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THE ENTERPRISE NEWSLETTER

Issue No: 36

Architecture is the Key to Success

[Printable PDF Version](#)

By [Clive Finkelstein](#)

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Editorial

March 29, 2007: This issue of TEN discusses the implications of *The Four Stages of Enterprise Architecture Maturity*. This explains some of the reasons why organizations struggle through the problems of redundant data versions with business silos, and the difficulty of evolving to achieve the full benefits of Enterprise Architecture (EA) and Service-Oriented Architecture (SOA).

We also follow-up on the announcement in the previous issue of TEN of the availability of a series of online webcast courses covering methods for the Rapid Delivery of Enterprise Architecture. These online courses are based on the public and inhouse courses that I present throughout the world. They are drawn from my latest book: ["Enterprise Architecture for integration: Rapid Delivery Methods and Technologies"](#), which was published by Artech House, Norwood, MA on March 31, 2006. You can [read the review](#) of the book by Karen Lopez of InfoAdvisors, Inc in Toronto, Canada in the April 2006 issue of TEN. This was published as: [TEN#32](#). Links are also provided in that review so you can order the book online direct from the publisher now, if you wish.

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Clive Finkelstein
Publisher, The Enterprise Newsletter (TEN)

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World Bank Enterprise Architect Position

Chief Enterprise Architect, Washington, DC



The World Bank seeks a senior level executive for the newly created position of **Chief Enterprise Architect** (CEA) reporting to the Vice President/CIO of the Bank's Information Solutions Group (ISG).

The CEA will lead a team of business process, data and technical infrastructure, and application architects in developing, governing, and evolving the Bank's enterprise IT architecture. The CEA will be responsible for ensuring that the Bank's information systems and IT infrastructure deliver business value in a cost effective, scalable, and agile manner to a global workforce in over a 100+ countries and its Headquarters in Washington, DC.

The qualified candidate will provide the vision and leadership in articulating the future state of the Bank's enterprise architecture and championing the effort to implement the necessary architectural changes. The CEA will exercise oversight on all aspects of architecture related to the Bank's \$200 million plus annual IT spend.

In this capacity, the qualified candidate will structure and chair the World Bank's Architecture Review Board, the main governance body responsible for all aspects of the Bank's enterprise architecture.

Critical Selection Criteria:

STRATEGY AND LEADERSHIP

- Track record of leadership in complex environments
- Strategic responsibility on a global scale in both the public and private sectors

INFORMATION TECHNOLOGY

- Experience leading large scale IT implementations (50M USD or larger)
- Strong technical expertise and knowledge of network and service-oriented architecture analysis and design
- Deep knowledge of technical architecture and application development

INTERNATIONAL BUSINESS

- Business process reengineering expertise
- Broad business background in business analysis and strategy
- Understanding of financial models and budgeting
- Experience in delivering services in developing countries

OTHER ATTRIBUTES

- Minimum of 17 years of relevant experience
- Advanced degree required, MBA a plus
- Fluency in English required, additional language skills expected
- Strong persuasive skills and public speaking ability

The World Bank Group is highly committed to achieving diversity in terms of gender, nationality, culture, and educational background. Women, individuals from developing countries and those with disabilities are equally encouraged to apply. All applications will be treated in the strictest confidence. Qualified candidates may apply on-line at <http://www.worldbank.org/jobs> and choose vacancy # 070130. Please note that you will need to register before submitting your application. The closing date is **April 12, 2007**.

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Recent Events

During the week of March 12-16, I recently presented a series of 1-day seminars for [iCMG](#) in four cities throughout India: Chennai; Hyderabad; Bangalore; and Delhi. This seminar was titled: "*Enterprise SOA*" and was based on the 1-day course: "[Rapid Delivery Technologies for Enterprise Architecture](#)". These seminars were attended by over 440 people, with an average of 110 people in each city. The course was enthusiastically received, with many questions that extended 1 - 2 hours beyond the expected finish time.

In Singapore on March 21-23, I presented a 3-day workshop: "*Enterprise Architecture for Government*" from March 21-23 for [Flipside](#). This was based on the two courses: "[Rapid Delivery Methods Workshop for Enterprise Architecture](#)" and "[Strategic Modeling for Building Enterprise Architecture](#)".

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Coming Events



The CDI-MDM Institute
Independent. Authoritative. Relevant.

CDI-MDM 2007 Sydney Summit (May 28-29)

Clive Finkelstein will be presenting two Keynote Addresses at the **2nd Annual CDI-MDM 2007 Sydney Summit** (28th & 29th May, Sofitel Wentworth Hotel), on the topics of **"Governance Analysis using Enterprise Architecture"** and **"Deriving Project Plans from Data Models for Rapid Delivery in 3-month Increments"**.

Other speakers include Aaron Zornes from The CDI-MDM Institute (USA) and Paul Stansfield from BT (UK), plus case studies and insights from Centrelink, Tattersall, Westpac, ANZ Bank and many more.

Summit details can be found online at www.enterpriseiq.com.au. Special discounts are available for "TEN" Subscribers. Contact Daniel McMurray for details at danielm@enterpriseiq.com.au or on +61 2 9977 7302

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Feature: Architecture is the Key to Success

Four Stages of Enterprise Architecture Maturity

The MIT Sloan Center for Information Systems Research (CISR) conducted a survey of 456 enterprises between 1995 and 2006 [1]. This identified four distinct architectural stages that both business units and IT must pass through before the benefits of [Enterprise Architecture](#) or [Service-Oriented Architecture](#) (SOA) can be fully realized.

These are:

- Stage 1 – Business Silos
- Stage 2 – Standardized IT Technology
- Stage 3 – Standardized Business Processes
- Stage 4 – Business Modularity

The [MIT Sloan CISR](#) says that:

"None of these stages can be skipped, but they can be speeded up. As most organizations are in the first or second stages, it will be years, perhaps decades before SOA is adopted in a truly effective way."

Each stage comes with its own benefits, so there are a number of short-term gains on

the long-term architectural investment. Each stage takes about 5 years to get through, says CISR: *“although that period can shorten as more companies go through the process and learn what missteps to avoid.”*

The public and inhouse workshop: *“Strategic Modeling for Building Enterprise Architecture”* uses case study exercises and sample solutions to demonstrate how EA benefits can be achieved rapidly [2]. This workshop is based on the book: *“Enterprise Architecture for Integration: Rapid Delivery Methods and Technologies”*, by Clive Finkelstein, Artech House, Norwood MA (March 2006). A review of the book is at <http://www.ies.aust.com/ten/ten32.htm>. The book can be purchased directly from the publisher by following the **Purchase Book** links in the review.

Read also the related article: *“The Rising Importance of the Enterprise Architect”* by Diann Daniel, published in CIO Magazine Online [3].

Figure 1 shows the characteristics of each architectural stage from several perspectives, which are discussed after the figure:

	Stage 1 Business Silos	Stage 2 Standardized Technology	Stage 3 Standardized Processes	Stage 4 Business Modularity
IT Capability	Local IT applications	Standard technology platforms	Enterprise-wide standardized processes or data	Plug-and-play business process modules
Business Objectives	ROI of local business initiatives	Reduced IT costs	Cost and quality of business operations	Speed to market; strategic agility
Funding Priorities	Individual applications	Shared infrastructure services	Enterprise applications	Reusable business processes
Key Management Capability	Technology-enabled change management	Design & update of standards; funding shared services	Core enterprise process definition & measurement	Core enterprise process definition & measurement
Who Defines Applications	Local business leaders	IT and business unit leaders	Senior managers and process leaders	IT, business and industry leaders
Key IT Governance Issues	Measuring and communicating value	Establishing local vs. regional vs. global responsibilities	Aligning project priorities with architecture objectives	Defining, sourcing and funding business modules

Strategic Implications	Local/functional Optimization	IT efficiency	Business operational efficiency	Strategic agility
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Figure 1: Four Stages of Enterprise Architecture Maturity [Source: MIT Sloan Center for Information Systems Research]

IT Capability: Stage 1 addresses local IT applications, while Stage 2 establishes standard technology platforms, such as standard hardware, operating systems, languages and DBMS products. Stage 3 defines enterprise-wide standardized processes or data, while Stage 4 achieves plug-and-play business process modules.

Business Objectives: Stage 1 focuses on ROI of local business initiatives, while Stage 2 addresses reduced IT costs. Stage 3 focuses on cost and quality of business operations, while the emphasis of Stage 4 is speed to market and strategic agility.

Funding Priorities: Stage 1 funding is for Individual applications, while Stage 2 establishes shared infrastructure services. Stage 3 defines enterprise-wide applications, while Stage 4 achieves strategic agility through reusable business processes.

Key Management Capability: Stage 1 addresses technology-enabled change management, while Stage 2 focuses on the design and update of standards and funding of shared services. Stage 3 and Stage 4 both address core enterprise process definition and measurement.

Who Defines Applications: For Stage 1, local business leaders define applications, while for Stage 2, applications are defined by IT and business unit leaders. In Stage 3, applications are defined by senior managers and process leaders, while Stage 4 applications are defined by IT, business and industry leaders.

Key IT Governance Issues: Stage 1 governance issues are measuring and communicating value, while Stage 2 issues are establishing local vs. regional vs. global responsibilities. In Stage 3 issues are aligning project priorities with architecture objectives, while Stage 4 issues are defining, sourcing and funding business modules.

Strategic Implications: The Stage 1 focus is local / functional optimization, while the Stage 2 focus is IT efficiency. In Stage 3 the focus is business operational efficiency, while Stage 4 has a focus of strategic agility.

The four stages of Enterprise Architecture maturity in Figure 1 help to explain the dilemma many organizations find themselves in today, with both EA and SOA. Enterprises struggle with the problem of redundant data with business silos. Data exists redundantly in various versions throughout the enterprise: when data values in one of those versions change, all versions must be updated to synchronize that data value change throughout the organization.

Redundant data also leads to data maintenance processes that are also redundant, yet

are needed to keep the data values synchronized and up-to-date. Typically a data change is applied by redundant manual data entry steps, with associated staffing and work costs, delays, errors and error-correction steps.

The move to Stage 2, with standardized technology, does not help the redundant data problem. The resolution of this problem is only achieved through business Integration, with integrated data models and integrated data bases. This is explained in [“Introduction to Enterprise Architecture”](#). When data exists non-redundantly in one version only, only one data maintenance process is needed to keep it up-to-date: when updated, all references to the data see the same data value.

From integrated data bases are also identified reusable processes: these are the standardized processes that are needed for Stage 3. The identification of reusable processes is discussed in [“Strategic Modeling for Rapid Delivery of Enterprise Architecture”](#). Enterprise Architecture is most effective in helping an organization evolve to Stage 3, with its standardized processes.

While the use of SOA and Web Services offer benefit to Stage 1 and Stage 2 enterprises, the full ROI benefits of SOA are only realized with the standardized processes of Stage 3. The principles of SOA are discussed in [“TEN#27: Service-Oriented Architecture \(SOA\)”](#).

The discipline that is introduced by Enterprise Architecture, in moving from Stage 1 and Stage 2 to Stage 3, also addresses a critical factor for success with SOA: SOA Governance. The close management, control and rationalization of data, processes, locations, people, time and motivation (business plans) that is imposed by Enterprise Architecture achieves business integration. It also results in the capture by modeling tools of the metadata that is needed by SOA for SOA Governance.

The standardized processes of Stage 3 are essential for success with SOA. It is only when these standardized processes are identified for Stage 3 that an organization is then able to evolve to Stage 4 of Business Modularity and its benefits of strategic agility.

Two organizations that have used Enterprise Architecture to start to evolve along the path from Stage 2 to Stage 3 (and which will later be able to move to Stage 4) are discussed in two project descriptions: [“Enterprise Architecture in Banking”](#) and [“Enterprise Architecture in Government”](#).

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Summary

The MIT Sloan Center for Information Systems Research (CISR) conducted a survey of 456 enterprises between 1995 and 2006. This identified four stages of Enterprise Architecture maturity:

- Stage 1 – Business Silos

- Stage 2 – Standardized IT Technology
- Stage 3 – Standardized Business Processes
- Stage 4 – Business Modularity

Organizations typically take 5 years to evolve through each stage. These stages cannot be skipped but they can be speeded up.

The ROI benefits of Stage 3 and of SOA Governance are dependent on achieving business integration through Enterprise Architecture. EA and SOA are essential in achieving the strategic agility benefits of Stage 4: Business Modularity.

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References

[1] [“The Four Stages of Enterprise Architecture”](#), CIO Magazine, Australia, (Feb 2007).

[2] The workshop: [“Strategic Modeling for Building Enterprise Architecture”](#) can be found on the IES Web Site at <http://www.ies.aust.com/>. Click on the **Courses** link from any page.

[3] ["The Rising Importance of the Enterprise Architect"](#) by Diann Daniel, CIO Magazine Online, March 2007.

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Video Courses

We announced the following video course segments in the last issue of TEN. These are being enthusiastically used by organizations to help their business and IT managers and staff learn the principles and benefits of Enterprise Architecture. They are presented via webcast courses throughout the world, as online courses based on live seminars or skills-transfer workshops that use real-life case study problems. Click on the links below to view free, video overviews of these video courses. Review each Section table further below to see the course segments for each section topic.


Overview Videos




A free, brief overview video is available of all of these webcast courses, as

well as a free, full comprehensive overview video.

Course Handouts

 Each online course includes all handouts (two visuals per page) of the visuals that are presented in the relevant course. Each section of the course includes a free White Paper that can be downloaded for later reference.

 Download the handouts and print them for reference and to take notes while doing the relevant online course. Download the White Papers as well and print them for later reference after doing the relevant course segments in each section.

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VIEW BRIEF OVERVIEW OF WEBCAST COURSES

Rapid Delivery of Enterprise Architecture

 [Download Handouts for Brief Overview \(PDF 71K\)](#)

 [Do Brief Overview Course \(16:16 mins.\)](#)

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VIEW FULL OVERVIEW OF WEBCAST COURSES


RAPID DELIVERY OF ENTERPRISE ARCHITECTURE

 [Download Handouts for Full Overview \(PDF 96K\)](#)

 [Do Full Overview Course \(42 mins.\)](#)

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RAPID DELIVERY OF ENTERPRISE ARCHITECTURE

 Click on the Registration Link below each Section Table of Course Segments that follow. More webcast videos will be progressively added for online registration from June 2007.

Section 1: Enterprise Architecture for Managers and IT

This section covers what is commonly referred to as Business Architecture. One of the biggest problems in achieving success in Enterprise Architecture is in getting active participation from business managers and business experts. The segments in this section demonstrate that business knowledge is vital for success with EA. This knowledge is not an IT responsibility, but is the responsibility of business managers and their expert staff. IT staff also need to take a different approach in systems development, to build support systems that can be easily changed to support rapid business change.

This course section shows how business managers and their staff become actively involved, to drive the EA activity to success. Two White Papers can be downloaded for detailed reference after viewing the course segments in this section.

Seg	Segment Title	Mgt	IT
1-01	The Need for Business Transformation	4	4
1-02	Systems Support for Rapid Business Change	4	4
1-03	Balanced Scorecard and Strategy Maps	4	4
1-04	Introduction to Enterprise Architecture	4	4
1-05	Governance Analysis using Enterprise Architecture	4	4
Papers	White Papers on "Enterprise Architecture for Managers and IT" and on "Governance Analysis using Enterprise Architecture"	4	4

Registration for Section 1

The following link will take you to our Online Store, where you should select the Category "Online Courses" and then choose Section 1 and the Subscription Option that you want. You can pay by offline credit card or via PayPal (if you prefer) as detailed on the Home page of the Store. Provide your email address with your payment and you will then receive an email 1- 2 days later with the details of the link for downloading the Section 1 courses.

 [Register for Section 1 Webcast Courses](#)

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Section 2: Using Strategy Analysis to Define the Future

A key requirement for success with Business Architecture is a focus on the future based on Strategic Business Plans. Strategy Analysis is a rapid delivery method for Strategic Planning. The course segments in this section show how to use Strategy Analysis to develop business plans from scratch if they do not yet exist, or how to refine existing business plans. Strategy Analysis can also be used by IT staff to gain an detailed understanding of the future business needs for inclusion in Project Requirements Specifications. A Business Planning Questionnaire is provided as a catalyst to develop new Business Plans from scratch or to refine existing plans.

This course section shows how business managers and their staff can become actively involved in identifying future business needs, to drive Enterprise Architecture to success. A White Paper and a Business Planning Questionnaire can be downloaded for detailed reference after viewing the course segments in this section.

This section and the following course sections are expected to be available around June 2007. Their availability will be announced in the next issue of TEN.

Seg	Segment Title	Mgt	IT
2-01	Analyzing the Mission Statement	4	4
2-02	Defining Policies; Goals, Objectives and KPIs; Strategies and Tactics	4	4
2-03	Strengths, Weaknesses, Opportunities and Threats	4	4
2-04	Implementing the Business Plan through Personal Scorecards	4	4
2-05	Business Planning Questionnaire	4	4
2-06	Using Strategy Analysis for IT Project Requirements Specifications	4	4
Papers	White Paper on "Using Strategy Analysis to Define the Future" and "Business Planning Questionnaire"	4	4

Registration for Section 2

When enabled, the following link will take you to our Online Store, where you should select the Category "Online Courses" and then choose Section 2 and the Subscription Option that you want. You can pay by offline credit card or via PayPal (if you prefer) as detailed on the Home page of the Store. Provide your email address with your payment

and you will then receive an email 1- 2 days later with the details of the link for downloading the Section 2 courses.

Register for Section 2 Webcast Courses

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Section 3: Strategic Modelling for Rapid Delivery of EA

One of the biggest problems in implementing Enterprise Architecture projects is the amount of detail that is defined. The course segments in this section show how to develop a high-level Strategic Model - as a conceptual Enterprise Model - from Business Plans that focus on the future. It shows how to analyze the Strategic Model, both manually and also automatically, to derive project plans from the data model. Segment 3-04 extends the discipline of data modeling with new methods that have not generally been seen or understood even by experienced data modeling practitioners. Similarly, in Segment 3-03, the identification and derivation of reusable business activities and business processes from data models is not widely understood. These new methods enable priority reusable business processes to be identified and extracted from complex data models - along with the data that they need - as subprojects for rapid delivery into production in 3-month increments.

A White Paper and a Strategic Modelling Questionnaire can be downloaded for detailed reference after viewing the course segments in this section.

Seg	Segment Title	Mgt	IT
3-01	Strategic Modelling Questionnaire	4	4
3-02	Developing the Strategic Model from Business Planning Statements	4	4
3-03	Identifying Business Activities and Processes from the Strategic Model	4	4
3-04	Deriving Project Plans from the Strategic Model for rapid delivery of shared databases and reusable systems	4	4
3-05	Deriving a Project Map from a Strategic Model for 3-month deliverables	4	4
3-06	Documenting the Enterprise Architecture Portfolio Plan from the Strategic Model	4	4

Papers	White Paper on "Strategic Modelling for Rapid Delivery of Enterprise Architecture" and "Strategic Modelling Questionnaire"	4	4
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Registration for Section 3

When enabled, the following link will take you to our Online Store, where you should select the Category "Online Courses" and then choose Section 3 and the Subscription Option that you want. You can pay by offline credit card or via PayPal (if you prefer) as detailed on the Home page of the Store. Provide your email address with your payment and you will then receive an email 1- 2 days later with the details of the link for downloading the Section 3 courses.

 [Register for Section 3 Webcast Courses](#)

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Section 4: Real-World Enterprise Architecture Projects

This section describes two real-world projects that applied the methods covered in the previous sections of this webcast course to develop and analyze a Strategic Model for a Regional Bank and also for a Government Agency. These projects documented this analysis in an Enterprise Architecture Portfolio Plan (EAPP) Report for each organization, for rapid delivery of priority processes into production as systems in 3-month increments.

A White Paper on each project can be downloaded for detailed reference after viewing the course segments in this section.

Seg	Segment Title	Mgt	IT
4-01	Enterprise Architecture in Banking	4	4
4-02	Enterprise Architecture in Government	4	4
Papers	White Papers on "Enterprise Architecture in Banking" and on "Enterprise Architecture in Government"	4	4

Registration for Section 4

When enabled, the following link will take you to our Online Store, where you should

select the Category "Online Courses" and then choose Section 4 and the Subscription Option that you want. You can pay by offline credit card or via PayPal (if you prefer) as detailed on the Home page of the Store. Provide your email address with your payment and you will then receive an email 1- 2 days later with the details of the link for downloading the Section 4 courses.

 **Register for Section 4 Webcast Courses**

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AUTHOR

Clive Finkelstein is the "Father" of Information Engineering (IE), developed by him from 1976. He is an International Consultant and Instructor, and Managing Director of Information Engineering Services Pty Ltd (IES) in Australia.

Clive Finkelstein's books, online interviews, courses and details are available at <http://www.ies.aust.com/cbfindex.htm>.

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