

MASSACHUSETTS INSTITUTE OF TECHNOLOGY
SLOAN SCHOOL OF MANAGEMENT

15.565 Integrating eSystems:

Technology, Strategy, and Organizational Factors

(Primarily for undergraduates, ESD, and non-MBA students)

15.578 Global Information Systems:

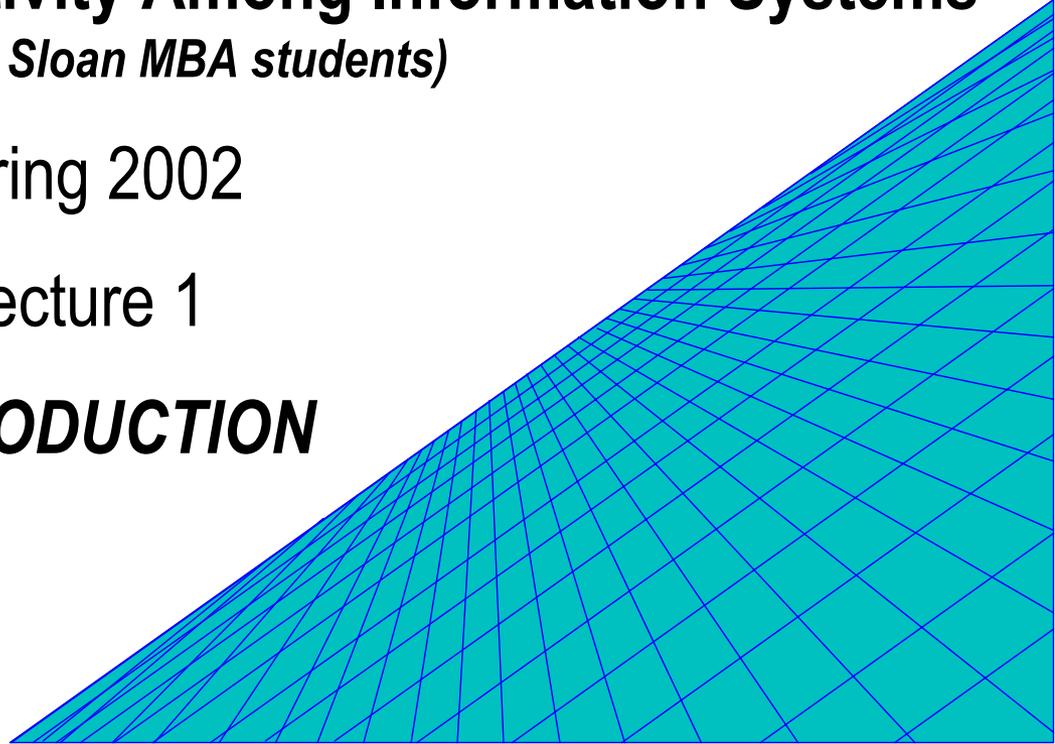
Communications & Connectivity Among Information Systems

(Primarily for Sloan MBA students)

Spring 2002

Lecture 1

INTRODUCTION



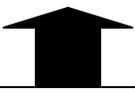
PERSPECTIVE

- *ADVANCES IN INFORMATION TECHNOLOGY (IT) PROVIDE OPPORTUNITIES FOR DRAMATICALLY INCREASED CONNECTIVITY AND INTEGRATION AMONG SYSTEMS ENABLING:*
 - *NEW BUSINESS STRATEGIES AND OPPORTUNITIES*
 - *NEW FORMS OF INTER- AND INTRA-ORGANIZATIONAL RELATIONSHIPS*

BUSINESS FORCES

- GLOBALIZATION
 - WORLD-WIDE COMPETITION
 - NEW BUSINESS MODELS
 - VOLATILE ENVIRONMENT
- 

INCREASED CONNECTIVITY

- INTER-ORGANIZATIONAL RELATIONSHIPS
 - INTRA-ORGANIZATIONAL COORDINATION TO INCREASE EFFICIENCY & EFFECTIVENESS
 - ADAPTABLE ORGANIZATIONAL STRUCTURES
- 

INFORMATION TECHNOLOGY (IT) OPPORTUNITIES

- CONTINUED DRAMATIC COST/PERFORMANCE AND CAPACITY ADVANCES
- NEW IT ARCHITECTURES ENCOMPASSING:
 - EXTENSIVE COMMUNICATION NETWORKS / INTERNET
 - ACCESSIBLE DISTRIBUTED DATABASES
 - ENHANCED HUMAN INTERFACE / WEB APPLICATIONS

SOME RECENT EXAMPLES AND CHALLENGES

- RAYTHEON PREDICTS BIG PROFIT SHORTFALL

“Many problems related to integrating acquisitions ..” (BG)

- GOING NOWHERE FAST IN CYBERSPACE

“Poor integration of the two units (FedEX & RPS) have kept it from capturing much Net traffic ...” (BW)

- LACK OF IT INTEGRATION FACTOR IN HMO CRISIS

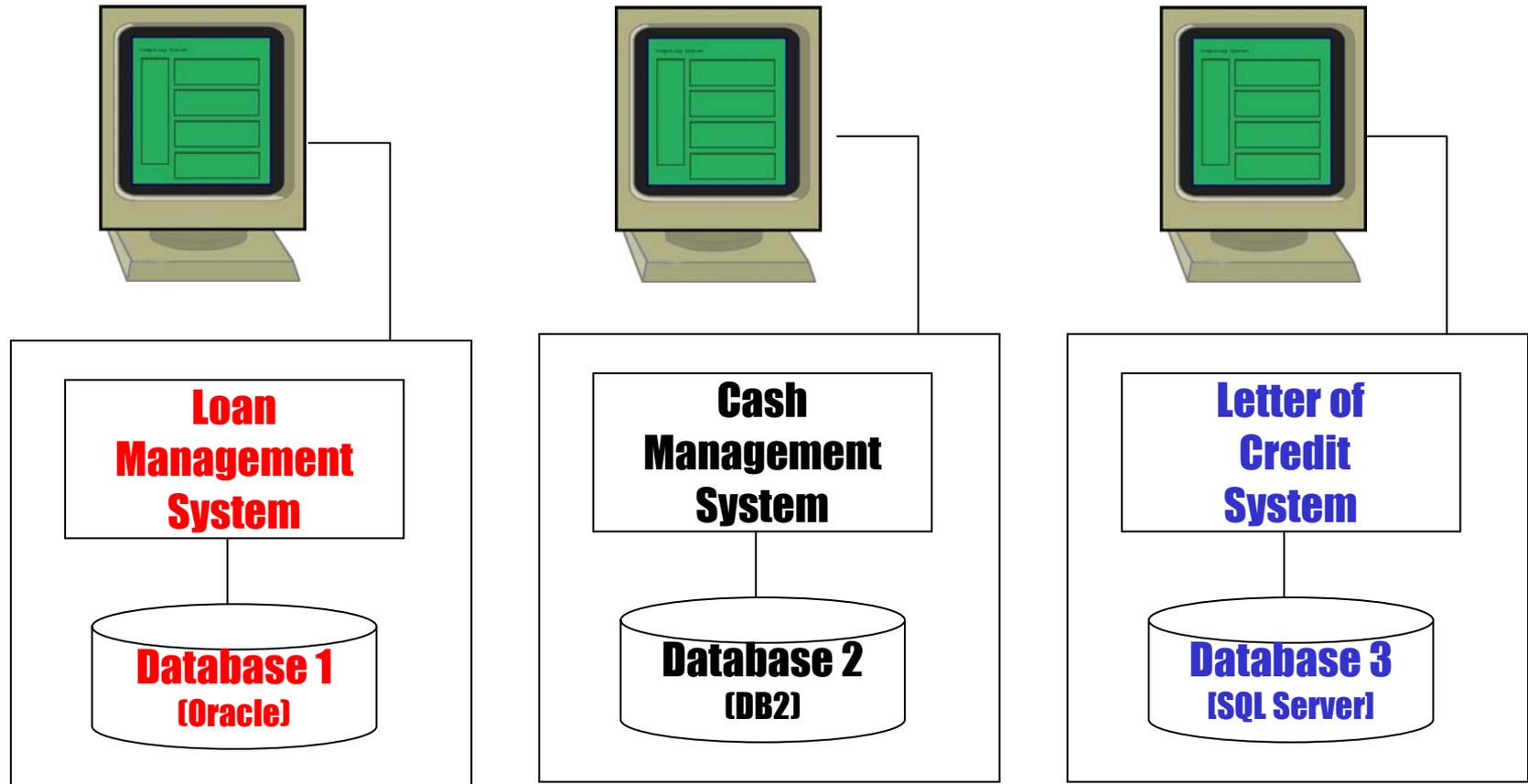
“Harvard Pilgrim had separate financial and billing systems and never fully integrated them ...” (CW)

- MARKET MAKES IT PRIORITY IN DRUG MERGER

“Competitive pressures make it priority for (Glaxo Wellcome and Smith-Kline Beecham) to combine their systems ...” (CW).

OPERATIONAL EXAMPLE (FINANCIAL SERVICES)

- SEPARATE SYSTEM FOR EACH PRODUCT AREA / COUNTRY



CONCERNS:

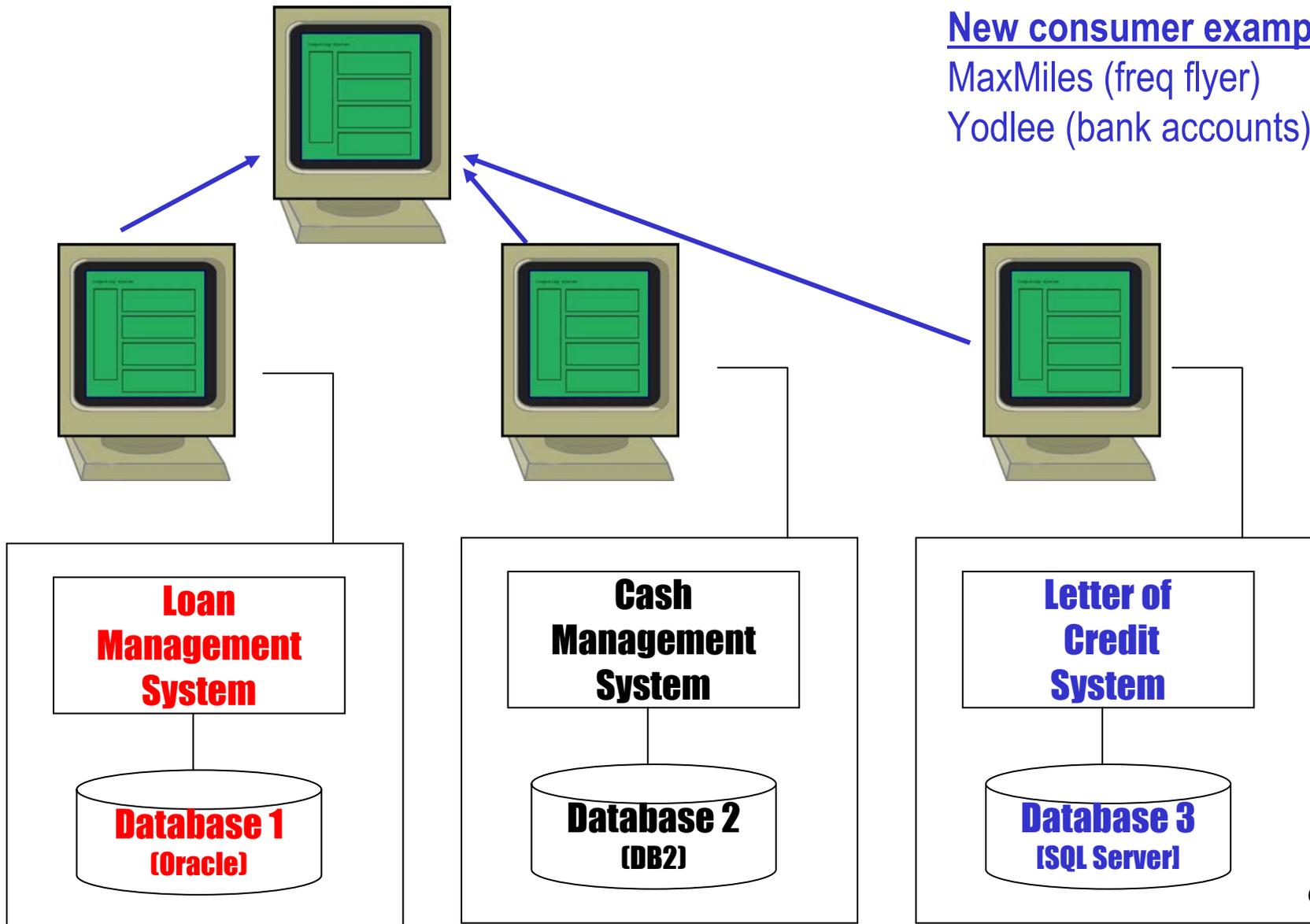
- GLOBAL RISK
- GLOBAL PROFITABILITY
- GLOBAL CUSTOMER STATUS

INTEGRATED INFORMATION FROM DISPARATE SYSTEMS

New consumer examples:

MaxMiles (freq flyer)

Yodlee (bank accounts)



WHY IS INTEGRATED INFORMATION IMPORTANT?

- WHEN RUSSIA SUSPENDED PAYMENTS ON ITS DEBT A FEW YEARS AGO:
 - How long did it take financial services organizations to determine impact on them?
- WELL, THAT WAS AN EXCEPTIONAL EVENT: -
 - Unlikely to happen again
(except in Brazil, Argentina, LTCM, ...)
 - Never happened before

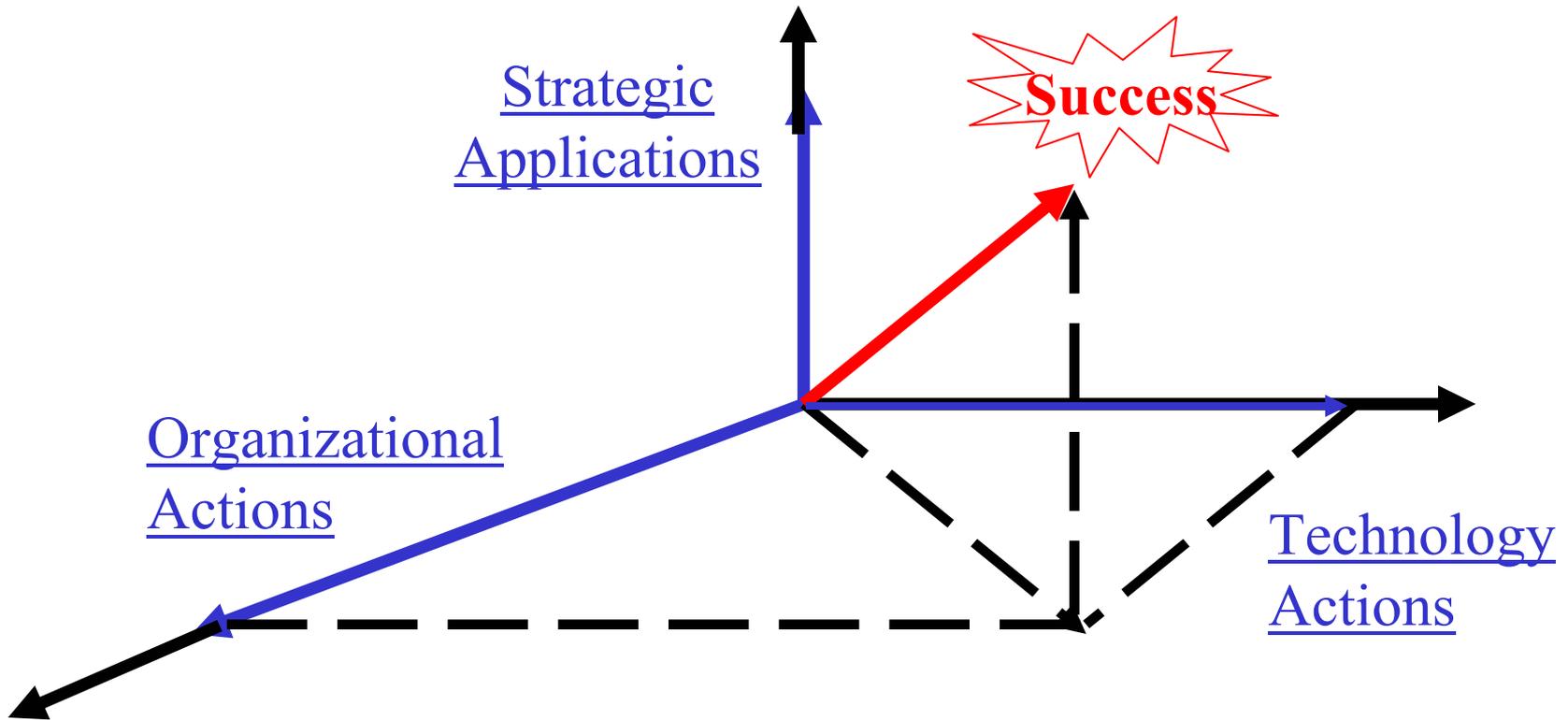
“Citicorp faces record loss of \$2.5 billion in quarter” - 1987

Merrill Lynch makes management changes

- Boston Globe, p.41, May 5, 1987

Air Force general defends B-1

INTERACTION OF STRATEGY, TECHNOLOGY, AND ORGANIZATIONAL FACTORS



COURSE STRUCTURE

Part 1: **STRATEGIC CONNECTIVITY** [20%]

Part 2: **PHYSICAL CONNECTIVITY** [30%]

(Communications, Networking, Internet Technology
- emerging technologies, e.g., ATM, DSL)

Part 3: **LOGICAL CONNECTIVITY** [30%]

(Distributed databases, Web, and data semantics
- emerging technologies, e.g., XML, Web Services)

Part 4: **ORGANIZATIONAL CONNECTIVITY** [20%]

(Loosely-coupled organizations,
Intra-organization data standards)

STUDENT BACKGROUND

- **NAME, DEPARTMENT, YEAR**
- **RELATED BACKGROUND**
 - PRIOR IT-RELATED COURSES
 - EXPERIENCE
 - STRATEGY AND APPLICATIONS
 - COMMUNICATION TECHNOLOGY
 - DATABASE TECHNOLOGY
 - ORGANIZATIONAL ISSUES
- **WHY 15.565 / 15.578?**

COURSE OPERATION

- MATERIALS

- COURSE READINGS (MOSTLY ARTICLES -- FROM COPYTECH)
- SUPPLEMENTAL READINGS (DEWEY LIBRARY AND WEB)
- COPY OF LECTURE NOTES

- ASSIGNMENTS (Subject to change)

- ASSIGNED READINGS, BE PREPARED FOR CLASS ...
- 4 WRITTEN **HOMEWORK ASSIGNMENTS** (HW) [20%]
- **TERM PROJECT (578) / COMPUTER PROJECT (565)** [25%]
- **CLASS PARTICIPATION** [10%]

- EXAMINATIONS

- **MID-TERM** [20%]
- **FINAL** [25%]

TEN REASONS WHY YOU MIGHT NOT LIKE THIS CLASS

1. **MULTI-CULTURE** (STRATEGY / TECHNOLOGY / ORGANIZATION)
 - There is at least one area that you know too much about or do not like
 2. **DOES NOT FOCUS PRIMARILY ON LATEST “BUZZWORDS”**
 - Addresses issues of lasting long-term importance
 3. **SOME READINGS MORE THAN A YEAR OLD**
 - Sometimes really good ideas last more than a year
 4. **COURSE STILL EVOLVING**
 5. **CONSIDERABLE WORK LOAD (BUT CONSISTENT WITH CREDITS)**
 6. **HIGH EXPECTATIONS**
 7. **THE FACT I COULD NOT THINK OF FOUR MORE ...**
- **WE WILL WORK TO MAKE COURSE VALUABLE AND ENJOYABLE**
 - **FILL IN STUDENT INFORMATION SHEET BEFORE YOU LEAVE**