

WebDesk™

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Software Distribution
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DISCLAIMER

This software is designed to provide an easy to use, intuitive helpdesk system. Every effort has been made to make this program complete and as accurate as possible; however, no warranty or fitness is implied. Information provided to the end user is on an 'as-is' basis. The authors, G & R Data Group, Inc. and its distributors shall have neither liability nor responsibility to any person or entity with respect to any loss or damages in connection with or rising from the use of this product.

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1. Introduction

G & R Data Group's WebDesk is a fully integrated World Wide Web based trouble ticketing and helpdesk system designed for system administrators. The reader is expected to have a general knowledge of UNIX system administration, basic UNIX commands and a conceptual understanding of how a World Wide Web server works.

Users interact with WebDesk via a web browser to provide an intuitive, easy to use interface to address the pressing administrative problem of handling a burgeoning load of system service requests. WebDesk acts as an electronic secretary, providing a buffer between users and system administrators, improving efficiency.

WebDesk enables administrators to:

- electronically accept help requests from users
- evaluate requests according to definable fields (for example: problem severity, user level and machine type)
- set priorities so that urgent problems are fixed first, while others may be justifiably delayed
- distribute and receive helpdesk information painlessly over the world wide web
- deploy a helpdesk system on an intranet or the Internet
- assign requests to different administrators
- allow different administrators to login and check requests assigned to them
- queue requests by assigned priority
- generate audit trails
- maximize productivity
- learn the software quickly - they use standard web browsers and electronic mail

WebDesk enables end users to:

- submit requests via electronic mail
- receive any combination request confirmation (on reception, evaluation or completion) by electronic mail
- submit a request from any location - across campus, or across the world
- monitor the status of their request using a web browser
- see what priority their request was assigned
- learn the software quickly - they use standard web browsers and electronic mail

* Security Notes:

WebDesk is secure from a system perspective provided your WWW server daemon does not run as root. The documents and administrative activities inside the WebDesk product are secure as well. The data returned via access to the WebDesk database is generated "on the fly" by WebDesk - it is not a static file and therefore cannot be bookmarked or linked to. Furthermore, administrative access requires proper credentials to be allowed access.

1.1. Understanding the System By Examining a Typical WebDesk Request Cycle

User cycle:
User Sends
Request

- 1.) A user has a problem. He/she sends electronic mail to the WebDesk system (generally helpdesk@company.com).
- 2.) Shortly after sending mail to the WebDesk system, the user may optionally receive an electronic mail reply back, indicating that the request was received successfully and has been given a request ID number. The system can be configured to send electronic mail replies upon request reception, evaluation, completion or any combination thereof (the system default is to send only confirmation mail upon reception). The first two digits of the request ID number indicate the year, the second two the month, the third two the day and the last three the unique request number for the given period.

Administrative
cycle

- 3.) The WebDesk administrator, as part of his or her daily routine, uses a Web browser from any client on the network to enter the WebDesk system and evaluate any new requests.
- 4.) After entering the administrative password, the WebDesk administrator may click on "Evaluate New Requests" from the WebDesk AdminTool.
- 5.) The administrator is presented with a list of all new requests that require attention.
- 6.) Using easy Web forms, the administrator clicks on definable choices (by default: User Level, Machine Type and Problem Severity) to rank the priority of the request. These categories, as well as the corresponding weighting factors for each may be customized. See Appendix B, Tips and Tricks. Next the WebDesk administrator selects which user administrator to assign the request to.
- 7.) Once a request has been ranked, it moves out of the "New Request" queue and into a "Pending" request queue.
- 8.) A list of pending requests is available to both administrators and end users. In this way, administrators may tackle the most pressing problems, while users may monitor the status of their request in the queue.
- 9.) Each user administrator logs in with his or her username and password. A list of pending requests assigned to the particular administrator is presented by clicking on "View Pending Requests"
- 10.) The administrator may then change the priority of any requests or complete any request. Multiple requests may be processed at once.
- 11.) When completed, the request is removed from the pending request queue and physically moved into the archive area. Requests in the archive area may be viewed by clicking on "View Archive." See Appendix A, WebDesk Disk Structure, for additional information on the archive areas.

2. Installation

Before you begin:

The WebDesk installation procedure requires some basic information about the system it will be running on. The setup program will ask a number of questions. Be prepared to answer the following:

- Operating System that WebDesk is being installed on. Supported operating systems are: IBM AIX, Silicon Graphics IRIX, Linux ELF, and Sun Solaris 2.x.
- Root directory of HTML files on http server (i.e. /usr/local/apache/htdocs).
- Root directory of CGI-BIN files on http server (i.e. /usr/local/apache/cgi-bin).
- License key based on machine Host ID (please obtain from G & R Data Group).

Installation:

- 1.) Obtain a distribution copy of WebDesk and a license key from G & R Data Group, Inc. The license key is based on the machine's Host ID. You must supply the Host ID of the machine WebDesk will be running on to obtain a valid key. Evaluation license keys are available from <http://www.grdata.com>. Generally, a machine's Host ID may be found by:

```
% hostid
```

- 2.) Become root on the machine on which you will be installing WebDesk:

```
% su -  
Password: *****
```

- 3.) The machine you will be installing WebDesk on must have a Web Server (http) daemon already running (i.e. Apache, NCSA httpd, Netscape Server, etc). If the machine you are installing WebDesk on does have a Web Server running on it, proceed to Step 6. If you do not have a web server, refer to Appendix C for installation suggestions.

- 4.) If you have a web server, but it is not running, start it. For example:

```
# /usr/local/apache/httpd
```

- 5.) If necessary, modify your machine's startup scripts so that the web server daemon will start each time the machine is booted. For example, add the following to /etc/rc.local (AIX, Linux) or create a new file /etc/rc3.d/S17httpd (IRIX, Solaris):

```
if [ -x /usr/local/apache/httpd ]; then  
    /usr/local/apache/httpd -d /usr/local/apache  
    echo "httpd Daemon Started"  
fi
```

6.) Extract WebDesk from the media that was shipped to you into a temporary directory (the contents of which may be removed after successful installation). For a compressed distribution (suffix *.Z*):

```
# cd /tmp
# cp /mnt/cdrom/webdesk-2.0d.tar.Z . (or a similar command to move the
                                   distribution to the install directory)
# uncompress webdesk-2.0d.tar.Z
# tar -xf webdesk-2.0d.tar
```

Alternatively, for gzip distributions (suffix *.gz*). Note that most systems do not have gzip installed by default:

```
# cd /tmp
# cp /mnt/cdrom/webdesk-2.0d.tar.gz . (or a similar command to move the
                                   distribution to the install directory)
# gzip webdesk-2.0d.tar.gz
# tar -xf webdesk-2.0d.tar
```

8.) Run the setup program (you must be root to run configuration program):

```
# cd webdesk-2.0d
# ./Setup
```

9.) The configuration program will ask a number of questions and will proceed to install the necessary files directories, links and permissions.

10.) Logout root.

```
# exit
```

11.) WebDesk is now ready to run. It has already begun to accept requests. Try the system out by sending an electronic mail message to webdesk@yoursite.net. Check to see that you received confirmation electronic mail back from the system (system defaults to sending confirmation electronic mail on reception only). If the system does not appear to be working, ensure sendmail is running and configured correctly.

12.) Point your World Wide Web browser at the URL for WebDesk on your system, for example: <http://yoursite.net/webdesk/> and try out the system. You may wish to bookmark this page or add a link to it. WebDesk is optimized for modern browsers, particularly those which make use of HTML frames.

2.1. Glossary of Terms

CGI-BIN - Common Gateway Interface Binaries. Programs which interact with the Web server.

Host ID - Every UNIX machine has a unique host id that WebDesk uses for licensing. A machine's host id is commonly reported by "*hostid*".

HTML - HyperText Markup Language. The interpreted language used to create web pages.

HTTP daemon (httpd) - HyperText Transfer Protocol daemon. A program that listens and responds to http requests, typically on TCP port 80.

URL - Universal Resource Locator. World Wide Web Internet addresses.

Apache - A popular web server available from <http://www.apache.org>

Gzip - GNU compression program, available from <http://www.gnu.org>

3. Administering the WebDesk System

The primary WebDesk web page provides few options. From this page, end users may view the request queue, send a help request to the system, or get quick help on using the system. This page also enables administrators to enter the system by clicking on "Administrative Functions" from the main WebDesk page (figure 1).



Figure 1. WebDesk Main Page

After clicking on "Administrative Functions," a password window will appear (figure 2).

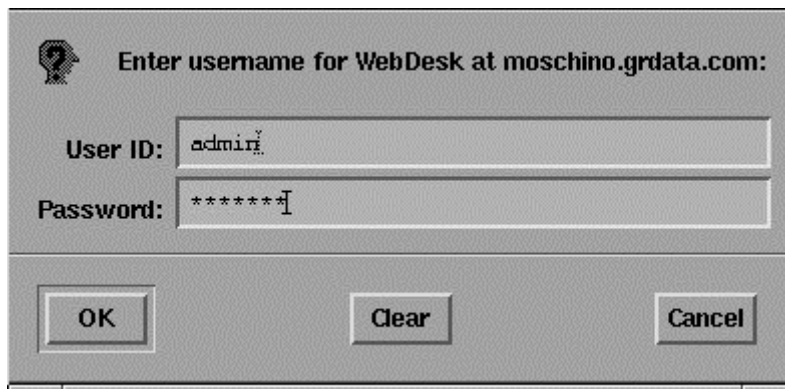


Figure 2. WebDesk AdminTool Authentication Page

WebDesk comes configured only with the WebDesk administrative account, known as “**admin.**” It has a default password of “**webdesk.**” For security reasons, be sure to change the password for the admin account according the procedure given later in this manual. Either press enter or click on "OK" to continue. If you make a mistake in the password, you may start over by using the backspace key, or by clicking on "Clear." Provided that a correct username and password is entered, the WebDesk Administration Tool screen will appear (figure 3).



Figure 3. WebDesk AdminTool Page

This is the central control panel for administering the entire system. There are several options available. The first, "Evaluate New Requests," displays a list of new requests that have yet to be evaluated (figure 4).

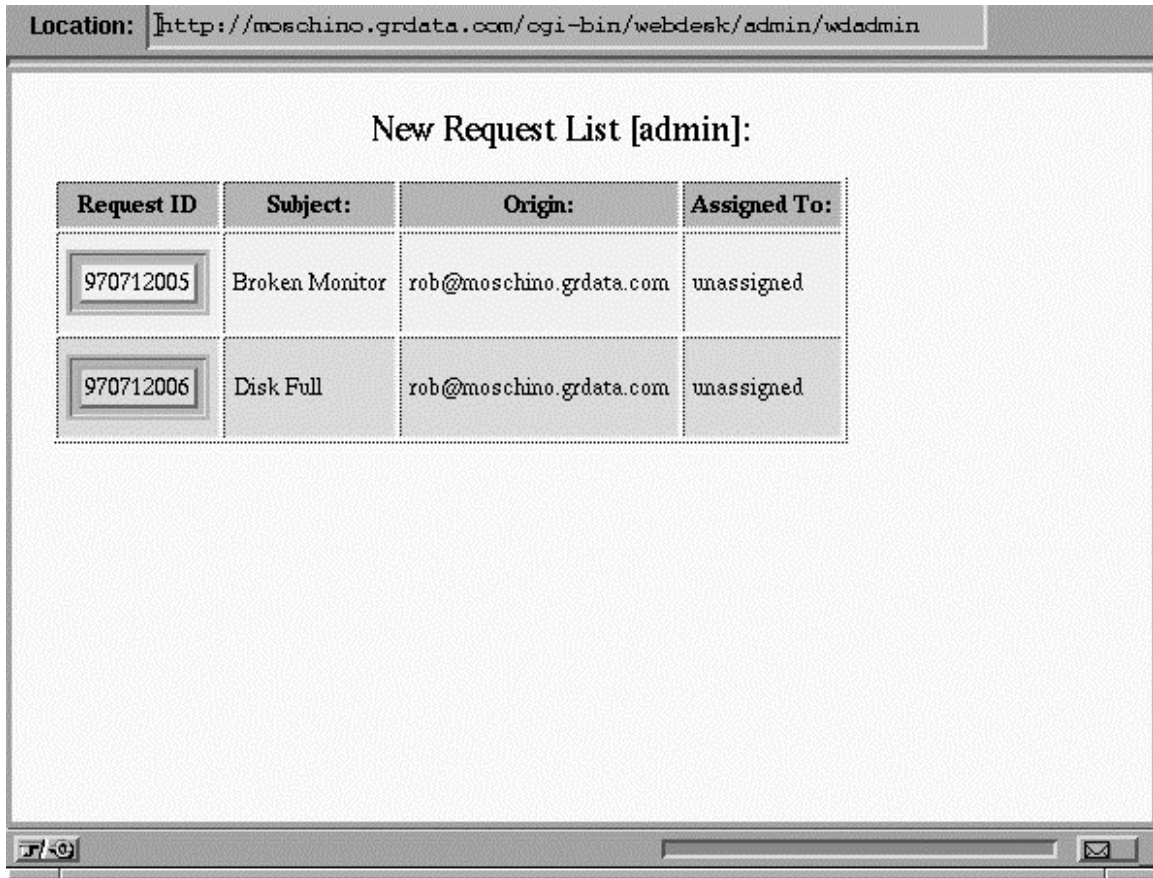


Figure 4. New Requests to be Evaluated

The New Requests screen shows the request's unique ID number (based on reception date), the subject of the request, the request sender and the fact that the request is yet to be assigned. Simply click on Request ID to evaluate it. The request will appear similar to figure 5.

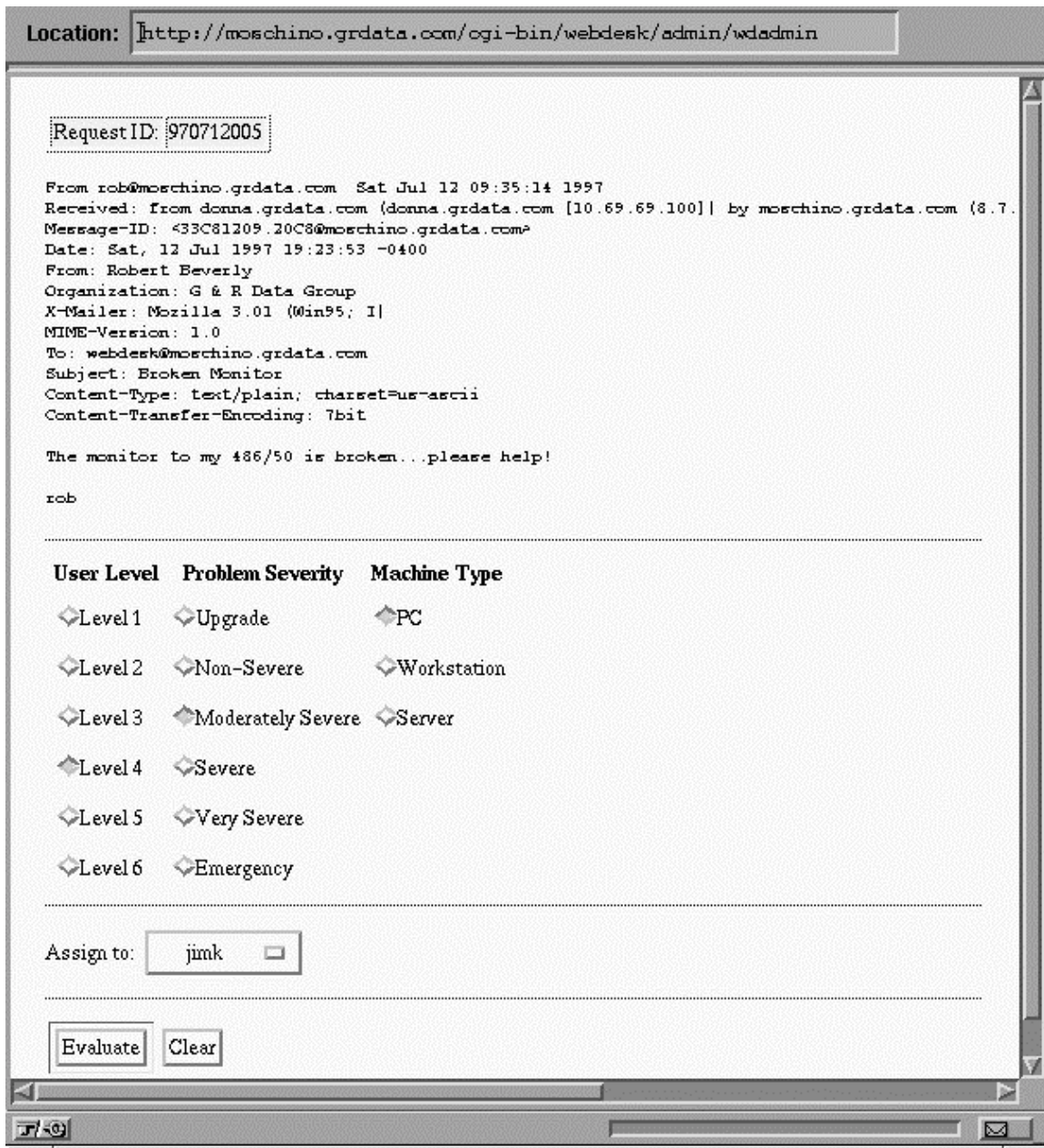


Figure 5. New Request to be Evaluated

Once evaluated, the system will assign the request a priority based on the evaluation parameters. The request then moves out of the New Requests queue and into the pending request queue for the particular administrator the request was assigned to. Each administrator may view his or her pending request queue by logging in with their username and password and clicking on “View Pending Requests” (figure 6). The WebDesk administrator is presented with all pending requests assigned to anyone when clicking on “View Pending Requests.”



Figure 6. View Pending Requests

The list of pending requests allows an administrator to view the request by clicking on it, change the priority or complete any of the requests presented.

The WebDesk system is configured from the AdminTool. Click on "WebDesk Setup" to view all configurable options (figure 7).



Figure 7. WebDesk Configuration

From the configuration page, the WebDesk administrator may create WebDesk accounts, delete accounts and change passwords by clicking on "User Administration." The menu given in figure 8 will appear:



Figure 8. WebDesk Setup: User Administration

To add a new user, select “User: new” and click on “Select User.” To delete an existing user, select the user and click “Delete User.” To change an existing user’s password, select the user and click on “Select User.”

The confirmation email returned to users may be configured from the WebDesk menu as well. Click on “Confirmation Email,” and the following menu in figure 9 will be displayed.

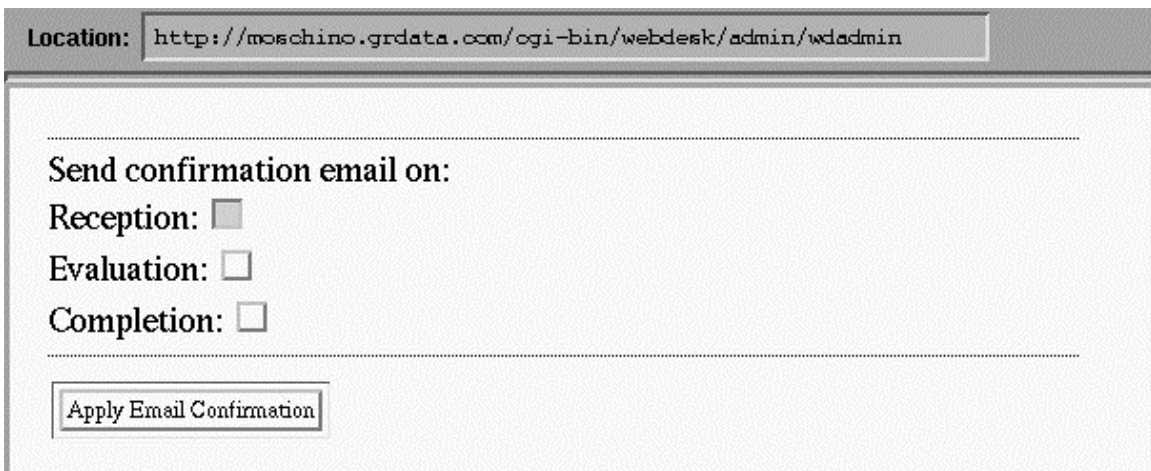


Figure 9. WebDesk Setup: Confirmation Email

Email headers, which contain SMTP routing and delivery information may be omitted to make the requests presented appear “more clean.” This is accomplished by clicking on “Header Suppression,” figure 10.



Figure 10. WebDesk Setup: Header Suppression

Finally, request throttling may be configured, although the default values are recommended. Request throttling prevents the system from entering an infinite loop with another automatic email system. For instance, if a majordomo mailing list sent an email to the WebDesk system by accident, and WebDesk was configured with confirmation email on reception turned on, WebDesk would send the majordomo account email. Majordomo would not understand the email and send another message - thus creating a loop which could potentially crash both machines. In order to prevent this, WebDesk intelligently looks at the requests received in order to prevent a loop. Clicking on "Request Throttle" configures the maximum number of requests received in a specified number of seconds allowed (figure 11).



Figure 11. WebDesk Setup: Request Throttling

4. Support

Every software purchase from G & R Data Group, Inc. includes a full 90 (ninety) days of support and upgrades. We are interested in making G & R Data Group products better for you. Please send any suggestions, bugs, correspondence, etc. regarding WebDesk to:

support@grdata.com

Or by mail to:

*G & R Data Group, Inc.
Software Distribution
P.O. Box 428
Woodstock, GA 30188*

Visit the WebDesk Home Page for tips, tricks, or FAQs when available:

<http://www.grdata.com/solutions/WebDesk/>

Please include your name, email, WebDesk Version Number (found in "About WebDesk" from the AdminTool), and a detailed description illustrating your problem, if possible, with any bug reports.

5. Appendices

5.1. Appendix A: WebDesk Disk Structure

The WebDesk disk tree is as follows. Base directories may vary between systems.

```
{WWW-server-base-directory} / cgi-bin / webdesk / .config
                             / admin / wd.license
                             / wadmin
                             / wddbsync
                             / wdfilter
                             / .forward
                             / archive
                             / database
                             / etc / completion.footer
                             / completion.header
                             / evaltags.html
                             / evaluation.footer
                             / evaluation.header
                             / passwd
                             / reception.footer
                             / reception.header
                             / user / wduser

                             / htdocs / webdesk / about.html
                             / help.html
                             / webdesk.html
                             / admin / admin.html
                             / archive -> / cgi-webdesk / archive
                             / setup.html
```

- /cgi-bin/webdesk/admin contains protected WebDesk binary executables
- /cgi-bin/webdesk/user contains public WebDesk binary executables
- /htdocs/webdesk contains base WebDesk HTML files
- /cgi-bin/webdesk/archive contains completed WebDesk requests
- /cgi-bin/webdesk/database contains the WebDesk request database
- /cgi-bin/webdesk/etc contains configuration files

5.2. Appendix B: Tips and Tricks

- One can easily add an electronic mail alias to the webdesk system, for example the `/etc/aliases` file might contain:

```
helpdesk:webdesk
```

Which will allow `helpdesk@yoursite.net` to accept requests into the webdesk system. You may have to update your NIS maps, or execute “`newaliases`” to add this alias. See your system manual pages for more details on email aliases.

- Add a `RefererIgnore` entry (usually in the file `~www/conf/httpd.conf`) for the machine that administrators will be most often accessing the system from so that the log files do not fill up too quickly:

```
# RefererIgnore:  If you don't want to keep track of links from
# certain servers (like your own), place it here.
# If you want to log them all, keep this line commented.
```

```
RefererIgnore sys.yoursite.net
```

- Several customizations may be done to tailor WebDesk to your particular installation. The following may be easily modified:

- WebDesk logo. Located in `DocumentRoot/webdesk/wd.gif`. This image is simply a CompuServe .GIF file which may be replaced with your organization's own site logo. Because this logo is accessed often, keep the file's size to a minimum (default `wd.gif` is 1658 bytes).
- Confirmation email response texts. Located in the `etc/webdesk` directory beneath the `cgi-bin` directory. There are header and footer files for reception, evaluation and completion which may all be customized. Header files are appended before request information returned, and footer files are appended after request information.
- Evaluation descriptions and weighting factors. Located in `cgi-bin / webdesk / etc / evaltags.html`. This file allows for customization of the evaluation categories and weighting factors used by the administrator to assign the request a priority.

5.3. Appendix C: WWW (httpd) Server Installation

This appendix covers setting up Apache's http server on UNIX platforms. Installation for other server engines is similar, see their corresponding documentation for installation instructions. A comprehensive tutorial is available from <http://www.apache.org/docs>.

An http server consists of a daemon (*httpd* in the case of Apache) which is a binary executable that either listens for http traffic on a port or is spawned by a master program that monitors all network traffic. In either case, the http daemon responds by sending the requested information.

1.) Download the software. Apache httpd is freely available for all of the UNIX platforms that WebDesk supports, for example *apache_1.3.9.tar.Z*, over the Internet via anonymous ftp:

Server: ftp.apache.org

Path: /dist

2.) Copy the distribution into a permanent directory - we will use */usr/local/apache*. We recommended that */usr/local/apache* is used, as Apache httpd configuration files reference this path by default. If disks space constraints are an issue, we still recommended using the default path and simply create a link to a disk with free space.

3.) Uncompress and untar the distribution. It will untar itself into a new directory named after the version number. For example:

```
# cp /tmp/apache_1.3.9.tar.Z /usr/local
# cd /usr/local
# uncompress apache_1.3.9.tar.Z
# tar -xf apache_1.3.9.tar
```

4.) The distribution will untar into a directory named after the version number, such as *apache_1.3.9* in the previous example. The default configuration files reference */usr/local/apache* which is also easier to type. For this reason, create a symbolic link from *apache_1.3.9* to *apache*:

```
# cd /usr/local
# ln -s apache_1.3.9 apache
```

There are now five important areas of the server to consider: the executable binaries, the configuration files, the logs files, the CGI programs and the HTML documents themselves. All of these should be in the single tree created by untarring the distribution.

5.) The executables may need to be built, in which case you will need a C compiler. Apache includes a *Configure* program in the *src* directory that creates a working makefile for your platform. Running *Configure* and then *Make* should create binaries for most systems.

6.) The configuration files supplied with the distribution are all named **.conf-dist*. In most cases, only the *httpd.conf* file is required. Copy this example *httpd.conf* to an actual conf file for editing:

```
# cd /usr/local/apache/conf
# cp httpd.conf-dist httpd.conf
```

7.) The following changes will need to be made to the configuration files. Example configuration files are provided with the distribution in the *examples* subdirectory.

<u>Configuration File:</u>	<u>Modify:</u>	<u>Change:</u>
httpd.conf	Change User nobody	User webdesk
	Change Group #-1	Group nobody
	Change ServerAdmin you@your.address	Reflect webmaster's address
	Change /htdocs AllowOverride none	AllowOverride Limit AuthConfig
	Change /cgi-bin AllowOverride none	AllowOverride Limit AuthConfig

8.) Modify the machine's startup rc files to start the httpd daemon at boot time.

9.) Manually start the server daemon, or reboot:

```
# /usr/local/apache/httpd
```

10.) Verify that the web server is now running on the machine by pointing a web browser at the address of the machine. Alternatively, look for the process running. For UNIX SysV machines:

```
# ps -ef | grep http
```

For UNIX BSD machines:

```
# ps -aux | grep http
```