

Software Platforms: Near and Far (Part I)

Dan Harkey Director, MS Software Engineering Program San Jose State University San Jose, CA

Dan Harkey: A Short Bio



- ✓ Director, MS Software Engineering, Department of Computer Engineering, San Jose State University
 - Currently about 500 graduate students
- ✓ SJSU Pinson Endowed Chair recipient, 1996-1998
- ✓ Co-founder, SJSU Client/Server Program in 1996
- ✓ IBM 1977-2001
 - System architecture
 - Software implementation
 - Hardware design
- √ 13 books published in Software Architectures and implementation
 - 20 foreign editions derived from these books
- ✓ Consultant for startup companies/legal firms

Software Platforms



- ✓ Software Platforms (and their underlying hardware) platforms) provide the basis for our commercial application dev elopment
- ✓ Software platforms provide:
 - Communications
 - · Directory Services
 - Database access
 - Transaction Management
 - Program Execution and Management
 A Programming Model

 - Security
 - Program Deployment and Tools
 - Systems Management
 - Etc, etc, ...

Software Platforms



- ✓ Softw are platforms are an accumulation of technologies developed over decades
 - Programming techniques, communication stacks, and middlew are from decades ago are still present in today's systems
 - We are alw ays adding new layers to our softw are platforms
 - The new layers provide new functionality and have allowed our software platforms to carry more "cargo" as time goes on
- ✓ The cargo transportation industry serves as an interesting analogy ...

Some early attempts at carrying cargo were crude





New technologies allowed our platforms to improve...







We then starte	d to ac	ld more
"horsepower"	to our	platform





And we added special attachments to our platforms



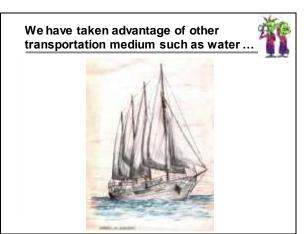


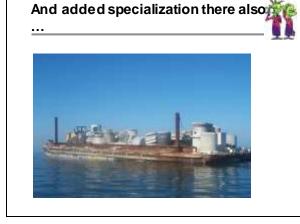
Some of our platforms are more nimble than others ...











Other transportation mediums were also discovered ... And improved over time Roads, and the vehicles that use them, became a medium of cargo carrying transportation ...

That were improved ...





And expanded ...





And became larger ...





Until the size is enormous Airplanes took advantage of yet another transportation medium

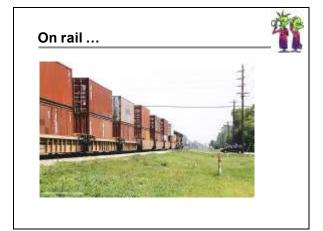


We've developed platforms that take our cargo	
to outer space using one time usable space	
ships	
F	
f)	
Touth Man	
The state of the s	
The state of the s	
Stran	
That we have improved to become	
reuseable space delivery platforms	
1.2	
Call To Act	
The second second	
ALCOHOL:	
A STATE OF THE PARTY OF THE PAR	
V	
We have yet to achieve the cargo	
We have yet to achieve the cargo delivery goals we can imagine	
delivery goals we can imagine	
1 2 2 m 1 2 k 1 k 1 k	
Contractor of the second	
Warp drive Mr. Sulu!	
有我们是有些意思	
Doors we are One well	-
Beam me up Scotty!	

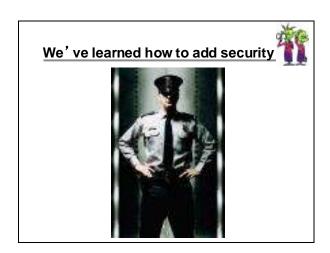


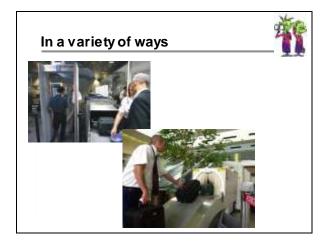


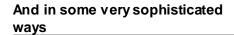




And on our roads











And we' ve learned how to avoid overloading our cargo vehicles





