



# **Electronic Commerce Systems**

## **How To Determine Success**

### **Caltech's Strategy for Acquisition Excellence**

**Karen Dombrowski**  
**Director of Acquisition**  
**and Payables**  
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# Agenda

- ◆ Caltech's History and Credentials
- ◆ Organizational Design and Culture
- ◆ Plan for Administrative Transformation
- ◆ Establishment of Metrics for Success
- ◆ *A2000 WebAlog* Project
- ◆ Summary and Conclusions



# Caltech's History and Credentials

- ◆ World Leader in Scientific Research and Education
- ◆ Largest Number of Nobel Prize Winners
- ◆ One of Largest Laboratory Facilities in United States
- ◆ Manages Jet Propulsion Laboratory





# Organizational Design and Culture

- ◆ Six Academic Divisions
- ◆ Mix of Division-managed and Centralized Administrative Areas
- ◆ “Caltech-centric” faculty, staff and students:
  - Long-term employment
  - Limited experience at other facilities
  - Loyal to “way things always done”
  - Protected by cocoon of money and success



# Current Laboratory Statistics

- ◆ 34 Biology Laboratories
- ◆ 25 Chemistry Labs
- ◆ Annual expenditures for laboratory Chemicals, Supplies and Equipment are over \$10.0 million
- ◆ Currently use 240 different suppliers, with 40 suppliers receiving \$5,085,358 last year



# Acquisition 2000 and Beyond

***Mission:** To define, design and implement new business processes that enable Caltech to acquire goods and services necessary to perform research and Institute business.*



# Tactics to Achieve Our Mission

- ◆ Direct-Access Acquisition Systems
- ◆ Streamlined, Easy-to-Use Processes for Acquiring Internal Goods and Services
- ◆ Personnel Restructuring
  - Core Organization Professionals
  - Trained, Decentralized Administrators





# Direct-Access Acquisition Systems

- ◆ No Assistance Required
- ◆ Simple Screens for Decentralized Users
- ◆ Web based catalog of commodity supplies
- ◆ On-line Payment Authorization
- ◆ Purchasing Cards





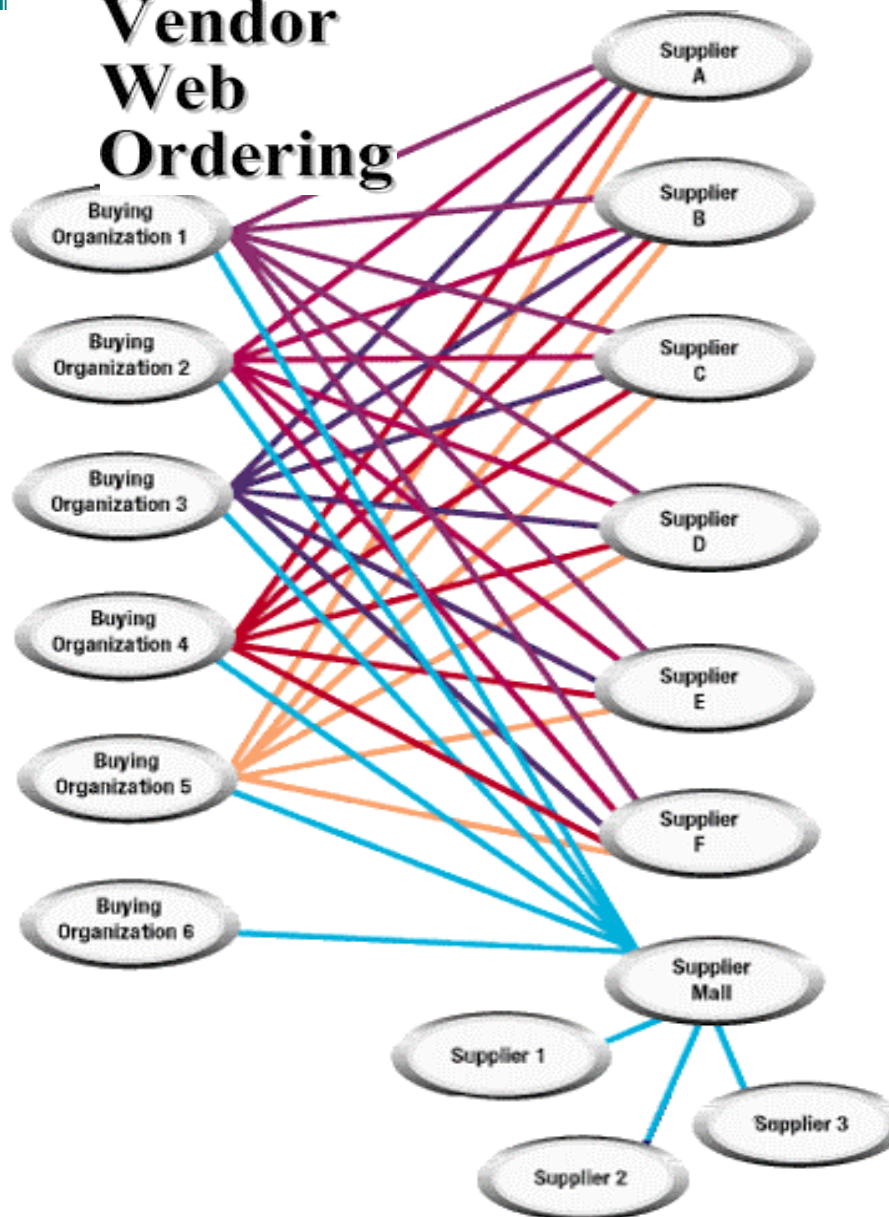


# System Evaluation Objectives

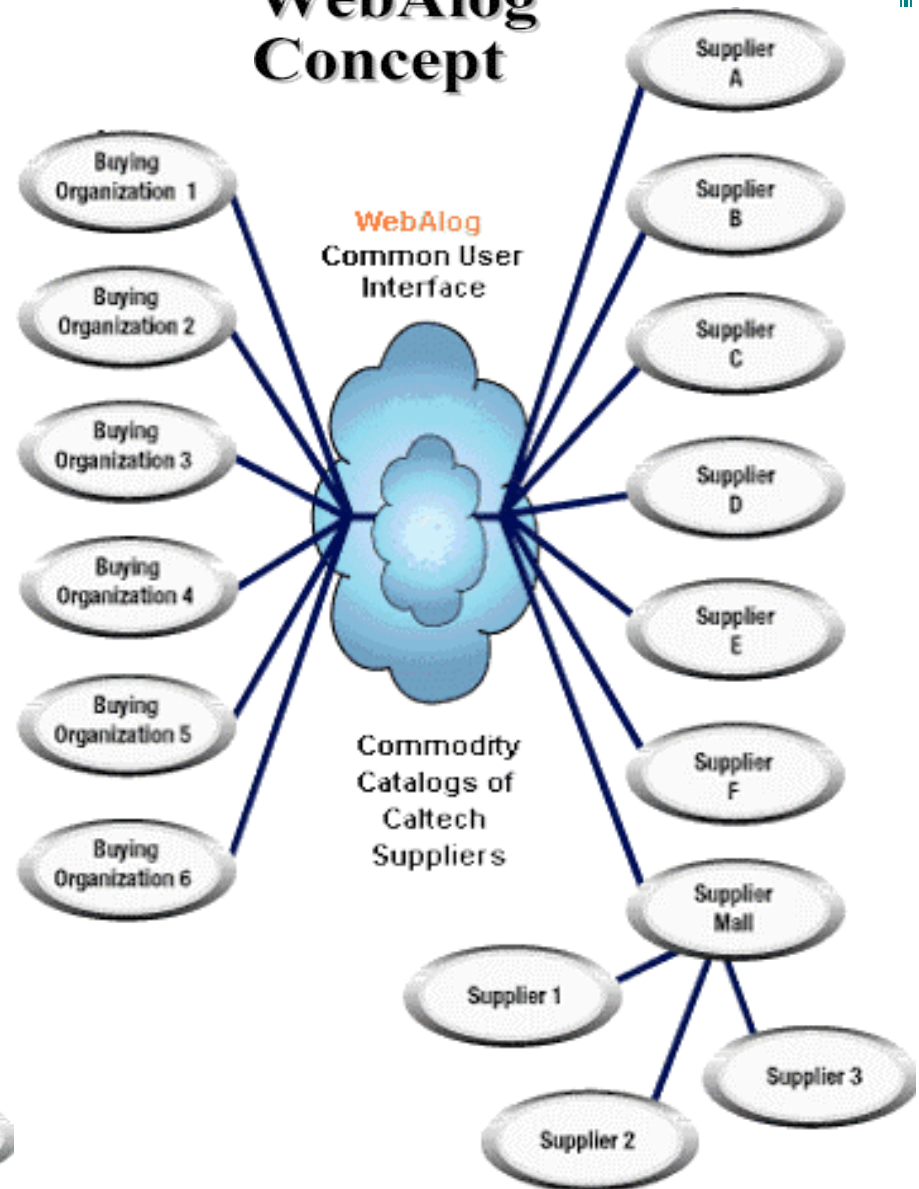
- ◆ Is open and adaptable to facilitate future needs
- ◆ Includes Small and Disadvantaged suppliers
- ◆ Provides the customer with state of the art tools
- ◆ “Customer-centric”
- ◆ Flexible, simple, with a common interface
- ◆ Site-specific catalogs and pricing
- ◆ Vendor Independent



# Direct Vendor Web Ordering



# WebAlog Concept



# Systems Considered

- ◆ JPL/JIT
- ◆ Fisher Technology Group Catalog
- ◆ VWR Scientific Catalog
- ◆ Office Depot Catalog
- ◆ Open Buying on the Internet (OBI) Protocol
- ◆ IBM World Purchasing Mall
- ◆ Grainger Integrated Supply Organization (GISO)
- ◆ Anderson Unicom Group (AUG)



# Why Anderson Unicom Group

- ◆ Would work with Caltech as a partnership
- ◆ Side-by-Side comparison of products
- ◆ Allows users to “shop” quickly and easily
- ◆ Allows variety of approval paradigms
- ◆ Provides improved reports, historical data
- ◆ Real-time usage reports



# Major Issues/Critical Factors

- ◆ **User Acceptance**
- ◆ **Supplier Cooperation**
- ◆ **Other Considerations**
  - Internet reliability
  - Interface with institutional & shadow systems
  - Audit requirements
  - Payment process
  - Security





# User Paradigm Shift

## Existing

- ◆ Multi-volume catalog library
- ◆ Catalogs quickly outdated
- ◆ Search/comparison is labor intensive
- ◆ Delays due to inadequate data
- ◆ Shadow systems to track orders

## WebAlog

- ◆ One catalog  
**600,000 items/2,400 Suppliers**
- ◆ Prices current
- ◆ System makes comparison
- ◆ Automatic requisitioning
- ◆ Reports available



# Supplier Paradigm Shift

## Existing

- ◆ Inconsistent payment process
- ◆ Multiple error prone order methods
- ◆ Catalogs quickly outdated
- ◆ Difficult to reach all researchers
- ◆ Customer has to report problems

## WebAlog

- ◆ 10 day payment
- ◆ Single order method with verified data
- ◆ Information is current and correct
- ◆ Access and visibility anytime
- ◆ Real-time reports on all orders





# Acceptance Process

## Build Enthusiasm!

- ◆ Formed Cross-functional Pilot Team
- ◆ Onsite Supplier Preview
- ◆ Campus Town Hall Meeting
- ◆ Supplier Shows
- ◆ Include Internal Stores



# WebAlog Experience

- ◆ Winning CIT people over; promoting a cultural shift across campus
- ◆ First pilot to impact entire campus
- ◆ Offers Caltech users an opportunity to begin to use new technology before Oracle implementation
- ◆ Opportunity for a quick win



# Future Direction

- ◆ Use technology to improve processes
- ◆ Integrate WebAlog with Oracle
- ◆ Use data to develop and manage supplier relationship strategy
- ◆ Link to vendor data directly through web for real-time catalog pricing and availability
- ◆ Expand WebAlog user base and suppliers (e.g. MRO, janitorial, office, electrical, etc.)



# Summary

- ◆ Automate Standard Processes
  - Increase Accuracy and Efficiency
  - Eliminate Redundant Activities
- ◆ Focus on Value-Added Functions
  - Develop Supplier Management Strategies
  - Negotiate and Administer Unique Contracts



# Cost Analysis

	Baseline		A2000 WebAlog	
	Time Hours	Dollars	Time Hours	Dollars
Department	2.00	34.50	.25	4.31
PO Process	.83	14.46	.08	2.12
Approvals	.50	10.08	.08	2.57
Receiving	1.00	12.88	.50	6.44
Payment	.41	7.07	.41	7.07
Shadow Systems	1.00	19.76	.50	9.88
Rework	1.00	19.76	.25	4.94
Closeout	.10	1.73	.10	1.73
Total	6.84	\$120.24	2.17	\$39.06



# Cost Analysis

## **Baseline**

\$120.43/transaction

\$224,090/quarter

\$74,697/month

## **A2000 WebAlog**

\$42.70/transaction

\$82,197/quarter

\$27,399/month

**64% increased efficiency!**



# Accounts Payable Improvement

## **Accounts Payable**

### *Paper Process*

- ◆ Minimum 8 steps in 11 days
- ◆ Paid on average of 30+ days

## **Accounts Payable**

### *WebAlog Process*

- ◆ 6 steps in 1 day
- ◆ Invoices paid on average of 10 days from date of invoice

**Average receipt of WebAlog orders within 5 days**





# Conclusion

## Success!

- ◆ Achieved Pilot Project Financial and Transaction Goals
- ◆ High Level of Acceptance by Pilot Group
- ◆ Measurable Process Savings
- ◆ Increased Supplier Performance Metrics
- ◆ Improved Payment Time
- ◆ Non-Value-Added Tasks Virtually Eliminated



# Contact Information

**Karen Dombrowski**

Director of Acquisition and Payables

California Institute of Technology

1200 E. California

Mail Code 309-6

Pasadena, CA 91125

[karen.dombrowski@caltech.edu](mailto:karen.dombrowski@caltech.edu)

**Roger Anderson**

President

Anderson Unicom Group, Inc.

18200 Yorba Linda Blvd. Suite 101

Yorba Linda, CA 92886

[rogera@atcg.com](mailto:rogera@atcg.com)

