



ONE OF GENE'S HOBBIES: BUILDING A SCIENTIFIC COMPUTING COMMUNITY (NA-NET, NA-DIGEST, AND NETLIB)

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ARPANET 1969

- ✗ Gene started using email in 1978
 - + Stanford was on the Arpanet
- ✗ Jim Wilkinson asked Gene if there was a convenient way to contact NA people using email.
- ✗ Gene thought that he should put all the addresses he know of in a file (about 20) and make that his distribution list.
 - + That was the start of the na.net on the su-score system
 - + Gene constantly maintained the system in the early days and broadcast messages



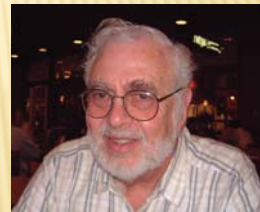


HARD TO REMEMBER A TIME WHEN

- ✘ To send email you had to remember and type in:
 - + Mnetor!calgary!cuwcomp!auccvaxblcsc_burrage@uunet.uu.net
 - + And if you mistyped auccvaxb it could take days before the email was returned with the incorrect address
 - + “[perkins a. louise%b.mfenet](mailto:perkins a. louise%b.mfenet@cs.ucl.ac.uk)”@cs.ucl.ac.uk
 - ✘ Those are blanks and are actually there!
 - + [koblinsky@\[128.8.250.3\]](mailto:koblinsky@[128.8.250.3])
 - + bo_kagstrom_university_of_umea%qzcom.bitnet@forsythe.stanford.edu

IN THE BEGINNING

- ✘ Gene would get others interested in email and get their addresses.
- ✘ Gene kept the list and did the updates.
- ✘ He send new users three files
 - + Intro to na-net
 - + Back-issues of broadcast messages
 - + Copy of the na.dis with all the email addresses
- ✘ Over time some problems occurred
 - + List size
 - + Adding people became more complicated
 - + Mailers and hopping
 - + Control transferred to Mark Kent and Ray Tuminaro





NA.

By 1983 this list was being used to provide an electronic mail forwarding service.

- + Mark Crispin set up the first na.{lastname} facility
- ✘ Mail to na.lastname@su-score would be forwarded to the list member with that last name.
- ✘ An email broadcast facility was also provided: mail sent to "na@su-score" would be forwarded to everyone on the list.
- ✘ By February 1987 this broadcast facility had evolved into a moderated email "digest" which soon became a weekly electronic newsletter.

From research!Gene Fri 7 Sep 84 14:45:24-PDT
 Received: From Su-Score.arpa by csnet-relay; 7 Sep 84 17:54 EDT
 Date: Fri 7 Sep 84 14:45:24-PDT
 From: Gene Golub <GOLUB%su-score.arpa@csnet-relay.csnet>
 Subject: NA-net
 To: na.dis%su-score.arpa@csnet-relay.csnet
 Via: Csnnet-Relay; 8 Sep 84 19:00-EDT

I have been negligent in informing new members of NAnet how it operates. Here's some information which I hope you'll find useful.
 GENE
 There are several convenient ways of using NAnet.

1. Sending messages to everyone on the net
2. Sending a message to an individual
3. Sending a message to SIAM
4. Obtaining software

1. To send a message to EVERYONE, mail to NA@SCORE and everyone on the distribution list will be sent the message. To obtain the distribution list, send me a message. (Those on ARPA net can FTP the file <CS.PUBLIC>na.dis.)
2. To mail to an individual, send a message to na.<last name>@SCORE and the message will automatically be forwarded. Try your own name. Some addresses are quite complex so it's often easier to use this device. If you send a message to NA.golub@SCORE that will automatically be sent to me at NAVAJO. I DON'T GUARANTEE ANY ADDRESS IS CORRECT OR THAT ANY INDIVIDUAL WILL READ IT.
3. You can send mail to SIAM
4. You can get some software
5. Other suggestions are welcome
5. Thanks are due to Mark Crispin for setting up the NAnet system and helping to maintain it.

From research!Gene Fri 7 Sep 84 15:15:34-PDT
 Received: From Su-Score.arpa by csnet-relay; 7 Sep 84 18:23 EDT
 Date: Fri 7 Sep 84 15:15:34-PDT
 From: Gene Golub <GOLUB%su-score.arpa@csnet-relay.csnet>
 Subject: addendum
 To: na.dis%su-score.arpa@csnet-relay.csnet
 Via: Csnnet-Relay; 8 Sep 84 19:02-EDT

GENE GOLUB

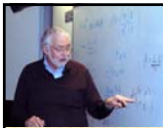
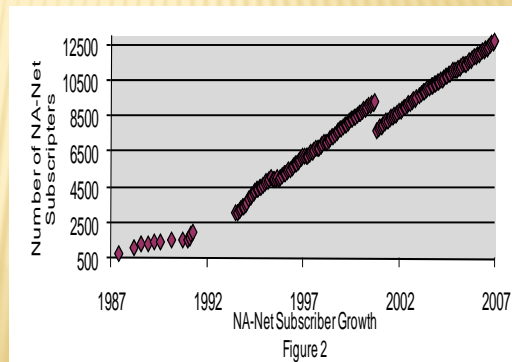
7. Please be careful in using the REPLY command. On some systems, if "r" is used everyone on the mailing list receives the response; a reply with "R" will go to the sender.

GENE GOLUB



TODAY

- ✘ Several thousand messages per day are forwarded through NA-Net's email forwarding service.
- ✘ The NA-Net has about 13,000 subscribers.



NA-DIGEST

- ✘ NA-Digest came about from Gene's secretary sending the digest to the whole NA-Net address list.
- ✘ One of the oldest electronic periodicals, continues to grow steadily in popularity.
- ✘ Still low tech, simple text email means that it is accessible to anyone who has access to a computer and a network connection.

NA-DIGEST: 21 YEARS OLD! ISSUE NO. 1 ON FEBRUARY 13, 1987

NA Digest Friday, February 13, 1987 Volume 87 : Issue 1

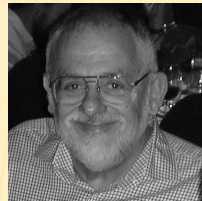
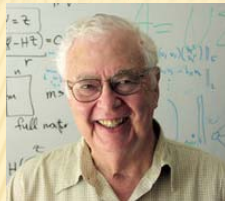
This weeks Editor: Gene Golub

Today's Topics:

- ♦ [stanford phd's](#)
- ♦ [Conference announcement/program](#)
- ♦ [Householder Award VI](#)
- ♦ [Wilkinson Fellowship](#)
- ♦ [Householder Award VI](#)
- ♦ [Conference announcement/program](#)
- ♦ [na lastname](#)
- ♦ [stanford grads](#)
- ♦ [Meeting announcement](#)
- ♦ [Eloge and Anecdotes for Jim Wilkinson](#)
- ♦ [Inquiry](#)
- ♦ [Wilkinson announcement](#)



NA-DIGEST EDITOR'S



- ✘ Gene was the original editor of the NA Digest.
 - + June 1987 went on sabbatical and Cleve took over
- ✘ Cleve was the editor for the NA-Digest from 1987 and continued for 17 years
- ✘ Tammy took over September 2005

NETLIB



- ✘ Hard to remember a time when ...
 - + Computing was done on mainframes
 - + Supported by a few commercial numerical libraries installed by the computer staff
- ✘ Getting software was bothersome
 - + Punched cards
 - + Expensive and unreliable shipping of 9-track tapes
 - + Personal contacts
 - + Government bureaucracies
 - + Negotiated legal arrangements
- ✘ There had to be a better way
- ✘ Gene suggest that an archive could be set up and email used to deliver things



NETLIB MATHEMATICAL SOFTWARE & MORE OVER 400M SERVED

- ✘ Began in 1984
 - + Eric Grosse and JD
 - + Motivated by need for cost-effective, timely distribution of high-quality mathematical software to the community.
- ✘ One of the first open source software collections.
- ✘ Designed to send, by return electronic mail, requested items.
- ✘ Automatic mechanism for electronic dissemination of freely available software.
 - + Still in use and growing
 - + Mirrored at a number of sites around the world
- ✘ Moderated collection /Distributed maintenance



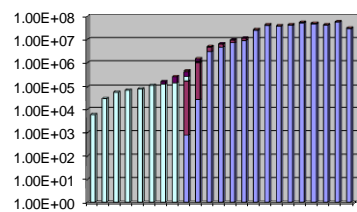


ACCESS PROTOCOLS

- ✘ Netlib initially used text-based e-mail, the only service common to all of those networks, to provide access to items in its collection
 - + Send dgefa from linpack
- ✘ Clumsy as this sounds, it was a huge step forward from previous libraries such as IBM's SHARE library, which relied on physical movement of punched cards, magnetic tapes, or microfiche to supply code.
- ✘ With wider deployment of Internet protocols, other, easier-to-use methods became more feasible.

NETLIB

- ✘ The Netlib collection currently contains over 80,000 files of software and documents organized into around 241 top-level directories, taking up a total of approximately 4 GB of disk space.
- ✘ Official sites at Tennessee and Sandia National Lab
- ✘ Mirrored at over 18 sites



Netlib Usage at UTK/ORNL
Figure 1

GENE'S INFLUENCE

- ✘ The NA community has strong contact together.
 - + The efforts of Gene to maintain contacts via email created the NA-Net
- ✘ NA-Digest is one of the oldest electronic periodicals, and continues to grow steadily in popularity
- ✘ Cohesive, “family” feeling, bringing people together



PEOPLE (IN ADDITION TO GENE) & REFERENCE

- ✘ NA-Net
 - + Mark Crispin
 - + Mark Kent
 - + Ray Tuminaro
 - + Bill Rosener
 - + Don Fike
 - + Keith Moore
- ✘ NA-Digest
 - + Cleve Moler
 - + Tammy Kolda
- ✘ Netlib
 - + Eric Grosse
 - + JD
 - + David Gay
- ✘ *Distribution of Math Software via Electronic Mail*, J. Dongarra and E. Grosse, Communications of the ACM 30(5):403–407, May 1987.
- ✘ *The Numerical Analysis Net (NA-NET)*, M. Kent, Technical Report 85, ETH Zürich, Institut fuer Informatik, January, 1988.
- ✘ *Netlib and NA-Net: Building a Scientific Computing Community*, J. Dongarra, G. Golub, E. Grosse, C. Moler, K. Moore, To appear IEEE Annals of the History of Computing, 2008.



THANKS GENE

