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

Roger Smith
Chief Scientist & CTO
US Army PEO STRI
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
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?
IT Service Characteristics

- Professionally Managed
- Customer Oriented
- 24/7 Access
- Globally Accessible
- Facility, Geography, and Time Independent
- Light Clients, Remote Updates
- Controlled Access
Future ADL
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.
Reaching Global Customers

Training Center

Servers

Internet

ESB

Customer Centered

Servers
Customer-focused Training

SOA Enterprise Service Bus

- Registry
  - App List
  - Metadata

- Repository
  - Downloads
  - Executables
  - Data

- Lobby
  - Player Matching
  - Coordination

- Runtime
  - Execution
  - Training
  - Learning

- Record
  - Data Collect
  - AAR
  - Packaging

- Review
  - Replay
  - Relearn
Redefining the Simulation Center

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

Closed, Portable Sim Center

Network, Service Oriented Arch

Sim Center 21

CTRL  NET

Regional Ctr

HPC  Cluster  GPU
# Desktop Client Variety

<table>
<thead>
<tr>
<th>Client</th>
<th>Examples</th>
<th>Rough Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light</td>
<td>HTML, Flash, Shockwave</td>
<td>Less than 2MB</td>
</tr>
<tr>
<td>Medium</td>
<td>Google Earth, Java via Web Start</td>
<td>2MB to 15MB</td>
</tr>
<tr>
<td>Heavy</td>
<td>Americas Army, Second Life</td>
<td>50MB to 100MB</td>
</tr>
</tbody>
</table>
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

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
...not everyone lives in a castle

“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
Challenges

➢ 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.”

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