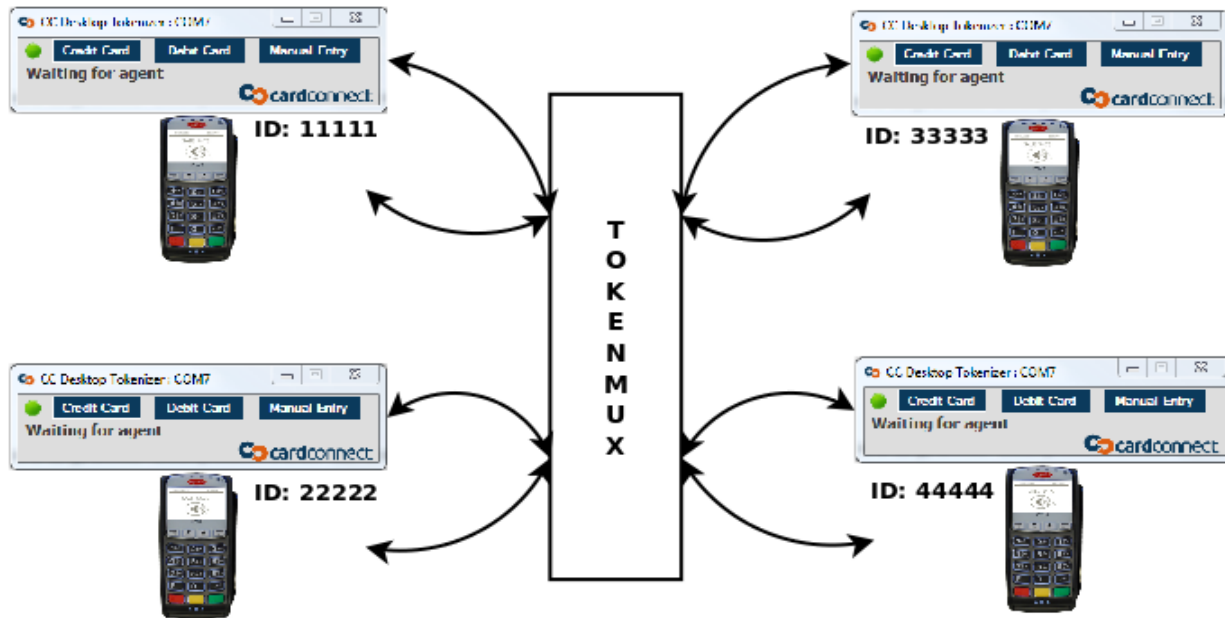


TokenMux

CardConnect TokenMux is a multiplexing socket server used to relay messages between the DesktopTokenizer/CCPanPad.DLL and Ethernet connected Ingenico devices. Messages are prefixed with a client ID (TXXXXX) or a PanPad ID (PXXXXX). Messages with the same ID number are relayed between the clients and PanPad pair. TokenMux consists of the socket server and a HTTP status server.



TokenMux requires **Java 7**.

Installing TokenMux

The TokenMux application is distributed as a .tar.gz archive. Uncompressed it is under 150K in size. Simply extract the archive and a TokenMux directory will be created:

```
$ tar -xvzf CCTokenMuxR17.tar.gz
CCTokenMuxR17/
CCTokenMuxR17/log/
CCTokenMuxR17/tokenmux.properties
CCTokenMuxR17/watchdog.sh
CCTokenMuxR17/tokenmux.sh
CCTokenMuxR17/pps/
CCTokenMuxR17/pps/tokenmux/
CCTokenMuxR17/pps/tokenmux/TokenMuxIPException.class
CCTokenMuxR17/pps/tokenmux/TokenMuxWeb.class
CCTokenMuxR17/pps/tokenmux/Base64.class
CCTokenMuxR17/pps/tokenmux/TokenMuxStatusServer$StatusHandler.class
```



```
CCTokenMuxR17/pps/tokenmux/Encrypt.class
CCTokenMuxR17/pps/tokenmux/tokenmux.properties
CCTokenMuxR17/pps/tokenmux/CardSecureClient.class
CCTokenMuxR17/pps/tokenmux/TokenMuxClient.class
CCTokenMuxR17/pps/tokenmux/TMSClient.class
CCTokenMuxR17/pps/tokenmux/TokenMuxStatusServer.class
CCTokenMuxR17/pps/tokenmux/TokenMuxEchoException.class
CCTokenMuxR17/pps/tokenmux/TokenMuxWebRequest.class
CCTokenMuxR17/pps/tokenmux/TokenMuxWeb$TokenMuxWebHandler.class
CCTokenMuxR17/pps/tokenmux/client/
CCTokenMuxR17/pps/tokenmux/client/PanpadClient.class
CCTokenMuxR17/pps/tokenmux/client/TokenizerClientDriver.class
CCTokenMuxR17/pps/tokenmux/client/TokenizerClient.class
CCTokenMuxR17/pps/tokenmux/client/PanpadClientDriver.class
CCTokenMuxR17/pps/tokenmux/TokenMuxUtil.class
CCTokenMuxR17/pps/tokenmux/TokenMuxServer.class
CCTokenMuxR17/pps/tokenmux/TokenMuxServer$TokenMuxQueue.class
CCTokenMuxR17/pps/tokenmux/SourceValidator.class
CCTokenMuxR17/pps/tokenmux/Log.class
CCTokenMuxR17/pps/tokenmux/TokenMuxReaper.class
```

TokenMux Configuration

TokenMux's configuration file is the tokenmux.properties file in the root TokenMux directory. A sample file is included with the distribution.

tokenmux.properties

```
#####
# Card Connect - TokenMux Server #
#####
# IP of all TokenMux services. Defaults to 127.0.0.1
tokenmux_ip=127.0.0.1

# Port for TokenMux Socket server. Defaults to 9110
socket_port=9110

# Port for TokenMux Status server. Defaults to 9111
status_port=9111

# Netmask of IPs allowed to connect - make as restrictive as possible
# allow_ips=127.0.0.1

# Connection Reaper - Interval to run in seconds - default 60 seconds
reaper_interval=60

# Connection Reaper - reap idle connections after N seconds
reaper_timeout=120

# Logging level
log_level=trace

# If using site-wide custom readterm in CCPanPad/Desktop Tokenizer
```



```
# readterm = 9999
```

Starting TokenMux

TokenMux includes two helper bash scripts for starting and running TokenMux. To start TokenMux, execute the tokenmux.sh script. This will startup TokenMux using the settings from the tokenmux.properties configuration file.

```
./tokenmux.sh &
```

Once TokenMux has been started, the watchdog.sh script may be run to ensure the TokenMux server runs continuously. If TokenMux is ever terminated the watchdog.sh script will restart a new instance within several seconds.

```
./watchdog.sh &
```

To start TokenMux on a system without bash, execute the following java command from the root TokenMux directory:

```
java -cp . pps.tokenmux.TokenMuxServer
```

Stopping TokenMux

To stop tokenmux, first kill the watchdog.sh process if it is running. Then the TokenMux process may be killed.

Logging

TokenMux will create a daily log file in the TokenMux/log directory.

Status Server

CardConnect TokenMux

CardConnect TokenMux Started: 2015/06/04 17:07:12

Runtime information

Free memory: 113mb
Allocated memory: 120mb
Max memory: 1,776mb
Total free memory: 1,769mb

Total Requests Processed: 2

Connection Count: 5

Connected Client Pairs: 2

T88888 : P88888 (192.168.220.86:9110 : 192.168.220.86:9110)
T99999 : P99999 (192.168.220.86:9110 : 192.168.220.86:9110)

Detached Clients: 1

P77777 (192.168.220.86:9110)

The TokenMux Status Server will display basic runtime information about TokenMux:

- **Runtime Information:** Displays information about the JVM
- **Total Requests Processed:** The total number of messages which have passed through this TokenMux instance
- **Connection Count:** The total number of clients connected
- **Connected Client Pairs:** The total number of paired PanPads and Clients. Clients are prefixed with a T. PanPads are prefixed with a P
- **Detached Clients:** Clients/PanPads which do not have a matching pair