

Angus College
Dundee College
Elmwood College
Fife College
Glenrothes College
Lauder College
University of Abertay Dundee
University of Dundee
University of St Andrews

Fife and Tayside Metropolitan Area Network

Explanatory notes to the project and the Consortium Agreement

FaTMAN

1 History

- 1.1 In October 1994, the Scottish Higher Education Funding Council (SHEFC) requested bids for the funding of improved networking of institutions. Most SHEFC funded institutions put in individual bids to improve their own campus Local Area Networks (LANs) but in addition four groups of institutions submitted bids to form Metropolitan Area Networks (MANs). These four groups are based around the cities of Aberdeen, Edinburgh, Glasgow, and Dundee/St Andrews.
- 1.2 A working group of the IT directors and network managers from the University of Abertay Dundee, the University of Dundee, and the University of St Andrews looked at the feasibility of a Fife and Tayside MAN (FaTMAN) and issued a request for proposals and information. A small number of significant responses were received. Information from these responses formed the technical basis of a bid to SHEFC from the FaTMAN universities. The bid to SHEFC indicated that creation of high speed connectivity between sites and the institutions was seen as a high priority networking objective for the universities. It was envisaged then that a MAN would provide a suitable infrastructure for increasing collaboration and co-operation between the universities and facilitate the adoption of new and improved services on and between campuses.
- 1.3 SHEFC awarded grants for the creation of four Scottish MANs and for FaTMAN, a budget of £472,000 was obtained. An EU procurement was conducted, contracts awarded to ScottishTelecom, K-Net and Chernikeeff and in August 1995, an ATM¹ network operating in a logical ring connecting the universities of Abertay Dundee, Dundee and St Andrews became the first fully operational HE MAN in the UK. FaTMAN has functioned well since, virtually uninterrupted, to provide an inter-institution communications framework, our links to SuperJANET and the Internet and the local vehicle for a world-class videoconferencing service.
- 1.4 The working group recognized early on that the management and development of the MAN would be a significant issue and a Memorandum of Agreement (MoA) was created that formed the basis of the joint management of the MAN. The MoA was in force to August 2002 and now has to be replaced. This document gives an explanation of how we propose to do this.
- 1.5 In 1996, Northern College joined the Consortium as a full member and obtained a link to FaTMAN for its Dundee campus. Various organizations related to education and research, including the Scottish Crop Research Institute and Dundee College have since obtained their Internet service through connections to a local university and FaTMAN and Dundee schools have obtained an internet service via the University of Abertay Dundee and FaTMAN.

¹ Asynchronous Transfer Mode – a high speed digital networking technology

- 1.6 In 1997, SHEFC funded resilient links from SuperJANET into all the Scottish HE MANs.
- 1.7 In 2000, SFEFC joined the JISC and UKERNA² made funds available to connect Angus College, Elmwood College, Fife College and Glenrothes College to SuperJANET via FaTMAN at 2Mbps. More recently, Lauder College expressed a wish to move its connection to SuperJANET from EaStMAN³ to FaTMAN. The close involvement of all local FE Colleges in FaTMAN and the financial contribution that SFEFC proposed to make to the development of FaTMAN required us to review the MoA and the result is the FaTMAN Consortium Agreement.

2 FaTMAN Development in 2002

- 2.1 SuperJANET 4, the current version of JANET, is essentially a backbone network connecting MANs, therefore MANs clearly play an important role in provision of internet services to HE and FE and their development and management is core to the quality of internet service an institution experiences.
- 2.2 Following the model of the original FaTMAN working group, the FaTMAN management group worked closely with technical and managerial representatives from local FE colleges to prepare a bid for funds from SHEFC and SHFEC to develop the next generation of the Fife and Tayside Metropolitan Area Network. Requests for information were sent to possible suppliers of communications circuits and equipment and a proposal was submitted to UKERNA who were acting as agents for SHEFC and SFEFC.
- 2.3 The proposal included an option to significantly increase the connection bandwidth for FE colleges and this option was duly approved for funding.
- 2.4 A grant of £823,783 was provided from SHEFC and SFEFC for the development of FaTMAN and once again an open EU procurement was conducted. Contracts were awarded to Thus and Stiells.
- 2.5 In 1995, it was necessary for each HEI to contribute £19,000 each towards the capital cost of establishing FaTMAN. Although we made provision for a contribution to be made if necessary, no compulsory contribution was required this time, however some institutions took advantage of the discounts available to purchase additional communications equipment.
- 2.6 The new network provides for each HEI to be connected to the FaTMAN core at 1Gbps and for each FEC to be connected at 100Mbps. FaTMAN is currently unique in the UK at having a minimum institutional connection as high as 100Mbps. FaTMAN itself has recently had its connection to SuperJANET increased to 622Mbps.

² United Kingdom Education and Research Networking Association – the organisation that manages and develops SuperJANET

³ Edinburgh and Stirling MAN

3 Governance

- 3.1 Under the provisions of the original (1995-2002) FaTMAN MoA, each HEI was entitled to two representatives on the Management Group. In order to reflect the new constituency and the financial contribution made by SFEFC towards the development of FaTMAN, it was necessary to reconsider the remit and composition of the Management Group.
- 3.2 UKERNA also required FaTMAN to determine whether it wished to become an RPAN⁴ or an RDN⁵. In an RPAN, the MAN would be operated by its constituent members with one institution accepting the role of Regional Network Operator (RNO). In an RDN, UKERNA would effectively operate the MAN to deliver SuperJANET service to an institution's door. In common with the other Scottish MANs, and nearly all the other UK MANs, FaTMAN decided to operate as an RPAN with the University of Dundee acting as the RNO.
- 3.3 It was also necessary to consider whether or not to maintain FaTMAN as a consortium of institutions or to recommend that FaTMAN became a company limited by share or guarantee. Throughout the UK, many MANs have formed themselves into companies. In Scotland however, AbMAN⁶ has become a company whilst ClydeNET⁷, EaStMAN and FaTMAN determined to continue as consortiums of higher and further education institutions.
- 3.4 In any event it has been necessary to considerably overall the FaTMAN MoA to reflect a revised membership and to protect individual institutions that were assuming legal and financial responsibilities for FaTMAN and the delivery of services.
- 3.5 It is proposed to reform the FaTMAN Management Group into the FaTMAN Management Committee and, in addition to each HEI having two representatives, each FEC would have one representative on the committee and, in reflection of their role as RNO a further representative from the University of Dundee would join.

4 Consortium Agreement

- 4.1 In order to save staff resources and other costs and to ensure that at least two Scottish MANs operating as a consortium were set up in a similar fashion, it was decided that the FaTMAN Consortium Agreement would use as a model the consortium agreement fashioned by ClydeNET.
- 4.2 The most significant difference between the two documents is brought

⁴ Regional Partner Academic Network

⁵ Regional Distribution Network

⁶ Aberdeen MAN

⁷ ClydeNET – the MAN operating in and around Glasgow

about by the fact that because of its size, the FaTMAN Management Committee is able to have representatives from all HEIs and FECs connecting to FaTMAN.

- 4.3 As the main communications circuits have been leased from Thus for a 7-year period, the Consortium Agreement is designed to run to 31 July 2009 in the normal course of events.

5 Future Developments

- 5.1 The funding for FaTMAN provides for the connection of the main campuses to FaTMAN at the speeds described in 2.6 above. Connections to other sites have been paid by the institutions concerned.
- 5.2 The main service operating over FaTMAN is a data service using IP⁸.
- 5.3 The ATM-based videoconferencing service has been migrated to a videoconferencing service using IP. As before, this is capable of interfacing to ISDN-based studios. It is anticipated that this service will increase in its scope over time.
- 5.4 Other existing MAN-based services such as the helpdesk shared between the Universities of Dundee and St Andrews will continue as before. It is to be hoped that the new, expanded MAN will foster further collaboration and cooperation between its member institutions.
- 5.5 A risk assessment and disaster recovery plan will be produced. This may result in a strategy to improve the resilience of parts of the FaTMAN infrastructure.

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⁸ IP is the networking protocol used on SuperJANET and the Internet

Appendix 1

Current Membership of the FaTMAN Management Group

Angus College	John Clayton
Dundee College	John Robertson
Elmwood College	Angela Williams
Fife College	Michael Grimm
Glenrothes College	Lawrie McDonald
Lauder College	Andrew Comrie
University of Abertay Dundee	Stewart Gardner Frazer Greig (Secretary)
University of Dundee	Alastair Macpherson Richard Murphy Mike Whitehead
University of St Andrews	Malcolm Bain (Chairman) Ian McDonald

Observers

University of Dundee	Chris Reid
UKERNA	Jim Buchan