

DTLS support for WebRTC streaming

WCS supports [DTLS 1.2](#) handshake while establishing WebRTC connections, this protocol version is invoked by default. However, [DTLS 1.0](#) is also supported for compatibility. Obsolete protocol support can be forced for all the clients using the following parameter in [flashphoner.properties](#) file

```
dtls_force_version_0=true
```

Or, since build [5.2.399](#), it can be switched per browser according to User Agent string that client sends during handshake.

User Agent strings should be listed in `dtls0_uafile` which is placed to `/usr/local/FlashphonerWebCallServer/conf` folder. For example,

```
Mozilla/5.0 (Windows NT 10.0; Win64; x64; rv:62.0) Gecko/20100101 Firefox/62.0
Mozilla/5.0 (Windows NT 10.0; Win64; x64; rv:60.0) Gecko/20100101 Firefox/60.0
```

Since build [5.2.546](#), the following parameter in [flashphoner.properties](#)

```
dtls0_ua_match_substring=true
```

can be used to enable matching of User Agent by substring specified in `dtls0_ua`. For example,

```
Firefox/62.0
Firefox/60.0
```

DTLS handshake errors can be written to `dtls-error.log` file which is placed to `/usr/local/FlashphonerWebCallServer/logs` folder

```
17:15:42,889 ERROR          DtlsError - Stun-Clbk-thread udp//192.168.0.111:31016 User-agent: Mozilla/5.0
(Windows NT 10.0; Win64; x64; rv:57.0) Gecko/20100101 Firefox/57.0; alert level: 2; alert description: 40;
message: null
```

To do this, the following settings should be added to [log4j.properties](#) file

```
log4j.logger.DtlsError=error, dtlsErrorAppender
log4j.additivity.DtlsError=false
log4j.appender.dtlsErrorAppender=org.apache.log4j.DailyRollingFileAppender
log4j.appender.dtlsErrorAppender.DatePattern='.'yyyy-MM-dd-HH
log4j.appender.dtlsErrorAppender.layout=org.apache.log4j.PatternLayout
log4j.appender.dtlsErrorAppender.layout.ConversionPattern=%d{HH:mm:ss,SSS} %-5p %20.20c{1} - %t %m%n
log4j.appender.dtlsErrorAppender.File=${com.flashphoner.fms.AppHome}/logs/dtls-error.log
```

These settings will be added by default if WCS is cleanly installed, but the [log4j.properties](#) file is not overwritten when WCS is updated. In this case, the settings should be added manually

User-agent string from `dtls-error.log` should be added to `dtls0_ua` file, for example

```
Mozilla/5.0 (Windows NT 10.0; Win64; x64; rv:62.0) Gecko/20100101 Firefox/62.0
Mozilla/5.0 (Windows NT 10.0; Win64; x64; rv:60.0) Gecko/20100101 Firefox/60.0
Mozilla/5.0 (Windows NT 10.0; Win64; x64; rv:57.0) Gecko/20100101 Firefox/57.0
```

DTLS 1.0 will be used while WebRTC connection is establishing with the browsers listed above