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SANTA CLARA, CA

SNIA

Data Valuation to Minimize Monetary Loss

Steve Todd
DELL EMC

Agenda

- Minimizing Monetary Loss
- Data Value Research
- Techniques for Calculating Data's Value
- Data Value and the Data Protection Ecosystem

Minimizing Monetary Loss

VALUE ATTRIBUTION IN COMPLEX INFORMATION-SYSTEM SETTINGS TOWARD MINIMIZING THE DAMAGE OF DATA LOSS

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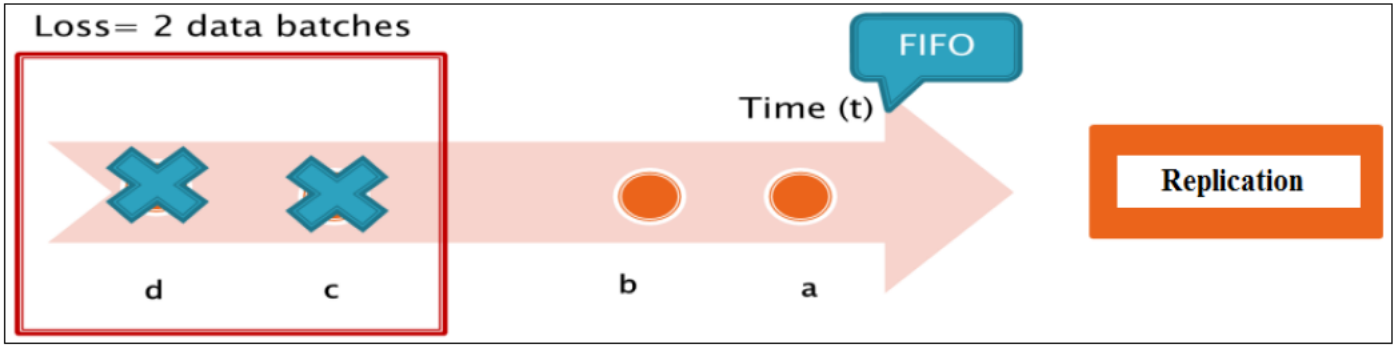
Value-Driven Configuration of Replication Queues

Considering the factors described above, the cost V_i associated with data-loss of a batch from system [i] can be formulated as:

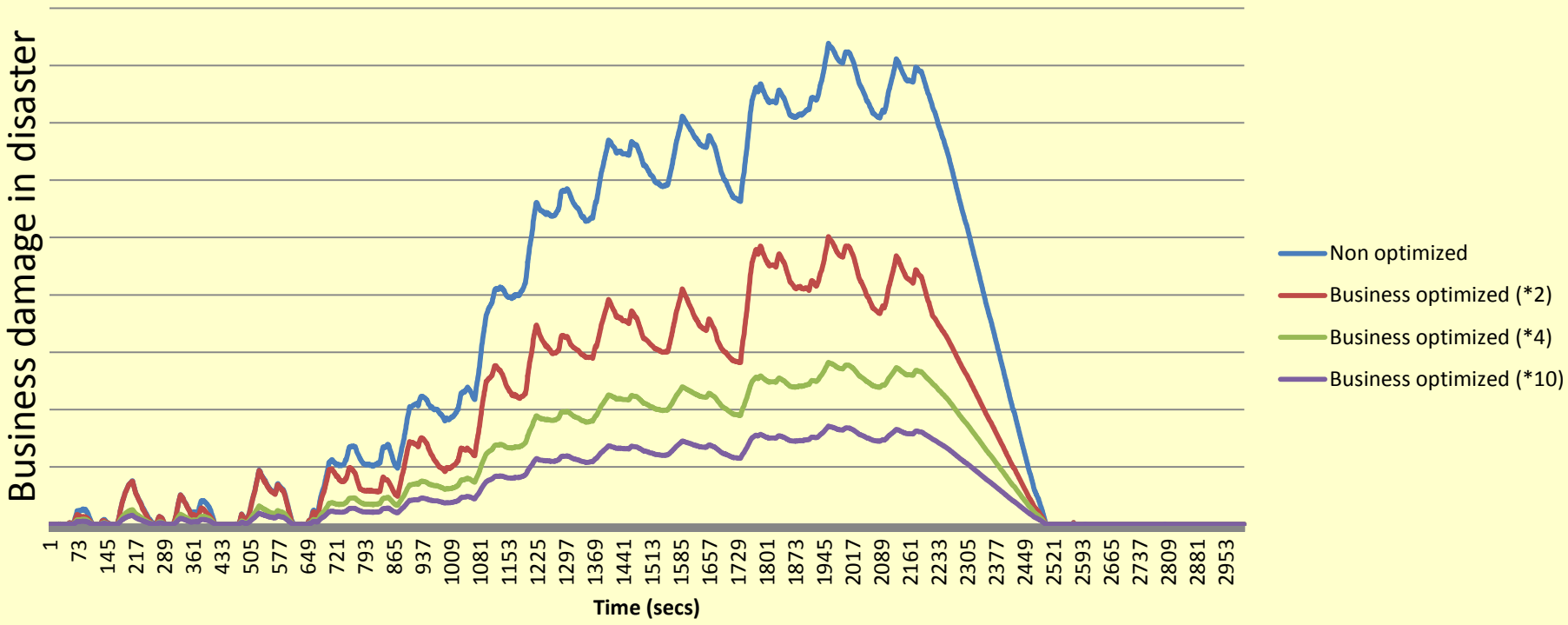
$$V = RP_i * RC_i + (1 - RP_i) * (TC_i + IC_i + \sum_{k \neq i} U_{i,k}) \quad (1)$$

Where:

RP_i:	The probability that a data-batch from system [i] can be restored
RC_i:	The restoration cost of a data-batch from system [i]
TC_i:	The tangible cost of losing a data-batch from systen [i]
IC_i:	The intangible cost of losing data-batch from system [i]
$U_{i,k}$:	The cost effect of losing a data-batch from system [i] on system [k]



Protection Benefits of Understanding Data's Value

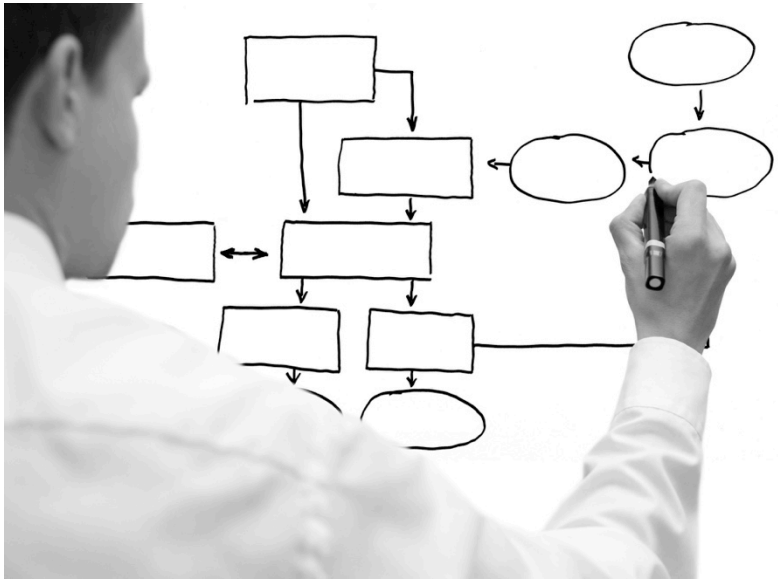


Architecting for Value

Dr. Jim Short, San Diego Supercomputer Center

DATA STORAGE SECURITY SUMMIT

Understanding the Impact of Emerging Data Valuation Business Processes on IT



Architecting for Value

Industry Use Cases

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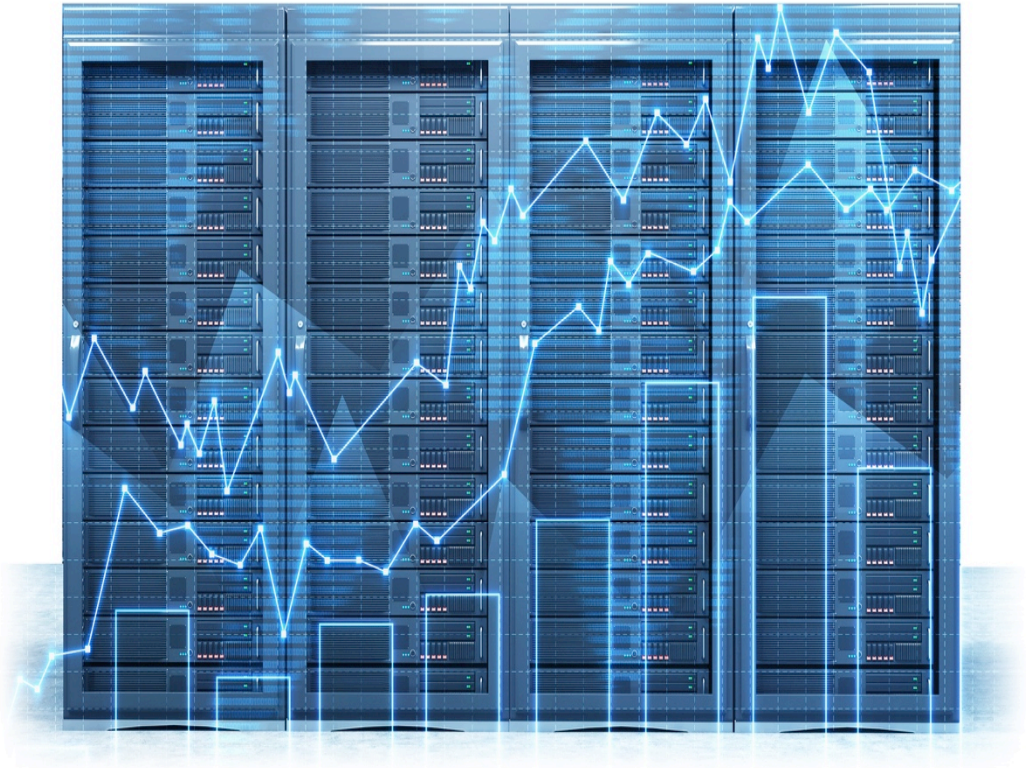
M&A

DATA INSURANCE

DATA MONETIZATION

CREDITOR VALUATION

DATA SALE



Calculating Data's Value

Gartner's VP of Research Doug Laney

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Foundational Measures

How correct, complete and exclusive is this data?

Intrinsic Value of Information (IVI)

How good and relevant is this data for specific purposes?

Business Value of Information (BVI)

How does this data affect key business drivers?

Performance Value of Information (PVI)

Leading Indicator

Focused on improving **information management discipline**

What is your objective for valuing information?

Trailing Indicator

Focused on improving **information's economic benefits**

Financial Measures

What would it cost us if we lost this data?

Cost Value of Information (CVI)

What could we get from selling or trading this data?

Market Value of Information (MVI)

How does this data contribute to our bottom line?

Economic Value of Information (EVI)

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BVI Calculation

How Relevant is the Data for Specific Purposes?

$$\mathbf{BVI} = \sum_{\mathbf{p=1}}^{\mathbf{n}} (\mathbf{Relevance_p}) * \mathbf{Validity} * \mathbf{Completeness} * \mathbf{Timeliness}$$

- Relevance.
  How useful the information could be (or is) to one or more business processes
  Range: (0 to 1).

- Validity.
  Percentage of records deemed to be correct.

- Completeness.
  Percentage of total records versus the universe of potential or supposed records.
- Timeliness.
  How quickly new or updated instances of the data are captured and available to be accessed.

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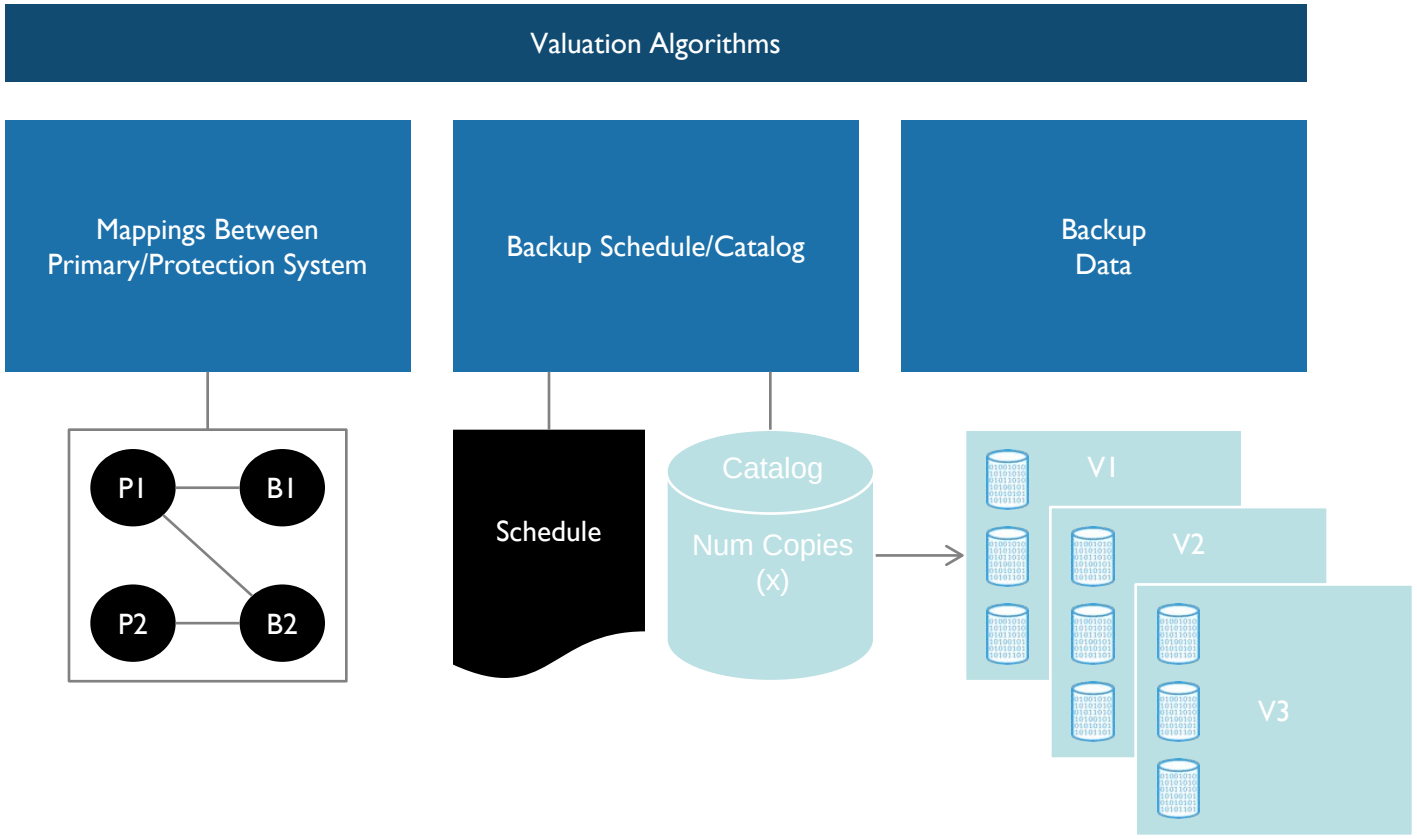
Valuation Algorithms

Calculating Data Value via Data Protection Analytics

$$BVI = \sum_{p=1}^{n} (Relevance_p) * Validity * Completeness * Timeliness$$

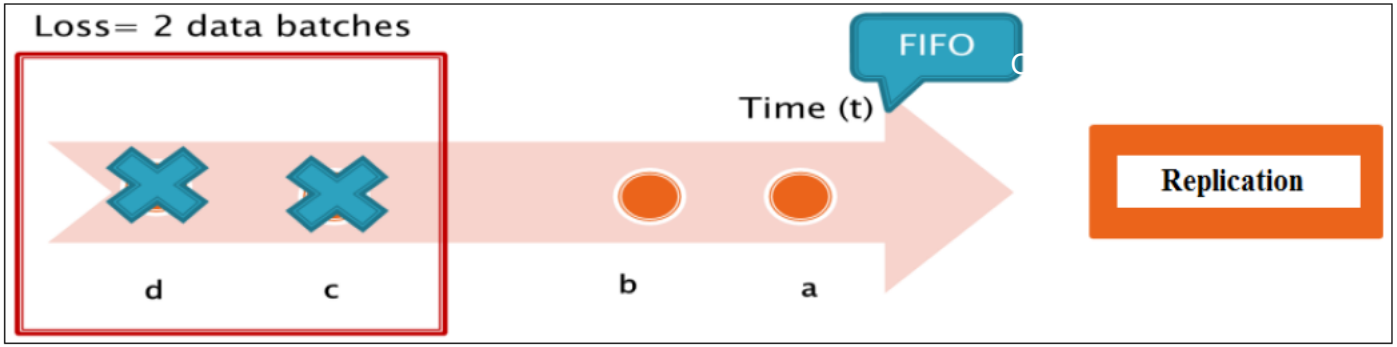


Replication Based on Value

Feeding Valuation Results to Replication Configuration

$$BVI = \sum_{p=1}^{n} (Relevance_p) * Validity * Completeness * Timeliness$$

Valuation Algorithms



Thank you!

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Download this presentation and others from SNIA's Data Storage Security Summit at:
http://www.snia.org/dss-summit