

# OpenSER

# OpenSER

from an asterisk point of view

# What is OpenSER?

OpenSER is:

# OpenSER is:

- a SIP proxy

# OpenSER is:

- a SIP proxy
- a SIP registrar

# OpenSER is:

- a SIP proxy
- a SIP registrar
- a SIP router

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- a SIP registrar
- a SIP router
- a SIP redirect server

# OpenSER is:

- a SIP proxy
- a SIP registrar
- a SIP router
- a SIP redirect server
- a SIP application server

OpenSER is not:

# OpenSER is not:

- a B2BUA (back to back user agent)

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- a B2BUA (back to back user agent)
- a media server

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- a B2BUA (back to back user agent)
- a media server
- a soft phone

OpenSER architecture:

# OpenSER architecture:

two main logical components

# OpenSER architecture:

core

modules (plug-ins)

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- parsers (SIP/SDP/conf)

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- memory system

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- management interface
- script variables

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modules (plug-ins)

- parsers (SIP/SDP/conf)
  - memory system
  - transport layer
  - database interface
  - synch/lock mechanism
  - management interface
  - script variables
- SIP protocol (tm)

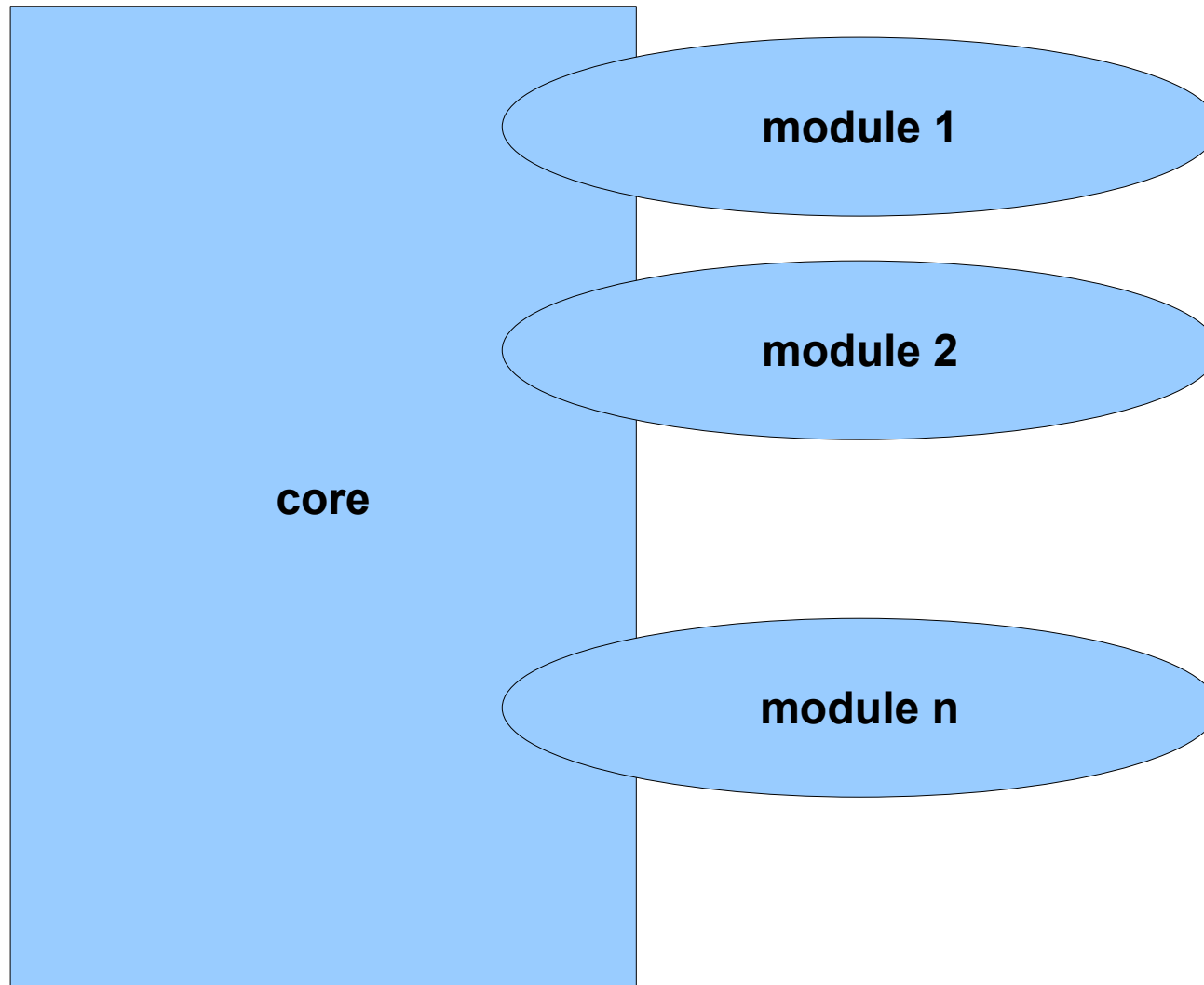
# OpenSER architecture:

core

modules (plug-ins)

- parsers (SIP/SDP/conf)
  - memory system
  - transport layer
  - database interface
  - synch/lock mechanism
  - management interface
  - script variables
- SIP protocol (tm)
  - features

# OpenSER architecture:



OpenSER configuration:

# OpenSER configuration:

`openser.cfg`

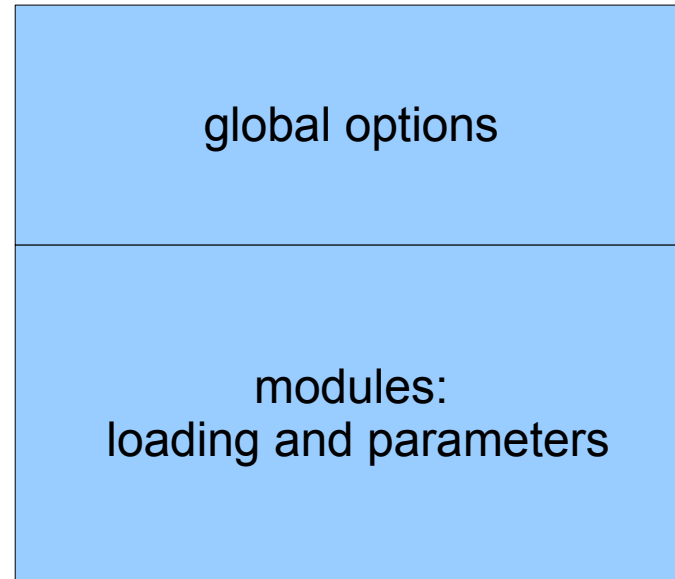
# OpenSER configuration:

`openser.cfg` (three blocks)

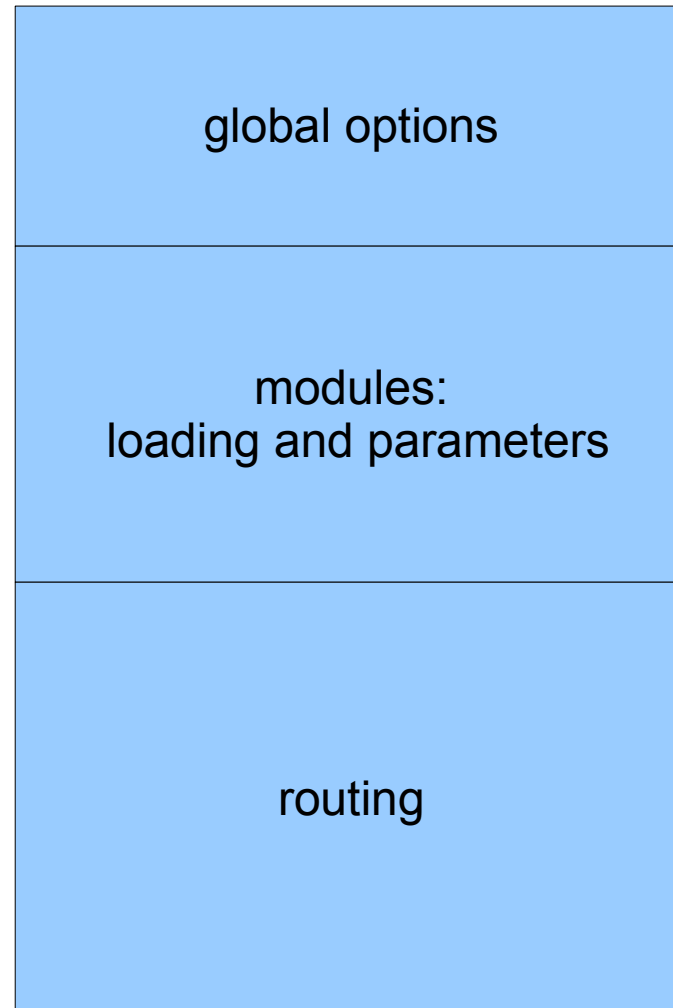
# OpenSER configuration:



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# OpenSER configuration:

global options

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- listen interfaces

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```
# UDP support
```

```
listen=udp:10.10.10.10:5060
```

# OpenSER configuration:

global options

- listen interfaces

```
# TCP support
```

```
listen=tcp:10.10.10.10:5070
```

# OpenSER configuration:

global options

- listen interfaces

```
# TLS support (port 5061)  
listen=tls:10.10.10.10
```

# OpenSER configuration:

global options

- listen interfaces
- logging

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```
# logging level  
debug=3
```

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```
# syslog enabled  
log_stderr=no
```

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global options

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```
# syslog enabled  
log_stderr=no  
log_facility=LOG_LOCAL3
```

# OpenSER configuration:

global options

- listen interfaces
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```
# syslog enabled  
log_stderr=no  
log_facility=LOG_LOCAL3  
log_name="oser"
```

# OpenSER configuration:

global options

- listen interfaces
- logging
- number of processes

# OpenSER configuration:

global options

- listen interfaces
- logging
- number of processes

fork=yes

# OpenSER configuration:

global options

- listen interfaces
- logging
- number of processes

fork=yes

children=6

# UDP listeners

# OpenSER configuration:

## global options

- listen interfaces
- logging
- number of processes

fork=yes

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# UDP listeners

tcp\_children=5

#TCP listeners

# OpenSER configuration:

global options

- listen interfaces
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- number of processes
- protocol control

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`disable_tcp=yes`

# OpenSER configuration:

## global options

- listen interfaces
- logging
- number of processes
- protocol control

```
disable_tcp=yes  
disable_tls=yes
```

# OpenSER configuration:

## global options

```
# Please refer to the Core CookBook at http://www.openser.org/dokuwiki/doku.php
# for a explanation of possible statements, functions and parameters.
#
##### Global Parameters #####

debug=3
log_stderr=no
log_facility=LOG_LOCAL0

fork=yes
children=4

disable_tcp=yes

listen=udp:192.168.1.2:5060
```

# OpenSER configuration:

modules (loading and parameters)

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modules (loading and parameters)

- path location

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`mpath="/usr/lib/openser/modules"`

# OpenSER configuration:

modules (loading and parameters)

- path location
- module loading

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modules (loading and parameters)

- path location
- module loading

```
mpath="/usr/lib/openser/modules"  
loadmodule "tm.so"
```

# OpenSER configuration:

modules (loading and parameters)

- path location
- module loading

```
loadmodule "/usr/lib/openser/modules/tm.so"
```

# OpenSER configuration:

modules (loading and parameters)

- path location
- module loading
- module parameters

# OpenSER configuration:

modules (loading and parameters)

- path location
- module loading
- module parameters

```
modparam("tm", "T1_timer", 700)
```

# OpenSER configuration:

## modules (loading and parameters)

```
##### Modules Section #####  
  
# set module path  
mpath="/usr/local/lib/openser/modules/"  
  
loadmodule "sl.so"  
  
loadmodule "tm.so"  
  
loadmodule "rr.so"  
  
loadmodule "maxfwd.so"  
  
loadmodule "mi_fifo.so"  
modparam("mi_fifo", "fifo_name", "/tmp/openser_fifo")
```

# OpenSER configuration:

routing

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- request route: route[n] {...}

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- provisional reply route: onreply\_route[m] {...}

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- provisional reply route: onreply\_route[m] {...}
- failure reply route: failure\_route[p] {...}

# OpenSER configuration:

## routing

- request route: route[n] {...}
- provisional reply route: onreply\_route[m] {...}
- failure reply route: failure\_route[p] {...}
- request branch route: branch\_route[q] {...}

# OpenSER configuration:

## routing

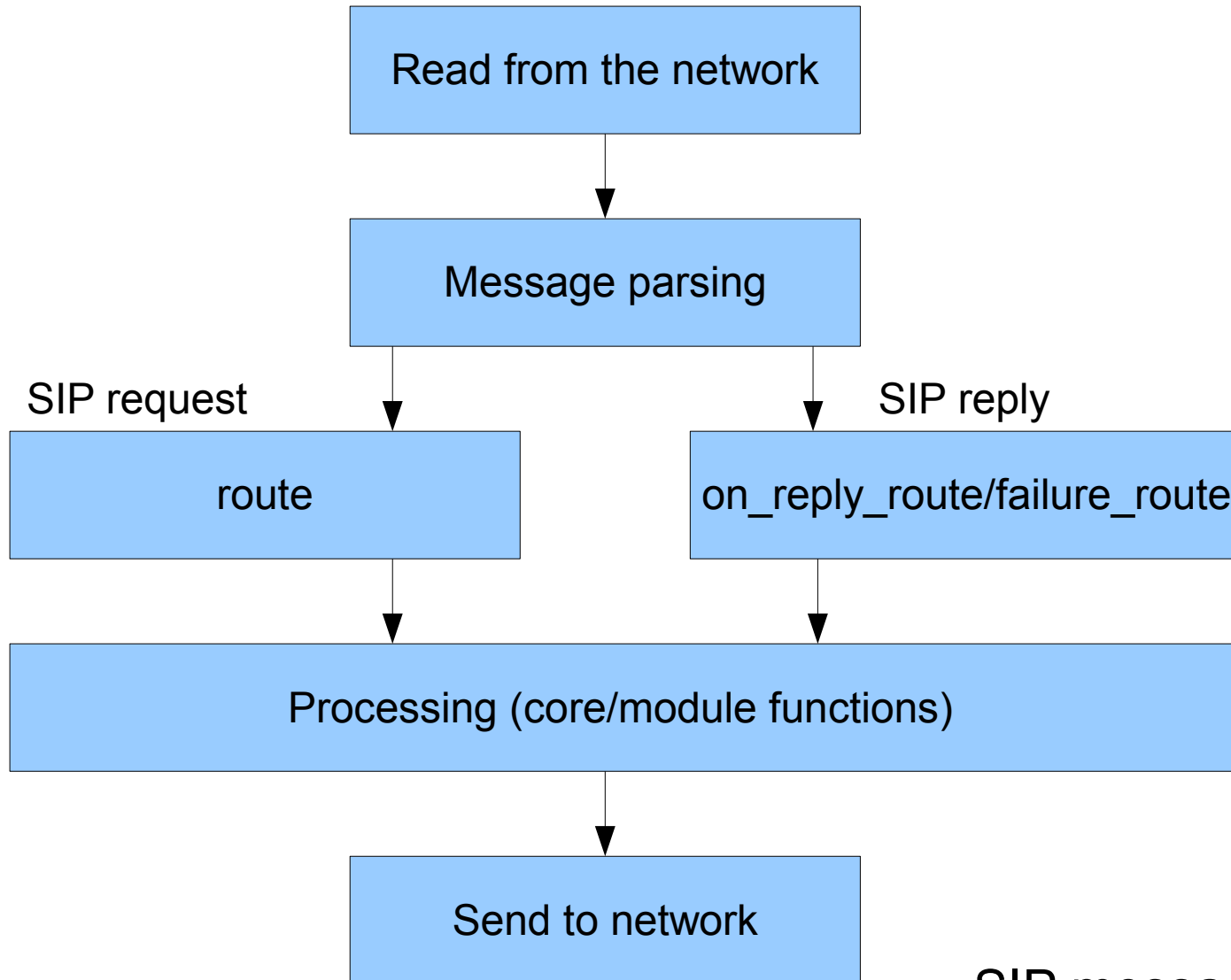
- request route: route[n] {...}
- provisional reply route: onreply\_route[m] {...}
- failure reply route: failure\_route[p] {...}
- request branch route: branch\_route[q] {...}
- error route: error\_route {...}

# OpenSER configuration:

## routing

```
##### Routing Logic #####
route{
    if (loose_route()) {      # mark routing logic in request
        append_hf("P-hint: rr-enforced\r\n");
        t_relay();
        exit;;
    };
    if (!uri==myself) {      # mark routing logic in request
        append_hf("P-hint: outbound\r\n");
        t_relay();
        exit;
    };
    if (uri==myself && is_method("INVITE")) {
        lookup("location");
        t_relay();
        exit;
    };
}
```

# OpenSER configuration:



SIP message call flow

# OpenSER configuration:

<http://openser.org/>

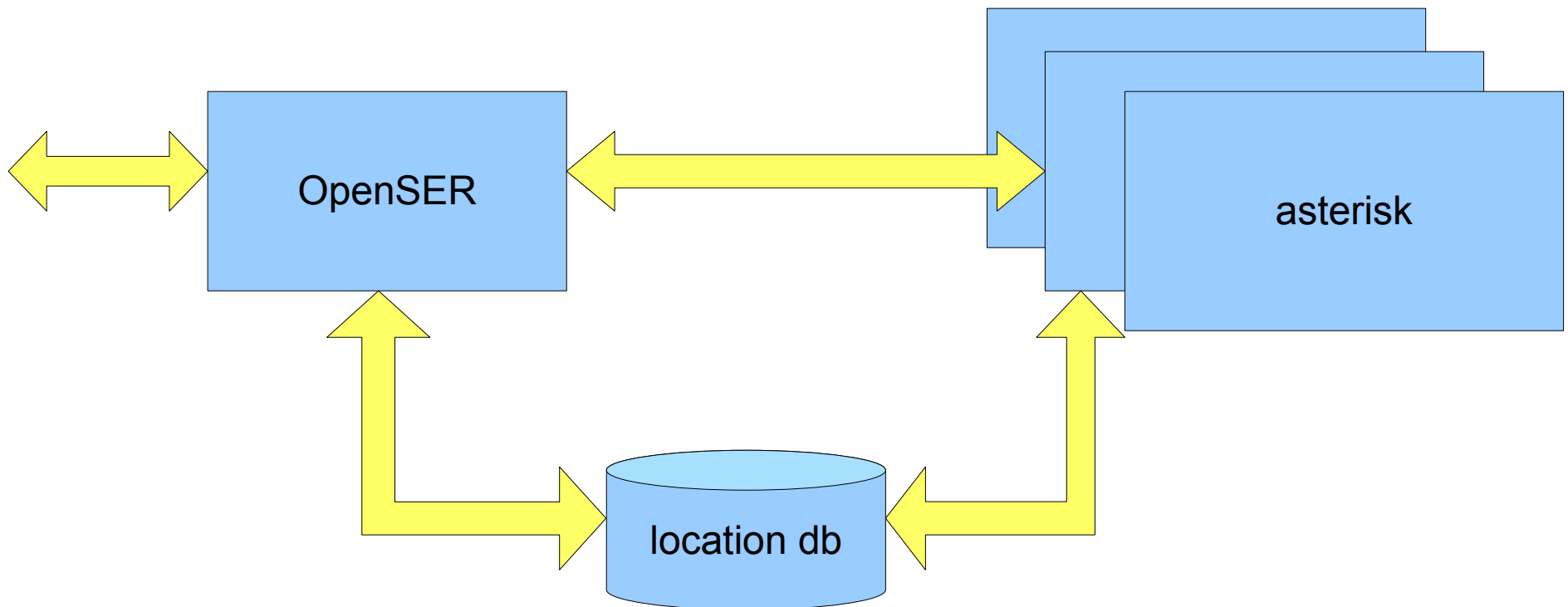
<http://openser.org/docs/>

<http://openser.org/dokuwiki/doku.php>

<http://old.iptel.org/ser/doc/seruser/seruser.html>

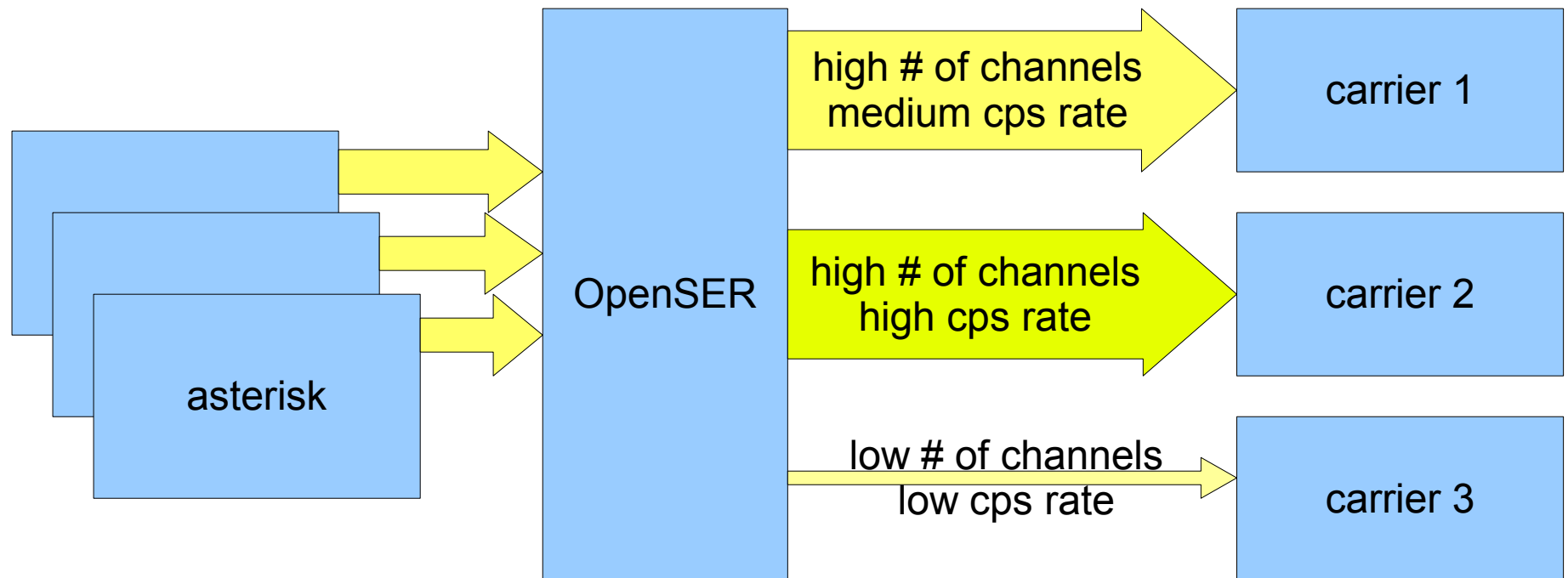
# OpenSER/asterisk integration

- registrar/dispatcher for asterisk farm



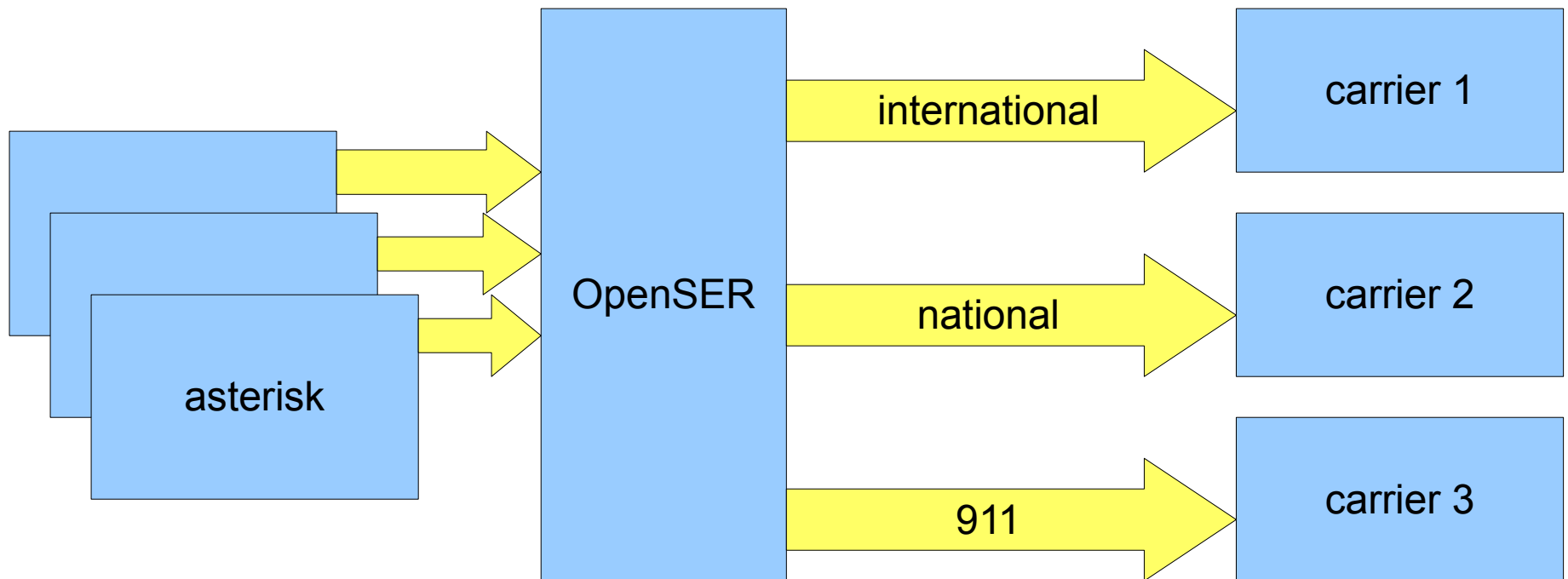
# OpenSER/asterisk integration

- SIP router for asterisk farm



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- SIP router for asterisk farm



# Q&A

Thank you

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