DPAccess: DPbox Common Gateway Interface

Paolo Subiaco http://gw.ir3ip.ampr.org/iw3grx

8th June 2001

Contents

1 Introduction **1**

2 Main features **1**

3 ToDo **2**

4 Developers **2**

5 Available versions **2**
5.1 DPAccess-0.2 - 8th August 2000 2
5.2 DPAccess-1.0 - 8th June 2001 2

6 Installation **3**

7 Specific documentations **3**
7.1 dpaccess_pass.c 3

8 Conclusions **4**

1 Introduction

DPbox is a powerful amateur radio BBS program, written by DL8HBS and DL4YBG runnin in some unices platforms such as Linux.

The Main characteristic of DPbox is the communication system with other programs, using a socket: this is a great idea because it permits an easy way to access DPbox from external applications.

Since version 5.00, DL8HBS provided an external program, DPGATE, usable to access DPbox features from other applications, such as telnet connections or CGI scripts.

In the optics of access ham BBS features through a web browser, the DPAccess project was born: it is a *small suite of programs and scripts* which permit users to *access DPBbox bbs functions from a CGI interface.*

Programs are written in C language, instead of scripts which are written in Tcl.

2 Main features

- If browser support gzip encoding, the scripts will send the result pages compressed using gzip, improving speed due to the compress factor usually better than 1:4. This is a necessary feature for hams who connect DPbox using TCP/IP over a radio network
- Uses the cookies method to recognize user callsign, password and preferences

- List private user messages
- List bulletins arrived since the last user login
- From the two lists above, you can select (simply clicking) which message read, and then reply with a private message or bulletin.
- Permit to create new messages, either private or bulletins
- Permit to use DPbox crawler to search messages containing the specified keywords in the body
- Permit to search messages with the specify keyword in the title or address
- Print user and bbs informations
- Permit stylesheet selection
- Multilanguage support permit administrator to easely translate text to unimplemented languages, just creating a new simple text file named *dptext.XX* where XX must be replaced with the browser language abbreviation (i.e. it for italian, en for english, de for german, ...).

3 ToDo

- Security improvements in dpgate C program (encrypt password controlling: dpgate must not be called from other users without requesting the encrypt password)
- Board list selection directly from CGI interface (to setup the *wantboard* list).

4 Developers

I'm very glad if someone would improve new features to this project, and redistribute it with all sources as I've done.

Probably many developers prefer other scripting language than Tcl: the first version of DPAccess scripts was written in Perl, but the result was that a large amount of resources was needed, and execution time was very slow using Apache/mod_perl too. Then i tried with Tcl, and now execution time is satisfied: Tcl is fast and has a very clear sintax similar to C and Bourne Shell.

To permit informations to be exchanged by people who are interested about this project, a forum is created at URL ***http://gw.ir3ip.ampr.org/eforum*** .

5 Available versions

5.1 DPAccess-0.2 - 8th August 2000

This was the first published version.

5.2 DPAccess-1.0 - 8th June 2001

More complete version, with multilanguage support and stylesheet selection.

Not very easy to install, but i hope that someone help me to render DPAccess installation less traumatic!

6 Installation

The scripts called by the web server are made in Tcl language: in this way they are easely adjustable and testable, and also they are very fast. Infact, Tcl is one of the faster scripting language, much more than Perl either enabling mod_perl.

The scripts, which must be put into the cgi-bin directory of the web server, are:

dp.tcl the main script

dplog.tcl administration tool to read the log created

Other text files, contained in a directory reachable by the web server such as */home/www/html/dpbox*, are used in support to dp.tcl main script:

dptext.* language specific file, which permit the internationalization of the script; i.e. just create the *dptext.ru* file to implement russian language

xxxx.css where xxxx is the name of the cascading stylesheet specification for all pages generated by dp.tcl.

Few C programs are provided, and they will be put in the /usr/local/*bin directories:

dpaccess_pass SUID root program used to authenticate and add new users

dpgate original DL8HBS program with few modifications

dpprivlinks similar to dpputlinks, is used to convert dpgate text output in HTML

and finally, some utilities like:

adddpbox simplest bash script based on dpaccess_pass which add a new user, insert a new line on reject.box to hold his sent messages, and finally send a mail to the dpbox administrator (which can be an alias to cover all administrators) informing that the user have been added.

Makefile within definition of how C programs must be compiled, and where all files must be copied.

From a shell, you must type *make* to compile the C programs, then type *su* - to obtain a root shell, finally *make install* to install all needed files in the appropriate directories.

Note: **there are some definitions which you must changed in the top of Makefile, dp.tcl, dpaccess_pass.c and dpprivlinks.c.**

7 Specific documentations

7.1 dpaccess_pass.c

This is a C program which provid user authentication using one-way encrypting alghoritm. The program will take user information from a file in a directory readable from nobody and writable from dpbox administrator. Dpaccess cgi script will call this program with this syntax dpaccess_pass command arg1 [arg2 [arg3]]

- **dpaccess_pass control callsign providedpassword**
  providedpassword is the plain text password that must be encrypted and then compared with the one written in the dpbox_access_file
  The program must return

Ok	-> The password is right!
No-User	-> The file does not contain that callsign
No-Pass	-> Provided password don't match with the specified

- **dpaccess_pass encode callsign**
  Return in the stdout the encrypt password of callsign: this password will be stored in the cookie of callsign browser, and must be decode from the next dpaccess_pass (using the next instruction) to grant access

- **dpaccess_pass decode callsign**
  Compare the cookie password and the one stored in the DPBOX_ACCESS_FILE.
  Return

Ok	-> Access grant
No-User	-> The DPBOX_ACCESS_FILE does not contain that callsign
No-Pass	-> The password provided is wrong

8 Conclusions

Installing this software is not easy: you must probably change some parameters in Makefile, dp.tcl and dpaccess_pass.c, so be patient!

For any request, post a short message on the dpbox forum at ***http://gw.ir3ip.ampr.org/eforum***

Any opinion, suggestion about this project is welcome. Any modifications to the scripts are welcome too.

Finally, i want apologize for my bad english.