On Selling the Enterprise Architecture Concept to Business Executives

October 22, 2003

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Lockheed Martin Corporation

Architecture Practitioners' Conference
Enterprise Architecture: Making IT Pay

Using EA to Create Business Value, Control Costs, and Generate Real RoI

Washington, DC Tuesday 21st October - Thursday 23rd October 2003

Agenda

- The global business climate mandates that IT become integrated with business (Business Driver)
- The current challenge facing IT organizations
  - Closing the gap- IT Business Divide
  - But present infrastructure was not designed to handle this paradigm
    - It can only be extended so far by “overlay” technologies
- Factors influencing this closure (learn from the past)
  - The IT track record is not good with business
  - But most CEOs are aware that IT can be a catalyst in enabling the agility that is key to global economic success
  - Lack of trust?
  - Organizational structure and dynamics (No politics at the top!)
  - IT Matters!
- Architecture framework can be a model for meeting this complex objective
  - We need to sell the benefits to executives
  - The customers want it-so lets leverage it!

We are at unique junction in the IT industry where the customers desire, and technology innovation are at the right alignment-Can we deliver?

Resources

The material used for this presentation has been obtained from publicly available resources on the Internet and includes materials from Open Group, IEEE, Zachman Institute, and several resources mentioned under EA web site.

Story Board

- Enterprise today face a challenge when integrating their IT infrastructure to meet the demands for a global competition based economy.
- The IT systems are not only heterogeneous, i.e., data, applications, O/S, hardware are all non interoperable
- Convergence to an IP based systems is a dream that has major economical obstacles
- Businesses in an enterprise are the results of past mergers and acquisitions; they do not have common systems that interoperate
- EAI are expensive and proprietary and lead to “hardwired” integration where changes are difficult to make
- Enterprise are looking to become agile and real time oriented and the IT infrastructure is a major obstacle
- The dream is to preserve the legacy environments (data, O/S, applications, hardware..) and yet allow for a common way to access information; this is further challenged as the requirements is not only limited to intra-enterprise but inter-enterprise
- There is a technology that is promising to deliver these goals; SOA and WS are potential solutions
- This is based on components based development
- Components must be advertised for all with a need to access and the rules to use them
- Components must be orchestrated to deliver a macro business process based on mathematical foundation of process-algebra and not limited to “overlays” of complex workflows-BPEL has the potential
- Business must not rely on IT to develop application changes but must be able to use the processes to create an executable process flow-under the cover the components are choreographed to deliver the resultant processes-this is the concept of service oriented architecture

What our Customers are doing…

"Possibly the single-most transforming thing in our forces will not be a weapons system, but a set of interconnections and a substantially enhanced capability because of that awareness."
—Secretary of Defense Donald Rumsfeld, August 9, 2001.

In June 2002, during the Joint Military Intelligence College's 40th Anniversary Conference, Assistant Secretary of Defense for Command, Control, Communications, and Intelligence (C3I) John Stenbit articulated his vision for information technology as applied to the military in the post-September 11 environment…."DoD must move from an organization with a top-down approach to operations to one that distributes authority for action to 'the edge,'" he said. Stenbit called on his audience to move from the centralized thinking and planning currently reflected in the Task, Process, Exploit, Disseminate vision to an edge-centered Task, Post, Process, Use (TPPU) approach to information sharing and availability

COI may specify a target architecture and target affinity levels for the CES- and COI-unique services and objects chosen or required to support the COI. Developers and integrators will then provide capability packages in conformance with these guidelines and explicitly targeted to their functional domains. Consequently, we achieve our design goals and the TPPU vision through a balance of discipline at the fewest number of points and flexible innovation everywhere else. In short, we lay the foundational IT infrastructure underpinning DoD transformation objectives.

To achieve the promise of this vision, a way of specifying an appropriate target architecture for COIs is required that is sufficiently concrete to guide system developers and integrators, yet flexible enough to support timely technology insertion. Put another way, we must specify just enough "hard integration points" to achieve integrated capability without hampering innovation within and across COIs. (Consider an RJ-11 jack. .

It is not about the network, rather it is about how wars are fought. How power is developed. During the industrial age, power came from mass. Now power tends to come from information, access and speed."

Source: Dawn Meyerriecks, CTO Defense Information Systems Agency

The White House

We have an executive sponsor

EA Across the Federal Government

Executive Order 13011, *Federal Information Technology*, established the Federal Chief Information Officers (CIO) Council as the principal inter-Agency forum for improving practices in the design, modernization, use, sharing, and performance of Federal information resources. The Clinger-Cohen Act of 1996 assigned the CIOs with the responsibility to develop information technology architectures (ITAs). The Office of Management and Budget (OMB) Circular A-130, *Management of Federal Information Resources*, November 28, 2000, requires agencies to ensure consistency with Federal, agency, and bureau Enterprise Architectures and to demonstrate consistency through compliance with agency business requirements and standards.

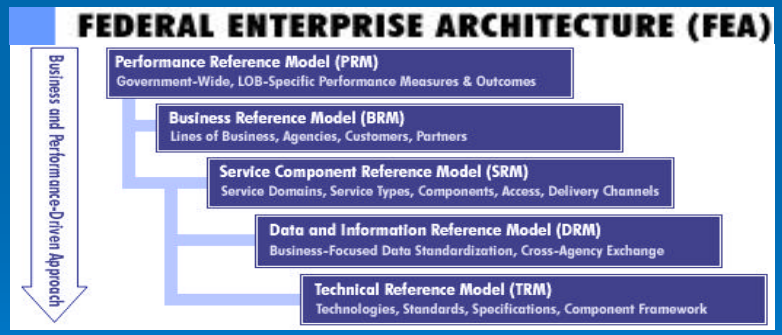
"Enterprise Architecture is a strategic information asset base, which defines the business mission, the information necessary to perform the mission, the technologies necessary to perform the mission, and the transitional processes for implementing new technologies in response to the changing mission needs."

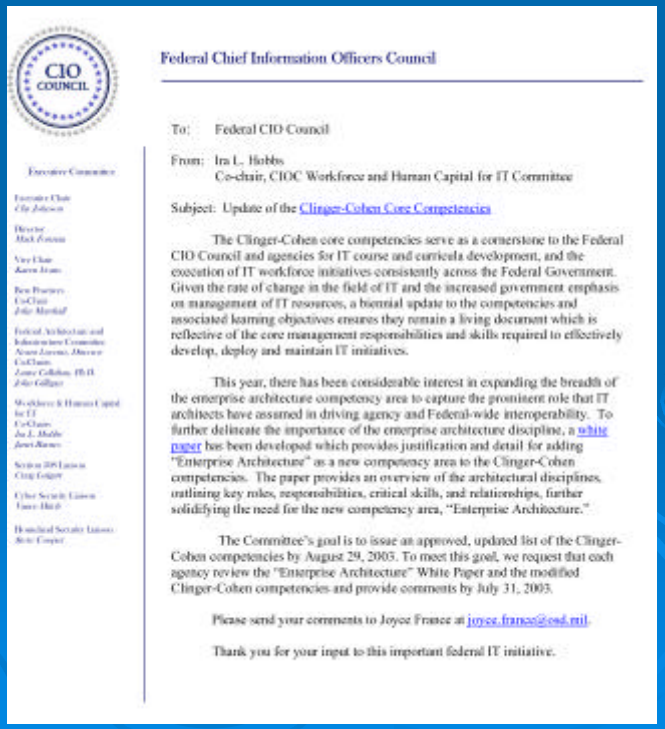
Federal CIO Council

John Zachman is the world's leading expert on Enterprise Architecture, and author of the internationally renowned *"Framework for Enterprise Architecture", w*hich has set the standard on how an organization should develop, implement, and maintain an Enterprise Architecture. Additional work by Steven Spewak and others, as well as the Federal CIO Council itself, has resulted in ever increasing maturity of enterprise architecture efforts across the commercial sector and the federal government.

The Present Facts About Popularity of Architectures

- The term “Architecture” is in vogue today
- Our customer won’t even talk to us w/o an architectural framework for any business initiative





Federal Chief Information Officers Council

To: Federal CIO Council

From: Ira L. Hobbs
Co-chair, CIOC Workforce and Human Capital for IT Committee

Subject: Update of the Clinger-Cohen Core Competencies

The Clinger-Cohen core competencies serve as a cornerstone to the Federal CIO Council and agencies for IT course and curricula development, and the execution of IT workforce initiatives consistently across the Federal Government. Given the rate of change in the field of IT and the increased government emphasis on management of IT resources, a biennial update to the competencies and associated learning objectives ensures they remain a living document which is reflective of the core management responsibilities and skills required to effectively develop, deploy and maintain IT initiatives.

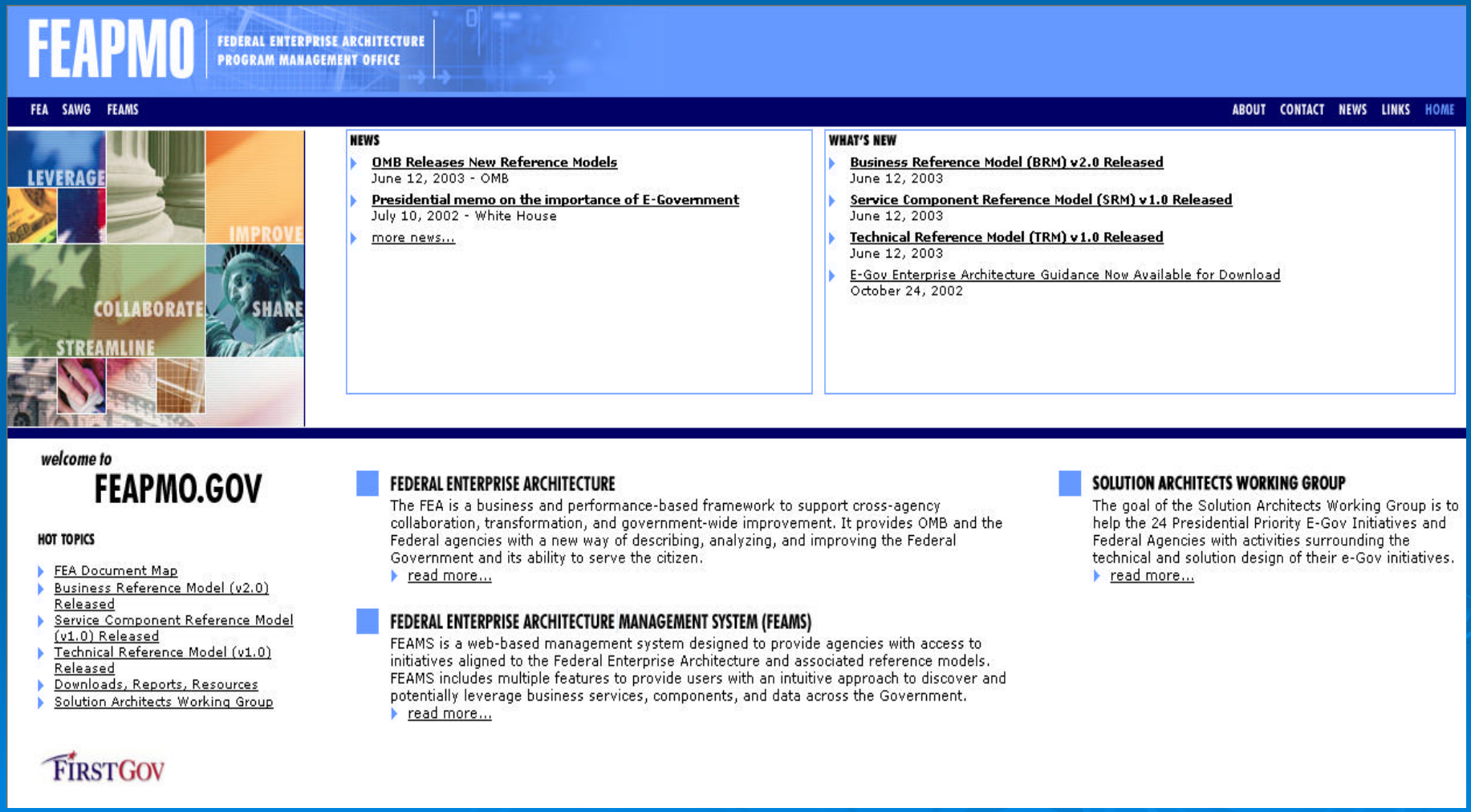
This year, there has been considerable interest in expanding the breadth of the enterprise architecture competency area to capture the prominent role that IT architects have assumed in driving agency and Federal-wide interoperability. To further delineate the importance of the enterprise architecture discipline, a white paper has been developed which provides justification and detail for adding "Enterprise Architecture" as a new competency area to the Clinger-Cohen competencies. The paper provides an overview of the architectural disciplines, outlining key roles, responsibilities, critical skills, and relationships, further solidifying the need for the new competency area, "Enterprise Architecture."

The Committee's goal is to issue an approved, updated list of the Clinger-Cohen competencies by August 29, 2003. To meet this goal, we request that each agency review the "Enterprise Architecture" White Paper and the modified Clinger-Cohen competencies and provide comments by July 31, 2003.

Please send your comments to Joyce France at joyce.france@osd.mil.

Thank you for your input to this important federal IT initiative.

Federal Enterprise Architecture Program Management Office (FEAPMO)



John Seely Brown and John Hagel III

IT's critics say that it lacks strategic importance.
So why does technology keep getting in the way of good strategy?

Technology architecture is one subject guaranteed to make a chief executive's eyes glaze over. For many CEOs, the topic is mysterious. Even for those who understand technology better, it is a sore subject because today's IT architectures,[1] arcane as they may be, are the biggest roadblocks most companies face when making strategic moves.

Jürgen Laartz, Eric Monnoyer, and Alexander Scherdin

When business and computer people put their heads together, they can transform a company's IT architecture.

Business and IT managers at some leading companies have been working together to change the way information technology supports the enterprise. As a result, they have cut the cost of IT, made it easier to change the business, avoided the constraints of inflexible support systems, and increased the participation of business leaders in the management of IT.

Where are we today; Background

- The world of enterprise computing is vast, complex, and networked. From being simple, self-contained, isolated systems to becoming fully distributed,

- The landscape is still evolving, with newer technologies such as peer-to-peer networking and service-oriented architectures coming into place.

- Prior to the introduction of e-commerce, an enterprise's IT capabilities were safely housed in its own secure premises—not being exposed to the outside world. Enterprises had the luxury of time—to embrace contemporary technologies such as object-oriented design, component methodologies, and distributed computing.

Where are we today; Background

- But now, with the competitors in business heavily exploiting the opportunities available with the Internet by investing in latest technologies, one would be left out if they don't match the IT capabilities of their competitors.

- Hence there is the tremendous pressure for enterprises to deliver cutting-edge, distributed applications that will expose their core business features and facilities to the Web. These applications need to be accessed remotely—not only by means of a browser, but even through palmtops, mobile phones, PDAs...and what next?

- All these issues have forced IT managers to rethink, redefine, and revamp their core system architecture and the way applications have been built and deployed. Going forward, we will be faced with a number of challenges, imposed by the existing needs of today and an evolving tomorrow.

Our Enterprise Computing: Today's Challenges

- Coping with a Variety of Hardware and Operating Systems
- Lack of Serious Object-Oriented Design and Component Architecture
- Rigidity and Inflexibility
- Problems with Exchanging and Integrating Data

Enterprise Computing: Tomorrow's Challenges

Having seen the limitations faced by companies in the present environment, let us see some changing scenarios and challenges brought about by technological progress.

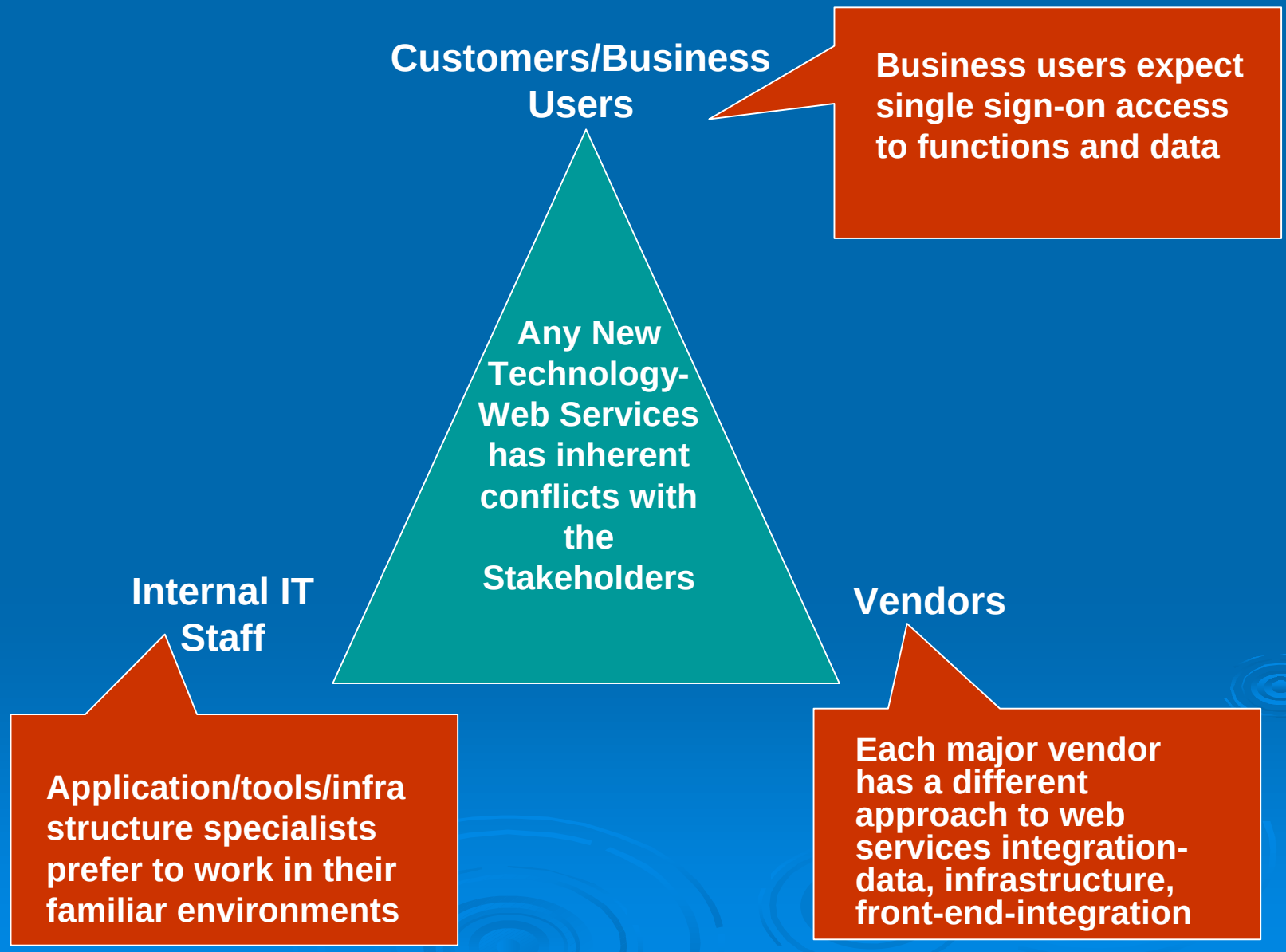
- **Need to Embrace Electronic Commerce**
- **Integrating and Distributing Systems and Resources**
- **Implications of Services-Oriented Architecture (SOA)**
- **Need to Adopt Common Standards and Strategies**

The Need for a Blueprint; We do not Build Airplanes with an ad-hoc approach

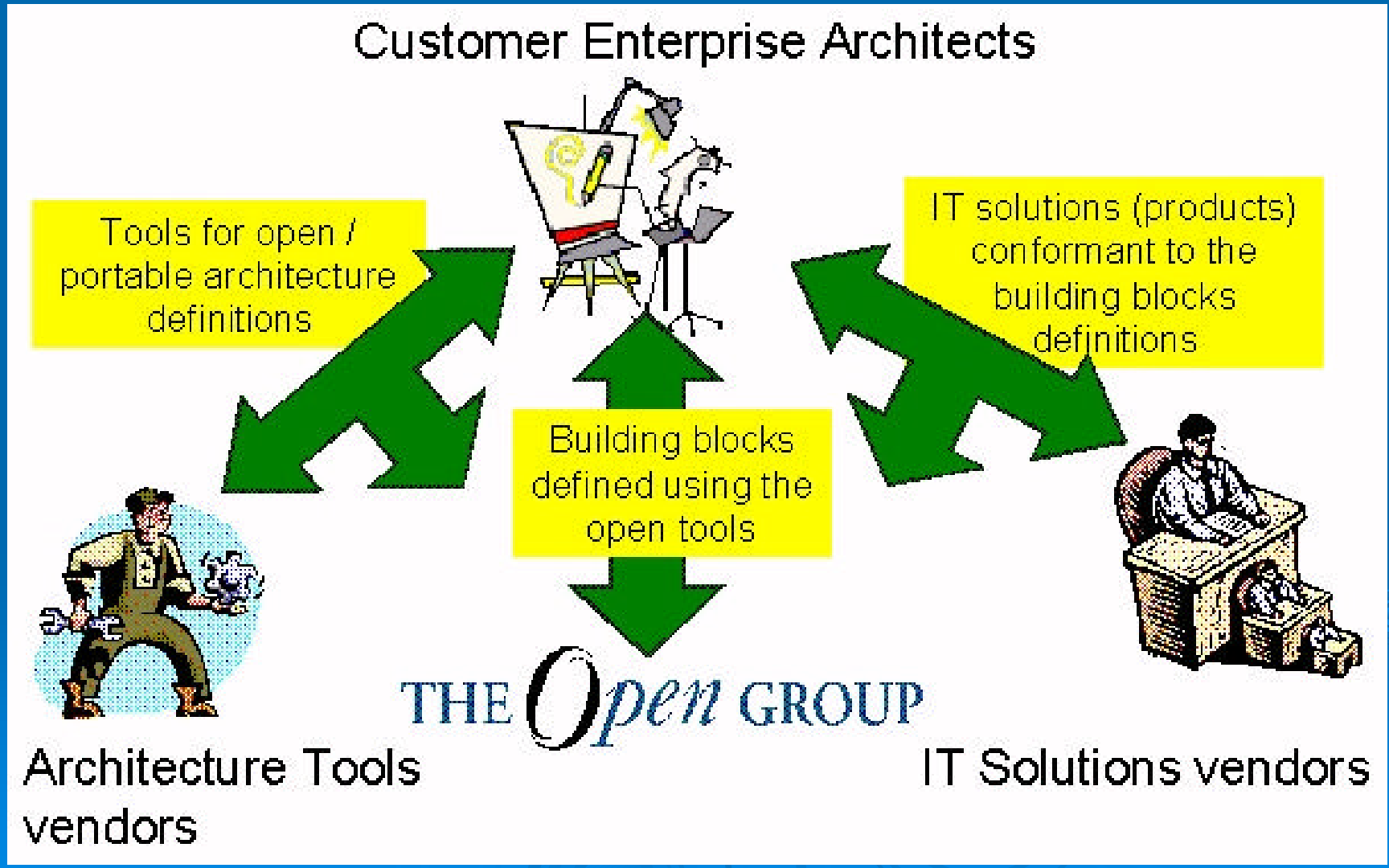
To face increasing business challenges and build upon the competitive advantage in the industry, enterprise information systems need a complete overhaul—taking into account the present-day shortcomings as well as future needs.

An boundary less architectural approach that enables global computing needs to be implemented, equipped with data interchange policies and Web services strategies. The middleware should be adaptable to the existing enterprise atmosphere, and simultaneously provide scope for tomorrow's "no boundaries" developmental efforts and the boundless synergy of systems.

So What's the Issue?



Is It Really That Simple?



So What's the Issue?

IT and business stakeholders have to work together to define realistic service level criteria for commercial web services:

- Traditional infrastructure SLAs measure 'feeds and speeds'
- Web services SLAs must measure completed business events
- Blending IT and business factors requires dialog
- Business managers look to SLAs for competitive advantage
- Feedback from service usage fuels further development

Vendor-centric web services strategies may not meet the needs of enterprises who run a mix of packaged software suites:

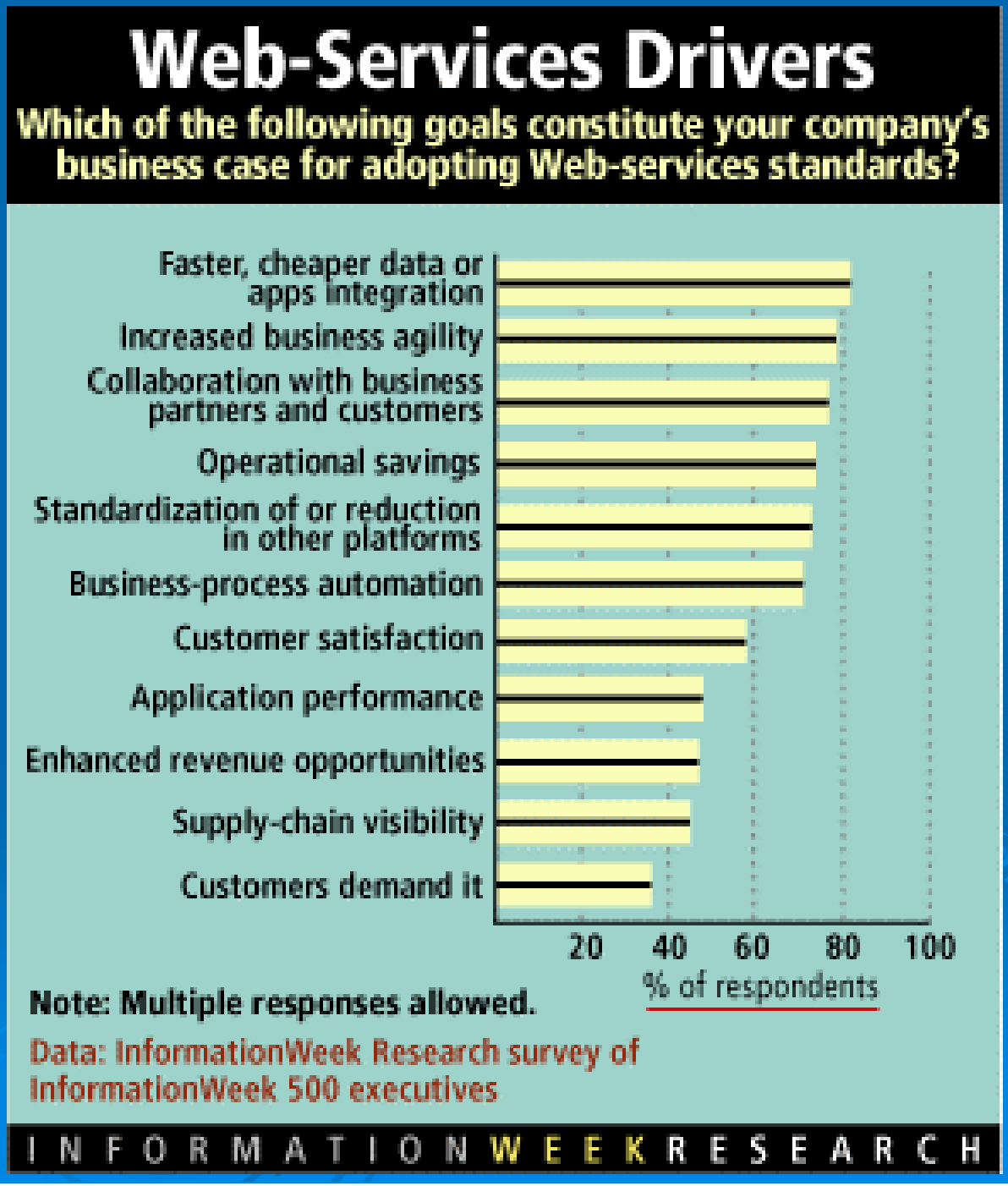
- **Business users expect single sign-on access to functions and data**
- **Application specialists prefer to work in their familiar environments**
- **Each major vendor has a different approach to web services integration**
- **SAP NetWeaver, for example, is focused on leveraging R/3**
- **Users need solutions that make the most of multiple platforms**

IT Must Have Visibility at the Board Level

- The role of CFO vs. CIO
  - Who has the ear of the CEO?
- What each manages;
  - Financial capital vs. information capital
  - Find IT-Value in the balance sheet
- Business Metrics are defined for one but not for the other
  - Earnings = Revenue – Cost
  - RONA = Earnings ÷ Net Assets
- IT matters?
  - Not if treated as a cost center (RONA goes up but earnings down)-a systems approach is needed
  - Where is the value capture from IT-information-knowledge-the competitive edge-goodwill is an intangible

Q. What is wrong with this picture?

A. Business IT Gap!



Questions/Discussions!