

GETTING INPUT FROM A NETWORK

Building on the concept of a coprocess, `gawk` can exchange information with a process on another system via an IP network connection. When you specify one of the special filenames that begins with `/inet/`, `gawk` processes the request using a network connection. The syntax of these special filenames is

/inet/protocol/local-port/remote-host/remote-port

where *protocol* is usually `tcp` but can be `udp`, *local-port* is 0 (zero) if you want `gawk` to pick a port (otherwise it is the number of the port you want to use), *remote-host* is the *IP address* (page 1075) or *fully qualified domain name* (page 1070) of the remote host, and *remote-port* is the port number on the remote host. Instead of a port number in *local-port* and *remote-port*, you can specify a service name such as `http` or `ftp`.

The `g7` program reads the `rfc-retrieval.txt` file from the server at `www.rfc-editor.org`. On `www.rfc-editor.org` the file is located at `/rfc/rfc-retrieval.txt`. The first statement in `g7` assigns the special filename to the `server` variable. The filename specifies a TCP connection, allows the local system to select an appropriate port, and connects to `www.rfc-editor.org` on port 80. You can use `http` in place of 80 to specify the standard HTTP port.

The second statement uses a coprocess to send a `GET` request to the remote server. This request includes the pathname of the file `gawk` is requesting. A `while` loop uses a coprocess to redirect lines from the server to `getline`. Because `getline` has no variable name as an argument, it saves its input in the current record buffer `$0`. The final `print` statement sends each record to standard output. Experiment with this script, replacing the final `print` statement with `gawk` statements that process the file.

```
$ cat g7
BEGIN {
    # set variable named server
    # to special networking filename
    server = "/inet/tcp/0/www.rfc-editor.org/80"

    # use coprocess to send GET request to remote server
    print "GET /rfc/rfc-retrieval.txt \
HTTP/1.1\nHost:www.rfc-editor.org\n\n" |& server

    # while loop uses coprocess to redirect
    # output from server to getline
    while (server |& getline)
        print $0
}
```