ATM DOCUMENT COLLECTION 2

February 1993

This report contains the current versions of the documents associated with the ATM networking projects at Cambridge, both within the Computer Laboratory and in collaboration with Olivetti Research Labs. These are intended mainly for reference by people involved with the projects on a day to day basis, rather than as a general overview. The hardware, software and protocols described in these documents are all under active development, so the details may change.

A good summary of the current Cambridge ATM environment is included in Joe Dixon's PhD thesis (CUCL Technical report 245). The MultiService Network Architecture is presented in Derek McAuley's thesis (CUCL Technical report 186). Background to the Fairisle project may be found in the paper by Ian Leslie and Derek McAuley presented at SIGCOMM'91 (Proc SIGCOMM'91 page 327, also included in CUCL Technical Report 219). CUCL technical report 258 contains two papers detailing ideas on ATM in the local area, and more recent ideas are presented in the two papers "ATM Everywhere" and "Protocol and Interface for ATM LANs" submitted to IEEE Network magazine which will shortly appear as a technical report. Further details about the Desk Area Network project may be found in the paper by Mark Hayter and Derek McAuley in Operating Systems Reviews, Vol 25 No 4, October 1991, (also CUCL Technical report 228). This snapshot includes details of the DAN hardware being developed.

This document is intended to replace the earlier "ATM Document Collection" of 29th February 1992 ("The Yellow Book"). The only documents in that collection that are not replaced by ones in this are those describing "The Maybe Board" and "The Fairisle VME Interface".

MSNA protocols

1	Common MSDL Features	Richard Black
2	Assigned Network Numbers and Ports	Richard Black
3	Framing and Sequencing	Richard Black
4	EDL frame format and Meta signalling	Richard Black
5	FDL cell format and Meta signalling	Richard Black
6	MDL cell format and Meta signalling	Richard Black
6	Investigating the Fabric	Richard Black
8	IP over MSNL	Michael Roe
9	TCP & UDP / IP on Wanda	Tristan Richardson
10	MS-RPC A lightweight RPC mechanism for MSNL	Simon Crosby
11	The Topology Discovery Service	Richard Earnshaw
12	MSNL Management	Simon Crosby
13	MSNL in Unix	Richard Black
14	The MSNL/IP Name Service	Shaw Chuang

ATM Hardware

16	Fairisle Port Controller Design and Ideas	Mark Hayter
17	FPC Xilinx Xi2 Design and Software	and
18	FPC Xilinx Xi3 Design and Software	Richard Black
19	FPC3 Xilinx Xi5 Design and Software	
20	Null Port Controller Design	Daniel Gordon
21	Technical Notes on the Fairisle Multicast Fabric	Matthew Doar
22	Fairisle/Yes/Maybe ATM Taxi link Protocol	Mark Hayter
23	The TAXI transmission card and Fairisle/Yes/Maybe protocol xilinx chip	Mark Hayter
24	The EISA ATM interface card	Ian Leslie
25	The 4x4 and 8x8 Fabrics	Daniel Gordon
26	The New Backplane and Clock card	Daniel Gordon
27	The DAN CPU Node – the MDH–9	Mark Hayter
28	The ATM Camera V1	Ian Pratt
29	The DAN Framestore	Ian Pratt
30	Port Controller Performance Measurements	Ian Pratt and Eoin Hyden
31	Anaconda: A real-time Control-Flow/Data-Flow Hybrid	Simon Moore
32	The Backbone Ring (V1DMA) Users' Manual	David Greaves
33	The Olivetti Research 'Yes V2' option module.	D Greaves and L French
34	The ORL G703 ATM thing	David Greaves
35	The Milway CFR Podule	David Greaves
36	The ORL 'Yes V3' option module.	David Greaves
37	Yes V2: Preliminary Performance	Eoin Hyden and Ian Pratt

Miscellany

38	The Xilinx Teaching Board	Steve Temple
39	Ramprom, Xidump and Xiload for XTB	Q Stafford-Fraser
40	Timing Details on the Fairisle switch	Daniel Gordon
41	Connectors	Daniel Gordon
42	**Don't Panic** – Hints, tips and folklore	Folk