intelligence

What is business intelligence (BI)?

• BI enables fact-based decision making on demand
• Solutions typically encompass technologies and processes to extract, transform, and load data
• BI is usually defined as the extraction of insights from structured data
• Allows flexibility for users to answer questions

Security BI enables dynamic fact-based decision making and predictive analytics.
Intel Corporation: The World’s Largest Semiconductor Manufacturer

- Manufacturer of Computer, Networking & Communications Products
- 300 Facilities in 50 Countries
- Over $35B in Annual Revenues from Customers in Over 120 Countries
- 23 Consecutive Years of Positive Net Income
- Approximately 80,000 Employees
- 43,000 technical degrees, 12,000 Masters in Science, 4,000 PhD’s, 4,000 MBA’s
- One of the Top Ten Most Valuable Brands in the World for 10 Consecutive Years
- Invests $100 Million Each Year in Education Across More than 50 Countries
- The Single-Largest Corporate Purchaser of Green Power in the United States
- One Million Hours of Volunteer Service in Our Communities in 2008
Risk Management Goals:

- Keep Intel legal
- Availability of Information
- Protection of Information
- Cost effectiveness of controls

A reasonably protected digital environment is necessary for a strong digital future
## The Risk Management Process

<table>
<thead>
<tr>
<th>Step</th>
<th>Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identify Risk</td>
<td>Build a list of what could probably go wrong</td>
</tr>
<tr>
<td>Assess Risk</td>
<td>Assign values to items in the list based on how likely they are to happen and how bad things will be if they do happen</td>
</tr>
<tr>
<td>Rank Risk</td>
<td>Put the list of items in order of “how bad”</td>
</tr>
<tr>
<td>Mitigate Risk</td>
<td>Take an action or spend some money; the goal is to make the risk less likely to happen or decrease how bad things will be if it does happen</td>
</tr>
<tr>
<td>Accept Risk</td>
<td>When the risk improvement is smaller than the cost of making the improvement, monitor and rely on other protections instead</td>
</tr>
</tbody>
</table>

Business need: put risks into a consistent language that management can use to make decisions
The Risk Management Process

\[ L \times I = R \]

LIKELIHOOD
How likely is it something bad will happen?
Usually a subjective probability based on recent experience. Might be a number or High/Medium/Low

IMPACT
The fallout if something bad happens. Could be tied to revenue lost, reputation hit, litigation costs, or fines. Might be a number or High/Medium/Low

RISK
The relative level of “bad”. This is stated as a number or some logical output of High, Medium, and Low combinations
What a credit card risk model might look like:

- **User purchase history**
  - Merchants
  - Spending value
  - Location
  - Past transactions

- **Balancing Interest**
  - Dollar loss or exposure
  - Customer tolerance

- **Reduce Risk**
  - Hold transaction
  - Validate card holder
IP Risk Factors

• CERT “Common Sense Guide ... 3rd Edition” found in business advantage IP incidents
  • 71% held technical jobs
  • 25% former employees 75% current employees
  • 70% took place within 3 weeks of resignation
  • 80% had access to the information

• Business Environment Factors
  • Document access tolerance
  • Regulatory requirements
  • Hours of access
  • Denied access

*Context and transaction data exist in the Enterprise to measure risk.*
IP Risk Model

• Transaction sources
  – High value sources
  – Critical infrastructure sources

• Context sources
  – Job role
  – Location

• Assess and Determine – Take action?
  – Likelihood
  – Impact
  – Risk

Identify sources, assess their measure of likelihood or impact, and determine reasonable security.
Conceptual Model

- Transaction Data Services
- Risk Model
- Predictive Analytics
- Reporting Services
- Context Data Services
- Workflow Services
IP Risk Factors

- High value information access
- Concurrent connections
- Remote access from non-traveled location
- Unusual hours of access
- Denied attempts
- Information not accessed by job role
### Summary

#### Steps in Security BI

<table>
<thead>
<tr>
<th>Step</th>
</tr>
</thead>
<tbody>
<tr>
<td>Know your organization</td>
</tr>
<tr>
<td>Know your risk management philosophy</td>
</tr>
<tr>
<td>Identify Risk Indicators</td>
</tr>
<tr>
<td>Identify transaction and context sources</td>
</tr>
<tr>
<td>Assess and determine actions</td>
</tr>
</tbody>
</table>

*Security BI enables dynamic fact-based decision making and predictive analytics.*