



Welcome to the



*W T Hewitt
University of Manchester*



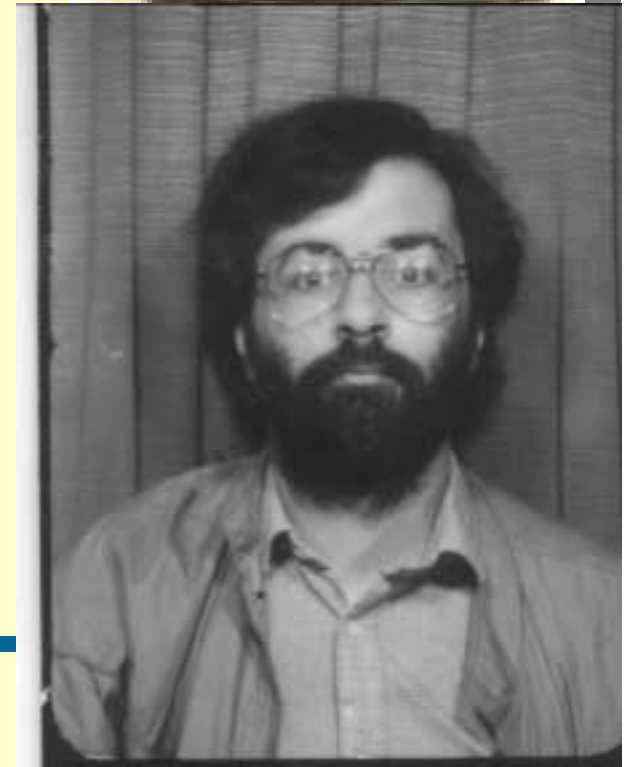


- Who am I?
- University of Manchester
 - Manchester Computing
- Manchester

- Why CUG chose Manchester

- English 101

W T Hewitt



The University of Manchester



- One of the oldest in the UK
 - Established 1851
- One of the largest in the UK
 - Student numbers
 - Research Income
- One of the best in the UK
 - Research quality
 - Graduates getting jobs
 - Teaching



Computing at Manchester



- Fundamental Computer Science.
World firsts:
 - Stored program 1948
 - Commercial computer
 - Index registers
 - Virtual Memory
 - Dataflow machine

- Applications of computing, e.g.,
 - Molecular modelling, chemistry, engineering,...
 - Medicine, social anthropology, ageing process

- Computer Services
 - Manchester Computing

19748
- *Millman Highest Factor Routine (amended)* -

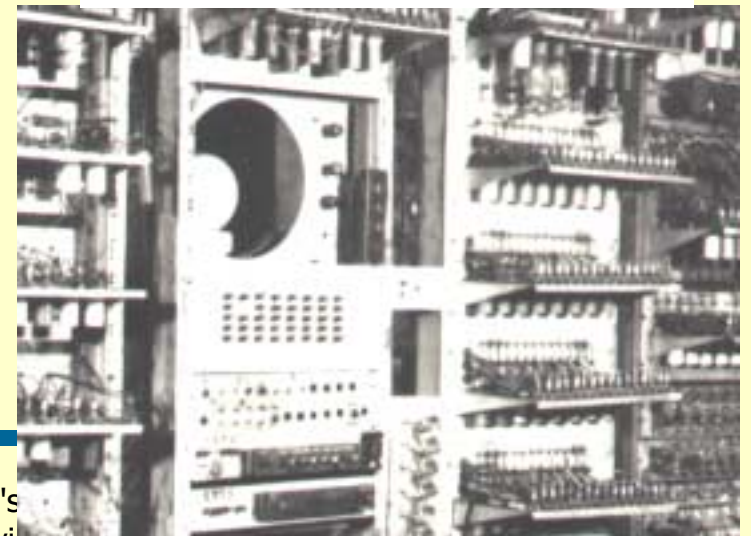
Iteration	C	26	268	27	loop	013348	1248
-24 C	-6 ₁	-	-	-	1	00011	010
-25 C	-6 ₂	-	-6 ₁	-	2	01011	110
-26 C	-6 ₃	-	-6 ₂	-	3	01011	010
-27 C	-6 ₄	-	-6 ₃	-6 ₂	4	11011	110
-28 C	-6 ₅	-6 ₄	-6 ₃	-6 ₂	5	11101	010
-29 C	-6 ₆	-6 ₅	-6 ₄	-6 ₃	6	11011	001
-30 C	-6 ₇	-6 ₆	-6 ₅	-6 ₄	7	-	0..
-31 C	-6 ₈	-6 ₇	-6 ₆	-6 ₅	8	00101	100
-32 C	-6 ₉	-6 ₈	-6 ₇	-6 ₆	9	01011	001
-33 C	-6 ₁₀	-6 ₉	-6 ₈	-6 ₇	10	10011	110
-34 C	-6 ₁₁	-6 ₁₀	-6 ₉	-6 ₈	11	10011	010
-35 C	-6 ₁₂	-6 ₁₁	-6 ₁₀	-6 ₉	12	-	011
-36 C	-6 ₁₃	-6 ₁₂	-6 ₁₁	-6 ₁₀	13	-	111
-37 C	-6 ₁₄	-6 ₁₃	-6 ₁₂	-6 ₁₁	14	01011	010
-38 C	-6 ₁₅	-6 ₁₄	-6 ₁₃	-6 ₁₂	15	10101	001
-39 C	-6 ₁₆	-6 ₁₅	-6 ₁₄	-6 ₁₃	16	11011	110
-40 C	-6 ₁₇	-6 ₁₆	-6 ₁₅	-6 ₁₄	17	11011	010
-41 C	-6 ₁₈	-6 ₁₇	-6 ₁₆	-6 ₁₅	18	01011	110
-42 C	-6 ₁₉	-6 ₁₈	-6 ₁₇	-6 ₁₆	19	01011	000

20	-3	101110
21	1	10000
22	4	00100

23	-2	
24	6 ₁	

25	-	6 ₂
26	-	6 ₃
27	-	6 ₄

or 10100



Manchester Computing serves



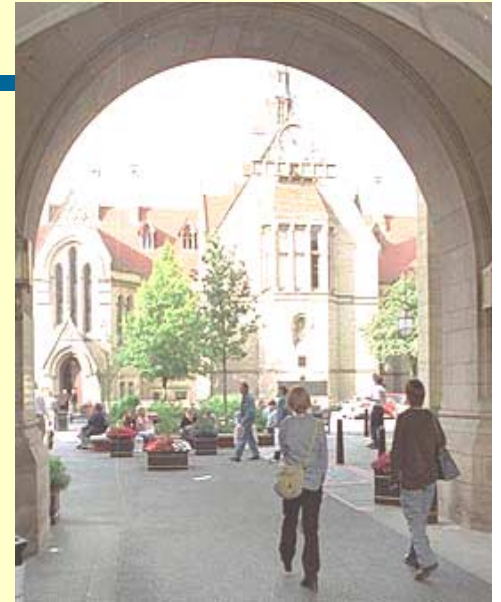
- University of Manchester
 - Administrative computing, academic computing, telecoms
- UK Academia
 - Supercomputing (CSAR)
 - Information & data services (MIMAS)
 - Major node in UK Academic Network
 - Managing agent for Net NorthWest
 - Used by HE, FE & RCs
- International
 - MIMAS
 - International AVS Centre
- Government, Commerce & Industry
 - Supercomputing
 - Networks and hosting
 - IFL
 - R&D



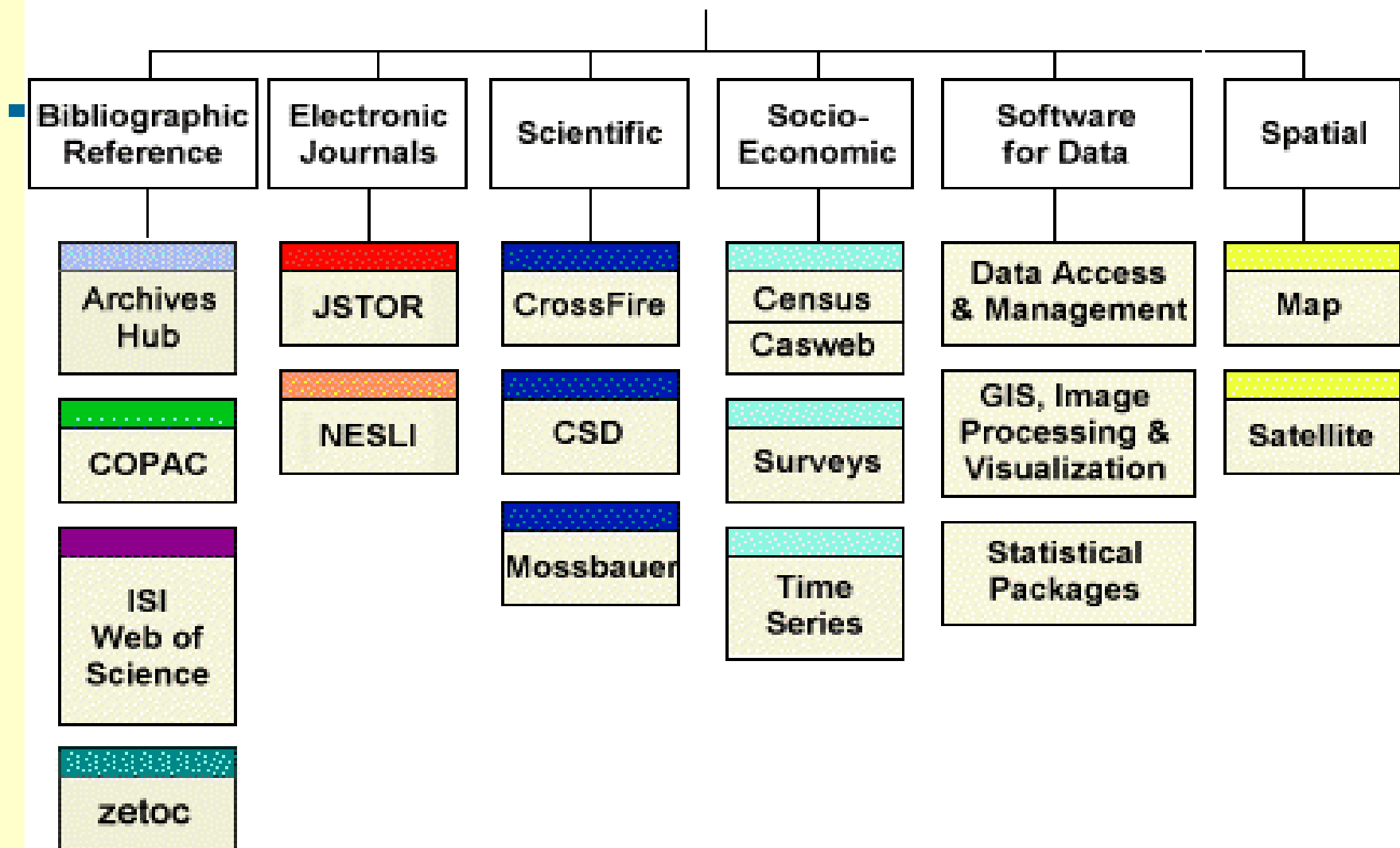
MC Services



- 10,000 computers on local area network
- 25,000 University of Manchester users
- Services used by ~ 200 HE Institution
& >100 FE institutions, soon to be all for the NLN
- Internationally – Beilstein CrossFire, COPAC, Psigate



MIMAS



Supercomputing



- National HPC services continuously since 1972
- Flagship HPC Service for UK Academia & Commerce
 - University of Manchester
 - Computer Sciences Corporation
 - SGI
- Pay per use system
- Local HPC



Supercomputers



- MIMAS
 - Sun E6500 24 PE (MIMAS), E4500, E4000 (JSTOR)
- CSAR
 - Cray T3E-1200E 816 PEs Origin3000 512 PEs
 - Origin2000 128 PEs
 - Fujitsu VPP300 8 PEs Origin300 16 PEs
 - SGI Intel IA-64 32 PEs Compaq 16 PEs
- Manchester
 - IBM RS6000/SP 146 PEs
 - Beowolf cluster 204 Pentiums
 - Origin3000 16 PEs
 - Origin2000 : 44 PEs 8 PEs 16 PEs 40 PEs



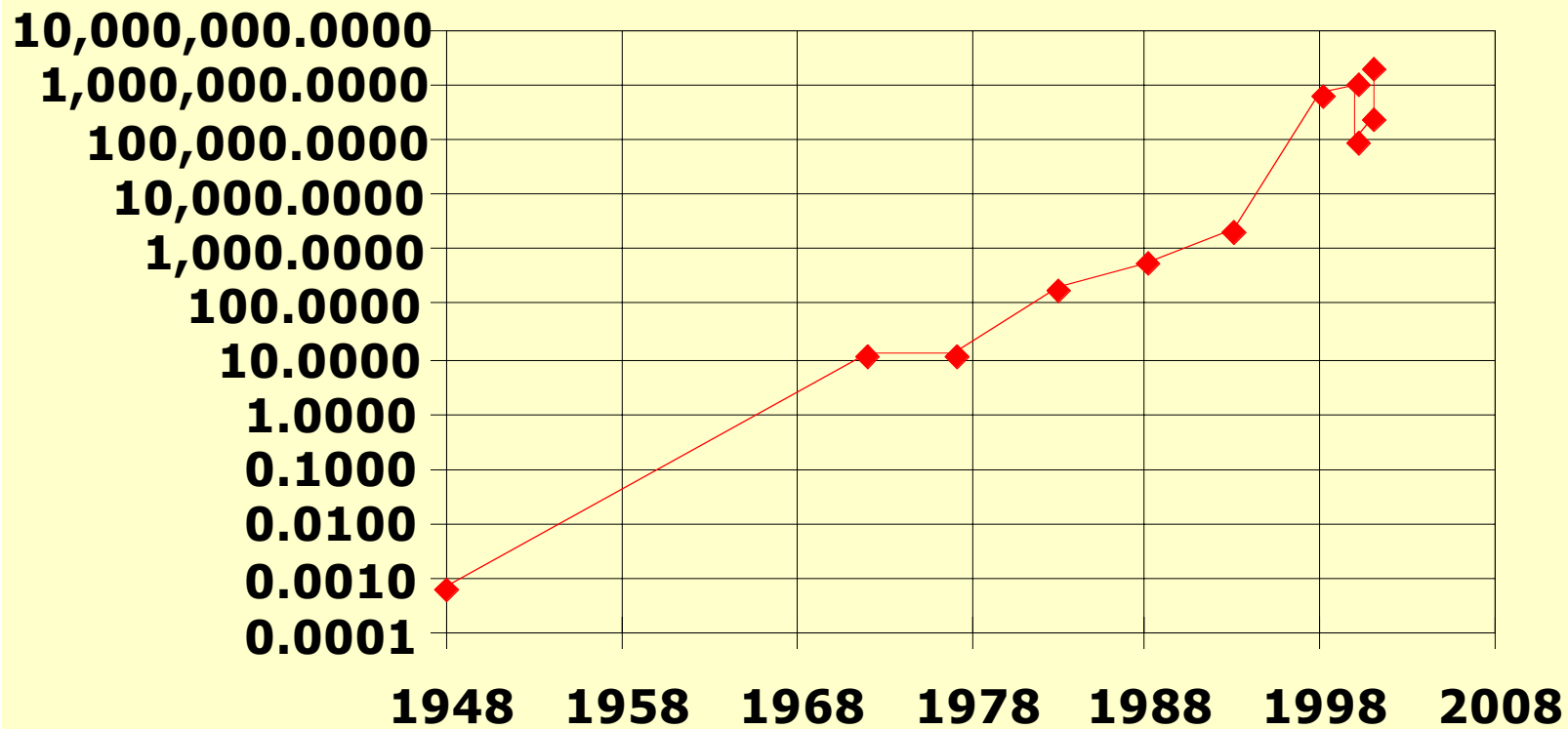
A Brief History of Supercomputing @ Manchester



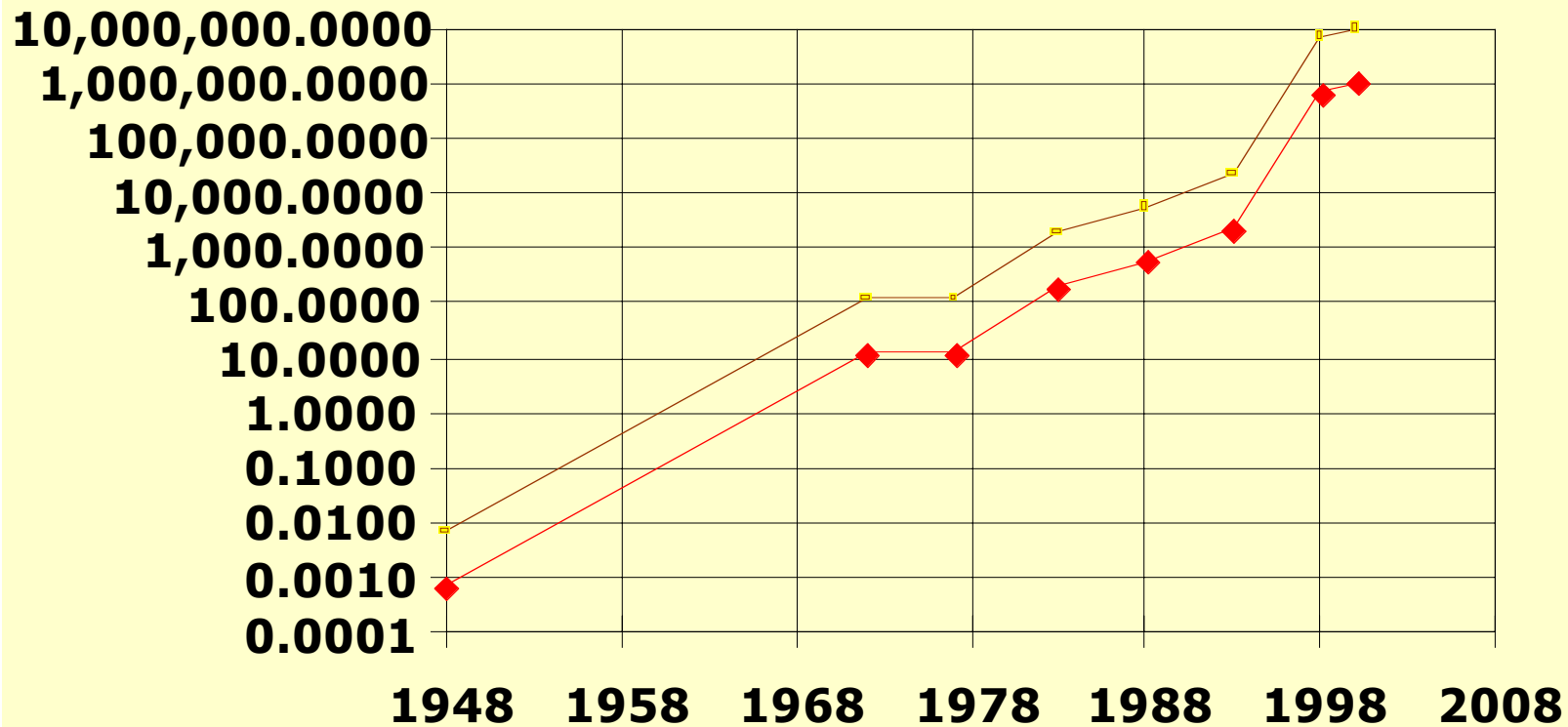
Year	MFlops	Machine
1948	0.0007	Williams-Kilburn Baby
1972	12	CDC7600/ICL1906A
1977	12	CDC7600/ICL1904S
1983	192	CDC Cyber 205
1988	576	VP1200
1993	2,200	VPX 240/10
1998	0.7M	Cray 576 PE
2000	1M	Upgrade to 816 PE
2000	0.1M	128 PE SGI Origin 2000
2001	~0.5M	512 PE SGI Origin3000

Others
 Sun
 Cray CS6400
 Meiko (80PE)
 KSR
 IBM SP (146PE)
 Cray EL98
 Compaq
 Amdahl
 Fujitsu
 Digital

MFlops at Manchester



If only



Manchester Visualization Centre



- Visualization Immersive Projection Laboratory
 - Immersive Projection Theatre
 - Panoram GVR 120
 - Cylindrical Screen
 - Three Electrahome Projectors
 - Active Stereo
 - 40 processor Origin 2000
 - 6 graphics pipes





Invitation



Scotland

Manchester

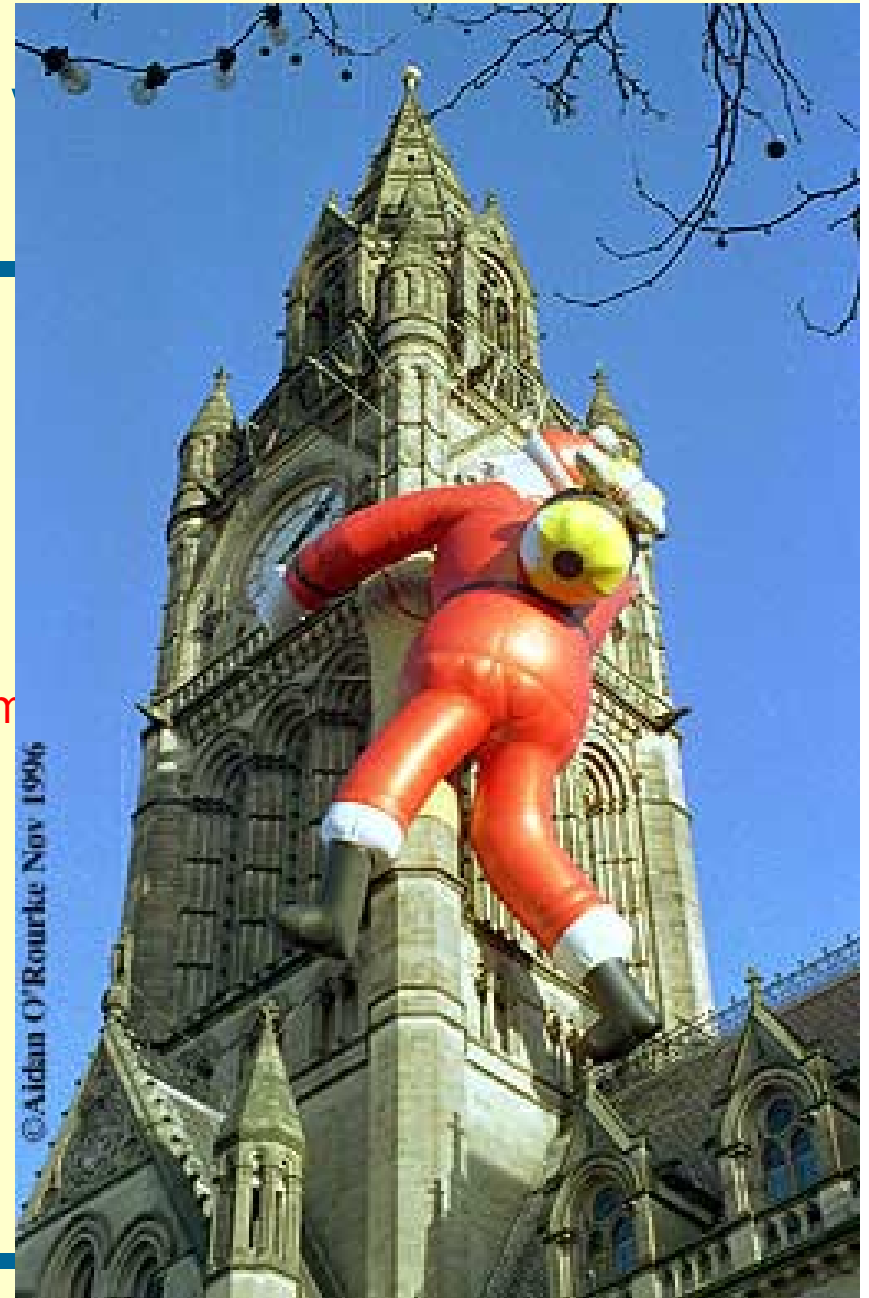
You are here!

London

Conference



- Manchester Town Hall, City Centre
 - Grade II listed building
 - Built 1840
 - Famous Great Hall and State Room



About the City of Manchester



- 12th largest European region
- European headquarters of many multi-nationals
 - 1,057 overseas firms have Manchester as their UK HQ
- 4 Universities
 - + Music and Business Schools
 - + 52 tertiary educational establishments
 - Making it the largest student population in Europe
- World-wide reputation for research and development

Ground Transportation



- Manchester has extensive public transport including:
 - Trains: local and inter-city
 - Buses (with a web-based timetable)
 - The famous 'Metrolink' LRT
 - Taxis
 - Hire cars

Manchester's History



- Called 'Mancunium' by the Romans
 - Roman remains in several locations
- Market town in the Middle ages
- Grew to be a large city during the Industrial Revolution
- Manchester was the world centre for Cotton Spinning and trade in Cotton.
- It was once one of Britain's largest ports, even though its in 40 miles from the sea !

Outside Manchester



- Chester (1 hr)
 - It is still circled by its Roman Walls.
- The Lake District (1.5hrs)
 - Home to England's highest mountains and largest lakes
- Liverpool (40 mins)
 - Birthplace of the Beatles.
- Scotland (2-3 hrs)
 - Should be still snow on the hills in May
- Wales (1-2 hours)
- London (3.5 hours)
 - But who would want to go there ?!















Invitation to CUG 2002

Manchester Computing Europe's
premier university computer service

28



Why Was Manchester Chosen?



- Funny accents
- Funny money
- Can't spell properly
- Play football
- Play cricket
- Drive on the wrong side of the road
- Only 5 TV channels
- Rains a lot
- Eat strange things: black pudding, tripe



Summary: Why Manchester?



- Europe's premier university computer service
- Important site in the history of computing
 - See the 'Baby' in the Museum of Science and Industry
- Large vibrant city (best nightlife in the UK)
 - Theatres / Cinemas - including IMAX, Lowry, Bridgewater
- May is a wonderful month in the area:
 - long days, wild flowers, particularly in Peak District,
- Free Beer
- Lots of good Curry !

Conference Highlights



- Monday: SGI reception Whitworth Art Gallery
- Wednesday:
 - Lord Mayor
 - Dr J Taylor, Director General of the Research Councils
 - CUG Night out at Tatton Park
- Thursday: Cray Reception Science Museum, Castlefield

- 'Email' Room is Tower Room
- Wireless LAN
- 4 corporate sessions, 16 parallel technical sessions
- 3 tutorials, 57 somethings, 5 somethings, 3 key note speakers, 12 something else





USA

Soccer

Football

French fries

Potato chips

Chips

Private school

Area code

Mall

UK word to use

Football

American Football

Chips

Crisps

Crisps

Public school

Dialling code

Shopping centre

Fried potatoes

Fried potatoes



USA	UK word to use	What you might get
Fag	Cigarette	Homosexual
Eraser	Rubber	
Color	Colour	
Elevator	Lift	
Sidewalk	Pavement	
Trunk (of car)	Boot	Big empty suitcase
Fanny	Arse	Slap in the face
Butt	Bottom	Barrel of water
Bathroom	Toilet	Somewhere to wash your hands



USA	UK word to use	What you might get
Restroom	Toilet	Somewhere to sleep
ATM	Cash point, hole in the wall	
Beer	Lager	Bitter
England	United Kingdom	Hit
Entrée	Main course	Starter
First floor	Ground floor	Lost
Suspenders	Braces	Worn by Ladies between knees and waist

Manchester Computing
 University of Manchester
 Manchester M13 9PL
 Telephone: 0161 275 5997
 Fax: 0161 275 6040
 Web: www.csar.cfs.ac.uk
 Email: csar-advice@cfs.ac.uk

Computer Services for Academic Research



CUG SUMMIT 2002 Quiz Answers

1	YMP8e	25	J90 or SV1 Memory Board
2	Amdahl 5890	26	Lots
3	T3D	27	Football
4	T3E	28	Chips
5	J90	29	Crisps
6	CS6400	30	Crisps
7	Amdahl VP1200	31	Public School
8	CS6400 (Rear)	32	Dialling Code
9	VPX240/10	33	Shopping Centre
10	CDC 7600	34	Cigarette
11	SV1	35	Rubber
12	Tom King	36	Lift
13	Cray 1	37	Pavement
14	Cray 2	38	Boot
15	EL	39	Arse
16	T90	40	Bottom
17	MTA-2	41	Toilet
18	HPC Cluster	42	Restroom/bathroom
19	MTA-1	43	ATM
20	MTA-2	44	Beer
21	SV1	45	England
22	SX6	46	Entrée
23	Origin2000	47	First Floor
24	XMP	48	Suspenders

Things Not to Say



- You speak with a funny accent
- Anything about the results of
 - Premier league
 - European Champions league

Things to Say



- May I buy you a beer
- Terry is a wonderful person & a credit to the human race

Acknowledgements



- CUG Board
- University of Manchester
- CRAY, SGI
- Time Computers, Danwood Group
- And you for attending





Welcome to CUG SUMMIT 2002

You won't be
disappointed!



www.cug.org