

#### Project Darkstar Putting the "Massive" in Massive Multiplayer Games

Chris Melissinos Chief Gaming Officer Sun Microsystems, Inc.



#### introduction

- Chief Gaming Officer
- @ Sun for 14 years
- husband
- father
- technologist
- hardcore gamer



#### introduction

- Chief Gaming Officer
- @ Sun for 14 years
- husband
- father
- technologist
- hardcore gamer



Custom arcade Pong arcade Atari 2600 Intellivision Colecovision Atari 5200 Atari Lynx Game Gear GameBoy GameBoy Advance

GameBoy SP NES SNES Nintendo 64 GameCube Wii Nintendo DS Nintendo DS Nintendo DS Lite Coleco Ranger Vectrex

NeoGeo TurboGrafx-16 Sega Genesis Sega 32X Sega Saturn Sega Dreamcast Playstation Playstation 2 Playstation 3 XBox XBox360 Sony PSP 3DO Atari Jaguar Jaguar CD TurboGrafx CD Wonderswan Color NeoGeo Pocket Color Pole Position Cabinet VirtualBoy



## how have you stayed married?



#### bit babies

(or "generation pong")

born in the dawn of the computer age

computers were new and mysterious

• emergence of a new "language"





# what's happening?

- gamers raising gamers
- barrier to games and computers approaching zero
- multi-mode communication
- kids are finding their own voice through games and social sites
- drivers of new technology adoption are 5 - 14 years old







# online video game stats

- expected to reach \$11B globally by 2011
- biggest markets are Asia, North America, Europe
- fastest growing segment of \$40B video game market
- casual multiplayer online video games is biggest market opportunity
- women over 35 are the largest segment



# technology snapshot

- server technology designed per game
- driven by game design
- not built for scale
- rebuild almost everything all of the time
- unstable



# what's the problem?

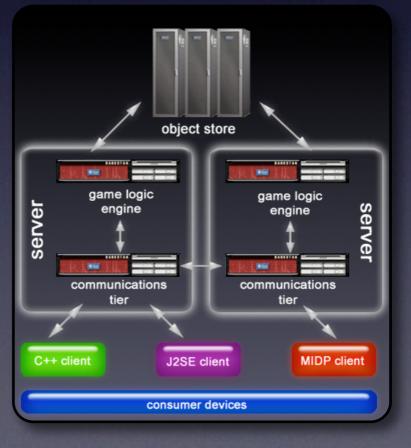
- I0,000 players is not massive
- "shards"? Don't know, don't care
- game developers are not network engineers
- it's not sexy, but is **critical!**
- building online games are \$30+M investment
- extremely high rate of failure
- big companies only (well...mostly)



# Project Darkstar

- designed for massive scale, persistence and transaction integrity
- game & client agnostic
- designed specifically for online video games
- "shardless" design
- written in JSE
- open source GPLv2







## developer benefits

- highly pluggable easy to integrate into tool pipeline
- simplified programming model
- faster iterations
- masks multi-thread/processor/machine
- common across all possible devices
- remove burden of developing a server platform and just focus on gameplay



### business benefits

- supports multiple client devices and languages
- stimulate new gameplay services and frameworks
- relieve the operational burden of the datacenter
- fund multiple projects simultaneously
- allow small companies to compete
- complete reuse of infrastructure investment



# community benefits

- projectdarkstar.com
- \$0 cost of entry
- information resources
- open source
- community contributions
- "the smartest people don't work for you"

#### PROJECT DARKSTAR COMMUNITY OPEN SOURCING THE ONLINE GAME UNIVERSE

Home News Links Projects Search Contact Us Register

MAIN MENU	PROJECT DARKSTAR FORUM POSTS	F-1 00 00 10 10 11	POPULAR
Home	[Core Darkstar Technology] Re: Data Garbage Collection? by tjb	Feb 29, 08, 10:48 AM	Project Darkstar License Project Darkstar Open Se
News	[Core Darkstar Technology] Re: Services, managers and database access	Feb 29, 08, 07:59 AM	Release
Links	by mlechusCG		Darkstar Playground to
Projects	[Core Darkstar Technology] Re: Services, managers and database access	Feb 29, 08, 06:55 AM	launch in June 2007 JavaOne comes to
Search	by stp	P 00 00 00-17 PH	SecondLife
Contact Us	[Core Darkstar Technology] Re: Services, managers and database access by Jeff	Feb 28, 08, 06:17 PM	Bunny Hunters code
Register	[General Discussion] Re: Using Berkeley DB with Linux and SGS installe	d on Feb 28, 08, 05:58 PM	available now!
RESOURCES	FUSE filesystem type => BU		POLLS
FAQ	by Jeff [General Discussion] Num ?	Feb 28, 08, 01:46 PM	Orange Box or Halo3?
Forums	by Axan	160 20,00,01.401 M	C OB + pOrtal = low
Wiki	[General Discussion] Re: Using Berkeley DB with Linux and SGS installe	d on Feb 28, 08, 01:30 PM	( · wo + ocarabs
DOWNLOADS	FUSE filesystem type => BUG by mepelsen		
Project Darkstar Downloads	[General Discussion] Re: Using Berkeley DB with Linux and SGS installe	d on Feb 28, 08, 09:50 AM	WHO'S ONLINE
Documents	FUSE filesystem type ⇔ BU by Axan		We have 27 guests and 1
SYNDICATE			member online Meraxupypr
111 0.91	CURRENT NEWS		
855 1.0 855 2.0 8704 0.3	Project Darkstar @ GDC		EXTERNAL NEWS
	Darkstar News		"Project Darkstar" - Google News
	Written by johno		Coorl
	Friday, 29 February 2008 Thank you! The Project Darkstar team at Sun was overwhelmed by the fantastic show of support by		GOOgi
LOGIN FORM	our community members at GDC last week. It was a pleasure connecting wi		News
Welcome, Guest. Please	There is a lot of great stuff going on out there and we can all look forward to the many opportunities		Annual Event Brings
login or register. Mar 01, 08, 11:36 AM	discussed. Let's continue to keep the communication channels open and vibrant. We appreciate your enthusiasm and support.		Together Education The Leaders to Discuss
Username:	ennusiasm and support.		Business Wire (press rel
Password:	Be first to comment this article   R Add as favourites (0)   R Quote this article on your site		Annual Event Brings
Password.	Views: 14   E-mail		Together Education The Leaders to Discuss
	Last Updated ( Friday, 29 February 2008 )		Business Wire (press rel
	with username, word and session More Sun Microsystems Support Services for Project Darkstar!		View to a Kill: Training i Virtual Worlds -
			TrainingZone.co.uk
length			
	Written by Administrator		
Forgot your password?	Tuesday, 19 February 2008 Sun Microsystems is now offering production support for Project Darkstarl. On the heels of Sun's		
	earlier delivery of its Developer Expert Assistance support for Project Darkstar, this new offering adds		
	support that will carry you through deployment and production operation. That's great news! For more		
	information, click HERE .		
	💭 Be first to comment this article   💽 Add as favourites (0)   🛷 Quote this article on your site		
	Views: 101   E-mail		
	Last Updated ( Tuesday, 19 February 2008 )		
	Project Darkstar v0.9.5.1 available for immediate download		
	and a second state of the second state and second		



## Project Wonderland

- virtual world collaboration
- leverages standards
- shared apps
- shared workspace
- remote control of real world objects
- open source







## our goals

- help the video game industry to grow
- leverage open standards
- build strong community and collaboration
- share enterprise solution experience
- open the market to new ideas
- level the playing field for new content and experiences to emerge



# thank you!

<u>chris.melissinos@sun.com</u> <u>www.projectdarkstar.com</u>