
syslog2iptables - Version 1.14

Packages

The various source and binary packages are available at <http://www.five-ten-sg.com/syslog2iptables/packages/>
The most recent documentation is available at <http://www.five-ten-sg.com/syslog2iptables/>

A Mercurial [<http://www.selenic.com/mercurial/wiki/>] source code repository for this project is available at <http://hg.five-ten-sg.com/syslog2iptables/>.

Name

syslog2iptables — a simple adaptive firewall

Synopsis

```
syslog2iptables [-c] [-d n]
```

Description

syslog2iptables is a simple adaptive firewall. It maintains the INPUT chain of the iptables(1) firewall set based on syslog entries. These syslog entries are typically generated by your hardware firewall, but they could come from any source. Any syslog entry that contains a host name or ip address can be used as input to this package.

The syslog2iptables.conf(5) file specifies the syslog files to be monitored, and the regular expressions (regex(7)) to be applied to new lines in those files. Each regular expression needs an index to specify the matching substring that contains either an ip address or host name, and a bucket count which is added to the leaky bucket for that ip address when a matching line is read from that syslog file.

Each ip address has an associated leaky bucket, which leaks one token per second. Once the bucket contains more than a configurable threshold number of tokens, that ip address is added to the INPUT chain with a DROP target. When the bucket is drained to zero, that ip address is removed from the INPUT chain.

The discussion has focused on syslog files, but any ascii text file can be used, so long as some other process appends lines to that file, and those lines containing hostname or ip addresses can be matched with some regular expression.

Considering syslog files in particular, these are normally rotated via logrotate. **syslog2iptables** properly detects and handles this case by closing the old file, and reopening the newly created file.

Options

- c Load the configuration file, print a canonical form of the configuration on stdout, and exit.
- d *n* Set the debug level to *n*.

Usage

`syslog2iptables -d 2`

Configuration

The configuration file is documented in `syslog2iptables.conf(5)`. Any change to the config file will cause it to be reloaded within three minutes.

TODO

The following ideas are under consideration.

Add a configuration option for the iptables table name in the pattern statement. This implies handling multiple tables, so each table needs its own map of ip addresses and bucket values.

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Version

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Name

syslog2iptables.conf — configuration file for syslog2iptables

Synopsis

syslog2iptables.conf

Description

The **syslog2iptables.conf** configuration file is specified by this partial bnf description. The entire config file is case sensitive. All the keywords are lower case.

```
CONFIG      = {CONTEXT ";" }+
CONTEXT     = "context" NAME "{" {STATEMENT}+ "}"
STATEMENT   := (THRESHOLD | ADD-CMD | REM-CMD | IGNORE | FILE) ";"
THRESHOLD   := "threshold" THRESHOLD-INTEGER-VALUE
ADD-CMD     := "add_command" IPT-CMD
REM-CMD     := "remove_command" IPT-CMD
IGNORE      := "ignore" "{" IG-SINGLE+ "}"
IG-SINGLE    := IP-ADDRESS "/" CIDR-BITS
FILE        := "file" FILENAME "{" PATTERN+ "}"
PATTERN     := "pattern" REGULAR-EXPRESSION "{" {INDEX | BUCKET | MESSAGE}+ "};"

INDEX       := "index" REGEX-INTEGER-VALUE ";"
BUCKET      := "bucket" BUCKET-ADD-INTEGER-VALUE ";"
MESSAGE     := "message" REASON ";"
REASON      := string to appear in syslog messages
IPT-CMD     := string containing exactly one %s replacement token for
               the ip address
```

Sample

```
context dns {
    threshold 1100;

    add_command    "/sbin/iptables -I INPUT --protocol udp --destination-port 53 --src

    remove_command "/sbin/iptables -D INPUT --protocol udp --destination-port 53 --src

    ignore {
        127.0.0.0/8;        // localhost
    };

    file "/var/log/messages" {
        pattern "named.*client (.*)#.*query.*cache.*denied" {
            index 1;        // zero based
            bucket 400;
            message "DNS attack";
        }
    }
}
```

```
};
};
};

context general {
    threshold 550;

    add_command "/sbin/iptables -I INPUT --src %s --jump DROP";
    remove_command "/sbin/iptables -D INPUT --src %s --jump DROP";

    ignore {
        127.0.0.0/8; // localhost
    };

    file "/var/log/secure" {
        pattern "sshd.*Failed password .* from ::ffff:(.*) port" {
            index 1; // zero based
            bucket 400;
            message "ssh failed password";
        };
        pattern "sshd.*Failed password .* from (.) port" {
            index 1; // zero based
            bucket 400;
            message "ssh failed password";
        };
        pattern "proftpd.*no such user found from (.) \[" {
            index 1; // zero based
            bucket 400;
            message "ftp failed password";
        };
    };

    file "/var/log/messages" {
        pattern "ipop3d.* Login failed .* \[(.*)\]" {
            index 1; // zero based
            bucket 400;
            message "pop3 failed password";
        };
    };

    file "/var/log/httpd/access_log" {
        // of course you cannot use this if you actually use cgi-bin directories

        pattern "(.) - - .* /cgi-bin" {
            index 1; // zero based
            bucket 400;
            message "apache cgi-bin reference";
        };
        // or if you actually have an index2.php script
        pattern "(.) - - ./index2.php" {
            index 1; // zero based
            bucket 400;
            message "apache index2.php reference";
        };
    };
}
```

```
};
// or if you have a main.php script
pattern "(.*) -- ./main.php" {
    index 1;    // zero based
    bucket 400;
    message "apache main.php reference";
};
pattern "(.*) -- ./awstats.pl" {
    index 1;    // zero based
    bucket 400;
    message "apache awstats.pl reference";
};
pattern "(.*) -- ./adxmlrpc" {
    index 1;    // zero based
    bucket 400;
    message "apache adxmlrpc reference";
};
};

file "/var/log/maillog" {
    pattern "lost input channel from .* \[(.*)\] .* after (mail|rcpt|auth)" {

        index 1;    // zero based
        bucket 200;
        message "sendmail spammer dropping connection";
    };
    pattern " \[(.*)\]: possible SMTP attack" {
        index 1;    // zero based
        bucket 600;
        message "sendmail authentication attack";
    };
    pattern "rejecting commands from .* \[(.*)\] due to pre-greeting traffic" {

        index 1;    // zero based
        bucket 200;
        message "sendmail pre-greeting";
    };
    pattern "dovecot.*Aborted login.*rip=(.*)" {
        index 1;    // zero based
        bucket 100;
        message "dovecot failed password";
    };
    pattern "dovecot: pop3-login: Disconnected: Shutting down.*rip=(.*)" {

        index 1;    // zero based
        bucket 100;
        message "dovecot failed password";
    };
};

// make sure your upstream MX servers are listed in the
// ignore block above, otherwise you will kill them off
// when they try to forward such mail to you.
pattern "sendmail.*from=<>,.*nrcpts=0,.*\[(.*)\]" {
    index 1;    // zero based
```

```
        bucket 200;  
        message "sendmail rejected bounce";  
    };  
};
```

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