The production of data is expanding at an astonishing pace. Experts now point to a 4800% increase in annual data generation by 2020. Drivers include the switch from analog to digital technologies and the rapid increase in data generation by individuals and corporations alike.

- Size of Total Data
- Enterprise Managed Data
- Enterprise Created Data

2020: More than 35ZB of the data produced will live in or pass through the cloud.

WHAT IS A ZETTABYTE?
- 1,000,000,000,000,000 (1,000 trillion) gigabytes
- 1,000,000,000,000,000,000 (1,000 quadrillion) terabytes
- 1,000,000,000,000,000,000,000 (1,000 quintillion) petabytes
- 1,000,000,000,000,000,000,000,000 (1,000 sextillion) exabytes
- 1,000,000,000,000,000,000,000,000,000,000,000,000,000,000,000 (1,000 septillion) zettabytes

DATA PRODUCTION WILL BE 44 TIMES GREATER IN 2020 THAN IT WAS IN 2009

More than 70% of the digital universe is generated by individuals. Our enterprises have responsibility for the storage, protection and management of 80% of it.
Business and individual entity information is **dynamic** and keeping-up with changes can be very challenging.

### 60 SECONDS
- 58 business addresses will change
- A business risk profile changes

### 2 MINUTES
- A directorship (CEO, CFO, etc.) change occurs
- A new business opens

### 3 MINUTES
- A business ceases operation

### 8 MINUTES
- A business files bankruptcy

### 1 YEAR
- 1.4 million work retirements

### 1 HOUR
- 186 individuals will declare personal bankruptcy
- 2,748 individuals will change address
- 5,769 individuals will change jobs
Data – The Challenge and the Opportunity

• According to The Gartner Group, **poor data quality** drains a company on average **$8.2 million** annually in squandered resources and expenses for operational inefficiencies, missed sales and unrealized new opportunities.

• In addition a Forrester research study reveals that **only 12% percent** of companies actually use data-driven intelligence to guide key business functions and corporate strategy. That means that **88%** are putting up with the waste, inefficiencies and lost opportunities that dirty data creates.

• It is far more cost-efficient to prevent data issues than to resolve them. If a company has 500,000 records and 30% are inaccurate, then it would need to **spend $15 million to correct** the issues versus **$150,000 to prevent** them.
Poor Data Quality – Status Quo

- Data quality is something all organizations struggle with.
- Because data lives in disparate systems across the organization, it's difficult to get an accurate representation of clients or vendors. [Duplication and errors of omission may hit 40-60% or more]
- Difficult if not impossible to link the many locations and relationships of a single legal entity. [Self-reported data used for on-boarding leads to wide gaps in data]
- The way data is housed and maintained makes it impossible to get one holistic view of clients or businesses. [Data often exists in pieces across multiple legacy apps and data bases]

“Within IT, data quality has also helped us to manage our vendor relationships more efficiently and cost-effectively. We performed a spend analysis on how much it costs to manage supplier relationships and found that it costs us, on average, $100 to maintain a vendor record.

**Srikant Dharwad**, *Enterprise Data Architect*

Lexmark
That's how much global organizations will spend on big data in 2018, an increase of more than 300 percent in just five years.

By 2020, $26.8B will be spent on MDM.

90% of a data scientist's time is spent cleaning data before they can analyze it.

Focusing on the root issue of mastering the quality of the data is the only path to growth and efficiency.
But Systemic Problems Hinder Success

Multiple Systems and Workflows

Create Disparate Data Sources
- Functional Departments
- Branches
- Regions
- Geographies
- Agencies
- Third-Parties

With Differing Definitions
- Customer
- Prospect
- Vendor
- Partner

Lacking Internal Standards
- Entity Identification
- Hierarchy Management
- Categories & Sub-Categories
Inflection point: Technology is magnifying the complexity

- **Ubiquity of Cloud**: Cloud technologies are ubiquitous and driving business change.
- **Volume and Veracity of Data**: Between 2009-2020, volume of data will increase 44 times over.
- **Proliferation of APIs**: Over 10K APIs available today; doubled in past 18 months.

The one thing that connects all those data points together is one trusted view of an entity.
MDM Hype Cycle Reflection

Several factors are creating opportunities while at the same time introducing evolutionary challenges:

• The pressure to **manage very large volumes of data** at greater speed for a variety of types, formats and sources of information continues to grow.

• The expectation that **information will be used to drive business insight and agility**, creating the need for a more holistic approach to managing information — effectively moving information management out of the IT department.

• The growing regulatory demands for **information governance**.

• The evolution of technologies for **data persistence and integration**, including the management of data deployed in alternative approaches, such as platform as a service (PaaS) and SaaS.
MDM Hype Cycle

Government Is here MDM Prof Services

Private Sector Is here Hadoop
Organizations can breakthrough by leveraging relationship data in their master data...

**Understanding Sustainable Relationships with Suppliers**

**Driving Profitable Relationships with Customers**

**Unifying Single Vision of All Vital Relationships Across Company**

**Data: A Trusted View of Relationships**

**Building New Relationships with Prospects and Stronger Relationships with Citizens and Customers**

**Fortifying Trusted Relationships with Customers and Partners**
And realize real business value

- Improve Productivity: 15%
- Nurture Relationships: 46%
- Close Deals: 29%
- Increase Revenue: 10%

1 Forrester Total Economic Impact Study 2015
2 A leading technology analyst firm 2015
Master Data Challenge Example

- Organization has 150,000 vendor records
- Within that set, 10-15% are obvious duplicate records (another 25% less obvious)
- Fully 20-30% have some errors of omission
- Data depth of information across all records is variable, but maybe 5-10% complete
- Update cycle for each record is variable dependent on system of record rules
- Limited FTE’s available for data cleanup leads to point in time versus continuous updates
Entity Matching Scenario

E.g., data from 3 sources

FINANCE

A.B.C.
P.O. Box 111
Bethlehem, PA 18025
(SIC) 5411-02
Chuck Smith, President
D: OX20PH
$3,000 credit limit
$1,100 outstanding and 12 days past due

WAREHOUSE

Alpha Plastics
123 Elm St.
Bethlehem, PA 18055
Chuck Smith, President
610 882-7600
ID: A595660662
Product code A on 7/2013
Product code B on 9/2011

CRM

Charles Smith 123 Elm St.
Bethlehem, PA 18025
(SIC) 5541-99
215 882-7600
ID: 0012000000wXgAAI
SMB channel customer
Last touch point on 6/2013

Single, actionable view of the customer

D&B D-U-N-S Number: 12-345-6789
Legal Name: ABC, Inc.
Tradestyle: Alpha Plastics
Address: P.O. Box 111
Bethlehem, PA 18025
Physical: 123 Elm St.
City: Bethlehem
State: PA
ZIP: 18025
Phone: 610 882-7600
SIC: 5411-0202, 5541-9901
Primary Contact: Charles Smith, CEO
Year Founded: 1961
Employees: 35
Additional Contact: Sue Worth, VP Marketing
Parent: ABC Enterprises, Inc.
Number of Family Members: 3
Visibility Rating: A - C
PAYDEX: 79

Invoices:
ID: OX29PH000064
$1,100 outstanding and 12 days past due
Product code A on 7/2013
Product code B on 9/2011

Consolidated profile with unique id and various names and addresses

Enriched with things we know

Paired with things you know
A view of Corporate Family Tree Linkage provides an opportunity to review relationships and roles

Select examples from the GE global family tree

- Parent owns > 50%
- Branch is secondary location of a HQ
Best practices to justify the business value for an organization

- Establish an executive sponsor to drive cross organization collaboration
- Assemble a team from functional areas where impacts are expected
- For each organizational area identify critical success factors and KPIs
- Identify and quantify the areas of benefit and/or impact
- Evaluate the financials and make a confident decision

Economic justification of an investment requires linking the impacts of that investment on the organization’s current critical success factors and the KPIs by which those factors are measured

- Increase revenue
- Protect existing revenue streams
- Reduce costs
- Avoid costs
- Improve the satisfaction of constituents
- Increase regulatory compliance
Where You Are on your M-DaaS Journey?

- **EARLY STAGE**
  - Strategy
  - Benchmarking
  - Identifier

- **MIDDLE STAGE**
  - Creation
  - Resolution
  - Stewardship
  - Maintenance

- **ADVANCED STAGE**
  - Enrichment
  - Hierarchies
  - Integration
DATA-INSPIRED BEST PRACTICES TO CREATE BUSINESS VALUE FROM MASTERING YOUR DATA

1 MASTER DATA STRATEGY
A data-inspired enterprise drives improved business performance

2 UNDERSTANDING DATA QUALITY
Benchmarking data quality against your company strategy

3 COMMON IDENTIFIER
Unifying key unlocks valuable insights across disparate systems

4 ENTITY CREATION
One trusted view of a business entity

5 ENTITY RESOLUTION
Referential match and analysis

6 STEWARDSHIP
Closed-loop entity resolution

7 DATA MAINTENANCE
Executing a maintenance strategy

8 ENRICHING RECORDS
Real-time access to value-added data

9 HIERARCHIES
Multiple hierarchies provide critical clarity of a relationship

10 INTEGRATION OF DISPARATE SYSTEMS
Between legacy, modern and new architectures and agendas
A data-inspired enterprise drives improved business performance
**MDM is not a destination – it is a journey to becoming a data-inspired enterprise which drives improved overall business performance**

### Master Data Strategy

#### Success Metrics
- MDM strategy must begin by defining the key success metrics to drive tangible business value

#### Executive Sponsorship
- Executive sponsorship is critical to ensure technical requirements are aligned with business objectives

#### Continuous Learning
- A continuous learning and improvement environment is key – an agile system must continue to evolve in an ever-changing environment

#### Analytics-Driven Organization
- Organizations who leverage master data as a service – who have a trusted view of relationships – can become a more powerful analytics-driven organization; driving more powerful results
For 30 years, the US Government award management system ensures data integrity and delivers operational efficiency

CUSTOMER NEED
• Unique identifier to facilitate electronic payments
• Transition to their global award management process paper-based processes to electronic commerce
• Ability to customize for expanding requirements

OUR APPROACH
• D-U-N-S Number required for those conducting business with the US Government
• Business verification at the point of entry
• Hierarchy data for transparency
• Embedded across 1,000 IT Government systems
• Dedicated team handles over 35,000 inquiries each month

OUTCOME
• More efficient procurement system
• With over 750,000 awardees in their global management system, the Office of Management and Budget stated in a recent Wall Street Journal article:

“Accurate and timely identification of responsible Federal awardees is essential to ensuring the integrity of the Federal procurement and financial assistance processes.”
Benchmarking the quality of your data against your company strategy
Benchmarking the current state of your data is a first critical step and must be evaluated with the company strategy in mind.

**Setting the baseline**

**Foundational data profiling**
- Foundational data profiling sets a critical baseline regarding quality, coverage, location and available attributes.

**Business glossary**
- A business glossary establishes standard definitions to improve alignment and consistency across the organization.

**Entity assessment**
- Scoping of all company’s entities — customers, prospects, vendors and/or partners.

**Business requirements**
- Company business requirements establish what data is mastered, and identifies key attributes, levels, and goals moving forward.
Technology Company reengineers their legacy MDM process to be more modern, agile, and efficient

**CUSTOMER NEED**

- With a new CTO and CDO in place, the company is undergoing an agile business technology transformation.
- Moving to a cloud-based transactional capability to more effectively tie their legacy systems to their digital strategy.

**OUR APPROACH**

- D&B’s Master Data as Service is a critical link to the internal customer number and the D-U-N-S Number
- Hierarchy information, contact email address and executive information were key data assets
- Sales is enabled with mobile capability iPhones and iPads and sales apps are being created to pull in all data intelligence

**OUTCOME**

- Key stakeholders were engaged – sales, marketing, mobile, global credit, supply chain and partner community.
- By integrating APIs everywhere the company is able to provide more business value from their M-DaaS solution.

In the past the MDM system was under the philosophy – ‘we will build it and they will come’. This was not successful. With M-DaaS, they now have the capability and flexibility needed to ensure legacy systems are all focused in same direction to enable modern digital technology.
Customer data assessment

**Stytch Data File Analysis**

<table>
<thead>
<tr>
<th>Total Records</th>
<th>Matched Records</th>
<th>% Matched</th>
<th>Total Spend</th>
<th>Matched Spend</th>
<th>Matched Spend %</th>
</tr>
</thead>
<tbody>
<tr>
<td>65,895</td>
<td>37,931</td>
<td>57.6%</td>
<td>1,209,977,640</td>
<td>931,212,375</td>
<td>77.0%</td>
</tr>
</tbody>
</table>

**Unique DUNS Matched**

- Duplicates for Review: 44,257
- DUNS with Duplicate Vendors: 7,372
- Unmatched Spend: 278,765,265

**Top Matches with Multiple Vendors**

- Hospital For Sick Children, The
- Sunnybrook Health Sciences Centre
- Princess Margaret Hospital Foundation
- Bell Mobility Inc.
- Halton Healthcare Services Corporation
- Volunteers of Trillium Health Centre
- St. Michael's Hospital
- McMaster University
- McMaster University Medical Center
- Ontario Hospital Association

**Match Breakdown Percentages**

- Matched: 42%
- Revene: 14%
- Unmatched: 44%
Business glossary / standard file layout
3

Unifying common key unlocks valuable insights across disparate systems
Common translation key leveraged across different systems unifies and unlocks the valuable insight on a business entity

<table>
<thead>
<tr>
<th>COMMON KEY ASSESSMENT</th>
<th>IDENTIFIER RECOMMENDATION</th>
<th>IDENTIFIER ADOPTION</th>
<th>ACCOUNT CREATE PROCESS EVALUATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Review of the various keys used across the company – different systems, different countries, etc.</td>
<td>Identification of the prevalent identifier being used today – and future recommendation</td>
<td>Scope determination for identifier adoption such as enterprise-wide or phased approach by system or country</td>
<td>Evaluation of current account set up process for each entity – customer, vendor, partner, etc. – and future recommendation</td>
</tr>
</tbody>
</table>
Global telecommunications company’s “Data First” culture delivers 360° view of the customer and improved customer service

**CUSTOMER NEED**
- A leading telecommunications company operating in 26 countries and offering services in more than 60 lacked what they called a “single version of the truth”
- Reconcile the disparate information resulting from the company’s many mergers and acquisitions
- Take data beyond the CRM and ensure scalability across the global Enterprise

**OUR APPROACH**
- Put a master data strategy in place to manage vendor relationships
- Utilized an unbiased referential dataset across the organisation
- Using the D-U-N-S Number, along with matching technology

**OUTCOME**
- Upfront verification along with clear data governance and business processes
- Gained much needed single view of a customer across both their prospect and customer databases
- Strongest pipeline they’ve ever seen and are firmly positioned to drive results in all areas of the business

“The motivation was to build a scalable and repeatable ‘Data First’ process to deliver each local market with a consistent view of the prospect, customer and vendor. This provides first class service expected by the largest global telecom provider.”

COMPANY’S PRINCIPAL DATA ARCHITECT
## Entity Profile

### SAP SE

#### Key Information
- **2014 Sales**: $22.33 B ($1.38 B from 2013)
- **Employees**: 76,986
- **Company Type**: Publicly owned
- **Year Founded**: 1972

#### Family Tree
- **Global Ultimate**: SAP SE (Parent)

#### Company Details
- **Primary Industry**: Enterprise Resource Planning Software
- **Primary Address**: Dürrstraße 10, 69129 Heidelberg, Germany

#### Financials
- **Fiscal Year-End**: December
Creating one trusted view of a business entity
Creation of a trusted view of an entity is the ultimate goal – and critical to relate ‘the golden record’ to other golden records within – and more importantly, beyond the organization.

**SEARCH BEFORE CREATE**

Next level implementation involves the use of the best-in-class identifier during the account setup process.

**DUPLICATE DETECTION**

Identification of duplicate records across files and different systems.

**ENTITY MATCHING**

Access to existing, sophisticated resolution logic vs. creation of your own logic to realize different entities actually represent the same entity.

**CLEANSING, PARSING & STANDARDIZATION**

Cleansing, parsing, and standardization prepares inquiries and maximizes the impact of the inquiry in identifying match candidates.

**MULTIPLE LANGUAGES & WRITING SYSTEMS**

Creation also includes logic for different countries, language and writing systems, and character-based context and meaning.

Association of Enterprise Architects (AEA) and ISACA Ottawa Event

Master Data as a Service
Neopost transformed their customer and prospect databases into a single comprehensive view, resulting in new opportunities

**CUSTOMER NEED**

With the market shift to digital marketing, Neopost sought to:

- Eliminate complex integrations and disparate data sources
- Establish one comprehensive view of customers and prospects
- Wanted a cross-functional effort to simplify their approach and maximize data quality

**OUR APPROACH**

- Neopost turned 4.5 million customer and prospect records over to D&B and received back a streamlined, de-duped, ready-for-business list
- New records are added on a weekly basis, and quarterly scans with D&B maintain the database quality

**OUTCOME**

- Neopost’s successful enterprise-wide data integration has created customer and prospect clarity
- Knowledge the company needs to spot new opportunities.
- Now more predictive, knowing what actions should be taken

“We have successfully de-duped our Salesforce environment, which is the first time we have been able to do that in over a decade,” says Greg McLaughlin, the CRM director for Neopost North America.

“That’s the kind of collaborative, strategic partnership we have with Dun & Bradstreet.”
Search before create

apple INC.

APPLE INC. - Headquarters
Cupertino, CA

APPLE (UK) LIMITED - Single Location
Uxbridge, Middlesex

Apple American Group LLC - Headquarters
Independence, OH

Apple Computer Brasil Ltda. - Headquarters
Sao Paulo, Sao Paulo

Apple-A-Day, LLC - Headquarters
Seattle, WA

P C Apple Dentistry - Headquarters
Fair Lawn, NJ
Identity resolution optimized through referential match and analysis
Identity resolution is a rigorous methodology—utilizing data, tools, techniques, processes, and analysis—to provide the right information about the right business entity to get to the right answer to meet business objectives.

**ENTITY RESOLUTION**
- Company name, address, and country fuzzy matching type functionality for non-matched customer records

**CONFIDENCE CODES**
- Ability to measure the level of confidence of each match and resolution experience

**MATCH GRADE ANALYSIS**
- Ability to perform match grade analysis designed to help find the best match record and explain why a match was made

**REFERENTIAL MATCH**
- Referential match key for deduplication/grouping of non-matched records

**STEWARDSHIP SERVICES**
- Ability to continually learn and improve match results

---

**OPTIMIZING ENTITY RESOLUTION**

Identity resolution is a rigorous methodology—utilizing data, tools, techniques, processes, and analysis—to provide the right information about the right business entity to get to the right answer to meet business objectives.
Banking giant automates entity resolution across its global business and cuts costs, streamlines operations and accelerates growth

**CUSTOMER NEED**

- The bank knew data governance was key to ensuring compliance
- Deliver organizational efficiencies and profitable growth with accurate, decision-ready intelligence across all business units
- Against a background of inherently siloed infrastructures, systematically opposed data entry processes, and a raft of different CRM and data suppliers, this would be no easy task

**OUR APPROACH**

- Created a fully accurate, always up-to-date “Golden Copy” of entity records throughout its global organization

**OUTCOME**

- The value was immediate
- The bank recognized six figure savings simply by being able to redeploy staff to other business critical activities
- It now has the tools to operate with complete visibility, report with complete confidence and growth profitably

“...It makes things more productive. I can put ten systems in and isolate. It allows my team to become experts and ensure that their management and my management can see where we are, and understand how long it will be before we finish – and that’s powerful.”

**HEAD OF CUSTOMER DATA**
Optimizing entity resolution

### Matches

<table>
<thead>
<tr>
<th>Company Name</th>
<th>Address</th>
<th>City</th>
<th>State</th>
<th>Zip</th>
<th>Country Code</th>
<th>Phone</th>
<th>DUNS</th>
<th>Confidence Code: Match Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>开德贸易(上海)有限公司</td>
<td>上海市浦东新区张杨路150号 上海国贸大厦E楼1206室</td>
<td>上海</td>
<td>200120</td>
<td>CN</td>
<td>61634514</td>
<td>4213556479</td>
<td>7: MAIAA9ZBFZ</td>
<td></td>
</tr>
<tr>
<td>青城贸易(上海)</td>
<td>上海市浦东新区张杨路150号</td>
<td>上海</td>
<td>200120</td>
<td>CN</td>
<td>640736896</td>
<td>544100045</td>
<td>5: AFAIA9ZBFZ</td>
<td></td>
</tr>
<tr>
<td>开德贸易(上海)有限公司</td>
<td>张杨路1号徐家汇</td>
<td>上海</td>
<td>200030</td>
<td>CN</td>
<td>6102736</td>
<td>544304862</td>
<td>3: BZFA9A2FZ</td>
<td></td>
</tr>
<tr>
<td>上海三厂</td>
<td>上海市张杨路</td>
<td>上海</td>
<td>200120</td>
<td>CN</td>
<td>58892180</td>
<td>4209707808</td>
<td>3: AFAIA9ZBFZ</td>
<td></td>
</tr>
<tr>
<td>中国科技资料有限公</td>
<td>上海市 300号</td>
<td>上海</td>
<td>200120</td>
<td>CN</td>
<td>68523336</td>
<td>527896540</td>
<td>3: AFAIA9ZBFZ</td>
<td></td>
</tr>
</tbody>
</table>

### Matches

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<th>Company Name</th>
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<td>4213556479</td>
<td>7: MAIAA9ZBFZ</td>
<td></td>
</tr>
</tbody>
</table>

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**Association of Enterprise Architects (AEA) and ISACA Ottawa Event**

**Master Data as a Service**
Closed-loop entity resolution implemented... globally
Global closed-loop process for matching, hierarchy and data quality allows continual improvement for entity resolution and more user confidence

<table>
<thead>
<tr>
<th>AUTOMATED PROCESS</th>
<th>INVESTIGATIONS</th>
<th>SELF-SERVICE PORTAL</th>
<th>REFERENTIAL DATA STRUCTURE</th>
<th>STEWARDSHIP RESOLUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manual to automated process for investigation requests of non-keyed records</td>
<td>Investigation services to enhance data quality, verify linkage, credentials</td>
<td>Automated process built into self-service portal to reduce the need to manually manage requests or issues</td>
<td>Ability to enable customer data for file building, linkage creation and matching engine feed files</td>
<td>Overall data and matching experience improved over time</td>
</tr>
</tbody>
</table>
Government agency leverages a custom closed-loop resolution process to improve food and drug safety

CUSTOMER NEED

- The regulatory agency’s mission is to protect the public health by assuring the safety, efficacy and security of our nation’s food supply and human drugs
- Amidst an expanding global supply chain, the agency was tasked to increase inspections in Chinese facilities that manufacture or process food or drugs for export to the U.S.

OUR APPROACH

- D-U-N-S Number adopted as the Unique Facility Identifier
- D&B leverages a closed-loop entity resolution process and global data stewards to conduct on-site inspections, to improve the completeness/accuracy of the data on manufacturing firms regulated by the agency in China

OUTCOME

- Significantly increased the speed to admissibility of appropriate products by increasing the number of overseas food and drug inspections it conducts annually including in China
- Outsourcing effort has increased workload efficiency and savings for the government agency

New legislation ushered in the requirement that the Agency maintain a registry of manufacturing sites – both domestic and international – in which each plant is assigned a unique facility identifier (UFI) allow the agency to keep track of inspections.
Data maintenance strategy requires a multi-faceted, multilingual approach
Data maintenance strategy enables complex resolution and intelligent change management across multiple languages and writing systems.

<table>
<thead>
<tr>
<th>DATA QUALITY</th>
<th>PERMISSIBLE USE &amp; PRIVACY LAWS</th>
<th>ADVANCED MONITORING</th>
<th>INTELLIGENT CHANGE MANAGEMENT</th>
<th>PROACTIVE REGRESSIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data quality assurance program includes manual review, testing, standards and validations – across the entire data lifecycle</td>
<td>Strict adherence to permissible use of global data and privacy laws ensures data is protected</td>
<td>Monitoring for changes in address, linkage, firmographic data; and implementing an indicator to know which data are added, dropped, or value changed</td>
<td>Capability to monitor most important customers and refresh data on less important customer records</td>
<td>Proactive regressions can be leveraged</td>
</tr>
</tbody>
</table>
Major Technology Company utilizes data stewardship services and their marketing efforts became 2X more effective

CUSTOMER NEED

• A major technology company needed to improve their marketing efforts. Their Business Intelligence group partnered with D&B to leverage our data stewardship services

OUR APPROACH

• A D&B team of data stewards manually reviewed records from their core marketing and sales database that could not be confidently matched to a D-U-N-S Number

• Custom business rules were created to support these stewardship efforts

• Technologies were then implemented to create a seamless workflow between the organizations, enabling flow of data and insight

OUTCOME

• Nearly half of marketing records reviewed were for deactivated/inactive companies

• Nearly 30% required updates - either name, address or both name and address

Marketing efforts became 2x more effective by the eliminating nearly a significant portion of records that were proven to no longer be active.”
### Advanced monitoring

#### Direct 2.0 Monitoring Demo

<table>
<thead>
<tr>
<th>Changes Over Time</th>
<th>Total Changes (90 Days)</th>
<th>Firmographic Changes</th>
<th>Risk Changes</th>
<th>Linkage Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>63,696</td>
<td>23,535</td>
<td>18,719</td>
<td>21,442</td>
</tr>
</tbody>
</table>

#### Risk by Day

| Apr 17 | 0   |
| Apr 16  | 780 |
| Apr 15  | 40  |
| Apr 14  | 0   |
| Apr 13  | 170 |

#### Linkage by Day

| Apr 17 | 0   |
| Apr 16  | 0   |
| Apr 15  | 0   |
| Apr 14  | 0   |
| Apr 13  | 0   |

---

Association of Enterprise Architects (AEA) and ISACA Ottawa Event

Master Data as a Service
Real-time access to value-added data creates more informed decision making
Real-time access to key attributes such as corporate hierarchies, firmographics, predicative indicators and contacts enables more informed decision making.

<table>
<thead>
<tr>
<th>GLOBAL CORPORATE HIERARCHIES</th>
<th>KEY ATTRIBUTES</th>
<th>EXECUTIVE CONTACTS</th>
<th>AGILE ENVIRONMENT</th>
<th>ON DEMAND CAPABILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Global corporate hierarchies on millions of family trees provides the legal view that is the foundation for all other linkages.</td>
<td>Access to key attributes such as firmographics, credit scores, and predictive indicators</td>
<td>Access to contact information for decision makers appended to the entity provides opportunity for new conversations</td>
<td>Agile environment allows for transactional or batch delivery</td>
<td>Flexible, on demand capability allows for as little or as much information per request</td>
</tr>
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</table>
Ingram Micro’s Global Business Intelligence & Analytics Center drives profitable growth

CUSTOMER NEED

• Since 2007, Ingram Micro has partnered with Dun & Bradstreet to build out its business intelligence & analytics practice.

• In the U.S. the Business Intelligence Center supports 40,000 active resellers processing more than 30M annual orders

OUR SOLUTION

• Build highly scalable machine learning algorithms on that single version of truth

• Provide insights such as reseller profiling and new account prioritization

• Extract actionable predictive intelligence from transactional data after triangulating that with a number of 2nd and 3rd party data sources such as D&B

OUTCOME

• Generated $1.3 billion of incremental product revenue and

• Delivered $42 million of incremental gross profit including marketing services revenue through data-driven BI programs

“The matching capabilities of Dun & Bradstreet are the most sophisticated available on commercial data...”

Reeto Mookherjee, Ph.D.
Executive Director of Global BI and Analytics
Enriching entity records

**Direct 2.0 Monitoring Demo**

**APPLE INC.**

DUNS: 060704780
1 INFINITE LOOP, Cupertino, California 950142083 US
http://www.apple.com

**APRIL 15, 2016**

**Competitor Source: DCP_PREM**

- Increased from 21069.0337 to 21225.3570
- Increased from 3674.2626 to 3697.7153

**APRIL 14, 2016**

**Competitor Source: DCP_PREM**

- Increased from 20825.8626 to 21069.0337
- Increased from 3637.7806 to 3674.2626

**APRIL 13, 2016**

**Competitor Source: DCP_PREM**

- Decreased from 21329.5741 to 20825.8626
Multiple hierarchies provide critical clarity of a relationship
Traditional hierarchies and alternative linkages provide critical clarity into the opportunity or risk associated with a relationship.
Technology Company leverages decision hierarchies to drive efficiency and targeted growth

CUSTOMER NEED

- Find the ‘decision making’ HQs in large family trees at the appropriate entity level.
- Help our sales and marketing teams to focus resources on where buying decisions are made.
- A single company may be represented by between 1 and 10,000+ sites. No simple method to rollup into a single entity and no systematic method of synching up products, services, competition intel to these sites.

OUR APPROACH

- D&B data scientists built a sophisticated overlay model which pinpoints the specific location where companies are making decisions, in country.

OUTCOME

- Focus investments on high-yield locations.
- Assign resources based on intelligent account assignments.
- Align sales opportunities to highest potential candidate locations.
- Plan marketing investments based on known client/prospect sites.

Reducing the complexity of family trees resulted in 86% - 93% of all client interactions being captured by Decision HQ.
DecisionHQ finding the points of influence
Seamless integration between legacy, modern and new system architectures and agendas
Seamless integration between different systems enables account set up at point of entry, and agile access across enterprise enables varying agendas

**SYSTEMS ASSESSMENT**
Understanding of all disparate systems, cloud technologies and API’s – and how they are connected or not

**ENTERPRISE APPROACH**
Determination of approach – based on priority, value or budget

**SYSTEMS INTEGRATION**
Integrate and scale as appropriate – one system at a time, MDM platform or data warehouse with simple cross-reference table to link existing keys

**POINT OF ENTRY ACCOUNT SET UP**
Development of tools and/or systems as needed to drive adoption and more value – i.e. point of entry user interface (UI) or self-serve portals to access
Innovative Technology Company streamlines data to understand customers, cut costs and drive growth

**CUSTOMER NEED**

- Consolidate 200 systems down to only 50 and consolidate record information for a 360-degree view of prospects, customers and suppliers
- Create a single master data management (MDM) hub that could feed multiple systems used by various business units
- Drive growth and understand their customers as they rolled out their own persona and digital marketing programs

**OUR SOLUTION**

- D&B was chosen to integrate multiple data sets into the MDM hub via the APIs and large files via batch for M&As
- D&B data is fed into Salesforce.com, giving the sales teams a 360-degree view of their prospects and customers
- Leveraged hierarchies in the vendor file to reduce spend

**OUTCOME**

- IT reduced duplication, identify who their biggest customers were and understand exposure to any given entity
- Sales gained a 360-degree view for a “Smart Leads” program that scored leads and routed high-level prospects to the appropriate place
- Procurement secured cost savings through national buying agreements or better negotiated rates based on total spend

“We realized efficiencies, savings and growth across key functional areas such as IT, sales and marketing as well as procurement.”

PROGRAM MANAGER
Key Takeaways for Master Data as a Service
Thank you!