TECHNICAL OVERVIEW

Data Axle Reference Solutions - Historical Database

Data Axle Reference Solutions
Technical Proposal

Data Axle’s proprietary compilation and verification processes provide unparalleled data accuracy. Millions of businesses and consumers use Data Axle data every day; in fact Info group services 90% of the Fortune 100 companies. Our data powers the top 5 Internet search engines and our point of interest information is used in 90% of North American in-car navigation systems.

Our most common applications:
- Search Engines/Local Search
- Job Searches
- GIS, Mapping, & Navigation
- Government & Security Analysis
- Research & Analytics
- Direct Marketing & Sales Lead Generation
- Directory Assistance (411)
- Real-Estate & Site Selection
- Background Checks & Credit Agencies
- Fraud Prevention

Customers, like Google and the United States Secret Service, use our data a number of different ways and we make all of this powerful information available to the general public with Data Axle Reference Solutions.

Data Axle Reference Solutions contains 10 unique searchable databases - 7 business databases and 4 consumer databases shown below:
Our business databases are the most detailed and accurate databases available today. Everyday new businesses open, existing businesses change locations and eventually some businesses close- because of this the database must be continually maintained to keep the information up-to-date and accurate.

Information in the databases is compiled in two phases. First we aggregate 4,000+ telephone directories and over 250 new business sources such as secretaries of state, county courthouses and public record notices. Through these sources and additional process, we can typically gather base level information. Second, our verification team calls each business to verify the information and to obtain any additional information.

Our business databases have been developed as information databases and are not derivative of another product or application. As a result, the coverage of the business databases is intended to represent all active business sites.

**Quick Facts**
- 183 million US Business records from 2003 to present
- 43 million active US businesses
  - 16 million telephone verified
  - 27 million pre-verified
- 1.9 million Canadian Businesses
- Compiled from 4,000+ telephone directories and thousands of other sources
- Most Accurate and up-to-date in the industry
- Telephone verified
- 35 million telephone calls placed in 2015
- Files are updated on the 1st and 3rd Friday of each month
- Out of business records removed daily
- Quality is assured throughout compilation, verification and update processes

**Benefits**
We have devoted significant time and resources to the creation, maintenance and enhancement of our proprietary databases and related applications and software. The database requires sophisticated processes to handle compilation, order processing, accounting, storage, sorting, and quality assurance. The system must allow a sizable work force to compile, program and process data simultaneously. More than 7,500 proprietary software programs operate the data compilation and enhancement process.

Proprietary data compilation software allows the data entry associates to access the database and update, change or verify approximately 1.5 million business listings every month. A separate quality assurance group checks input quality to ensure the information is 99% accurate from the original source. In addition, we use state of the art telephone software that greatly improves the accuracy of the verification process. Also, proprietary...
software has been developed to check the database for incorrect spelling, abbreviations and phone prefixes and to eliminate any inappropriate language from the database.

**Breadth of Information**
More than 50 demographic selects can be combined into unlimited searches to allow for target marketing and research.

**Multiple Uses**
- Sales leads
- Direct mail
- Telemarketing
- Customer profiling
- Market profiling
- Academic research
- Job Seeking
- Economic research/planning
- Historical research/trend analysis
- Entrepreneurship
- Strategic Growth
- Business Research/planning

**Highest Quality**
The business databases are largely recognized as the best quality, most comprehensive and most accurate data solution for business applications. A competitive audit conducted by an independent auditor, reported that, “Data Axle is clearly the industry leader in providing accurate business information.” A copy of the report can be found at the end of this proposal.

Before reaching the customer, the information collected must first pass quality checks. The customized compilation process alone contains over 2,000 information validation checks. These checks are then supplemented by computer data cleansing processes such as duplicate removal and address standardization.

**Comprehensive Process**
No other company has a compilation process as comprehensive and complete as Data Axle. More than 400 highly trained and dedicated associates in the Library, Compilation, Telei research, and Quality Assurance departments work to ensure that we maintain the competitive advantage. This extensive process results in a database that contains the industry’s highest deliverability and contact rates. By purchasing Data Axle data, our clients are able to make the most effective use of their resources.

**Update Frequency**
Because we process all businesses through Telephone Verification at least once per year, out-of-business locations are regularly cleansed from the database. Moreover, we process transactions-based data, which identifies probably out-of-business listings from across the country each month. These businesses are telephone verified and appropriate changes are made to the database. Out of business records are removed from Data Axle Reference Solutions daily,
while records are updated, changed, modified or added, twice a month. We have included our “File Transfer Report, which covers the changes and enhancements made to the database each month. This “File Transfer Report” can be found at the end of this RFQ.

Compilation
Our data collection methods are unique and provide several advantages: comprehensive coverage of all businesses (regardless of size), complete information on each business, accurate and up-to-date information, standardized data elements and dependability for future needs.

Depth of Information
Businesses need more than basic listings to power most marketing applications. Thus we also compile information from annual reports, government documents such as 10-K’s, SEC Filings, chamber of commerce directories, industrial directories and other sources. These multiple sources provide more business listings and additional information on individual businesses.

State of the Art call center
We manage a 270-seat call center in Nebraska where 35 million calls are made each year to verify the business database. The call center is organized into specialized groups organized by the type and size of the business. As an example, one calling group is dedicated to verifying information about brand new businesses while another verifies information about physicians and dentists and yet another verifies Canadian businesses. The specialization enables the verification team to gather complete and accurate information. The Telephone verification agents will verify the company name, address (physical and mailing), phone number, contact name, title and gender of the owner or president at that location and the number of employees for smaller businesses. We also verify additional information based on the size of the business. Such as, the Standard Industrial Classification (SIC) Code, Web address, toll free numbers, fax numbers and the name, title code, gender and email addresses.
U.S. Historical Businesses
Our historical data is the most accurate and reliable data in the industry, nothing you’ll find goes to this detail. Whether you need to analyze marketing trends, economic trends, or even specific industries, our historical data can be pulled using multiple criteria. This data is invaluable in predicting economic growth and planning for the future.

Quick Facts
- 183,000,000 records from 2003 to present
- The needs from Princeton University and other leading Universities in the US helped build this powerful database
- Each record date stamped and connected to others years
- Unlike the census, this historical data is driven to the address level, showing who was where, when.

Searching the database
You can search for individual businesses and time frames

Or you can search for groups of businesses choosing from more than 30 demographic selects can be combined into unlimited searches:

You can even choose to compare businesses
How to start your comparison...

Compare up to four businesses over the past 10 years.

1. Complete the 'Select Businesses' section below by entering in the business name, city, state and/or zip code and click 'Search'.
2. Your search results will appear directly below the search section. Once you have found the business, click 'Select'. Your business should appear to the right under the 'Selected Businesses' section.
3. For every additional business, continue to add to the 'Selected Businesses' section.
4. Once you have your desired businesses (up to four) selected, click the green 'COMPARE' button.

**Select Businesses**

<table>
<thead>
<tr>
<th>Name</th>
<th>City</th>
<th>State</th>
<th>ZIP code</th>
<th>Type</th>
<th>Clear Search</th>
</tr>
</thead>
<tbody>
<tr>
<td>Google</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

**Selected Businesses**

- Yahoo Inc
  - 701 First Ave, Sunnyvale, CA, 94089
  - Remove
- Google Inc
  - 1600 Amphitheatre Pkwy, Mountain View, CA, 94043
  - Remove

**Compare Over the Years**

<table>
<thead>
<tr>
<th>Sales Volume</th>
<th>Employee Size</th>
</tr>
</thead>
</table>

Comparing sales volume and employee size over the years (2003-2016) for Yahoo Inc and Google Inc.
Results
Once you have finished choosing your criteria you can review your data several different ways:

Result Page

U.S. Historical Businesses
110,518 Results

Heat Map
You can view macro density maps or micro level details of individual businesses for each year.

2003

2015
Charts
View, download or print charts and graphs, which are fully cited in APA and MLA formats.
Summary Report for Your Search

Your Search: Start Year: 2003; End Year: 2015; Included States: New Jersey;

Totals | SIC Codes | NAICS Codes | Sales Volume | Employee Size

NEW! Back to SIC Comparison

Top Industries by Year

Choose Year: 2015

- 80 - Health Services
  - 1,568 (23.82%)
- 99 - Nonclassified Establishments
  - 856 (13.01%)
- 58 - Eating & Drinking Places
  - 850 (12.91%)
- 81 - Legal Services
  - 758 (11.52%)
- 59 - Miscellaneous Retail
  - 757 (11.50%)
- 86 - Membership Organizations
  - 638 (9.69%)
- 72 - Personal Services
  - 604 (9.18%)
- 83 - Social Services
  - 551 (8.37%)

Note: Please click on the legend icons to show or hide the corresponding series.
*Top 8 Major Industry Codes are displayed
Exporting Information and saved searches
You can export information by downloading, emailing, or printing records. You can choose various formats, and levels of detail to export. You can also download or print charts, graphs and tables, which are fully cited in both MLA and APA styles.

Users can create personalized accounts and save their search criteria. They can access their searches on the homepage, after logging in with their private user name and password.