Serving Remote Users on the ARPANET

Problem Statement

    Second only to the unavailability of the serving host, the most
    vexing problem encountered in attempting to use the service hosts on
    the NET has been the inadequacy of administrative procedure and
    information dissemination for remote users. This paper explores the
    problem and proposes solutions.

    When computer systems begin to service remote users, some of the
    operating procedures which produced a functioning environment for
    local users may not be satisfactory for those who are off-site. It
    may be that these procedures were already inadequate, but the local
    community developed a set of informal procedures to augment the
    formal ones. It may also be true that the established formal
    procedures were completely satisfactory for local users, but failed
    when an attempt was made to extend them to the remote user. In either
    case, this paper asserts that a problem exists and offers a set of
    suggestions for its amelioration.

Existing Information

    Having used (or attempted to use) the information currently
    available, I should first summarize the existing sources and indicate
    that they don't meet total needs. There is the resource notebook
    index. The index is an ordered list of attributes which refer one to
    the appropriate main entry for hosts exhibiting that attribute. When
    the index is completed, it will reference the main entries in the
    resource notebook, to which we now turn out attention. On the whole,
    the main entry contains a summary of the hardware and software
    services available. At this site, these entries serve as a "shopping
    list" from which we may select the service center hosts which may be
    suitable for the computing we wish to undertake. Some administrative
    information is also provided. Using the outline of a host-site
    subsection, this information consists of: I. Personnel; V.B. Rate
    structure; V.D. Long-term storage; VII. Login; VIII. Operator
    Communication; IX. Miscellaneous; and X. Programs. The discussion
    under "IX. Miscellaneous" included a statement of intention to
    include an elaborated documentation section in a future revision of
    the resource book. This is most urgently required. This paper

contains a proposal which might constitute the outline for that
section.

Another source of information concerning serving hosts is the NIC.
Some sites have submitted existing documentation to the NIC; some
have even written special documents to assist network users. There
are several problems however: It may be difficult to learn about said
documents, especially for someone new to the ARPANET and/or the NIC.
NIC policy is to lend the documents, which is fine for browsing but
unacceptable for reference.

Information Required

Employing a questionnaire format, I will now present additional
outline entries which might be used to supplement NIC 6801.

XI. Administrative Procedures relating to Financial Arrangements

     Who does a prospective user contact?

     Is there a way to sample using the system (gratis)?

     How does one open an account for computer services?

     How does one obtain the necessary blank administrative forms?

     Can all expenses (e.g., manuals, postage) be charged to the
     computer services account?

     How does one determine the status of his account?

     What is the relationship of a number of users to accounts?

     How can one determine the charges accruing during a session?

     How often are account statements issued?

     How current are account statements when issued?

XII. Information Dissemination

     A. Documentation

     Is there a "beginners pocket"? Does it contain examples?

     Is there a list of documents available? Where?

Where are published documents sold?

How does the remote user obtain these documents?

May document purchases be charged to the account?

How are errata sheets distributed?

How often are manuals updated? How are updates announced?

What local documentation is available/necessary?

What manufacturer hardware/software documentation is
available/necessary?

Is manufacturer documentation available from the same source as
local documentation and with the same arrangements?

What is the mechanism for resolution of conflicts amongst
manuals?

Is documentation available for each subsystem and application
program?

Is there a printed newsletter or equivalent? If so, what is the
procedure for becoming a subscriber? For obtaining back issues?

Is there a "message of the day" automatically presented?

How does an irregular user keep informed of past "messages of
the day"?

Is there an on-line information service like a newspaper? How
does one obtain "back issues" of the "newspaper"?

B. User Assistance

Is there a (required) single point of contact for remote users?

What is his level of technical competence?

What is his level of administrative responsibility?

When the contact person cannot answer a question will he follow
it up with the appropriate in-house person? Will the remote user
be referred to the in-house person?

To what extent will a remote user be permitted or denied access
to technical and administrative staff?

What priority does the local user have relative to the remote
user?

Is there a telephone service for answering questions?

Is INWATS or equivalent provided?

What are the service hours?

Is there an on-line assistance mechanism? How does it work?

Is there a mechanism for sending messages to an off-line user
consultant?

C. Technical Capabilities and Requirements

Is there an index of system capabilities?

   1. Communications

      How do you log in (or whatever it is called)?

      What device assumptions are made concerning lines per
      page, columns per line, (seperate) line feed, (seperate)
      carriage return, (combined) carriage return line feed,
      horizontal tab, vertical tab, form feed, and back space?

      Have any of the non-printing ASCII characters been
      assigned non-standard functions?

   2. Command language

      What is the minimum set of control statements required?

      Where are the control statements documented?

      What are the installation defaults on control statements?

   3. File System and Editor(s)

      What are the attributes of the file system? Describe the
      naming conventions of the defaults.

      How is a set, subset, and superset of "files" defined,

related and named?

What is the minimum information about the file system that
is required in order to use the editor(s) and language
processors?

Are names divided into adjectival qualifiers? What are
these called? Are there restrictions? Defaults?

Describe the editor(s) characteristics. What documentation
is available?

Are there in-line editing features (e.g., erase
immediately preceding character, erase entire line)?
Describe.

4. Languages

What language processors are available?

How are the processors implemented (e.g., batch compiler,
interpreter, incremental computer)? What difference does
it made to the user?

What is the compitability of your language dialect(s) with
the standard and with other dialects?

To what extent can program units written in different
languages communicate? Discuss data types,
representations, and structures as well as subroutine
linkage conventions.

XIII. Operations

What measures are in effect to preserve the security of one's
files and accounts?

Can a remote user direct printing, punched cards, plotting, etc.
to an on-site device? How does he get his output mailed to him?

What off-line secondary storage is available? How is it used?
What does it cost?

How does the remote user request, renew, release, mount and
demount tapes and disk packs?

What arrangements are there for mailing off-line storage media?

Is the operating staff aware that there are remote users?

Are there services available to local users not available to
remote users; and conversely?

Is there on-line file storage? What does it cost? What limits
are imposed? How often is it backed-up?

Does the announced operating schedule consider users in
different time zones?

Is the announced schedule closely followed?

How are remote users notified of changes in the schedule?

Implementation

   Much of the information suggested herein as being beneficial for
   remote user would also apply to local users. Perhaps much of it
   already exists in local documentation. I assert that the remote user
   is usually unable to easily find the information, especially when he
   works with several remote hosts. Presenting the information in a
   format that followed a standard outline would certainly be a service.
   I also recognize that preparation of this information might involve a
   duplication of effort, and would possibly produce two documents which
   had to be updated when changes occurred. One solution is to follow
   the outline in producing a guide to the literature available from the
   host site.

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