

# **Digital us**

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# **Days of our digital lives**

**The Internet is (still) a social medium**

**Over half are on the Internet in 21 of the 35 biggest American cities**

**More women on the Net than men**

**Email is everybody's favourite app**

# **We use the Net to connect**

## **According to the Pew Internet and American Life project...**

**Over 60% of women say that email communication brings them closer to family and friends**

**Half would miss email “a lot” (very different from five years ago)**

**Women use the Net to look for health and childcare info, men seek finance and shopping**

**Internet usage depends on income**

**57% of those not online say that they don't want to be**

**Internet veterans are more likely to shop online**

# Bandwidth is a commodity

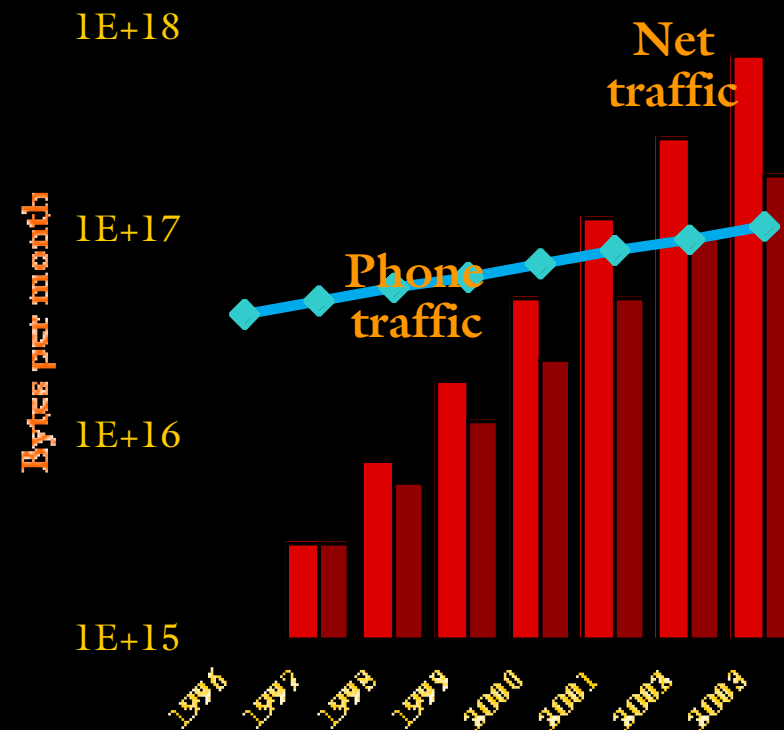
As Internet protocols  
dominate telecoms...

Messages hop from  
network to network

Media intermingle

Telecoms markets split

World communications  
traffic



# **Media explode**

**Today's media have built vertical infrastructure**

Radio, television, CDs...

**Tomorrow's media grab horizontal niches**

Bandwidth from the Net

Listings from Yahoo

Content from where-ever

# The message is the medium

## New media are everywhere

Radio diaries

Web devices

Smart phones

Internet games

Smart freezers



**An explosion of devices, all linked by networks new and old**

**Abundant bandwidth = scarce**

## **Band-depth**

Connections are critical, not volume

## **Time**

Just the *right* facts, not all of them

## **Identity and security**

Your mobile phone is your wallet

Your toaster is your negotiator

# **Cogito ergo something**

## **What identifies me electronically?**

A large prime number representing...

A body?

A network of relationships?

The sum of my appliances' actions?

## **What control do I have over me?**

Who owns my habits?

How do I work with them?

# God judges sinners by...

## Actions

Jonathan Edwards: “outward manifestations of grace”

## Relationships

St Augustine: “there is no salvation outside the church”

## Beliefs and desires

John Cotton: “justification by faith alone”

## Intentions

“Forgive me, Father, for I have sinned...”

# **How do we want to judge?**

**Networks force us to choose, because**

**... networks unbundle identity**

**... networks are built on trust**

**... networks have too much information**

**... names are useless**

# Identities for sale

## Dumb spammers sell names

Millions of email addresses, and so what...

## Smart spammers sell relationships

No trust without confidentiality

Not much need for names, nor incentive to release them

## Very smart spammers sell intentions

Search engines know what you're looking for

# **Digital signatures should be simple**

## **They provide evidence**

So they must be easily stored and verified

## **of a ceremony**

So they must involve some personal effort

## **signifying approval**

So they must identify a person to do the approving

And they cannot be automated by default

# **Digital identity 1.0**

**Alice wants to do a deal with Bob**

**1. Alice asks TTP: Who is this?**

**2. TTP replies: I guarantee it's Bob**

**3. Alice says: So what?**

# Digital identity 1.1

Alice tries again to deal with Bob

1. Alice asks TTP: Who is this?

2. TTP replies: I will tell you Bob's address

3. Alice says: Maybe...

# Digital identity 1.2

Alice tries yet again to deal with Bob

1. Alice asks TTP: Who is this?

2. TTP replies: I will find Bob for you

3. Alice says: Now you're talking

# Digital identity 1.3

Alice tries yet again to deal with Bob

1. Alice asks TTP: Who is this?

2. TTP replies: I guarantee Bob's performance

3. Alice says: Done

# **Identity has many faces**

## **The American Bar Association proposes Closed membership authority – eg Tesco**

Certificate is authorisation to participate, but no third-party guarantee  
TTP probably provides certification mechanism only

## **Contractual authority – eg VISA's SET**

Certificate provides guarantees as specified by existing contract  
TTP may issue certificates, may provide mechanism only

# Identity travels

## The ABA further proposes Inter-domain authority

Certificate links two partial digital identities – eg linking AMA and ABA

Same person or same performance

TTP provides service – and guarantees

## Information economy:

Multiple jurisdictions and regulations

Overlapping and conflicting lines of government

# **Jurisdictions compete**

## **Do it yourself regulation**

Choose the laws you want to abide by

## **Companies choose their stock markets**

## **Consumers choose their identity**

Who do you want to vouch for you?

Who (or what) will you vouch for?

# **Relationships matter**

## **Identity doesn't**

I don't care who you are

I do care what you're going to do and who you're accountable to

## **So contract replaces constitution**

Point and click identity

## **There are no third parties**

Only as-yet-unindicted co-conspirators