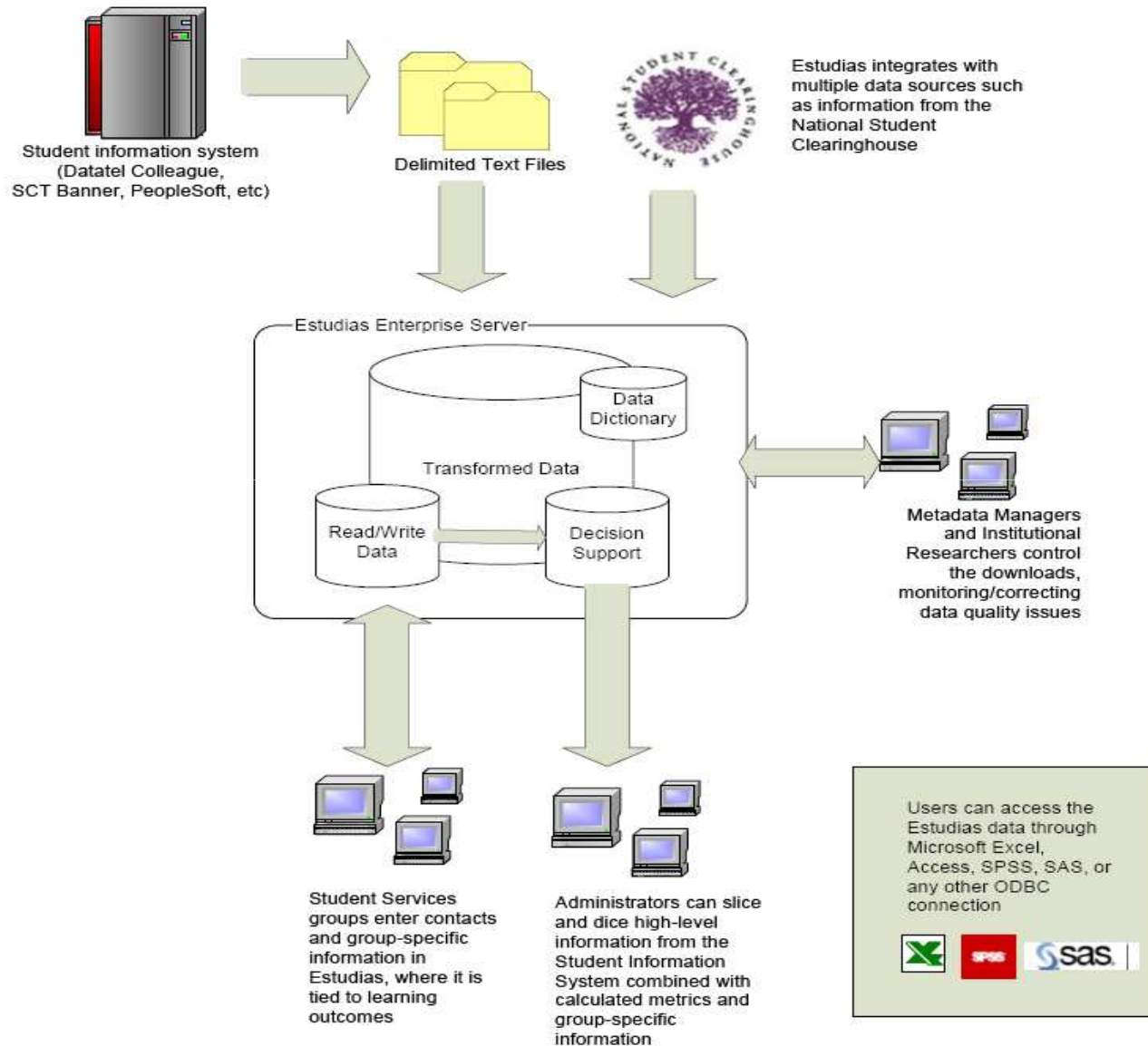


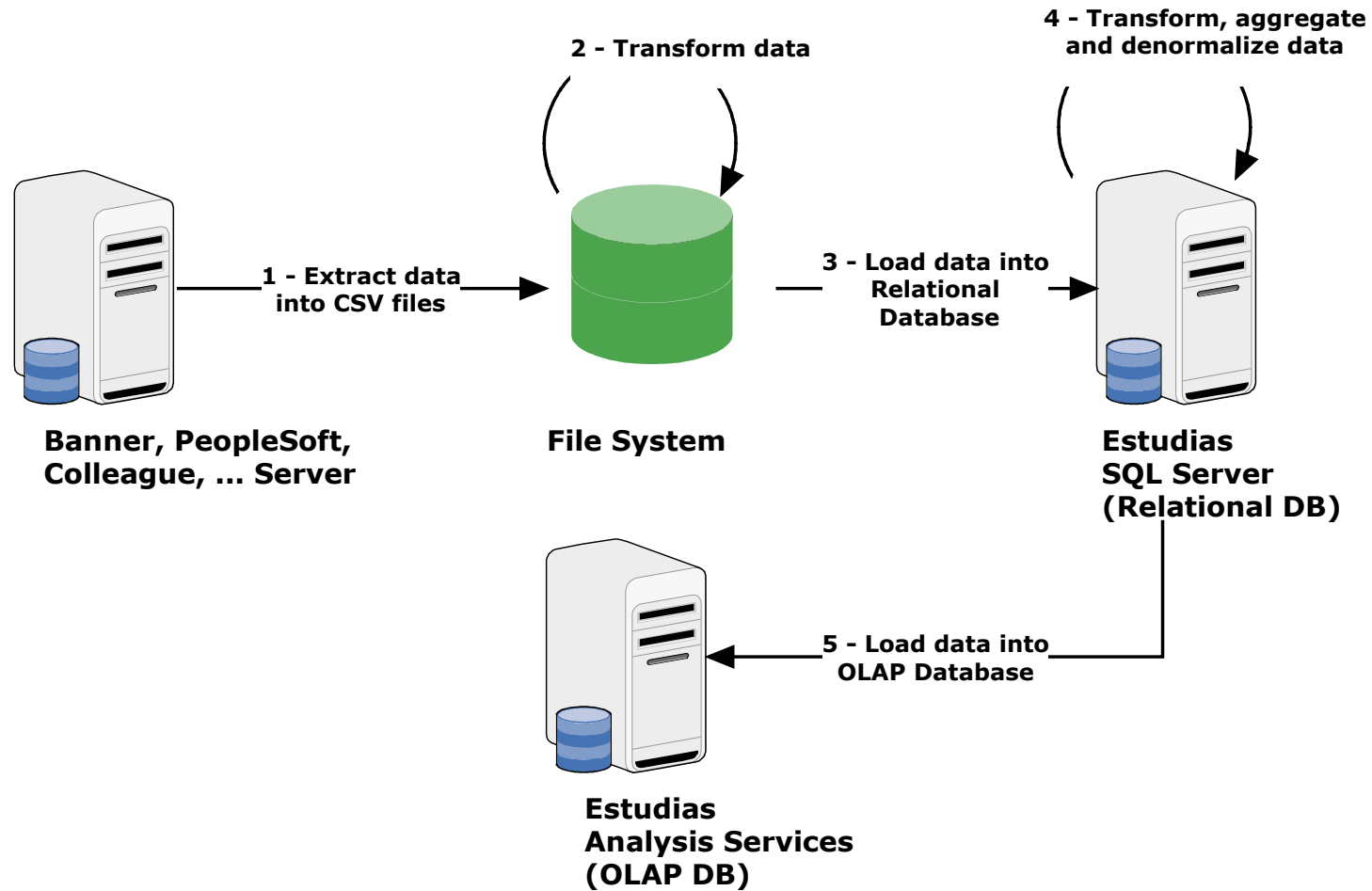
# Estudias Enterprise Technical Overview

# Topics

- Architectural Overview
- ETL Process
- Relational and Multidimensional Databases
- Estudios as a Data Warehouse and CRM systems
- Software and Hardware Requirements
- Deployment Overview



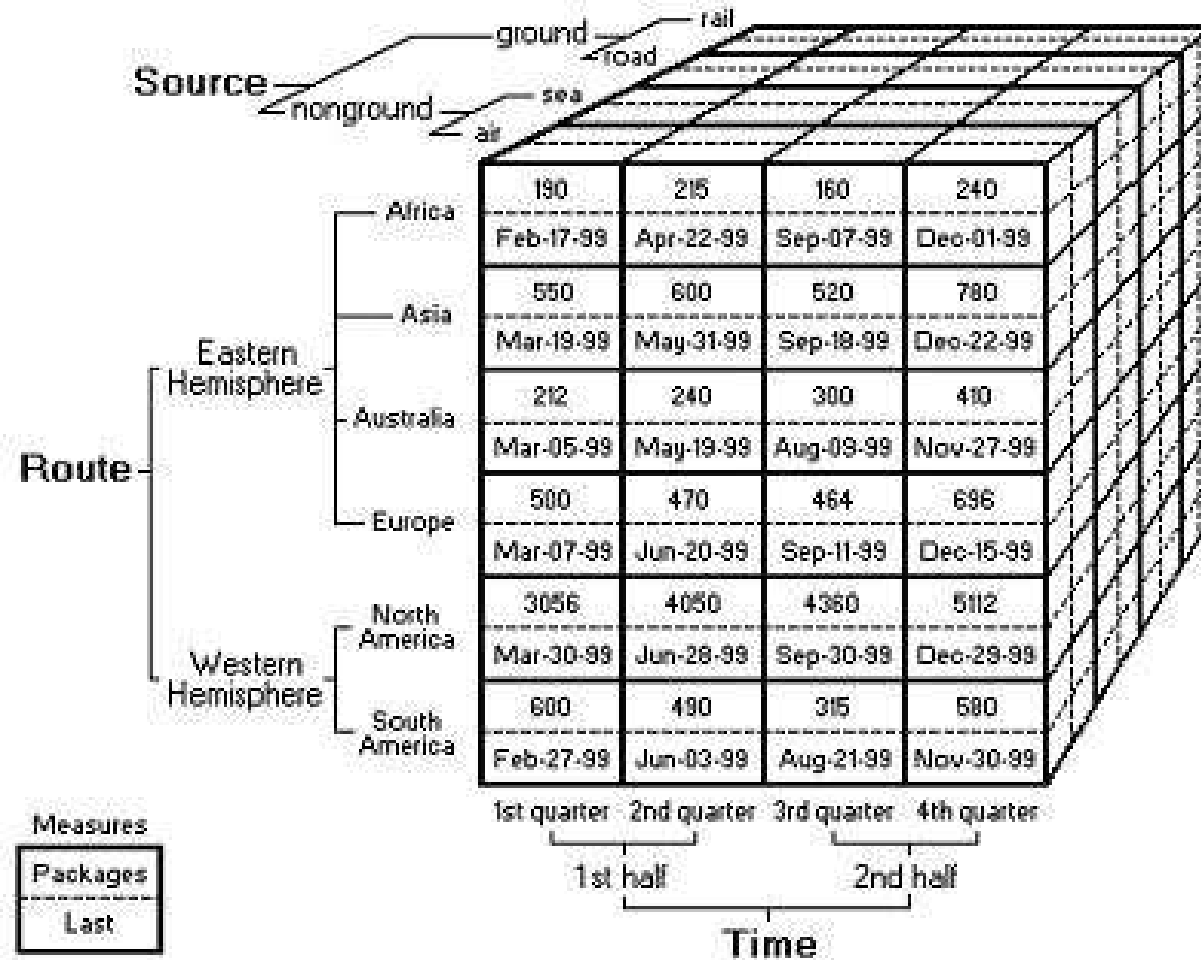
# ETL Process



# Relational & OLAP Databases

- Relational Database
  - Table
    - Columns or fields
    - Rows or records
  - Sample entity: Student:
    - name, gender, ethnicity, age, current major, cumulative credits, GPA, ...
- OLAP or Multidimensional Database
  - Cube
    - Dimensions
    - Measures
  - Main user interface based on slicing and dicing:
    - Pivot Table
    - Pivot Chart

# Sample OLAP Cube



**Student Terms Table Template**

Microsoft Office PivotTable 11.0

Enrolled: Yes | Full or Part Time: Full-Time | Academic Level: Undergraduate

Major: AC/R | AGRIBUS | Grand Total

Academic Year	Semester	Overall GPA	Completed Credits	Overall GPA	Completed Credits	Overall GPA	Completed Credits
1989-1990		4.00	26			4.00	
1990-1991		2.69	42	2.65	20	2.68	
1991-1992		2.08	170	2.93	14	2.13	
1992-1993		2.57	425	2.42	23	2.56	
1993-1994		2.41	749			2.41	
1994-1995		2.29	773	2.65	20	2.30	
1995-1996		2.28	900	2.42	29	2.29	
1996-1997		2.38	734	2.80	25	2.40	
1997-1998		2.55	495	2.40	107	2.52	
1998-1999		2.50	427	2.61	138	2.53	
1999-2000		2.50	412	2.95	152	2.62	
2000-2001		2.25	368	2.39	253	2.31	
2001-2002		2.59	229	2.07	228	2.31	
2002-2003		2.11	518	2.54	175	2.22	
2003-2004		2.11	515	2.40	224	2.20	
2004-2005		1.86	310	2.24	219	2.01	
2005-2006		2.31	557	2.13	133	2.27	
2006-2007	FA	2.19	249	1.99	83	2.13	
	SP	2.58	196	1.50	60	2.25	
	S1	3.00	13	2.62	10	2.81	
	Total	2.37	458	1.82	153	2.21	
2007-2008		1.72	53	2.04	61	1.89	
Grand Total		2.32	8161	2.33	1974	2.33	

**PivotTable Task Pane:**

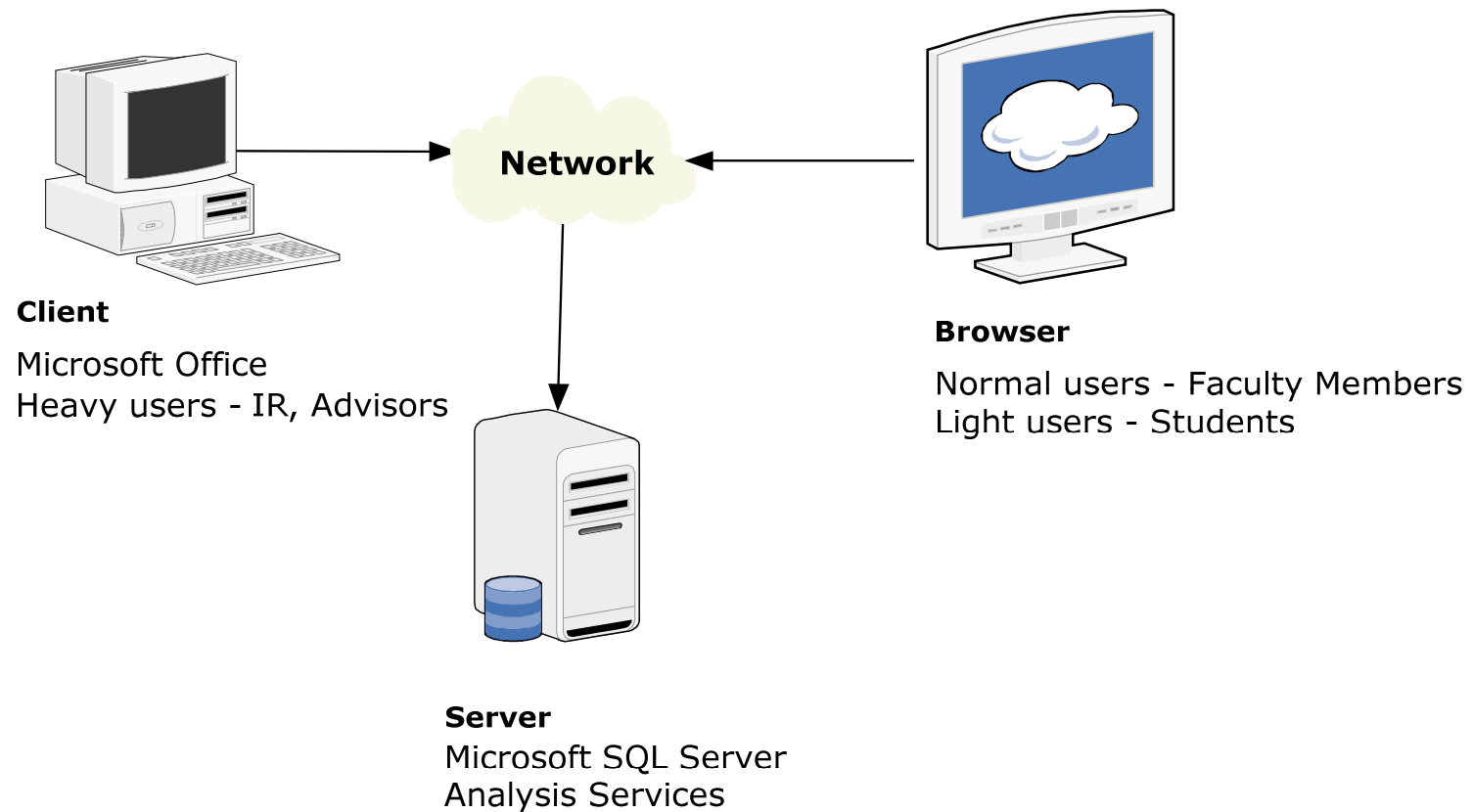
- Working with the Terms cube
- List of available measures:
  - Attempted Credits
  - Average FTE
  - College Level GPA
  - Completed Credits
  - Contact Hours
  - Cumulative College Level GPA
  - Cumulative Contact Hours
  - Cumulative Credits
  - Cumulative Inst College Level GPA
  - Cumulative Institutional GPA
  - Cumulative Overall GPA
  - Cumulative Semesters
  - Duplicated Headcount
  - Enrolled Credits
  - Inst College Level GPA
  - Institutional GPA
  - Overall GPA
  - Total FTE
  - Unduplicated Headcount
- List of available dimensions (partial):
  - Academic Level
  - Admission Basis
  - Degree
  - End of Term Retention Status
  - Ending Cohort
  - Enrolled

# Estudias is

- A CRM System
  - Student Engagement module
  - Data is read/write
  - Uses relational database only
- A Data Warehouse
  - Executive & Research Intelligence modules
  - Optimized for reports & queries
  - Retention of historical data for analysis
  - Schema is denormalized and simplified
  - Data is read-only (populated by ETL process)
  - Uses relational and OLAP databases

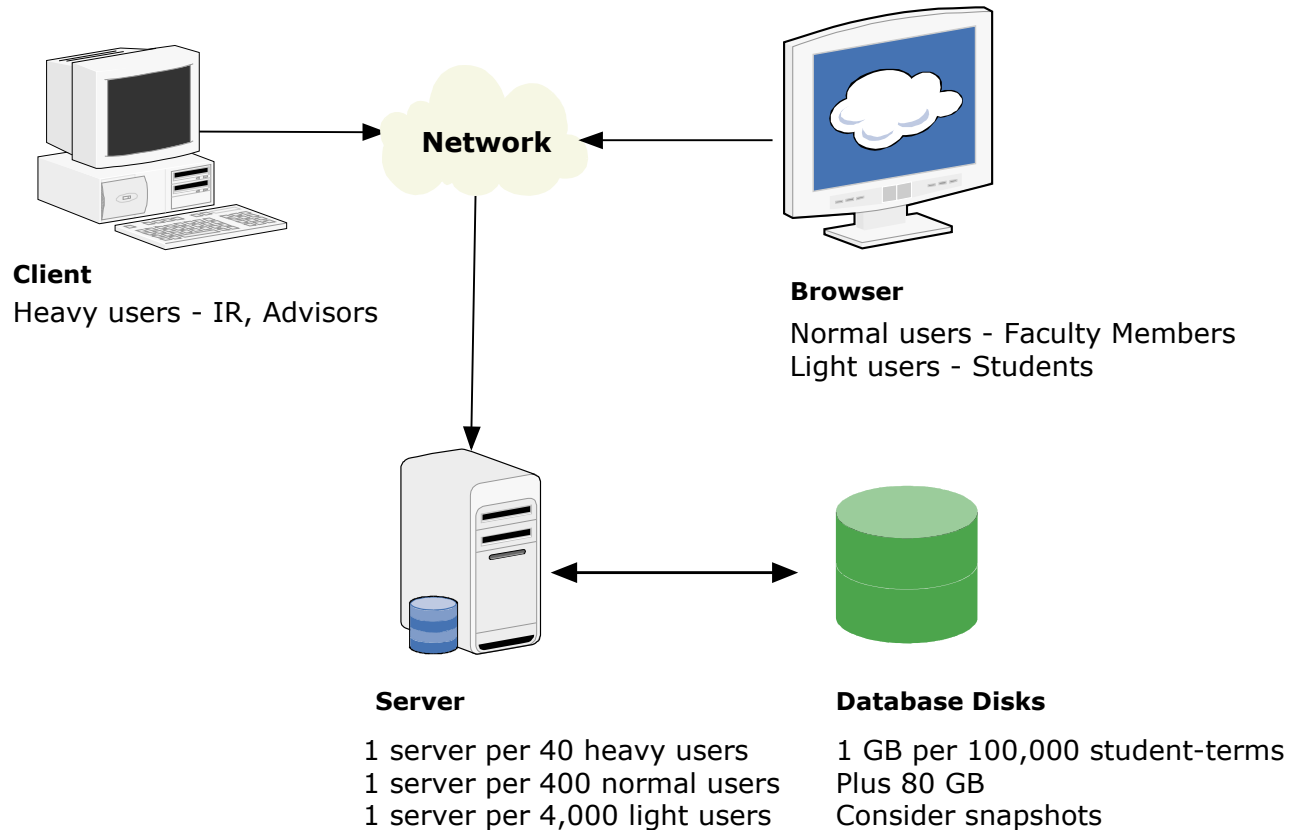
# Software Requirements

## Estudios Software Requirements



# Hardware Requirements

## Estudios Hardware Requirements



# Iterative Integration

- Advantages
  - Users see results quickly
  - Some function is immediately available
  - Continuous improvement

## First Iteration (Downloads)

- Determine tables and fields to download
  - Approximately 25 tables and 150 fields
- Determine download rules
  - Students, locations, terms to exclude, etc.
- Deploy to beta users (IR)

## Second Iteration (Basic Rules)

- Define basic rules:
  - Organization of semesters
  - Interpretation of fundamental fields:
    - Enrollment status, credit status, credit type
- Identify and resolve data quality issues
- Upgrade beta users

## Third Iteration (2<sup>nd</sup> tier rules)

- Define second tier rules
  - About 10 rules (e.g., determination of students enrolled in a term, FTIC, etc.)
- Identify and resolve data quality issues
- Upgrade beta users

## Following Iterations

- Identify and resolve data quality problems
- Upgrade functionality as needed
  - e.g., Student Groups, Reports, Enterprise Reports, etc.
  - We like to be involved
- Extend and upgrade user community as data quality is verified
- **This is a continuous process**
- **This is what drives the features in new versions of Estudias**

# Checklist

IR = Institutional Research  
IT = Information Technology  
ZT = ZogoTech

Task	Owner
<b>First Iteration</b>	
Find download fields and tables	IT, ZT
Establish download rules	IR, ZT
Deploy users	IT, IR, ZT
<b>Second Iteration</b>	
Define basic rules	IR, ZT
Identify and resolve data quality issues	IR, ZT
Upgrade users	IT, ZT
<b>Third Iteration</b>	
Define 2 <sup>nd</sup> tier rules	IR, ZT
Identify and resolve data quality issues	IR, ZT
Upgrade users	IT, ZT

## Checklist (Continued)

Task	Owner
<b>Following Iterations</b>	
Identify and resolve data quality issues	EU, ZT
Upgrade functionality as needed	EU, ZT
Extend user community	IT
Upgrade and deploy users	EU, ZT

**IR = Institutional Research**  
**IT = Information Technology**  
**ZT = ZogoTech**  
**EU = End Users**

# Questions and Answers

**Rod Mancisidor**

Senior Architect

ZogoTech

(888) 221-6372 x802

[rmancisidor@zogotech.com](mailto:rmancisidor@zogotech.com)

[www.zogotech.com/demo](http://www.zogotech.com/demo)