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FastPCRF installation and configuration

FastPCRF provides proxying of requests from fastDPI towards the RADIUS server and is included in the default SSG installation package: by default, fastPCRF is installed on the same server as fastDPI.

To implement the BNG/BRAS reservation scheme, it is necessary to move the fastPCRF process to a separate virtual machine to ensure fault tolerance and manage multiple fastDPI (BRAS).

The configuration is set in the file `/etc/dpi/fastpcrf.conf`. Minimal configuration:

```
   # For SSG 8.3+: two fastDPI servers work with one fastpcrf
fdpi_server=127.0.0.1%lo:29000;attr_nas_ip=10.20.30.40
fdpi_server=192.168.20.10%eth2:29000

   # For SSG up to version 8.3
#fdpi_server_list=127.0.0.1%lo:29000;192.168.20.10%eth2:29000

radius_server=secret@192.168.10.20%eth1:1812
radius_server=secret2@192.168.10.21%eth1:1812
```

Here:

• `fdpi_server` - [SSG 8.3+] specifies one fastdpi server. Each fastdpi server is described by a separate parameter. Format: `fdpi_server=ip%dev:port[;name=value]*`, where

- `ip` - fastDPI server IP address;
- `dev` - on which local interface to create a connection with fastDPI;
- `port` - management port fastDPI (usually 29000)
- `name=value` - additional attributes of this fastdpi server:
- `attr_nas_ip` - IPv4 address for RADIUS attribute `NAS-IP-Address`; if not set, the fastdpi IP address is used (`ip`);
- `attr_nas_ipv6` - the value of the `NAS-IPv6-Address` RADIUS attribute for this fastdpi;
- `attr_nas_id` - the value of the `NAS-Identifier` attribute for this fastdpi

• `fdpi_server_list` - [SSG prior to version 8.3] list of fastDPI servers served by this fastpcrf. You can specify up to 16 different servers.
Server job format: `ip%dev:port`, where:

- `ip` - fastDPI server IP address,
- `dev` - on which local interface to create a fastDPI connection,
- `port` - management port fastDPI (usually 29000).

The control port must be the same in fastdpi.conf (parameter `ctrl_port`) and in fastpcrf.conf.

FastDPI only listens on the control port on the interface specified by the `ctrl_dev` parameter in the fastdpi.conf configuration file. If fastPCRF is being installed on a standalone server, the `ctrl_dev` parameter must be properly configured with an interface name other than `lo` for fastDPI and fastPCRF communication

• `radius_server` - specifies one RADIUS server. Each RADIUS server (usually two of them - main and backup) is specified in a separate `radius_server` parameter.
Format: `secret@ip%dev:port` where:

- `secret` - RADIUS secret,
- `ip` - RADIUS server IP address,
- `dev` - name of the local interface on which to establish a connection,
- `port` - RADIUS auth port. It is possible to specify up to 16 RADIUS servers, while the first one in the order of declaration in fastpcrf.conf is considered the main one, the rest are reserve ones.

A connection is created with only one RADIUS server from the list, backup servers are activated only when the main one is unavailable.

`fastpcrf.conf` has many other configuration parameters related to fine-tuning the interaction with RADIUS servers.

Full list of options

After configuring, don't forget to enable fastPCRF autorun when starting the server with the command:

```
systemctl enable fastpcrf
```

Change settings on update

In SSG version 8.5+ *attr_nas_id* or *attr_nas_ip* respectively must be declared in the *fdpi_server* parameter for NAS-Identifier or NAS-IP-Address availability for the selected fastDPI server (even for only one).