

Trends in IT Infrastructure:

What You Don't Know CAN Hurt You



Leon A. Kappelman, Ph.D.

Professor of Information Systems

Director Emeritus, Information Systems Research Center

Fellow, Texas Center for Digital Knowledge

Information Technology & Decision Sciences Department

College of Business, University of North Texas

Website: <http://courses.unt.edu/kappelman/>

Email: kapp@unt.edu Phone: 940-565-4698 Fax: 940-565-4935

Founding Chair, Society for Information Management EA Working Group

Three Trends / Waves / Driving Forces

- Two drive the evolution of IT infrastructure
 - “Doing more with less”
 - “Doing IT anywhere”
- Third drives the evolution of how we think
 - About IT in particular
 - About organizations in general

Two Trends Drive IT Infrastructure (ITI) Evolution: These are about the “*PARTS*” or *PIECES* of ITI

- “Doing More With Less”
 - More Capability: Larger, faster, cheaper, more powerful
 - Density & Efficiency:
 - Virtualization, mainly of servers and desktops
 - Consolidation, of servers, applications, networks, data centers
 - To some, cloud computing is a consolidation of disparate ITI.
 - Conservation: energy, space, people, devices, \$/€, etc.
- “Doing IT anywhere”
 - Mobility
 - Telecommuting
 - Tele-presence

Third Trend Drives Evolution of our Thinking: About parts fitting together for the good of the whole

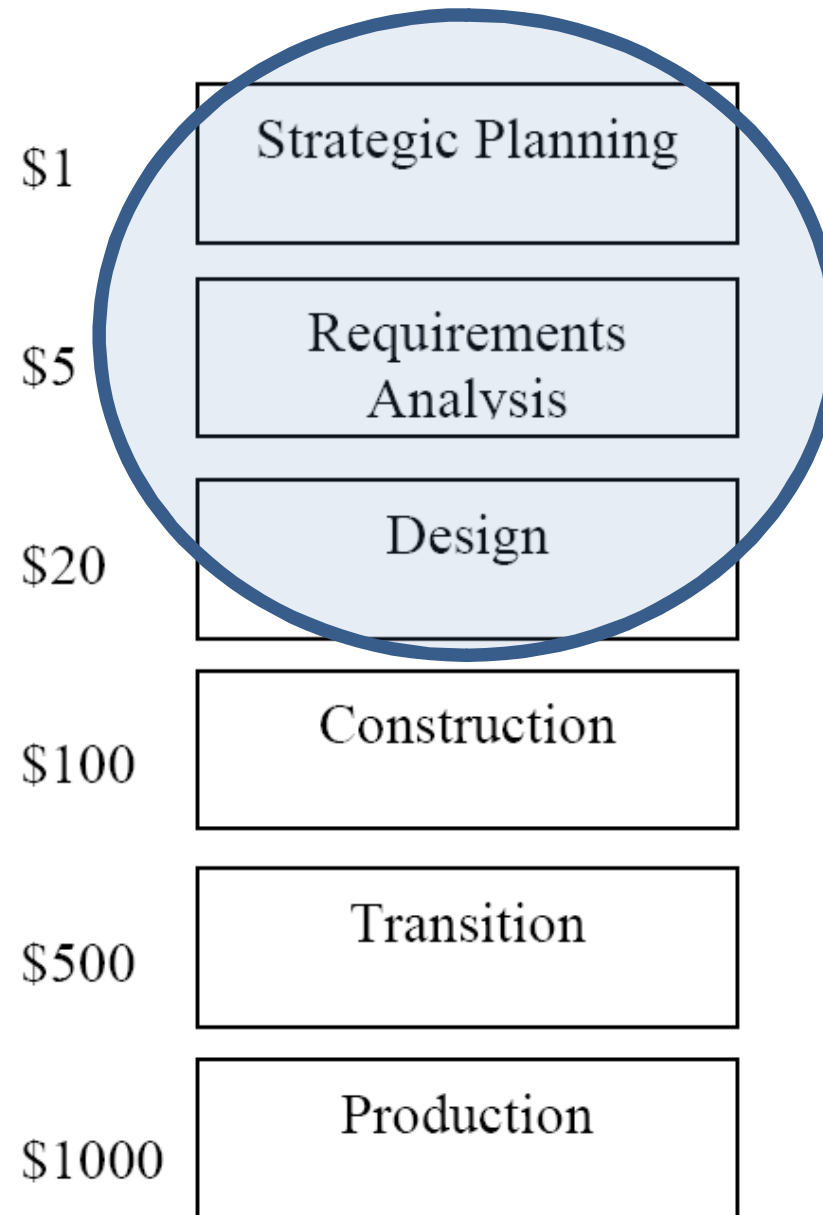
- Foundations of it are
 - Systems thinking and Holistic thinking
 - Architecture and Engineering
- We in IT call this “Enterprise Architecture” (EA)
- About managing change and complexity, while reducing entropy, cost, and “time to market”
- Seeks to better balance:
 - The whole and its parts
 - Short-term/long-term trade offs
- These ideas are not just applicable to ITI and organizations.

Why Enterprise Architecture?

You cannot effectively manage something you cannot “see” and understand (know)!

Especially if it's big, complicated, or will grow or change at some point in time, or if you need to communicate accurately with others about it.

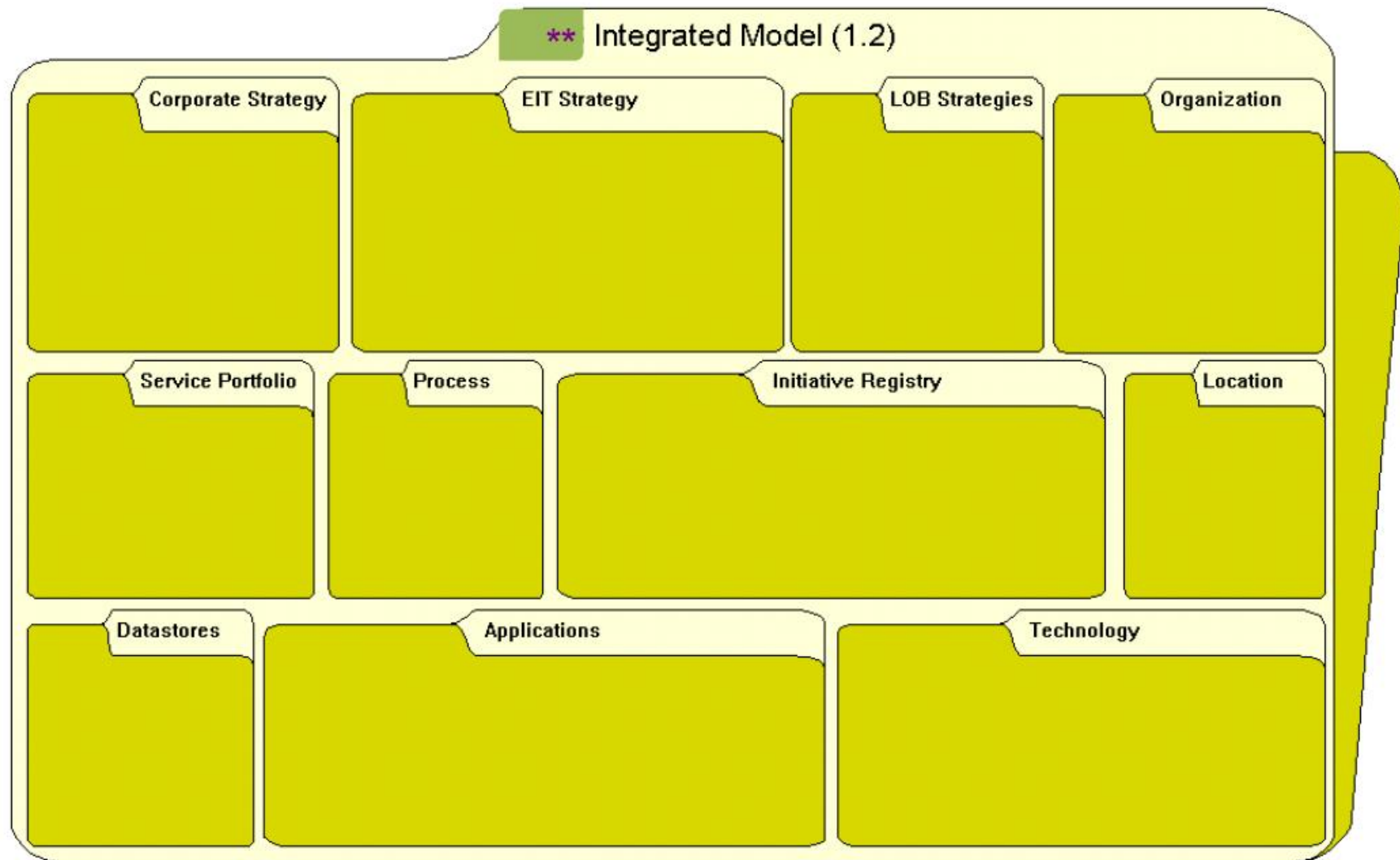
The Cost of an Error (Hay, 2003)



Doing Enterprise Architecture is having a “shared language” (of words & graphics) to communicate about, think about, and manage the enterprise.

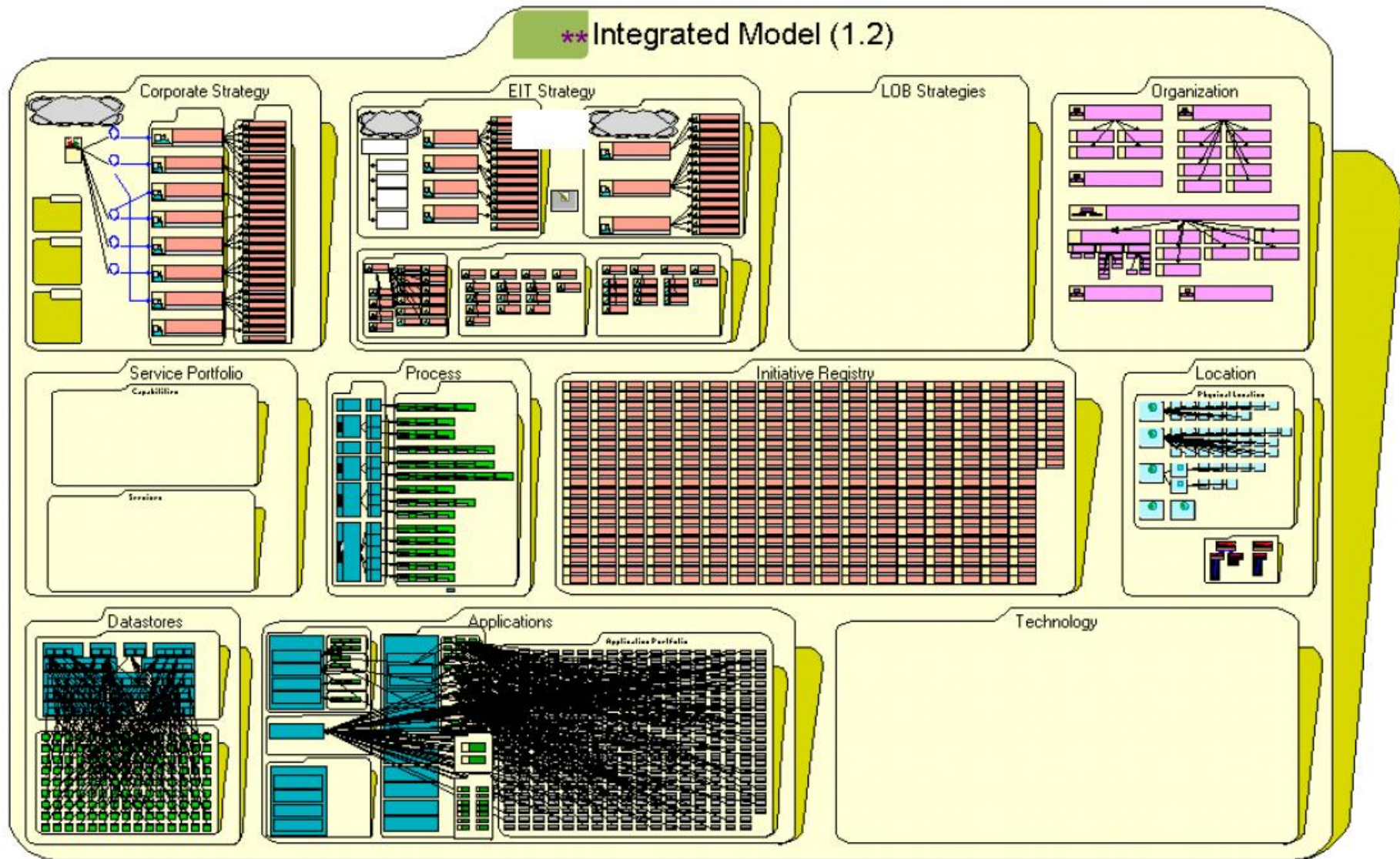
The people in the enterprise must communicate well enough to align their ideas and thoughts about the enterprise (e.g., strategy, goals, objectives, purpose),

In order to align the things they manage (e.g., applications, data, projects, goods and services, jobs, vehicles).

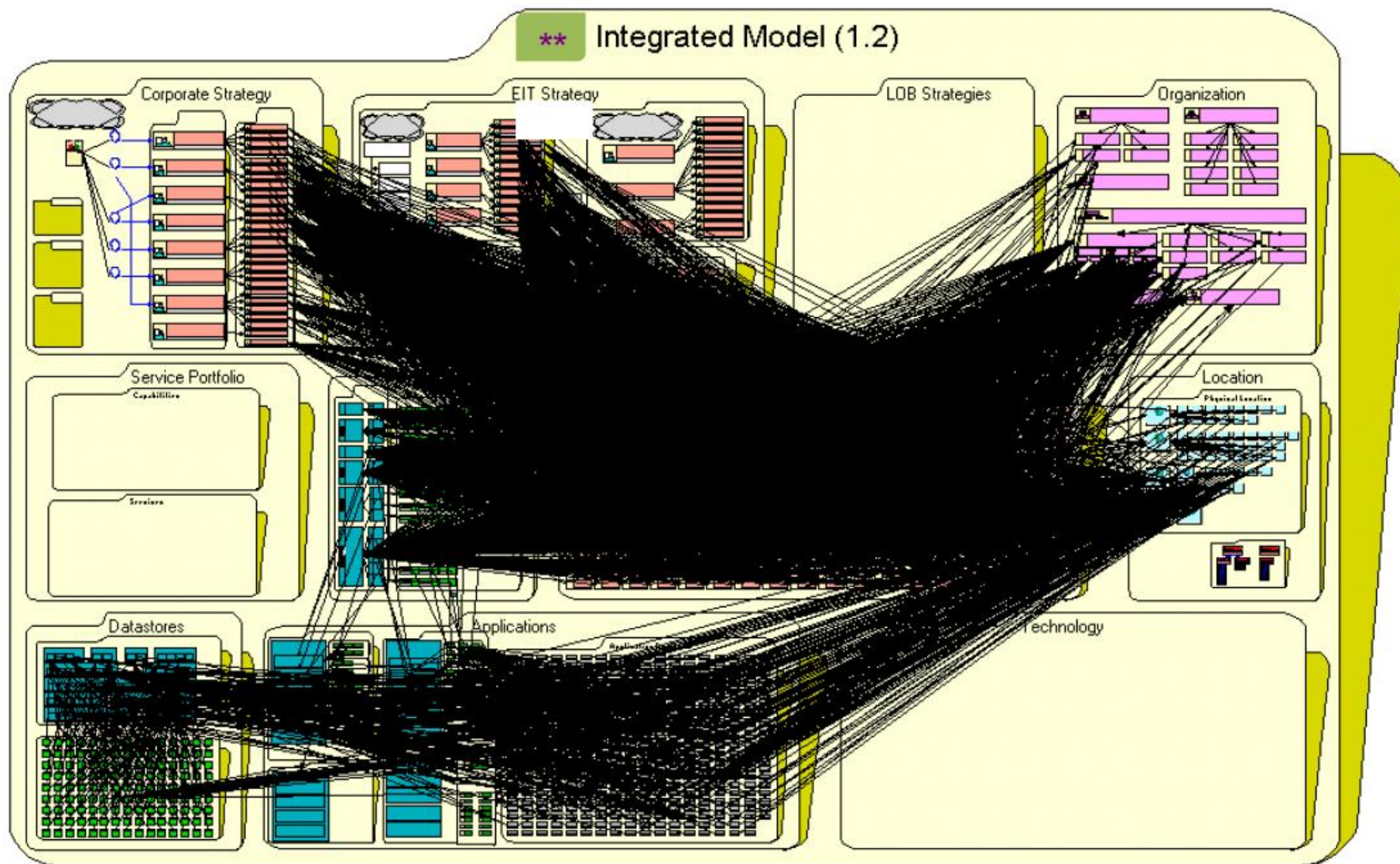


**** Name of company withheld by request.**

** Integrated Model (1.2)



** Name of company withheld by request.



**** Name of company withheld by request.**

What is EA?

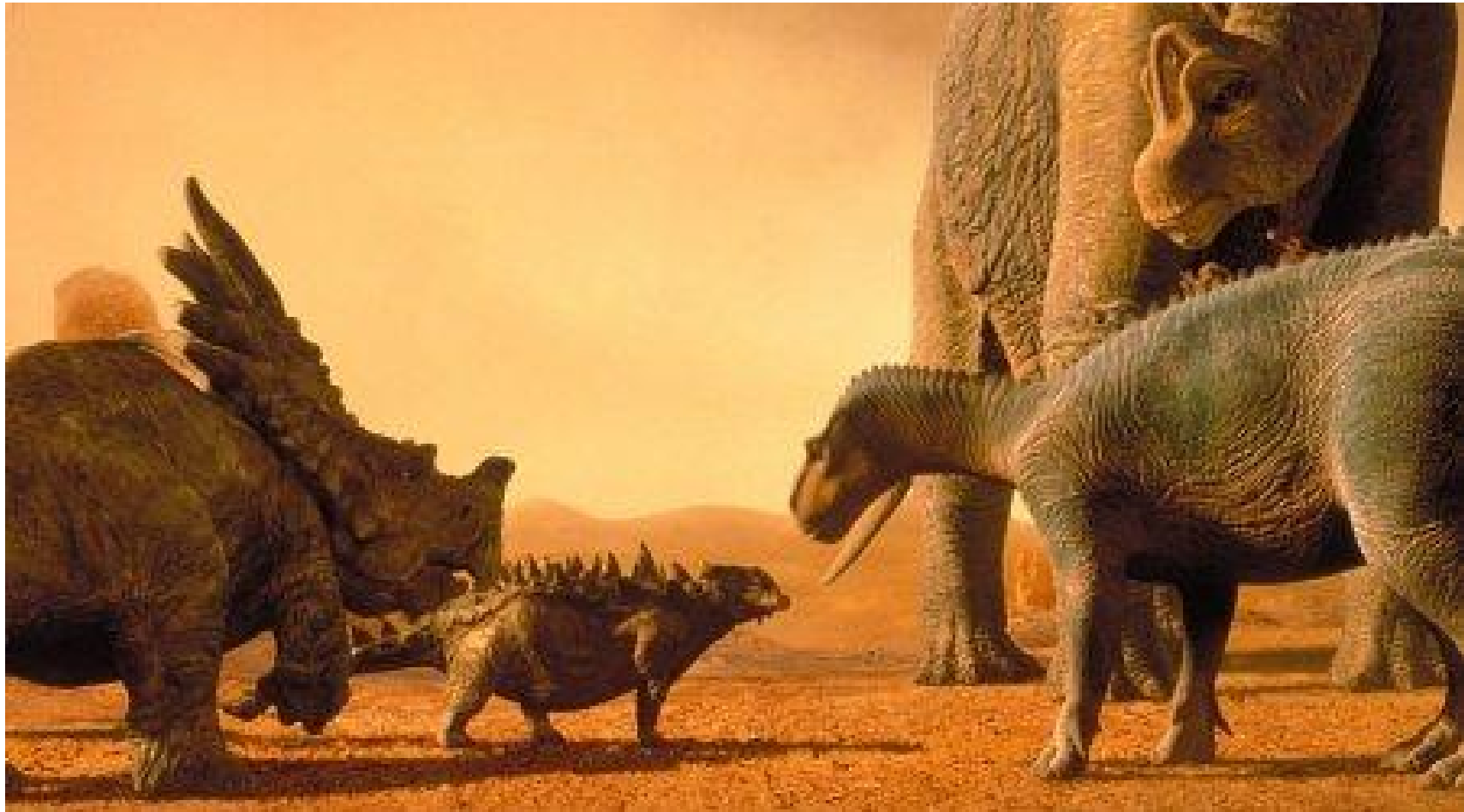
- EA is a different way of seeing, communicating about, & managing the enterprise & all of its assets, including IT.
- EA gets to essence of IT success: Knowing & delivering to serve the organization's requirements.
- EA is key to:
 - achieving & keeping business-IT alignment & other objectives.
 - helping the organization create value.
- EA includes many things you are already do; such as requirements analysis, system design, strategic planning, network design, job design, knowledge management, data warehousing, SOA, BPR, etc., ...
 - And although EA is much, much more than that.
 - You can build your EA capabilities on these things you are already doing

Road to the Future: Institutionalizing EA

- This is a new way of life: There is no quick fix; no silver bullet.
- This will take time and determination, as well as vision, courage and commitment: Do not underestimate the difficulty and complexity of architecting and engineering one of humankind's most complex objects – the Enterprise.
- Do not get discouraged: This is a revolution in thinking, a discipline, an engineering process. Change of this magnitude takes time and perseverance.
- Set realistic expectations: Things have to be implemented and modified periodically so you have to accept some risk of "scrap and rework." Progress trumps perfection.
- Don't assume anything: Make executive education and technical training a continuous process. It is easy to forget long-term issues in the short-term stress of daily life.
- Learn!: The state of the art is only about 25 years old and the "playing field" still pretty level – there is still much to learn & discover, & many opportunities to create advantage & value.

**“No one has to change.
Survival is optional.”**

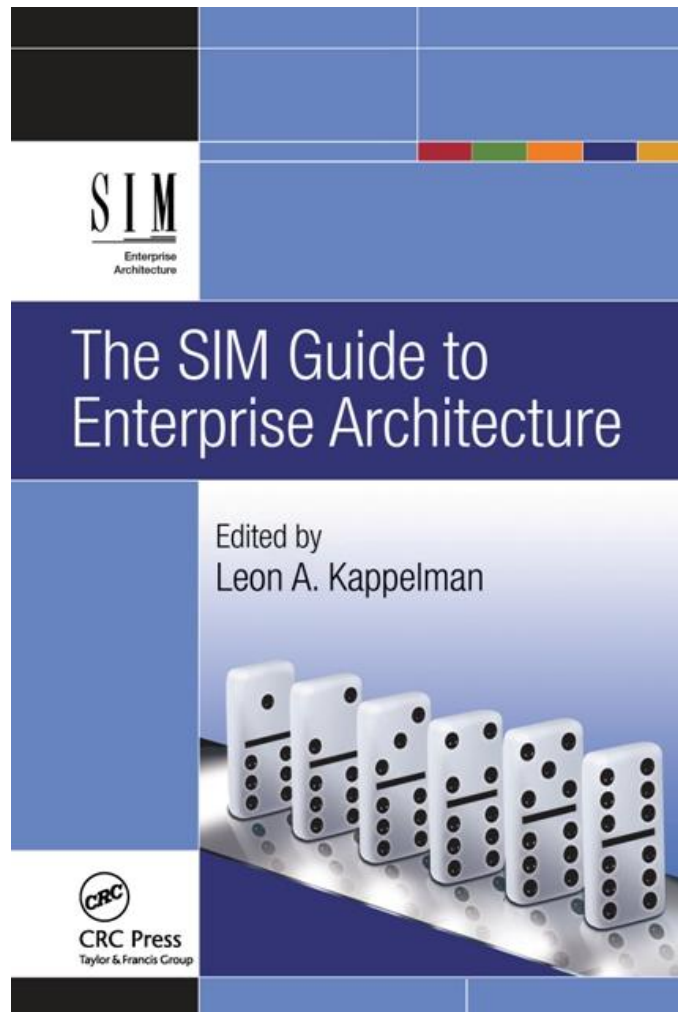
– Dr. W. Edwards Deming



The SIM Guide to Enterprise Architecture

Creating the Information Age Enterprise

542KA = 40% off
www.crcpress.com



A project of the SIMEAWG

Edited by: Leon A. Kappelman, Ph.D.

Foreword by: Jeanne W. Ross, Ph.D.

Contributing Authors, Panelists, & Artists (alphabetically):

- Bruce V. Ballengee
- George S. Paras
- Larry Burgess
- Alex Pettit
- Ed Cannon
- Jeanne W. Ross
- Larry R. DeBoever
- Brian Salmans
- Russell Douglas
- Anna Sidorova
- Randolph C. Hite
- Gary F. Simons
- Leon A. Kappelman
- Kathie Sowell
- Mark Lane
- Tim Westbrook
- Thomas McGinnis
- John A. Zachman

All authors' royalties support the work of the not-for-profit SIMEAWG.