Census Bureau Open API Implementation

US Census Bureau API Team

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API Input Format

- Four parameters
  - key=[Developer Key]
  - get=[Dataset variables]
  - for=[Geographies (may be wild card)]
  - in=[Parent Geography]

- Example URL for 2010 Census SF1 data:
  http://api.census.gov/data/2010/sf1?key=[dev key]&get=P0010001,NAME&for=state:*

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API Output Format

- List column headers once at top
- Example query response:

  ```
  [["P0010001","NAME","state"],
  ["710231","Alaska","02"],
  ["4779736","Alabama","01"], …
  ```

- Can easily remove repetitive labels.
- Smaller, tighter footprint, which is needed for mobile applications.
- Array based storage is often faster and uses less memory than object based storage.

API Metrics

What kind of usage does the API get?

- Metrics are available at various time intervals
- Number of keys requested
- Number of keys issued
- Number of API calls
- Number developers participating in an Ideascale Forum, forum traffic

API Scalability

- Load balance requests
- Decouple components
    - API Services
        - Query validation
        - Key validation
    - Data Services
        - Database query

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Client

API Request - 1/ JSON Response - 4

JSON Response - 4

API Request - 1

Data Request - 2

Data Request - 2

Data Response - 3

Data Response - 3

2nd API Server   API Server

F5 Load Balancer

Data Server   2nd Data Server

MySQL/Oracle

Database Server   2nd DataBase Server