

UNDERSTANDING ENTERPRISE APPLICATION INTEGRATION

APPROACHES, TECHNOLOGIES, AND ISSUES

**The EAI Conference
Chicago
Tuesday, March 29, 1999
9:00 A.M. - 11:50 A.M.**



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BEFORE YOU LEAVE...

**PLEASE FILL OUT YOUR
EVALUATIONS.**

Thank you!

OVERVIEW

- **Definition and Market**
 - WHAT EAI IS
- **Planning for EAI**
 - BUSINESS AND TECHNOLOGY DRIVERS AND BENEFITS
 - KEY STEPS TO TAKE
 - ROLE OF APPLICATION SERVERS
- **EAI Approaches**
 - PROCESS, DATA, MIDDLEWARE, MODEL
 - HOW TO SELECT THE RIGHT ONE
 - PRODUCTS AND SERVICES
- **An I.T. Infrastructure for EAI**
 - FUTURE OF EAI
 - ISSUES AND ADVICE



PART I

DEFINITION AND MARKET

■ ■ ■ WITH APOLOGIES TO MY COLLEAGUES

EAI: Confusion or Emergence?

ITS A PROCESS!

“Enterprise Application Integration is defined as the continuous process of improving (modifying, integrating, rationalizing, and adapting) the enterprise's entire information technology base-applications, information, communications, and infrastructure to support the business.” -- Yankee Group

Is EAI any such process that improves IT?



EAI: Confusion or Emergence?

NO, ITS ABOUT SHARING DATA!

“EAI is nothing more than the sharing of information among custom or packaged stovepipe applications. ... In other words, EAI exposes the data of any application to any other application.” -- Linthicum

***Does the data needs to be moved?
Or accessed? Or transformed?***



EAI: Confusion or Emergence?

OH, SO ITS ABOUT MESSAGING!

“Application integration solutions are based on messaging middleware technology. By providing more abstract interfaces, broader functionality, and connectors or adapters for applications, application integration technologies let IT departments connect and coordinate data and events among multiple applications.” -- Hurwitz

Well . . .

Now I see why RPCs aren't useful for EAI!



EAI: Confusion or Emergence? ***OH, SO ITS ABOUT ANY MIDDLEWARE!***

“EAI is an approach to the integration problem that uses a middleware layer of standard interfaces to mediate interactions among legacy applications, purchased packaged applications, and new Web functionality.” -- Concept Five

I must be confused . . .

. . . middleware = interfaces?

What is EAI?

“EAI is the
business strategies, processes, and technologies
intended to provide seamless and uniform
development, extension, perception,
use, and management
of the means to execute business
functions.”

-- Alternative Technologies



EAI In A Nutshell

“Enterprise Application Integration is about maintaining the integrity of the enterprise.”

-- Alternative Technologies

Where Did We Go Wrong?

- **RAMPANT TECHNOLOGY ADOPTION**
- **SOFTWARE WITHOUT ARCHITECTURE**
- **ISLANDS OF AUTOMATION**
- **STOVEPIPE APPLICATIONS**
- **PACKAGED SOFTWARE**
- **NO INTEGRATION STANDARDS**
- **I.T. OUT OF PROPER CONTEXT**
 - **CAUSES ALIGNMENT PROBLEMS**

Recapturing the Purpose of I.T.

“Information **Technology: ALL the technologies that enable the use of ANY information in support of business functions, *irrespective of the media . . .*”**

- PAPER
- TELEPHONE
- MEETINGS
- MEMO
- COMPUTER



EAI Challenges

- **Few EAI Methodologies**
 - RELATIONSHIP TO EXISTING I.T. METHODOLOGIES?
- **EAI Scoping is Frequently Poor**
 - BUSINESS GOALS VERSUS TECHNICAL GOALS
 - NUMBER OF BUSINESS FUNCTIONS AND WHO IMPACTED
 - CROSS-ENTERPRISE AND VIRTUAL ENTERPRISE
- **Economics of EAI are Poorly Understood**

EAI Challenges

- **Relationship of EAI to Business**
 - MANAGEMENT CHANGES AND BUSINESS PROCESS OPTIMIZATION
- **EAI Requirements on I.T. Infrastructure**
 - DATA, MESSAGING AND COMMUNICATIONS BACKBONE
 - PROCESS MANAGEMENT
 - SCHEDULING
 - TRANSACTION MANAGEMENT AND RECOVERY
- **Standards: Too Many, But Not Enough!**

WHERE WE ARE

- ✓ **Definition and Market**
 - WHAT EAI IS
- **Planning for EAI**
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 - KEY STEPS TO TAKE
 - ROLE OF APPLICATION SERVERS
- **EAI Approaches**
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 - FUTURE OF EAI
 - ISSUES AND ADVICE

PART II

PLANNING FOR EAI

Business Drivers of EAI

- **Competitive Advantage**
- **Agility & Resiliency in the Face of Frenetic Change**
- **Time to Market**
- **Shorter Cycle Times**
- **Mergers and Acquisitions**
- **Deregulation**
- **Multi-regional and Multi-authority Regulation**
- **Supply Chain Integration**
- **One-One Marketing**
- **E-Commerce and Virtual Enterprise**
- **Y2K Liabilities and Operational Risks**

Business Benefits of EAI

- **Improved Operating Efficiencies**
- **Improved Information Flow**
- **Consolidated Business Analysis**
- **Single Point of Management**
- **Predictability and Repeatability of Business Processes**
- **Leverages Existing Investments**
- **Improved Customer Satisfaction and Retention**
- **Reduced Cost of Ownership**
- **Increased ROI**

Business Issues

- What Are the *Economics of Integration?*
 - TCO, ROI, AND ROR DON'T TELL THE WHOLE STORY
 - » *EAI PROVIDES MUCH MORE THAN COST CONTAINMENT AND REDUCTION*
 - NO ACCEPTED VALUE MODEL FOR *OPPORTUNITY CAPTURE*
 - MUST USE PILOTS AND CASE STUDIES
- Dependence on I.T. Heavy and Growing
 - 30% OF ALL MISSION CRITICAL APPLICATION CODE IS BUSINESS RELATED -- Standish Group
 - » I.E., *ITS ABOUT PROCESS FLOW AND BUSINESS RULES!*
 - REMAINING 70% IS INFRASTRUCTURE
 - » I.E., *CEOs & CFOs DON'T UNDERSTAND I.T. INFRASTRUCTURE!*

Business Issues

- **Business Lacks Confidence in I.T.**
 - **85% OF BUSINESS MANAGERS SEE I.T. AS AN IMPEDIMENT!**
 - **ALMOST 85% OF DEVELOPMENT NOT SUCCESSFULLY COMPLETED**
 - **58% OF LARGE SYSTEMS PROJECTS OVER BUDGET**
 - **63% OF PROJECTS OVER SCHEDULE**
 - **TOO SLOW, TOO EXPENSIVE, OUT-OF-DATE**
 - **ONLY 6% OF I.T. MANAGERS THINK THEY CAN KEEP UP**
- **But Business Needs**
 - **UNDERSTANDABLE TECHNOLOGY THAT DELIVERS DIFFERENTIATION RAPIDLY**
 - **TAKE ADVANTAGE OF ECONOMIES OF SCALE**
 - **CAPITALIZES ON EXISTING TECHNOLOGY**

*CHAOS Report, The Standish Group
and Open Systems Advisors

Conclusion . . .

Business Needs Enterprise Application Integration!

Conference Tip

- ***MONDAY (TODAY)***

1:30-4:20

Acquiring and Managing EAI Products and Services

Alec Sharp & Bill Huva

- ***TUESDAY***

9:00-11:50

The Business Aspects of EAI

Ted Lewis

Technology Drivers for EAI

- **Growth of ERP and Packaged Applications**
- **Y2K and EMU**
- **New Software Categories and New Technologies**
 - **COMPONENTS, STANDARD APIs AND COMMUNICATION PROTOCOLS, DISTRIBUTED OBJECTS, APPLICATION SERVERS, AND MIDDLEWARE (ORBS, MOM, OTMS)**
- **Requirements for Modified and Extended Functionality**
 - **INFRASTRUCTURES JUST AREN'T FLEXIBLE ENOUGH**

Technology Drivers for EAI

- **Insufficient I.T. Resources**
 - CUSTOM PACKAGE DEVELOPMENT AND MANAGEMENT
 - REUSE OF ASSETS NOW MANDATORY
 - CONSTANT CHANGE AND NEW FUNCTIONAL REQUIREMENTS
- **Legacy Application Anchor**
 - CAN'T REVERSE ENGINEER
 - TOO FRAGILE TO TOUCH THEM TO MODIFY OR EXTEND
 - AFRAID TO REPLACE OR ABANDON

Key Steps to Take

A BRIEF CHECKLIST FOR EAI PLANNING

- **Identify Your Business Goal(s)**
 - COST CONTAINMENT? FOR BUSINESS OR I.T.?
 - CUSTOMER SERVICE LEVELS?
 - GREATER AGILITY? MERGERS AND ACQUISITIONS?
- **Scope the Effort**
 - CROSS TECHNOLOGY? CROSS BUSINESS FUNCTION?
 - DEPARTMENT? DIVISION? B2B? B2C? E-COMMERCE?
 - WHO WILL BE AFFECTED AND HOW?
- **Establish a Strategy**
 - LONG vs. SHORT TERM
 - LOCALIZED (ISLANDS OF INTEGRATION) OR ENTERPRISE-WIDE?
 - TOP-DOWN OR BOTTOM-UP?

Key Steps to Take

A BRIEF CHECKLIST FOR EAI PLANNING

- **Establish a Business Integration Plan**
 - PROCESSES AND ENVIRONMENTS
- **Identify Realistic Technical Integration Targets & Scope**
 - FRONT OFFICE AND BACK OFFICE?
 - WEB WITH ERP OR ACROSS ERP?
 - DATA STORES?
 - TECHNOLOGIES: NEW (e.g., COMPONENTS) AND OLD (e.g., LEGACY)
- **Determine Technical Resources and Impact**
 - SKILLS, INFRASTRUCTURE, KNOWLEDGE, TOOLS, STANDARDS
- **Select the Best EAI Approach for Your Company**
 - MIDDLEWARE-CENTRIC
 - DATA-CENTRIC
 - PROCESS-CENTRIC
 - MODEL-DRIVEN



The EAI Market

- **IDC**
 - \$46B ON INTEGRATION IN 1997
- **Forrester**
 - 40% OF CORPORATE IT BUDGETS
- **Gartner**
 - ANALYSIS OF CROSS ENTERPRISE SOFTWARE
 - GROWING AT 150% CAGR
 - \$5.7B IN 2002
 - ABOUT \$1B IN 2000 AND \$3.2 IN 2001
 - MOVING DATA IS 35-40% OF PROGRAMMING EFFORT
 - » DATABASE TO DATABASE

The EAI Market

- **META**
 - GLOBAL 2000 USE AN AVERAGE OF 49 SEPARATE (PACKAGED) APPLICATIONS
- **Standish Group**
 - 70% OF APPLICATION CODE IS INFRASTRUCTURE
 - \$24B PER YEAR ON APPLICATION INTEROPERABILITY
- **Other Estimates**
 - TOTAL INTEGRATION EXPENDITURES OF \$82.5B IN 1998
 - \$59B 2001
 - 11% CAGR
 - MORE THAN 90% OF EAI MARKET IS SERVICES
 - SUPPLY CONSTRAINED

How EAI is Affecting I.T.

- **Changing Priorities**
 - EAI IS ENABLING THE NEW FOCUS ON RE-USE AND PACKAGED APPLICATIONS
 - UNDERSTANDING THE BUSINESS
- **A New Enterprise Focus on Infrastructure**
 - A RESURGENCE IN ENTERPRISE ARCHITECTURES
 - KEY TECHNOLOGIES FOR ALL ASPECTS OF INTEGRATION
- **System Management**
 - MULTIPLE LEVELS OF SYSTEM MANAGEMENT
 - INTERFACE AND APPLICATION TO APPLICATION
- **Need for EAI Expertise**
 - KNOWLEDGE OF INTEGRATION PROJECT MANAGEMENT
 - INTEGRATION APPROACHES
 - TOOLS AND METHODOLOGIES

Conference Tip

EAI MARKET AND FUTURE

- **WEDNESDAY**

9:00-10:50

Integrating ERP and Packaged Applications

Daniel Sholler

2:30-3:20

Keynote: The Future of Enterprise Application
Integration

Nina Lytton



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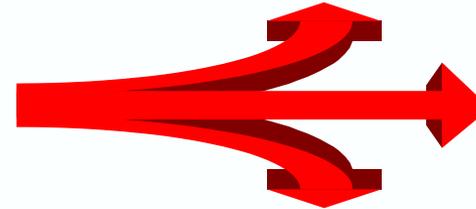


PART III

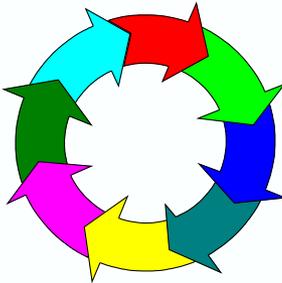
EAI APPROACHES

An Overview of Approaches

MIDDLEWARE-CENTRIC

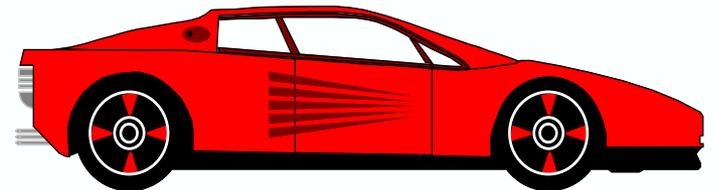


DATA



PROCESS-CENTRIC

MODEL-DRIVEN



The Middleware-Centric Approach

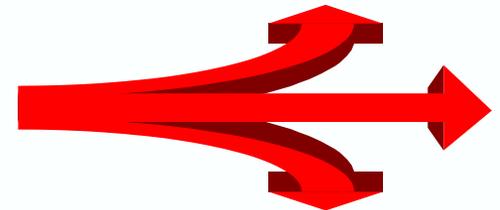
Focus

- THE TECHNOLOGY USED TO MANAGE AND IMPLEMENT THE INTERCONNECTION OF APPLICATIONS AND APPLICATION COMPONENTS.

“WHAT TECHNICAL INFRASTRUCTURE WILL SUPPORT WHAT.”

- Types of Middleware

- CONNECTION
- DATABASE AND REPOSITORY
- TRANSACTION *MIDDLEWARE-CENTRIC*
- MOM
- ORBs AND MESSAGE BROKERS
- DIRECTORIES
- APPLICATION SERVERS



The Middleware-Centric Approach

TECHNICAL ISSUES

- **Protocols and Standards**
 - COM, CORBA, JAVA, M/F
 - INSTABILITY MEANS VENDORS CAN'T KEEP UP
 - NO INTEGRATION STANDARD
- **Interface Definition and Data Marshalling**
 - CUSTOM vs. XML??
 - DATA TYPES, INITIALIZATION, BEHAVIOR, ERRORS, SECURITY
- **Incompatibilities**
 - SOURCE LANGUAGES AND LEGACY INTERFACES
- **Difficult Transaction Coordination**
 - OTM, TPM, 2PC, ROLLBACK, RECOVERY
- **Performance Problems**
 - STACK DEPTH, NAMING AND DIRECTORY SERVICES RESOLUTION

The Middleware-Centric Approach

PROS AND CONS

PROS

- ESTABLISHES ESSENTIAL INFRASTRUCTURE
 - » *KEY TO IMPLEMENTING A TECHNICAL ARCHITECTURE*
- FOCUS ON I.T. TRADITIONAL CORE COMPETENCIES
- MOTIVATES TECHNICAL STAFF
- VALUABLE IF OTHER APPROACHES USED LATER

CONS

- HEAVY INVESTMENT OF TIME AND MONEY
- EASY TO MISALIGN WITH BUSINESS OBJECTIVES
- ROI DEPENDS ON SIGNIFICANT REUSE
 - » *BEFORE THE TECHNOLOGY CHANGES!*
 - » *DIFFICULT TO ANTICIPATE TECHNOLOGY DIRECTIONS*



The Role of Application Servers

- **ENTERPRISE APPLICATION SERVERS FOR EAI**
 - A KEY MIDDLEWARE FACILITY
 - STATE MANAGEMENT
 - AVAILABILITY, LOAD BALANCING, AND SCALABILITY
 - RAPID LEGACY, ERP, AND WEB INTEGRATION
 - MAY BE ESSENTIAL FOR E-COMMERCE
- **EAI ENHANCES APPLICATION SERVER VALUE**
 - ADD EAI BENEFITS TO THE COST/BENEFIT ANALYSIS
 - MAKES AN APPLICATION SERVER CONCEPT EASIER TO SELL
 - EAI FOCUSES THE PURPOSE OF A.S. ON THE ENTERPRISE
 - HELPS US UNDERSTAND THAT THE KEY WORD IS “SERVER”
 - » EACH SERVICE IS PROVIDED BY ONE OR MORE SERVERS
 - » APPLICATION: A SERVICE WITH IDENTIFIABLE BUSINESS VALUE
- **NO REAL STANDARDS**

Conference Tip

MIDDLEWARE APPROACHES

- **TUESDAY**

9:00-11:50

The Middleware Approach

Max Dolgicer

1:00-2:20

Data Driven Approaches

David Linthicum

The Data-Centric Approach

Focus

- **MAKING DATA FROM ONE OR MORE APPLICATIONS AVAILABLE AS INPUT TO ONE OR MORE OTHER APPLICATIONS**

“WHAT DATA CAPTURES WHICH EVENTS.”



- **Types of Data-centric Integration**

FROM \ TO	DATA STORE	APPLICATION
DATA STORE	utilities, custom programs, replication, copy management	extract, direct access
APPLICATION	direct access, screen scraping	screen scraping, APIs, interface generators, transformation hubs

The Data-Centric Approach

TECHNICAL ISSUES

- **Protocols and Standards**
 - ODBC, JDBC, SQL, XML, EDI
 - PACKAGED APPLICATION APIs
 - NO INTEGRATION STANDARD
 - NO STANDARD LEVEL OF ABSTRACTION
 - NO STANDARDS FOR BUSINESS INTELLIGENCE
- **Interface Definition**
 - DATA TYPES, FORMATS, CONTENT, NAMING
 - BEHAVIOR, ERRORS, SECURITY
 - MUST BE AT THE BUSINESS EVENT LEVEL
- **Difficult Transaction Coordination**
 - OTM, TPM, 2PC, ROLLBACK, RECOVERY
 - SYNCHRONIZATION WITH BUSINESS EVENTS

The Data-Centric Approach

PROS AND CONS

PROS

- FAMILIAR DESIGN PROCESS
- NUMEROUS TOOLS AND AVAILABLE TALENT
- WELL-DEFINED DATA ACCESS PROTOCOLS
- COST IMPROVEMENT OPPORTUNITIES
 - » *“70% OF EXTRACTION, CLEANSING, AND LOADING PROCESSES ARE BUILT BY HAND.”* --- META GROUP

CONS

- REQUIRES MIDDLEWARE
 - » *DATABASE, CONNECTION, AND TRANSACTION ORIENTED*
- REQUIRES DISCIPLINE TO AVOID CREATING PROBLEMS
 - » *MAY BYPASS KEY PROGRAMS*
 - » *CAN INTRODUCE ERRORS OR INTEGRITY PROBLEMS*
 - » *TRANSACTION CONSISTENCY OFTEN LOOSE*



Conference Tip

DATA-CENTRIC APPROACHES

- **WEDNESDAY**

1:00-2:20

Data Driven Approaches

Linthicum

The Process-Centric Approach

Focus

- **INTEGRATING PROCESSES, CONNECTING THE EXECUTION OF BUSINESS FUNCTIONS IN TIME.**

“WHAT MUST BE DONE AND WHEN.”

- **Multi-Level Processes**

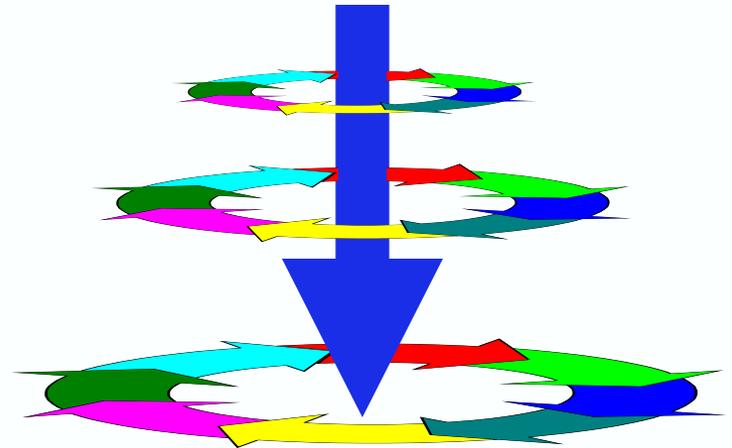
- B2C, B2B, ENTERPRISE, WORKFLOW,
- TECHNICAL IMPLEMENTATION

- **Types of Process Integration**

- POINT-TO-POINT
- WORKFLOW
- BUSINESS PROCESS AUTOMATION

- » **REQUIRES PROCESS ENGINE**

- » **COMBINES MESSAGE BROKER, TPM, DIRECTORY, AND RESOURCE MANAGER FEATURES**



The Process-Centric Approach

TECHNICAL ISSUES

- **Protocols and Standards**
 - UML, WFMC, PROPRIETARY PROCESS CONTROL
 - NO INTEGRATION STANDARD
- **Granularity of Integration Points**
 - PROCESS ENABLEMENT
 - APPLICATION, SERVICE, BUSINESS OR PHYSICAL TRANSACTION
- **Incompatibilities**
 - INCONSISTENT BUSINESS PROCESS VIEWS
 - SOURCE LANGUAGES AND LEGACY INTERFACES
- **Difficult Transaction Coordination**
 - OTM, TPM, 2PC, ROLLBACK, RECOVERY
- **Performance Problems**
 - THE OVERHEAD OF EXTERNALIZED BUSINESS LOGIC



The Process-Centric Approach

PROS AND CONS

PROS

- ENABLES PROCESS ABSTRACTION
- RECOGNIZE MISALIGNMENT WITH BUSINESS
- CAPTURE BUSINESS REQUIREMENTS
- HIGH POTENTIAL

CONS

- UNFAMILIAR TO I.T.
- SHORTAGE OF EXPERTISE
- DEPENDS ON AVAILABILITY OF “ADAPTERS”
- EASY TO INTEGRATE INCONSISTENT PROCESSES
- IMMATURE: FEW TOOLS AND PROTOCOLS AVAILABLE



Conference Tip

PROCESS-CENTRIC APPROACHES

- **MONDAY (TODAY)**

1:30-4:20

Process and Model Driven Approaches

Dale Skeen

The Model-Driven Approach

Focus

- DRIVING AND MANAGING INTEGRATION FROM AN INTEGRATION MODEL
- **Key Integration Model Components**
 - TECHNICAL ARCHITECTURE: DETERMINES INFRASTRUCTURE
 - » MIDDLEWARE SUPPORTING THE *PROTOCOLS, INTERFACES, LANGUAGES, TRANSACTIONS*
 - DATA MODELS: THE BLUEPRINT FOR DATA INTEGRATION
 - » *INTEGRATE DATA AT CONCEPTUAL LEVEL AND DERIVE PHYSICAL FROM CONCEPTUAL*
 - PROCESS MODELS: THE BLUEPRINT FOR PROCESS INTEGRATION
 - » *BUSINESS PROCESS MODELS ENFORCE ALIGNMENT*
 - » *TECHNICAL PROCESS MODELS SPECIFY INFORMATION FLOW REQUIREMENTS AND LEAD TO DATA FLOW MODELS*
 - » *EVOLVING FROM STATIC TO DYNAMIC*



The Model-Driven Approach

PROS AND CONS

PROS

- CAN PRECLUDE MISALIGNMENT WITH BUSINESS
- DYNAMIC CHANGE WITH BUSINESS REQUIREMENTS
- HIGHLY AGILE BUSINESS AND I.T.
- HIGH POTENTIAL
- RAPID, HIGH-VALUE RETURN

CONS

- REQUIRES BUSINESS MANAGEMENT LEVEL COMMITMENT
- REQUIRES RETHINKING BUSINESS/I.T. RELATIONSHIP
- UNFAMILIAR TO I.T. AND BUSINESS
- SHORTAGE OF EXPERTISE
- IMMATURE: FEW TOOLS AND PROTOCOLS AVAILABLE
- NO INTEGRATION STANDARDS: UML, E-R, BPM, OMT, ZACHMAN, etc., etc.,



Conference Tip

MODEL-DRIVEN APPROACHES

- **MONDAY (TODAY)**

1:30-4:20

Acquiring and Managing EAI Products and Services

Alec Sharp & Bill Huva

Process and Model Driven Approaches

Dale Skeen

Selecting The “Right” Approach

WHAT YOU DON'T KNOW WILL HURT YOU!

- **CONSIDER A MIDDLEWARE APPROACH WHEN...**
 - THE INFRASTRUCTURE NEEDS STRENGTHENINGAND
 - LIMITED SCOPE WILL PROVIDE A HIGHLY VISIBLE BUSINESS BENEFITOR
 - YOU CAN AFFORD A LONG DELIVERY AND BOTH DATA AND PROCESS INTEGRATION REQUIREMENTS ARE MINIMAL
- **CONSIDER A PROCESS-CENTRIC APPROACH WHEN...**
 - GOALS ARE LONG-TERM, GOALS ARE GENERAL, FLEXIBILITY IS KEY, OR RAPID, HIGH-VALUE RETURN IS NEEDED
- **CONSIDER A DATA-CENTRIC APPROACH WHEN...**
 - THE FOCUS IS ON BUSINESS INTELLIGENCE AND CONTROLOR
 - GOAL IS INTEGRATION OF EXISTING APPLICATIONS AND DATA SYNCHRONIZATION, CONSISTENCY, AND CONSOLIDATION ARE KEY



Conference Tip

SELECTING AN APPROACH

- **MONDAY (TODAY)**

12:00-1:20 Networking Lunch

- **TUESDAY**

12:00-1:50 Lunch / Product Showcase / EAI
Solution Summaries

- **WEDNESDAY**

11:00-11:50

EAI Power Panel: Arguing the Approaches

Beth Gold-Bernstein

12:00-1:00 Networking Lunch

The Products

MIDDLEWARE CENTRIC

MATERIAL WITHHELD UNTIL CONFERENCE

The Products

DATA CENTRIC

MATERIAL WITHHELD UNTIL CONFERENCE

The Products

PROCESS CENTRIC

MATERIAL WITHHELD UNTIL CONFERENCE

The Products

MODEL DRIVEN

MATERIAL WITHHELD UNTIL CONFERENCE

Conference Tip

PRODUCTS

- **TUESDAY**

2:00-3:50

EAI Improves DOT Federal Grant Funds

Paul Koenig

Workflow-Enabled Supply Chain Integration

Dave Hinman

4:00-6:00 Beer and Wine Reception / Product Showcase / Solution Summaries

Conference Tip

PRODUCTS

- **WEDNESDAY**

8:00-8:50 Birds-of-a-Feather Roundtables

9:00-10:50

CS: Successful EAI at Swisscom, **Reto von Arb**
Integrating ERP and Packaged Applications

Daniel Sholler

12:00-1:50 Product Showcase / Solution Summaries

1:00-2:20

CS: Integrating App's in an SAP Environment

Vytas Kisielius

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PART IV

AN I.T. FRAMEWORK FOR ENTERPRISE APPLICATION INTEGRATION

The Future of EAI

“... technology that provides a “workflow-like” coordination framework for process integrity at the business process level will become an integral part of these companies’ technology infrastructure.”

-- Delphi Group

- **Model-driven, Integrated Approaches**
 - INDEPENDENCE FROM TECHNOLOGY
 - MINIMIZE IMPACT OF CHANGE
 - PROCESS REQUIREMENTS DETERMINE DATA REQUIREMENTS
 - PROCESS AND DATA REQUIREMENTS DETERMINE MIDDLEWARE (INFRASTRUCTURE) REQUIREMENTS
- **Introducing . . .**

“Zero Management”

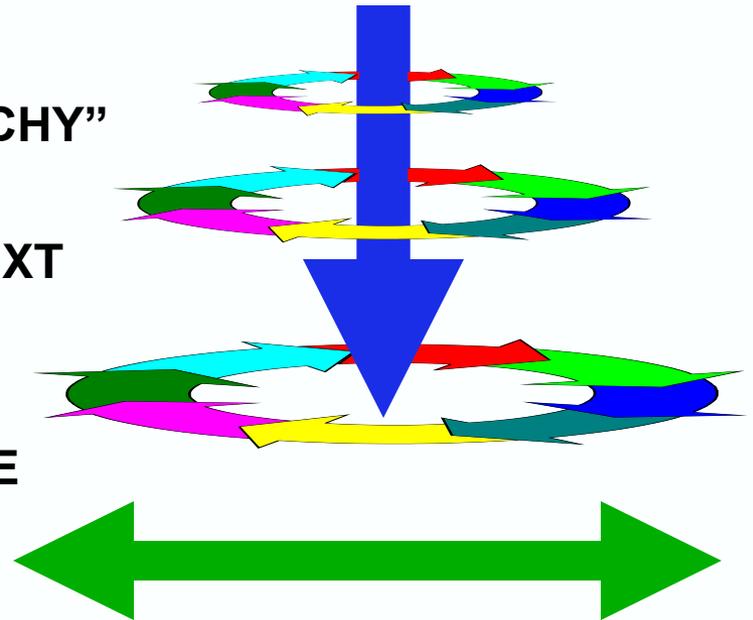


ZERO MANAGEMENTtm

INTEGRATED APPROACHES

- **Vertical** Process Integration

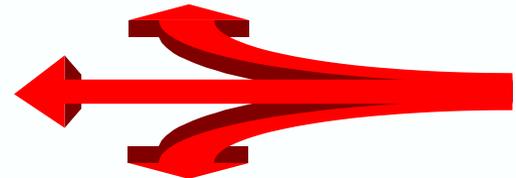
- TOP DOWN MANAGEMENT “HIERARCHY”
- PROCESS INDEPENDENCE
- PROVIDES EVENT AND DATA CONTEXT
- DYNAMIC CONTROL
- I.T. OWNS TASK LEVEL PROCESSES
- I.T. SUPPORTS PROCESS BACKBONE



- **Horizontal** Data Integration

- ACTIVITY TO ACTIVITY
- PROCESS ENGINE CONTROLS DATA TRANSFER
- FACILITIES FOR REPLICATION, TRANSFORMATION, CLEANSING
- BUSINESS TRANSACTION INTERFACES

- **Pervasive** Middleware Enablement



ZERO MANAGEMENTtm ***EAI FRAMEWORK***

EVENT TO EVENT PROCESS INTEGRATION

ENTERPRISE BUSINESS PROCESS MODELS

TASK TO TASK DATA INTEGRATION

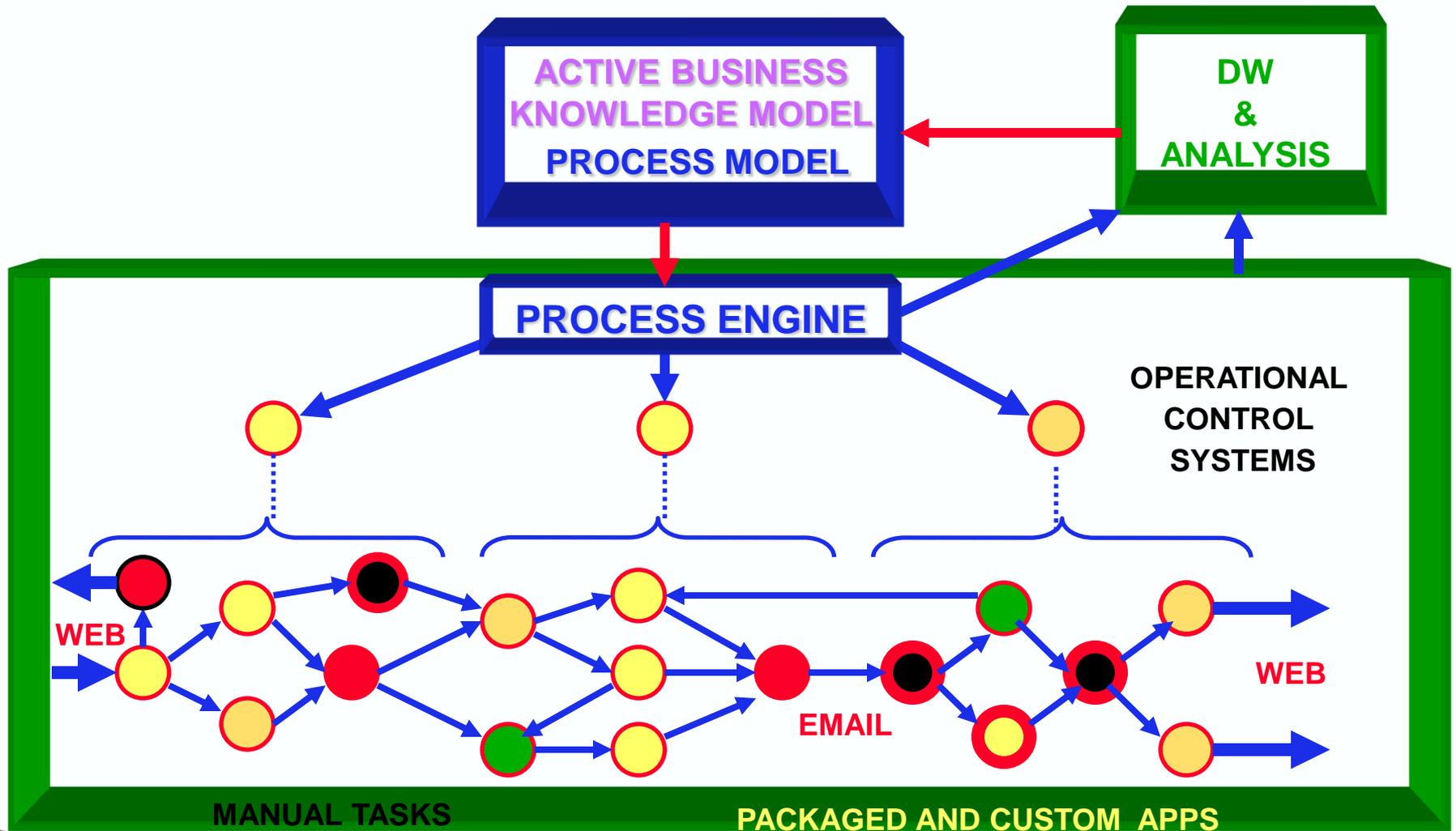
ENTERPRISE CONCEPTUAL DATA MODELS

INTERFACE INTEGRATION MIDDLEWARE

ENTERPRISE TECHNICAL ARCHITECTURE



ZERO MANAGEMENT's ENTERPRISE APPLICATION INTEGRATION



Final Advice

- **Business Will Workaround I.T. If Necessary**
- **Aligning Business to I.T. is a Fatal Error.**
- **Don't Plan to Align Business and I.T. After the Fact!**
- **Identify the Drivers, Benefits, and Costs Up Front.**
- **Establish or Understand the Application Architecture**
- **Understand the Impact**
 - PROCESSES, PERSONNEL, CUSTOMERS, AND SUPPLIERS
- **Avoid Disruption of Established Business Processes**
- **Let Models Drive the Effort**

Final Advice

- **Scope, Scope, Scope**
- **The Technical Process of Integrating Enables Re-Use**
 - OF EXISTING OR NEW APPLICATIONS AND COMPONENTS
 - 3X-5X RE-USE REQUIRED FOR COST RECOVERY*
 - 1.5X-3X MORE COSTLY TO CREATE REUSABLE COMPONENTS*
 - 4X MORE COSTLY TO CREATE A REUSABLE COMPONENT THAN TO USE AN EXISTING REUSABLE COMPONENT*
 - 2-3 PRODUCT CYCLES BEFORE BENEFITS OF REUSE ARE SIGNIFICANT*
- **Build in Scalability**
- **Instrument for Validation, Testing, and Monitoring**
 - PLAN FOR STRESS TESTING AND ON-GOING MONITORING
 - INTEGRATION ELEMENTS ARE NOT JUST GLUE!

* Cutler Information Corp.

Where We Are

- ✓ **Definition and Market**
 - WHAT EAI IS
- ✓ **Planning for EAI**
 - BUSINESS AND TECHNOLOGY DRIVERS AND BENEFITS
 - KEY STEPS TO TAKE
 - ROLE OF APPLICATION SERVERS
- ✓ **EAI Approaches**
 - PROCESS, DATA, MIDDLEWARE, MODEL
 - HOW TO SELECT THE RIGHT ONE
 - PRODUCTS AND SERVICES
- ✓ **An I.T. Infrastructure for EAI**
 - FUTURE OF EAI
 - ISSUES AND ADVICE

Where We Must Go

A Call to Arms...

Standards Now!

Where We Can Go

Announcing....

The EAI Journal

EISC

Questions?

For more information on **Zero Management**, please check our Web site: www.AlternativeTech.com

**PLEASE FILL OUT YOUR
EVALUATIONS...
Thank you!**

BIOGRAPHY

David McGoveran is an industry analyst, and an international management and technology consultant. He is president of Alternative Technologies (Boulder Creek, CA), specialists in solving difficult relational and distributed applications problems since 1981. He has authored numerous technical articles, co-authored several books (including those with Chris Date), and held editorial positions with several publications, including **The EAI Journal**. His newest book is [The Zero Minute Manager: Business Success in the New Millennium](#).

