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**** FEATURES OVERVIEW ****

- o Network "newsgroups" can be "echoed" through the Forums of The Major BBS.
- o Messages are exported, transferred, and imported between The Major BBS systems without the MajorBBS systems having to go down to run a "single-task" program.
- o Private e-mail is easily sent from system to system.
- o Each system has a 3-letter alphanumeric "Node-Id" (ex: "XYZ")
- o Private e-mail is addressed by User-Id, then "@", then system Node-Id (ex. To: "John Smith@XYZ" or "Sysop@PRO" or "fred@zzx" - not upper/lower case sensitive)
- o The userid@sys "address" is actually a "pseudo-address", the cumbersome, technical address is "ML@XYZ {MBBS: John Smith}" or "ML@XYZ John Smith"
- o Network "newsgroups" have addresses too, a newsgroup name may be from 4 to 19 letters long and has an "ML@" prepended to it (ex: "ML@MSWINDOWS")
- o Individual Forum names on The Major BBS systems may be treated as User-Ids for purposes of sending messages. If you wanted to send a message to the /Hello Forum on node BNZ, you could address a letter to "ML@BNZ /Hello" and it would go there. It is best not to use the "pseudo-address" of "/Hello@BNZ" for such a letter.
- o Forums are set up by declaring an "MHS Addr:" in the Forum Header message. The network newsgroup name would be put on a line by itself in the message (before any "Thoughts of the Day:") in the format: MHS Addr: ML@NEWSGROUPNAME
- o Forums may be set up in such a way that all messages posted in the Forum will be sent via MailLink to the private e-mail of a user on the same or a different system. This is done by using: MHS Addr: ML@XYZ John Smith for the MHS Addr: declaration, where John Smith@XYZ is who you want the letters to go to. If John Smith@XYZ replies to the letters, the replies go to the Forum from which they were originally posted.

**** GENERAL OPERATION NOTES ****

When you first install MailLink, make an initial call to your network HUB to "seed" your database. Do this first, there is no point in sending any letters, setting up Forums, or configuring any taglines, until you do this. Messages received on your hub system after the time you make this first connection will then be sent to you on your subsequent calls.

Forwarding a letter to a newsgroup Forum will stamp that letter with an "origin" line which makes it appear that the person who forwarded the letter actually wrote it originally.

Modifying a letter in a newsgroup Forum does not change the letter which has already been processed to go out over the network.

Improperly addressed letters end up in the "reject" subdirectory (see CONFIGURATION) which was created for that purpose. It is a good idea to go through those letters in there periodically and notify the senders on your system that they were improperly addressed.

If you are direct-dialing your hub long distance, then you should definitely do this via high-speed modem. You'll save enough to buy another high-speed modem in a few months, over the cost of doing it at 2400 baud. If you are using an X.25 carrier such as PC Pursuit or AutoNet, then this method is likely cheaper. If you are using a high-speed modem, then the use of the 16550 UARTs is definitely required for reliable file transfers. If your high-speed modem is an internal model, make sure it has one built in. If an external model, make sure the serial port it will be using is equipped with one.

It is a good idea to keep at least 1 mb of space available on your hard disk. Since the v2 of MailLink, message packets are transferred as big files, not individual messages, so don't let your last 150K of disk space get eaten up in a minute and a half by your daily mail run!

**** INSTALLATION / CONFIGURATION ****

1. Place the distribution disk in drive A: and type A:INSTALL. Alternatively, placing the disk in drive B: and typing B:INSTALL would also work.
2. Follow the on-screen prompts to enable the needed files to be copied to your BBSV6 subdirectory. When installation is complete, select (2) and place MailLink wherever on your menu tree is appropriate for your users to get "MailLink Information".
3. Proceed to configure GALMS.MSG. You must follow these instructions in turning on the MHS connectivity functions of The Major BBS. If you are already using the MHS connectivity features of The Major BBS to gateway via MHS, see Appendix 1: "Configuring MHS and MailLink for simultaneous operation" instead.

A. ALWMHS {Do you wish to activate MHS-type messaging? YES} B

Set this to YES.

B. OUTMSG {MO} (ALWMHS=YES) S 30 Outbound directory for MHS

Set this to "MO", as a default compatible with all revisions of The Major BBS.

B. OUTFIL {MO\PARCEL} (ALWMHS=YES) S 30 Outbound file directory for MHS

Set this to "MO\PARCEL". MailLink does not currently use this, and I don't think it will explode if you set this wrong, but the PARCEL subdirectory under your OUTMSG option directory is definitely the best thing to put here.

C. INMSG {MI} (ALWMHS=YES) S 30 Inbound directory for MHS

Set this to "MI", as a default compatible with all revisions of The Major BBS.

D. GTWNME {} (ALWMHS=YES) S 8 MHS Gateway Name

You should set this to the same as your "three-letter Node Id", as this is stamped near the end of every MailLink message sent out. This is not VITAL that it be the same as your "three-letter Node Id" however.

E. SCNMHS
OUTSCN

These options generally come with a "Factory" setting of 5, meaning 5 seconds. It is similar in what it does to the last option in PROML.MSG, MSGKICK, and there is generally no reason to change it from default settings.

Now, configure PROML.MSG. For a complete description of every setting, consult the (F1) help screen which accompanies each option.

4. MLPATH1 {ML} S 20 Directory 1 for Maillink:
 MLPATH2 {ML\INTEMP} S 20 Directory 2 for Maillink:
 MLPATH3 {ML\OUTEMP} S 20 Directory 3 for Maillink:
 MLPATH4 {ML\STORAGE} S 20 Directory 4 for Maillink:
 REALMHS {ML\REJECT} S 20 Real MHS / Reject Directory:

If you are already using the MHS connectivity features of The Major BBS to gateway via MHS, see Appendix 1: "Configuring MHS and Maillink for simultaneous operation" for instructions.

Most Sysops may leave these default directory settings alone. For a complete description of what they are for, consult the (f1) help in the CNF area for each of them.

5. STOREMSG {Days to store messages (0==forever): 4} N 0 30000

This is how long messages for other systems are stored on your hard drive. Old messages are purged at cleanup.

6. STARTMOD {What is the last modem line to dial out on (hex)? 01} H 0 FF
 NUMOD {How many modems to use for dialout? 1} N 1 256

Here is where you put the HEX address 00-FF (as it appears on your main console) of the modem line.

The system will grab lines for dialout starting with this one, then work its way backwards as long as NUMOD says there are more to use. If your lines are set up in a "hunt group" in order then this "working backwards" lessens the chance that an incoming User call will interfere with a Maillink outgoing call.

7. DIALSTR {ATX4DT} S 19 Dial prefix

This is the dialing prefix for the modem lines which you have configured for Maillink. If it does not seem right for your model of modem, consult your modem manual.

8. SIGGIE1 {} S 45 System Name
 SIGGIE2 {} S 15 Your System Phone #
 SIGGIE3 {} S 45 Location?

These items are stamped on all messages originating on your system

You may leave these blank and there will be no stamp other than your system's Node-Id.

Colors may be embedded into this tagline, see Appendix 2: "Tagline Colors", for details.

PLEASE DO NOT CONFIGURE OR CHANGE ANY OTHER OPTIONS UNLESS SO INSTRUCTED BY YOUR NETWORK ADMINISTRATOR, OR YOU KNOW WHAT YOU ARE DOING.

**** DIALING YOUR HUB ****

Now, you should fire up your system with Maillink, for the first time.

If you get any MAILLINK ERROR or MAILLINK WARNING messages, whether in your AUDIT TRAIL or elsewhere, consult Appendix 3: "Error and Warning Messages" to find out what exactly happened.

When your system comes up with MAILLINK ACTIVE in your AUDIT TRAIL, everything is set for you to make the initial call to your HUB.

You may use a script file to access your hub through various long distance services. For information on this, consult Appendix 6: "Using Script Files to call Hubs".

For purposes of example, we will assume that you are using regular dial-up to connect to your HUB.

You should also be make your initial connection manually, so you can supervise. The connection will probably last about a minute.

1. Select Maillink from your Menu Tree.
2. Select "(S) Sysop Options" from your Maillink menu.
3. Select "(M) Manual Dial a System"
4. Enter your HUB system's telephone number. Maillink will immediately dial, as long as one of the lines you configured for dialing out, are open.
5. If you are on the main console, go to the MONITOR screen and watch the connection.
6. After the connection has terminated, check your AUDIT TRAIL for the message: "Connection Ended Normally".
7. Your initial connection has then been successful, and you may begin sending and receiving messages with subsequent connections.

See Appendix 4: "Using the Autodialer" so you can configure if and when you would like your system to make these "mail runs" automatically.

**** FORUM SETUP ****

Now that you have made the initial connection to your HUB, it is time to set up your Forums.

Consulting the list in your NETWORK DOCUMENTATION, you may follow these instructions in attaching some or all of the NEWSGROUPS listed there, to Forums on your system.

1. Begin creation of the Forum.
Give it a name which will transmit the idea of the newsgroup to your users, such as "/Windows" for an MSWINDOWS newsgroup.
If the desired Forum is already created, bring the header message up for modification.
2. Give the Forum a "Topic" which is not only a more detailed reflection of the purpose of the newsgroup, but mark it in some way so as to differentiate it in a list with your ordinary Forums.
3. In the instructions as to how to modify a Forum header, it says something like:

Credit Consumption Rate: <n>/minute	(default: %d/minute)
Message Lifetime: <n> days	(default: %d days)
Charge per Message Posted: <n> credits	(default: %d credits)
Charge per File Uploaded: <n> credits	(default: %d credits)
MHS Addr: <MHS Address>	(default: "" - a null string)
Thoughts of the Day:	(default: "" - a null string)

So, you would place the line:

MHS Addr: ML@MSWINDOWS

in your Forum header for your /Windows Forum, above any "Thoughts of the Day" line.

4. Save the header message. Go into C to configure Forum access, and set option 2 (default privileged) to W for Write messages, not the default U for Upload, since files may not pass over the MajorNet currently. Make sure that, if the NEWSGROUP you have attached to this Forum should be RESTRICTED ACCESS, i.e. SYSOPS ONLY or ADULTS ONLY, that you configure it so!

**** YOU ARE DONE ****

Now you may explore the NETWORK DOCUMENTATION and the online documentation more fully, and experiment with sending messages to yourself, other users on your system, and users on other systems.

For answers to questions, call ProStar Software, Inc. voice at (206) 859 8653, Mon-Fri. 9:30a-6:00p pacific, Sat. 10:00a-5:00p, or send mail to "Net Coordinator@UPD".

**** APPENDIX 1: Configuring MHS and MailLink for simultaneous operation ****

In your GALMS.MSG file, you have configured the options INMSG and OUT. In order for MailLink to work properly, the INMSG and OUTMSG options set here must be directories on the same disk drive. In addition, all of the directories specified within PROML.MSG (i.e. MLPATH 1 through 4) must be on the same drive letter as your INMSG and OUTMSG options.

Assuming that your BBS system is also on the same drive letter (default drive), what you have to do is:

1. Take the directory that you have configured in OUTMSG in GALMS.MSG, and instead put that value into the option REALMHS in PROMLCFG.MSG.
2. In OUTMSG in GALMS.MSG, put a path to a temporary "MO" subdirectory. Remember, all directory paths specified must be on the same drive.

What this does, is that all MHS and MailLink messages written, are placed in the directory specified in OUTMSG, in GALMS.MSG. MailLink will then process the message, and if it is improperly formatted, will move it to the directory specified in REALMHS. From there, the Novell or other importer may have it.

The reason all of the subdirectories specified must be on the same drive, is that messages are not COPIED between directories, which would be very cumbersome, but are MOVED - which is a very quick operation.

**** APPENDIX 2: Tagline Colors ****

You can put colors in your taglines using the [] commands also found in InterLink and Command Center. Here is a brief overview of the color commands:

[fred] or [fr] equals foreground red, [bred] or [br] equals background red

Foreground Colors:

[fred] or [fr]
[fbblue] or [fb]
[fyellow] or [fy]
[fwhite] or [fw]
[fcyan] or [fc]
[fmagenta] or [fm]
[fgreen] or [fg]

Background colors:

[bred] or [br]
[bbblue] or [bb]
[byellow] or [by]
[bwhite] or [bw]
[bcyan] or [bc]
[bmagenta] or [bm]
[bgreen] or [bg]

[+] Hi-intensity
[-] Lo-intensity

(The []'s ARE REQUIRED around the color selections)

**** APPENDIX 3: Error and Warning Messages ****

1. AUDIT TRAIL MESSAGES

A. MAILLINK WARNING

1. INVALID ml_audit() msg/submsg

This one should not happen, all warning calls are accounted for.

2. Called system is not our hub!

You are set up to call a different system than the one your system tried to connect to.

3. UPDATE NEEDED - You must download a new version!

There has been a revision to MailLink which you must go manually download and install. Mail may or may not transfer until you do this.

4. TD file not saved - error

Error while opening the file PROMLTIM.D8A for write.

5. Corrupt Autodial file, file reset.

Error while opening the file PROMLTIM.D8A for read.

B. MAILLINK ERROR

1. INVALID ml_audit() msg/submsg

This one should not happen, all warning calls are accounted for.

2. MailLink requires that you turn on MHS!

You have not enabled MHS in level 4 CNF of GALMS.MSG.

3. MailLink path is improper!

MailLink was unable to create a file in the directory path specified in MLPATH1 in PROMLCFG.MSG.

4. MailLink inbound directory not proper!

MailLink was unable to move a file from the directory path specified in MLPATH1, to the directory path specified in MLPATH2, in PROMLCFG.MSG.

5. MailLink outbound directory not proper!

MailLink was unable to move a file from the directory path specified in MLPATH2, to the directory path specified in MLPATH3, in PROMLCFG.MSG.

6. Maillink storage directory not proper!

Maillink was unable to move a file from the directory path specified in MLPATH3, to the directory path specified in MLPATH4, in PROMLCFG.MSG.

7. MHS directories must be on same drive as MHS IN dir

Maillink was unable to move a file from the directory path specified in MLPATH4, to the directory path specified in INMSG or INMSG5, in PROMLCFG.MSG and/or GALMS.MSG.

7. MHS directories must be on same drive as each other

Maillink was unable to move a file from the directory path specified in INMSG or INMSG5, to the directory path specified in OUTMSG or OUTMSG5, in GALMS.MSG or PROMLCFG.MSG.

8. Moving a file failed.

Moving a file from any one of these subdirectories to another failed. Possible cause: file of the same name in each. Message handling will stop until the system is reset.

9. DEBUG LOG FAILED TO APPEND

The debug log is not enabled on release versions of Maillink, & this one should never happen.

10. NODEID FILE NOT PRESENT

The 1024 byte file containing your system Node-Id is not in your BBS or BBSV6 subdirectory.
The file name is your bbs registration number, and the file extension is your Node-Id. (ex: 12345678.XYZ)

11. NODEID FILE TOO SMALL
CAN'T OPEN NODEID FILE
NODEID COPY PROTECTION FAILED

In each of these cases, there is something wrong with your Node-Id file. Restore it from your original distribution disk or call ProStar Software, Inc. for assistance.

**** APPENDIX 4: Using the Autodialer ****

Instead of manually dialing your hub every time you want to transfer mail, it is convenient to set up the autodialer feature to do the dialing for you when you are not around. Autodialer information is stored in the file PROMLTIM.D8A. From the Sysop Menu within MailLink, select D to bring up the first autodialer screen:

#	Phone Number	Flags		DialTimes 1111111112222										Total
		CSR.....	SMTWTFS	0	1	2	3	4	5	6	7	8	9	Daily
0		0
1		0
2		0
3		0
4		0
5		0
6		0
7		0
8		0
9		0

This screen shows ten possible different connection configurations: their numbers, approximate times, and connection method flags.

By setting up a variety of connection parameters, you can take advantage of different services to connect to the same message hub. Select option 0, the first connection configuration. You will see a screen like this:

Dial Session Group #0

(N) Phone Number:

(F) Flags:

(undefined flag) OFF
 SCRIPT ACTIVE OFF
 REVERSE CALL OFF
 3HR REDIAL CALL OFF
 SCHED. DISCONNECT OFF
 (undefined flag) OFF
 (undefined flag) OFF
 (undefined flag) OFF

(D) Call Days:

Sunday: OFF
 Monday: OFF
 Tuesday: OFF
 Wednesday: OFF
 Thursday: OFF
 Friday: OFF
 Saturday: OFF

Call Times:

(0) -----
 (1) -----
 (2) -----
 (3) -----
 (4) -----
 (5) -----
 (6) -----
 (7) -----
 (8) -----
 (9) -----

(Q) Exit without saving

(X) Save changes and exit

(Z) Zero out all times

By selecting (N), you may enter a phone number in here. This is a good place to store the phone number to your hub, as you can even select option "0" when manually dialing your hub and it will dial the phone number you put here. To set up a call time, for example on Monday through Friday, you want to call your hub at (206) 351-0561 at 5:00 AM and again at 11:30 PM,

1. Select (N), put in the phone number.
2. Select (D), toggle the desired days, hit X to exit that.
3. Select (0), put in "05:00". Select (1), put in "23:30".
4. Hit (X) to save and exit! You will see a change on the first screen indicating approximate dial times.

**** APPENDIX 5: Dial Session Group Flags ****

There are flags in the Dial Session Group configuration menu.

Script Active:

If you have configured a script file for this Dial Session Group, this setting must be turned on so that the script will be used upon connection.

Reverse:

If your system, as a hub, wants to poll a node for message transfer rather than the other way 'round, this flag must be set on. This flag will not work for a node's initial connection, nor will it work in combination with the CONTINUAL CONNECTION flag.

3 hour redial call:

This flag, if set on, will only allow an automatic call to occur if there has been no successfully completed connection in the last three hours. It is handy to schedule one of these 90 minutes or two hours after a regularly scheduled call.

Scheduled disconnection:

This flag, is for setting up a second dial group to ensure that a mail run has terminated by a certain time. If the run has not terminated, then the line is dropped. If you set up one dial group to make a call to your hub, "XYZ", at 1AM, and you wanted to make absolutely certain that it is disconnected before 2AM, set up another dial group. In the "Number:" field, put "XYZ" (without the quotes) and turn this flag on. Then, set the times and dates to correspond to 1:59AM after your normal 1AM mail run calls.

**** APPENDIX 6: Using Script Files to Call Hubs ****

Script files are text files which are stored in the subdirectory specified in MLPATH1 (usually ML). The names of the script files are always a number (0-9) corresponding with the "Dial Session Group" that it is for. It is not necessary to utilize a script file to call your hub if you will be calling it directly.

If you wanted to set up, in dial session group #9, a script file to call your hub using the ADP Autonet, first you would create the script file. Create a file called "9.SCR" in the ML subdirectory(default). The correct, tested Autonet script file looks like this:

```
wait
/
wait
/
/
/
/ID 12345,67      (replace 12345,67 with your assigned ID)
/PASSWD          (replace PASSWD with your assigned password)
```

You can have up to 10 script files, from 0.SCR up to 9.SCR, the names of the script files correspond with the number of the associated dial session group. You MUST turn the (F)lag for SCRIPT usage on when you configure the dial session group.

The script language is very simple. a "wait" means "wait six seconds", a "</words>" means "send <words> followed by a carriage return, then wait six seconds", and a "<\<character>" means "send <character> then wait six seconds". A "/" by itself means "send a carriage return, then wait six seconds". There are no WAITFOR's in this script language, because the nature of The Major BBS is not to look at an input line until a <cr> occurs on one, so try and program your own custom script files to be very tolerant of timing differences.

A correct, tested PC PURSUIT script file looks like this:

```
\e
\D
/
/dl
/C D/WASEA/24,<userid>      (replace <userid> with your ID)
/<password>                (replace <password> with your p/w)
/ATZ
/e
/SET? 1:0
/CONT
/ATDT9460579
WAIT
WAIT
WAIT
WAIT
```

Of course, you replace <userid> with your PC PURSUIT user id, and <password> with your PC PURSUIT password. WASEA is the node for Seattle, Washington, and 9410579 is the number for ProStar Central, which is the Central hub for the MajorNet hub. You could get messages from any PC PURSUIT-able MailLink HUB.

**** APPENDIX 7: What are the N_ and N- User-Ids?? ****

You may have noticed that two mysterious User-Ids have appeared in your User Account Database, "N_" and "N-". Looking them up, you find that it contains a warning not to delete it, yet it seems to have SYSOP access.

This is nothing to worry about, as the password is unhackable. This is not a "back door", this User-Id is required so that if your system ever received a call from your hub (reverse) or if your system ever became a hub, calling systems can get in, through a complex negotiation procedure, to transfer mail.

There is no way for a user to get into your system with this User-Id, it has a SYSOP class because that is one class that every installation of The Major BBS definitely has on their system no matter what underlying accounting system was chosen by you.

**** APPENDIX 8: Being a HUB ****

It doesn't require any special setup in order to be a HUB system; other systems just call you for their messages.

If you want to make sure that other systems do not use yours as a hub, you can follow these instructions to disable the HUB capability.

OPTION A: Suspend the "N_" Userid. This will make it so nobody can use MailLink to call your system. Drawback: Your HUB also cannot call you with the "REVERSE" method.

OPTION B: Create a small text file called PROMLSYS.TXT in your \BBSV6 subdirectory. In it, list, as in the example below, the Node-Id's you want to ALLOW to call you as a hub. Or, put a "." or a small amount of nothing text in if you want nobody calling you as a hub.

EXAMPLE CONTENTS OF PROMLSYS.TXT, LIST SYSTEMS ONE PER LINE:

XYZ
ABC
123