

Setting up an InterNetNews Server
SOLUTIONS GUIDE
A Step-by-Step Solution Implementation

Bob Bernstein

1.1

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InterNetNews SERVER

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1. Welcome to this Solutions Guide

Solutions Guides are published from time to time by Caldera Systems in an effort to foster greater understanding of specific solutions that are available with Caldera's OpenLinux software. Solutions Guides will help eSPs, eSolutions Providers (VARs, systems integrators, and large corporate technology specialists) come "up to speed" faster, thereby helping them to generate more solutions-based revenues.

Caldera Systems makes available a wealth of information for eSPs, including the following:

- Hardcopy Product documentation
- Online Knowledge Base
- Online documentation with the product
- Linux HOWTOs, from Linux Documentation Project
- Product support via e-mail and, in most cases, telephone support
- Caldera Press provides in-depth documentation on a wide variety of topics

Additionally, Caldera Systems cooperates with dozens of authors, providing the latest in software and support so that the third-party books they publish will be as current as possible.

Here are the types of documents we produce for the channel:

Solutions Guides focus on specific "cookbook", recipe approaches to solving specific problems.

White Papers focus on broad marketing issues, and on corporate philosophies.

Blue Papers (a new concept here, patterned after IBM's RedBooks, Red Papers, and Redpieces) focus on broad introductions to technology solutions. Not to be confused with Solutions Guides, these documents describe "why" a technology would be implemented; whereas, Solutions Guides focus on "what" to do to implement them.

Topics for Solutions Guides are suggested by on-going research at Caldera Systems, as well as by third-party research indicating the most likely technologies that will be deployed over the next few months. Some of the third-party sources include:

- IDC
- Forrester Research
- Gartner Group
- Dataquest
- VARBusiness
- Survey.com
- Sm@rt Reseller
- TechRepublic

The purpose of Solutions Guides is, simply, to enable eSPs to generate revenue quickly and easily, using a step-by-step approach to deploying Linux and Internet infrastructure technologies.

Solutions Guides, as a rule, are available only to Caldera Solution Partners. Occasionally, however, we make some of the Guides more generally available.

1.1. Introduction

Section One of this Solution's Guide introduces the reader to its focus and purpose. Here, you will be directed to additional resources that relate to this topic, learn where you can give feedback concerning the effectiveness of this Solutions Guide, and learn of any hardware or software prerequisites for implementing this solution.

Solutions Guides provide a "cookbook" approach to implementing real-world solutions in a minimum of time. Designed to eliminate much of the "learning curve" that accompanies new or different technology, Solutions Guides provide a step-by-step learning and doing experience.

Section Two begins a description of the implementation steps for this solution.

Section 7. "Evaluation Form" on page 59 includes an Evaluation Form, which we would appreciate your returning to us with your comments. See Section 1.5. "Evaluation Form" on page 11.

1.2. Executive Overview

The InterNetNews (INN) package, one of the servers that ships with eServer 2.3, can provide an organization with local (private if necessary) discussion groups that facilitate group project communications and disseminate information across the full reach of the organization. INN of course also provides full connectivity to the Internet's wide ranging Usenet newsgroups, and allows an organization to host and archive any number of these newsgroups.

1.3. To the Reader

1.3.1 Level of Understanding

Setting up and maintaining an Internet news server is one task that can be justly termed "non-trivial." eServer ships with the InterNetNews (INN) package, a powerful "industrial strength" set of applications that implement a full Usenet news site. The system administrator ought to be familiar with Usenet from a user's point of view. Since INN is configured by editing a fairly large number of files, the administrator ought to be knowledgeable in the manipulation of text files, the use of a good editor, and be comfortable on the command line, where virtually all of INN's testing and maintenance transpires. Although this Guide will provide all the step-by-step directions needed to get INN up and running in some simple, basic configurations, it is only fair to note that this may not be the first eServer configuration project an administrator just becoming familiar with Linux and/or Unix ought to attempt. On the other hand, those more or less familiar with Usenet and Unix or Linux should derive some satisfaction from this encounter with INN; it's an impressive package and learning about it, if not exactly mastering it, can be fun.

1.3.2 Date of Publication and Version

The date of this published version and the version number appear on the cover page of this Solutions Guide.

Version numbering follows industry conventions. The whole number (to the left of the decimal) indicates a first major release of the document, if 1. If higher than 1, it indicates a new-total rewrite. Decimal fractions (numbers to the right of the decimal) indicate minor changes or tweaks.

1.3.3 Related Publications

The INN FAQ, <http://blank.org/innfaq/>, is THE source of practical information on running INN. It can be found in text format here: <ftp://rtfm.mit.edu/pub/usenet-by-group/news.answers/usenet/software/inn-faq/>

The INN home page, <http://www.isc.org/products/INN/>, lists other resources.

1.3.4 Where to Turn for Additional Help

For additional assistance, beyond what is found in this Solutions Guide, you may consult Caldera's Knowledge Base:

<http://support.calderasystems.com/caldera>

Installation support is available for 30 days from product registration, at:

<http://www.calderasystems.com/support/programs/installation.html>

Registered eSPs may find additional support in the Reseller Lounge at:

<http://www.calderasystems.com/private/hidden/locked>

General Linux questions may be answered by consulting these Web site resources:

Web Site	Description
http://netllama.ipfox.com/COL_FAQ.html	The alt.os.linux.caldera FAQ page
http://www.calderasystems.com/LDP/HOWTO/index.html	Documents which describe in detail various aspects of configuring or using Linux
http://www.google.com/linux	The Google search engine, pared down to include only Linux-related topics
http://www.deja.com/bg.xp?level=comp.os.linux	A searchable interface for the comp.os.linux Usenet newsgroup
http://www.cs.utexas.edu/users/kharker/linux-laptop/	Linux on Laptops website, a clearinghouse for information about installing laptops, indexed by manufacturer and model
<code>file:/usr/src/linux/Documentation/sound</code>	A directory on your system containing valuable information about making sound work in Linux. Articles are separated by module name, with a file called Introduction providing, rather predictably, an introduction to sound in Linux
http://www.alsa-project.org/~goemon/	ALSA Soundcard Matrix, a source for determining sound card compatibility in Linux
http://www.xfree86.org/	Homepage for XFree86, a non-profit organisation that produces XFree86, the most popular X window system in the Linux community
http://glide.xedgexx.com/	And excellent resource for information about 3D graphics in Linux
http://www.o2.net/~gromitkc/winmodem.html	Winmodems are not modems webpage, home of the Linux/Modem Compatibility Knowledge Base
http://gatekeeper.picante.com/~gtaylor/pht/printer_list.cgi	Printing HOWTO Support Database, including a searchable list of printers known to work with Linux and links to the necessary software
http://cesdis.gsfc.nasa.gov/linux/drivers/	Linux Network Drivers site

Web Site	Description
http://us2.samba.org/samba/oreilly/using_samba/	A full-text version of the O'Reilly book Using Samba.
http://stommel.tamu.edu/~baum/linuxlist/linuxlist/	Linux Software Encyclopedia, featuring an extensive list and description of software available in Linux
http://www.cablemodeminfo.com/linbasics.x.html-ssi	A resource for getting cable modems working in Linux
http://www.mostang.com/sane/	Homepage for SANE, Linux scanner software
http://www.webmin.com/	Homepage for Webmin, a browser based administration utility for Linux
http://pcmcia.sourceforge.org/	Linux PCMCIA Information Page, a page about the PCMCIA services package
http://www.uruk.org/orig-grub/	Documentation about GRUB, the Grand Unified Bootloader
http://www.gnu.org/software/grub	Additional GRUB documentation
http://www.igd.fhg.de/~aschaeffe/fips/	Documentation for fips, an open source partition resizing tool for Linux
http://www.wps.com/dead-media/	Homepage for the Dead Media Project, a compilation of historical information about dead media
http://www.worldvisions.ca/~apenwarr/apmd/	Homepage for the Linux Advanced Power Management daemon
http://www.ltsp.org/	Home to the Linux Terminal Server project, a project providing information about running diskless workstations in Linux
http://www.sun.com/software/linux/resources/staroffice.html	Staroffice information and downloads

1.4. Hardware and Software Requirements

Depending on the volume of traffic INN can be very demanding on hardware; with Usenet now well over 50,000 groups and still growing the claim has been made that nothing less than a dedicated T-3 will suffice for a full Usenet feed. INN is quite drive-intensive in some of

its operations and not all hard drives will be up to the challenge. SCSI drives are a good choice for running INN. All the procedures in this Guide have been tested on a Pentium 166 system with 64 MB of RAM and an IDE drive.

The INN package runs with the version 2.2.14 Linux kernel shipped with eServer 2.3.

An implementation of Bob Yetman's suck package will be described. suck can be downloaded from his web site at <http://home.att.net/bobyetman>, and this Guide will detail the installation of suck from the most recent source code.

1.5. Evaluation Form

We desire that our Solutions Guides be as helpful as possible. Your feedback is very important to help us maintain the quality of our Solutions Guides. Please complete the evaluation form, found on Section 7. "Evaluation Form" on page 59, and return it to us using one of the following methods:

- Mail it to the address shown on the form
- Give it to the Caldera marketing representative for mailing
- Fax the evaluation form. The fax number is shown on the form
- Send an e-mail note with your comments to solutions@calderasystems.com
- Complete the on-line evaluation form, found at <http://www.calderasystems.com/solutions/eval>

1.6. Testing and Certification

This solution has been successfully tested at the Caldera Testing Center or by Caldera Support Technicians.

2. Profitability Worksheet

All successful businesses generate revenue and incur expenses. Since it's the mission of the company to generate revenue with its own goods or services, an eSP's function is generally to decrease expenses of business processes.

Depending upon the company, business processes may be in these areas, for example:

- Workflow—the movement of knowledge and documents, or finished or unfinished goods within the company
- Data Processing—accounting processes are always required, but there are others. Most technology spending in companies for data processing, though there are some exceptions.
- Sales Generation—including prospecting costs, lead management, and order fulfillment

The successful (profitable) eSP will learn to identify areas where expense can be reduced or eliminated. A dollar saved the client is a dollar that goes directly to the bottom line. Successful eSPs also learn to identify processes that lead to revenue generation as well.

With the growth of the Internet, most business managers are looking to Web-based eBusiness to provide additional revenue streams. Companies that have had traditional storefronts or distribution systems that expand to the Web are said to be combining "clicks" with "bricks."

Caldera's mission is to enable the development, deployment, and management of Linux-based specialized servers and Internet access devices that extend the eBusiness infrastructure.

2.1. Revenue Generation

Revenue is generated by eSPs in a number of ways, including these:

- Resale of technology
- Deployment of technology
- Support services

- Custom Programming
- Consulting

The topic of this Solutions Guide was selected because of its broad interest among eSPs and customers. That interest translates directly into revenue; but only if the solution can be deployed quickly and supported easily.

2.2. Worksheets

Profit, as we all know, is what's left after expenses are subtracted from revenues. This worksheet provides a handy place for you to calculate your revenue by deploying this Solutions Guide at a customer site.

This worksheets look at only three variables:

- Hardware Costs
- Installation Charges
- Support Costs

The first worksheet is to calculate the profitability of the solution

A	Profitability Worksheet: Traditional Solution	a	b	c
1	Hardware/Software Costs			
2	Cost of Hardware charged to Customer			
3	Cost of Software charged to Customer			
4	Total Cost to Customer (line 2a+3a)			
5	Your Hardware costs for Solution			
6	Your Software costs for Solution			
7	Your Total costs for Solution (5a+6a)			
8	Your Profit from H/S Sale (4b-7b)			
9	Installation and Configuration Costs			
10	Amount charged to Customer			
11	Estimated Time to Install (in hours)			
11	Your Cost per hour to Install			
12	Your Total Installation Costs (7a*8a)			
13	Your Profit from Installation (10b-12b)			
14	Support Costs			
15	Amount charged to Customer per Year			
16	Estimated Time to Support per Year			
17	Your Cost per hour to Support			
18	Your Total Support Costs per Year (16a*17a)			
19	Your Profit from Support per Year (15b-18b)			
20	Total Profit from Traditional Solution			
21	Profit from Sale, Installation, Configuration, and Support (for one year) (8c+13c+19c)			

using traditional tools. The second is to calculate using Caldera

System solutions, with this solution's Guide. You should expect to see an increase in revenue by using Caldera's solution.

B	Profitability Worksheet: Caldera Solution	a	b	c
1	Hardware/Software Costs			
2	Cost of Hardware charged to Customer			
3	Cost of Software charged to Customer			
4	Total Cost to Customer (line 2a+3a)			
5	Your Hardware costs for Solution			
6	Your Software costs for Solution			
7	Your Total costs for Solution (5a+6a)			
8	Your Profit from H/S Sale (4b-7b)			
9	Installation and Configuration Costs			
10	Amount charged to Customer			
11	Estimated Time to Install (in hours)			
11	Your Cost per hour to Install			
12	Your Total Installation Costs (7a*8a)			
13	Your Profit from Installation (10b-12b)			
14	Support Costs			
15	Amount charged to Customer per Year			
16	Estimated Time to Support per Year			
17	Your Cost per hour to Support			
18	Your Total Support Costs per Year (16a*17a)			
19	Your Profit from Support per Year (15b-18b)			
20	Total Profit from Caldera Solution			
21	Profit from Sale, Installation, Configuration, and Support (for one year) (8c+13c+19c)			
22	Value of the Caldera Solution (B21c-A21c)			

Factored in to the worksheet are other tangible or intangible considerations, such as:

- The customer's disposition toward change
- The increased learning required of the customer
- Whether or not the Caldera solution can be integrated into the customer's existing infrastructure

2.3. TCO Modeling

The profitability worksheets, in the previous section, are to a large degree, simplistic. A complete total cost of ownership (TCO) financial model should consider the following factors:

- Hardware acquisition and upgrade costs for all assets and new software license costs
- Management labor—Direct labor and contractor
- Support and overhead—upper management, help desk, purchasing, training, maintenance contracts and any other support and overhead costs
- Any application development labor and fees that are not line-of-business
- WAN communications—leased line, remote access services and others
- End-user IS support costs—the amount of time the end-users spend supporting the PC client/server infrastructure, based on the end-user salary
- Down time cost—based on the total downtime multiplied by the average end-user salary

2.4. Two TCO Models

There are two TCO models that are in wide use today:

- Direct hard-dollar costs, that include capital, expense, contact and/or labor
- Indirect soft-dollar costs, including time spent multiplied by the average end-user salary

Most complete TCO assessments, particularly if the customer requires it in the bid processes, will include both models.

3. Implementation Scenarios

There are two primary uses for an “inhouse” INN server. First, it allows for the creation of local discussion groups that can remain private; they will be accessed only within the organization. Such groups can be efficient vehicles for distributing “news” within an organization, and are ideal for sharing information about a group project with all of its members.

Second, an INN server can provide “read” and “post” access to a selected number of Usenet newsgroups. Given the huge scope of Usenet (over 50,000 groups at last count), there are likely very few organizations that cannot find discussions on Usenet that pertain to their mission. A typical “active” file, the list of groups currently provided by a particular Usenet host, can easily run to nearly one and

a half megabytes in size, and this typical file will only contain roughly 30,000 of those groups. Here is an example of exploring such a list, using a real active file:

```
user:eserver {101} grep volleyball active
alt.sports.volleyball 0030000077 0030000073 y
alt.sports.volleyball.kaos 0030000356 0030000347 y
dk.sport.volleyball 0030001730 0030001593 y
fj.rec.sports.volleyball 0030000589 0030000582 y
han.rec.sports.volleyball 0030000729 0030000722 y
no.sport.volleyball 0030002423 0030002389 y
no.volleyball 0030000026 0030000027 y
rec.sport.volleyball 0030027834 0030027243 y
tw.bbs.sports.volleyball 0030015105 0030014661 y
user:eserver {102} grep metalworking active
rec.crafts.metalworking 0030185185 0030175715 y
trial.rec.metalworking 0030000279 0030000276 y
user:eserver {105} grep mustang active
rec.autos.makers.ford.mustang 0030256956 0030246094 y
user:eserver {106} grep stocks active
alt.invest.penny-stocks 0030083459 0030076824 y
misc.invest.penny-stocks 0030001189 0030001152 y
misc.invest.stocks 0030290275 0030277678 y
misc.invest.stocks.ipo 0030000747 0030000691 y
misc.invest.stocks.penny 0030005051 0030004885 y
relcom.commerce.stocks 0030034220 0030033042 y
sg.invest.stocks 0030005157 0030005060 y
user:eserver {107} grep islam active
alt.islam 0030001436 0030001357 y
```

alt.islam.sufism 0030007061 0030006787 y
alt.religion.islam 0030199579 0030191106 y
alt.religion.islam.arabic 0030003127 0030003019 y
alt.religion.islam.shia 0030008311 0030008003 y
soc.culture.islam 0030003410 0030003189 y
soc.religion.islam 0030028139 0030027325 m
uk.religion.islam 0030025997 0030024258 y

Usenet is notoriously global in its scope. For some pursuits, especially those vitally concerned with computing or the Internet, its discussions are mandatory reading; they provide central clearing points for important developments. Thus some organizations will find it in their interest to host (and archive) some newsgroups.

Few organizations will want to host a "full newsfeed." If access to the full scope of Usenet is needed then the services of one of the many firms that specialize in Usenet hosting ought to be obtained. The technical, hardware and administrative chores required for a full Usenet newsfeed are rigorous indeed, so this is one job you'll want to "sub out."

4. Getting Started With InterNetNews

The InterNetNews (INN) package, one of the servers that ships with eServer 2.3, can provide an organization with local (private if necessary) discussion groups that facilitate group project communications and disseminate information across the full reach of the organization. INN of course also provides full connectivity to the Internet's wide ranging Usenet newsgroups, and allows an organization to host and archive any number of these newsgroups.

4.1 Preparations

There are a few steps that need to be taken before we start INN for the first time. Basically, we will go through these steps, attempt to start INN, notice that we fail to start it, and then do some troubleshooting. INN is a rather complex set of applications, and troubleshooting ought to be introduced early on, as it is part of every installation of INN.

4.1.1 Become the newsmaster

The INN package will regularly email the “newsmaster” of your system information about its status and daily maintenance operations. This mail should be delivered to a normal user account, preferably that of the system administrator. If you have already created a mail alias for the root user than you are all set. If not, open the file `/etc/sendmail/aliases` in an editor, scroll down to near the end of the file and, just under the line that says “person who should get root's mail,” uncomment this line:

```
#root col
```

and make it look like:

```
root mambo
```

assuming your normal user account is “mambo.” Notice that mail for 'news' is already aliased to 'root'. After saving the changes and exiting the editor, su to root and execute the command:

```
# newaliases
```

Now INN will send its reports to mambo's mail spool. INN is rather good at letting you know what it is doing, at least once it is actually running, a topic we will soon examine at some depth.

4.1.2 Who am I?

Before proceeding this question needs to be answered. Our news server needs a name by which it will be known to other hosts on the local network. The command `hostname --fqdn` can usually tell us what we should call ourselves. Say, for example, its results look like this:

```
# hostname --fqdn
roger.outersanctum.org
```

We will call our news server `roger`, and its domain name will be `outersanctum.org`. This information will be used in the next step

NOTE: The assumption in this Guide is that INN will be installed on a machine that is part of a local (i.e. private) network, for instance one that has been assigned IP addresses in the 192.168.0.0/16 range. In this example the news server will be configured using its network hostname rather than 'localhost'. It is quite possible to use localhost as the news server's name but the exercise of doing otherwise is instructive.

4.1.3 Create an inn.conf file

INN was configured during the initial installation of eServer with defaults given in the file `/etc/news/inn.conf.sample`. These need to be copied over to the file INN expects to find, `inn.conf`. Use `copy` rather than `move` to retain the original file for reference. Change the ownerships as shown.

```
# cd /etc/news
# cp inn.conf.sample inn.conf
# chown news.news inn.conf
```

The new file needs to be edited. The first few lines of this file will look like this:

```
## -----  
# All parameters must exist  
#  
organization:      A poorly-installed InterNetNews  
site  
server:           localhost  
pathhost:         bm.calderalabs.com  
moderatormailer:  
domain:  
fromhost:  
pathalias:  
complaints:
```

Edit them to reflect your hostname and domain name:

```
## -----  
# All parameters must exist  
#  
organization:      News From The Outersanctum  
server:           roger  
pathhost:         outersanctum.org  
#moderatormailer:  
domain:           outersanctum.org  
fromhost:         outersanctum.org  
pathalias:  
complaints:
```

Note that the line beginning 'moderatormailer' has been commented out.

4.1.4 Edit nnrp.access

This file in `/etc/news` controls who will be allowed “reader” access to the news server, and with what privileges: Read, Post, or both. Access can be granted for a specific host or set of hosts, a specific domain or set of domains, and combinations of these two. For our purposes in this example we will add to the defaults in the file the domain of our local network, “outersanctum.com” with Read and Post access. This requires simply appending a line to the end of the file:

```
stdin:Read Post:::*
localhost:Read Post:::*
127.0.0.1:Read Post:::*
*.outersanctum.com:Read Post:::*
```

4.1.5 Edit incoming.conf

This file in `/etc/news` controls who will be allowed “feeder” access to the news server, and we want our host to have this access. Near the end of this file, change 'localhost' and its address to our news server. Assuming our local IP address is 192.168.1.5, the file would look like this:

```
peer ME {
hostname:      "roger, 192.168.1.5"
}
```

4.1.6 Run inncheck

The INN package includes a utility called `inncheck` that checks the status of many of INN's files. Now would be a good time to run it:

```
# /usr/libexec/inn/bin/inncheck
```

(Notice that all of the executable files associated with INN are located in a directory not in any user's PATH.) Here is some typical output of this command:

```
/var/state/news/active:0: mode 644, should be 664
/etc/news/controlctl:0: mode 755, should be 640
/etc/news/controlctl:1295: unknown control message
`rmwgroup'.
/etc/news/inn.conf:110: ends with whitespace
```

The first two can be remedied easily enough:

```
# chmod 664 /var/state/news/active
# chmod 640 /etc/news/controlctl
```

The next looks like a typo:

```
## PITT (University of Pittsburgh, PA)
newgroup:news+@pitt.edu:pitt.*:doit
newgroup:news@toads.pgh.pa.us:pitt.*:doit
rmwgroup:news+@pitt.edu:pitt.*:doit      <-- Line 1295
rmgroup:news@toads.pgh.pa.us:pitt.*:doit
```

so a good guess would be to make it read rmgroup.

For the last problem, just open /etc/news/inn.conf in your editor and be sure there's a hard <CR> at the end of that line, right after the colon following innflags:

```
# Other options
innflags:                                     <-- Line 110
doinnwatch:                                 true
innwatchesleeptime:                         600
```

Now if inncheck is run again it should produce no output.

NOTE: The examples shown above are not necessarily the exact situations you will find in your distribution of INN. It is not abnormal for inncheck to produce some results that require a little repair; precisely what those repairs will be can vary.

4.2 Starting and stopping INN

The INN server, `innd` (pronounced “in-dee”), is not started at boot time by the default installation of eServer. Although it can be started directly from the command line it will be instructive to use COAS to add it to the list of daemons started at boot time, and then reboot. Click through this sequence:

```
K -> COAS -> System -> Daemons -> [Enter root passwd] -> Ok
```

and find the INN server in the list of daemons. Click on the checkbox to add it to the daemons that will be started automatically and then close out the dialog box and reboot.

Tip: Since `innd` is manipulated and configured from the command line, it will make sense on this reboot to select “Console mode” when the graphical login screen appears at the end of the boot cycle. Click through this sequence:

```
Shutdown -> Console mode -> Ok -> Press <return> -> Log  
in as normal user
```

Console mode entails being comfortable with a terminal based, as opposed to X-windows based, text editor. If `vi` or `emacs` are not to your liking then one solution is to install the Midnight Commander package, which includes a user-friendly text editor. See the Appendix for step-by-step directions for adding “`mc`” to your system. Also recommended for this purpose is `jed`, a lightweight but powerful text editor.

4.3 Why innd won't start

The first thing to notice is that `innd` is not running. Verify this with the command string:

```
$ ps ax | grep innd
```

All this will return is the information that you just ran 'grep innd'. The same command string, only with 'inn' in place of 'innd', may show some running processes, but it is innd that we need to get running. Since innd has not started we cannot look to any emails from it for clues. (This is not exactly true; you may see a message notifying you that no "news.daily" file could be found, but even if one were in place innd still would not have started.)

For the clue we need, inspect this log file:

```
# less /var/log/news.all
```

You'll see a line that says "innd: SERVER cant dbzinit /var/state/news/history No such file or directory". To make matters worse, if you now look in the directory /var/state/news, you may see a file there called history.

At this point we will turn to the first of many looks at the INN FAQ. If you haven't downloaded a copy from rtfm.mit.edu (highly recommended) then point your browser at <http://blank.org/innfaq> and note the title of Part 3, "Reasons why INN isn't starting". Go there, scroll down the page and you'll soon see the very same line our news.all file provided. Here's what the FAQ says:

"Second, the most common cause of this is that you do not have a history file (or no history database). You will see a message like this:

```
ME cant dbminit /usr/local/news/history No such file or
direct ory
```

(Note that in versions > INN1.5, the word "ME" is replaced by "SERVER").

This means that you do not have a history database (or no history.dir and history.pag files). If you are just installing INN for your first time, you might want to run the BUILD script in your INN source tree. Or, you can read about makehistory in doc/news-recovery.8; if you do the latter, make sure to rename the database files (pay attention to the two mv commands)."

4.3.1 Running makehistory

As the FAQ indicates, innd couldn't find either a 'history.pag' or 'history.dir' file. The file named 'history' (if it was there – it's not always) didn't suffice for innd's purposes and, yes, the log message is a tad misleading in this regard. The fix is easy, but at this point we should take a brief detour.

4.3.1.1 What /var/state/news should look like

The directory /var/state/news needs to contain certain specific files in order for INN to run. The history files referred to by the FAQ need to be here. In all likelihood the only files you'll find in this directory are two, named "active" and "newsgroups". We'll replace those in the next section. If you happen to see a file or even several files named history or history.pag or history.dir it is safe to remove them all; also, move out the way the other two files:

```
# cd /var/state/news
# rm history*
# mv active active-orig
# mv newsgroups newsgroups-orig
```

NOTE: If by some chance innd actually started to run, then you should stop it and still carry out the steps noted above. Stop it with this command: /etc/rc.d/init.d/news stop.

4.3.1.2 The Active and Newsgroups Files

Since the focus of this Solution Guide is to implement local newsgroups and a selected group of Usenet newsgroups we ought to create new "active" and "newsgroups" files before going any farther. The versions of these files found in /var/state/news are not really suitable for this purpose, so the suggestion is that new versions be

created. The new `/var/state/news/active` is shown below; it can be typed into an editor or copied and pasted from the version of this Guide available on the Caldera web site.

```
control 0000000000 0000000000 y
junk 0000000000 0000000000 y
local.general 0000000000 0000000000 y
local.test 0000000000 0000000000 y
```

Set the ownerships and permissions of this file:

```
# cd /var/state/news
# chown news.news active
# chmod 664 active
```

Here is the new `/var/state/news/newsgroups` file:

```
control          news server internal group
junk             news server internal group
local.general    local discussions
local.test       local test group
```

Set the ownerships and permissions as for the new 'active' file. Now comes the interesting part. Basically INN had no history files because it hasn't run yet, and it won't start running until it has history files. This pure catch-22 has a solution, the 'makehistory' utility that is provided by INN. This utility needs to be run as user 'news'; the following steps will give us our history files:

```
# su news
$ /usr/libexec/inn/bin/makehistory -i
$ exit
# mv history.n.dir history.dir
# mv history.n.pag history.pag
```

The directory should now contain these files:

```
active
history
history.dir
history.pag
newsgroups
```

plus whatever old files you have already moved out of the way.

4.3.2 Start innd

At this point we should take another shot at starting innd. As root execute this command:

```
# /usr/libexec/inn/bin/rc.news
```

Try ps again and hopefully it will show something like this:

```
# ps ax | grep innd
6362 ?  s  0:00 /usr/libexec/inn/bin/innd -p4
```

This is a good sign that INN will start automatically the next you reboot.

4.3.2.1 A little testing

At this point we can subject INN to some testing. Try telnetting into port 119 of your news server. A typical test session might look like this:

```
charles@roger: > telnet roger 119
Trying 192.168.1.5...
Connected to roger.outersanctum.org.
Escape character is '^]'.
200 outersanctum.org InterNetNews server INN 2.2.1 25-Aug-
1999 ready
help
100 Legal commands
authinfo
help
ihave
check
takethis
list
mode
quit
head
stat
xbatch
xpath
For more information, contact "usenet" at this machine.
.
ihave <1@test>
```

```
335
^]
telnet> quit
Connection closed.
```

This is the basic method for debugging INN. The INN FAQ gives many examples of how to use telnet to diagnose various problems. The “ihave” command was used to test whether our news server was prepared to accept articles. “<1@test>” is an article ID that is bound to be safe; there won't be any real article lying around with that ID. The server's response, “335”, indicates that it is willing to accept it.

4.4 Testing the Server

THE TIN NEWSREADER

If all has gone well to this point, and that important “335” appeared as noted above, then we should now be able to read and post articles to the local newsgroups. The tin newsreader is a powerful terminal-based newsreader that is ideal for this purpose, and it is already installed in eServer. In this section we will run through a demonstration of using tin.

Before starting tin for the first time be sure to either remove or move out of the way any old .tin/ directory or .newsrc file in the home directory of the user who will do the testing. Then the following steps can be taken:

- 1** Start tin with the command `tin -g roger`
- 2** Press Return to move past the opening banner screen.
- 3** Press the 'y' key to yank in the active list of groups. You should see nine groups, including our two “local” groups.
- 4** Use the up and down arrow keys to move the highlight bar to each local group, and press 's' to subscribe to each.
- 5** Press 'y' again to yank out the unsubscribed groups. You should be looking at a listing of the two local groups.
- 6** At this point, unless you are comfortable with the vi editor, you should configure tin to use your preferred editor. Press Shift-m ('M') to bring up tin's configuration menu; scroll down to line 98, “Invocation of your editor” and press Return. Use

the Left arrow key to move the cursor back past the '%F' and '%N' variables and replace the '%E' variable with the name of your editor. It might then look like: `jed %N %F`. Press <Return> to save the change and then press 'q' to quit the configuration screen.

- 7** Now we can try posting an article. With the highlight bar on the group you wish to post in, press 'w'.
- 8** Tin will prompt you for the Subject: of your post. Enter that and press <Return>. You should now be in your editor with some headers already filled in.
- 9** Now you can enter the text of your post. Save it and exit the editor. Tin will remind you where the article is going to be posted, and also provide some hints regarding good netiquette. In general these should be heeded, always.
- 10** You have some choices now. You can re-edit your message, postpone it, cancel it completely or post it. Press 'p', the default, to post it. You may be told the connection has "timed out." Just press Return or 'y' to reconnect and send the message.
- 11** This should take you back to the listing of articles in that local group. Tin needs to reread the news server's spool for your article to show up. Press the Left arrow key to return to the list of groups, and then Press Return to re-enter the group. Now you should be able to see your article in the article list. Pressing Return again will allow you to read your article.
- 12** At this point you should try connecting to the news server from another machine on your local network. If the network is configured properly then any user should be able to point their newsreader (not necessarily tin) at 'roger' and read and post to the local groups.

4.4.1 Some tin tips

Tin is highly configurable, both from its built-in configuration menu and from files in your `.tin/` directory. Here are some items you might want to customize using the built-in menu; these are just suggestions and individual tastes vary as to how news is read.

- 1** Line 9. Show only unread articles. Turn this off.
- 2** Lines 34 and 35. Catchup before leaving threads and groups. Turn these off.
- 3** Line 41. Use ANSI color. Turn this on.

- 4 Line 62. Mail address. Set this to something you want to have in message headers that will appear on Usenet. Think seriously about not including any email addresses in your signature file, as they are routinely scooped up by spammers.
- 5 Take a look at the file `.tin/headers` in your home directory. You can fine-tune some headers by editing this file.

4.5 Two Basic Tasks for `ctlinnd`

Virtually all aspects of `innd`'s operation can be configured and controlled with the `ctlinnd` utility. We'll look at two common uses for this important program. Be sure to look at the man page for `ctlinnd`.

4.5.1 Adding a Group

Our two local groups were meant to be examples for testing and learning. You will want to add other local groups. Here's an example:

```
# /usr/libexec/inn/bin/ctlinnd throttle newstuff
ok
# /usr/libexec/inn/bin/ctlinnd newgroup local.pets4sale
ok
# /usr/libexec/inn/bin/ctlinnd go newstuff
ok
#
```

The syntax of `ctlinnd` is somewhat unique in that it not only asks for a command, but also sometimes for a "reason" for the command. Thus, in the first line above, `ctlinnd` is given the command "throttle" with the reason "newstuff". The reason gets logged (in `/var/log/news.all`) and also serves as a sort of password for successive commands.

The first line in the sequence above "throttles" `innd`, or puts it into a kind of "paused" state, idling in neutral as it were. It is always a safe practice to throttle `innd` before running any of `ctlinnd`'s commands, although it is not always strictly necessary. The "reason" is chosen such that it is a) somewhat illustrative of what's going on with this

particular exercise of `ctlinnd`, and b) easy to remember. The next line adds a new newsgroup named “`pets4sale`” in the local hierarchy. Keep in mind whenever a new group is named that, unless INN is configured properly, there is a chance of sending private posts out onto the Internet, where they stand a chance of being delivered. Our installation is already configured to never send posts in the “local” hierarchy to other news servers. The last line serves to fire up `innd` again, and it requires the same reason that was given for throttling `innd` in the first place.

At this point, you should be able to read and post to the new group. If you try this you'll note there is no description for it in the listing of active groups that comes up in `tin`. You can add one by editing `/var/state/news/newsgroups`:

```
control          news server internal group
junk             news server internal group
local.general    local discussions
local.test       local test group
local.pets4sale  don't sell your pet!
```

This is one change that will take effect as soon as you make the edit. There's no need to go through the exercise we'll describe in the next section, how to get `innd` to re-read all its configuration files.

4.5.2 Loading New Configurations

With its large number of configuration files, `innd` will often have to be updated so that it is current with what is in those files. For instance, we noted above that INN is already configured to never send posts in the local hierarchy to other news servers. (We have INN configured to allow certain, i.e. local, newsreaders to access these groups.) Now, in general it's not a good idea to have a lot of “local” groups in use. The INN FAQ notes that it is possible, via accidental cross-posting, to have local articles inadvertently sent out onto the Internet, so the suggestion is to use another name for the local hierarchy.

This is fine as long as we remember to edit INN's "newsfeeds" file to prevent articles from this new hierarchy being sent to other news servers. Assuming we have completed this editing task (we will go into the details of the newsfeeds file in a later section) we now have to let innd know about the change in newsfeeds. Here's one way to do it:

```
# /usr/libexec/inn/bin/ctlinnd throttle newconfig
ok
# /usr/libexec/inn/bin/ctlinnd reload newsfeeds newconfig
ok
# /usr/libexec/inn/bin/ctlinnd go newconfig
ok
#
```

The reload command to ctlinnd can also take "all" as an option. Basically, if any of the files in /etc/news are changed, then ctlinnd must be invoked to allow innd to reload either the changed file (as above), or all of them in /etc/news (using the "all" option).

We now leave the discussion of local groups and move on to configuring INN to provide access to a selected group of Usenet newsgroups.

4.6 Using suck

This section assumes that our news server is on a machine that has Internet access, and that a Usenet newshost is available. Typically an ISP or connectivity provider will be able to provide one. If not, there are many news sites that offer reader access for a fee.

Suck will serve as an interface between our installation of INN and the Internet newshost. The newshost will see it as a newsreader, and as such we will be able to read Usenet articles into, and post Usenet articles from, our INN server. But first we need to do some configuration of suck. If suck is not yet installed on your system consult Section 5.1 of this Guide for details of how to install it.

4.6.1 Configuring suck

suck is quite stable once it is configured correctly. Getting there can, and typically will, involve a little trial and error, and some troubleshooting. Consider that par for the course. Here are the initial steps:

- 1** Suck's reading and posting will be invoked from one script. Use one of the samples in the `sample/` directory in suck's source code, copying it into an appropriate directory and changing its permissions:

```
# cp /usr/local/src/suck-4.2.4/sample/get.news.inn
/usr/local/bin/getnews

# chmod 700 /usr/local/bin/getnews
```

Be sure to copy `get.news.inn`, not one of the others.

- 2** In `/usr/local/etc` create a directory called 'doNews':

```
# mkdir /usr/local/etc/doNews
```

- a** Copy the script 'put.news' into this directory:

```
# cp /usr/local/src/suck-4.2.2/sample/put.news
/usr/local/etc/doNews
```

- b** Create 'sucknewsrsrc' in the same directory:

```
# touch /usr/local/etc/doNews/sucknewsrsrc
```

- 3** Several items in 'getnews' need to be edited:

- a** Assuming the remote newshost we will connect to is 'news.newshost.com', edit the first two lines in `getnews`:

```
REMOTE_HOST=news.newshost.com
```

```
LOCAL_HOST=roger
```

NOTE: If your remote newshost requires authentication the `userid` and `password` can be passed to it like this:

```
REMOTE_HOST="news.newshost.com -U userid -P password"
```

Be aware that there's a password in plain text in this file; the 'chmod 700' will provide some protection, but vigilance is always in order.

b Edit the next three lines:
SPOOLDIR=/var/spool/news/articles
NEWSDIR=/usr/libexec/inn
BASEDIR=/usr/local/etc/doNews

c Edit the SITE line:
SITE=news.newshost.com

d Edit the OUTGOING line:
OUTGOING=/var/spool/news/outgoing/\${SITE}

Notice that 'out.going' has been replaced with 'outgoing', and that the OUTGOING variable can *not* use the SPOOLDIR variable set above.

e Provide full pathnames for the executables. The 'getnews' script will run fine as a cron job, but full pathnames are needed. If you built suck from source code and accepted the default prefix then it will look like this.

```
TESTHOST=/usr/local/bin/testhost  
RPOST=/usr/local/bin/rpost  
SUCK=/usr/local/bin/suck
```

If you used an rpm to install suck then verify the location of the executables with, for example, "which suck" at a command prompt.

f A copy of the complete 'getnews' script is in the appendix to this Guide.

4 Edit the newsfeeds file, a crucial file in INN's configuration. The default file was suitable for our purposes as long as we were only using local groups; we were not feeding any other hosts. Now we must make certain that INN does not attempt to send back to our remote host articles the latter has just sent us. It takes just a line added to /etc/news/newsfeeds:

```
# This line is already there:  
  
ME\  
  
:*,@alt.binaries.warez.*,!junk,!control*,!local*,\  
!foo.*/world,usa,na,gnu,bionet,pubnet,u3b,eunet,\  
vmsnet,inet,ddn,k12::  
  
# This is the line to add:
```

```
news.newshost.com/news1.newshost.com:*,!junk,\  
!control.*,!local.*::
```

Our line says that when feeding our remote host we will not offer any articles that have come from that host. INN examines the PATH header of articles before offering them to a host that's being fed; if any of the domains listed in the line above are found in a PATH header then that article is skipped. Examine the PATH headers of articles you receive from your remote host to be sure that any aliases of the remote host, such as news1.newshost.com, are cited in the newsfeed line. The rest of the line means INN will not send the remote host articles from the junk group, or from the control or local hierarchies.

If this line is incorrect you will know it right away when you run the getnews script. Your news server will attempt to feed back to your remote host every article it has just received from it, and, since the remote host already has all these articles, you will sit and watch it refuse to accept them.

- 5** Create an active-ignore file. Suck is configured to scan INN's active file for new groups and add them to its list of groups to retrieve, kept in /usr/local/etc/doNews/sucknewsrsc. It will not add groups it finds in the active-ignore file, so it is a good idea to have junk, control and local groups in this file.

- a** Copy the active list to active-ignore:

```
# cp /var/state/news/active  
/usr/local/etc/doNews/active-ignore
```

b Edit active-ignore to remove all the article numbers. Don't leave any lines of white space in the file. It might look like this when done:

```
control
control.cancel
control.checkgroups
control.newgroup
control.rmggroup
control.sendsys
junk
local.general
local.test
local.pets4sale
```

4.6.2 Running suck

Suck pretty much runs itself. As groups are added or removed from the active list (by the careful use of `ctlinnd`) suck will adjust its own configuration file to match those changes. The `getnews` script can be run either from the command line or a cron job. For a start, use `ctlinnd` to add a few newsgroups to INN's active file, and, as root, run `getnews` from a command prompt. Here's a typical `getnews` run:

```
[root@roger charles]# getnews
Attempting to connect to news.somenewshost.com
Using Port 119
official host name: news1.somenewshost.com
Alias news.somenewshost.com
Address: 200.8.125.22
Connected to news1.somenewshost.com
200 welcome to somenewshost! --
http://www.somenewshost.com/ (Typhoon v1.2.3)
Loading active file from roger
Reading current sucknewsrsc
```

```
comp.os.linux.advocacy - 25 articles 11713662-11713686
comp.unix.bsd.openbsd.misc - 8 articles 8648-8655
comp.os.linux.security - 3 articles 13877-13879
Adding new groups from local active file to sucknewsrsc
Elapsed Time = 0 mins 1.51 seconds
36 Articles to download
Deduping Elapsed Time = 0 mins 0.00 seconds
Deduped, 36 items remaining, 0 dupes removed.
Processing History File Elapsed Time = 0 mins 0.02 seconds
Processed history, 0 dupes removed
Total articles to download: 36
77765 Bytes received in 0 mins 4.37 secs, BPS = 17781.8
Closed connection to news.somenewshost.com
Posting Messages to roger
36 Messages Posted
Elapsed Time = 0 mins 1.06 seconds
Cleaning up after myself
Downloaded Articles
You can hang up the modem now
[root@roger charles]#
```

If there had been articles waiting to be uploaded suck would have proceeded with that process after the download was complete. It's a good idea to read through the getnews script; you can get a feel for the order of battle, so to speak. For instance, it's clear in the script what is done to ascertain whether or not outgoing articles are waiting.

When problems arise one of the first places to look is in the logs INN generates, particularly in `/var/log/news.all`. Here is a snippet from that log representing the getnews run displayed above:

```
Jun 22 16:33:35 roger innd: roger connected 16 streaming
allowed
Jun 22 16:33:35 roger innd: roger:16 readclose
Jun 22 16:33:35 roger innd: roger:16 closed seconds \
```

```
0 accepted 0 refused 0 rejected 0
Jun 22 16:33:38 roger innd: roger connected 16 \
streaming allowed
Jun 22 16:33:38 roger innd: roger:16 readclose
Jun 22 16:33:38 roger innd: roger:16 closed seconds \
0 accepted 0 refused 0 rejected 0
Jun 22 16:33:44 roger innd: roger connected 16 \
streaming allowed
Jun 22 16:33:44 roger innd: ME HISstats 0 hitpos \
0 hitneg 0 missed 204 dne
Jun 22 16:33:45 roger innd: roger:16 readclose
Jun 22 16:33:45 roger innd: roger:16 closed seconds \
1 accepted 36 refused 0 rejected 0
```

The last line is probably the one you will inspect most often. Be careful not to glance at it too hastily, or you will come away thinking that one article was accepted and thirty six refused. If this happens, you need a break. :-)

During troubleshooting sessions it's helpful to watch the news.all log as it is generated. The command `tail -f /var/log/news.all` is perfect for that purpose.

TIP: If you're curious about the groups your remote newshost offers, there's a simple way to get a copy of the host's active file. This file can be quite large, so this may not be a good idea on slow connections. Use the `testhost` utility that is part of the `suck` package:

```
# testhost news.somenewshost.com -a > activist
```

The file `activist` can be explored, perhaps grepped as in the example shown earlier in this Guide; the extent and variety of newsgroups will amaze those new to Usenet.

4.6.3 Running getnews As A Cron Job

It may be helpful to set up a cron job for getnews, especially since it needs to be run as root. How often would depend on the volume of traffic, and on how fast your posters need their articles to be propagated. The Webmin utility simplifies setting up cron jobs:

- 1** Open the Communicator browser and point it at the address 'http://localhost:1000'. At the prompt log in as 'root' and give the root password. When the Webmin page comes up, bookmark it if you haven't already done so.
- 2** Click on 'Scheduled Cron Jobs' and then on 'Create a new scheduled cron job'.
- 3** Enter 'root' in the 'Execute cron job as' box, and leave the 'Active? Yes' button selected.
- 4** In the 'Command' box enter: '/usr/local/bin/getnews'. Leave the other, larger box empty.
- 5** Make your selection for the frequency of the cron job. Pay particular attention to the choice of 'All' or 'Selected' at the top of each category. Merely highlighting a selection does **not** make it effective until 'Selected' (above it) is clicked.
- 6** After double checking everything click on 'Create'. Note that you may have to click on 'Reload' to see the effect of your actions in the list of cron jobs that comes up.
- 7** Also note that you can deactivate a cron job by clicking on it in the list and selecting 'No' next to the 'Active?' label.

The cron daemon will send the newsmaster reports of getnews runs. These should always be reviewed, as they will most likely serve as the first indication that something is awry with news. Similarly, any mail sent by innd, such as expiration reports, need to be at least scanned for signs of trouble.

4.7 Finishing Touches

This Guide has barely scratched the surface of INN configuration. Here are a couple of items that should not be missed.

4.7.1 The news.daily script

As its name implies, this script should be run on a daily basis. News.daily performs, among others, two essential tasks; it expires old articles and mails a report of INN's status to the newsmaster. It's instructive for fledgling newsmasters (and aren't we all fledglings where INN is concerned?) to watch it in action. The script needs to be run as user news. In one terminal start a tail of the news.all log (tail -f /var/log/news.all), and in another invoke news.daily:

```
# su news -c "/usr/libexec/inn/bin/news.daily"
```

Sit back and watch the log unfold. This may take a few minutes, depending on the size of the news spool. When news.daily finishes you should find a "Daily usenet report" in your inbox. Read through it carefully to familiarize yourself with the myriad facets of INN's operations that it reports. In particular note that news.daily tells you how much free space remains in the partition(s) that contain INN's files and the newspool. This can be critical in a busy site, but in the modest installation we are suggesting it probably won't be a factor.

Create a Cron Job for News.daily. As described above for the getnews script, use Webmin to create a cron job for news.daily. Be sure to set the user to "news" in the 'Execute cron job as' box. The command will be, as above, '/usr/libexec/inn/bin/news.daily'. You want news.daily to run probably late at night, or very early in the morning. Select an Hour and a Minute (just one of each) and be sure to check 'Selected' in those columns. Leave 'All' checked for the other three columns.

NOTE: You may wish to set a cron job for rnews. See Section 4.18 of the inn-faq for a discussion of this command.

4.7.2 RTFM

Many of INN's man pages may not seem to be available with a simple man some_inn_topic command. One workaround is to give a path to the man command:

```
# man -M/usr/share/inn/man news.daily
```

A 'quick 'n dirty' fix is to edit `/root/.bashrc`, appending these two lines to the end of the file:

```
MANPATH=/usr/share/inn/man:$MANPATH
export MANPATH
```

This will make the man pages easily available to the root user. You will have to exit and log back in, or invoke `source .bashrc` for the changes to have effect. Review what's available with `ls -lR /usr/share/inn/man`. It is a rather impressive collection.

4.7.3 And lastly... In Case of Trouble

INN is a complex high-powered set of applications. The more news traffic you run through your site, the more likely it is that at some point you will encounter problems. It is not uncommon, for instance, for either the active or history files to get corrupted, i.e. "out of sync." INN has tools for repairing them, but if those tools are used casually there is a marked risk of data loss. This document does not aim at providing a guide to INN troubleshooting. There are a couple of things to keep in mind.

- 1** The INN FAQ is your friend. Although an online version can be browsed on the Web it is strongly suggested that the text version (see Sect 1.3.3 above) be placed in its own directory on your system. You can quickly locate topics with `grep`. Read through Part 1 before trouble strikes.
- 2** The inn-workers mailing list is your friend. A lot of experienced inn hands "hang out" on this list. Instructions for subscribing are on the INN web site. Like most lists that cater to advanced users, you will be more successful asking questions if you follow good netiquette. Give details of what you see happening, when it seems to happen and what else you might have been doing when it did happen. State what you've already tried to correct the problem, and what results you obtained. State where you have already looked for a solution. Provide appropriate snippets from logs or terminal output. (Learn to use the 'script' command to capture keyboard and screen activity.) Use a concise, accurate Subject: line in your email. Nothing is more exasperating than a post to an email list with the Subject: "Help please" and the body of the message something like: "INN stopped running. What could be wrong?"

Learn About Usenet! Become familiar with the directory structure of `rtfm.mit.edu`, the Usenet ftp repository. In particular, find and bookmark this page:

`ftp://rtfm.mit.edu/pub/usenet-by-hierarchy/news/announce/newusers/.`

It's all here; enjoy!

5. Appendix: Some Additional Software

The suck package needs to be installed to get the Internet functionality described in this Guide. Midnight Commander is optional, but highly recommended.

5.1 suck

The suck package is a set of applications that, when used with INN, provide the equivalent of a small newsfeed, only without the need for an actual feed. suck presents itself to news servers as a reader, and uses only commands that might come from any newsreader, such as tin. It is not meant for grabbing hundreds of newsgroups, but given the expense (and administrative overhead) of even a partial newsfeed, suck is a good compromise for a site that only needs to provide a small, selected group of Usenet newsgroups.

Although an rpm of precompiled suck binaries is available on the suck home page (<http://home.att.net/bobyetman>), this is one package that ought to be installed from source code. The code for suck is actively maintained, and there is a mailing list for support, so working from the latest source code makes updating and getting support less problematic.

Suck builds and installs effortlessly on eServer 2.3:

- 1** As of this writing the latest version of suck is 4.2.4. Go to the suck home page and download `suck-4.2.4.tar.gz`.
- 2** Put the tarball in `/usr/local/src` and unpack it: `tar xzvf suck-4.2.4.tar.gz`.
- 3** Change directory into `suck-4.2.4/` and edit `suck_config.h`, setting `HISTORY_FILE` to the correct value:

```
#define HISTORY_FILE "/var/state/news/history"
```

- 4** The following will build and install suck:

```
# ./configure
# make
# make install
# make clean
```

- 5** Suck needs to be configured for our installation. This is described above, in the text of the Guide.

5.1.1 The getnews script

Here is the complete 'getnews' script, adapted for use with eServer 2.3:

```
#!/bin/sh

#BEFORE USING - check to ensure all the paths defined
below are correct!!

#NOTE: this script probably needs to be run by root.
Most systems will

# not let a normal user run ctlinnd

# getnews - Adapted 6/21/2000 by Bob Bernstein
<poobah@ruptured-duck.com>

# for COL eServer 2.3 from 'get.news.inn' as
distributed with suck-4.2.4

REMOTE_HOST=your.remotewhost.com

#Format for a remote host that requires authentication:
#REMOTE_HOST="news.newshost.com -U userid -P password"

LOCAL_HOST=localhost                # or 'server:'
in inn.conf

SPOOLDIR=/var/spool/news/articles   # base directory
for articles to be rposted

NEWSDIR=/usr/libexec/inn            # base directory
for news binaries

BASEDIR=/usr/local/etc/doNews       # base directory
for scripts and data files

CTLINND=${NEWSDIR}/bin/ctlinnd      # location of
binary

SHLOCK=${NEWSDIR}/bin/shlock        # location of
binary

TMPDIR=${BASEDIR}                   # location for
suck.* files

MSGDIR=${BASEDIR}/Msgs              # where to put
MultiFile messages when getting them

SITE=news.newshost.com              # name of site
from newsfeeds file
```

```

OUTGOING=/var/spool/news/outgoing/${SITE} # location
of the list of articles to upload

OUTGOINGNEW=${OUTGOING}.new           # file to contain
the list temporarily

OUTGOINGFAIL=${OUTGOINGNEW}.fail      # file with
failed xfers

SCRIPT=${BASEDIR}/put.news            # my filter for
rpost

OUTFILE=/tmp/tmp$$                    # used by rpost
as article after it is filtered

LOCKFILE=${BASEDIR}/getnews.lock     # lock file to
prevent multiple instances of script

NEWSGROUP=news                        # which group
owns the file in out.going, typically either news or
uucp.

TESTHOST=/usr/local/bin/testhost

RPOST=/usr/local/bin/rpost

SUCK=/usr/local/bin/suck

# if we are already running, abort
trap 'rm -f ${LOCKFILE} ; echo "Aborting" ; exit 1' 1
2 3 15

${SHLOCK} -p $$ -f ${LOCKFILE}

if [ $? -ne 0 ]; then
echo "Already running, can't run two at one time"
exit
fi

# is the local host up and running so we can post
messages we download?

${TESTHOST} ${LOCAL_HOST} -s

LOCAL_RESULT=$?

# is the remote host up and running so we can download
messages?

${TESTHOST} ${REMOTE_HOST} -s

```

```

REMOTE_RESULT=$?
if [ ${REMOTE_RESULT} -eq 0 -a ${LOCAL_RESULT} -eq 0 ];
then
# download messages
${SUCK} ${REMOTE_HOST} -c -A -bp -h1 ${LOCAL_HOST} -dt
${TMPDIR} -dm ${
MSGDIR} -dd ${BASEDIR}
SUCK_STATUS=$?
if [ ${SUCK_STATUS} -eq 0 ]; then
echo "Downloaded Articles"
elif [ ${SUCK_STATUS} -eq 1 ]; then
echo "No articles to download"
elif [ ${SUCK_STATUS} -eq 2 ]; then
echo "Unexpected answer from remote server to an issued
command
"
elif [ ${SUCK_STATUS} -eq 4 ]; then
echo "Can't do NNTP authorization"
elif [ ${SUCK_STATUS} -eq -1 ]; then
echo "General failure"
fi
# now upload messages
if [ -s ${OUTGOING} -o -s ${OUTGOINGNEW} ]; then
${TESTHOST} ${REMOTE_HOST} -s
if [ $? -ne 0 ]; then
echo "Remote posting host not responding"
else
# this is needed by INND so that the outgoing file will
be

```

```

# properly flushed and we have a new blank file to work
with
# when we are done
# First mv the current one to a new file name
# Since innd already has the file open, it doesn't care
# about the rename.
# The flush will ensure that all messages to be posted
have
# been written out, close off the old one (already
renamed)
# and create a new one.
# if the outgoingnew already exists, it means we aborted
last time
# so don't try to do it again
if [ ! -s ${OUTGOINGNEW} ]; then
mv ${OUTGOING} ${OUTGOINGNEW}
${CTLINND} flush ${SITE} fi
# outgoing messages to post
${RPOST} ${REMOTE_HOST} -d -b ${OUTGOINGNEW} -p ${SPOOL
DIR} -f \${$o=${OUTFILE} ${SCRIPT} \${$i ${OUTFILE}
ERRLEV=$?
if [ ${ERRLEV} -eq 0 ]; then
echo "Remotely posted articles"
rm ${OUTFILE}
elif [ ${ERRLEV} -eq 1 ]; then
echo "Error posting a message"
elif [ ${ERRLEV} -eq 2 ]; then
echo "Unable to do NNTP authorization with remo
te server"

```

```

elif [ ${ERRLEV} -eq 3 ]; then
echo "Unexpected answer from remote server to a
command while doing NNTP authorization"
elif [ ${ERRLEV} -eq -1 ]; then
echo "Fatal error"
fi
if [ -f ${OUTGOINGFAIL} ]; then
mv ${OUTGOINGFAIL} ${OUTGOINGNEW}      # so we can re
do it
chown news.${NEWSGROUP} ${OUTGOINGNEW}
chmod 664 ${OUTGOINGNEW}
fi
fi
fi
echo "You can hang up the modem now"
fi
rm -f ${LOCKFILE}

```

5.2 Midnight Commander

Midnight Commander is a file manager, editor, ftp client, archive viewer, and more. Here are the steps needed to install this useful tool.

1 Get the source code archive:

`ftp://ftp.gnu.org/gnu/mc/mc-4.1.35.tar.gz` or better yet, use one of the many gnu mirror sites listed at `http://www.gnu.org/order/ftp.html`.

2 Move the file to an appropriate directory and unpack it:

```

# mv mc-4.1.35.tar.gz /usr/local/src
# cd /usr/local/src
# tar xzvf mc-4.1.35.tar.gz

```

3 Change to the source directory and run configure:

```
# cd mc-4.1.35/
```

```
# ./configure --with-terminfo --with-included-slang
```

4 Run make, install the program, and clean up:

```
# make
```

```
# make install
```

```
# make clean
```

That's it. Now from any command prompt mc will launch the Midnight Commander.

6. Definitions, Abbreviations, and Acronyms

This section includes an alphabetical listing of terms and their definitions, abbreviations, and acronyms that are used in this Solutions Guide.

For a general treatment of terms see “Fundamental Terminology for the Linux Professional,” a White Paper by Dean R. Zimmerman. It is available online at this address:

<http://www.calderasystems.com/company/guides/>

COAS Caldera Open Administration System, an Open Source high-level administration system developed by Caldera but given to the Open Source community.

FAQ Frequently asked questions. Usually a text file containing commonly asked questions.

INN InterNetNews (INN) package, one of the servers that ships with eServer 2.3

INNCHECK A utility that checks the status of many INN files.

Newsmaster A regular e-mail account, usually of the system administrator, to which INN will send reports of the status of the INN system.

Usenet A world-wide bulletin board that can be accessed via the Internet.

Suck The suck package is a set of applications that, when used with INN, provide the equivalent of a small newsfeed, only without the need for an actual feed. A program by Bob Yetman.

7. Evaluation Form

Publication Title: InternNetNews Server
Date of Publication: July 17, 2000

Your feedback is very important to help us maintain the quality of our Solutions Guides. Please fill out this questionnaire and return it using one of the following methods:

- 1 Mail it to:
Caldera Systems Inc.
c/o Caldera Systems Solutions Marketing Group
240 West Center Street
Orem, UT 84057
- 2 Give it to Caldera marketing representative for mailing
- 3 Fax it to: (801) 765-1313
- 4 Send a note to solutions@calderasystems.com

Please rate on a scale of 1 to 5 the subjects below. Circle the appropriate answer.

(1 = very good, 2 = good, 3 = average, 4 = poor, 5 = very poor)

Overall Satisfaction:	1	2	3	4	5
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Type of Organization:	VAR	SI	ISP	OEM	ISV	Other
Number of Employees:	1-5	6-10	11-30	31-49	50-100	101+
Years in Business:	1-3	4-6	7-10	11-15	16-20	21+
Your function in the Company:	Management		Programming		Training/Support	
Experience with Linux, in years	<1	1-2	3-5	6-9	10+	

Are you a Caldera Alliance partner?	yes	no
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Are you a Caldera Authorized partner?	yes	no
Do you subscribe to eStreet?	yes	no

Thank you for your responses.

8. About Caldera Systems

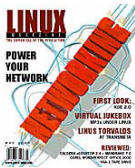
8.1. Company Profile

Caldera Systems Inc. is a "Linux for eBusiness" technology leader in developing and marketing successful Linux-based business solutions, including its award-winning OpenLinux, NetWare for Linux, Linux technical training, certification and support -- with free 30-day phone support and on-site consulting. Caldera OpenLearning Providers offer exceptional distribution-neutral Linux training and certification based on Linux Professional Institute (LPI(TM)) certification standards. Caldera Systems supports the open source community and is a leader in, and advocate of Linux Standard Base (LSB(TM)) and LPI(TM).

Caldera, Inc. was founded in 1994. Caldera Systems Inc. was created in 1998 to develop Linux-based business solutions. Based in Orem, UT, Caldera Systems has offices and 800+ resellers worldwide. For more information, see www.calderasystems.com or in the US call 888-GO-Linux (888-465-4689).

8.2. Awards

The best validation of a company's direction and achievement comes from its customers. Caldera Systems has won the admiration of its users and suppliers, as is evident from this list.



May, 2000. OpenLinux eDesktop 2.4 wins Linux Magazine's "Emperor Award"



April, 2000. OpenLinux 2.3 awarded "Editor's Recommendation" from PC ONLINE Testsieger



March, 2000. Upside Magazine ranked Caldera Systems as number 17 in the "Millennium 2000 eBusiness 150" award/listing



February, 2000. Andover.net Dave Central's "Best of Linux" Winner



February, 2000. OpenLinux 2.3 wins Linux Magazine's "Cool Product" Award
January, 2000



PC Direct (Ziff-Davis) "Best Buy 2000" award for OpenLinux 2.3



December, 1999. MikroPC (PC Magazine) chose OpenLinux 2.3 as "Product of the Year" in the operating system category



December, 1999. CEO Ransom Love listed as one of the "50 Linux People to Watch" by Linux Magazine



December, 1999. OpenLinux 2.3 is "The Linux Show's "Best Distribution of the Millennium" on their 1999 "Best of the Year" awards show



December, 1999. OpenLinux 2.3 is Internetweek's "Best of the Best" award for best software



November, 1999. OpenLinux 2.3/Lizard is Linux Journal's "Product of the Year". Awarded at Comdex



October, 1999. Caldera Systems Listed in PC Magazine's "Top 100 Technology Companies that are Changing the World"



August, 1999. Linuxworld Editor's Choice Award: Best Client and Distribution, OpenLinux 2.2 Runner-up to "Product of the Year "



May, 1999. Network Computing's "Well-Connected Award" for Best Networked Operating System, OpenLinux 2.2



September, 1997. Caldera listed as one of Red Herring's Top 50 Privately Held Companies

8.3. Where to Find Caldera

Caldera OpenLinux products are available from a variety of sources around the world. Browse Caldera's OpenStore or choose the reseller most convenient for you. If you need assistance, please contact Caldera at 1-888-GO-LINUX (1-888-465-4689).

8.3.1 International Distributors

Argentina

InfoDax

Oswaldo Magnasco 771 (1706)
Haedo-Buenos Aires

Australia

A Better Computer Solution

500 City Road
South Melbourne, Victoria 3205

Australia

Phone: +61 3 9682 2577

Fax: +61 3 9682 2566

URL: www.abcs.com.au

E-mail: sales@abcs.com.au

G&V Advance Electronics

71 Drumalbyn Road
Bellevue Hill, 2023

Sydney, Australia

Phone: 61,2,9362,0043

Fax: 61,2,9362,3270

URL: www.gvae.com.au

E-mail: gandv@tmx.com.au

Belgium

MediaMix Benelux s.a./n.v.

Brusselsesteenweg 355

3090 Overijse

Belgium

Tel: 32 0 2 688 4022

Fax: 32 0 2 688 4024

E-mail: mediamix@skynet.be

Brazil

Skill Computer Services Ltda

Rua Porto Martins, 734

CEP-04575-140 Sao Paulo SP

Phone: +55-11-5505-0122

Fax: +55-11-5505-0457

Main URL: www.skill-computer.com.br

Linux Operations URL:
www.calderasystems.com.br

Support E-mail:

suporte@calderasystems.com.br

Sales E-mail: linux@skill-computer.com.br

Canada

Merisel Canada Inc.

200 Ronson Drive

Etobicoke, Ontario

M9W 5Z9

Phone: 416-240-7012

Toll Free: 1-800-637-4735

URL: www.merisel.ca

Multi Micro

9393 L.H. LaFohtaine,

Ville D'Anjou, PQ

H1J 1Y8

Pegasus

100 Alfred Kuehne Blvd.

Brampton, Ontario L6T 4K4

Phone: 905-789-1234 main phone

Fax: 905-789-0695

E-mail: info@pegasuswholesale.com

URL: www.pegasuswholesale.com

Triad

6225 Kenway Dr.
Mississauga, Ontario L5T 2L3
Phone: 905-795-3181
Fax: 905-795-3237

Colombia

Compuclick LTDA

KRA. 28 # 11-65 Oficina 228
Tel: 5659921 -- 5659922
Fax: 5659921
Santafe De Bogota, Colombia
Suramerica
E-Mail:
linuxco@impsat.net.co
ordenes@impsat.net.co
Web site:
www.linux-colombia.com
www.linux-tiendavirtual.com
www.linux-compuclick.com

Croatia

Perpetuum Mobile
Strigina 4
10000 Zagreb
Croatia
URL: www.perpetuum.hr
Tel: 385 1 2305 789
Fax: 385 7 2305 781

Denmark

Alsoft

Tistrupvej 25
Hvidovre
DK-2650

Finland

Helsingin DataClub Oy (Ltd.)
Sanomatalo, Elielinaukio
00100 Helsinki

Finland

Phone: 358-9-612-1202
Fax: 358-9-612-1205
URL: [http:// www.dataclub.fi](http://www.dataclub.fi)
English URL:
<http://www.dataclub.fi/1inenglish.html>
E-mail: palvelu@dataclub.fi

France

Athena Global Services

Centre d'affaires Athena
20, allÈe Louis Calmanovic
F-93320 Les Pavillons sous Bois
Phone: +33(0)1 55 89 08 81
Fax: +33(0)1 55 89 08 89
URL: <http://www.athena-gs.com>

Germany

Beyond Distribution GmbH

Melchior-Huber-Str. 22
85652 Ottersberg
Phone: 49 8121 987-0
Fax: 49 8121 987-111
E-mail: es@beyond.de
Contact: Hr. Eduard Sebacher

LinuxLand International

Stefan-George-Ring 22
81929 Munich, Germany
Phone: +49 (0) 89 9934140
Fax: +49 (0) 89 99341499
E-mail: sales@linuxland.de
<http://www.linuxland.de>

MediaGold GmbH

Goldbergstr. 6
81479 Munich
Germany
Phone: 49 89 790 9790

Fax: 49 89 790 9791
E-mail: info@mediagold.com

Italy

Brain Technology S.R.L.
105, Via Ponte a Giogoli
50019 Osmannoro - Sesto F.no (FI)
ITALY
Phone: +39 055 3226622
Fax: +39 055 3226444
URL: <http://www.brain.it>
E-mail: dealer@brain.it

CeloMax S.p.A.
Via Ramazzotti, 12
20020 Lainate (MI)
Italy
Phone: + 39 02 937641
Fax: +39 02 93764 900
URL: www.celomax.com
E-mail: info@celomax.com

Wizard s.r.l
Via M.Carbonario
05100 Terni, Italia
Phone: +39 0744 432764
Fax: +39 0744 432748
URL: <http://www.wtrade.it>
E-mail: info@wtrade.it

Japan

Neonagy, Inc. (ne-onaji)
2-2-22 Kanda-tacho 2F,
Chiyoda-ku, Tokyo 101-0046, Japan
Phone: +81-3-3252-4300
Fax: +81-3-3252-4311
E-mail: info@neonagy.com
URL: www.neonagy.com

Mexico

MPS Mayorista, S.A. de C.V.

Xola 621 Col. Del Valle
México D.F.
Phone: (525)325-09-93
Fax: (525) 638-07-69
E-mail: mpsonline@mps.com.mx
URL: www.mps.com.mx

Sweden

Data Construction AB
Masholmstorget 3
Box 102
127 22 Skarholmen
SWEDEN
URL: <http://www.dataconstruction.se>
Tel: +46 8 680 70 00
Fax: +46 8 710 76 10

Taiwan

Shinewave International Inc.
4F, 126, Sec. 4, Nanking E. Rd.
Taipei, Taiwan, 105 R. O. C.
URL: <http://www.shinewave.com.tw>
Phone: (886-2) 2576-8388
Fax: (886-2) 2578-6808
E-mail: ahuang@shinewave.com.tw

United Kingdom

MediaGold International UK
Second Floor
151 Freston Road
London W10 6TH
Phone: 0207 221 4600
Fax: 0207 792 1611

United States

Frank Kasper & Associates, Inc
7351 Washington Ave.
Edina, MN 55439
Phone: 612,942,0566

Fax: 612,942,5039
E-mail: sales@kasper-cdrom.com
URL: www.kasper-cdrom.com

Note: International resellers should purchase through a local distributor, or if a local distributor is not available, through Frank Kasper.

Gates/Arrow

39 Pelham Ridge Drive
Greenville, SC 29615
Phone: 1-800-332-2222
URL: www.gatesarrow.com

Ingram Micro

PO Box 25189
Santa Ana, Calif. 92799-5189
Sales: 800-456-8000
Customer Service: 716-635-6446
New Accounts: 714-566-7705
URL: www.ingrammicro.com

Navarre

7400 49th Ave. North
New Hope, MN 55428
Phone : 800-728-4000 or 763-535-8333
Fax: 763-533-2156
URL: www.navarre.com

Savoir

254 E. Hacienda Ave.
Campbell, CA 95008

SupportNet

4400 West 96th Street
Indianapolis, IN 46268
Phone: 1-800-255-3390
URL: www.supnet.com

Tech Data

5350 Tech Data Drive
Clearwater, FL USA 33760

Phone: 1-800-237-8931
URL: www.techdata.com

Venezuela

Corvus Latinoamerica, C.A.
Av. La Colina, Qta. Corvus #97
Colina de Los Caobos
Caracas 1050 - Venezuela
Phone: +58.2.7828013
Fax: +58.2.7930609
E-mail: info@corvusnet.com
URL: www.corvusnet.com

8.3.2 Retailers

Retail Stores

Babbages
Barnes & Noble
Best Buy
BJ's Wholesale Club
Borders
Chapters
Circuit City
CompUSA
Compucenter (Canada)
Compusmart (Canada)
Electronics Boutique
Fry's
Furniture Mart
Future Shop (Canada)
Hastings
J&R Music World
Micro Center
Multimedia Technologies (Canada)
Musicland
Nationwide Computers & Electronics
On Que
Radio Shack (Canada)

Walden Books

Mail Order

Chumbo.com

CheapBytes

eLinux.com

Indelible Blue

Linux Central

Linux Mall

Linux Systems Labs

MicroWarehouse

TheLinuxStore.com

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