

IBM Stories: Innovation from Passion

Bill Bitner
IBM Retired
Wander & Ponder Chief Fun Officer
bill@wanderponder.earth





Story #1

Working without a Net

1994 Winter Olympics

1994 Winter Olympics – Lillehammer, Norway



- February 12-27, 1994
- 67 Nations
- Start of alternating the Summer and Winter games



1994 Winter Olympics Memories



- USA Speedskater Bonnie Blair
 - Competing in her fourth Olympic Games
 - winning 5th and 6th Olympic medals of her career



- USA Speedskater Dan Jansen's Gold Medal in the final event
 - Breaks 10-year jinx at Olympics
 - Winning gold in final race, 1000m



- USA Figure skater Nancy Kerrigan winning Silver medal 50 days after getting clubbed in knee.

IBM in Early 1990s

IBM Stock January 1990 to January 1994



January 1990 to January 1994 – VM History



IBM and the Olympics



Back to the Olympics

- IBM was official technology sponsor
 - Collecting and displaying all results
 - IBM logo at the bottom of TV screens
 - Feeding information to news services



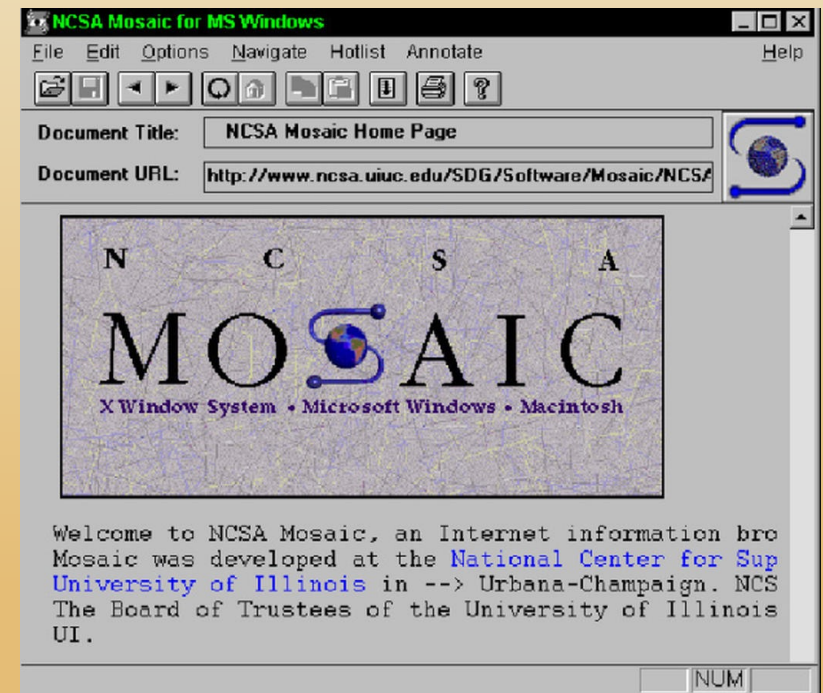


Olympic Results on the Browser

- Rogue Olympics Web site, run by Sun Microsystems, was taking IBM's raw data feed and presenting it under the Sun banner.
- IBMer David Grossman stumbles on this.

“If I didn't know any better, I would have thought that the data was being provided by Sun. And IBM didn't have a clue as to what was happening on the open internet. It bothered me.”


– David Grossman





IBM is getting ripped off

- Grossman → CALLUP → email → Abby Kohnstamm, IBM Chief Marketing Officer

- Couple Days go by 

- Grossman 

 IBMer in Lillehammer

- IBM Lawyer  → Sun Microsystems



Dear Sun,
Stop it!



Grossman was not done



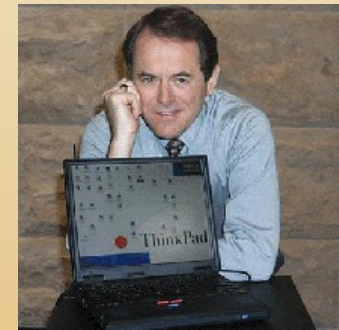
David Grossman



Irving Wladawsky-Berger



Abby Kohnstamm



John Patrick





A Team is Born

“When I saw the Web for the first time, all the bells and whistles went off. Its ability to include colorful, interesting graphics and to link to audio and video content blew my mind.”

– John Patrick

• Patrick →



→ Grossman

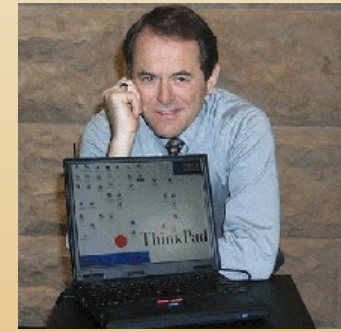
Plus One = an Intranet and a Manifesto



David Grossman



David Singer



John Patrick

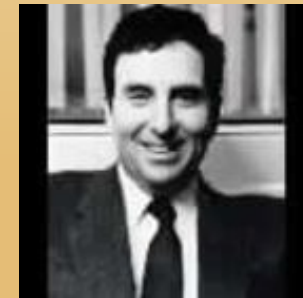


Get Connected



“Get Connected”

- The “GetCo” group quickly grows to over 300 enthusiasts in a few months.
 - Very few people in management
- Jim Cannavino, IBM Senior VP, encouraged the grassroots, but also gave Patrick final approval over anyone wanting to set up an intranet.

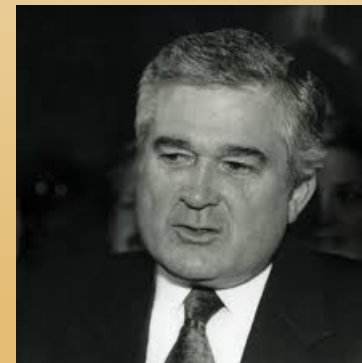




Big Time

- Meeting with Lou Gerstner where they showed a mockup of the IBM web site.

“Where’s the buy button?” – Lou Gerstner





May 11, 1994

- Meeting of IBM's top 300 Officers
- Demo
 - Showed other websites
 - Hewlett-Packard
 - Sun Microsystems
 - Red Sage restaurant in Washington DC
 - Andrew Grossman's personal web page

“Oh, by the way, IBM is going to have a home page too, and this is what it looks like.”
– John Patrick



Reactions

“How do you make money at this?”
– lots of IBM old-timers

“I have no idea. All I know is that this is the most powerful, important form of communication both inside and outside the company that has ever existed.”
– John Patrick



Things Become Formal

- Formal Internet group with Patrick as CTO, insisting it stay separate from traditional development organizations
- 1995 U.S. Open and Wimbledon

“By the end of the summer, we were sitting in a trailer, barely keeping together a Web site with a million people a day pounding away at it for scores. It was held together by Scotch tape, but we were learning about scalability.”

– David Grossman

- 1996 chess match between Garry Kasparov and IBM supercomputer Deep Blue



Back to the Olympics

- 1996 Summer Olympics in Atlanta, United States
 - First time official Olympic web site.
 - Three supercomputers
 - 17 million hits a day
 - E-commerce
 - Great press





From the Olympic Experience

- Olympic experience
 - WebSphere based off aspects developed for Atlanta
 - Lab and Client Center created for IBM and Customer executives to experience the “internet”
 - Within IBM Bluepages created
 - WebAhead Team
- Extreme Blue Team
 - Jane Harper and Dave Grossman led
 - Bring in the brightest interns but challenge them

Back to 1987



The Rest of the Story

- David J. Grossman joined IBM in 1987 in Endicott, NY working in VM Performance at the Glendale Labs



Cornell University

- Dave becomes the IBM liaison to Cornell
 - IBM Super Computing Technology Center at Cornell University, Ithaca, New York



Puerto Rico's Arecibo Observatory – Radio Telescope





Story #2

Engineering the Flow of Life

Back to 1962



Setting the Stage

- May 21, 1956 – Thomas Watson, Jr. becomes CEO
- IBM learning what the 1956 consent decree meant:
 - Sell machines, not just lease
 - Changes to licenses for patents
 - Support a secondary market
 - No longer require customers to use IBM punched cards, etc.
 - Life under a legal microscope
- December 28, 1961 – Report from the SPREAD task force which was foundation for S/360
- 1962
 - 127,000 employees
 - \$241 million earnings (~\$2.7 billion in 2026)



George Judson

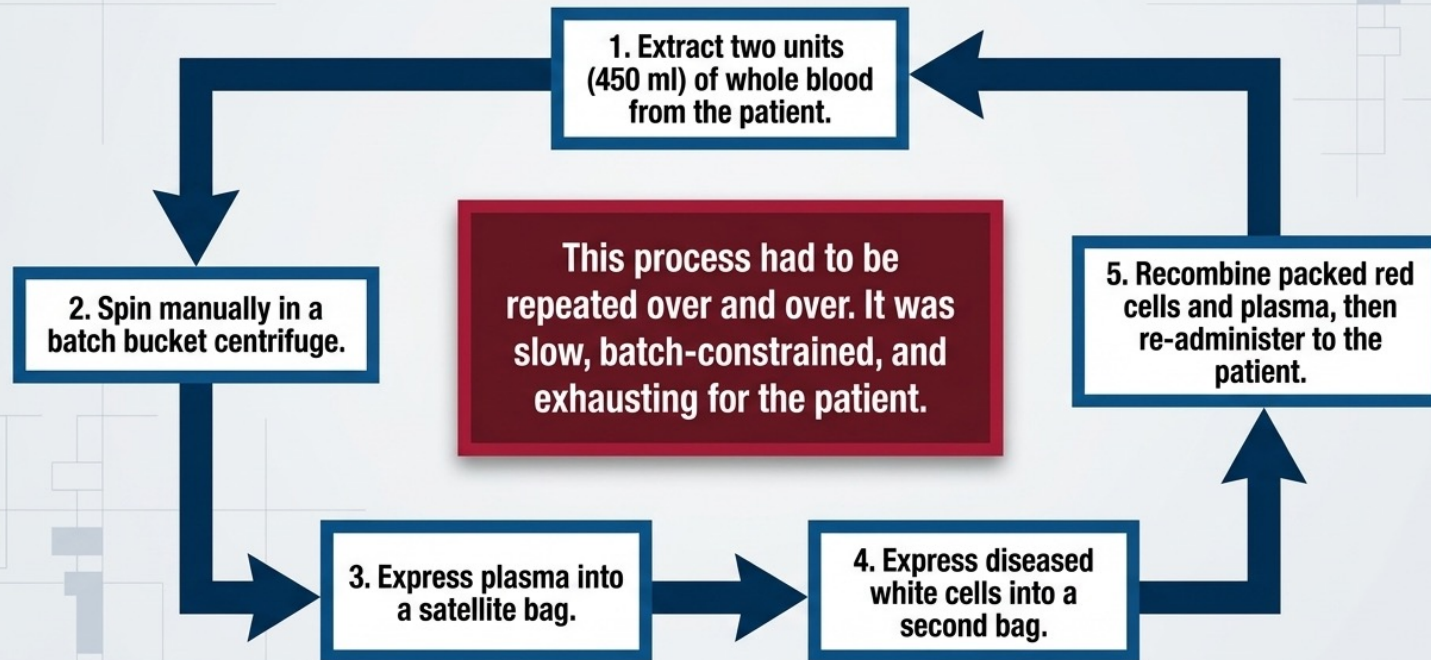


Son Tom



Leukemia Treatment 1962

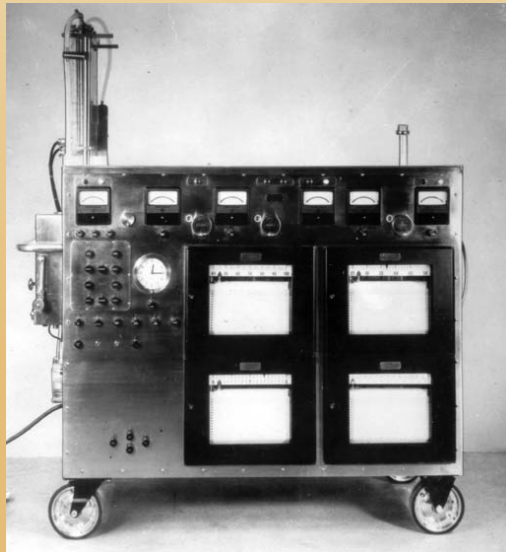
The Status Quo: The Brutality of the Bucket Centrifuge





Engineer Mindset

Jefferson Medical Center & IBM collaboration on the first heart-lung machine.



Dr. Gibbon (seated with arms folded) at Mechanical Heart Dinner, IBM Country Club, September 13, 1950.
Seated Left to Right: Dr. Paul R. Hawley, Dr. E. Gordon MacKenzie, Dr. John H. Gibbon, Jr., Dr. John F. Rogers
Standing Left to Right (IBM Engineers): Robert T. Blakely, G.A.V. Malmros, I. Smith Homans, Jr., J.H. Fraser.



Enter Dr. Emil Freireich

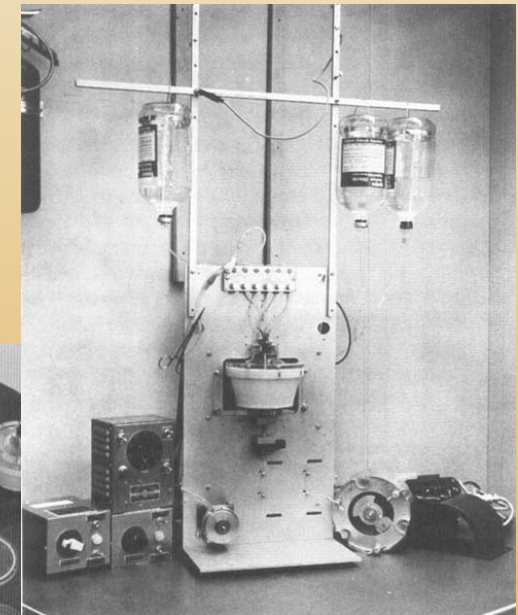
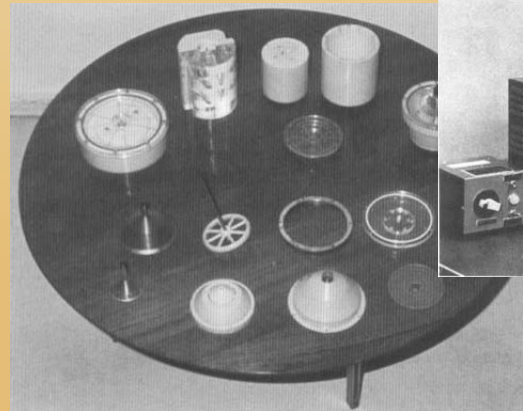
- Hired by the National Cancer Institute in 1955, at age 28.



Corporate Miracle

- Jim Troy, IBM Endicott Development Lab director approves a one-year leave of absence with pay for Judson.
- Working with Emil Freireich and NCI and a team at IBM.

Early prototypes and components.





Successful Results!



Experimental machine
announced October 1965.
IBM 2990.

The Technical Leap: From Batch Buckets to Continuous Flow



The Batch Process

Continuous Flow

The Collaboration

Judson proposes a continuous-flow method and consults with Dr. Emil J. Freireich (father of modern clinical cancer research).

The Corporate Freedom

IBM grants Judson a one-year leave of absence with pay and full engineering assistance to develop his idea.

The Result

The 1964 NCI grant leads to the NCI-IBM 2990 Blood Cell Separator, shipping in 1967.

New Customer Requirements

The Next Mission: The Red Cross Glycerol Challenge

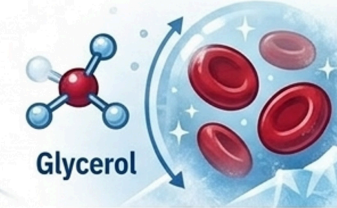
The Promise

Frozen packed red blood cells can extend the blood supply lifespan to two years or more (compared to three weeks for refrigerated whole blood).



The Protector

Glycerol must be added to protect red cells during freezing.



The Barrier

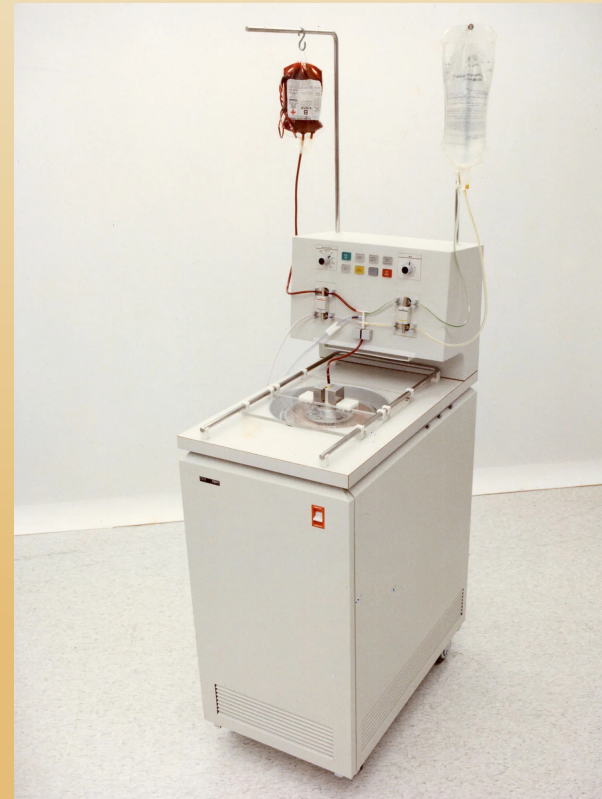
Before transfusion, the glycerol must be completely removed. The manual thawing and washing process is prohibitively expensive and time-consuming, bottlenecking global blood networks.

The Challenge: Dr. James R. Pert (Director, American Red Cross Blood Research) asks Judson and Alan Jones: **Can IBM automate this?**



IBM 2991 – Blood Cell Processor

- Announced in September 1972
- Allowed 'washing', removing the glycerol
- Later used for other applications





The Product Line

- Marketing and Distribution by IBM Information Records Division out of Princeton, New Jersey
 - Utilized RVs to drive around and show
- 1977 - IBM 2997 Blood Cell Separator
- 1984 – Product line sold to Cobe Laboratories
- 1990 – Cobe acquired by Swedish company Gambro
- 2011 – Cobe blood product line bought by Terumo Corporation and renamed Terumo BCT (Blood and Cell Technology)
 - Terumo BCT has announced sunset in 2031 (~65 years)

Epilogue



Working without a Net



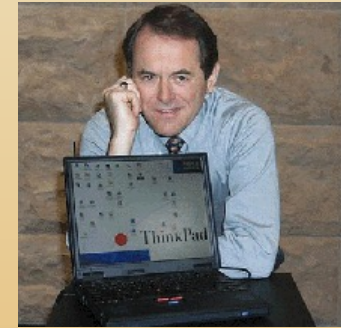
David Grossman



David Singer



Abby Kohnstamm



John Patrick

Engineering the Flow of Life



Dr. Emil Freireich



Alan Jones



George Judson



Key Thoughts

- Challenge the perception.
- Take ownership even if you don't own it.
- Take risks.
- Treat people well.