

CS Group 1985 - 1999: Personal Memories

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CS Group 40th Anniversary Event, 1st Nov 2023

Outline

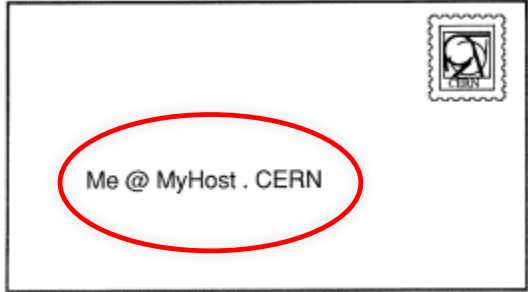
- **Email Services (1985 - 1988)**
 - Addresses
 - Gateways

- **DECnet (1988 - 1998)**
 - Network connectivity
 - Transition to DECnet Phase V

- **Internet Service (1994 – 1999)**
 - IPng (IPv6)

1988: Email User Guide

<http://cds.cern.ch/record/1564613/files/64682.pdf>



Part 1: Selecting and Getting Started with a Mail System at CERN



You should select one of the recommended CERN mail systems and then read the appropriate chapter to help you get started. This guide includes only simple information to help you to read and send mail.

Part 2: How to Formulate or Find Mail Addresses



The address syntax for sending mail to different computers both on and off the CERN site is described as well as commands to access EMDIR, the CERN Electronic Mail Directory. A few facilities to help you find addresses of users not in EMDIR are introduced and some hints are given to outside collaborators on how to address CERN. A small section is included on how to automatically forward your mail to another address.

To get a copy of this guide type FIND MAILGUIDE on VM/CMS or pick one up from the self-service section of the User Consultancy Office (UCO), reference no. DD/US/6.

1988: Addressing E-Mail to CERN

10. Hints to Outsiders

This section offers hints to external collaborators wishing to address electronic mail to users at CERN. They will normally need to give an address of the form:

user@host.CERN or user@host.DECNET.CERN

If the above address format is NOT accepted by their mail system, then the following table suggests alternative syntax.

NETWORK	ALTERNATIVE ADDRESS FORMAT
EARN/BITNET	user%host@CERNVAX or user%host AT CERNVAX (otherwise see Addressing from EARN/BITNET below)
DECNET (HEP)	host::user (to a DECnet host at CERN) VXGIFT::MINT::"user@host.CERN" (to non-DECnet hosts)
EUNET/USENET/UUCP	CERNVAX!host!user
JANET	user@CERN.host or user@CERN.DECNET.host user%CERN.host@UK.AC.EAN - RELAY user%cern.host@RL.EARN
ARPA Internet (USA)	user%host@CERNVAX.BITNET user%host.cern@cwil.nl

[http://cds.cern.ch/record/
1564613/files/64682.pdf](http://cds.cern.ch/record/1564613/files/64682.pdf)

1987: Mail Gateways at CERN

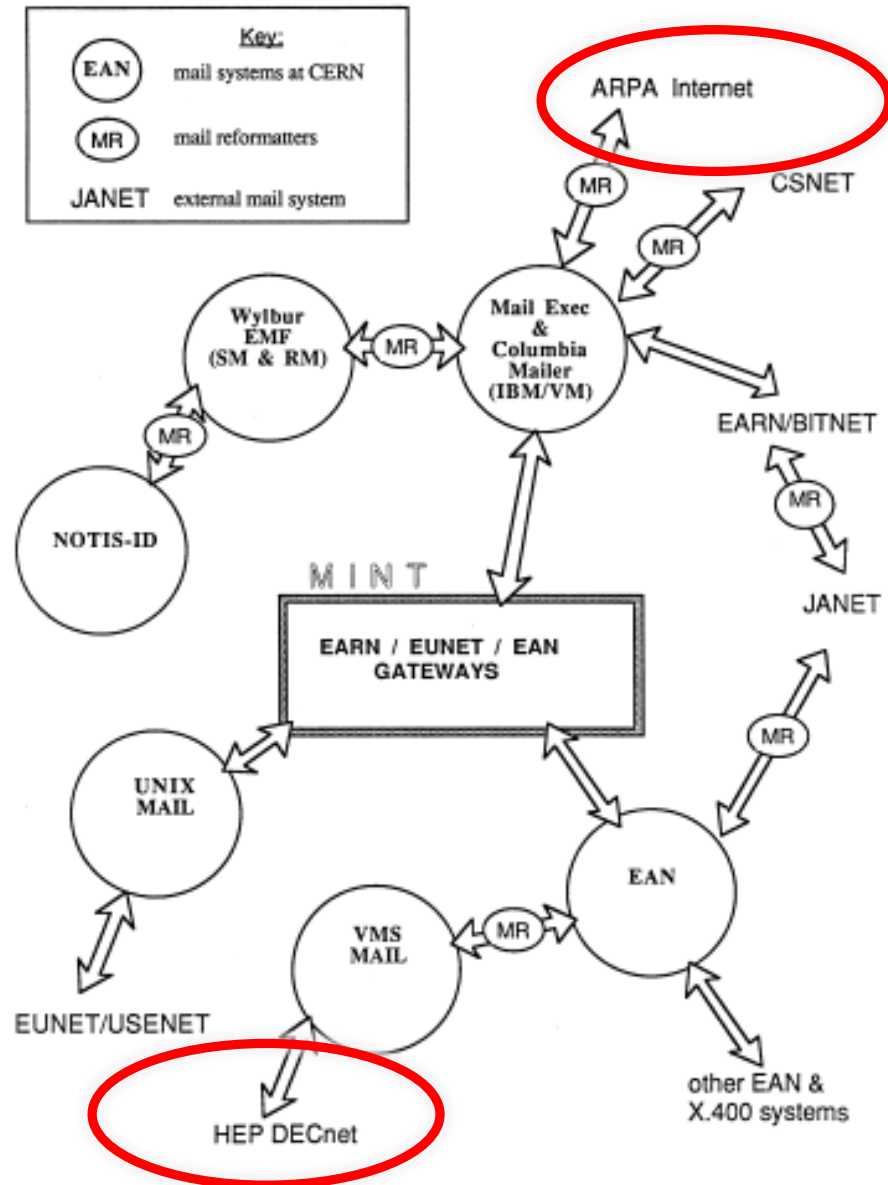
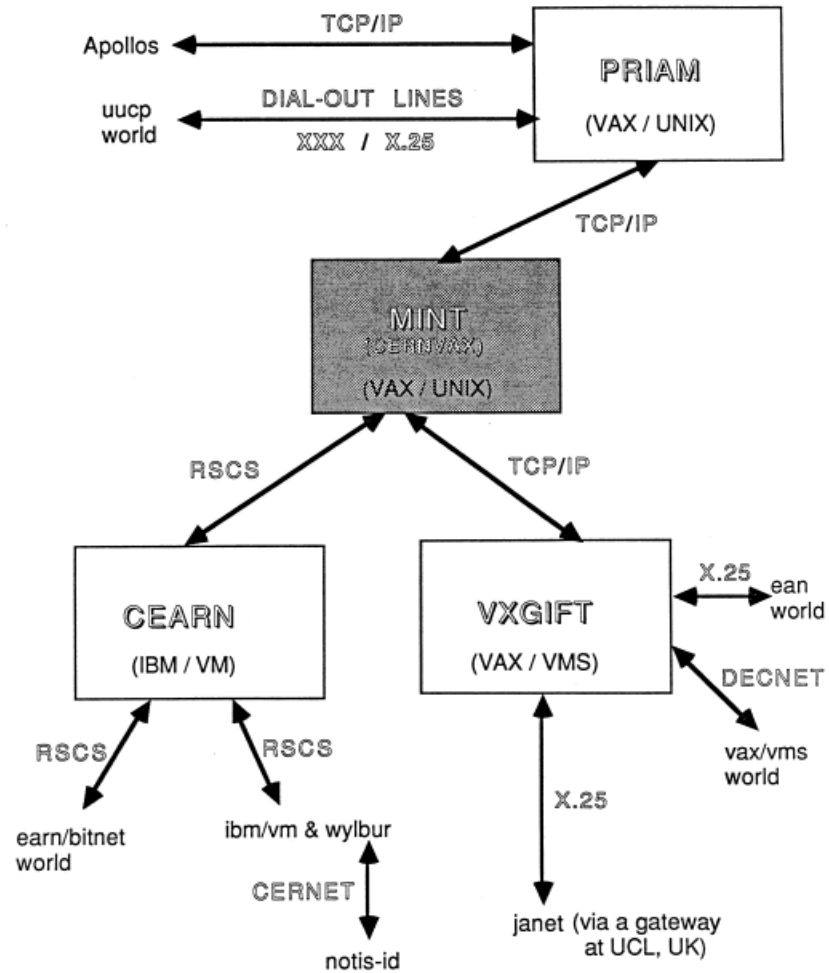


Figure 1: Mail System Connectivity at CERN

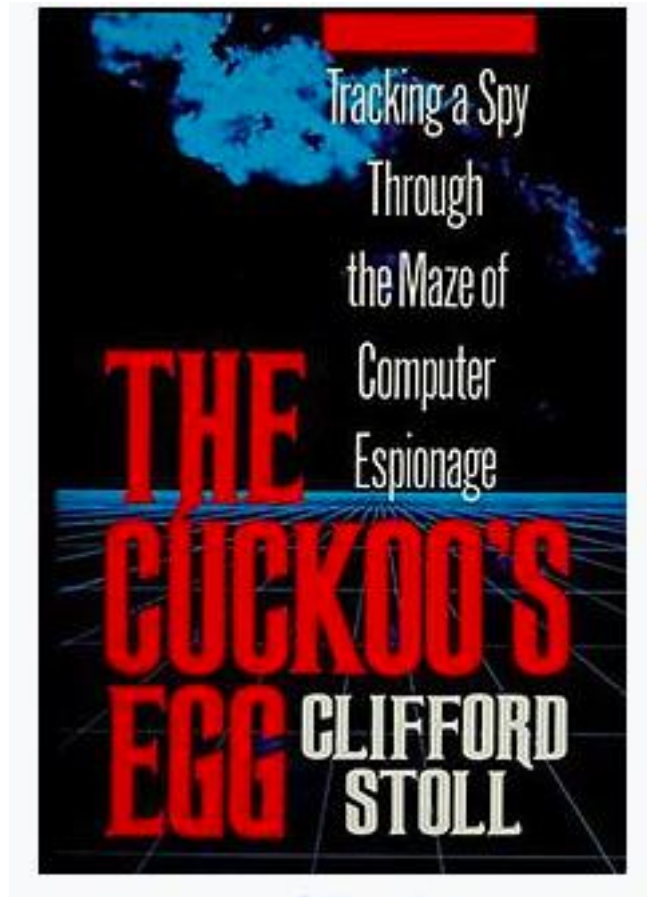
<http://cds.cern.ch/record/182779/files/CM-P00059880.pdf>

1987: CERN Network Connectivity



<http://cds.cern.ch/record/182779/files/CM-P00059880.pdf>

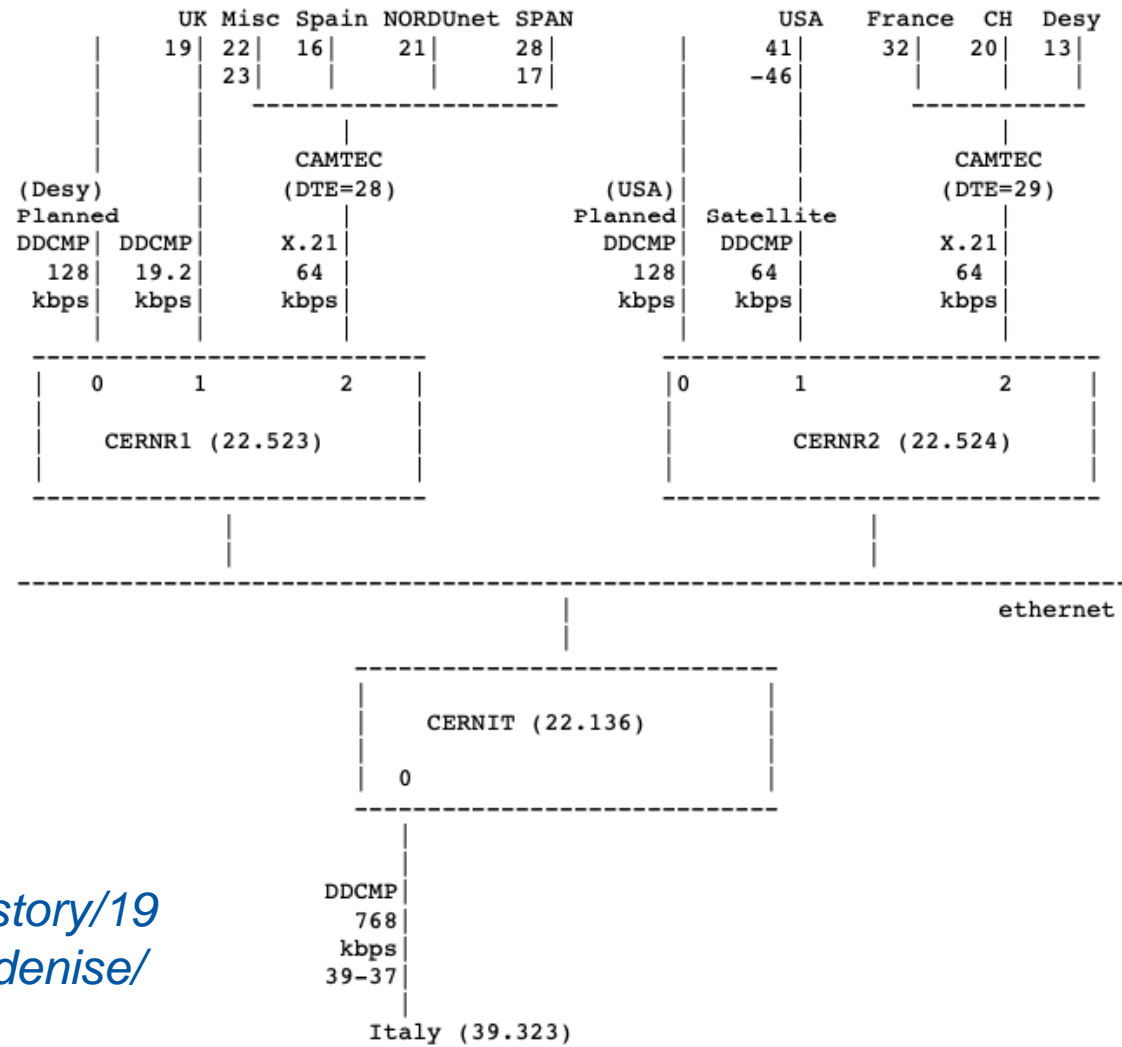
1986: A spy in the network



1988-2001: DECnet Service Management



1990-1991: CERN DECnet configuration



https://www.w3.org/History/1992/nfs_dxcern_mirror/denise/Routers.txt

1991: DECnet documentation in HTML

Extract from *Recipes.txt* file dated 30 May 1991 at:

https://www.w3.org/History/1992/nfs_dxcern_mirror/denise/

This document contains some information concerning the configuration of DECnet routers at CERN and some operational recipes for those without the time to read the detailed DECnet documentation. This information is for CERN internal use only. The following topics are covered:

- **How to reboot**
- **Getting DECnet Node Numbers**
- **Updating node name tables**
- **Current Configuration for CERN DECnet Routers**
- **Table of DDCMP circuits**
- **DECnet circuits down**

1990: Plans for DECnet Phase V

- **Why is DECnet Phase V needed?**

- Rapid growth in the HEP/SPAN DECnet (20,000 nodes!)
- DECnet Phase IV has insufficient address space
- Lack of ‘Areas’ and ‘Node Numbers’
- ‘Hidden Areas’ are a common workaround
- Potential increased connectivity from running OSI standard protocols

- **DECnet Phase V introduces:**

- A distributed naming service
- ISO network addresses
- ISO based routing protocols
- New network command language

<http://cds.cern.ch/record/209639/files/CM-P00065576.pdf>

1990: DECnet Phase V & TCP/IP

Extract from DECUS (Switzerland) Newsletter, May 1990:

With DECnet phase V/OSI on the horizon we have new concepts to understand and transitions to plan:

- DNS namespace, management & topology
- the implications of NCL replacement of NCP
- ISO network addressing concepts
- ISO routing protocols

The trend towards 'open networks' raises questions about network integration and management in a multivendor environment. How should the rapid growth of UNIX based workstations and their TCP/IP based network applications fit into today's networking strategies?

1993: European DECnet runs Phase V

- **Early 1993: DECdns distributed Name Service in operation**
 - Replacing static node name tables
- **Oct 1993: European circuits run Phase V protocols**
 - Between Italy, UK, DESY, PSI/CH and CERN
 - USA continued to run Phase IV
- **1994: CERN internal DECnet routers run Phase V**
- **VMS end nodes upgraded to later software versions**
 - VMS 6.1 (?)
 - DECnet applications can use Phase V addresses (but never needed)
 - DECnet applications can run over TCP/IP and use IPdns name service

<https://cds.cern.ch/record/1292526/files/n-214.pdf>

1994: The future network - IPng (IPv6)

