Minutes of the Fourth IETF Directory Services (OSI-DS) Working Group Videoconference 11th April 1991

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BBN

Ruth Lang
SRI

Colin Robbins
X-Tel

Steve Hotz
ISI

Steve Kille
UCL

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Contents

1 Introduction

This meeting was held as a videoconference at four sites: BBN; SRI (RIACS facility); ISI; UCL. Minutes were taken at each site, and this note is a compilation of those minutes. In addition, there was a phone-in from Merit. The meeting was an interesting "first" in use of the videoconference technology in that:

- It was not a videoconference about videoconferencing
- Four sites were involved, one not in the US
- There were more than one or two participants at each site

2 Agenda

This is a joint meeting with members of RARE WG3.

Date Videoconference on Thursday 11th April

> **UCL** 17:00 - 21:00 BST
>
> **BBN** 12:00 - 16:00 EDT
>
> **SRI/RIACS (Bay Area)** 09:00 - 13:00 PDT

Times are "UCL time" (BST)

Tuesday

17:00 Introduction

- Discussion of Videoconference *modus operandi*
- Agenda
- Minutes of previous meeting
- Matters arising
- No liaisons!

17:15 Document Status. Review status of all working documents, Internet Drafts, and submitted RFCs.

17:25 Presentation of Pilot Activity

> **DISI** (Chris Weider)
>
> **PARADISE** (David Goodman)
>
> **FOX** (Steve Hotz, Bob Braden, Ruth Lang)
>
> **RARE WG3** (Erik Huizer)
>
> **Top level DSA configuration** (Colin Robbins)

18:15 Monthly Reporting (Steve Hotz/David Goodman)

18:30 US/Europe liaison issues

18:45 Management of "experimental" object identifiers

19:00 Naming Guidelines (Paul Barker)

19:15 Representing Network Information (Mark Knopper??)

19:45 Security (Peter Yee)

20:20 Naming in the US in light of NADF 123 (Einar Sefferud)

20:50 Date and Venue of next meeting

20:50 – 21:00 AOB

3 Attendees

At BBN: Peter Mierswa (DEC)

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RIACS attendees:  Russ Wright, LBL
  Ruth Lang, SRI


ISI site attendance list:

Bob Braden ISI 213.822.1511 braden@isi.edu
Steve Hotz ISI 213.822.1511 hotz@isi.edu
Einar Stefferud NMA stef@ics.uci.edu
Dan Molinelli TRW 213.812.2161 moline@gumby.dsd.trw.com
Charles Wolverton Aerospace wolverton@msandc.mve.aero.org
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At UCL there were:

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Jim Cragie JNT
Paul Barker UCL
Steve Kille UCL
David Goodman UCL
Colin Robbins X-Tel
Erik Huizer Surfnet
Julian Onions X-Tel
Steve Titcombe UCL
Peter Williams  UCL
Nick Emery DEC
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4 Introductions

Meeting started at 5:15 (UCL) after some work to set mike levels etc.

Introductions were made from the remote sites: BBN; ISI and RIACS. Not knowing many of the people made it almost impossible to work out who was actually introducing themselves.

5 Pilot activity

5.1 PARADISE (David Goodman)

PARADISE is a sub-project of the broader COSINE project sponsored under the umbrella of EUREKA by eighteen participating countries and aimed at promoting OSI to the academic, industrial and governmental research and development organizations in Europe. The countries involved are those of the EC, EFTA plus Yugoslavia.

The partners funded by PARADISE besides UCL are:

- the Networks Group at the University of London Computer Centre (ULCC), which is a service-oriented organization providing a range of facilities to the academic community in London and the entry point into the UK for IXI, the COSINE international X.25 backbone;
- X-Tel Services Ltd, a software company based in Nottingham which currently provides service support to the UK Academic X.500 pilot; and
- PTT Telematic Systems from the Netherlands, which in turn has subcontracted the Swiss and Finnish PTTs, and whose involvement is to create a forum for discussion on X.500 among the European carrier administrations.

The project also aims to have representation from all the participating countries, which in the majority of cases are the existing X.500 national pilots.

Of the 18 countries involved, 12 are registered in the tree, including Ireland and Italy whose nodes were taken up this month. Most countries are using the QUIPU implementation developed at UCL. However, a French group have developed PIZARRO, which will form the basis of the emerging French pilot and, in Italy, a Torino-based company Systems Wizards are using DirWiz, which is currently the sole representative from Italy in the tree.

PARADISE recently announced an operational service providing a central configuration DSA with connectivity via IPSS, IXI, JANET (UK Joint Academic Network) and the Internet. This DSA contains the "root of the world" node and provides the glue at the top of the international DIT. By this summer a central DUA will be installed with public access via ULCC. Multilingual versions of this interface will be made available later in the project. Both these central services will be provided by ULCC, which will be offering a help desk with telephone and e-mail support.

5.2 FOX (Bob Braden, Steve Hotz)

Bob Braden remarked that the Internet funding agencies, as well as the IAB, were anxious to see an X.500 directory service infrastructure in the Internet, and that the FOX project was working toward this goal. He further noted that the FOX project wants to make every effort to make certain that it's effort are aligned with X.500 activities in other communities.

Steve Hotz commented on the recently released directory activities report (for Internet and other North American efforts) that appeared in the March Internet Monthly Report. He asked for comments regarding contents of the report, additional efforts that should be contacted, and ideas on where else it should be distributed, in addition to the IMR.

Steve announced that the FOX project has scheduled a phone conference for Wed. April 17th.

The FOX project is a DARPA and NSF funded effort to provide a basis for operational X.500 deployment in the NREN/Internet. This work is being carried out at Merit, NSYERNet/PSI, SRI and ISI. ISI is the main contractor and responsible for project oversight.

There are two primary thrusts of the FOX project:

1. X.500 Infrastructure

It is important that multiple interoperable platforms be available for deployment. FOX plans to examine and test the interoperability of the Quipu and NIST-X.500 (Custos) implementations, and DNANS-X.500 if possible. In addition, FOX will explore X.500 interfaces to conventional database systems (one target is Sybase), an alternate OS platform (VM) for X.500 servers, and X-window based user interfaces.

2. X.500 Applications

A long-range goal is to facilitate the use of X.500 for real Internet applications. FOX will first focus on making network infrastructure information available through X.500. This includes network and AS site contacts, topology information, and the NIC WHOIS service.

A centrally managed X.500 version will be the first phase of a WHOIS service. Providing an X.500 version of a well-known widely-used service should promote the use of X.500 by Internet users. In addition, this effort will provide experience in designing X.500 applications. However, the manageability of this schema will be short-lived, so the next step will be a design for a distributed version of WHOIS.

5.3 RARE WG3 (Erik Huizer)

WG3 is the directory and user information services subgroup of RARE.

Erik pointed out that WG3 was not a pilot activity, but rather an engineering group whose activities parallel those of IETF OSI-DS. WG3 is the directory services subgroup of the COSINE project, whose purpose was to handle technical aspects of directory service deployment. In the future, issues such as privacy, data management, and data update will receive more focus.

He mentioned the efforts of the P2.2 project in user information services to build a meta-information server, which would contain data about network services worldwide. A commercial company (Level-7) has been contracted to provide this service.

5.4 NADF (Einar Stefferud)

Einar announced the release of NADF-123, a document on the organization of the North American DIT, and that they are currently soliciting comments.

NADF-123 specifies that the current civilian infrastructure be used to organize the DIT, and pointed out some of the difficulties with other structures. In particular, U.S. organizations are registered at a state level, so difficulties arise if one were to normally place entities under the country level. NADF-123 proposes multiple-attribute RDNs to allow organizations that, in addition, want to be listed at the country level. This schema deals with possible name conflicts that may result from multiple entities registered in different states.

S.K. Asked about timetable to build conforming directory services? E.S. Replied that different service providers vary widely in the stage of development of their services. What matters is the time when someone mounts the first shared DS.

NADF has also gotten directory providers to agree that they will share information about the DIT. Einar commented that this was a significant milestone.

6 Monthly Reporting

Hotz is working to coordinate the US submission; he offered that he had not had a chance to coordinate the International report with Goodman.

Goodman suggested model that complete status be given every six months and that incremental reports be given bimonthly.

Discussion followed regarding whether reports should be given by country. The Internet is international, whereas the DIT is structured by country. Goodman suggested that each country's efforts be summarized and an Internet summary be included as well. Hotz is working with OIW-DS to include their report as well.

7 Management of experimental object identifiers

Problem identified – experimental ids admitted to schema are changed; this forces a fast update cycle of document

Points:

1) No fundamental need to change oid when put into schema, but is a management problem.

2) Changing oid gives it an identity with schema.

3) Mixing concept of registry vs library of oids. Suggestion that library id numbers be created and given out with each.

Kille moved that Barker reflect the idea of 1 plus 3 in the schema document.

Discussion continued regarding: 1) the transition of oids from informal to formal. No conclusions. 2) IANA model. IANA process is mechanical, Kille feels that a purely administrative approach to the schema is not advisable – technical and aesthetic concerns must be incorporated as well. No conclusions.

8 Activities Documents

Hotz discussed further status of the North American and Internet activities activities report. He indicated that he was talking with Einar about including entries for ANSI USA RAC and SG-D MHS-MD, and Youbong Weon-Yoon about OIW DSSIG reports.

David Goodman discussed the tentative plans for an international report, which is to be produced either every two or three months. Goodman asked Hotz if he would provide a summary for the Internet and other US activities. Hotz agreed, and asked for guidance in what was needed. Hotz and Goodman will continue off-line.

9 Management of Experimental Object IDs

There is some question whether (and how) provisions should be made for very fast allocation of OIDs for experimental efforts, in light of the consequent revocation problems. This is not facilitated by the current mechanisms for including new OIDs into the standard schema.

Stefferud commented that a plan which included reassignment of OIDs is a bad idea, as has been seen before with other assigned numbers.

Braden suggested that IANA be assigned an OID space and that mechanisms, already in place to assign Internet numbers, be used to allocate OIDs.

A comment from UCL was that this approach would lead to many name spaces, and this could make to various problems in managing the globally standard OIDs. How would one know where to find all of those currently supported?

Paul Barker noted that different OID requests and their intended applications had different characteristics, and that it might be possible to decide on a case-by-case basis which mechanism should be used. ACTION ITEM: Paul Barker will write this idea up.

Kille pointed out that the OID aliasing mechanism in Quipu could be used to facilitate transition when OIDs are reassigned. He added that maybe this mechanism should be required in directory pilots.

Einar has a document concerning number assignment. He will distribute it via email, where this topic can be further pursued.

Braden commented that a directory services requirements document, in a similar vein as the host and gateway requirements documents, would be useful. Among other things, this could document the OIDs required to interoperate, and solve the question of where to look for the officially required OIDs.

Kille expressed concern that this would only document Internet requirements and not be sufficient for international needs.

Braden pointed out that one needed to start somewhere and that this was an IETF working group meeting. He went on to note that the Internet is an international activity, and is growing more so. Einar Stefferud commented that the Internet will only remain an American effort so long as the European community insists that it is.

Kille asked about who should be responsible for producing a requirements document. Braden replied that this decision should be taken up with the IESG coordinator.

10 Document Status

Steve Kille organized this topic into three areas: strategy document, IETF OSI-DS documents, and others.

10.1 Strategy Document

Steve Kille noted that this has been submitted as an RFC. Bob Braden, who is serving as interim RFC editor will help see this along. Braden and Kille will follow this up off-line.

10.2 IETF OSIDS documents

Steve Kille enumerated these seven documents. Braden inquired about the plans for progressing these documents.

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schema document - standards track
interim network names - standards track
representing presentation addresses - info only, maybe standards??
replication requirements - statement, info only
replication solutions - standards
user friendly naming - standards
X.500 and domain names - experimental, maybe standards track later??
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Braden indicated that he believed some of these should be offered as experimental RFCs now. Kille ask for a clarification of experimental versus standards track RFCs. Braden pointed out that there was not a strong relationship between experimental and standards track RFCs. It is not the case that standards track RFCs always (or never) start out as experimental.

11 Other documents

11.1 Naming Guidelines

Paul Barker discussed the addition of support for multilingual names, adding that it requires considerable effort. As an example, one can consider names of organizational units and departments. One would want people worldwide to be able to understand these attributes. This suggests multi-lingual tagging of commonly used names. The various structuring of human names is another issue to be resolved.

Einar Stefferud remarked that it would be an unacceptable burden to have every directory understandable in every other language.

It was suggested that a language attribute could be included to indicate what languages are supported. This raises the need for OIDs for each language; national OIDs would not be appropriate since there are many more languages and dialects than countries.

The question was raised about how one would name multi-national organizations. Einar commented that NADF-123 document dealt with multi-state organizations in the U.S., and that an analogous schema could be used for international organizations.

Kille commented that any structure could work, but was concerned with how well they would work, and the technical impact that they might have.

11.2 Representing Network Information

Mark Knopper asked if there were any questions or comments on the Network Infrastructure Schema document that was distributed some time ago.

Kille commented that the flat space was not scalable, and that it should match hierarchical network number structure.

Braden pointed out that there was no hierarchical structure in Internet network numbers; it is a flat space.

Ruth Lang commented that it is recognized as an interim schema to serve current needs.

The question of how to name networks was raised.

Einar suggested that network names were user friendly, and the NICs names would be bad choices. Mark pointed out that most networks do not have official names, and using an ad hoc name for the RDN was not suitable.

Kille questioned whether numbers were more friendly than network names. He pointed out that network numbers were not technologically independent, and expressed concern that this could lead to inconsistent naming of networks.

Hotz commented that the lack of network names was perhaps a more general problem that the Internet needed to address. A mechanism for mapping network numbers to names exists within the DNS, but is not frequently used.

Einar suggested that the network number be used as the RDN, and the name be included for searching. Kille suggested that the opposite would work just as well, and would make for more user-friendly names.

This is to be discussed further off-line.

11.3 NADF-123

This was discussed somewhat during the NADF report.

Kille remarked that using the old structure (civilian infrastructure) could put entities in very unnatural places, making it difficult for those outside the structure to find things.

Einar emphasized that everything in the U.S. has a registered name already in the current infrastructure, and that renaming/registration expressly for purposes of directory services would be unlikely.

Einar pointed out that the underlying notion is that the right to register and obtain a name is different the the right to be listed in parts of the DIT. Organizations will naturally want to be listed in the places where others will look for them.

Kille commented that he would like to see experience with this architecture before incorporating it into the naming guidelines.

12 DISI and OSI-DS

Knopper raised question regarding the roles of both groups. Kille responded that he sees DISI tackling operational issues, technical administration and issuing related technical specifications. OSI-DS deals with technical issues related to DS.

13 Meeting Administrivia

Steve Kille asked for comments about the usefulness of the videoconference meeting.

Bob Braden said that this videoconference was unusually bad. Usually a videoconference rates a 7 or 8 on a scale from 1 (email) to 10 (in person), this one only rated a 4.

Most other comments ranked the videoconference somewhere between email and in person. Opinions varied on its usefulness compared to a phone conference.

One of the UCL folks (Huizer) commented that traveling to a teleconference site was unsatisfying, particularly with the quality of this one. If one had to make the effort to travel, one might as well meet in person.

This raised the subject of U.S./European collaboration. Someone noted that IETF meetings are rather well attended by Europeans, but conferences and working group meetings in Europe do not receive a similar level of U.S. participation.

Braden pointed out that many U.S. participants traveled on government funds, and that the cost of European trips is, unfortunately, not viewed in a particularly favourable light.

Steve Kille will take comments about the videoconference into consideration when deciding if and when it would be appropriate again.

To wind up there was a discussion to see if people thought the meeting useful.

BBN: Not as good as a face to face meeting, but better than email.

RIACS: might be more effective to choose a few items and discuss to focus on the issues.

ISI (Bob): Technical quality apalling - too much delay. Echo annoying. Sound poor. Scale: email – 1, in person – 10, then generally video – 7, but this time – 4 due to the delay and quality. on line terminal may help.

UCL (SEK): “interesting”, some useful discussion. Presentations did not work. If too technical interchange did not work.

14 AOB

DUA on VMS – one will be publically available soon. It was developed in Spain.

15 Next Meeting

THis will be at the IETF Meeting in Atlanta, in the week of 29th July.

16 Peronsal Comments on the meeting

16.1 Colin Robbins

The delay and quality made it very hard to hold a real meeting. Use of video circuits would clear much of the delay and improve quality (but higher cost). Unless you knew the people at the remote end it was not possible to determine who was speaking (on occasions from where as well).

Adding Mark Knopper by phone probably work the best. People always "gave way" to him to allow him to speak. Questions were directed at him. This seems to imply there was a sort of auto-floor control taking place. Perhaps a more form floor control mechanism would help the video meeting.

I wounder if using a phone conference for audio would help. This would clear the audio delay significantly, and may help quality. It may give a weird interaction though.

From memory - the picture were in sort of colour. I wonder if having higher quality black and white would help.

I don't think the overhead camera would have been any use unless the remote ends also have copies of the document.

I would like to have seen an image of the whole conference on one of the three monitors in front of the desk. The "audience" monitor was of little use.

16.2 Steve Titcombe

Quality of sound The sound quality was fairly reasonable, from all sites except one, which seemed to have electronic bubble noises popping and bursting very time someone from that site talked. This was not too annoying, but it did mean that you had to listen carefully to hear what was being said. There was about a one second delay echo of anything said from UCL that was audible at UCL and very audible at other sites. The echo did cause some major problems with ordering who was talking. It also got fairly chaotic at times when everyone started talking at once, or people were chattering in the background.

Quality of Pictures Picture quality at the UCL site was very good, the screen monitoring what was being broadcast out was very good. Other sites pictures were pretty good, but when split down into a 2x2 grid for four sites, it was possible to see if someone had a beard or not, but no more. (This was referring to their shots of an entire room.) This was not too important in itself, but it made life difficult when trying to work out who was talking at a site, and sometimes which site was talking. The picture quality of our site on the 2x2 screen was noticeably worse than the other sites. Placing a black biro drawing on a blank sheet of paper was recognisable at other sites, but we would not have known this as our picture was not.

Improvements? Some method of communication would have to be established, as at times, there was so much talking going on, everything merged into a raucous cacophony. A microphone switch at each site would be a great improvement to cutting out background chatter and private comments, letting the speaker "engage" the microphone at his site. This would cut out the feedback of your jokes being good or not, but... This should not prevent four people, one from each site, all bickering over a contentious point. On starting to speak, an announcement of who is speaking, from which site, and a hand wave to show which person on the screen. (Wild gesticulations while talking would also help...) Upon finishing speaking, a very obvious statement indicating the termination of desire to speak should be issued. (Over and out. Finished.) Having an elected chairman for the conference meeting who tries to impartially include the viewpoint of everyone in a discussion. There should also be a "sub-chairman" at each site to whom you can put in a request to take control of the mike, and put a query flag up. If a global question is thrown open, the enquirer should offer the question to the next site, and the remaining sites should progress round in an order decided at the start of the session. (For example, UCL, BBN, RIACS, ISI) The next site should be ready to pick up and reply to the question, without having to wait for the delays of being invited to speak by the chairman. If a point is not understood, disagreed upon, or incorrect, a VISUAL flag should be signalled, rather than have everyone shout furiously simultaneously. Some formal "pushing the current status onto the stack" should be performed, ie "Mr Barker answering the question X set by ISI, with BBN yet to speak." Then the chairman can proceed round asking each site for their reason of interruption. If someone else mentions your query, remove the visual flag. Once the point has been discussed, restate the question, and the "stack", and let the person continue. (This part really did slow our video conference down in places, sometimes minutes were spent trying to re-establish where we were and who was talking.)

Good or bad/Feelings The conference is something that I would have never been able to go to normally, and it was far easier to follow the discussions there, than 10 e-mail threads simultaneously. I found the quality of sound a little low occasionally, and that I was having to listen carefully, but more annoying was trying to work out who was talking. No doubt this would have been easier if I knew everyone at the conference and what their particular views were. I found the meeting far more relaxed than any full size all-person attendance meeting, because you could go grab a cup of coffee, or "dispose of one", pop back and ask your neighbour if you had missed anything. I had the feeling that it was like watching your Grans favourite film at Christmas, respect and courtesy had to be shown, but if you had to do something, you could. I was surprised that with all the TV screens around, that we only had 2 screens in use, one for our outgoing picture, and one incoming for the conference. It would have been good to have a screen for the outgoing, a screen for the incoming whole conference, a screen of the current speakers channel, and a screen for some notes or doodles. The last one could possibly be on a workstation, running wscrawl, an n-person doodle screen running across the network.

16.3 Einar Stefferud

First, it well was worth it to help build understanding across the Atlantic. We need to reach out to make the our European colleagues feel fully welcome in the INTERNET community, and we have ample evidence that Eropeans in the IETF-SMTP/822 discussions seem to feel otherwise.

It is not easy to use any kind of graphical exchange, unless it is done with the WorkStations that I understrand are installed at each site. (Does this include UCL?) It does not work to show view graphs on the regular Video Screen. The resolution is not good enough to see anything from a normal viewgraph. (Just a feature of this particular facility.)

The video is very slow, and acts more like slow scan, when linked among UCL, BBN, RIACS and ISI. (e.g., I could not watch lips moving.) Motion seems to stop competely at times. I understand that this is a result of some differences between the UCL installed equipment and the equipment at BBN, ISI, RIACS, or ARPA, which required us to run the VidConf through BBN as a HUB which meant that the signals had to go twice over the Atlantic (or something like this) for some reason. Bob Braden might be able to explain this point (better than I).

I would suggest that we have a clear agenda, with clearly identified documents whose numbers relate to the agenda items, so we can always get a solid cite for what each speaker is referring to when making comments. Looking at the text of one of documents on the workstation screens, with the speaker doing the pointing would be a good idea.

We should avoid verbal status reports of sub group activities. Such reports should be circulated by netmail in advance of the VidConf.

We should make an effort to let everyone speak so we can get to know each other better.

With some efforts to "do it right" it should be very worthwhile.

16.4 Jon Crowcroft

Some post hoc corrigenda to the IETF DS Working group video Conference.

1. To some extent, the quantity of minutes belies the complaints of users regarding the quality of the video conferencing facility..

2. The reason for the large delay is the BBN video "hublet" technology used to (analog) mix 4 separate 1 to 1 video conferences into a combined 4 way. This entails at least doubling the delay due to the repeated buffering in the video CODECs.

This is *not* to do with differences in kit at UCL (except in so far as the older Concept CODECs that used to be used could acheive 4 way conferecing full digital, but were lower picture quality) - it's to do with current Picturetel CODEC technology, and most importantly the lack of UK-US bandwidth.

3. It was noted was that a member of the UCL attendees was using the pan & zoom control of the UCL cameras a lot - this is a very bad idea, as the image you see of what is going out on the monitors at UCL is *pre-codec* and does not show you how long it takes for the image to settle down at all the other sites. We can loop the CODEC output, but since this is delayed, users may find it distracting.

4. We could easily make a workstation & mmconf/slate available if required for a future meeting. A minimal investment is needed to learn to use the system. It can be projected to a large screen too, and a scanner could be loaned to introduce hand sketched pictures as well if this would be appropriate.

5. The picture quality at that meeting was rather worse (even) than normal for line noise reasons as well.

6. The microphone switch facility suggested is now in use at some sites (e.g. BBN)

16.5 Steve Kille

I believe that the meeting was useful, although it did not fulfill all expectations. The long delays were a serious problem.

I found the meeting very stressful to chair, despite a very high level of cooperation from each site.

The approach of identifying a co-ordinator at each site was useful. Asking for comments in order around the sites proved to be a necessary approch.

Getting minutes taken at each site was a disaster. The major reason for the delay in producing these minutes was the problem of merging four similar but different pieces of text. There should only be one minute-taker, perhaps supplemented by notes from each site. Comments on the videoconference were provided by a number of people, and this was useful.