API Infolines
protocol description

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1. Introduction

API Infoline enables to execute request with collected data sent from PBX to web server, which returned action of rerouting call incoming to this infoline. Request is send to server by PBX after playing announcement and collecting DTMF digits.

2. Requirements

Telecommunication servers which can use API Infoline:

- MAC-6400 with firmware version **4.11** or later
- CCT-1668 with firmware version **5.11** or later (only new controllers CCT2CPU)"
- CXS-0424 with firmware version **4.11** or later

For creating API Infoline in PBX configuration license for Infoline (standard) is required.

3. Possibilities

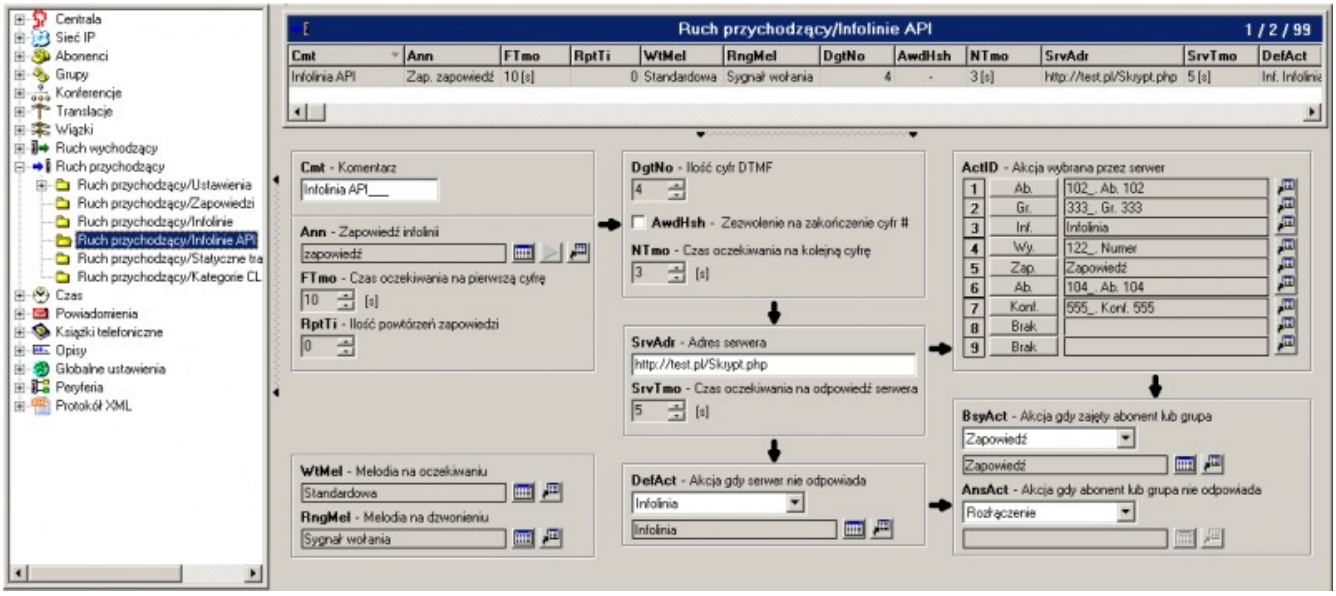
API Infoline service is very flexible and its possibilities depend mainly on application located on WEB server.
According transmitted data following is possible:

- check infoline level according transmitted comment (**Comment**)
- verify caller according CLIP (**Calling**)
- analyze received DTMF digits (**Digits** and **Timeout**)
- check target according dialed number (**Called**)
- read data assigned to caller, stored in specified field in database (**UserTag**)
  and perform one of following actions:
  - rerouting to any extension number (**Dial**)
  - reroute to subscriber, group, etc. (**Action**)
  - disconnect call (**Action**)
  - select a next infoline level (**Action**)
  - play an announcement (**Action**)
  - change caller comment (**Display**)

- wait for next DTMF digits (**Wait**)
- assign unique identifier (**UserTag**)
- save any data for this connection (**UserTag**)

Content of field **UserTag** is transmitted to subscriber with call rerouted to, inside **UTAG** frame in **CTIP** protocol.

4. Configuration



API Infoline service configuration can be done using ConfigMAN application. Following settings should be done:

- standard:
  - comment included in request
- announcement:
  - announcement number
  - time to dialing first DTMF digit
  - number of announcement repetitions
- digit collecting:
  - number of digits collected in buffer, when request is send to server
  - maximal waiting time for next DTMF digit
  - information about authorization for entry finishing with #
- WEB server:
  - maximal waiting time for server response
  - address of server with http protocol maintenance
- PBX reaction:
  - actions 1..9
  - when WEB server doesn't answer
- action for ringing target extension number
  - when subscriber or group is busy

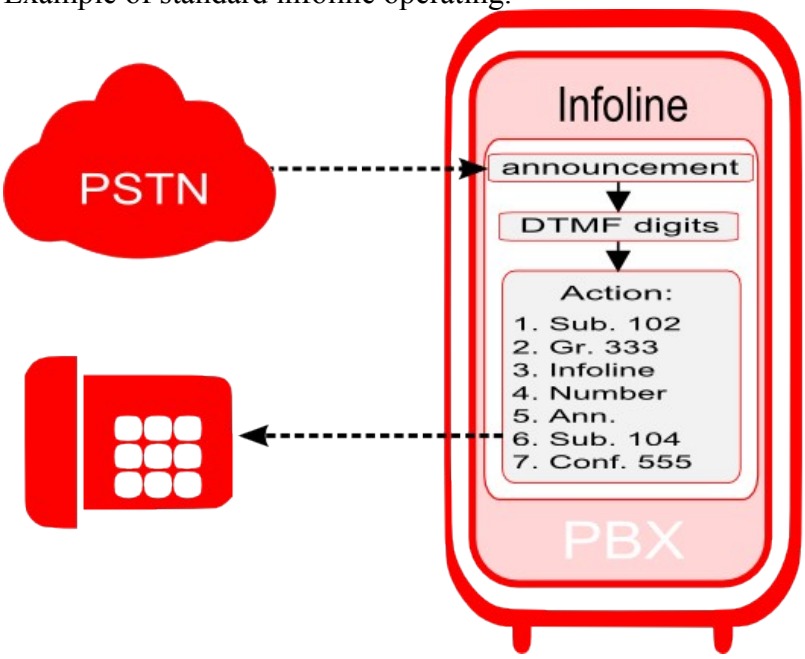
- when subscriber or group doesn't answer

5. Operation rule

For creating API infoline with user functionality, it is required to create application (ie. in PHP language) and locate it on WEB server.
API infoline mechanism is based on sending POST request in HTTP protocol, immediately after playing announcement and collecting DTMF digits (number of collected digits, as well as time of waiting for next digit, are defined in API infoline configuration). Request include collected DTMF digits and additional information about this call: caller information, dialed number, etc. According received information, WEB server send to PBX a XML answer.

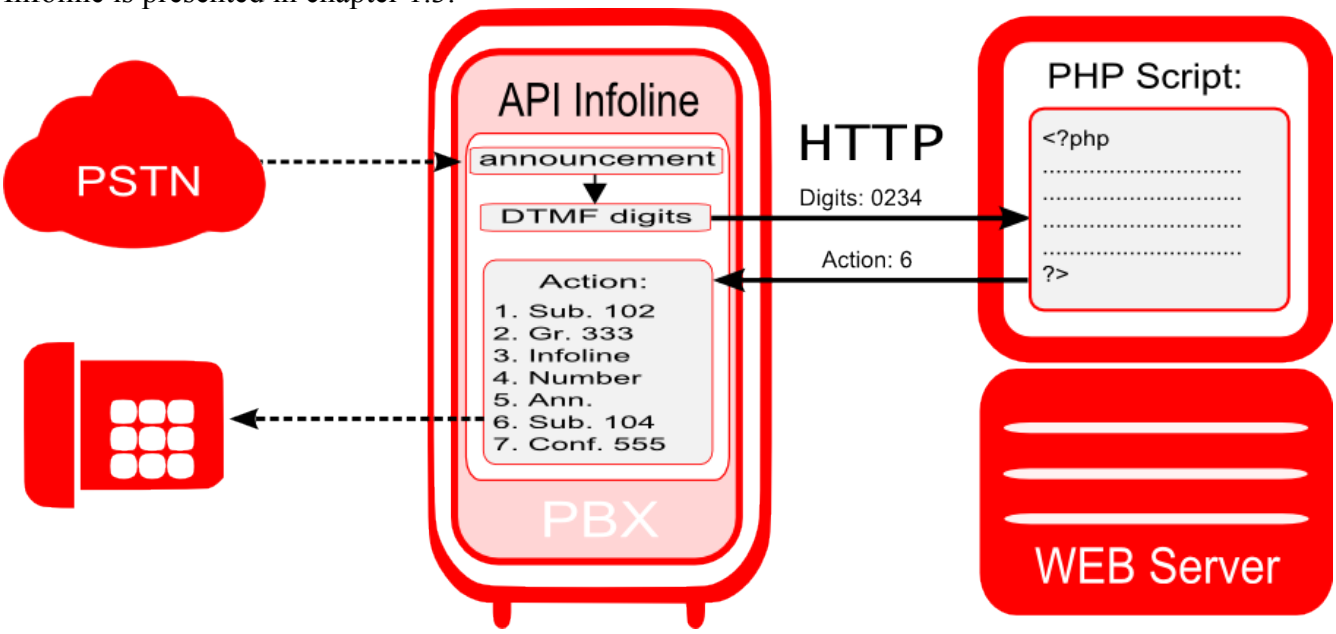
5.1 Infoline

Example of standard infoline operating.



5.2 API Infoline

Apart standard infoline, collected data are send to WEB server, which decides about further call routing. Example of application located in WEB server, which decides about action performed by API Infoline is presented in chapter 1.3.



5.3 PHP application example

In this chapter you can find an example of PHP user application which responds to user entry depending on number of entered digits:

- one – perform actions 1 to 9 as standard infoline;
- more than one – reroute call to specified extension number;
- none – perform action 9.

```
<?php
/**
  * Copyright (C) Slican 2011
  *
  * Project name: Infolines API
  *
  * Description: Example of script for DTMF digits maintenance.
  *
  */

header ("Content-Type:text/xml");
define("ERROR_ACTION", "9");
// Reading infoline parameters
$dtmf_digits = $_REQUEST["Digits"];
// Creating answer
```

```
$result .= "<InfolineAPI>";
switch (strlen($dtmf_digits)) {
	case 0:
		// There were no digits dialed
		$result .= "<Action>".ERROR_ACTION."</Action>";
		break;
	case 1:
		// One digit dialed
		$result .= "<Action>$dtmf_digits</Action>";
		break;
	default:
		// More than one digit dialed
		$result .= "<Dial>$dtmf_digits</Dial>";
}
$result .= "</InfolineAPI>";
echo $result;
?>
```

6. Request parameters

Request consist of several parameters with values formated according type "application/x-www-form-urlencoded", which is standard of transmiting forms in POST method of HTTP protocol.

API	- API type, always equal to **InfolineAPI**
Comment	- comment (Cmt) of API Infoline, which send the HTTP request
Digits	- collected DTMF digits
Timeout	- =1 means finishing of waiting time for entering defined number of DTMF digits
Called	- number dialed by caller (DDI)
Calling	- caller number presentation (CLIP)
UserTag	- text field used by WEB server, maximally 128 characters (option), characters from range 0x20..0xFF are accepted

Example:
API=InfolineAPI&Comment=InfoNo2&Digits=123&Timeout=1&Called=521122211&Calling=22333 1112&UserTag=e32132

7. Returned parameters

Answer from server, in XML format is included in InfolineAPI tag:

Function types executed by PBX:

Action - execution of defined in configuration action 1..9
Dial - rerouting call to entered in parameter extension number
Wait - returning to API infoline and waiting for next digits

7.1 Action – selecting specified action

Example:|

```
<InfolineAPI>
  <Action>1</Action>
  <Display>Smith</Display>
  <CLIR/>
  <UserTag>123</UserTag>
 </InfolineAPI>
```

Parameters:

Action - execution of defined in configuration action 1..9
Display - caller comment change, maximal 16 characters (optional)
CLIR - number presentation lock, comment without changes (optional parameter)
UserTag - text field used by WEB server, maximally 128 characters (option), characters from range 0x20..0xFF are accepted (optional parameter)

7.2 Dial – routing call to specified extension number

Example:

```
<InfolineAPI>
  <Dial>123</Dial>
  <Display>Smith</Display>
  <CLIR/>
  <UserTag>123</UserTag>
 </InfolineAPI>
```

Parameters:

Dial – extension number to reroute call
Display - caller comment change, maximal 16 characters (optional)
CLIR - number presentation lock, comment without changes (optional parameter)
UserTag - text field used by WEB server, maximally 128 characters (option), characters from range

0x20..0xFF are accepted (optional parameter)

7.3 Wait – return to API Infoline and waiting for next digits

Example:

```
<InfolineAPI>
  <Wait/>
  <Display>Smith</Display>
  <CLIR/>
  <UserTag>123</UserTag>
</InfolineAPI>
```

Parameters:

Wait - returning to API infoline and waiting for next digits for the time equal to maximal waiting time set in configuration
Display - caller comment change, maximal 16 characters (optional)
CLIR - number presentation lock, comment without changes (optional parameter)
UserTag - text field used by WEB server, maximally 128 characters (option), characters from range 0x20..0xFF are accepted (optional parameter)