On Nov 10, 2005, at 7:21 AM, Jonathan Cheyer wrote:
> Hi Jake,
>
> A few more questions to get us started:
>
> * Is the source code on paper or on some other medium?
Source code is on paper
> * If the source code is on paper, do we have any easy way to scan the
> source code? We are primarily interested in electronic versions of the
> code, and you can continue to hold onto the original artifacts for
> preservation
The Museum has some pretty good scanners; however, all of the code we
have is lineprinter listings. Some are better than others. I have
copied some of this old stuff on a Xerox machine and done some scanning
with mixed results. You can try.
> * If the source code is on some other medium, do we have the
> necessary hardware to read the medium and transfer it to a modern
> computer?
> * Approximately which years do you believe the versions cover?
We have a number of versions starting way back and going up to 1977
when ARC left for Tymshare. I do not know if they are complete
versions or not.
> * Approximately how much code would you estimate is in the NIC
> collection (in either pages, or kilobytes, depending on medium)? I'm
> trying to get the order of magnitude of what would be available
Roughly a couple of thousand pages; however, I am sure there is
duplication
> * Do you know if any of the collection lists specific people as
> authors/contributors?
We are in the process of producing a timeline for when features were
added to the code and by whom. This is just in the beginning stages.
Harvey Lehtman (former ARC programmer) is helping with this.
I will be at the Museum today (Thursday) from about 2-5. (Just
leaving) If you are there, come by and I will show you what we have.
I am located in the corner of the area that houses the documents (the
furthest opposite corner to where Allison has her downstairs office.)
If you don't have access, ask one of the staff to bring you down.
Jake
>
> Thanks,
>
> Jonathan
Jeff Rulifson wrote:
> Jonathan: A couple years ago, Sun had DataBank IMX scan a box of my NLS
> documents and make a CD with searchable Acrobat files. I am getting a copy
> of the CD for you. It will arrive after Thanksgiving. We should look at that
> and then search from there.
J D Hopper wrote:
> About the lineprocessor: You do have the once-in-a-lifetime
> opportunity to acquire the very first one ever built,
> wirewrapped and all. The CPU is Intel 4004!!! Program resides
> in a bank of 1702A EPROMS--cost about $60 apiece, as did the
> 4004 at the time this was built. Definitely belongs in a
> museum. :)
Hi Dave,
Thanks for the info. I must admit that I'm a little confused though.

My understanding was that the AugTerm program you wrote in ESASM that runs on an 8086-based machine under MS-DOS was meant to be a software replacement for the physical lineprocessor hardware.
The AugTerm program does appear to have support for a keyboard, mouse, and keyset, at least according to the comments in the assembler source code.
If the physical lineprocessor hardware was replaced by AugTerm, then wouldn't the keyset need to be plugged into the PC someplace?
I was imagining that the original hardware used to run the AugTerm, sometime in the early to mid 1980s, would have been an original IBM PC or an early successor.
The PC keyboard would probably have been either a 5 pin DIN (AT style) or 6 pin mini-DIN (PS/2 style).
The mouse would have been either a RS-232 Serial port mouse or a PS/2 style mouse.
With the keyset, I had no idea, but assumed that since the PC has, in general, only serial and parallel ports as options, that one of those two would be a reasonable assumption. Also, the 25 pin connector that Jake gave me made it seem that it was meant for connection to either a serial or parallel port.
As for people who had helped to build keyset hardware, Jake had mentioned both Don Andrews and Ed van de Viet.
I will try to find someone with an ohmmeter who could do some tests to help determine what kind of hardware it is.
In the meantime: Jake, do you have any additional information to add, which might help solve this puzzle?
Thanks,
Jonathan
J D Hopper wrote:
> Sure, I remember. But you're not going to like it.
>
> Unless it's a keyset I haven't seen before, it's strictly a dc
> device..no encoding of any kind, no serial interface in it, just
> wires and switches.
>
> The keyset plugged into the lineprocessor and was sampled. You
> can probably figure out all there is to know with an ohmmeter.
> I think it worked at TTL level, but that's immaterial. There's
> probably one common pin and 5 pins going to the 5 switches
> (normally open).
>
> I didn't work on a keyset for a PC. I vaguely remember
> something about someone doing it, but I can't help you beyond
> that.
>
> Dave
Raylene Pak wrote:
> Jonathan,
> I vaguely recall that there was some type of black interface box that
> the keyset, mouse (and keyboard?) plugged into with yet another
> connector that plugged into the pc. Hmmm.. Trying to remember if I
> might still have my "home" interface box somewhere around.
> Raylene
Hi Raylene,
That's good information to have. Did the interface box have any kind of name associated with it? Do you remember who made the box, and approximately when the box was made?

If you can find the box, that sure would be helpful!
Thanks,
Jonathan
MIME-Version: 1.0
To: Ken Harrenstien <klh@panix.com>
Cc: NLS Restoration Technical Discussion <nls-technical@chm.cim3.net>
Subject: [nls-technical] serial ports with klh10
Hi Ken,
I hope you had a nice Thanksgiving. It's good to have the weekend to
recover!
As you probably already know, there were two separate pieces of software
written to interface with Augment.
The first was called AUGTERM and was written sometime in the early or
mid-1980s by Dave Hopper. It ran under MS-DOS as a .COM file and did not
support TCP/IP at all. I believe it only supports making a connection
over the serial port.
The second was called Visual AugTerm (VAT) and was written sometime in
the mid-1990s by Bob Czech. It runs under Windows as a VisualWorks
image, and it supports TCP/IP.
I've gotten VAT to connect successfully to my cloned Augment system, and
am now starting to consider how to get AUGTERM to run. As a pleasant
surprise, Jake Feinler gave me a chord keyset this week to try out.
Since AUGTERM doesn't support TCP/IP, it seems like it would need to
connect somehow across a serial port to the emulated Augment running
under KLH10 on another Linux or Sparc box. And presumably, I would plug
in the chord keyset into the PC, either through a parallel or serial
port, so that AUGTERM could send the correct A12 protocol codes to the
Augment system.
I looked through the KLH10 docs, but I'm really not clear how KLH10
supports connections via serial port. (What is a DH11 anyway?)
I figured that you were probably the person who helped Doug set up the
AUGTERM on his DOS machine and helped him connect it to Augment/KLH10 on
his Sparc machine. How does this work on his existing system?
Thanks,
Jonathan
> Since AUGTERM doesn't support TCP/IP, it seems like it would need to
> connect somehow across a serial port to the emulated Augment running
> under KLH10 on another Linux or Sparc box. And presumably, I would plug
> in the chord keyset into the PC, either through a parallel or serial
> port, so that AUGTERM could send the correct A12 protocol codes to the
> Augment system.
>
> I looked through the KLH10 docs, but I'm really not clear how KLH10
> supports connections via serial port. (What is a DH11 anyway?)
It doesn't. No one wanted this capability enough to pay for it, and
TCP/IP over the ethernet port is much faster. (The DH11 was a DEC
serial mux device)
> I figured that you were probably the person who helped Doug set up the
> AUGTERM on his DOS machine and helped him connect it to Augment/KLH10 on
> his Sparc machine. How does this work on his existing system?
I'm not sure, and don't think, that they use this.
It should work to simply hook up AUGTERM via serial port to some other
machine/system that supports both (a) serial port login, and (b) telnet.
Log into that machine, then telnet from there to the TOPS-20 system
you are running, declare your terminal type to be lineprocessor or
whatever, and run Augment.

--Ken
(p.s. FWIW this reminds me I still have a working DM2500, but it would need a working lineprocessor in order to function as a NLS/Augment terminal.)
Ok, I'll check with Doug to see how he is using AUGTERM.
As an aside, do you have any recollection of whether the chord keyset is able to connect to a PC, and if so, how (serial port, parallel port, or other)? I do know that one version of the keyset was able to plug into the lineprocessor directly, but I'm more curious at the moment about how it would work with AUGTERM on a PC.
Jonathan
Ken Harrenstien wrote:
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>
> It should work to simply hook up AUGTERM via serial port to some other
> machine/system that supports both (a) serial port login, and (b) telnet.
> Log into that machine, then telnet from there to the TOPS-20 system
> you are running, declare your terminal type to be lineprocessor or
> whatever, and run Augment.
>
> --Ken
Date: Mon, 28 Nov 2005 3:11:04 EST
From: Ken Harrenstien
Errors-To: nls-technical-bounces@chm.cim3.net
> How convenient! Someone recently offered to donate a working
> lineprocessor to the project. Would you be willing to donate the
> DM2500? One of my pet ideas is to bring up a complete hardware
Sure, that would be the best possible home for it!
What's the procedure?
BTW I also have a set of schematics for the lineprocessor -- was going to bring them to CHM a couple years ago (exchanged a couple of notes with a fellow named Chris Garcia) but I apparently neglected to get back to him -- probably got snowed under.
I also recall that at the time, CHM didn't have a high quality wide format scanner of their own, so it would have taken special arrangements to digitize the information. Has the situation improved?
> system including a working Dec10/20. CHM has one (a Japanese clone),
> but it would be fun to see if someone has one that we could dedicate
> to this project. Any ideas on where to look?
You mean a real DEC-20? Yes, the same one that SRI-NIC (and then Engelbart's Bootstrap Institute) used was given to Bruce Kennard across the bay. Checking my old email, around April 1999 I introduced him to Dag Spicer at CHM with the intent that this DEC-20 would become part of the museum's working collection. The last I heard, Bruce said "fine, come get it"... after that, I don't know what happened. The email addrs for them at the time were <kennard@insyde.com> and <spicer@computerhistory.org>. Hopefully this is enough info that you can follow up... and let me know what you find out, thanks!
--Ken
Date: Mon, 28 Nov 2005 05:29:05 -0800
To: Bruce Kennard <kennard@insyde.com>
Bruce,
I'm working with a group a volunteers at the Computer History Museum on a project to preserve Doug Engelbart's NLS/Augment system. Ken Harrenstien is also working on the project, and mentioned your name. We're making some great progress on the software

side. Working with Doug, Ken, and Rayleen Pak, Jonathan Cheyer has a complete clone of Augment running on Ken's emulator. We also have the Augterm and VAT terminal emulators working.

Although this started out as a software project, we recently started getting offers of Augment hardware, such as the original lineprocessor, a DM2500, and a chord keyset and mouse. We've come to realize that preserving the hardware associated with Augment is just as important as the software. In fact, we're intrigued by the possibility of bring up a full hardware version of Augment in addition to the current emulation.

Ken told me that you may still have the SRI-NIC DEC-20, and that you had contacted Dag Spicer at CHM about donating it at one point. Did you ever do that, and if not do you still have it? If so, we'd like to make sure it goes to the museum if you're still willing to donate it. Please let me know, and I'll work with you to expedite the process and transport it over there. Do you have any other Augment related hardware, software, or documentation?

Best regards,

Philip Gust

Nouveau Systems, Inc.