# HEIDS – Wednesday 5 March 2003

# Brief status report from Resilience Working Group

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## Summary

The group took as its starting point the paper produced by UKERNA in November 1998 on "Report of Initial Risk Assessment carried out on the Resilience of Scottish MANs and their Interconnectivity to JANET".

In addition to an active e-mail list, the group has met twice by video-conference and for part of each meeting representatives of Thus attended.

UKERNA have been kept fully briefed of our activities which are serving as input to the UKERNA JANET Architecture Group. We have agreed to meet with UKERNA in mid April after the Architecture Group has met and deliberated.

## Risks

The identified risks that the group has focussed on are:

1. Equipment malfunction at MAN access point (MAN router and BAR)
2. Failure of wide-area telecommunications links or provider's equipment (SDH end-point equipment)
3. Loss of building or other major facility

It was noted that UHIMI already enjoyed resilience in MAN entry point and C-POP. AbMAN and FaTMAN both have protected circuits linking them to the C-POP. No figures were available to determine if the protection has ever been used. ClydeNET and EaStMAN have non-protected links to the C-POP.

The group believes that for these risks, no institution could be without service for more than two days. The loss of the JANET link also has major repercussions for the DNS service on which local services depend. There is a two day window to build infrastructure, hardware and systems and restore data so that the network is functioning again.

## Possible Solutions

All these risks can be mitigated by restoring and developing a dual connection for each MAN with the second access going to the opposite C-POP. Thus were asked to provide an indicative quote for this option for AbMAN and FaTMAN links of the same type as current but to the other C-POP; also for a single connection between second sites in ClydeNET and EaStMAN. The quote proved prohibitively expensive both in capital and recurrent costs.

Since Thus offer a LAN Extension Service (LES) between the major cities in Scotland, they were then asked to quote for a LES service between Aberdeen-Dundee and Glasgow-Edinburgh. This would provide links to the alternative C-POP using the other

MAN as a transit network. Current bandwidth use would indicate that bandwidth less than the current primary link would be initially adequate.

The topology of the MANs would then be a square which would be resilient against failure of a single link.

## Other Considerations

It was noted that failure of a JANET C-POP is a risk which will feature in UKERNA's contingency planning.

Since it was outwith our remit, no account has been taken in our deliberations of the construction of resilient MANs nor of resilient access from HEIs/FECs to these MANs.

Other players who may have an interest in this work are the E-Science community and the SPARK project.

Since discussions on SJ5 are commencing, our work may provide useful input.