Minutes of the 5th TF-TEN meeting

Luxembourg, October 30th,1996

Welcome and apologies

1. Ariel T. Sobelman	TERENA	NL
2. Zlatica Cekro	ULB/STC	BE
3. Simon Leinen	SWITCH	ch
4. Christoph Graf	DANTE	uk
5. Albert Schindler	U. of Geneva	ch
6. Guenther Schmittner	U. of Linz/Aconet	AT
7. Robert Stoy	RUS/DFN	DE
8. Olav Kvittem	Uninett	NO
9. Kevin Meynell	UKERNA	UK
10. Paulo Neves	RCCN	PT
11. Vegard Engen	Uninett	NO
12. Celestino Tomas	RedIris	SP
13. Alain Frieden	RESTENA	LUX
14. Magnus Danielson	KTH	SE
15. Tomi Korlcainen	KTH	SE
16. Jean-Marc Uze	RENATER	FR
17. Hossam Afifi	ENST	FR
18. Michael Behringer	DANTE	UK
19. Sitzia Fabrizio	CRP - Henry Tudor	LU
20. Ramin Najmabadi Kia	ULB/STC	BE
21. Victor Reijs	SURFnet	NL
22. Mick Palfrey	BT	UK
23. Francis O'Keane	FranceTelecom	FR
24. Dave Sutherland	BT	UK
25. Mauro Campanella	INFN	IT
26. Ron Sprenkels	Twente University	NL
27. Phil Chimento	Twente University	NL
28. Dirk Hetzer	DTAG/DeteBerkom	DE
29. Cees de Laat	Utrecht University	NL

Apologies were received from

Olivier Martin, Tiziana Ferrari

3. Minutes and actions from last meeting.

Actions from last meeting

3.19 (olav) closed.
3.25 MB. Closed
3.27 Olav. Closed
4.1 (a bunch of people) closed. We will start a new one if we need it.
4.2 Victor Closed
4.3 MB - closed done
4.4 MB Closed
4.5 Christoph . Done closed
4.6 CG Closed. done
4.7 GS,VR done closed
4.8 Ramin - open
4.9 Olav - open
4.10 KM , GS closed
4.11 KM Open (ariel check what that means)
4.12 closed
4.13 Olav. Open
4.14 Ariel - closed
4.15 Olav open
4.16 closed

TEN-34 report

MB reporting that nothing has changed on the topology since last meeting. The situation is somewhat shaky about when smaller countries will join, but the rest are more or less stable. At this point, we are going into deep levels, like assigning IP and AS numbers and issues of connections and cables. There are difficulties with commercial arrangements, such as issues of what will happen if part of the network is up and another part isnÕt. There are negotiations on all these topics and currently, the target date for start of service is March 1, 1997.

Status of the overlay network and local access

The overlay network map is available on the TF-TEN web. It indicates the links which are up and tested as well as those which are up but not yet tested.

Presentation on TCP over non-existent IP by Hossam Afifi

HA gave a presentation of his work carried out at CNET in France, where he i TCP over NEIP for ATM networks. This work was carried out at CNET in france, where afifi is an assistant professor.

ftp.rennes.enst-bretagne.ft/pub/resean/afifi

Afifi also presented work describing a solution to secure communications over ATM, done together with a graduate student. This work discussed:

1. Data origin authentication
2. Confidentiality in the sense of data exchanged over the network.
3. Integrity of data exchanged over the network, so you don't lose any bits of the data you sent.

They implemented a solution that she tested between two ATM stations. Her solution is based on IEEE 802.10 swIPe and the ATM forum specification.

How can we integrate Afifi's work with ours? What would he like to do with us and what can we see here as an interesting idea for actions?

We can make more use of the SVC tests than now because we could actually be transmitting something...

A test is proposed to have a server in Lannion download mpeg video in real time, HA will supply the player from sun and we can do some tests. To see if it works and if not, what is the bandwidth for an mpeg session etc. CG prefers not to put it into the SVC testings but put it in a new experiment category?

Who is interested in participating?? Switch, France, Holland

ACTION 5.1 HA :write up a project description for the new experiment. HA will write the description by the middle of next week. Further discussions on the list

Action 5.2 everybody. Check if the equipment information on the web is still up
to date.

(There is a discussion going on whether it is wise or needed to

experiment with RSVP over CBR, or does it completely defy the point? Albert Schindler is saying that this might be a contradiction in term? He said that over CBR there is no need or point to even do RSVP.)

Other business for first day

The issue of publicising the TF-TEN work was discussed and some ideas were raised.
Some of these involved submitting a paper to INEt, which has been done by MB. Also discussed was an idea to request a full session at JENC8 for TF-TEN to present the experiments in details, rather than the standard general presentation.

Action 5.3 AS: Find out about the procedures for arranging a session at JENC8

DAY II

JAMES presentation. Mick Palfrey, BT

TEN34 TFD connections completed and alive. MP says that if there are any problems with the network, they should come to BT through him. PVC CBR service available now. Over 20 projects have connections.

At this stage, JAMES is working on the enhanced features and they see one of the purposes of this meeting to inform us of these features.

MB says it will be interesting to hear more general stuff about the JAMES project
from the high point of view, commission etc. FO Says they haven't had any particular feedback from the commission. They submitted their first seven deliverables. Some of which might be of interest to us and they will make these available to us.

They are trying to get the idea across that not all the PNOÕs and users will have all the services up simultaneously. Like VBR, for example. There will be a degree of difference in level of service from country to country. They feel they want to have our input so they can feed this back into the specifications which are based on our feedback as the users.

MP says the idea is when we leave this meeting today we all know our contacts and how to approach them etc.

Deliverable 11 (while waiting for the rest of the JAMES people to arrive)

As the TF-TEN work is part of a commission funded project (TEN-34), we are required to submit several deliverables. The first one was D11.1, the specification of the phase one testing, the next one is D11.2, interim results, and at the end of phase one (April 1997) we need to submit D11.3, the final results of the experiments.

The next step is D11.2, the interim results, which have to be at the commission on 20 December. As a formal procedure of peer reviews is required before that, and we need to allow for time to collect the parts of the deliverable and to bring them into one format, the interim results of each experiment have to be sent to MB by 20 November.

In practice, this means experiment leader need to write preliminary results or full results if experiment finished. We specified how these results should be presented, itÕs on page six of deliverable 11.1.

National activities

Belgium - Belgacomm has offered an ATM service to belganet, to connect 7 universities with ATM. The offer is not realistic for that price. They offer CBR, VBR and ABR.

Switzerland - three ATM links in a triangular configuration. 4 months in
production. Add two sites, Geneva and Bern probably by end of this year or early
next year..

Austria - Part of the ACONET is running on ATM including Vienna and it has plans to add two more cities (MATS project). Currently, they are co-operating with the Austrian telecomm with work package 3.6 for LAN emulation over ATM. We have done a few tests over the last few weeks.

Germany - Lots of projects running. Research network based on

the ATM infrastructure of German Telecom. DFN provides IP service on top of this network. DFN has started an initiative to develop applications. Germany is involved in he MERCI project.

Luxembourg - we don't have any special activities with ATM yet.

Sweden - Not much to report. They have some VP's coming in. MD Doesn't really know what's happening in other parts, and doesn't know of any larger usage

Norway - OK said the activities have not changed since last time, but there is some concern about the cooperation within Norway and things might be changing.

The Netherlands - Continuing the deployment of ATM NL. WE see small usage with universities of ATM and we will stimulate the usage of ATM applications. We don't know what applications will evolve. The PTT is still busy with changing their national network . SDH connections of a mesh of four. It will be finalised in February of next year. ELECTRA between NL, DE and BE we are going to make 155 between NL and BE, one of these will be for ATM the other will before production IP. VR busy is finding SDH input based on experience for recommendations.

JAMES and SVC Testing

A presentation is given from TF-TEN and from JAMES to decide what we can do together.

CG - SVC tunneling: our ATM equipment claims to support SVC and we want to work it. People have done it locally and we want to test it over the LAN. JAMES doesn't support signalling directly, so we want to do it through tunnelling. This was our intention.

The goal is to gain some experience with SVC networking in general and prove the ability of this SVC tunnelling to cope with the limitations JAMES has at the moment (no advanced services). Some stuff relies on NHRP, for example. Relies on SVC infrastructure.

At the moment we have 6 or 7 sites and that is fully sufficient for testing. Will the last week of November suit all the participants? If so, we can have the testing finished before

the end of the year? The discussion turns to conducting the work earlier and now the idea is to conduct these tests before middle of the month so we can incorporate some results from this into the interim report. We are aiming at getting everything set-up next week and conducting the tests the week after. VR says NL has equipment problems right now, so we will see if there is a possibility to get him fixed next week and if not, we leave him out of the experiment....:-)

Intermediate results. SVC infrastructure works quite well in a LAN environment. CBR (VBR) works well in a WAN environment.

Available SVC equipment does not operate properly in a WAN environment.

GS says we can test in a later state with a closed loop of SVC islands, we can try to establish routing tables with the primary path going in one direction and the secondary route going in the other direction. That could be an interesting experiment.

RS, AF, GS, MC presenting their results

MC giving very thorough presentation which the group feels should be set as a standard for experiments and result presentation. MC please supply copy of your talk to the Web so it can be put online and many compliments for excellent work.

JAMES presentation on what should be done with SVCÕs, Dave Sutherland - BT.

They Started in September on the work package.

Some migration from existing switches likely, and he will explain what switches they expect to have in the JAMES network. There was a desire among some partners to test these switches and make sure they conform to the standards and also do some interoperability tests and also to do end-to-end tests. JAMES want to offer services and they have to be sure they do the things
they are supposed to do.

Hope to connect some users in Europe to the service by end of March beginning of
April next year.

Next steps are to produce an SVC network plan taking partner equipment choices
into account.

DS will send the JAMES workplan 3.5 task plan out to our list.

The summery of equipment for use by JAMES does not seem to be up to date
and DS hopes that he will have a fully up-to-date version within a month or so.

Action 5.4 DS: Talk to TF-TEN people about specific plan of Action for SVC tests.

MB says that if we manage to get a limited SVC between two sites, with shaping etc, that would be a foundation of a real service.

MB and MC (and everyone) agree We need to produce a paper that describes all the short falls of the current situation regarding SVCs.

CDVT tests - Dirk Hetzer

Presentation available on our site.

Performance measurements JAMES WG 4.4

Defining global aspects for performance measurements in the ATM network.
with first tests being point-to-point:

Erroneous cells (identification and time stamping)
Lost cells
Mis-insterted cells
Rout trip connection characteristics : mean cell delay, cell delay variation.
availability characteristics un-availability ratio, outage intensity.

Their tests were carried out between paired countries in the network around the same time period (tests were carried out in August, but not all of them were actually carried out exactly on the same day).

Phil Chimento from the University of Twente is giving our side of the CDVT work. He's working with VR . They have a CDVT/BT measurement with the configuration of isolated cell streams.

Action 5.5 DH & PC: will write the precise definition of what they are doing and
what they want to do offline and will send the info to the list.

NHRP

OK is giving a presentation on NHRP. Available on the web

Native ATM Performance

MC: Tests show that the principal limit can be reached. To continue, the
collaboration with PNO is required to check for cell losses and changes of
CDV along the path.
DeTe: Has been extensively tested between NL-CH. Results not available.
MC: would like to test different equipment's behaviour on long fat pipes.
Would like to repeat the tests, because there were some uncertainties about
the results. Maybe cell loss somewhere.
MB: how about earlier expressed interest to create defined cell drop and
test the
effect on applications. PNOs offer CBR/VBR services with CLR between 10E-5
to 10E-10. Would be nice to find impact on applications.
DeTe: should be possible to change policing to achieve this.

Action 5.6: VR+Dirk To follow up on tests with defined cell loss

VBR Tests

OM leading the tests is not here. Idea is to find out whether VBR is
interesting for IP over ATM. Are there advantages for using VBR in some
circumstances, since single packets can be transmitted faster?

Waiting for
VBR support by JAMES.
DeTe: could be possible to get VBR service, the Siemens Implementation
called ÒReal Time VBR". Could be possible to get such a service between CH
and DE. FI and DK might work as well.
MP: DE and UK would work to.

RSVP

RSVP over ATM works. Experiment between Oslo and Dresden is proposed,
detailed plan to come. MBONE tools with integrated RSVP support available
with proprietary support for matching to ATM parameter.

Action 5.7 SK: Detailed test plan in two weeks time.

JAMES: no activity on RSVP. For further study, waiting for implementations.

Security

Nuno: What are the guidelines for security? Between end users? Between user
and JAMES?
DS: same questions have been asked without satisfactory answers yet. Martin
?? of BT did some work about it. Nuno should follow up with him.
FOK: Security is WP with low manpower.

Action 5.8 Nuno: Intermediate Report should go into D.11

IP over ATM (JAMES WP 3.2, CSELT)

1. definition of capabilities
2. testing 9/96
3. deployment 11/96

Core network: Paris, London, Cologne, Milan. Other countries connected to one of them. Each in separate AS, interconnected with BGP4. Links all 2Mbps. Access to the service is up to the

PNO. ATM in some places as is the set of routes announced to the user. International part is always ATM). It is not connected to the Internet. Feeding of MBONE could be agreed for limited period of time (DVMRP or PIM is an open issue). There are no users yet.

Videoconferencing over Overlay Network

Action 5.9 Magnus: Write a proposal with different options for videoconferencing over the Overlay network. Time: one week.

Next meeting: JAMES is very much welcomed to join in to the next meeting again. Date: January 9(pm)+10(am+pm), Place: Linz. Exact time to b decided.

Open Actions:

4.8 Action RNK: Write in more details what precisely we ought to do with
the ARP testings. Two weeks. September 13th.

4.9 Action OK: Write down a detailed test description for the NHRP.
Should be ready for end of September.

4.11 Action KM: Try to find out what the differences are between PNN and ICE

4.13 Action OK: when you know more on the CDVT issues after talking to the
PTT please send it to the list so we can discuss it a bit before the next
meeting. This will be done within a month.

4.15 Action OK: bootstrap the process of getting all the software and
requirements for the experiments and send info to the participants of the
experiment.

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Action 5.2 everybody. Check if the equipment information on the web is still up
to date.

Action 5.3 AS: Find out about the procedures for arranging a session at JENC8

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[end]