



## Child Abuse: The Third Wave

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**HealthQuake**  
SUMMIT

**DMC**

DETROIT MEDICAL CENTER

## Agenda

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- Web Generations
- The Generator:  
Acceleration
- Implications for Child  
Abuse and Neglect
- Issues & Questions for  
Discussion





## Web Generations

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### Web 1.0

- 1D, text, still images
- Email, forums, chat rooms
- Crude virtual reality/games

### Web 2.0

- 2D, text, still images, animation, video
- Social networking (MySpace, FaceBook, YouTube, blogs, etc.)
- Virtual reality at the tipping point

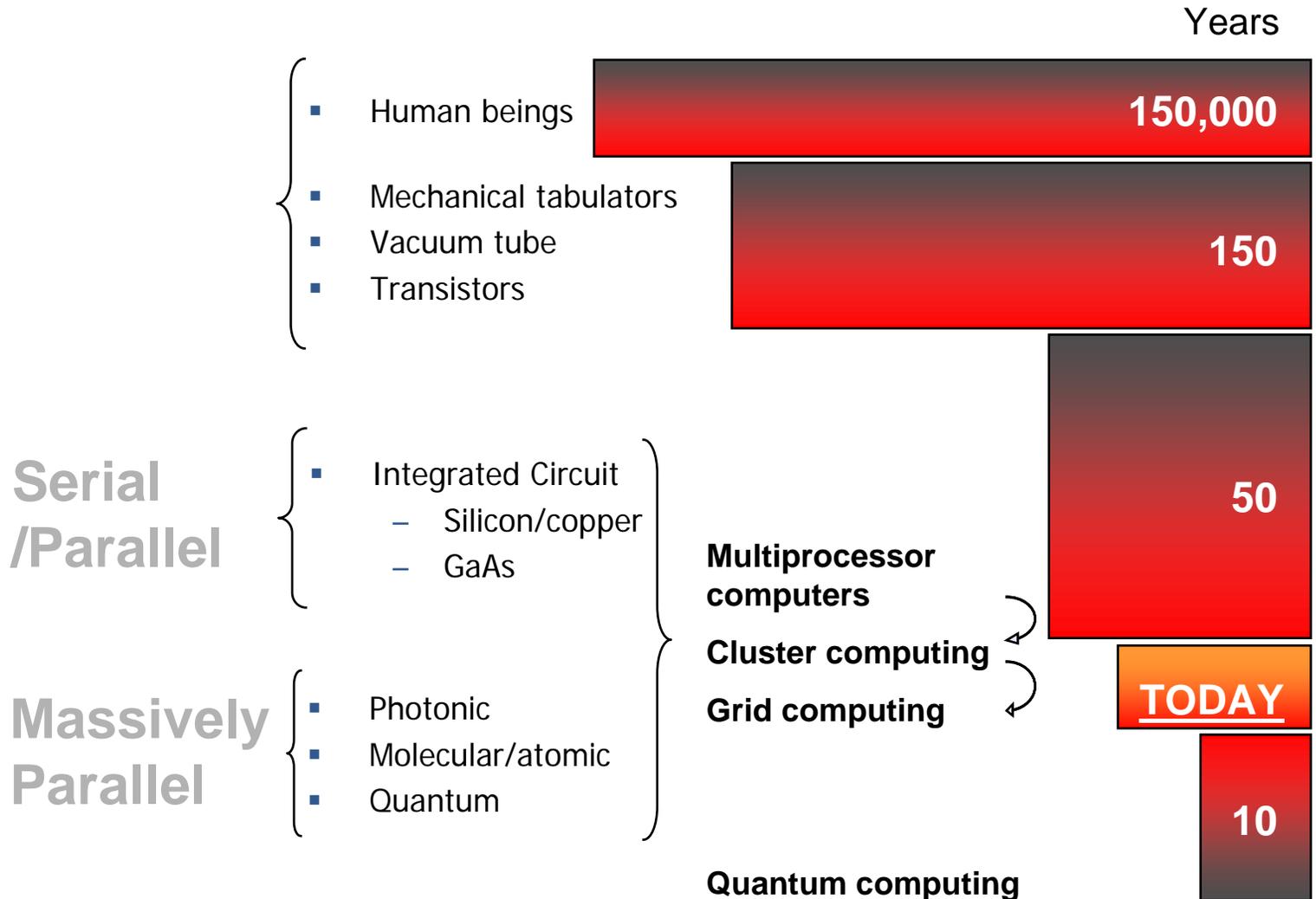
### Web 3.0

- 3D, sound (VoIP), immersive, touchable ("holo-haptic")
- Fully immersive virtual reality environment
- Semantic Web: Understands the meaning of its content

*The Web has growing power for good and evil*



# Acceleration: The Foundation

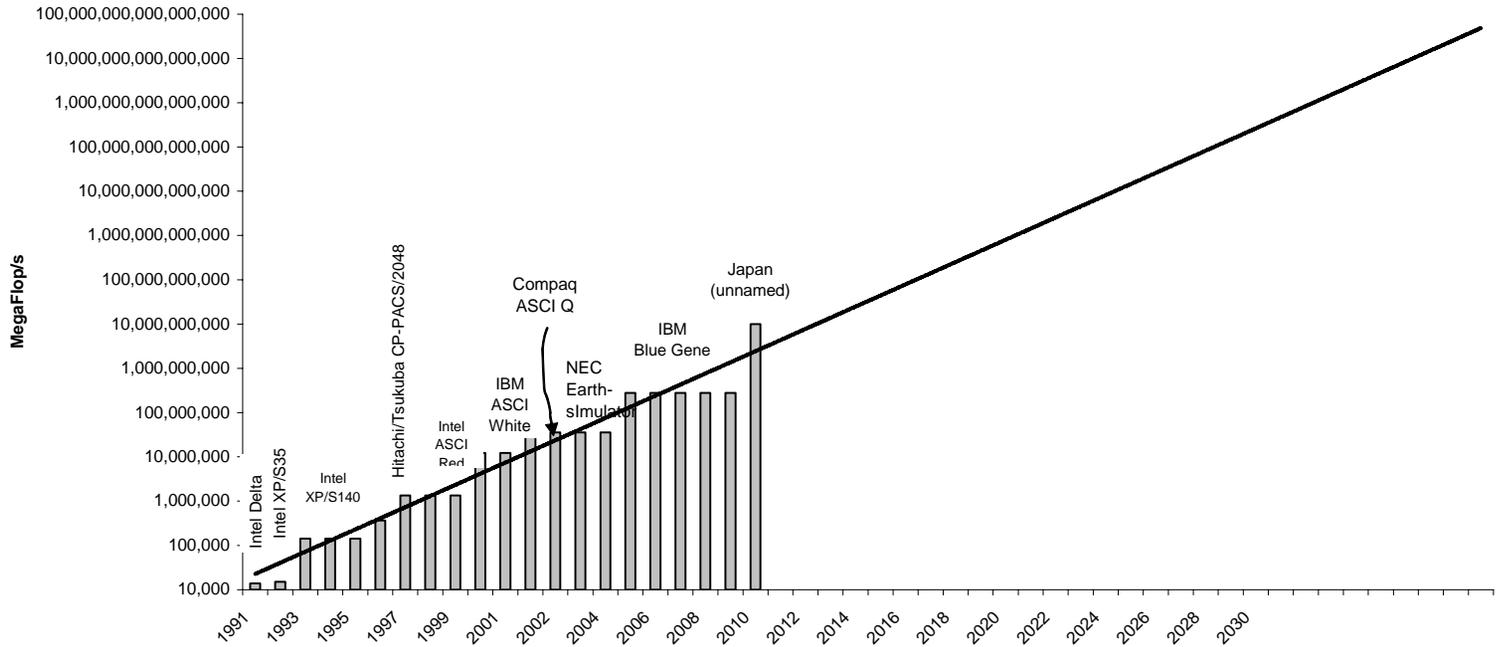




# Acceleration: Supercomputing

## Fastest Supercomputers 1991 - 2010 and Beyond

Data from Top 500 Supercomputers Website & news reports.





## Web 1.0 and Child Abuse

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1D, text, still  
Images

Email, forums,  
chat rooms

Crude virtual  
reality/games

- 1,500% rise in child pornography cases in UK from 1988-2004 predicted to result in more children being abused to produce the pictures
- In 2003, one man in UK was found with 450,000 images and one in NY had 1,000,000
- Pedophiles emboldened by anonymity technologies such as untraceable prepaid phones
- Camera phones and PDAs enable pedophiles to take, share, and trade in images of abuse
- Unsupervised children groomed for abuse in cellphone-accessible chat rooms
- "Many paedophiles acknowledged that exposure to child sex images fuelled their fantasies and played an important part in leading them to commit physical sexual offences against children"  
-- <http://www.guardian.co.uk/technology/2004/jan/12/childprotection.childrensservices>
- **"Unfortunately, the development and adoption of preventative measures has not kept pace with the spread of internet use and technological developments."**  
-- <http://www.aifs.gov.au/nch/pubs/issues/issues15/issues15.pdf>



## Web 2.0 and Child Abuse

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2D, text, still  
images,  
animation, video

Social networking  
(MySpace,  
FaceBook,  
YouTube, blogs,  
etc.)

Virtual reality at  
the tipping point

- BBC News, 10/1/2008: Spanish police have arrested 121 people in the country's largest ever operation against internet child pornography
- Seized "millions of videos and photographs some of which show extremely harsh abuse of minors"
- Network spanned 75 countries
- Two of those held were using their own children  
-- <http://news.bbc.co.uk/go/pr/fr/-/2/hi/europe/7645626.stm>
- Child sex "normalized," children desensitized
- "It would seem that children's exposure to offensive sexual material via the use of real time communication services on the internet (i.e. e-mails and chat rooms) must **raise the level of exposure considerably** above the level of contact for web-sites...."  
-- <http://www.aifs.gov.au/nch/pubs/issues/issues15/issues15.pdf>
- Emotional abuse via text messaging and social networking sites
- Blurring of reality and fantasy



## Web 3.0 and Child Abuse

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3D, sound (VoIP),  
immersive,  
touchable  
("holo-haptic")

Fully immersive  
virtual reality  
Environment

Semantic Web:  
Understands the  
meaning of its  
content

- Semantic ability enables it to become a policeman? Or a rogue?
- Immersive 3D, haptics, robotics increase the reality of distance-sex and simulated sex
- Privacy ensured through quantum encryption
- ***At the Tipping Point***
- [Second Life](#)
- Nintendo *Wii*
- "RealDoll"
- How much more realistic? [DMC on LiveSearch](#)



## In the Beginning...

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... there was optimism:

- If there is any good news about child pornography, it is that it is very difficult to become an unwilling consumer. ... The likelihood of stumbling across it unwittingly is slim; of having it thrust upon one against one's will even more so.
- Until the first generation of children born in the digital age themselves enter adulthood, a degree of education for parents seems appropriate.
- The more publicly visible areas of cyberspace will become increasingly inhospitable to those who would traffic in child pornography.
- Increasing knowledge and capacity on the part of law enforcement, combined with vigilance on the part of concerned citizens and the assistance of some ISPs, will deter most casual opportunists, and drive the residual participants underground.
- [Child pornographers] will depend on sophisticated technology to avoid public attention.

"Child pornography in the digital age"  
Anna Grant, Fiona David and Peter Grabosky  
*Transnational Organised Crime*, vol. 3, no. 4, pp. 171-188.  
London: Frank Cass & Co., 1997

## The Kosher Cellphone

*I feel I can control myself not to use the bad features – but do I trust my children?*

– Avi, Jerusalem

- All major Israeli cellphone companies offer kosher phones
- They can make and receive calls
- They may have a calculator and alarm clock
- But they may NOT:
  - Send or receive text messages
  - Browse the Internet
  - Take photos
- They bear a rabbinical stamp of approval as “kosher”
- Some connect only with other kosher phones (identifiable by their distinct area code prefixes)



*When they are old enough to use [the Internet] I will definitely have to re-evaluate. ...maybe then I'll even disconnect internet from the house altogether.*

*It's just not worth the risk.*

-- Avi, Jerusalem



## Discussion

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- Prevention institution websites reveal no interest in/knowledge of/thought about Web 3.0.
- In some countries, task forces have been set up and laws passed to try to address the problem, in retrospect. "The internet is driven by adult philosophies of free speech and privacy. Protection of children appears to have been an after-thought..."  
(<http://www.aifs.gov.au/nch/pubs/issues/issues15/issues15.pdf>)
- The US DoD has a Technology Warning Division.
- How about mandatory Child Impact Statements requiring technology developers to consider the effect of their technologies on children?
- The Semantic Web could eventually understand and report on child pornography and abuse.



## More Questions...

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- How will we retain human, familial, societal, civilizational values in a world where children learn their values from the media—increasingly online and interactive—and individuals possess god-like power?
- “The impact on a child who loses the ability to distinguish between fantasy and reality, is not yet understood.”
- Could virtuality and robotics save real children from sexual abuse...
- ...while causing more neglect?
- Could the Semantic Web police itself? Can we, should we, codify and program ethics into the Web?
- Could we, should we, make laws in prospect and not just in retrospect?

### What to do?

- Understand acceleration
- Focus on where child abuse will be tomorrow, not where it was yesterday
- Conduct research—Frame and test hypotheses/scenarios
- Recognize the tipping point from reality to virtuality
- Train social workers to be as familiar with emerging technologies as their clients
- Use virtual reality technologies for training, education, and outreach
- Don't be daunted!