



SOFTWARE

2004

Blueprint for the next decade

Sand Hill
Group

Orchestrating the Stack

Next-Generation Developments in Enterprise Computing

Geoffrey Moore

John Hamm

Philip Lay

Agenda

- **Systems of Record:**
 - A Retrospective
- **Orchestrating the Stack**
 - Forecasting the Future
- **Gorilla Games**
 - Handicapping the Race



Systems of Record

A Retrospective

Criteria for a System of Record

- **Scope**
 - Manages a fundamental element of business data across the entire enterprise
- **Clout**
 - Owned and sponsored by a CXO
- **Value**
 - Directly impacts core economics of the business
- **Inertia**
 - Fed by a high-volume, mission-critical transaction

ERP and the Four Criteria

- **Scope**
 - Manages financial data across the enterprise
 - Has also assimilated human resources, order processing, and inventory
- **Clout**
 - Owned and sponsored by the CFO
- **Value**
 - Compliance, control, integration of operations
- **Inertia**
 - Anchor transaction: updates to the general ledger

ERP as a System of Record

- **Categorical Implications**
 - Persistence
 - Exclusivity
- **Market Implications**
 - A unit of turf
 - A point of assimilation
- **Key question**
 - How many more of these are there?

Working Toward an Answer

- **Four candidates**
 - **CRM:** The Customer System of Record
 - **SCM:** The Supplier System of Record
 - **PLM:** The Product System of Record
 - **ERM:** The Employee System of Record
- **The process**
 - Run them against the four criteria
 - See how they stack up
 - See how the criteria stack up
 - Vote our conclusions at the end

Voted in the first three

So . . . What Actually Happened?

- **Spending drought was longer than expected**
 - Huge advantage to the incumbents and gorillas
- **Category development got stunted**
 - Slow-down in supply chain, CRM tornadoes
 - PLM and ERM tornadoes fail to develop
- **Recovery laid out new ground rules**
 - Buyers asserting more power
 - Compliance applications taking resources
- **Net impact**
 - ERP modules compete effectively for category funds
 - CRM and SCM are on Main Street, exposed to ERP
 - PLM and ERM are still pre-tornado, largely departmental

Perhaps More Importantly

- The application layer is not the only location for Systems of Record
- The underlying architecture of enterprise computing has been shifting
- A new and bigger game is emerging, potentially the biggest ever
- We call it

Orchestrating the Stack



Orchestrating the Stack

Forecasting the Future

The Stack for Enterprise Computing

**Business
Layer**

Consulting Services
Transaction Applications
Analytical Applications
Communications & Collaboration Applications

**Compute
Processes**

Application Server Infrastructure
Systems Management Infrastructure
Database
Operating System

**Compute
Engines**

Mainframes
Servers
Storage
Network
Microprocessor

Desktops
Mobile Devices
Printer/MFPs

Openings and Instabilities

- **Open-source products**
- **Security**
- **Voice/data/image convergence**
- **Mobile computing**
- **Content applications**
- **Non-relational databases**
- **Inter-enterprise applications**
- **Outsourcing & offshoring**
- **Grid computing**
- **Embedded computing**
- **Etc.**
- **Etc.**

An Overriding Instability

Services-Oriented Architecture

- **The current stack represents Internet-enabled client-server architecture**
 - Heavily dependent on large, monolithic structures
 - Minimal use of the Internet as a bus
- **The next generation stack will be anchored in services-oriented architecture**
 - The network becomes the bus
 - Structures draw heavily on shared services
- **The new stack will privilege new layers**
 - Which layers of the stack will host shared services?
 - What are the next-generation platforms?

What Will Be the New Systems of Record?



Instructions to the Audience

Playing the Game (Part One)

- **First Objective**
 - Learn the names and numbers of the roster of established players
- **Second Objective**
 - Get a first-order approximation of what each player's strategy is likely to be

The Enterprise Gorilla Game: 2004

Category	Gorilla	Chimps
Consulting Services	---	IBM, Accenture, EDS, Infosys
Transaction Applications	SAP	Oracle, Siebel, Peoplesoft
Analytical Applications	---	Cognos, SAS, Bus Obj,
Communications & Collaboration	Microsoft	IBM
Application Infrastructure	---	BEA, IBM, Microsoft
Utility Infrastructure	---	CA, IBM, Veritas, Symantec
Database	Oracle	IBM, Microsoft
Server Operating System	---	Microsoft, Linux, Sun, HP
Mainframes	IBM	---
Servers	---	Dell, HP, Sun, IBM
Storage	EMC	Hitachi, HP, Dell, Fujitsu
Network	Cisco	Juniper, Foundry, Extreme
Microprocessor	Intel	AMD

Battle for the Enterprise: 2004-2010

Gorilla Strategy

- **Consolidate power in home layer**
 - Marginalize the chimps and monkeys
 - Transform layer into platform for services
- **Orchestrate the rest of the stack to**
 - Garner platform status for home layer
 - Enter into additional layers
 - Marginalize layers not entered

Battle for the Enterprise 2004-2010

Chimp Strategy

- **Use niche strategy to neutralize gorillas**
 - Dominate one vertical market
 - Establish defensible positions in two more
 - Block platform status for gorilla
- **Exploit openings and instabilities to**
 - Secure a gorilla position in an emerging layer
 - Escape from gorilla pressure in home layer

Battle for the Enterprise 2004-2010

Disrupter Strategy

- **Exploit Architectural Advantage**
 - Target openings and instabilities
 - Use niche tactics to accelerate adoption
 - Target gorilla status in emerging layer
- **Leverage *Innovator's Dilemma***
 - Attack markets that gorillas under-serve
 - Avoid frontal assaults on market positions gorillas must defend

Playing the Game (Part Two)

- **Third Objective**
 - Make a realistic assessment of your options, and select the type of game you intend to play
- **Fourth Objective**
 - Build or join a network of alliances in support of your game
- **Fifth Objective**
 - Win global domination with your alliance
 - (Watch your back going forward)

Gorilla Games

Handicapping the Race
(in stack sequence, top to bottom)

Caveats

- **These are conversation starters, not authoritative pronouncements**
 - Largely inferences taken from web sites
- **Goal is to see the shape of the strategy**
 - Not the details
- **Point is to help you see where you fit**
 - Even the biggest gorilla needs friends
- **Handicapping must start early**
 - You have to begin forging alliances now

Consulting Services

Transaction Applications

Analytical Applications

Communications & Collaboration Applications

Application Server Infrastructure

Systems Management Infrastructure

Database

Operating System

Mainframes

Servers

Desktops

Storage

Mobile Devices

Network

Printer/MFPs

Microprocessor

- Transform ERP from a category of application to a platform
- Annex analytical applications, folding it into app platform
- Establish a platform-independent infrastructure to buffer impact of that layer

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Microprocessor

- Construct a vertically integrated stack top to bottom, excepting applications and the network
- Leverage the end-to-end stack to differentiate on accountability
- Reinforce accountability via service commitments, penetrating accounts via consulting projects, securing them through a utility computing model

Microsoft

Home

Target

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Microprocessor

- Create ubiquity through a volume operations strategy touching as many points of presence as possible
- Leverage ubiquity to play defining roles in complex systems that involve multiple nodes
- Keep competitors out of home layers by aggressively expanding footprint of proprietary technology

Oracle

Home

Target

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- Leverage the database and its installed base as a platform
- Vertically integrate all layers above the database, competing directly against IBM using the same weapons
- Commoditize everything below the database to move more dollars into the target offer zone

Consulting Services

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Database*

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Microprocessor

- Acknowledge that storage per se is in danger of being commoditized
- Leverage data center experience to enter systems management software and non-relational content management (*database)
- Position *data* rather than *applications* as the primary focus of systems management

Consulting Services

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- Integrate the network to transform it into a platform for web services
- Leverage the platform to enter systems management, beginning with security
- Leverage data center experience and network technology to annex enterprise storage
- Use visionary consulting to influence emerging architecture of service-oriented enterprise stack

Consulting Services

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- Create ubiquity through a volume operations strategy touching as many points of presence as possible
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Recap

- **Systems of Record**
 - The anchors around which IT is planned and industry standards are established
- **Orchestrating the Stack**
 - The proactive attempt to influence the outcome of an evolution from Internet-enabled client-server to services-oriented architecture
- **Gorilla Games**
 - A pro forma handicapper's report on current gorilla strategies for orchestrating the stack
- **Playing Your Game**
 - Every one has a game to play (see “Instructions to Audience”), and there is a workshop at the conference to discuss these options further

Thank You

For a copy of these slides go to
www.tcg-advisors.com/stack



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