

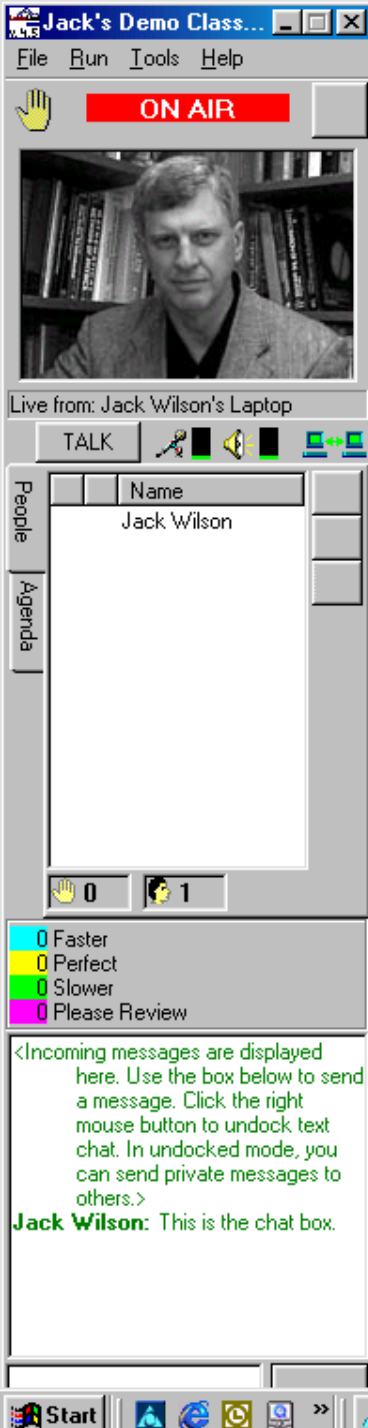
eBusiness: The hope, the hype, the power, the pain

Jack M. Wilson

CEO, UMassOnline

**Formerly: J. Erik Jonsson, '22 Distinguished Professor of
Physics, Engineering Science, Information Technology, and Management
Co-Director of the Severino Center for Technological Entrepreneurship**

President and CEO, JackMWilson Inc.



A Live On-Line Course in eBusiness

JackMWilson.com

- **A one semester course in eBusiness**
- **Offered in the blended model**
 - Live session (1.5 hours per week)
 - All students (~125) will use LearnLinc for
 - Application sharing and collaboration
 - Polling
 - Testing
 - Group work
 - May also be attended physically in classroom in Troy, NY (~50 in fall)
 - May also connect through video-conferencing
 - **Asynchronous- Web based activity (1.5 hours – 6 hours)**

ON AIR

Live from: Jack Wilson's Laptop

TALK

People

Name
Jack Wilson

Agenda

0 Faster
0 Perfect
0 Slower
0 Please Review

<Incoming messages are displayed here. Use the box below to send a message. Click the right mouse button to undock text chat. In undocked mode, you can send private messages to others.>

Jack Wilson: This is the chat box.

LearnLinc Live-On-Line

- **On- Air indicator**
- **Raise your hand**
- **Picture or video of speaker**
- **Audio and Network controls**
- **Agenda or class roll**
- **Feedback section**
 - (can be pace, agreement, T/F, Yes/No, etc.)
- **Chat Window**



ON AIR



Live from: Jack Wilson's Laptop

TALK



People

Name
Jack Wilson

Agenda

0 1

- 0 Faster
- 0 Perfect
- 0 Slower
- 0 Please Review

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Jack Wilson: This is the chat box.

On-Line Testing (LearnLinc TestLinc)

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Test: 2/29/2000 Employee Orientation Test

This test uses the Orientation Test Template

Testing Options

Limit test to 60 minutes

Random question order

Number of times student can take test: 2

Students can access this test...

Starting

Month Day Year Time
2 29 2000 16:24

But not after

Month Day Year Time
3 1 2000 16:24

Grade Posting Options

- Don't show results
- Show final grade only
- Show grades by question
- Show grades and answers

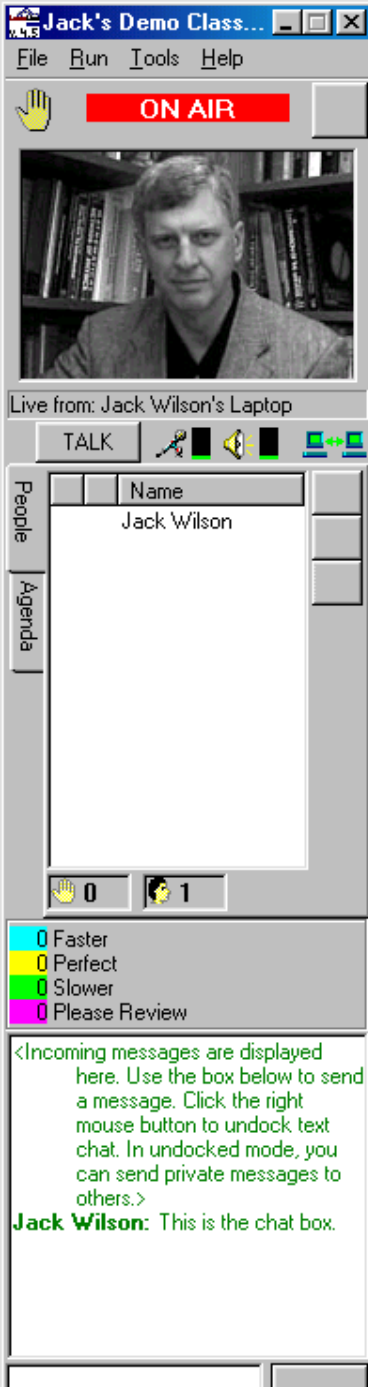
Show results after:

Month Day Year Time
2 29 2000 16:24

Review grades before posting

Publish

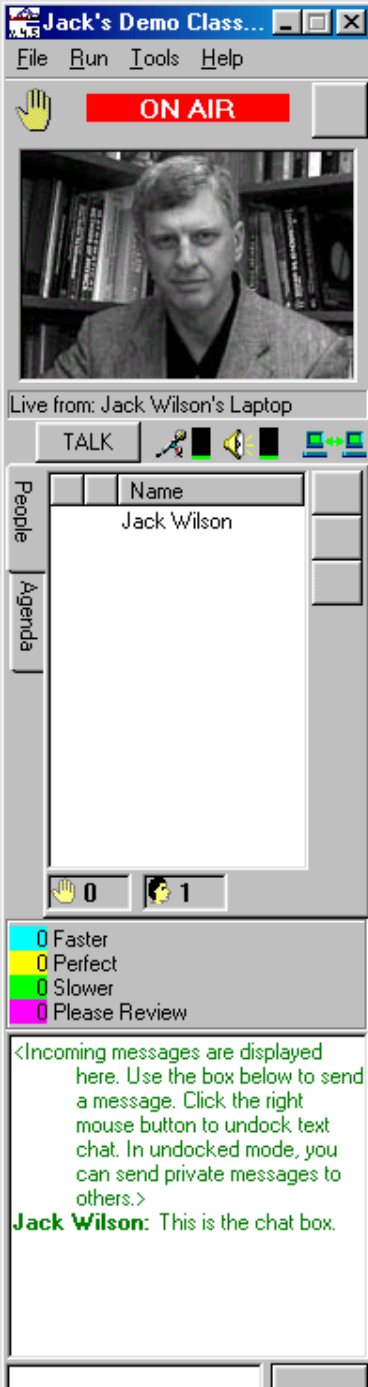
Cancel



What is happening to the world?

JackMWilson.com

- **A few questions that we hope to answer:**
 - Why has your life been so crazy for last few years?
 - Why is the CEO feeling uneasy?
 - What is happening to the stock market?
 - What is the Internet Tsunami?
 - How can you survive it?
 - How can you profit from it?




In the beginning

- *In the beginning there was the net. –Jack Wilson*
- *The secret of success is changing the way you think. –Jack Welch*

Jack's Demo Class... [X]

File Run Tools Help

ON AIR



Live from: Jack Wilson's Laptop

TALK

People

Name
Jack Wilson

Agenda

\$ Trillions

0 1

Faster
 Perfect
 Slower
 Please Review

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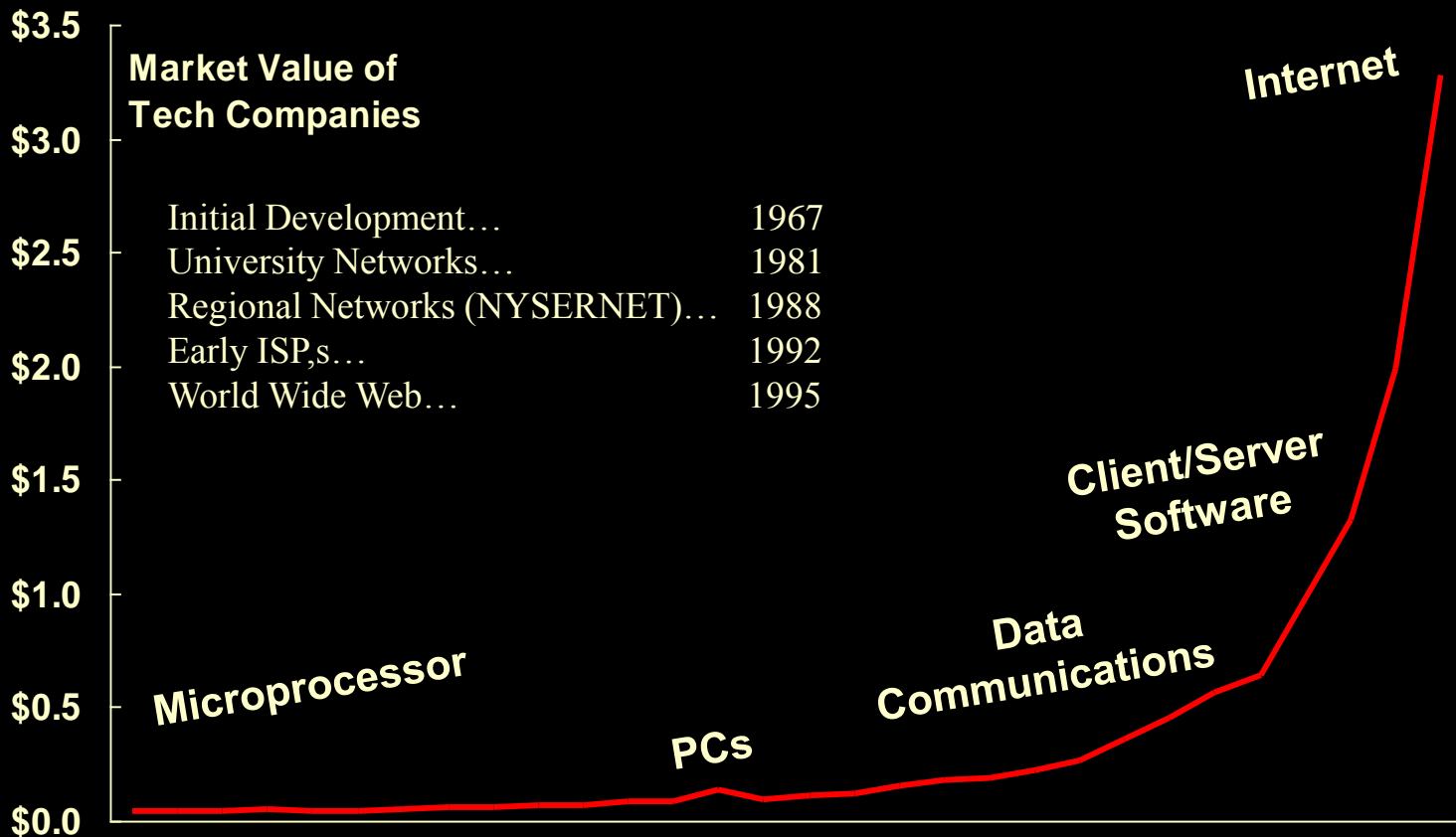
Jack Wilson: This is the chat box.

Start [Icons]

Is computing a driver?

JackMWilson.com


- Do you think the pace of change is accelerating?



Jack's Demo Class... [X] [] []

File Run Tools Help

ON AIR



Live from: Jack Wilson's Laptop

TALK

People

Name
Jack Wilson

Agenda

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 Slower
 Please Review

<Incoming messages are displayed here. Use the box below to send a message. Click the right mouse button to undock text chat. In undocked mode, you can send private messages to others.>

Jack Wilson: This is the chat box.

Start

Changing the Face of Industry!

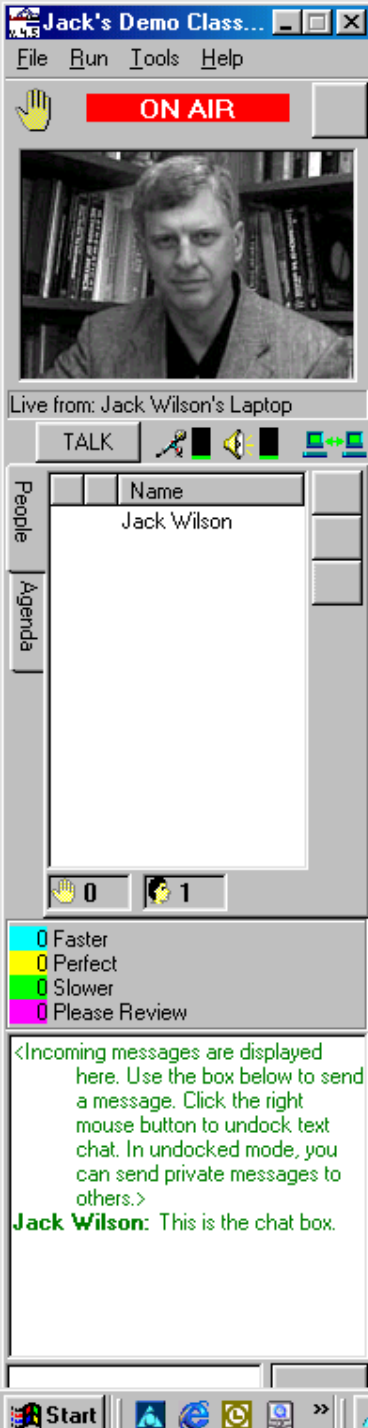
JackMWilson.com

Top 40 US-Traded Tech. Comp.

4/9/1999 Market Value (\$B)		4/9/1999 Market Value (\$B)	
* Microsoft	469.7	* TSMC	32.1
Intel	204.8	* SAP	31.1
* Cisco Systems	189.7	* Amazon.com	30.1
IBM	167.5	EDS	26.1
* America Online	159.2	* Auto. Data Processing	25.9
* Lucent Tech.	158.6	Applied Materials	23.8
* Dell	105.8	* eBay Inc.	23.0
Nokia	80.4	* Tellabs	21.4
Hewlett-Packard	69.0	* Ascend Communications	20.6
* EMC	66.1	* At Home Corp.	20.3
* Sun Microsystems	53.2	* Computer Associates	18.9
Motorola	49.5	* First Data Corp.	18.2
Northern Telecom	49.0	* STMicroelectronics	16.1
Ericsson	45.5	* Micron Technology	11.3
Texas Instruments	42.1	* Priceline.com	11.1
* Compaq	40.9	* Gateway 2000	10.9
* Yahoo!	40.8	* E*Trade Group	10.8
Siemens	40.6	Computer Sciences Corp.	9.3
Xerox	39.0	* Linear Technology	8.7
* Oracle	37.8	* 3Com	7.8

* IPO since 1980

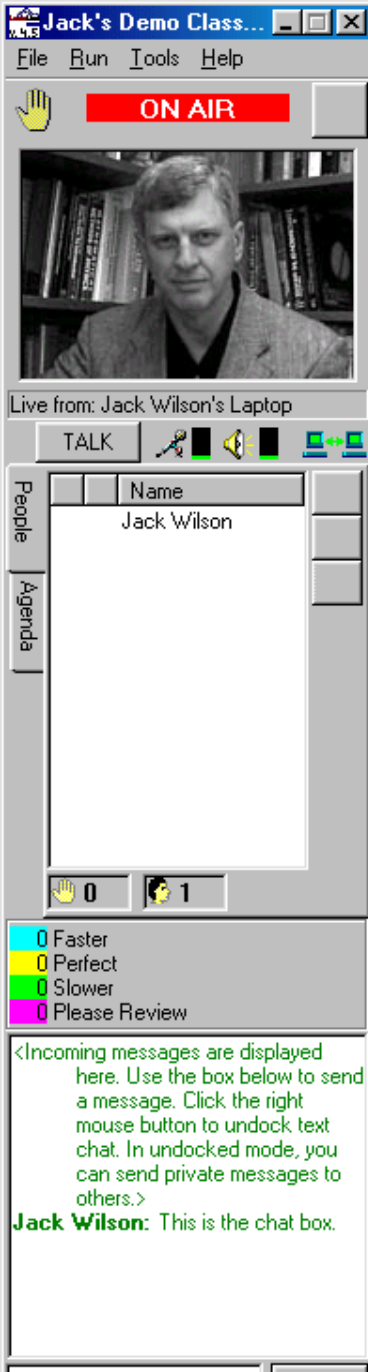
Source: Frank Quattrone
Credit Suisse First Boston



Changing Corporate Landscape

JackMWilson.com

- **Would you rather be red than dead?**
 - Twenty seven (27) of the top 40 US Technology based companies are those that have done an IPO since 1980! (Shown in red)
 - New companies are rapidly challenging and displacing established enterprises.
 - Let's have a look at the Dow “Blue Chips” as they existed in the summer of 1999.

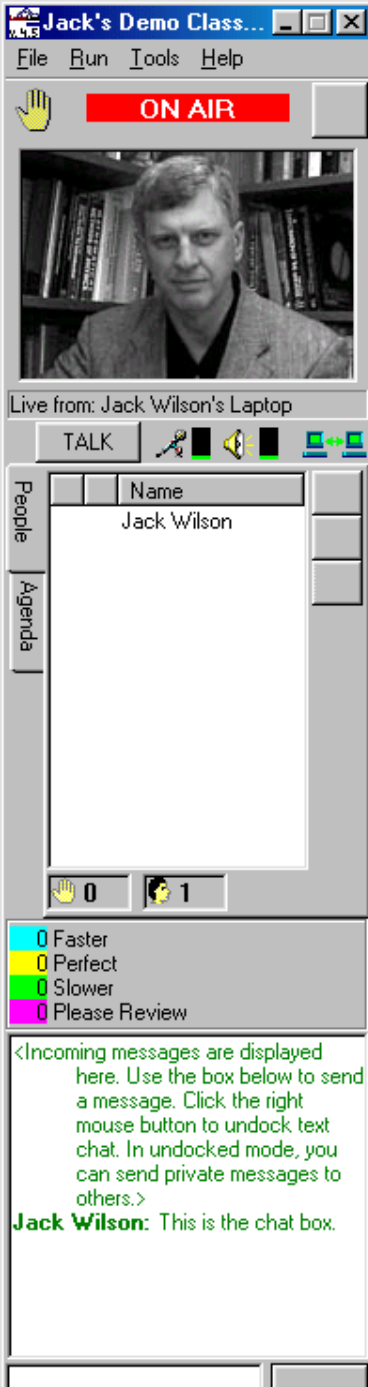


What happened to the Blue Chips?

- **Yep, in the summer of 1999, the 10 largest non-Dow stocks were larger than the 10 largest Dow Stocks!**
- **This forced the Dow to be revised to include many of these companies.**

Dow Largest	Market Value	Founded
GE	389	1892
IBM	223	1911
Wal-mart	211	1969
Exxon	195	1882
Merck	162	1934
Citigroup	161	1968
AT&T	159	1885
Coca-Cola	152	1919
Johnson&Johnson	140	1887
Proctor&Gamble	133	1905
	192.5	

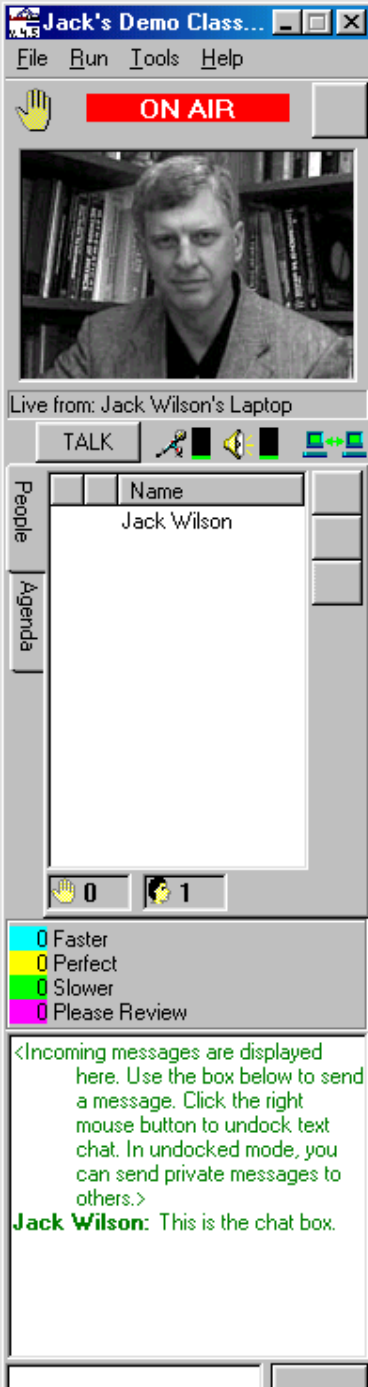
Non-Dow Largest	Market Value	Founded
Microsoft	483	1981
Intel	269	1968
Cisco	220	1984
Lucent	202	1995
Pfizer	154	1942
AIG	153	1967
MCI WorldCom	146	1983
Bristol Myers Squibb	145	1933
Dell Computer	122	1987
Bank of America	111	1968
	200.5	



Why we are running so hard?

JackMWilson.com

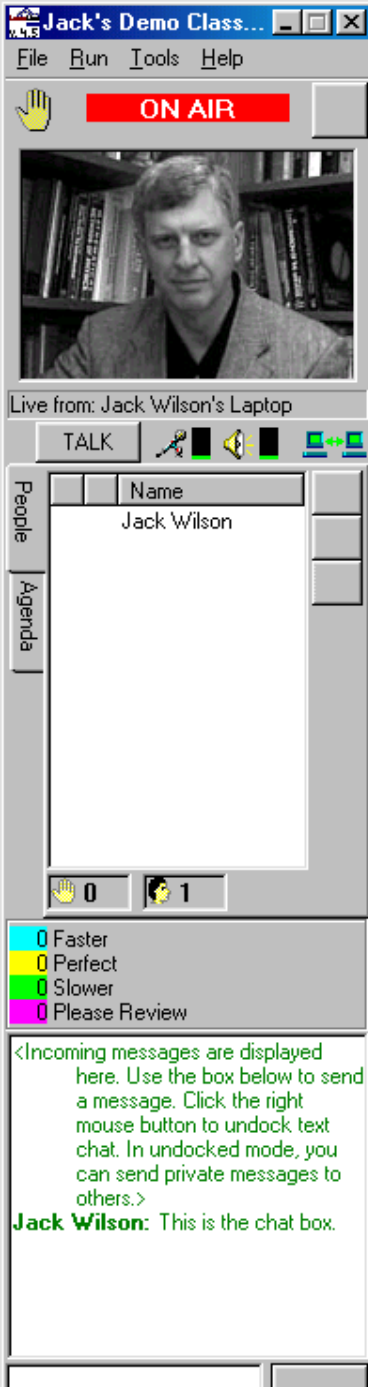
- The Internet's pace of adoption eclipses all other technologies that preceded it.
 - Radio was in existence **38 years** before 50 million people tuned in;
 - TV took **13 years** to reach that benchmark.
 - The Internet passed that in **4 years**, once it was opened to the general public.



Internet Tsunami- A Reprise

JackMWilson.com

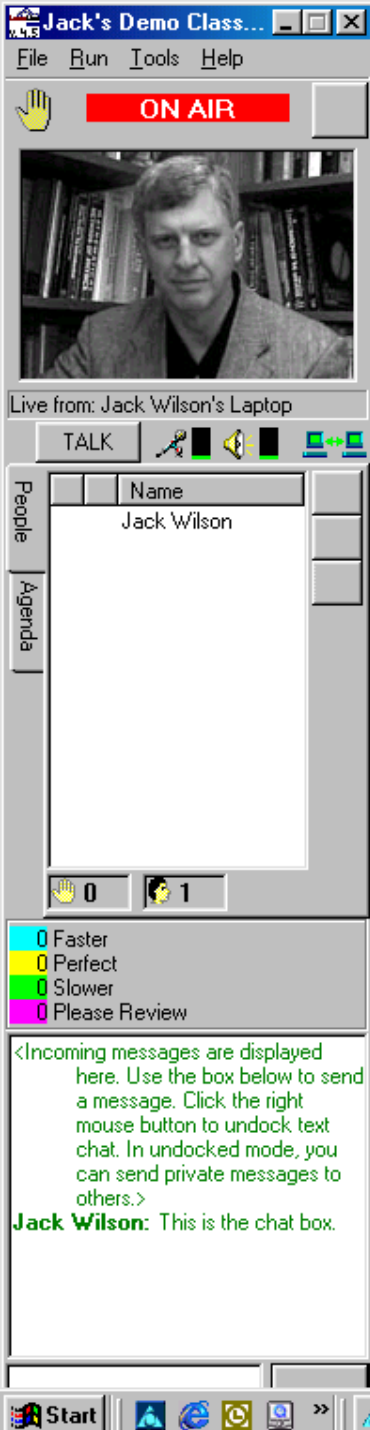
- In 1994, **3 million** people were connected to the Internet. By the end of 1997, more than **100 million** people were using the Internet.
- Internet Traffic is doubling every **100 days**.
- registered domain names grew from **26,000** in July 1993 to **1.3 million** in July 1997.
- Over same period, the number of hosts expanded from under **1.8 million** to **19.5 million**.



Internet Tsunami - What next?

JackMWilson.com

- Consumer electronics companies, media giants, phone companies, computer companies, software firms, satellite builders, cell phone businesses, Internet service providers, television cable companies are **aggressively investing to build** out the Internet.
- Within the next five years, the vast majority of Americans should be able to interact with the Internet from their television sets, or watch television on their PCs, and make telephone calls from both devices




Internet Years

- **1 Internet Year**
- **= 2 dog years**
- **= 14 people years**

Jack's Demo Class... [min] [max] [close]

File Run Tools Help

ON AIR



Live from: Jack Wilson's Laptop

TALK [mute] [volume] [mic]

People

Name
Jack Wilson

Agenda

0 [hand icon] 1 [hand icon]

- 0 Faster
- 0 Perfect
- 0 Slower
- 0 Please Review

<Incoming messages are displayed here. Use the box below to send a message. Click the right mouse button to undock text chat. In undocked mode, you can send private messages to others.>

Jack Wilson: This is the chat box.

Start [taskbar icons]

Drivers for Change

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Computing

Communication


Cognition

Growing Region
of Convergence

Jack's Demo Class... [X] [] []

File Run Tools Help

ON AIR



Live from: Jack Wilson's Laptop

TALK

People

Name
Jack Wilson

Agenda

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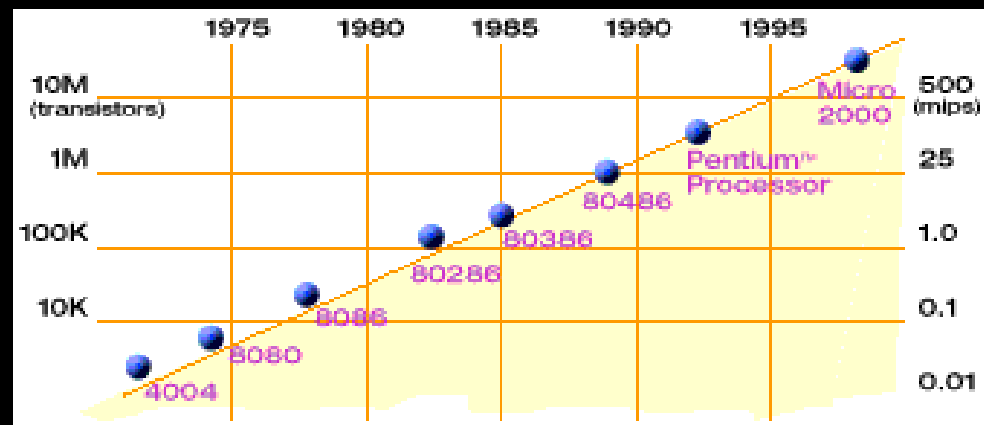
<Incoming messages are displayed here. Use the box below to send a message. Click the right mouse button to undock text chat. In undocked mode, you can send private messages to others.>

Jack Wilson: This is the chat box.

Start

Wilson's Favorite Laws

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- **Moore's Law:**
CPU performance doubles every 18 months
- **Bandwidth law:**
Bandwidth is doubling even faster!
- **Metcalf's Law:**
the value of a network scales as n^2 where n is the number of persons connected.

Jack's Demo Class... [X]

File Run Tools Help

ON AIR



Live from: Jack Wilson's Laptop

TALK

People

Name
Jack Wilson

Agenda

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- 0 Faster
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- 0 Please Review

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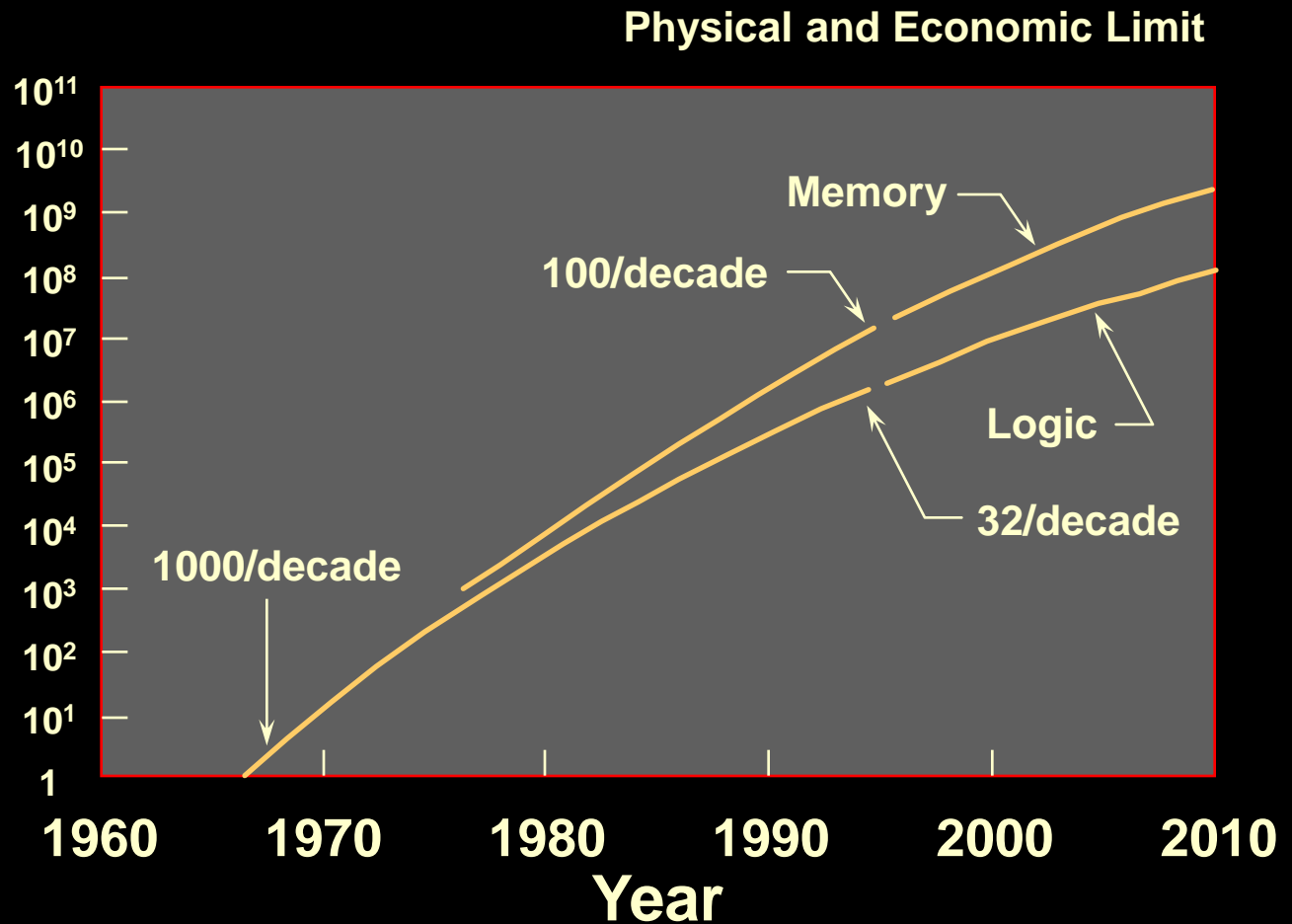
Start

Moore's Law follows:

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Components Per Chip in High-Volume Manufacturing


Components per chip



Jack's Demo Class... [X]

File Run Tools Help

ON AIR



Live from: Jack Wilson's Laptop

TALK

People

Name
Jack Wilson

Agenda

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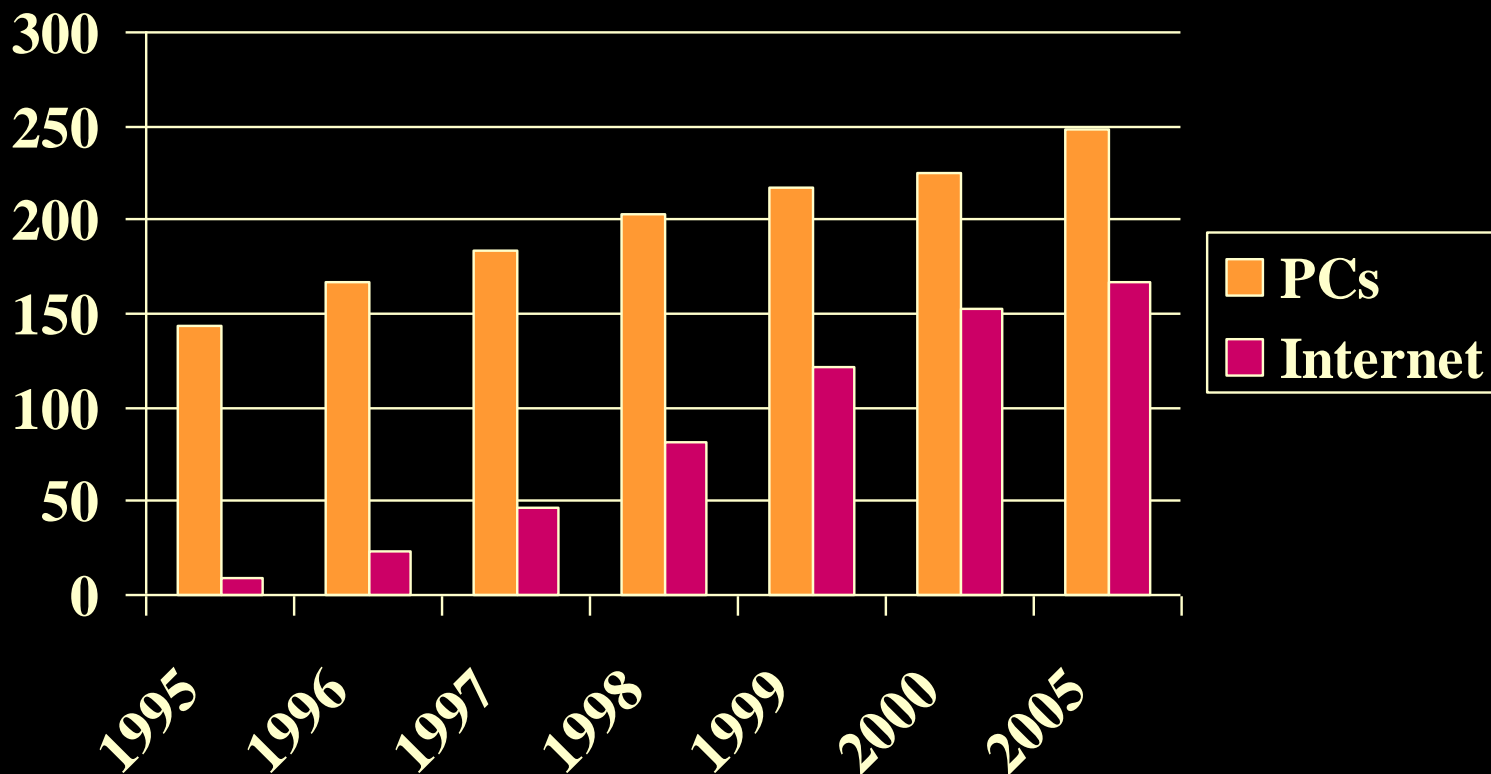
Jack Wilson: This is the chat box.

Start

World-wide connectivity

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World-wide connectivity (millions)



Jack's Demo Class... [X]

File Run Tools Help

ON AIR



Live from: Jack Wilson's Laptop

TALK

People

Name
Jack Wilson

Agenda

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- 0 Faster
- 0 Perfect
- 0 Slower
- 0 Please Review

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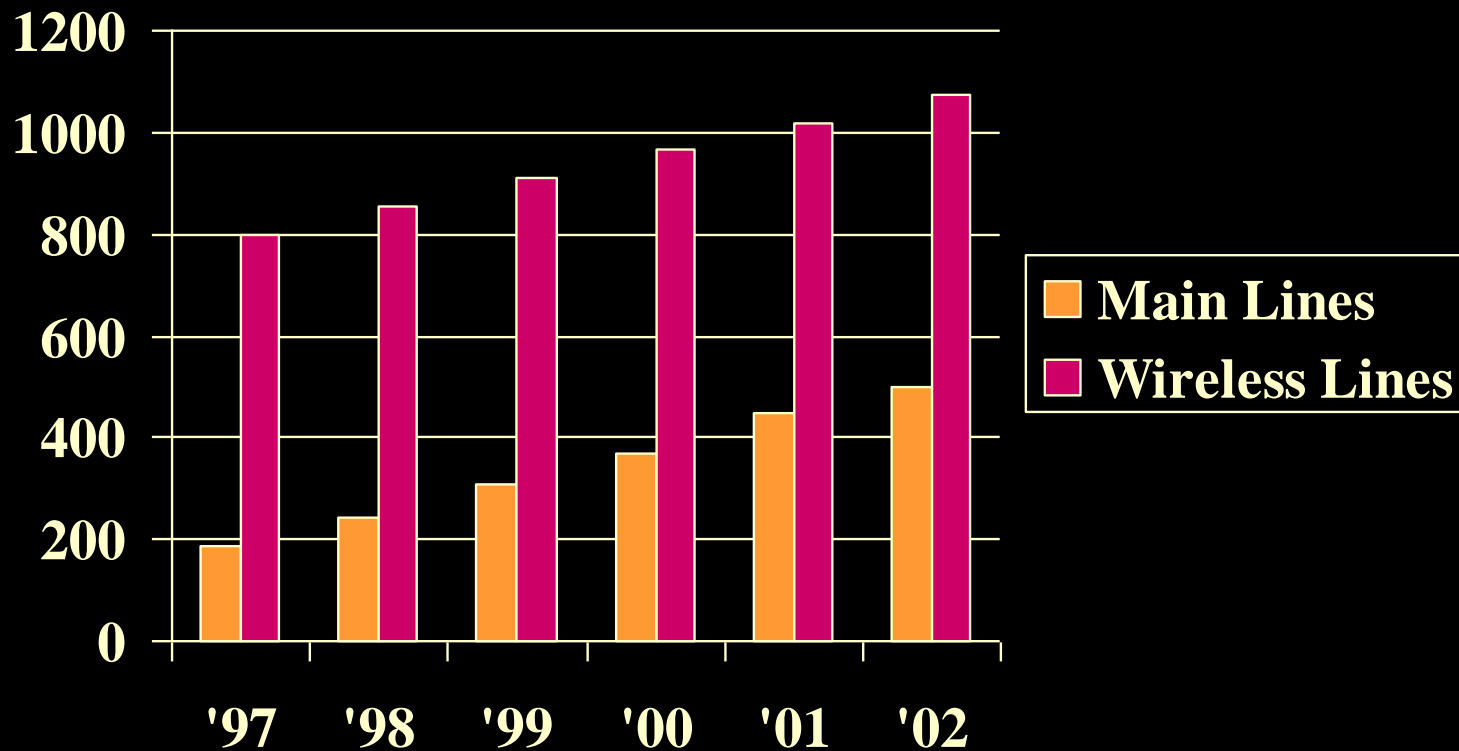
Jack Wilson: This is the chat box.

Start [Taskbar icons]

World-wide telephone lines

JackMWilson.com


World-wide telephone lines (millions)



Jack's Demo Class... [X]

File Run Tools Help

ON AIR



Live from: Jack Wilson's Laptop

TALK [Microphone icon] [Speaker icon] [Network icon]

People

Name
Jack Wilson

Agenda

0 Faster
0 Perfect
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Jack Wilson: This is the chat box.

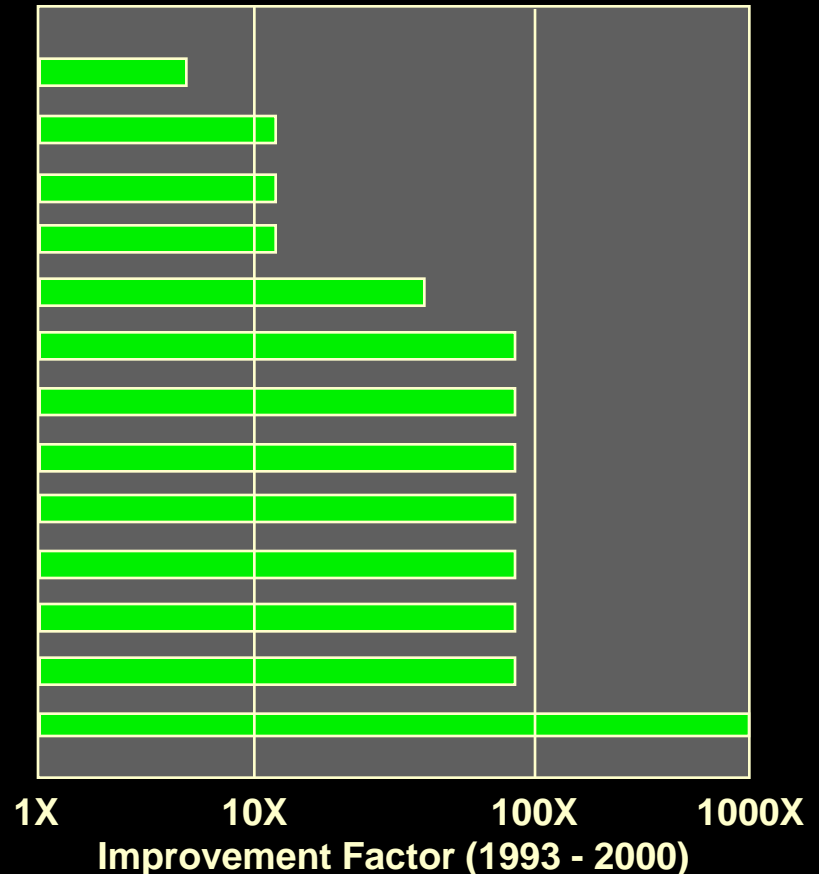
Start [Taskbar icons]

Technology forecasts

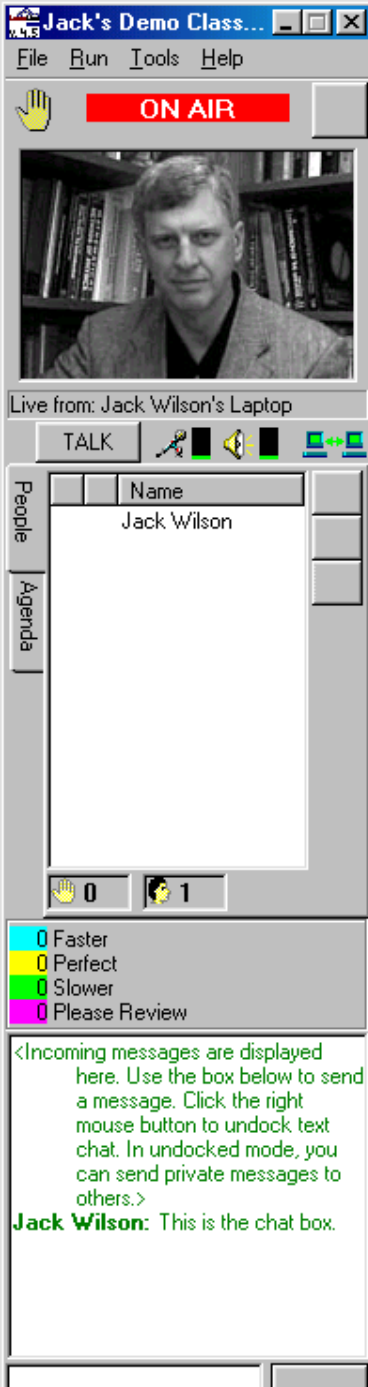
JackMWilson.com

Technologies

- Image/Video/Speech Coding
- Software Productivity
- OCR Accuracy
- Security
- Processor Speed
- Display Technology
- Storage
- Speech Recognition
- Micro Miniaturization Design & Mfg
- High-Speed Switching
- Lightwave Capacity
- Integrated Circuit Density
- Wireless Capacity



Source: Greg Hughes



Entrepreneurship in eBusiness

JackMWilson.com

- *If the company does well, I do pretty well. If the company doesn't do well....[gasp] I work at Microsoft. – Marc Andreessen, Inventor of Mosaic and Co-Founder of Netscape.*
- *Managing a mature business is not my thing, - Steve Case, CEO of AOL*
- *Folks, they say that if you want to be a leader, find a parade and get in front of it. –Jim Barksdale, CEO Netscape.*
- *Nobody is more surprised than me by what has happened over the last four years. –Jeff Bezos, CEO of Amazon.com [Business Week]*



Live from: Jack Wilson's Lecture

TALK

People

Name
Jack Wilson

Agenda

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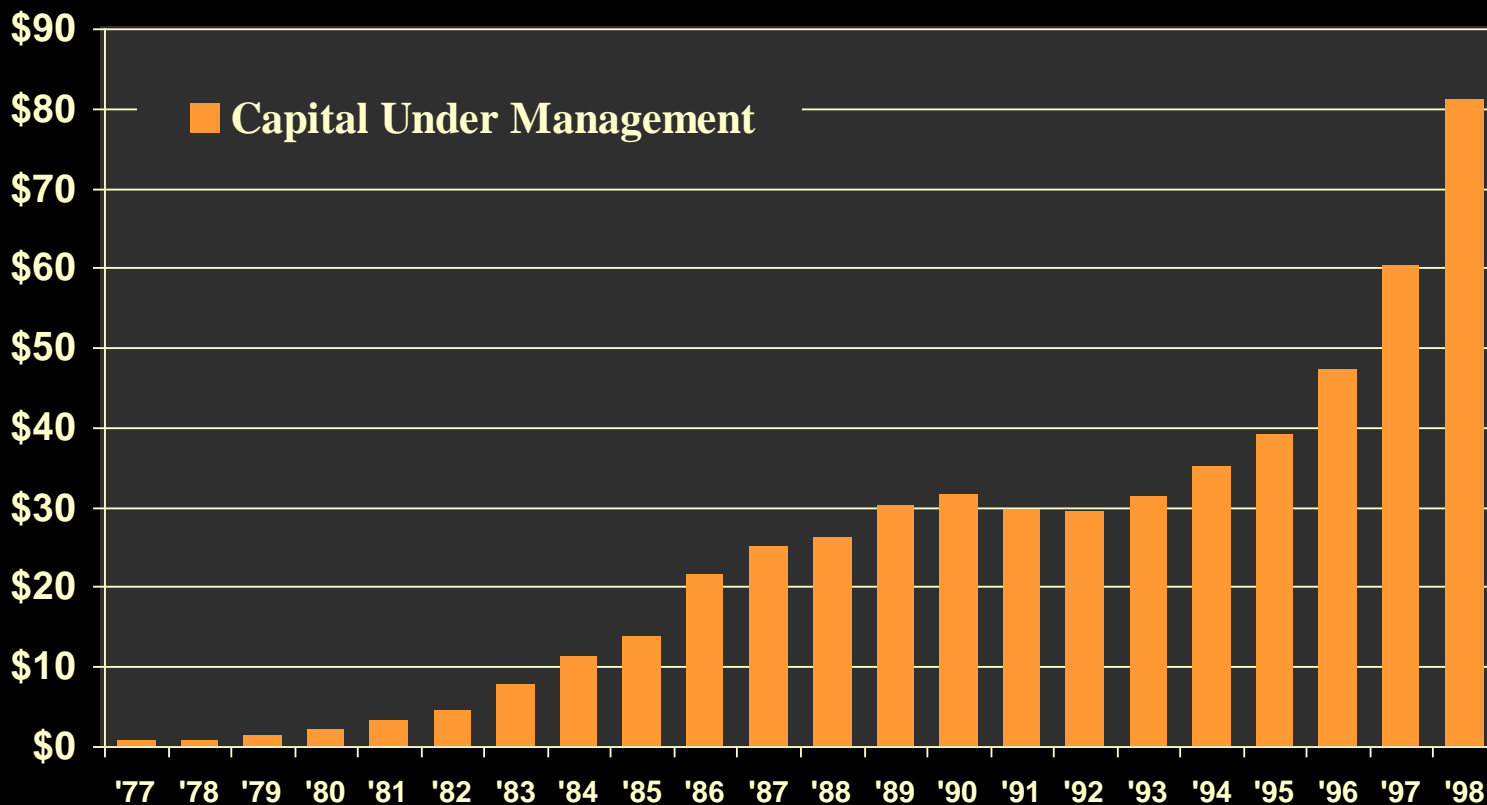
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Jack Wilson: This is the chat box.

Venture Capital Funds

Rocket Fuel for Entrepreneurs




Source: Venture Economics Information Services

Jack's Demo Class... [X]

File Run Tools Help

ON AIR



Live from: Jack Wilson's Laptop

TALK

People

Name
Jack Wilson

Agenda

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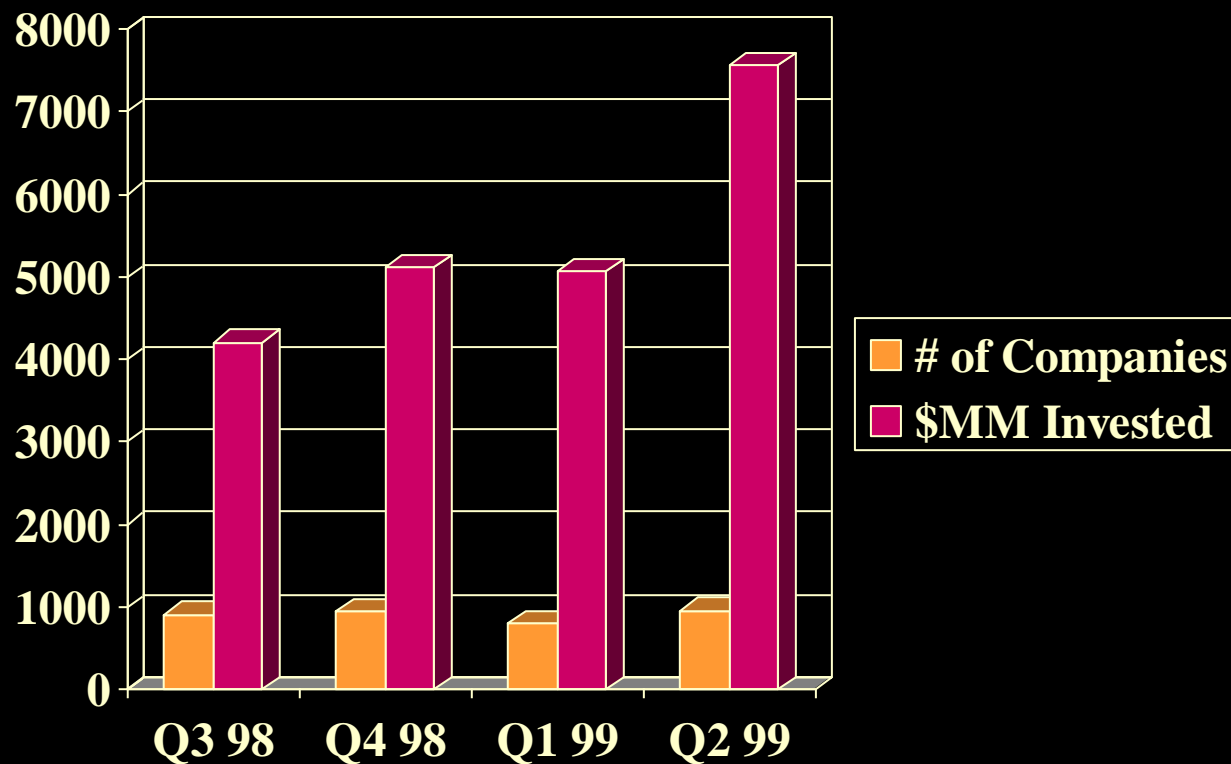
Jack Wilson: This is the chat box.

Start [Taskbar icons]

Venture Capital

JackMWilson.com


“Rocket Fuel for Entrepreneurs”



Jack's Demo Class... [X] [] []

File Run Tools Help

ON AIR



Live from: Jack Wilson's Laptop

TALK [Microphone icon] [Speaker icon] [Volume icon] [Mute icon]

People

Name
Jack Wilson

Agenda

0 [Hand icon] 1 [Hand icon]

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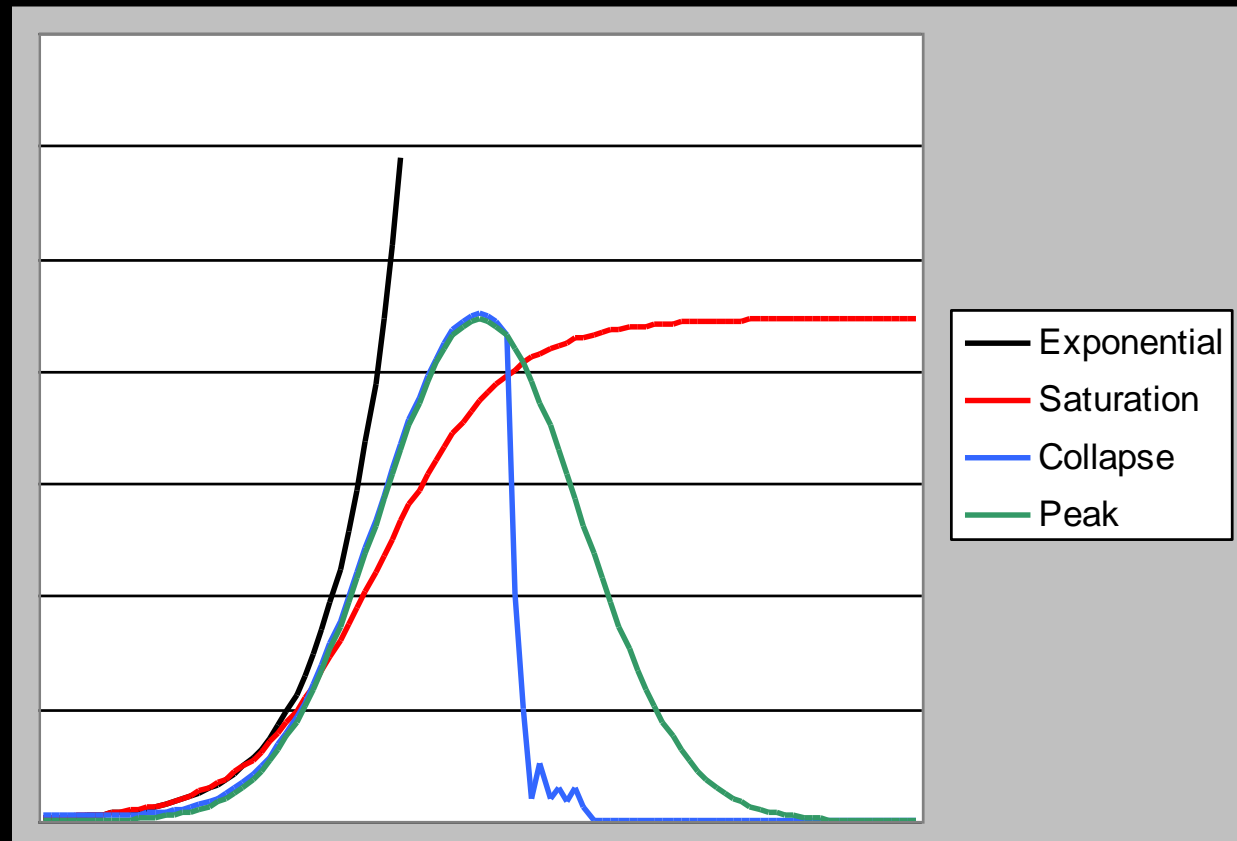
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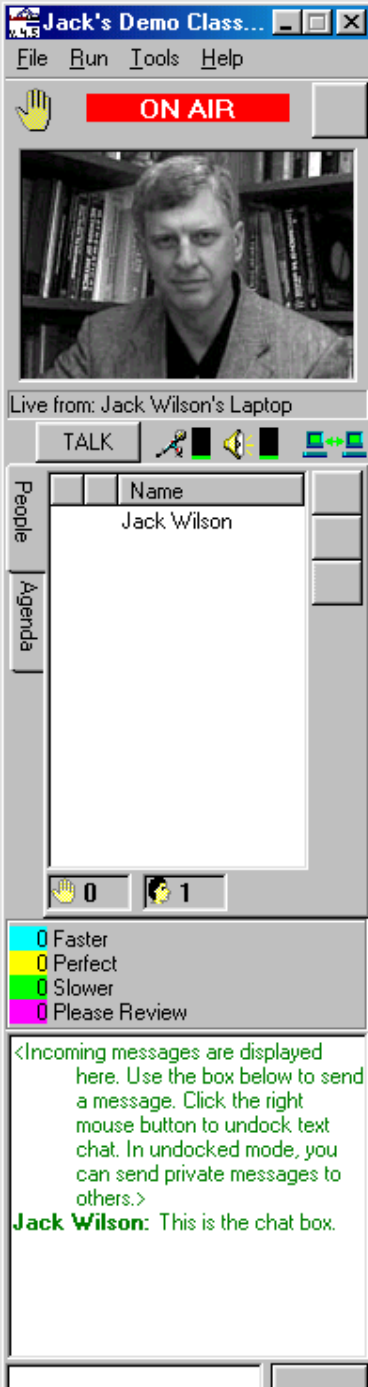
Jack Wilson: This is the chat box.

Start [Taskbar icons]

Mathematics of Exponential Growth

In the real world there is no such thing as exponential growth. All exponential processes eventually become combinations that include saturation, peaking, or even collapse.





The strategies of eBusiness

JackMWilson.com

Don't look back, somethin' might be gaining on you. - Satchell Paige

I'd be hard-pressed to say it's overhyped. We've set out to make Yahoo the only place anyone needs to go to get connected to anything. There's nothing in the real world to compare to that. -Timothy Koogle, Yahoo CEO

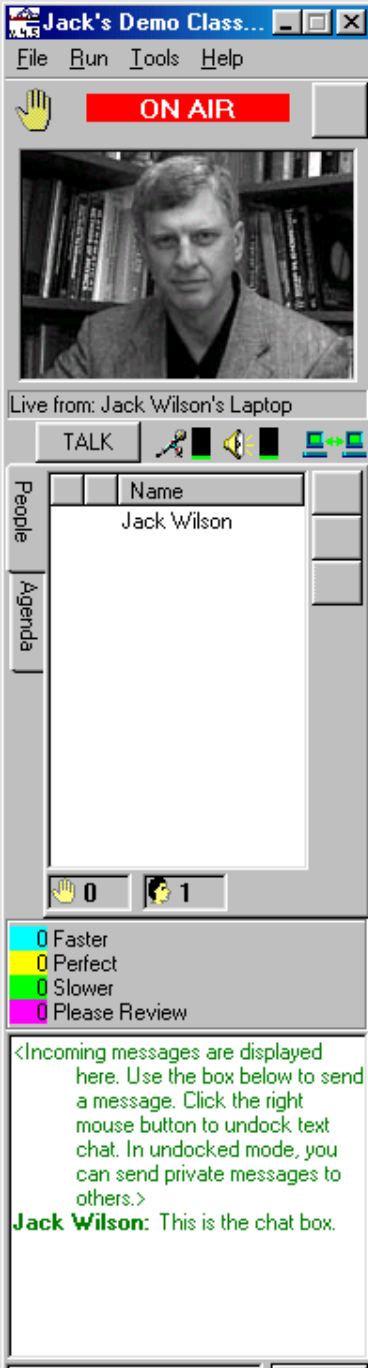
- **First Mover Advantage.**
- **Obtaining Market Lock-up,**
- **Cost of switching,**
- **Sticky Eyeballs**
- **Bricks and Clicks**
- **Winner Take All Markets**

Characteristics of Winner Take

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All Markets

-
- 1. **Production scale**
- 2. **Network Economies**
- 3. **Lock-in through Learning and Investment**
- 4. **Decision Leverage**
- 5. **Natural Limits on the Size of the Agenda**
- 6. **Habit formation or Acquired Tastes**
- 7. **Purely Positional (Status) Concerns**
- 8. **Avoidance of Regret**
- 9. **Concentrated Purchasing Power**



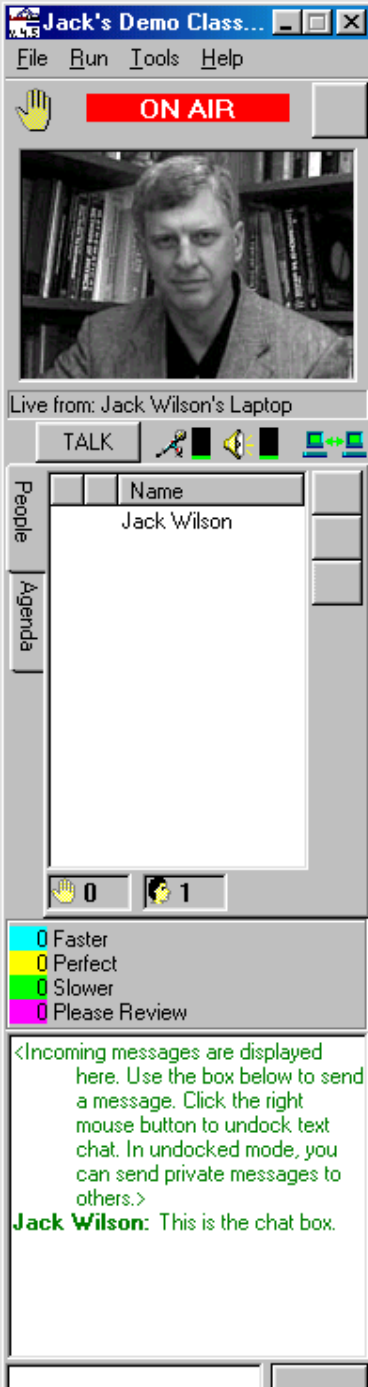
The Technologies of eBusiness

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God may be subtle, but he is not malicious - Albert Einstein, Physicist

It's kind of funny that Moore's Law is what I'm best known for, It was just a relatively simple observation. -Gordon Moore, Founder and former CEO, Intel

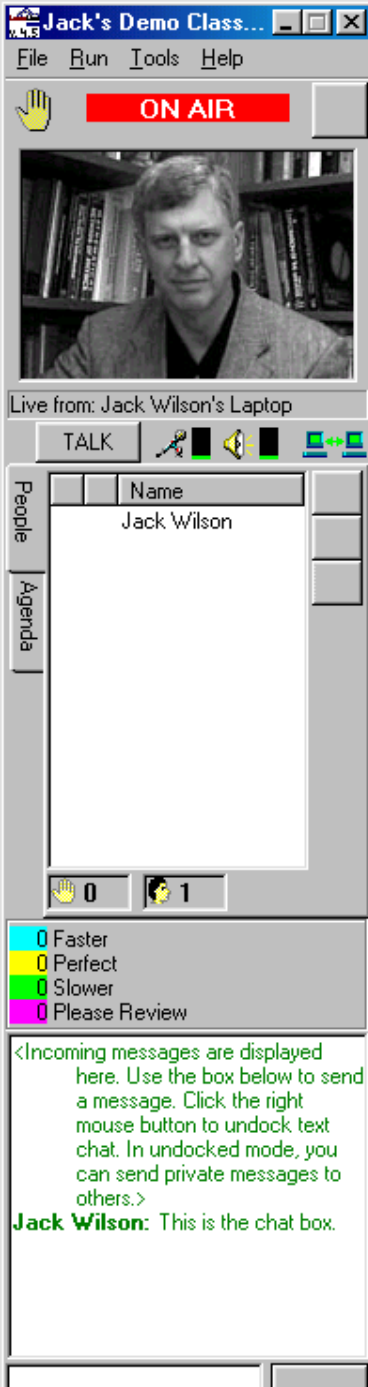
- HTML
- Massive Databases
- XML
- Java
- Javascript
- etc



The data rich environment

JackMWilson.com

- *Every breath you take, Every move you make, Every bond you break, Every step you take, I'll be watching you! - Sting*
-
- *A wealth of information creates a poverty of attention. Herbert Simon*




Marketing Strategies for eBusiness

- *The notion is that you take customers and put them at the center of their own universe. –Jeff Bezos, CEO of Amazon.com*
- **Know thy customer**
- **Privacy issues**
- **Viral Marketing**
- **Desperation marketing**
 - Rue Paul, Hamsters from cannons, naked man ad
- **Mass Customization (Dell)**
- **Branding**

Jack's Demo Class... [min] [max] [close]

File Run Tools Help

ON AIR



Live from: Jack Wilson's Laptop

TALK

People

Name
Jack Wilson

Agenda

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Faster
 Perfect
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 Please Review

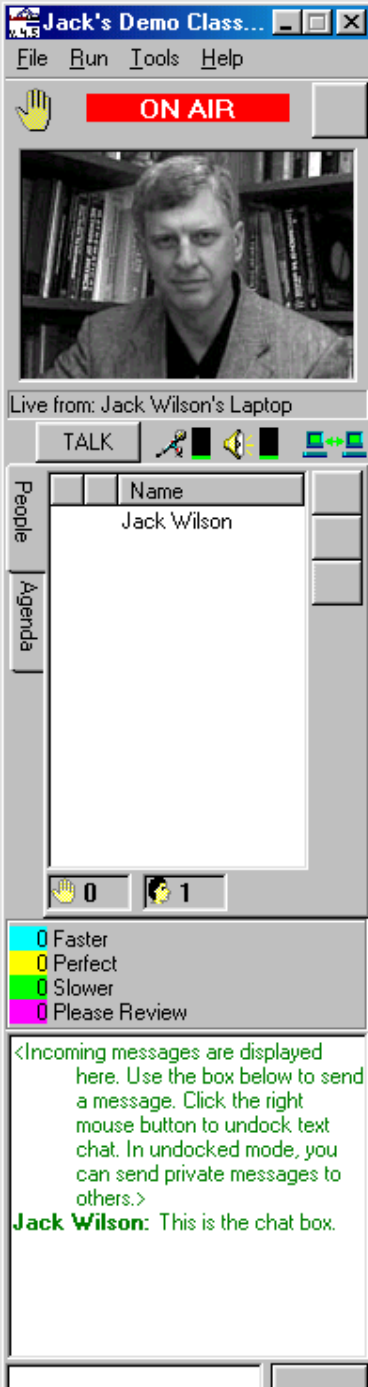
<Incoming messages are displayed here. Use the box below to send a message. Click the right mouse button to undock text chat. In undocked mode, you can send private messages to others.>

Jack Wilson: This is the chat box.

Start

Pricing Strategies

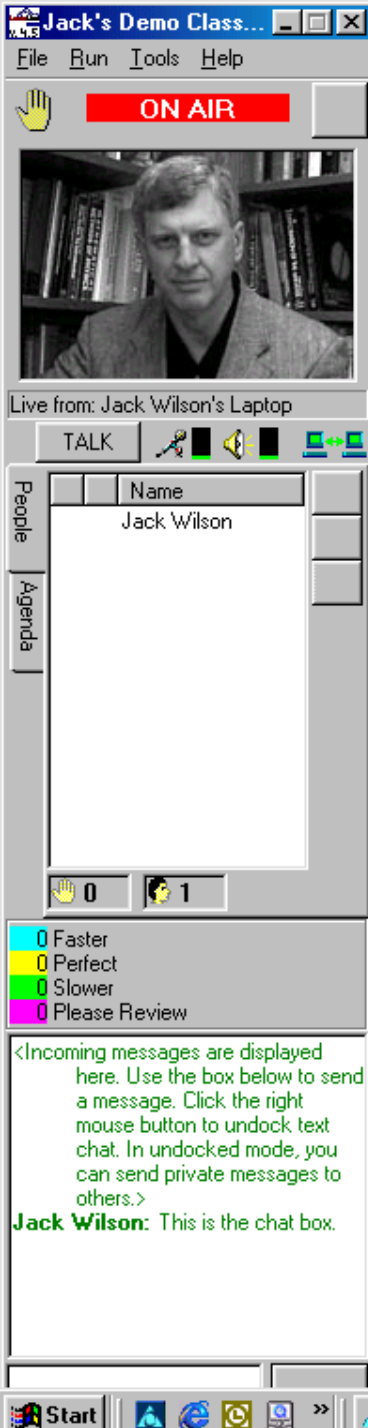
- Auctions
- Reverse Auctions
- Sale at loss



Law and Ethics

JackMWilson.com

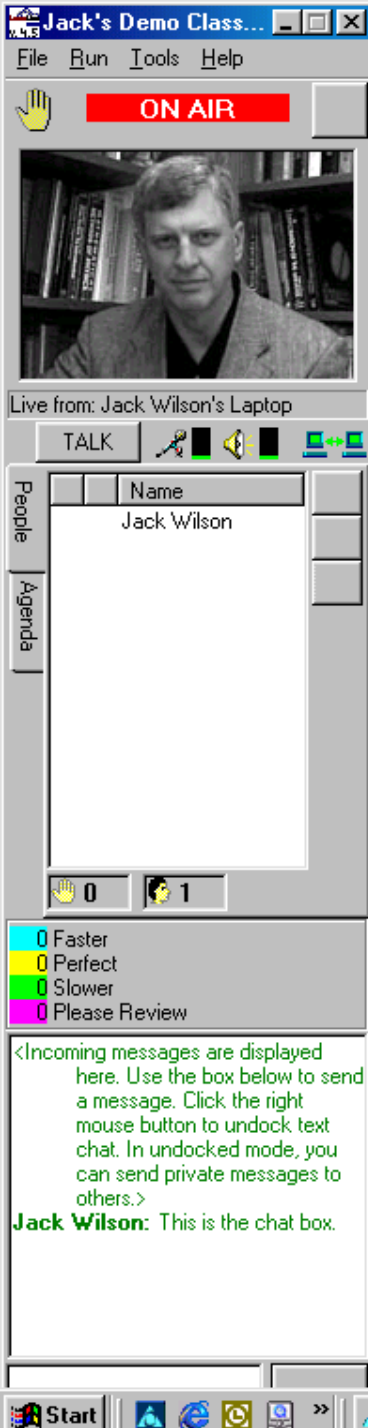
- *... the law spoke too softly to be heard in such a noise of war - Plutarch*
- *We must update laws and regulations developed before the advent of the Internet that may have the unintended effect of impeding business-to-business and business-to-consumer online transactions. -- President William Clinton in a memo to government departments and agencies.*
- **Tax strategy**
- **Denial of Service**
- **Privacy again**
- **Patents and Intellectual Property**
- **Children's Privacy**



It ain't over till its over!

JackMWilson.com

- **Moore's law, the Bandwidth Law, and Metcalf's law remain true and are expected to continue to be true for another 40 years at least!**
- **These will drive faster and faster need for change.**
 - Companies will have to respond.
- **It ain't over till the fat lady sings -and she isn't even in the hall yet!**
 - Jack M. Wilson:
<http://lallyschool.rpi.edu/Wilson/ITE.html>



The Dinosaur's strike back


JackMWilson.com

- *“Why jump into this business when nobody makes money?” Jurgen Hubbert, Daimler Chrysler Board member.*
- *“It took us a long time to get over our denial and accept the fact that the Internet is not a temporary phenomena but a true change in the market place.” – David Komansky, Chairman and CEO of Merrill Lynch*

Jack's Demo Class... [X]

File Run Tools Help

ON AIR



Live from: Jack Wilson's Laptop

TALK

People

Name
Jack Wilson

Agenda

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0 Perfect
0 Slower
0 Please Review

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Jack Wilson: This is the chat box.

Start

Management's Response

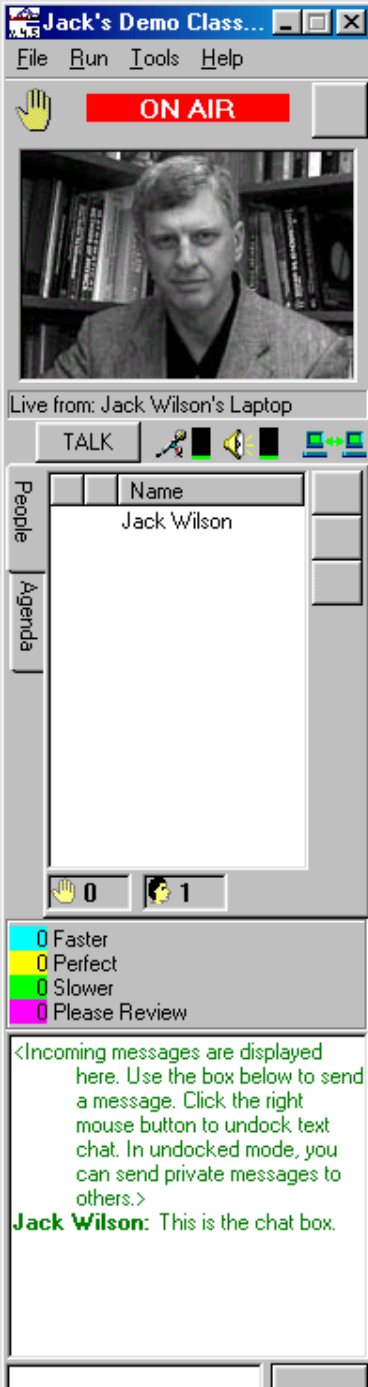
JackMWilson.com

- **FUD**

- **F**ear
- **U**ncertainty and
- **D**oubt



(They can't smell my fear.)



Amazon.com questions

JackMWilson.com

- **Do you think Amazon.com has a good business model?**
 - Why or why not?
- **Do you think Amazon.com is a good investment?**
 - Why or why not?
- **What things would you really like to know about Amazon.com to determine the answers to these questions?**



Live from: Jack Wilson's Laptop

TALK

People

Name
Jack Wilson

Agenda

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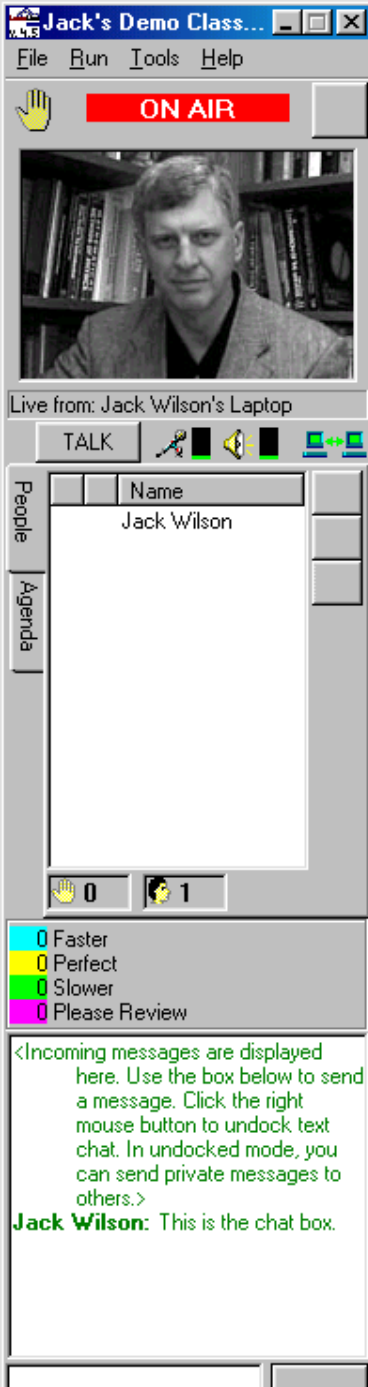
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- 0 Please Review

<Incoming messages are displayed here. Use the box below to send a message. Click the right mouse button to undock text chat. In undocked mode, you can send private messages to others.>

Jack Wilson: This is the chat box.

The Players of eBusiness

Company	Revenues	Founded
America Online	4,777	1985
Charles Schwab	4,113	1986
Amazon.com	1,015	1994
E*Trade Group	621	1982
Knight/Trimark Group	618	1995
Yahoo	341	1995
Ameritrade Holding	301	1992
EarthLink Network	254	1994
Priceline.com	189	1998
CMGI	176	1986
Lycos	136	1995
Excite@Home	129	1995
eBay	125	1995
DoubleClick	103	1996
RealNetworks	89	1994
CNet	79	1995
Healthon	68	1995
eToys	38	1996
VerticalNet	8	1995



The Finances of eBusiness


JackMWilson.com

- But how do we know when irrational exuberance has unduly escalated asset values..?, ---Alan Greenspan, chairman of the Federal Reserve Board.
- The Internet will provide a dramatic drop in costs, destroy old competitive advantages and remake business models. The Internet is clearly reshaping the flow of capital. -- Michael Dell, CEO Dell Computer.
- There is such an overvaluation of tech stocks that it's absurd. I would put our company, and I would put most companies, in that category. -- Steve Ballmer, President, Microsoft

Jack's Demo Class... [X] [] []

File Run Tools Help

ON AIR



Live from: Jack Wilson's Laptop

TALK

People

Name
Jack Wilson

Agenda

0 1

Faster
 Perfect
 Slower
 Please Review

<Incoming messages are displayed here. Use the box below to send a message. Click the right mouse button to undock text chat. In undocked mode, you can send private messages to others.>

Jack Wilson: This is the chat box.

Start

Tulip mania?

Thursday March 30 3:04 PM ET

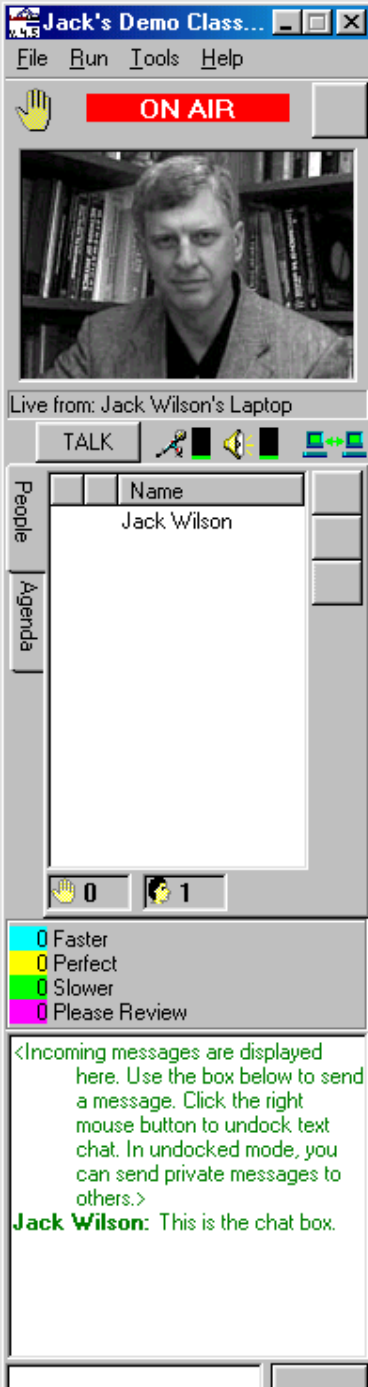
Fed Will Raise U.S. Rates Until Growth Slows

By Marjorie Olster

WASHINGTON (Reuters) - Federal Reserve officials, detecting palpable strains from the searing pace of U.S. growth, made clear on Thursday they will keep raising interest rates until the economy cools off.

Comments from Federal Reserve Chairman Alan Greenspan and two regional Fed presidents showed that not only does the central bank see virtually no signs its five rate hikes since mid-1999 have slowed demand, but the risks to the economy may actually be mounting.

“As a central banker...I cannot help but register concerns about some recent developments,” New York Fed President William McDonough said at an appearance in Tokyo.

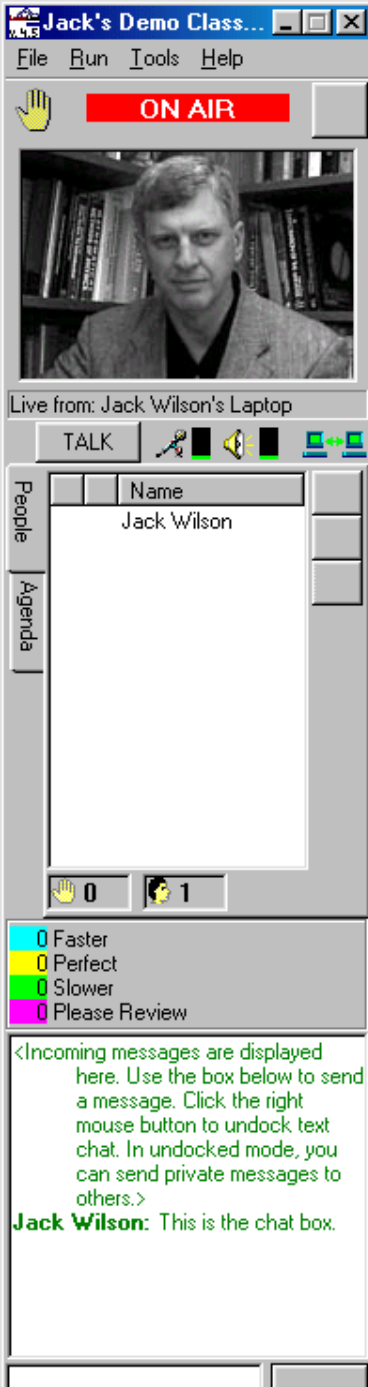


Using Market Cap to acquire

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- **Netscape**
- **CISCO**
- **Lucent**
- **AOL**

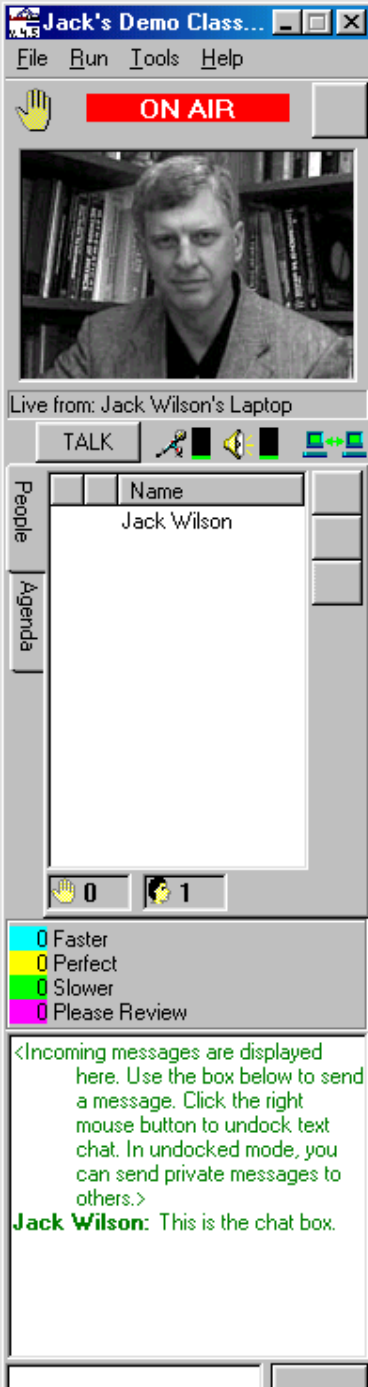
- **Creating your own currency.**



How to Value an Entity?

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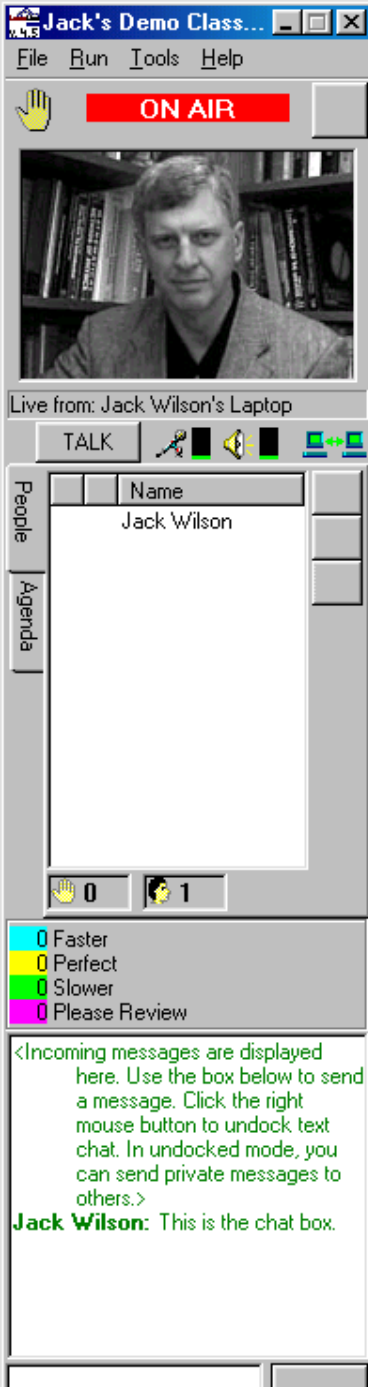
- **Assets?**
- **Earnings?**
- **Revenues?**
- **Intellectual Capital**
- **Customers?**
 - Internet Valuation is =
\$25 per eyeball pair per hour



How to get the market value?

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- **Data (end 1998)**
 - STOCK PRICE = \$214
 - SHARES OUTSTANDING = 50.2 MILLION
 - MARKET VALUE = \$10.8 BILLION (11.1 on 3/15)
 - SALES IN 1998 \$587.6 MILLION (\$610 M actual)
- **Assume**
 - OPERATING MARGIN = 10%
 - Cost of Capital = 15% (est.)
 - Net Oper. Inc. after taxes (NOPAT) = \$41.1 M (\$42.6M)
- **Result**
 - Current Operations Value = \$ 274.2 million (\$ 284)
 - Perceived growth rate required = 59.6% / year for 10 years.
 - Revenues in 2008 would be \$63 billion



The calculation

- **Market Value = Current Operations Value + Future Growth Value**
- In order to calculate Current Operations value we would need to have earnings, something that Amazon.com did not have. The only way out of this box is to make an assumption about a normal operating margin for Amazon.com. Business Week uses 10% in its example. A later analysis by the Wall Street Journal assumes 8%. At the time of the Business Week calculation in 1998 the stock price of \$214 led to a market capitalization of :
 - **\$ 214 per share * 50.2 million shares = \$10.8 billion.**
- The net income then can be calculated as 10% of sales of \$587 million less taxes to yield a net operating income after taxes (NOPAT) of approximately \$41.1 million. Now another assumption needs to be made. What would the cost of capital be? Business Week assumed a relatively expensive 15% yielding a Current Operations Value of:
 - **Current Operations Value = \$41.1 million / 15% = \$274.2 million.**
- This works out to \$5.50 per share of the \$241 stock price. This means that the real value in Amazon.com shares must lie in the potential for future growth:
 - **Future Growth Value = \$10.8 billion - \$274 million = 10.5 billion**
- If one calculates the growth required in revenues to justify this valuation over the next ten years to give a future growth value of 10.5 billion, the answer comes out to be
 - **59.6% per year!**

“Don’t look back, somethin’ might be gaining on you!”

-Satchel Paige, baseball great.

The End

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