Serving 1,000,000 Global Customers:
How can we offer training anywhere anytime?

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Chief Scientist & CTO

US Army PEO STRI

JADL Implementation Fest
28 August 2007, Orlando, FL

One Million Customers

➤ **Army Size***
- ❖ Regular Army: 507,082
- ❖ Army National Guard: 333,177
- ❖ Army Reserve: 189,005
- ❖ Total: 1,029,264

➤ **How do you serve one million customers on their schedules?**
- ❖ McDonalds does it (47 million/day)
- ❖ Yahoo, MSN, and Google do it
- ❖ World of Warcraft does it

➤ **How can the Army do it with training?**

*Numbers as of: Regular Army, 2007; ARNG & USAR, 2005

Top Sites English

Browse the most popular sites on the web. Learn more.

1. **Yahoo!**
   Personalized content and search options. pager.
   www.yahoo.com - Site Info

2. **Microsoft Network (MSN)**
   Dialup access and content provider.
   www.msn.com - Site Info

24/7 Access

➢ What can you access 24/7? (in USA)

❖ Telephone Call

❖ Television Programming

❖ Radio Programming

❖ Internet Access
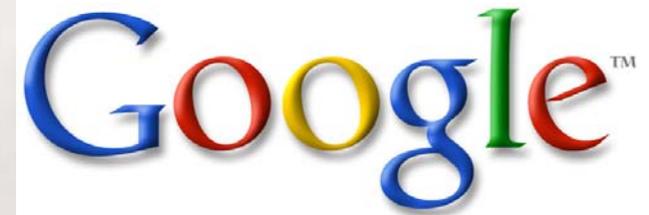
❖ 911 Response

➢ Can Army training be on this list?

❖ When?

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IT Service Characteristics

- Professionally Managed
- Customer Oriented
- 24/7 Access
- Globally Accessible
- Facility, Geography, and Time Independent
- Light Clients, Remote Updates
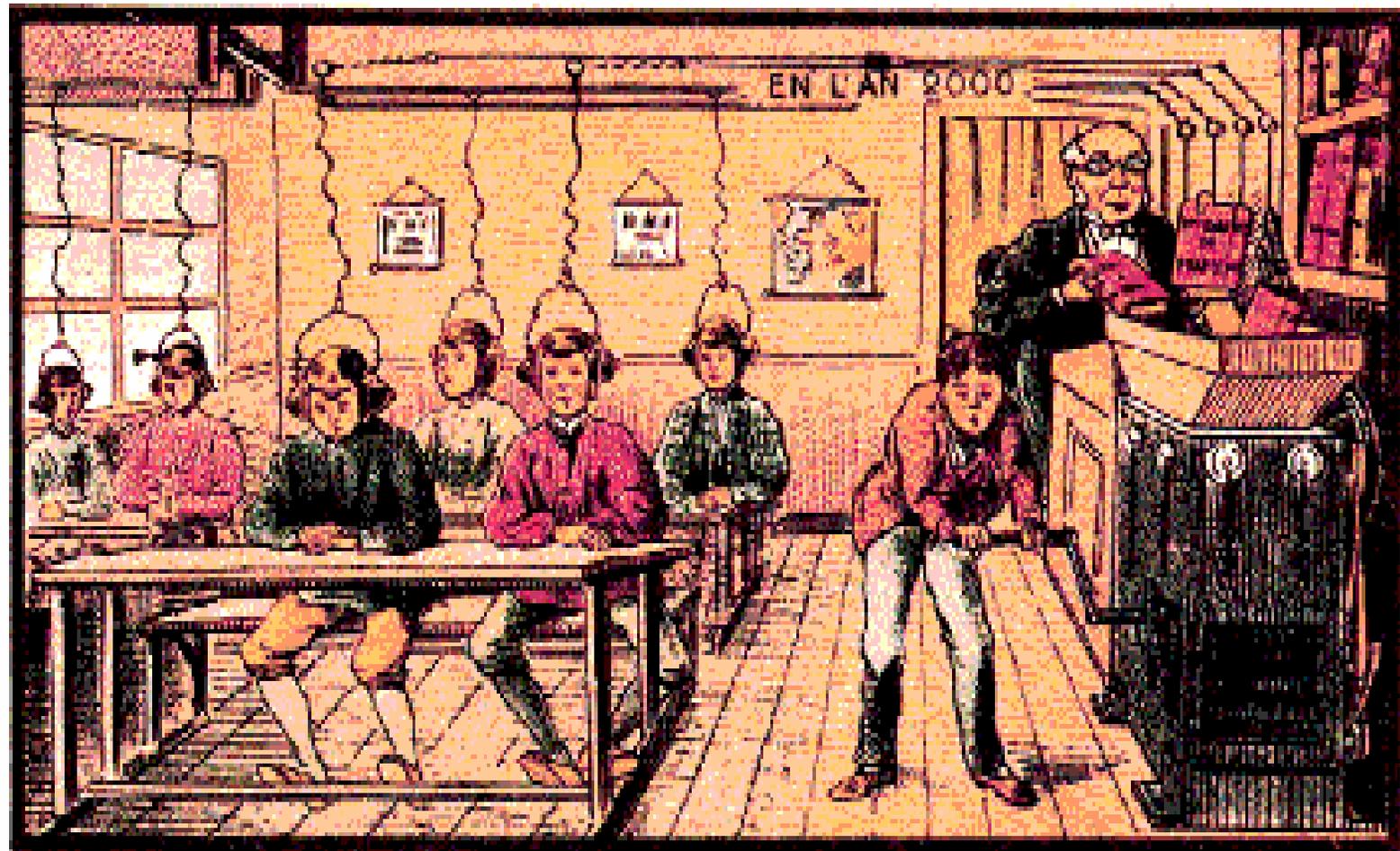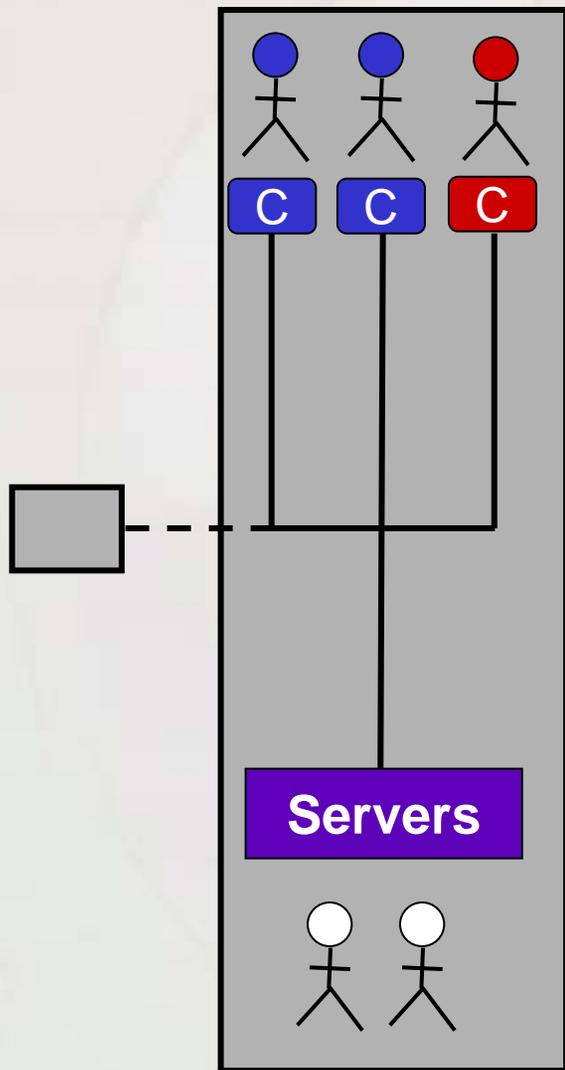- Controlled Access

EN L'AN 2000

Sim Products Characteristics

- Heavyweight computer hardware
- Dedicated computer networks
- Tightly integrated Client/Server software
- Large local support staff
- One-to-one relationships between hardware, software, staffing, and the simulation event.
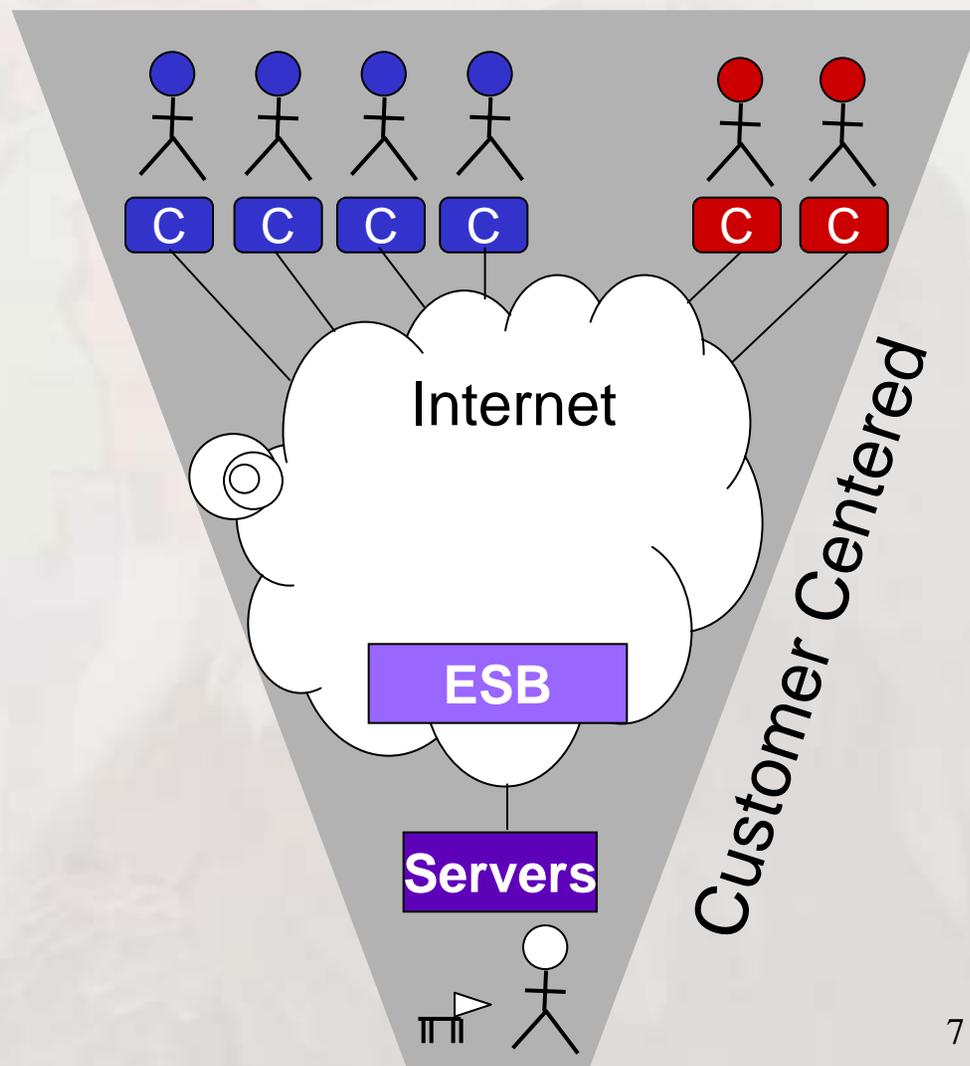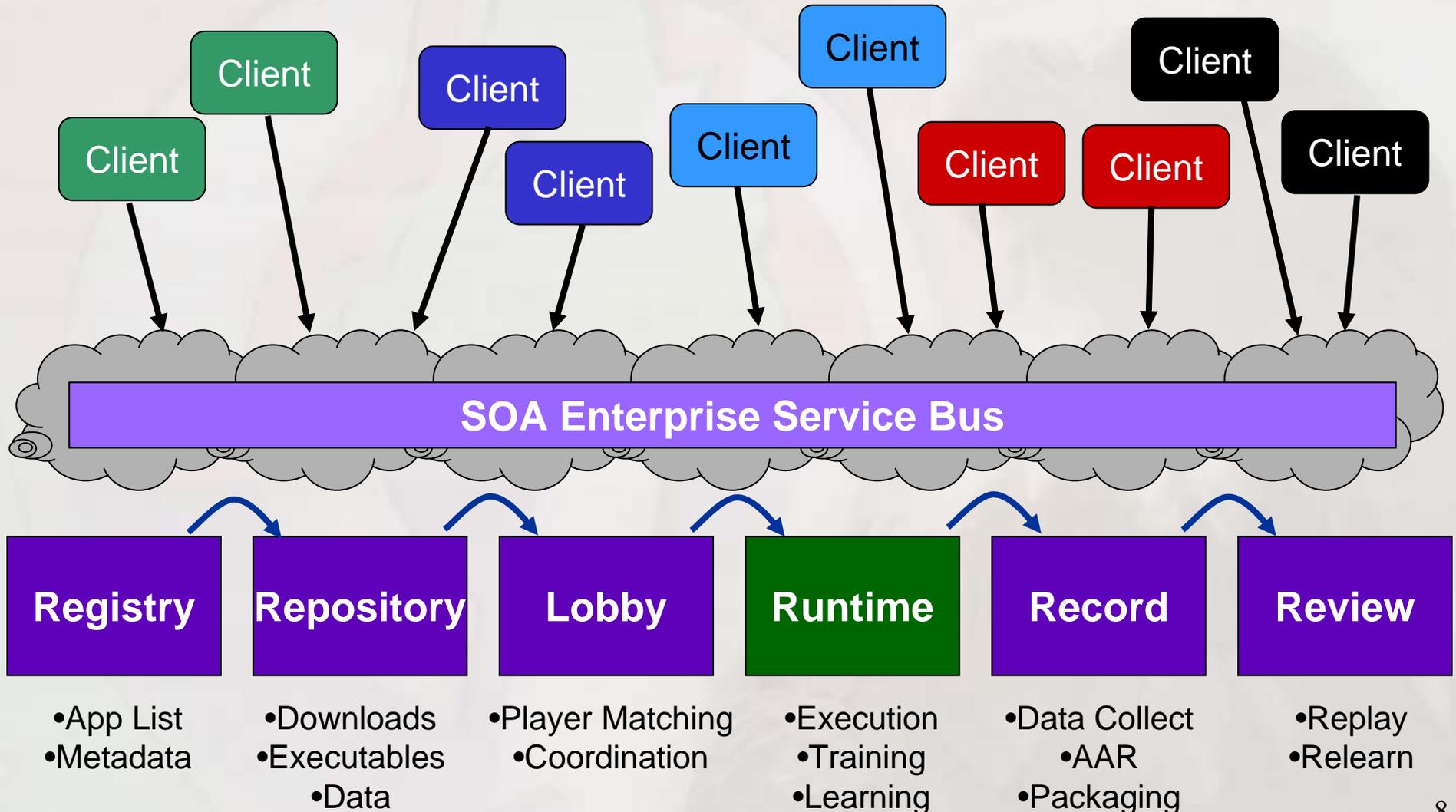
Training Center

Customer Centered

C C C

C C C C   C C
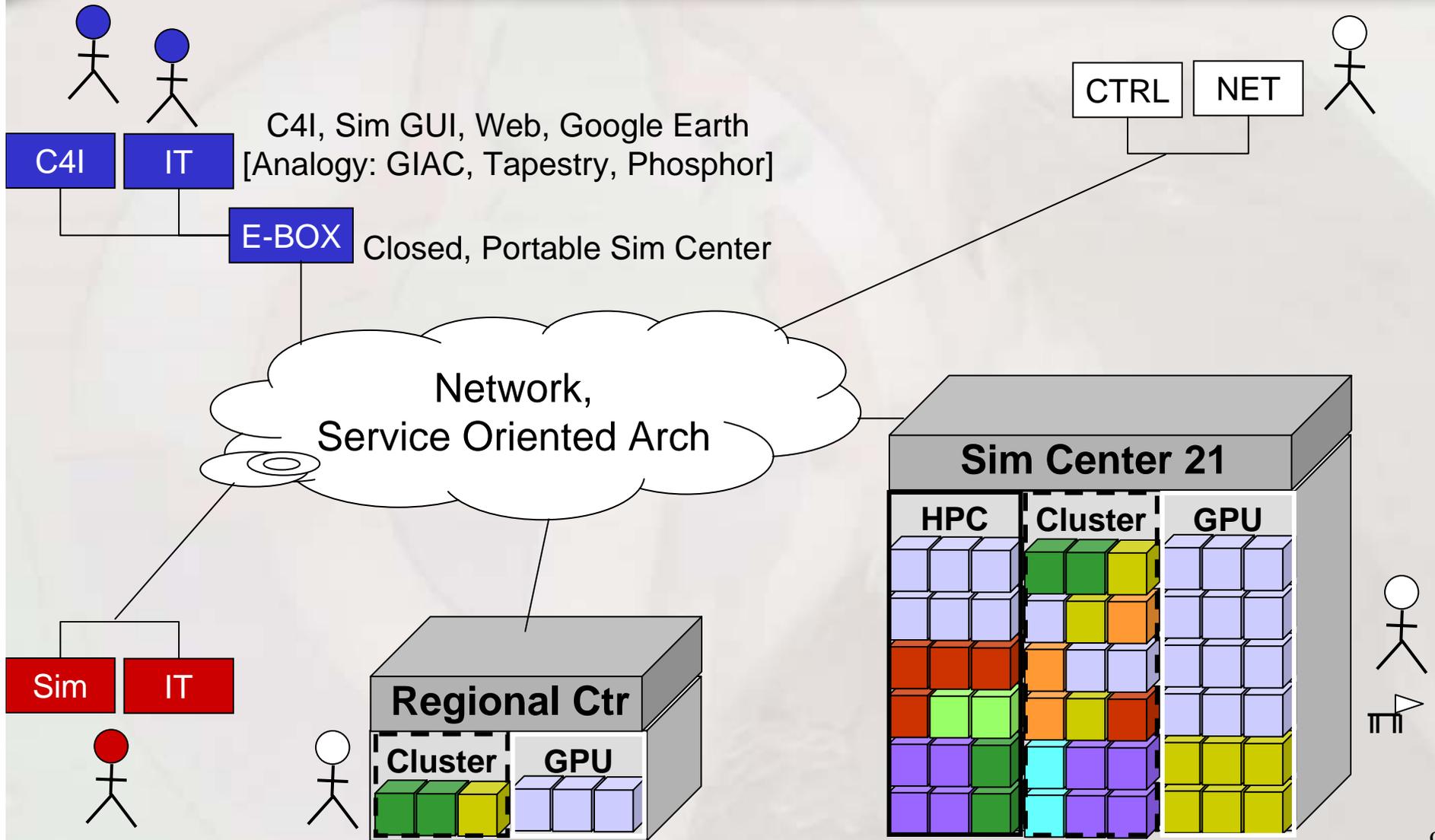
Internet

ESB

Servers

Servers

Customer-focused Training

Client Client Client Client Client Client Client Client Client Client

SOA Enterprise Service Bus

Registry	**Repository**	**Lobby**	**Runtime**	**Record**	**Review**
•App List •Metadata	•Downloads •Executables •Data	•Player Matching •Coordination	•Execution •Training •Learning	•Data Collect •AAR •Packaging	•Replay •Relearn

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Redefining the Simulation Center

C4I, Sim GUI, Web, Google Earth
[Analogy: GIAC, Tapestry, Phosphor]

C4I   IT

CTRL   NET

E-BOX   Closed, Portable Sim Center

Network,
Service Oriented Arch

Sim   IT

Regional Ctr

Cluster   GPU

Sim Center 21

HPC   Cluster   GPU

Desktop Client Variety

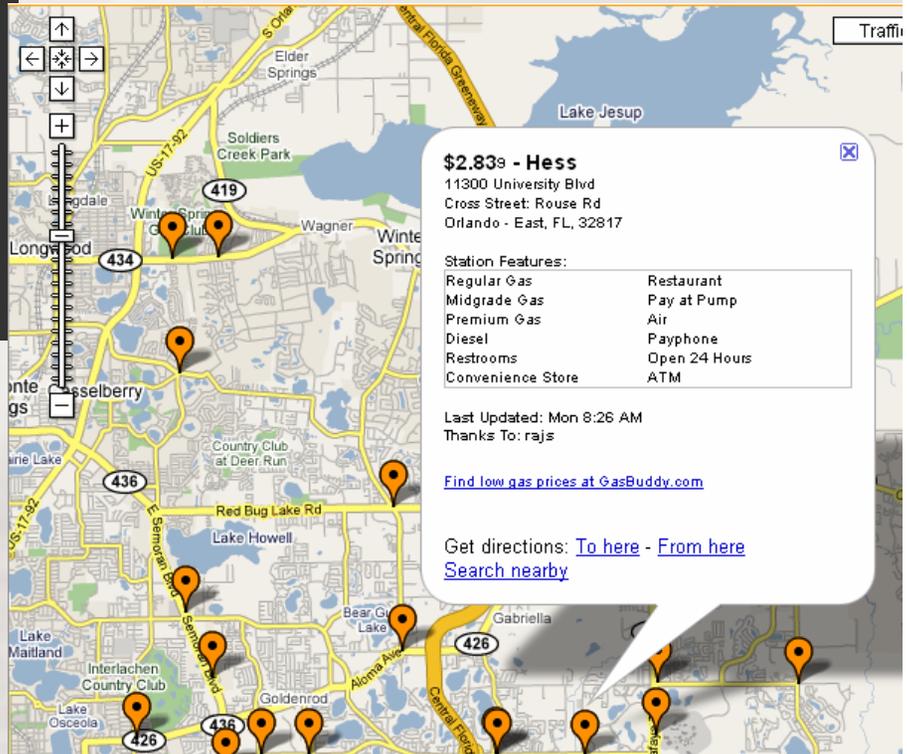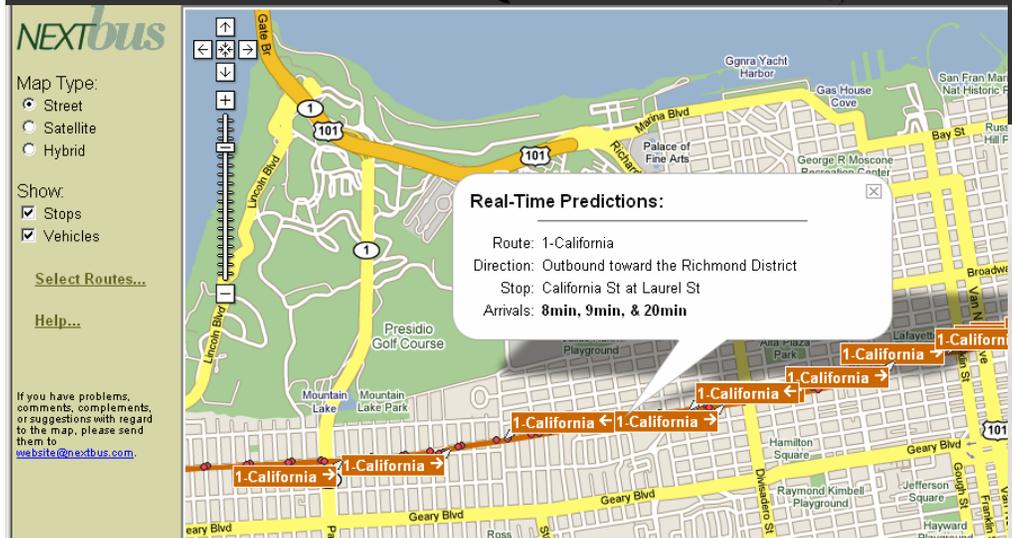| Client	Examples	Rough Size
Light	HTML, Flash, Shockwave	Less than 2MB
Medium	Google Earth, Java via Web Start	2MB to 15MB
Heavy	Americas Army, Second Life	50MB to 100MB

Realtime Data on:
- Radio Station Songs
- Bus Routes
- Gas Prices
- Simulation Objects (why not?)

Flash Client: Phosphor

2006 Sensation
Adobe Shockwave
Single Level
Multiplayer
Simple AI-bots
Lighting Effects
Stereo Sounds
Textures
Dynamic Bulletholes
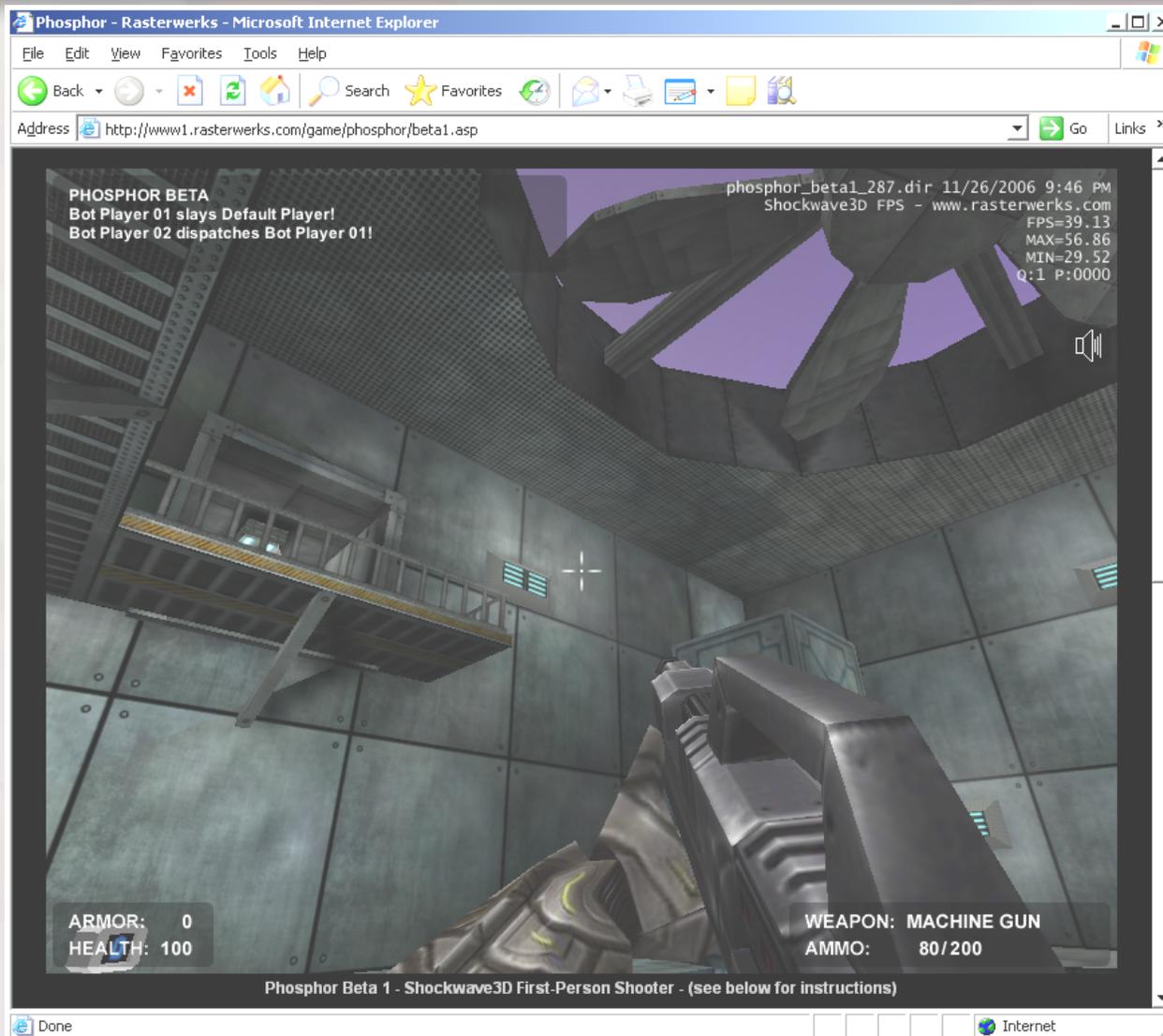Particle Effects
Multiple Weapons
Animated Water

Characters from Quake 3
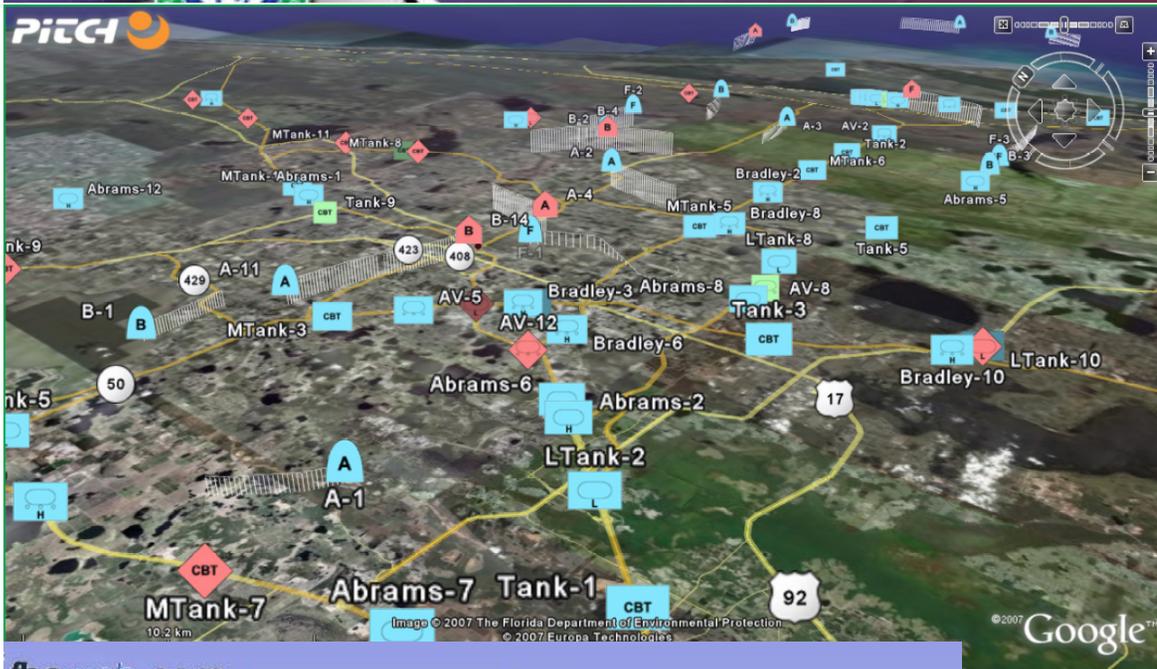Textures from Unreal 2003

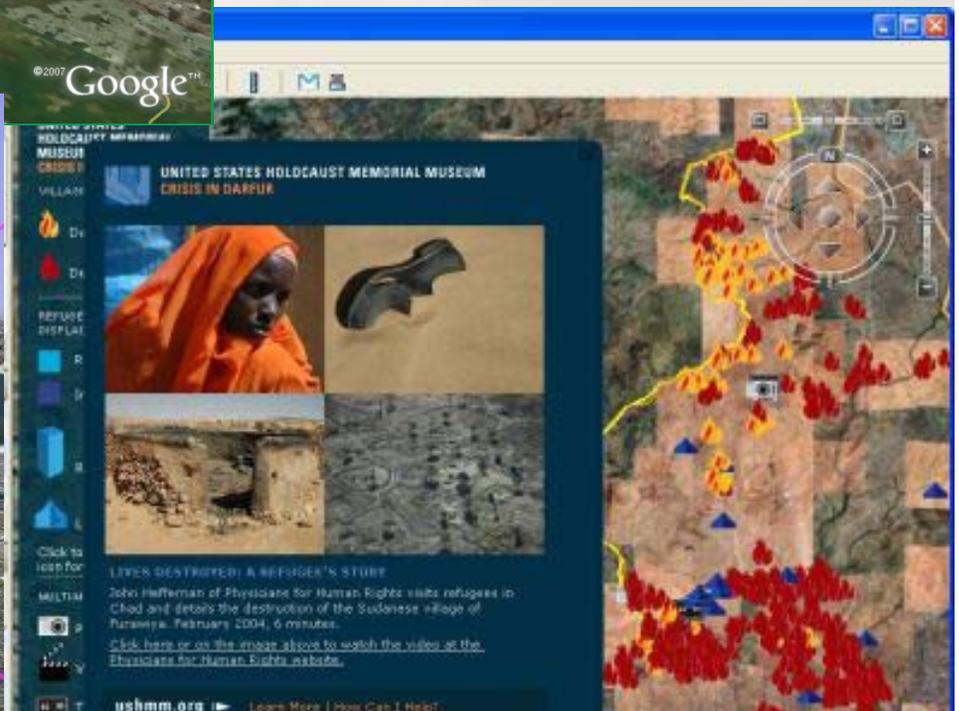Future Enablers:
Google, Adobe,
Microsoft, ESRI

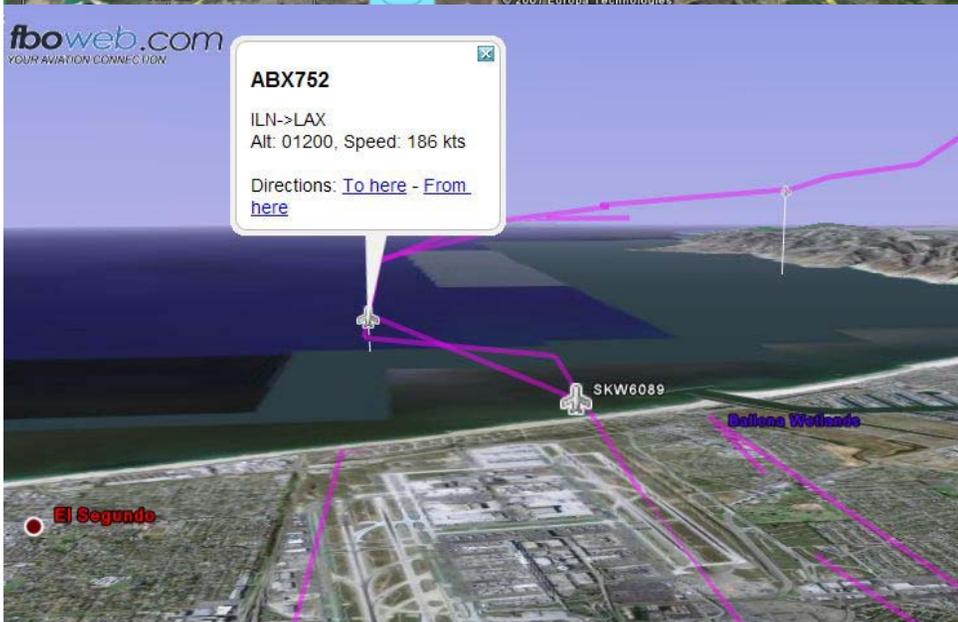Nick Kang, http://www.rasterwerks.com/

Medium Client: Google Earth

Data on:
- Military Simulation
- Aircraft Flight Tracks
- Darfur Incidents

Heavy Client: Americas Army

Experience with:
- Team Operations
- Medical Skills
- Event Familiarization

"But even here 80% of soldiers have access to a laptop computer"
- SFC Richard Colon, US SOCOM

Paper Client: Board Games

> **Cutting Edge Electronics**
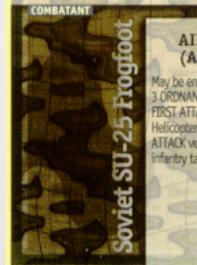> - PC Games
> - Web-based
> - Google Earth
> - Social Networks
> - Second Life
> - Xbox/PS2

> **Old Fashioned Paper**
> - Board Game
> - Card Game
> - Book Game
> - Miniatures
> - D&D
> - Printable Games

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➢ Military IT Infrastructure

- ❖ Security configurations vary by organization and by day

- ❖ Apps cannot be guaranteed to work from any node in the IT network

➢ Ownership of Training Applications

- ❖ Military apps have typically fallen into at least 3 major camps: Business, Mission, Training

- ❖ Each have their own separate networks

- ❖ Running a Training app across the Business infrastructure raises a number of supportability and contracting questions

"Silicon Valley is littered with the corpses of companies who mistook a clear view for a short distance.

"One of the secrets in my business is that everything changes slower than people imagine. Change only seems fast because people overlook the antecedents. Most ideas take 20 years to become overnight successes."

Paul Saffo. (July 16, 2007).
"The Future Really is Now". *ComputerWorld*.
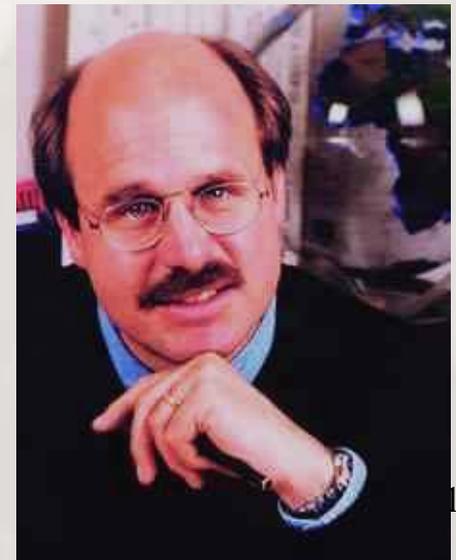
- Technology to reach global customers is visible
- Infrastructure to support such a system exists
- Associated Cost, Cultural, System Changes are of commercial size

- How did YouTube grow so big, so fast?
- It required a behavior shift, it was personal, it was viral.
- Global training could use a shot of viral change to get organizations moving
  - Imagine a company setting up game-based training servers with a web interface like Phosphor. Just open it up and let future customers sell themselves on the value
  - Maybe that company is Bohemia Interactive, Epic Games, CryTek
  - Or maybe Red Bull, Oakley, CamelBak, or MagLite

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