Command Line Administration Interface – User Guide

(version 2.4)

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For the most current versions of documentation, go to the WYDE support Web site: http://docs.wydevoice.com/

September 2, 2011

Symbols and Notations in this Manual

The following notations and symbols can be found in this manual.

Denotes any item that requires special attention or care. Damage to the equipment or the operator may result from failure to take note of the noted instructions

Figure   Denotes any illustration

Table   Denotes any table

Text   Denotes any text output

Folder/File   Denotes any folders (paths) or files names

commands   Denotes any commands, attributes and parameters

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Chapter 1: Introduction

This is the Administration guide for the WYDE conferencing bridges (like SB-HD100, SB-HD1000, and SB-HD10000). Within this guide you will learn how to perform the basic day to day administration tasks for these units using command line interface.

Assumed Skills

This administration guide assumes you have a working knowledge of the following technologies and skills:

- PC usage
- System administration
- Linux/CentOS basics
- VOIP basics
- TCP/IP networking
- Web Administration Interface – User Guide (recommended)

Architecture Overview

The WYDE architecture is made up of both hardware as well as software services (as shown in Figure 1) that work together to provide the best carrier-class, wideband conferencing available.

WYDE services is not only turnkey software solution, it is the component that can be easily integrated into other products. The WYDE Bridge can be controlled either using web services or using real-time interface. Web services send requests to the bridge and receive information about status of the bridge. The real time interface makes call to the bridge using special client, perform SIP call to send and receive commands and exchange information about the conferences.
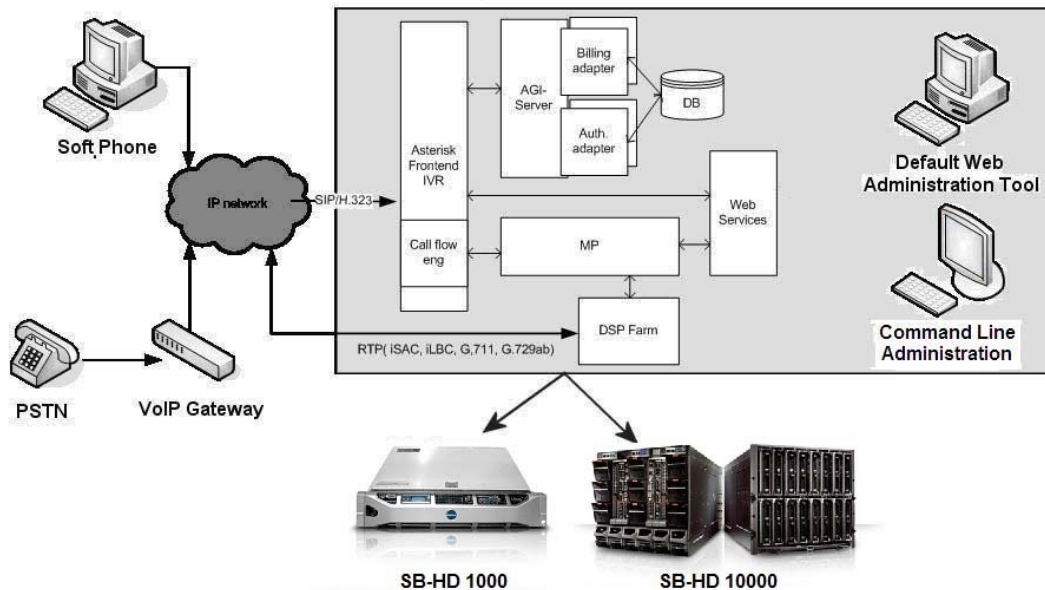
Figure 1: The WYDE Bridge Architecture

Administration Interfaces

There are two basic interfaces to the WYDE conference bridges that allow an administrator to make changes and administrate the operation of the system. These interfaces include:

- The WYDE Command Line Administration Interface
- The WYDE Web Administration Interface

Each interface uses different methods to administrate the various functions of the WYDE conference bridges. It should be noted that there are several places where you can only perform a function in one of the interfaces and there is no corresponding function in the other interface.

This Guide describes WYDE Command Line Administration Interface only. If you need WYDE Web administration interface documentation, please see "Web Administration Interface – User Guide".

Hardware

There are three primary WYDE platforms – the SB-HD100, the SB-HD1000 and the SB-HD10000. They are designed to be attached to your network in appliance-fashion. They are, for all intents and purposes, servers that can be installed and managed as such.

For more information on the WYDE hardware and its specifications – please visit www.wydevoice.com.

Voice Clients

There are three possible clients for WYDE bridge: soft phones, IP phones, and regular (PSTN) telephones. The most famous soft phones are Counterpath X-Lite, Flaphone, SJ Labs SJphone; also you can use Skype as your soft phone. The most famous manufacturers of IP phones are Audio Codes (with Audio Codes 320HD), Polycom HD Voice (with Polycom 550HD), and Snom (with Snom 320). In case of the regular telephone – there is a need to have a separate unit – a voice over IP gateway in order to use the phones, for example Cisco AS 5400 or similar.

Integration Adapters

WYDE can be integrated into an enterprise infrastructure through the set of adapters. There are three points of integration:
- **CDR storage** – A storage location for the individual call records. This can be SQL database or something else.
- **Authentication service** – This allows the WYDE software to integrate into the enterprise authentication systems. This could be a SQL database, RADIUS, LDAP, or other.
- **Call/Conference management** – This is the ability to manage conference calls, exposed through the Web API for integration with enterprise web sites.

Definitions, Acronyms and Abbreviations

In order to discuss the Command Line Administration Interface effectively, we need to have a common set of terminology. For this purpose, we should definite the dictionary for the terms you will see throughout this guide:
- **VoIP** – **V**oice **o**ver **I**nternet **P**rotocol, a term that refers to the capture/playback of audio streams and their transmission over IP based networks.
- **End Point (EP)** – A generic term used to denote the application running on end-user machines in a VoIP.
- **Public Switched Telephone Network (PSTN)** – the traditional phone system.
- **Bridge** – A server that hosts voice conferences. Participants can use PSTN or VoIP connections to connect to the bridge. It is responsible for mixing the signals and sending the result back to the participants.
- **Gateway** – A gateway server between PSTN and VoIP, i.e. a server that terminates end point connections and routes VoIP data between an end point and the bridge.
- **Node** – A computer with the *asterisk* service installed and running. The *asterisk* is being installed in *Frontend* components installation. If you are performing cluster

installation you can have multiple nodes, i.e. multiple *asterisk* computers in your
WYDE bridge environment.

- **Conference User** – A user in a conference. Each connection to the conference bridge is associated with exactly one conference user. An end point can be associated with any number of conference users. A conference user may or may not be associated with an end point. The conference user can have one of the roles: host, participant or listener.

- **Conference** – An audio meeting hosted on a bridge and consisting of PSTN and/or VoIP participants. A data structure is used to describe ongoing conference on the bridge. Objects of this type are only created by server. User may fetch these objects by calling appropriate function. When conference is over the conference object is deleted by the server.

- **Conference Number** – A unique external conference number. Conference number is the property of conference account. If the conference accounts have the same conference number all these accounts determine one single conference. For instance the user can create one conference account record that determine host role, another conference account record that determine participant role, and another conference account record that determine listener role – all these records should have the same conference number to determine one unique conference.

- **Conference ID** – A unique conference ID that represents the instance of a conference. When any conference is being started it receives unique conference ID, and all calls to this conference have the same conference ID; if this conference has been completed and another conference is being started that conference will receive another conference ID. Conference ID is normally not exposed to users, unless on the reports.

- **Session** – A data structure represents a single ongoing call on the server. User can not directly create this object. When the call is over server automatically deletes this object. Normally this data structure is used to get information about call attributes like calling/called number etc., or do something with the call, for instance mute, hang, hold etc.

- **Session ID** – The unique identifier generated by the bridge for each session (connection, VoIP as well as PSTN) established between a conference user and the bridge. The session id is unique within a given conference.

- **Audio Key** – A key sequence that is used to group different calls from the same conference in a bundle to manage these calls using real-time or another external interface. Audio key is short identifier generated externally and provided to the bridge at the time of joining a conference. Audio key is being generated by real-time application, for instance Moderator-Console, the user can enter the same audio key on his DTMF keypad, usually as #audio key#, these calls (the call from real-time application and the user call to the conference) are being grouped together and the real-time application can manage this user call (the call with the same audio key), for instance mute the call, etc.

- **Distributed Conference** – A conference that is taken place on the different bridges simultaneously. That means that the calls are being made to the different bridges, but these calls are participating in the same conference.

- **Subscriber** – A real person, he has a name, phone number, e-mail address, etc. The subscriber can have conference accounts, he does not have access codes, but access codes are properties of conference accounts that have subscribers. Note that non-admin

(non-operator) subscribers can see only "own" information, i.e. his information and information that belongs to subscribers created by him, he can see only their calls, conferences, the reports will show only their data, etc.

- **PIN** – The login ID for the subscriber (must be unique). It can be used either as login in Web Administration Interface (in this case it can be either number or alpha-numeric) or as login for some call flows (in this case must be numeric) for participants authorization.
- **Conference Account** – The element of subscriber conferences configuration. Conference accounts always belong to subscriber. It is being used to define a person in a conference with a particular role (e.g. host, participant, listener, etc.), the DNIS number that should be used to call to the conference, and the access code that should be entered by the user that called to the conference DNIS to determine his role. A subscriber could be a host user in one conference and a listener in another. Conference accounts with the same conference number represent single conference setup.
- **Call Flow** – A unique conference service setup, the logic that is used to process the conference calls. This is the process a call goes through from call setup to, to processing, to call tear down. It includes the logic, DTMF key-presses used, functions, and the recorded prompts. There are two basic call flow categories: call flows without authentication and call flows with authentication.
- **Attribute** – In terms of WYDE web services API, a data structure is used to carry attributes for call flow, DNIS and conference account (user). The attributes skeleton is defined by call flow; other attributes can only override some of them, so for instance when a user called in to the conference DNIS it gets attributes exposed by the call flow, but some of these attributes can be already altered by the DNIS. Each attribute has name, type, value, and role.
- **DNIS** – A unique set of numbers that is outpulsed by a phone carrier that indicates the intended destination for a particular call. It can be any length digits (although usually 10 digits). DNIS is the property of the conference account, but different DNIS numbers can be used to connect to the same conference.
- **Access Code** – A numeric code unique for DNIS that allows a host or participant or listener access to a conference call. When users call to DNIS number they being asked to enter their access code. The access code determines the conference and the user role in the conference. Different access codes can determine the same conference, for instance one access code can determine the connected user has host role, another access code can determine that connected user has participant role, and another access code can determine that connected user has listener role.
- **Host –** A user in the conference call that can make changes to the system while the conference call is in progress. Like change the security setting, change who can talk or answer, etc. Sometimes the host user is called moderator. This user role is defined in conference account. This is the most privileged role in a conference. By default, connections in this role can send and receive RTP data (i.e. the corresponding participant is allowed to speak and listen). They also are allowed to execute control actions on all connections and roles.
- **Participant** – A person in the conference who can actively participate in a call by both talking and listening. This user role is defined in conference account. Connections in this role must be allowed to send and receive RTP data by default. They can execute

mute and un-mute commands on their own connections (associated with the same audio key); but not on other connections. They are allowed to drop connections within the same bundle (except where the audio key = 0).

- **Listener** – A person in the conference who can hear the conference call, but cannot speak. Their audio path is one way only (receive). This user role is defined in conference account. Connections in this role must not have the privilege to speak. They are allowed to send RTP packets to provide feedback for bandwidth adaptively on the stream sent by the bridge. They are allowed to drop connections that are within the same bundle (except where the audio key = 0). Note: users in listener role can be un-muted to enable them to talk; however, the listener group as a whole will never be un-muted.

Chapter 2: Command Line Interface

The WYDE Command Line Administration Interface allows an administrator to make changes and administrate the operation of the system of the WYDE conference bridges. It consists of the following utilities:

- *wyde* command;
- *mf* console;
- *mp* console;
- *asterisk* (IVR) console.

The WYDE Command Line Administration Interface provides direct access to the embedded Linux subsystems of the WYDE conferencing appliances. The command line interface is the powerful tool to administer the bridge – using it you have more administration options at your disposal. In addition, you have direct access to the configuration of the various services that make up the WYDE architecture.

The WYDE Command Line Administration Interface is included with the WYDE conference bridges to allow you administrating of the WYDE bridges. Using *wyde* command you can manage users/subscribers, change call flow/DNIS information for various types of calls, and configure the WYDE bridge. Using *mf* console you can manage conferences and individual calls on-the-fly, i.e. control the conferences and calls that currently are in progress on the bridge.

As subscriber management you can create/view/delete them – manage their PIN, passwords, define subscriber properties, such as first and last names, password, email. In addition you can create/view/delete subscribers' conference accounts – define their conferences, used DNISes and access codes.

As DNIS management you can create/modify/delete DNIS associations of the actual inbound DNIS numbers and call flows that are used to service these numbers. In addition the command line interface allows you managing of call flows and their attributes.

As conference management you can manage the conferences and calls that currently are in progress, you can view started conferences and calls, as well as set and change some of their modes – mute the conferences and participants, placing the call on hold, making the call secure, record the call, etc.

In addition you can use command line administration interface to change system preferences, edit WYDE bridge parameters, perform configuration of the bridge, and monitor WYDE bridge activity.

It is possible to render your system inoperable if you are not familiar with the administration of Linux systems. Changing any of the bridge preferences, unless instructed to do so by WYDE technical support, also can render your system inoperable.

Prerequisites

You may use the WYDE command line administration interface to administer various components of the WYDE system. Before you do, however, you must have the following prerequisites met:

- A computer with a network connection to the TCP/IP subnet where the WYDE appliance is connected;
- SSH secure client to access to that computer – for instance PuTTY for Windows or SSH for Linux.

Accessing the Command Line Administration Interface

To access command line interface you should connect to Linux (CentOS) computer with the WYDE conferencing bridge software installed. You should use SSH secure client and connect to the proper IP address where the WYDE services are running.

Using the `wyde` Command Line Utility

The *wyde* command line utility is the tool that can be used to administrate the WYDE services. With it you can view and make changes to the configuration of the various WYDE services, manage subscribers and their conferences, DNISes, call flows, etc. From the command prompt, you can use the utility like so

```
wyde command [arguments]
```

where

- `command` – the specific *wyde* command that describes what kind of task you would like to accomplish;
- `arguments` – optional command arguments, i.e. options of the command that you are using.

To see the list of all available *wyde* command line utility commands you should use the command:

```
wyde help
```

You will see the screen similar to shown on Figure 2. All available *wyde* commands are listed in Table 1, the command reference is given in Chapter 3: Command Reference, Section: `wyde` Command Reference. These commands will be described in more detail later in this Guide.


```
login as: root
root@192.168.1.5's password:
Last login: Sun Mar 21 17:58:16 2010 from 192.168.1.99
[root@ZILBER ~]# wyde help
Syntax:
    wyde command [agruments]

Commands:
        ast-status       - Show WYDE asterisk status
        auth-adapter-add - Add auth adapter.
        auth-adapter-del - Delete auth adapter.
```

Figure 2: *wyde help* **Command Output**

Table 1: *wyde* **Command Line Utility Available Commands**

Commands	Description
ast-status	Show WYDE asterisk status.
auth-adapter-add	Add auth adapter.
auth-adapter-del	Delete auth adapter.
auth-adapter-show	Show auth adapters.
auth-method-add	Add auth method.
auth-method-del	Delete auth method.
auth-method-set	Setup auth method.
auth-method-show	Show auth methods.
auth-reload	Reload auth configuration.
billing-adapter-add	Add billing adapter.
billing-adapter-del	Delete billing adapter.
billing-adapter-set	Set billing adapter properties.
billing-adapter-show	Show billing adapters.
billing-reload	Reload billing configuration.
billing-rule-add	Add billing rule.
billing-rule-del	Delete billing rule.
billing-rule-set	Set billing rule.
billing-rule-show	Show billing rules.
bridge-add	Add WYDE bridge.
bridge-del	Delete WYDE bridge.
bridge-list-load	Load list of bridges from file.
bridge-list-save	Save list of bridges to file.
bridge-reload	Reload DC bridges configuration.
bridge-set	Set WYDE bridge properties.
bridge-show	Show WYDE bridges.
callflow-add	Add callflow.
callflow-attr-set	Set callflow attribute.
callflow-attr-show	Show callflow attributes.
callflow-attr-update-db	Update callflow attributes in a database.
callflow-del	Delete callflow.
callflow-reload	Reload all callflows.
callflow-show	Show callflows table.
conference-attr-del	Remove conference attribute redefinition.
conference-attr-set	Set conference attribute.
conference-attr-show	Show conference attributes.
config-restore	Restore WYDE configuration.
config-save	Save WYDE configuration.
confuser-add	Add conference user.
confuser-del	Delete conference user.
confuser-show	Show conference users table.
db	Connect to WYDE database.
db-bil	Connect to WYDE billing database.
db-drop	Drop of WYDE database.
db-init	Initialize of WYDE database.
db-patch	Apply last patches for database.

Commands	Description
did-add	Add DID number.
did-alias-add	Add DID number alias.
did-alias-del	Delete DID number alias.
did-alias-show	Show DID number aliases.
did-attr-del	Remove DNIS attribute redefinition.
did-attr-set	Set DNIS attribute.
did-attr-show	Show DNIS's attributes.
did-del	Delete DID number.
did-reload	Reload all DIDs caches.
did-show	Show DIDs table.
drop-call	Drop call.
drop-conf	Drop conference.
help	Show help page and exit.
ivr	Connect to IVR console.
node-add	Add node to the WYDE bridge.
node-del	Delete node from the WYDE bridge.
node-reload	Reload nodes configuration.
node-set	Set node properties.
node-show	Show nodes of WYDE bridge.
peer-add	Add peer.
peer-del	Delete peer.
peer-set	Set node properties.
peer-show	Show WYDE peers.
register-license	Register License.
reload-all	Reload system configuration.
set-email	Change email address.
set-ip	Change ip address.
settings-edit	Edit WYDE system settings.
settings-reload	Reload system settings.
settings-show	Show WYDE settings.
settings-update	Update WYDE settings.
show-conf	Show conference or conferences list.
sounds-reload	Reload sound files.
status	Show WYDE status.
subscriber-add	Add subscriber.
subscriber-del	Delete subscriber.
subscriber-set	Set subscriber properties.
subscriber-show	Show subscribers table.
transfer	Transfer calls.
version	Show WYDE version.
watch	Watch WYDE status.

If you need detail help about any of these commands you should use the command:
`wyde help command`
where

- *command* – the specific *wyde* command on which you would like to get help.
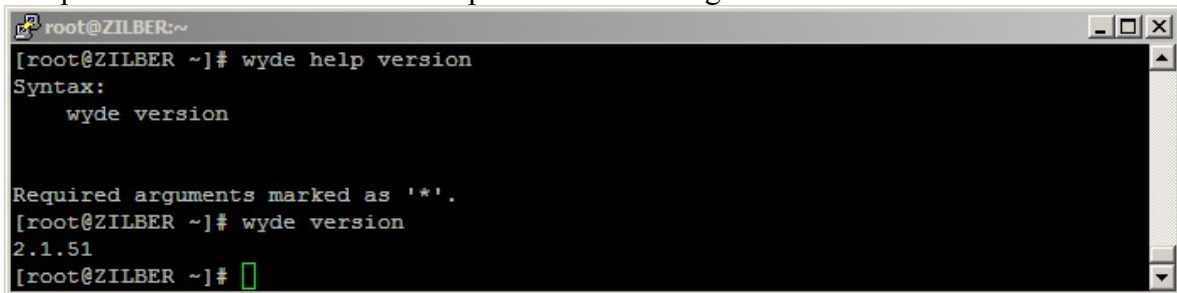
For instance, if you would like to get help on *version* command you should use the
following command:
`wyde help version`
If you would like to show current WYDE version you should use the command:
`wyde version`
Sample of both these commands output is shown on Figure 3.

Figure 3: ***wyde help version*** **and** ***wyde version*** **Commands Output Sample**

Using the mf Console

The *mf* (Multi Frontend Dispatcher) console is the tool that can be used to administrate the
conferences and calls that currently are on the WYDE bridge. Once a conference has
begun, you can manage it using *mf* console, you can view started conferences and calls, as
well as set and change some of their modes – mute the conferences and participants,
placing the call on hold, making the call secure, record the call, etc. To enter into this
console you should just run from the command prompt the following command:
`mf`
The current version of WYDE services will be prompted to you one you login into the
console.

To implement any *mf* console command you should type
`command [arguments]`
once you have entered into console, where
- *command* – the specific *mf* console command that describes what kind of task you
  would like to accomplish;
- *arguments* – optional command arguments, i.e. options of the command that you are
  using.

To see the list of all available *mf* console commands in the console you should type the
command:
`help`
You will see the screen similar to shown on Figure 4. All available *mf* console commands
are listed in Table 2, the command reference is given in Chapter 3: Command Reference,
Section: `mf` Console Command Reference. These commands will be described in more
detail later in this Guide.

Figure 4: *mf* Console, *help* Command Output

Table 2: *mf* Console Utility Available Commands

Commands	Description
activities-show	Enable/disable printing activities on this console.
billing-reload	Reload billing configuration.
call-associate	Set bundle for the call.
call-custom-name	Set custom name for the call.
call-drop	Drop call in the conference.
call-gain-set	Gain control.
call-hold	Hold call.
call-move	Move call to other conference.
call-mute	Mute call.
call-qa-request	Start/stop Q&A request for the call.
call-qa-talk	Enable/disable Q&A session for the call in the queue.
callflow-reload	Reload callflows.
cmdcount-show	Display values of command counters.
conf-broadcast	Start/stop broadcast mode.
conf-drop	Drop conference.
conf-hold-group	Hold group.
conf-jobcode	Set JobCode for the conference.
conf-mute-group	Mute group.
conf-play-file	Manage of playing file to the conference.
conf-polling	Conference polling.
conf-qa-mode	Manage Q&A sessions.
conf-qa-mute	Mute/Unmute active Q&A session.
conf-qa-talk	Enable Q&A session for the first call in the queue.
conf-recording	Start/stop conference recording.
conf-schedule-extend	Extend scheduled conference duration.
conf-schedule-incsize	Resize scheduled conference subscription.
conf-secure	Secure conference.
conf-shunt	Make/drop shunt between two conferences.
confcount-show	Display values of confcount counters.
dc-reload	Reload DC bridges configuration.
dc-show-bridges	Show known DC bridges.
dc-show-links	Show DC links.
dialout	Do dialout.

Commands	Description
dialout-attr	Show dialout attributes for specified conference.
did-reload	Reload DID entries.
errcount-show	Display values of error counters.
freenumbers-show	Show free number leases.
help	Show help for console commands.
node-reload	Reload MF cluster nodes list.
node-show	Show MF cluster nodes list.
op-call-move	Move user that currently talking with operator to other conference.
op-dialout	Initiate dialout from operator's console.
op-listen	Listen conference.
op-message	Send operator's message to queue or to all.
op-message-to-conf	Send operator's message to conference.
op-queue	Display operator calls queue.
op-reject	Reject request from operator's queue.
op-scan	Scan conferences.
op-show	Display operators.
op-talk	Operator talk to user.
partcount-show	Display values of partcount counters.
peer-reload	Reload peers.
quit	Quit console.
set-log-level	Set logger level.
settings-reload	Reload system settings.
show	Show conferences and calls.
sounds-reload	Reload sounds.
subconf	Manage sub-conferences.
transfer	Transfer calls.
version	Show WYDE.MF version.

If you need detail help about any of these commands you should use the command:
```
help command
```
where

- *command* – the specific *mf* command on which you would like to get help.
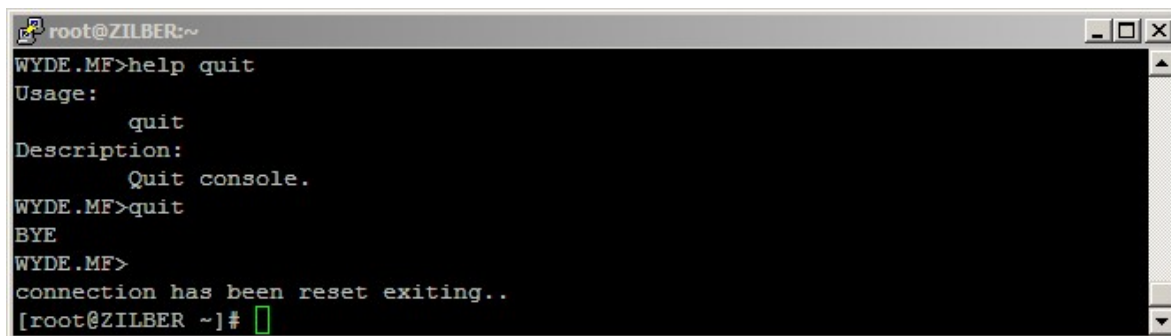
For instance, if you would like to get help on *quit* command you should use the following command:
```
help quit
```
If you would like to exit from *mf* console you should use the command:
```
quit
```
Sample of both these commands output is shown on Figure 5.

```
root@ZILBER:~                                                    _ □ ×
WYDE.MF>help quit
Usage:
        quit
Description:
        Quit console.
WYDE.MF>quit
BYE
WYDE.MF>
connection has been reset exiting..
[root@ZILBER ~]#
```

Figure 5: *mf* Console *help quit* and *quit* **Commands Output Sample**

Subscriber User Management

One of the administration tasks that you will be called upon frequently to do is to add
unique subscribers to the system and allow them to use the system. For terminology's sake
we should clarify one main terminology item. A subscriber is a real person – he has a name,
phone number, e-mail address, etc. A user is a person in a conference with a particular role
(e.g. host, participant, listener, etc). So a subscriber could be a host user in one conference
and a listener in another and a subscriber can have different roles in the same the
conferences.

Create a Subscriber

Whenever a new person needs access to the system, you must create a new subscriber for
them so that they can log in to the system. To add subscribers to the system using the
command line, you would use the *wyde* command line utility with the *subscriber-add*
option. The syntax is as follows:
```
wyde subscriber-add <arguments>
```
Each of the arguments is followed by a space and a value. In *subscriber-add* you can
specify the following arguments:
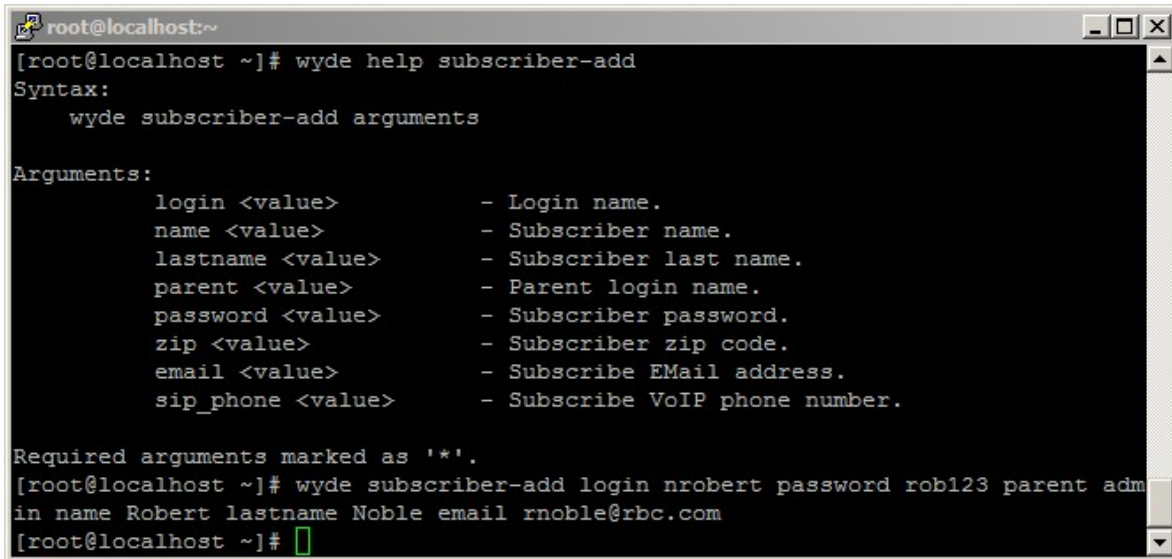
- `login <value>` – PIN for new subscriber, essentially the login ID for the
  subscriber. It is usually a number so this PIN can be used as a login id by telephone for
  additional conference features to identify the subscriber, if this is determined by call
  flow. This login also can be used as login into this Web Administration Interface. If the
  login is planning to be used as web login only, the PIN can be alpha-numeric. If you
  don't want to come up with your own numbering scheme for logins, you can omit this
  argument to generate a random unique ID for the new subscriber.
- `name <value>` – The subscriber's first name.
- `lastname <value>` – The subscriber's last name.
- `parent <value>` – Parent login name, i.e. parent subscriber PIN. A parent is the
  user account that created this account.
- `password <value>` – This is a password for the subscriber, for instance it can be
  used to login into Web Administration Interface or Operator Console.
- `zip <value>` – Subscriber's ZIP code.
- `email <value>` – The email address of the subscriber.
- `sip_phone <value>` – VoIP phone number of the subscriber.

The arguments can be transferred to this command in any order.

For example you can add new subscriber using the following command (new subscriber
attributes are shown in *italic*):
```
wyde subscriber-add login nrobert password rob123
  parent admin name Robert lastname Noble
  email rnoble@rbc.com
```

If the command is successful, the system will not return any errors or messages, in typical
Linux fashion, it will just drop you back to the command prompt (#). The sample of the
subscriber-add command output and the help on this command is shown on Figure 6.

```
root@localhost:~                                                    _ □ ×
[root@localhost ~]# wyde help subscriber-add
Syntax:
    wyde subscriber-add arguments

Arguments:
        login <value>          - Login name.
        name <value>           - Subscriber name.
        lastname <value>       - Subscriber last name.
        parent <value>         - Parent login name.
        password <value>       - Subscriber password.
        zip <value>            - Subscriber zip code.
        email <value>          - Subscribe EMail address.
        sip_phone <value>      - Subscribe VoIP phone number.

Required arguments marked as '*'.
[root@localhost ~]# wyde subscriber-add login nrobert password rob123 parent adm
in name Robert lastname Noble email rnoble@rbc.com
[root@localhost ~]#
```

Figure 6: *wyde help subscriber-add* and *wyde subscriber-add* **Commands Output Sample**

View/Modify a Subscriber

Sometimes you may need to update existing subscribers' information, for example change
their password, email address, phone number, etc. To modify existing subscriber on the
bridge using the command line, you should use the *wyde* command line utility with the
subscriber-set option. The syntax is as follows:
```
wyde subscriber-set <arguments>
```
Each of the arguments is followed by a space and a value. In *subscriber-set* you can specify
the following arguments:
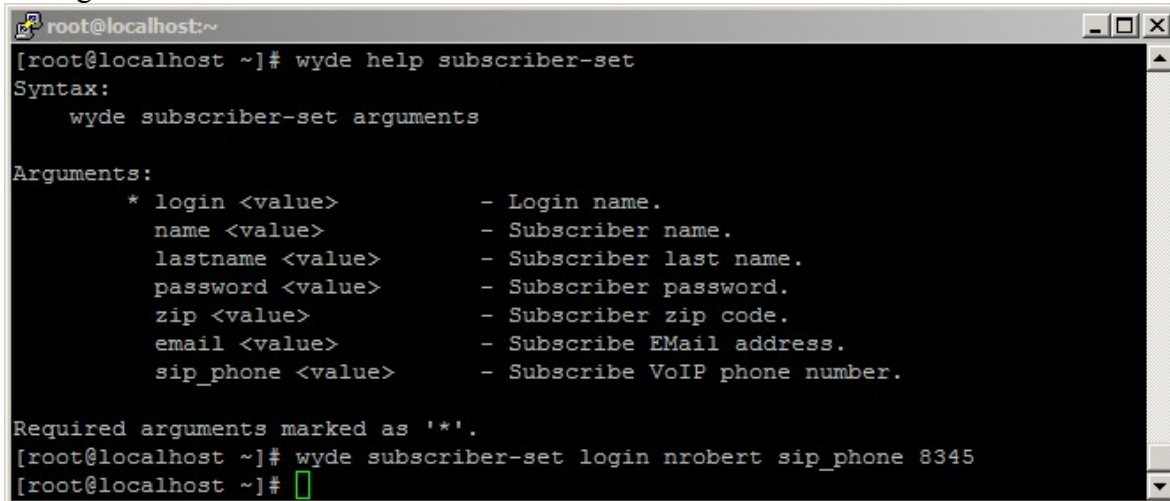
* `login <value>` – PIN of the existing subscriber, essentially the login ID for the
  existed subscriber. If the specified subscriber does not exist you receive the error
  message: "*subscriber with same login not exist!*".
* `name <value>` – The subscriber's first name that needs to be updated.
* `lastname <value>` – The subscriber's last name that needs to be updated.
* `password <value>` – This is a password for the subscriber that needs to be
  updated.
* `zip <value>` – Subscriber's ZIP code to update.
* `email <value>` – The email address of the subscriber to update.
* `sip_phone <value>` – VoIP phone number of the subscriber to update.

The argument `login` is required. The arguments can be transferred to this command in
any order.

For example you can update VoIP phone number of previously create subscriber *nrobert*
and set it to *8345* using the following command (updated subscriber attributes are shown in
italic):
```
wyde subscriber-set login nrobert sip_phone 8345
```

If the command is successful, the system will not return any errors or messages, in typical Linux fashion, it will just drop you back to the command prompt (#). The sample of the *subscriber-set* command output and the help on this command is shown on Figure 7. Note that the WYDE bridge should be configured to perform dialout to the subscribers VoIP phone number; for detail information about how to call to the subscriber's VoIP number and how to configure dialout settings on the bridge see section: Dialout Settings Configuration in this Guide.


```
[root@localhost ~]# wyde help subscriber-set
Syntax:
    wyde subscriber-set arguments

Arguments:
        * login <value>          - Login name.
          name <value>           - Subscriber name.
          lastname <value>       - Subscriber last name.
          password <value>       - Subscriber password.
          zip <value>            - Subscriber zip code.
          email <value>          - Subscribe EMail address.
          sip_phone <value>      - Subscribe VoIP phone number.

Required arguments marked as '*'.
[root@localhost ~]# wyde subscriber-set login nrobert sip_phone 8345
[root@localhost ~]#
```
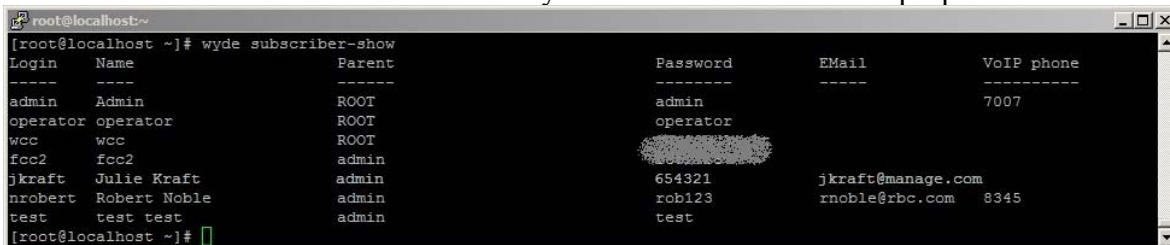
Figure 7: *wyde help subscriber-set* **and** *wyde subscriber-set* **Commands Output Sample**

To show a list of the subscribers in the system using the command line, you should use the *wyde* command line utility with the *subscriber-show* option. The syntax is as follows:
```
wyde subscriber-show
```

This command will output a list of the all existed subscribers on the system, similar to shown on Figure 8. As you can see, the *wyde subscriber-show* command shows the subscribers that have been created in the system as well as their basic properties.


```
[root@localhost ~]# wyde subscriber-show
Login    Name              Parent              Password    EMail              VoIP phone
-----    ----              ------              --------    -----              ----------
admin    Admin             ROOT                admin                          7007
operator operator          ROOT                operator
wcc      wcc               ROOT
fcc2     fcc2              admin
jkraft   Julie Kraft       admin               654321      jkraft@manage.com
nrobert  Robert Noble      admin               rob123      rnoble@rbc.com     8345
test     test test         admin               test
[root@localhost ~]#
```

Figure 8: *wyde subscriber-show* **Command Output Sample**

Delete a Subscriber

From time to time, you will need to delete a subscriber.

To delete a subscriber using the *wyde* command line utility you should use *subscriber-del* option. The syntax is as follows:
```
wyde subscriber-del login <login>
```
where

- `<login>` – login name, i.e. PIN of the subscriber you wish to delete.

For example to delete subscriber *nrobert* (created in previous sample) you should run the
command:
```
wyde subscriber-del login nrobert
```

If deletion is successful, you will be returned to the command line with no additional
prompts.

Create a Conference Account

A conference account (conference user) is essentially a set of configuration settings for a
particular subscriber for a particular DNIS/call flow. Within a conference account
configuration, each given a unique ID#, you specify how a particular subscriber will
interact – whether they will be host, participant, or listener, which DNIS/call flow will be
used, and what the access code will be used for that conference account.

To add conference accounts (users) to a conference using the command line interface you
should use the *wyde* command line utility with the *confuser-add* option. The syntax is as
follows:
```
wyde confuser-add <arguments>
```
Each of the arguments is followed by a space and a value (if present). In *confuser-add* you
can specify the following arguments:
- `accesscode <value>` – Access code; the value can be any number. If this
  argument omitted unique access code will be generated.
- `did <value>` – DID (DNIS) number.
- `conference <value>` – Conference number; the value can be any number. If this
  argument omitted unique access code will be generated.
- `conf-accesscode` – Set the conference number the same as access code. If the
  conference number argument was transferred together with this argument, the
  conference number will be ignored, and the conference number will be set equal to the
  access code.
- `role <value>` – Role in the conference: *Host* or *Participant* or *Listener*. Note: this
  argument is case-sensitive.
- `subscriber <value>` – Subscriber login name, i.e. subscriber PIN.

Arguments `did`, `role`, and `subscriber` are required. The arguments can be transferred
to this command in any order.

For example if you would like to create the conference account for subscriber *nrobert* with
DID (DNIS) number *(866) 508-0012*, conference number *444012*, access code *304050* with
Host role you should run the following command (new conference account attributes are
shown in *italic*):
```
wyde confuser-add subscriber nrobert did 8665080012
   conference 444012 accesscode 304050 role Host
```

If the command is successful, the system will not return any errors or messages; it will just
return you back to the command prompt (#). The sample of the *confuser-add* command
output and the help on this command is shown on Figure 9.


```
root@ZILBER:~                                                          _ □ X
[root@ZILBER ~]# wyde help confuser-add
Syntax:
    wyde confuser-add arguments

Arguments:
        accesscode <value>      - Access code.
      * did <value>             - DID number.
        conference <value>      - Conference number.
        conf-accesscode         - Set conference number same sa access code.
      * role <value>            - Role in conference {Host|Participant}.
      * subscriber <value>      - Subscriber login name.

Required arguments marked as '*'.
[root@ZILBER ~]# wyde confuser-add subscriber nrobert did 8665080012 conference
444012 accesscode 304050 role Host
[root@ZILBER ~]#
```

Figure 9: *wyde help confuser-add* and *wyde confuser-add* Commands Output Sample

Configuration of the Conferences

Note that it could be different approaches with conferences configuration and setting access
codes and roles for the conferences. If you would like to configure the single conference,
the conference number must be the same in all conference accounts records that describe
this single conference. However the DNIS number and/or subscriber for them could be
different; the way that the system determines that it is the single conference is the same
conference number.

The first approach to configure the conference is the following: the subscriber creates for
himself the conference account records with the same conference number (this determines
that it is the single conference configuration) and multiple records with different access
codes that are used for different roles. Depending on what access code is used when the
user has entered in the conference, the role of this user is different, and the user can be
either the host, or the participant or the listener. For example if you need to create for the
subscriber *nrobert* the second conference account with participant role and the third
conference account with listener role you should execute the following commands:
```
wyde confuser-add subscriber nrobert did 8665080012
   conference 444012 accesscode 304060 role Participant
wyde confuser-add subscriber nrobert did 8665080012
   conference 444012 accesscode 304070 role Listener
```
In this sample for the conference *444012* the host access code is *304050*, the participant
access code is *304060*, the listener access code is *304070*; DNIS number in all cases is the
same: *8665080012*.

The second approach to configure the conference is creating conference accounts for each
subscriber that should participate in the conference. The conference number for all these

conference accounts must be the same, and these records will show what access code should use the subscriber and subscriber role in the conference call.

View/Modify a Conference Account

To show a list of the conference accounts (users) in the system using the command line, you should use the *wyde* command line utility with the *confuser-show* option. The syntax is as follows:

```
wyde confuser-show <arguments>
```

Each of the arguments is followed by a space and a value. In *confuser-show* you can specify the following arguments:

* `subscriber <value>` – Subscriber login name, i.e. subscriber PIN; if this argument is transferred this command will return only conference accounts (users) that belong to the specified subscriber.
* `accesscode <value>` – Access code; if this argument is transferred this command will return only conference accounts (users) with the specified access code.

If no arguments were transferred this command lists all conference accounts that exist on the bridge.
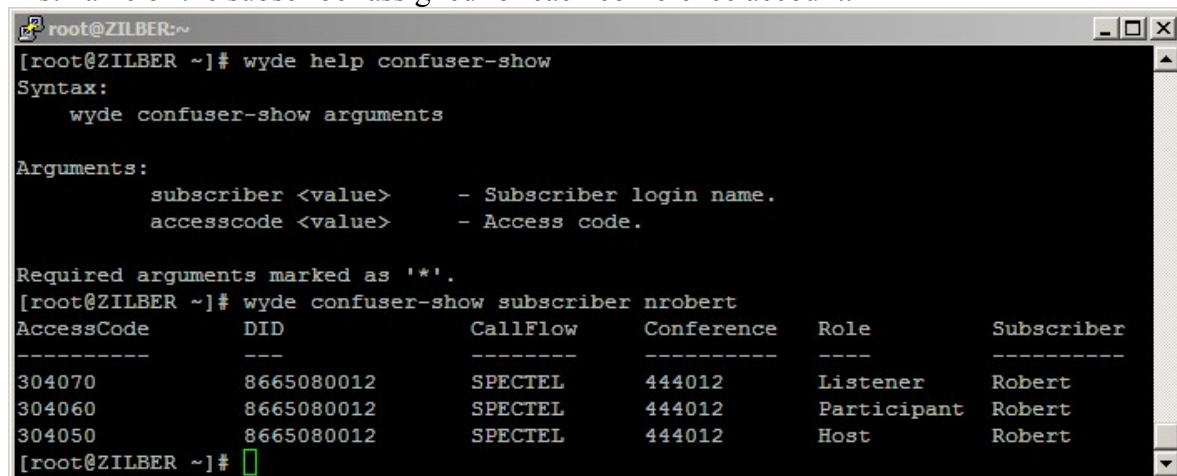
For example the command:
```
wyde confuser-show
```
returns all existed conference accounts, but the command:
```
wyde confuser-show subscriber nrobert
```
returns conference accounts that belong to subscriber *nrobert*, see Figure 10 for details. As you can see, the *wyde confuser-show* command shows the conference accounts that have been created in the system as well as their basic properties: the access codes, DNIS (DID) numbers, call flow names, conference numbers, subscriber's role in that conference, and the first name of the subscriber assigned for each conference account.

Figure 10: *wyde help confuser-show* **and** *wyde confuser-show* **Commands Output Sample**

The *wyde* command line utility does not allow changing of conference accounts properties. You can use Web Administration Interface for this purpose (please read "Web Administration Interface – User Guide" if you need assistance in conference accounts modification).

Delete a Conference Account

If you wish to delete the specific conference account, you can use the *wyde* command line utility with *confuser-del* option. The syntax is as follows:

```
wyde confuser-del accesscode <access code>
```
where

- `<access code>` – the access code of the conference account you wish to delete.

For example to delete the conference account with access code: *304070* (the *listener* role conference account created in previous sample) you should run the command:

```
wyde confuser-del accesscode 304070
```

If deletion is successful, you will be returned to the command line with no additional prompts.

Override a Call Flow Attribute Value for a Conference

Call flow attributes can be overridden for a particular subscriber conference definition (conference account). That means that some call flow attributes could be redefined for the specific conference.

To override conference call flow attributes using the command line interface you should use the *wyde* command line utility with the *conference-attr-set* option. The syntax is as follows:

```
wyde conference-attr-set <arguments>
```
Each of the arguments is followed by a space and a value. In *conference-attr-set* you can specify the following arguments:

- `number <value>` – The conference number.
- `name <value>` – This conference call flow attribute name you would like to override.
- `value <value>` – This conference call flow attribute new value.
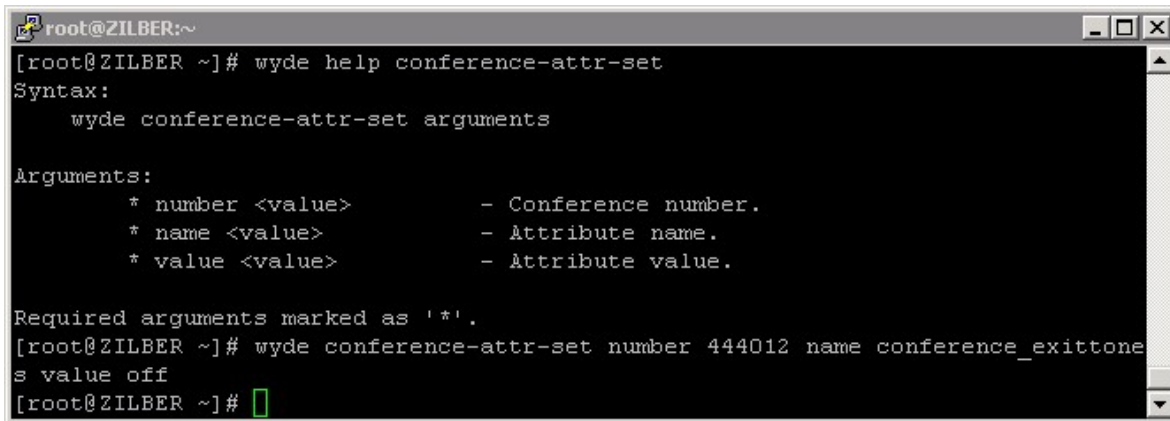
All these arguments are required. The arguments can be transferred to this command in any order.

The default `conference_exittones` (exit tones) call flow attribute value is "`on`". Let's assume that we need to override its value to "`off`" for the conference *444012* that we used in previous samples. In this case you should run the following command (the transferred command arguments are shown in *italic*):

```
wyde conference-attr-set number 444012
   name conference_exittones value off
```

If the command is successful, the system will not return any errors or messages; it will just return you back to the command prompt (#). The sample of the *conference-attr-set* command output and the help on this command is shown on Figure 11.

```
root@ZILBER:~                                                          _ □ ×
[root@ZILBER ~]# wyde help conference-attr-set
Syntax:
    wyde conference-attr-set arguments

Arguments:
        * number <value>          - Conference number.
        * name <value>            - Attribute name.
        * value <value>           - Attribute value.

Required arguments marked as '*'.
[root@ZILBER ~]# wyde conference-attr-set number 444012 name conference_exittone
s value off
[root@ZILBER ~]#
```

Figure 11: *wyde help conference-attr-set* **and** *wyde conference-attr-set* **Commands Output Sample**

If you would like to set new value for the conference call flow attribute that was already
overridden, you can just perform another *conference-attr-set* command with new attribute
value.

View Call Flow Attributes Values for a Conference

To show a list of all call flow attributes for the specific conference (including the attributes
defined on call flow level and the attributes overridden on DNIS/conference level) using
the command line, you should use the *wyde* command line utility with the *conference-attr-
show* option. The syntax is as follows:
```
wyde conference-attr-show number <conference number>
```
where

* `<conference number>` – The number of the conference which attributes you
  would like to view.

For example if you would like to see the list all call flow attributes for the conference
444012 you should use the command:
```
wyde conference-attr-show number 444012
```

This command outputs all call flow attributes for this conference regardless were they
defined on call flow level or on DNIS level or on conference level, see Figure 12 for
details. As you can see, the *wyde conference-attr-show* command shows the conference call
flow attributes names and values; the last column "*Override*" contains information showing
was the attribute overridden either on DNIS (DID) level – in this case this column contains
"*DID" or on conference level – in this case this column contains asterisk "*".

Figure 12: *wyde conference-attr-show* **Command Output Sample**

Delete a Conference Call Flow Attribute Redefinition

If you wish to delete the specific conference call flow attribute that was previously overridden, you can use the *wyde* command line utility with *conference-attr-del* option. The syntax is as follows:

```
wyde conference-attr-del <arguments>
```

Each of the arguments is followed by a space and a value. In *conference-attr-show* you can specify the following arguments:

- `number <value>` – The conference number which attribute you wish to delete.

- `name <value>` – This conference call flow attribute name you wish to delete.

Both arguments are required. The arguments can be transferred to this command in any order.

For example to delete the conference *444012* call flow attribute *conference_exittones* (overridden in previous sample) you should run the command:

```
wyde conference-attr-del number 444012
   name conference_exittones
```

If deletion is successful, you will be returned to the command line with no additional prompts.

Call Flow and DNIS Management

One piece of terminology unique to conference call setup is the idea of a call flow. In other words, the call flow is unique conference call setup, the logic that is used to process the calls; this is the process a call goes through from call setup to, to processing, to call tear down. It includes the logic, DTMF key-presses used, functions, and the recorded prompts. The various system settings and usage parameters are different depending on the call flow used.

The following basic call flows are available in the system:
- CONF
- OPERATOR
- PLAYBACK
- SPECTEL

One of the benefits of the WYDE architecture is the ability to build a complete custom call flow for your organization. So additional custom call flows could be created as customization of the existing call flows. For more information on a custom call flow, please contact your WYDE representative.

A DNIS is the unique set of numbers that is outpulsed by a phone carrier that indicates the intended destination for a particular call. It can be any length digits (although usually less than 10 digits). As DNIS number you can also use the mask of the number, in such mask '*' – denotes any sequence of digits and '?' – denotes one single digit; in this case for such DNISes the bridge will process all numbers that comply with the DNIS number mask. For the purposes of this guide, a DNIS Association is a combination of a call flow and an actual inbound DNIS (DID) number or number mask.

You can read detail information about call flows and DNISes in "Web Administration Interface – User Guide", Chapter 3: Call Flows and Section: DNIS Management.

Using the command line administration interface you will be able to change parameters of the call flows and DNISes, as it will be described later in this chapter.

Changing any of the call flow attributes, unless instructed to do so by WYDE technical support, can render your system inoperable.

Add a Call Flow

Before you register new call flow, you should create the folder for this call flow. This folder should contain the files *callflow.spec* (Asterisk dialplan on AEL language file) and *script.ael* (specification of the scenario file) and optionally subfolder *sounds* for audio (voice) files. The default root folder for call flows is */usr/local/DNCA/callflows/*. You can read "Call Flow Development – Programmer's Guide" for additional information about call flow folder structure and contents.

To add new call flow registration using the command line interface you should use the
wyde command line utility with the *callflow-add* option. The syntax is as follows:
```
wyde callflow-add <arguments>
```
Each of the arguments is followed by a space and a value. In *callflow-add* you can specify
the following arguments:

- `name <value>` – The name of new call flow that should be registered. This is
  required argument. This name should be unique, i.e. there should no be any other call
  flow with the same name on the bridge.
- `directory <value>` – Call flow directory path. If this parameter omitted the
  current folder will be used as this parameter value.

The arguments can be transferred to this command in any order.

Let's assume that we have created the folder */usr/local/DNCA/callflows/SAMPLE/* for new
call flow *SAMPLE* that contains required files *callflow.spec*, *script.ael* and *sound* subfolder.
To add this call flow to the bridge you should use the command:
```
wyde callflow-add name SAMPLE
     directory /usr/local/DNCA/callflows/SAMPLE
```

If the command is successful, the system will not return any errors or messages; it will just
return you back to the command prompt (#). The sample of the *callflow-add* command
output and the help on this command is shown on Figure 13.
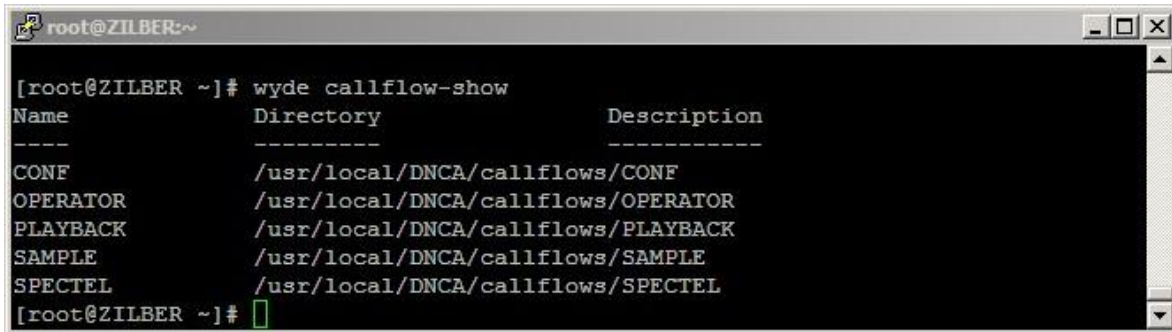
Figure 13: *wyde help callflow-add* and *wyde callflow-add* **Commands Output Sample**

View a Call Flow

To show a list of all call flows in the system using the command line, you should use the
wyde command line utility with the *callflow-show* option. The syntax is as follows:
```
wyde callflow-show
```

This command will output a list of the all existed call flows on the system, similar to shown
on Figure 14. As you can see, the *wyde callflow-show* command shows the call flows that
have been created in the system as well as their basic properties: call flow name and
directory path.

Figure 14: *wyde callflow-show* **Command Output Sample**

Delete a Call Flow

To delete a call flow using the *wyde* command line utility you should use *callflow-del*
option. The syntax is as follows:
```
wyde callflow-del name <call flow name>
```
where

- `<call flow name>` – the name of the call flow you wish to delete.

Note: when you delete the call flow all DNISes associated with this call flow and all this
call flow conference accounts also will be deleted.

For example to delete call flow *SAMPLE* (created in previous sample) you should run the
command:
```
wyde callflow-del name SAMPLE
```

If deletion is successful, you will be returned to the command line with no additional
prompts.

Set a Call Flow Attribute Value

To set a call flow attribute value using the command line interface you should use the *wyde*
command line utility with the *callflow-attr-set* option. The syntax is as follows:
```
wyde callflow-attr-set <arguments>
```
Each of the arguments is followed by a space and a value. In *callflow-attr-set* you can
specify the following arguments:

- `callflow <value>` – The name of the call flow which attribute value you would
  like to set.
- `name <value>` – This call flow attribute name you would like to update.
- `value <value>` – This call flow attribute new value.

The arguments `callflow` and `name` are required; if the argument `value` is omitted the
empty value will be set to this attribute. The arguments can be transferred to this command
in any order.

For example if you would like to change *call_instructions_dtmf* (instructions
DTMF policy) call flow attribute value to "h", i.e. make the instructions available for hosts
only, for the call flow *SPECTEL*, you should run the following command (the transferred
command arguments are shown in *italic*):

```
wyde callflow-attr-set callflow SPECTEL
   name call_instructions_dtmf value h
```

If the command is successful, the system will not return any errors or messages; it will just
return you back to the command prompt (#). The sample of the *callflow-attr-set* command
output and the help on this command is shown on Figure 15.

Figure 15: *wyde help callflow-attr-set* **and** *wyde callflow-attr-set* **Commands Output Sample**

View Call Flow Attributes Values

To show a list of all call flow attributes for the specific call flow using the command line,
you should use the *wyde* command line utility with the *callflow-attr-show* option. The
syntax is as follows:
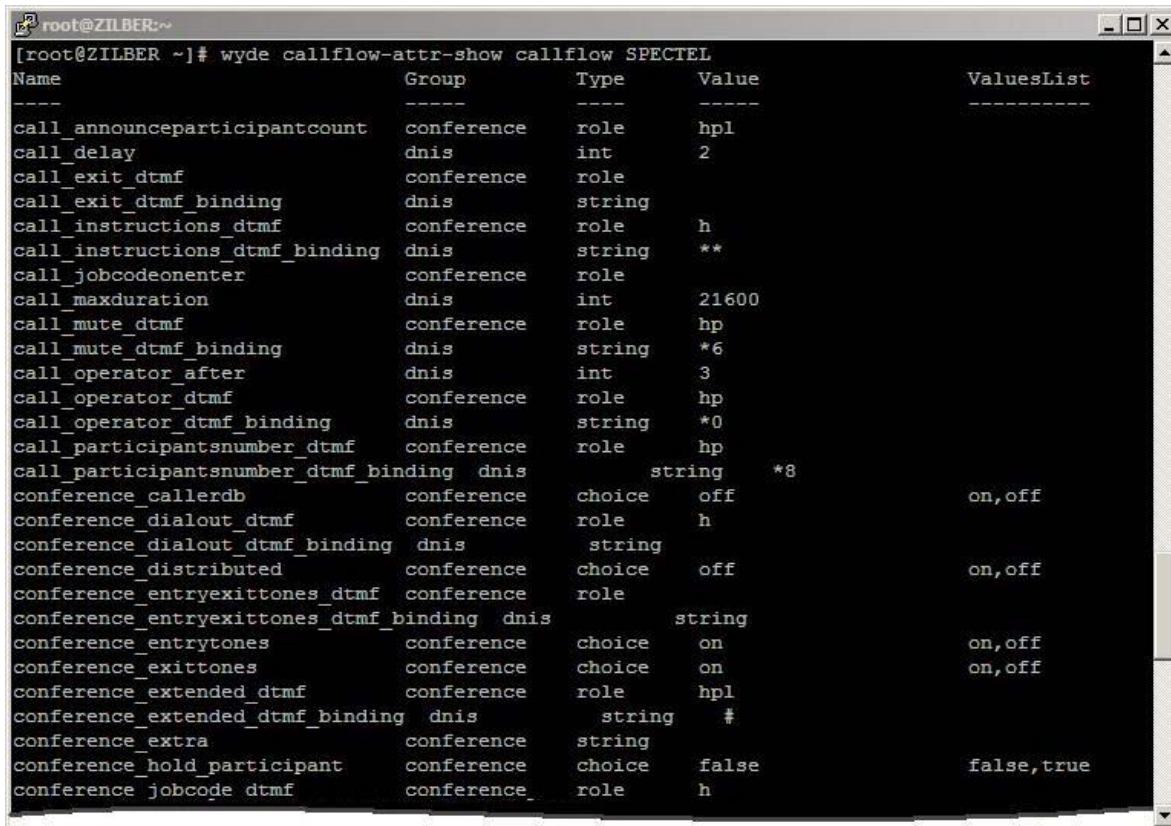
```
wyde callflow-attr-show callflow <call flow name>
```
where

• `<call flow name>` – The name of the call flow which attributes you would like to
  view.

For example if you would like to see the call flow *SPECTEL* attributes you should use the
command:

```
wyde callflow-attr-show callflow SPECTEL
```

This command outputs all specific call flow attributes, see Figure 16 for details. As you can
see, the *wyde callflow-attr-show* command shows the call flow attributes names, groups,
types, values, and allowed values list (if applicable). The group of an attribute can be either
"conference" or "dnis"; when the attribute group is "dnis", the attribute can be overridden
in DNIS Associations only; when the attribute role is "conference", the attribute can be
overridden either in DNIS Associations or in Subscriber Conferences – see "Web
Administration Interface – User Guide" for details. The type of an attribute can have one of
the following values: "role" (the attribute determines the policy, i.e. the person to whom
this option should be available – hosts (h) or participants (p) or listeners (l)), "choice" (only
values specified in values list are permitted for this attribute), "string", or "int".

Figure 16: *wyde callflow-attr-show* **Command Output Sample**

Reload All Call Flows

If there were changes in the *script.ael* file or sound files were updated in *sounds* subfolder for any of the call flows you should reload all call flows.

To send the signal on the WYDE bridge to the call flow engine to reload the scripts the following command should be executed:
```
wyde callflow-reload
```

If this command is successful, you will be returned to the command line with no additional prompts.

As alternative of this *wyde* command you can use *mf* console command *callflow-reload* for the same purposes. This *wyde* command is basically used in automated scripts and for convenient call flow modification.

Update Call Flow Attributes Definition in a Database

If there were changes in call flow attributes definition and *callflow.spec* file was updated you should update call flow attributes definition in the database.

To send the signal on the WYDE bridge to update the call flow attributes for the specific call flow the following command should be executed:

```
wyde callflow-attr-update-db callflow <call flow name>
```
where
- `<call flow name>` – the name of the call flow which attributes you wish to update.

For example if the definition of call attributes for call flow SAMPLE (described in samples) were updated, i.e. the *callflow.spec* file in the folder */usr/local/DNCA/callflows/SAMPLE/* was changed, you should implement the following command:
```
wyde callflow-attr-update-db callflow SAMPLE
```

Create a DNIS Association

To create new DNIS association of a call flow and an actual inbound DNIS (DID) number using the command line interface you should use the *wyde* command line utility with the *did-add* option. The syntax is as follows:
```
wyde did-add <arguments>
```
Each of the arguments is followed by a space and a value. In *did-add* you can specify the following arguments:
- `number <value>` – Dial-in number, i.e. DNIS (DID) number, you want to be associated with this DNIS Association.
- `callflow <value>` – The name of the call flow to be used with this DNIS Association.
- `description <value>` – DNIS (DID) description.
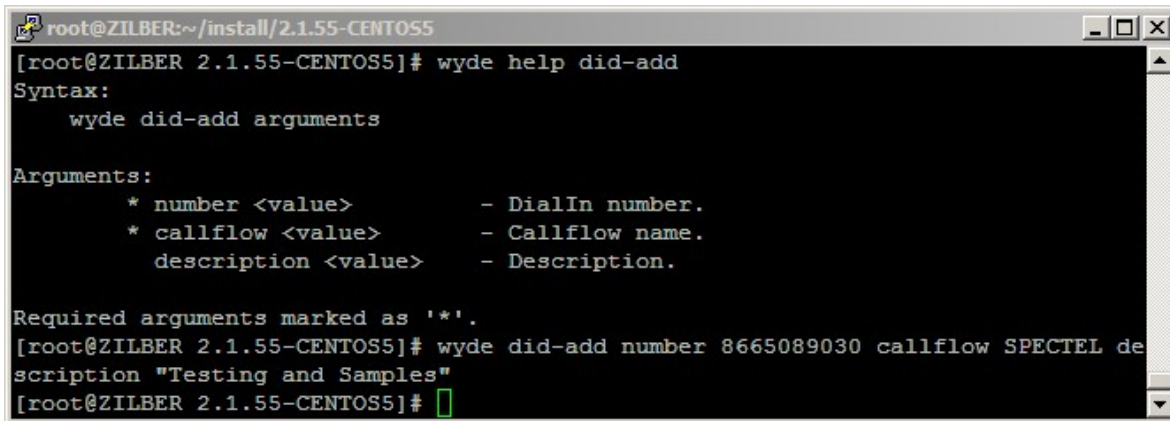
Arguments `number` and `callflow` are required. The arguments can be transferred to this command in any order.

For example if you would like to create the DNIS Association of DID (DNIS) number *(866) 508-9030* and call flow *SPECTEL* you should run the following command (new DNIS association properties are shown in *italic*):
```
wyde did-add number 8665089030 callflow SPECTEL
    description "Testing and Samples"
```
Note that to set the description that contains spaces you should use double quotes (").

If the command is successful, the system will not return any errors or messages; it will just return you back to the command prompt (#). The sample of the *did-add* command output and the help on this command is shown on Figure 17.
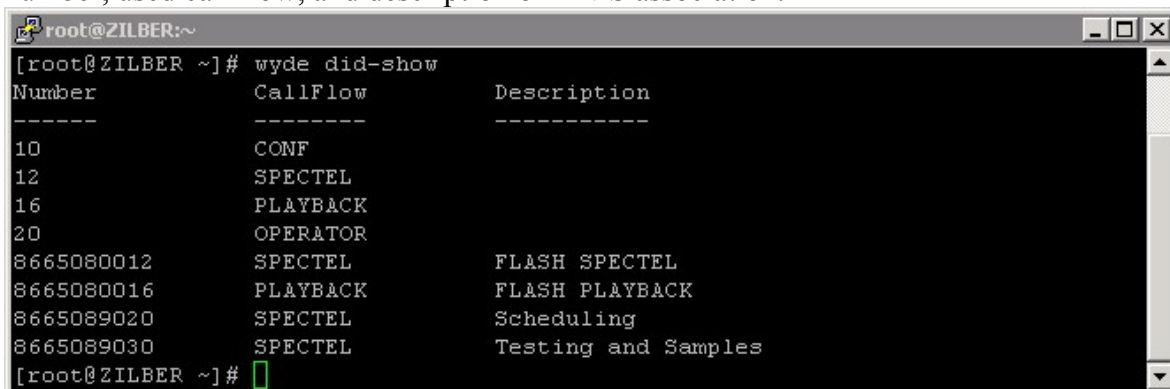
Figure 17: *wyde help did-add* **and** *wyde did-add* **Commands Output Sample**

View/Modify a DNIS Association

To show a list of the DNIS associations in the system using the command line, you should
use the *wyde* command line utility with the *did-show* option. The syntax is as follows:
`wyde did-show`

This command will output a list of the all existed DNIS associations on the system, similar
to shown on Figure 18. As you can see, the *wyde did-show* command shows the DNIS
associations that have been created in the system as well as their basic properties: dial-in
number, used call flow, and description of DNIS association.

Figure 18: *wyde did-show* **Command Output Sample**

The *wyde* command line utility does not allow changing of DNIS associations. You can use
Web Administration Interface for this purpose (please read "Web Administration Interface
– User Guide" if you need assistance in DNIS associations modification).

Create a DNIS Number Alias

The WYDE conferencing bridge software allows you to create aliases for DNIS (DID)
numbers. That means that if you need to have multiple dial-in numbers that should operate
the same way and have the same properties, you can create one DNIS association for so
called "main" DNIS (DID) number and define other numbers as aliases for that one. In this
case the DNIS configuration is being made for this main DNIS number only, and you
should not configure additional DNISes for additional DNIS numbers.

To create new DNIS number alias using the command line interface you should use the *wyde* command line utility with the *did-alias-add* option. The syntax is as follows:
```
wyde did-alias-add <arguments>
```
Each of the arguments is followed by a space and a value. In *did-alias-add* you can specify the following arguments:

- `number <value>` – Main dial-in number, i.e. DNIS (DID) number for which you have created DNIS Association.
- `alias <value>` – The alias of the main dial-in number that you wish to add.
- `description <value>` – The description of DNIS (DID) alias.
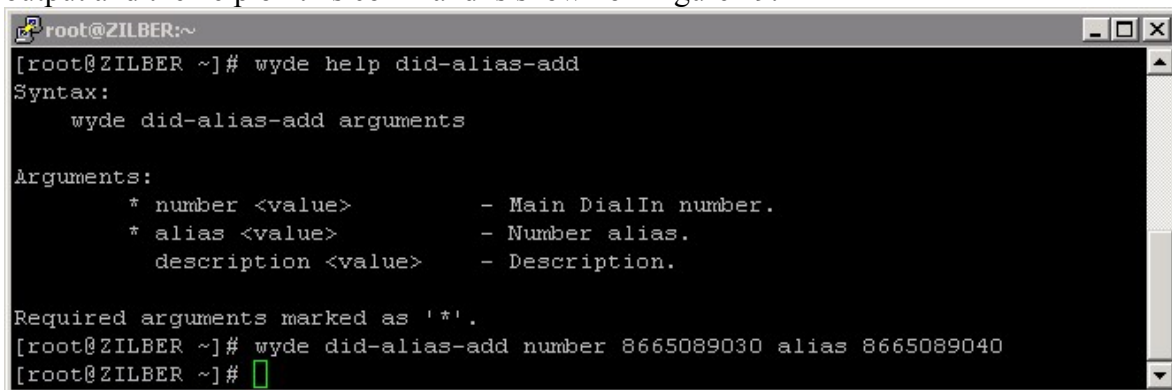
Arguments `number` and `alias` are required. The arguments can be transferred to this command in any order.

For example if you would like to create the alias number *(866) 508-9040 for* the DNIS number *(866) 508-9030* (that was used in previous samples) you should run the following command (both dial-in numbers are shown in *italic*):
```
wyde did-alias-add number 8665089030 alias 8665089040
```
Note that in this sample we do not create the description for the alias.

If the command is successful, the system will not return any errors or messages; it will just return you back to the command prompt (#). The sample of the *did-alias-add* command output and the help on this command is shown on Figure 19.

```
[root@ZILBER ~]# wyde help did-alias-add
Syntax:
    wyde did-alias-add arguments

Arguments:
        * number <value>          - Main DialIn number.
        * alias <value>           - Number alias.
          description <value>     - Description.

Required arguments marked as '*'.
[root@ZILBER ~]# wyde did-alias-add number 8665089030 alias 8665089040
[root@ZILBER ~]#
```

Figure 19: *wyde help did-alias-add* **and** *wyde did-alias-add* **Commands Output Sample**

View DNIS Number Aliases

To show a list of DNIS number aliases for the specific DNIS association only using the command line, you should use the *wyde* command line utility with the *did-alias-show* option. The syntax is as follows:
```
wyde did-alias-show [number <DNIS Number>]
```
where

- `<DNIS Number>` – Main dial-in number, i.e. DNIS (DID) number whose aliases you would like to show.
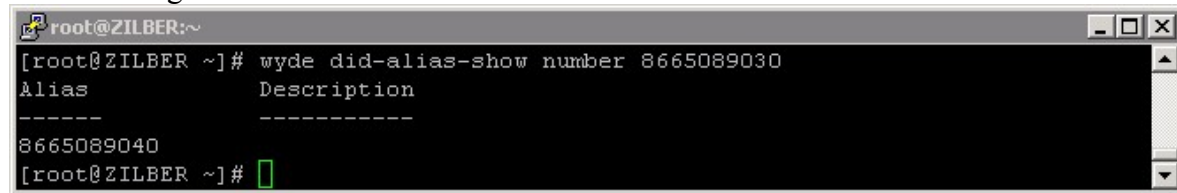
To show a list of all DNIS number aliases in the system using the command line, you should use the *wyde* command line utility with the same *did-alias-show* option without `number <DNIS Number>` argument. The syntax is as follows:
`wyde did-alias-show`

For example if you would like to see the list of aliases for DNIS number *(866) 508-9030* (that was used in previous samples) you should run the following command:
`wyde did-alias-show number `*`8665089030`*

This command outputs all aliases with their descriptions for the specific DNIS number as shown on Figure 20.

Figure 20: *wyde did-alias-show* Command Output Sample

Delete a DNIS Number Alias

If you wish to delete the specific DNIS number alias, you can use the *wyde* command line utility with *did-alias-del* option. The syntax is as follows:
`wyde did-alias-del <arguments>`
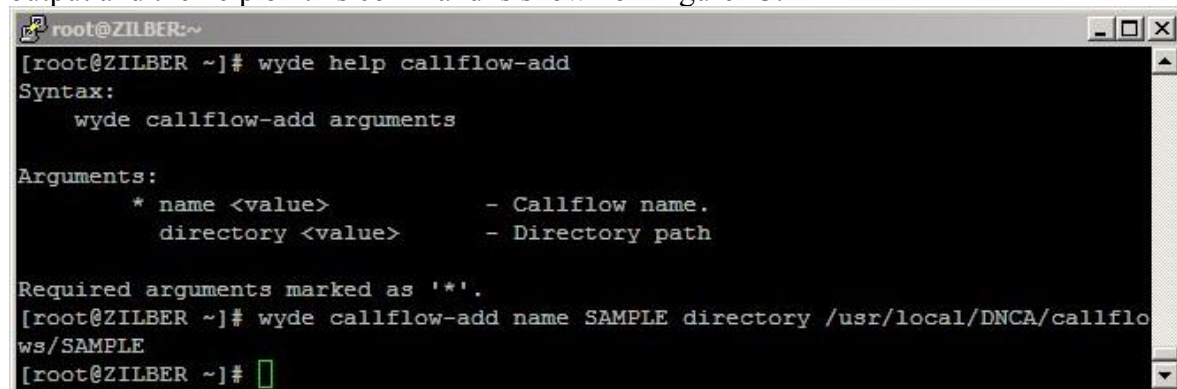Each of the arguments is followed by a space and a value. In *did-alias-del* you can specify the following arguments:

- `number <value>` – Main dial-in number, i.e. DNIS (DID) number which alias you wish to delete.
- `alias <value>` – The alias of the main dial-in number that you wish to delete.

Both arguments are required. The arguments can be transferred to this command in any order.

For example to delete the alias *(866) 508-9040* of DNIS number association *(866) 508-9030* (created in previous sample) you should run the command:
`wyde did-alias-del number `*`8665089030`*` alias `*`8665089040`*

If deletion is successful, you will be returned to the command line with no additional prompts.

Delete a DNIS Association

If you wish to delete the specific DNIS number association, you can use the *wyde* command line utility with *did-del* option. The syntax is as follows:
`wyde did-del number <DNIS Number>`
where

- `<DNIS Number>` – DNIS (DID) number you wish to delete. This argument is required.

For example to delete the DNIS number association *(866) 508-9030* (created in previous
sample) you should run the command:
```
wyde did-del number 8665089030
```

If deletion is successful, you will be returned to the command line with no additional
prompts.

Override a Call Flow Attribute Value for a DNIS

Call flow attributes can be overridden for a particular DNIS association. That means that
some call flow attributes could be redefined on DNIS level.

To override call flow attributes for a DNIS using the command line interface you should
use the *wyde* command line utility with the *did-attr-set* option. The syntax is as follows:
```
wyde did-attr-set <arguments>
```
Each of the arguments is followed by a space and a value. In *did-attr-set* you can specify
the following arguments:

- `number <value>` – DNIS (DID) number.
- `name <value>` – This DNIS call flow attribute name you would like to override.
- `value <value>` – This DNIS call flow attribute new value that you would like to
  override.

All these arguments are required. The arguments can be transferred to this command in any
order.

The default `conference_exittones` (exit tones) call flow attribute value for
SPECTEL call flow is "`on`". Let's assume that we need to override its value to "`off`" for
the DNIS *(866) 508-9030* that we used in previous samples. In this case you should run the
following command (the transferred command arguments are shown in *italic*):
```
wyde did-attr-set number 8665089030 name conference_exittones
     value off
```

If the command is successful, the system will not return any errors or messages; it will just
return you back to the command prompt (#). The sample of the *did-attr-set* command
output and the help on this command is shown on Figure 21.

Figure 21: *wyde help did-attr-set* **and** *wyde did-attr-set* **Commands Output Sample**

If you would like to set new value for the DNIS call flow attribute that was already overridden, you can just perform another *did-attr-set* command with new attribute value.

View Call Flow Attributes Values for a DNIS

To show a list of all call flow attributes for the DNIS association (including the attributes defined on call flow level and the attributes overridden on DNIS level) using the command line, you should use the *wyde* command line utility with the *did-attr-show* option. The syntax is as follows:

```
wyde did-attr-show number <DNIS Number>
```
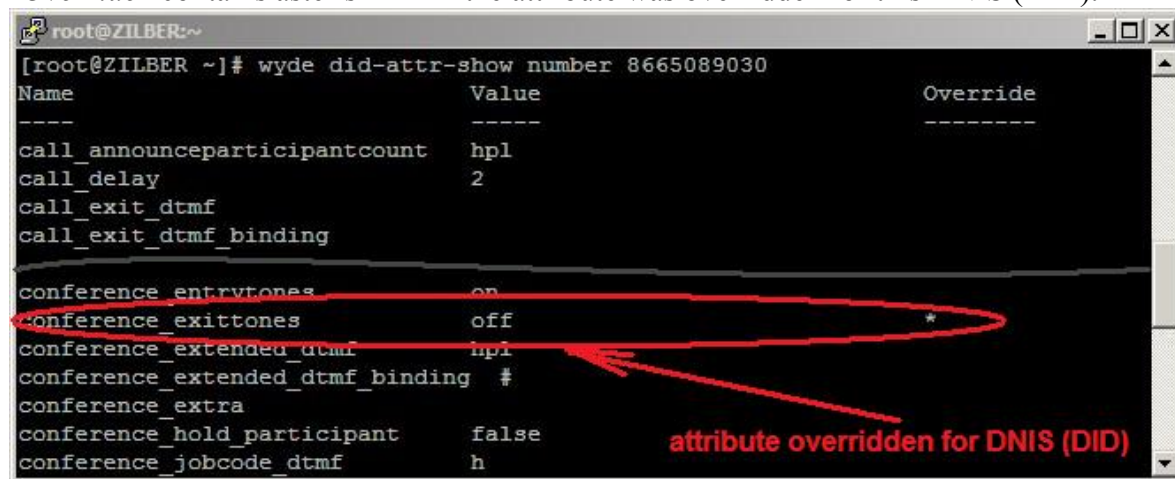
where

- `<DNIS Number>` – DNIS (DID) number which attributes you would like to view. This argument is required.

For example if you would like to see the list all call flow attributes for the DNIS *(866) 508-9030* you should use the command:

```
wyde did-attr-show number 8665089030
```

This command outputs all call flow attributes for this DNIS regardless were they defined on call flow level or on DNIS level, see Figure 22 for details. As you can see, the *wyde did-attr-show* command shows the DNIS call flow attributes names and values; the last column "*Override*" contains asterisk "*" if the attribute was overridden for this DNIS (DID).

Figure 22: *wyde did-attr-show* Command Output Sample

Delete a DNIS Call Flow Attribute Redefinition

If you wish to delete the specific DNIS call flow attribute that was previously overridden, you can use the *wyde* command line utility with *did-attr-del* option. The syntax is as follows:

```
wyde did-attr-del <arguments>
```

Each of the arguments is followed by a space and a value. In *did-attr-show* you can specify the following arguments:
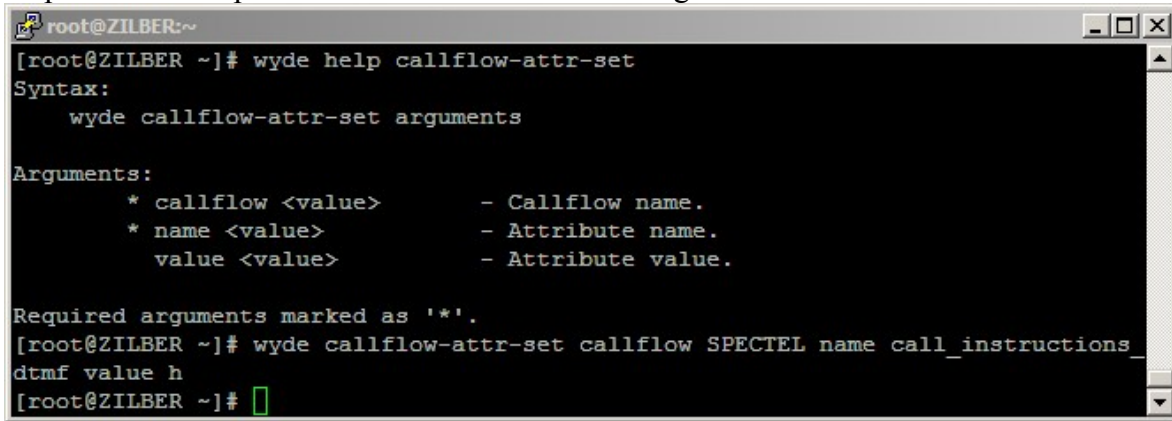
- `number <value>` – DNIS (DID) number which attribute you wish to delete.
- `name <value>` – This DNIS call flow attribute name you wish to delete.

Both arguments are required. The arguments can be transferred to this command in any
order.

For example to delete the DNIS *(866) 508-9030* call flow attribute
conference_exittones (overridden in previous sample) you should run the
command:
`wyde did-attr-del number 8665089030 name conference_exittones`

If deletion is successful, you will be returned to the command line with no additional
prompts.

Reload All DNISes Caches

MF service (Multi Frontend Dispatcher) caches all DNIS information. As the result any
DNIS changes (such as changes in call flow attributes of DNISes or changes in DNIS
aliases) take effect only in about one minute after the changes have been made. If you
would like that these changes take effect immediately you should reload all DNISes caches.

To send the signal on the WYDE bridge *MF* engine to reload all DNISes caches the
following command should be executed:
`wyde did-reload`

If this command is successful, you will be returned to the command line with no additional
prompts.

As alternative of this *wyde* command you can use *mf* console command *did-reload* for the
same purposes. This *wyde* command is basically used in automated scripts and for
convenient DNIS attributes configuration.

Conferences and Calls Management

Once a conference has begun, you can manage it using the command line interface. You can manage conferences and calls on-the-fly using the *mf* console. The *wyde* command line utility can be used only for basic tasks, such as view conferences, drop conferences and calls, and it does not provide the possibility to control the conferences and calls. Some of the information can be viewed through *Asterisk* built-in tools, as discussed later.

View Conferences and Calls in Progress
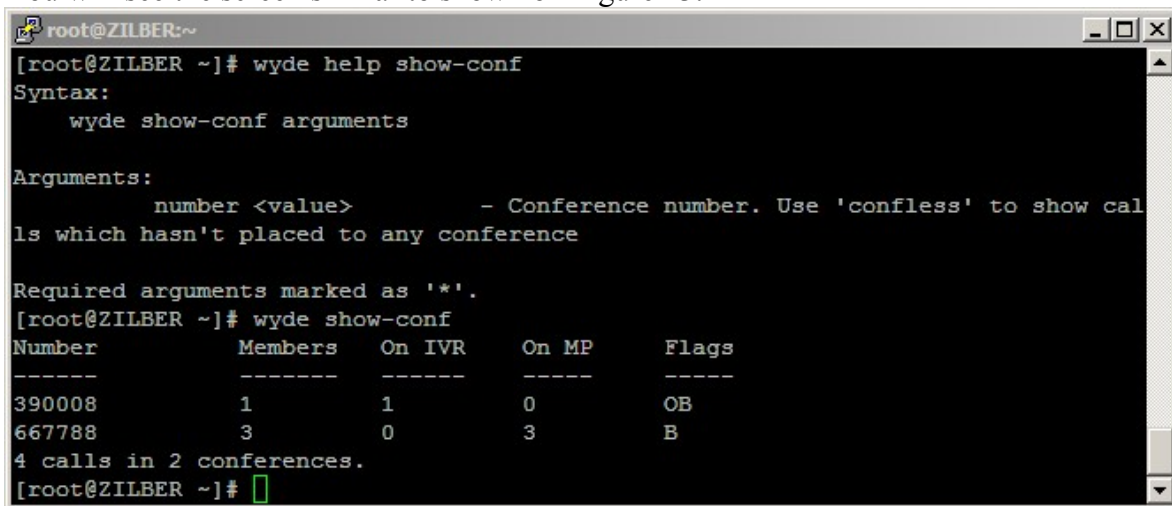
View Conferences in Progress

Any time when there are conferences in progress, you can view them in the command line interface – either via *wyde* command line utility or using *mf* console.

To show a list of all conferences that currently are in process on the bridge using the command line, you should use the *wyde* command line utility with the *show-conf* option:
```
wyde show-conf
```
You will see the screen similar to shown on Figure 23.


```
[root@ZILBER ~]# wyde help show-conf
Syntax:
    wyde show-conf arguments

Arguments:
        number <value>          - Conference number. Use 'confless' to show cal
ls which hasn't placed to any conference

Required arguments marked as '*'.
[root@ZILBER ~]# wyde show-conf
Number          Members     On IVR      On MP       Flags
------          -------     ------      -----       -----
390008          1           1           0           OB
667788          3           0           3           B
4 calls in 2 conferences.
[root@ZILBER ~]#
```

Figure 23: *wyde help show-conf* **and** *wyde show-conf* **Commands Output Sample**

As alternative you can use *mf* console to show all started conferences. To do so you should run the command *show* from the console:
```
show
```
You will see the screen similar to shown on Figure 24.

Figure 24: *mf* Console *help show* and *show* **Commands Output Sample**

As you can see both commands have similar syntax and similar output. This *wyde*
command is basically used in automated scripts, *mf* console command can be considered as
primary interactive command to show started conferences. All active conferences are listed
sorted ascending by conference number. There are several columns of information about
each conference. Table 3 details what each column indicates.

Table 3: Show Conferences Columns

Column	Description
Number	The unique number assigned to each conference. You can use this conference number to view all calls joined to this conference
Members	Indicates how many participants are currently joined to this conference
On IVR	Indicates how many conference calls are currently processed by the frontend (IVR), for instance these calls could hear music on hold, hear any message from some service functions, etc., i.e. these calls are not participating in the conference – they could not talk and hear the conference
On MP	Indicates how many conference calls are currently processed by the Media Processor (MP), i.e. these calls are participating in the conversation – they could talk and hear each other
Flags	Indicates the mode of the conference; there could be the following conference modes: - B – broadcast mode (listeners can hear the conference); - O – operator mode; - Q – Q&A mode (Q&A mode is switched on for the conference); - R – the conference is being recorded; - S – secured mode (the conference is secured); - T – the conference maintains the real time (RT) protocol; Note that the conference could be in multiple modes in the same time

Number of calls on IVR plus number of calls on MP makes total number of conference calls shown in *Members* column.

View Conference Calls in Progress

Any time when there are conference calls in progress, you can view them in the command line interface – either via *wyde* command line utility or using *mf* console.

To show a list of all calls that are joined to the specific conference using the command line, you should use the *wyde* command line utility with the *show-conf* option:
```
wyde show-conf number <conference number>
```
where
- `<conference number>` – The number of the conference which calls you would like to view.
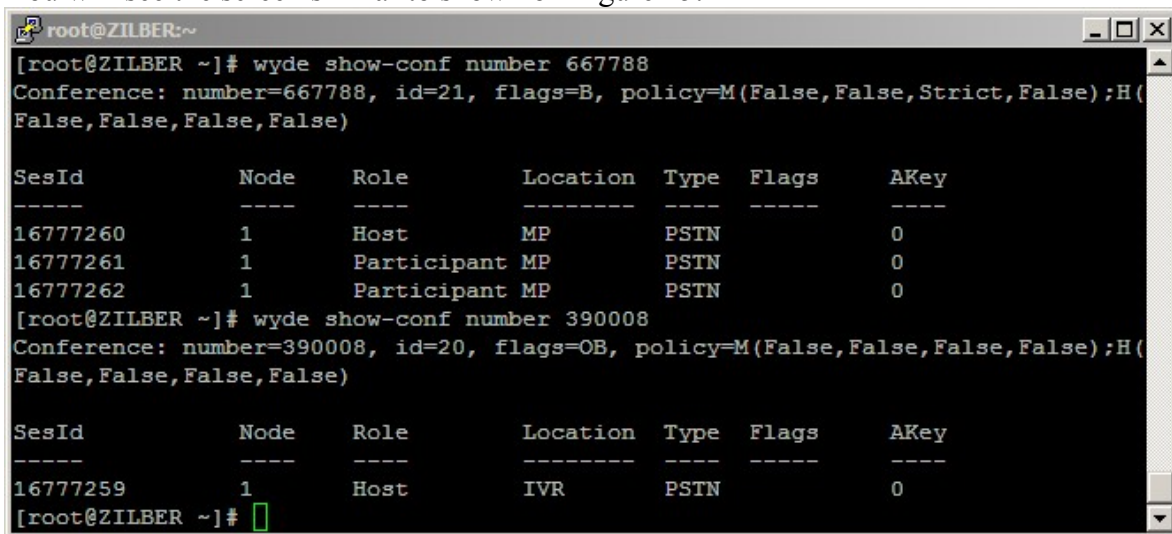
The previous sample shows that there are two conferences on the bridge: *667788* and *390008*. If you would like to view the calls joined to these conferences you should run the commands:
```
wyde show-conf number 667788
wyde show-conf number 390008
```
You will see the screen similar to shown on Figure 25.

Figure 25: *wyde show-conf* **Commands Output Sample for the Specific Conferences**

As alternative you can use *mf* console to show all calls that are joined to the specific conference. To do so you should run the command *show* from the console:
```
show <number>
```
where
- `<number>` – The number of the conference which calls you would like to view.

To view the calls for the same conferences *667788* and *390008* using *mf* console you should run the following commands from the console:
```
show 667788
show 390008
```

You will see the screen similar to shown on Figure 26.

Figure 26: *mf* Console *show* Commands Output Sample for the Specific Conferences

As you can see both commands have similar output for conference calls as well. This *wyde* command is basically used in automated scripts, *mf* console command can be considered as primary interactive command to show started conference calls. The information about the conference is shown in the header of the output; it includes number of the conference (*number* field), the conference identifier (id field), the conference flags (flags field), default policy for muting (M) and holding (H) of new participants on connection to the conference (i.e. initial value of mute and hold flags for each role when the call with this role connects to the conference). All active conference calls are listed sorted ascending by session identifier. There are several columns of information about each conference call. Table 4 details what each column indicates.

Table 4: Show Conference Calls Columns

Column	Description
SesId	The session identifier of the call
Node	The frontend node identifier for the call; you can see the list of all available MF cluster nodes using *mf* console command `node-show` (Show *MF* Cluster Nodes List), see `mf` Console Command Reference for details
Role	The subscriber's (call's) role for this conference: Host, Participant or Listener
Location	Either IVR (the call is being processed by the frontend) or MP (the call is being processed by the Media Processor)
Type	Either PSTN (phone call) or VoIP (software call that supports real time protocol) or Ctrl (control call)

Column	Description
Flags	Indicates the mode and state of the call; there could be the following call modes:

  - H – the call is placed on hold, possible states: s – self, m – moderator;
  - M – the call is muted, possible states: s – self, m – moderator, q – Q&A mode is switched on;
  - O – operator request, possible states: w – waiting, t – talking;
  - Q – Q&A request, possible state: w – waiting, t – talking;
  - T – real time (RT) mode;

Note that T (real time) mode does not have states, all other modes are being characterized by mode state as well;

Also note that the call could be in multiple modes in the same time, flags (modes) H and M could have multiple states at the same time (for example `M(sm)` value means that the call has muted itself and the moderator has muted the call as well, `M(m)H(m)` value means that the call is muted and placed on hold by moderator)

| AKey | The audio key of the call, 0 – if the audio key is not defined for the call |
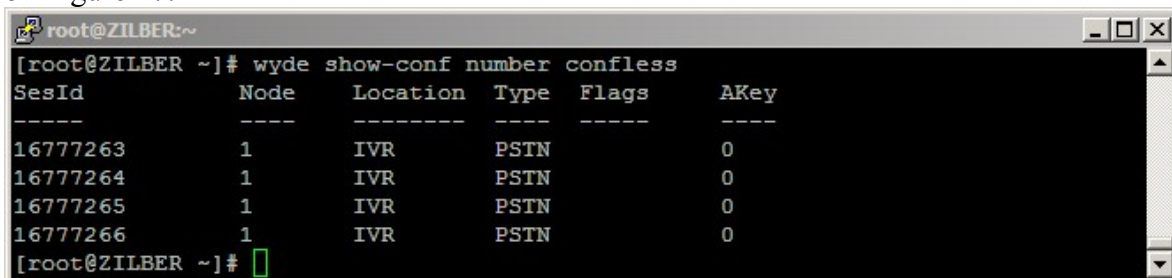
If you try to show conference calls for the conference that does not started or does not exist the error message "*Error : Conference not found*" will be returned back to you.

Show Calls that have not placed to Conferences

To show a list of all calls that are not joined to any of the conferences using the command line, you should use the *wyde* command line utility with the *show-conf* option:

```
wyde show-conf number confless
```

The keyword *confless* specifies that the command should return the list of calls that have not places to conferences. If you run this command you will see the screen similar to shown on Figure 27.

Figure 27: *wyde show-conf* **Command Output Sample for the Calls that have not placed to Conferences**

As alternative you can use *mf* console to show all calls that are not joined to the conferences. To do so you should run the command *show* from the console:

```
show confless
```

The command also uses keyword *confless* to specify that the command should return the list of calls that have not places to conferences. If you run this command you will see the screen similar to shown on Figure 28.

Figure 28: *mf* Console *show* **Command Output Sample for the Calls that have not placed to Conferences**

Once again both commands have similar output for calls that have not placed to conferences. Because these calls have not connected to the conferences this view does not have *Role* column (the call has role only after it is connected to the conference).

Calls Management using *mf* Console

The basic tool to manage the conference calls is *mf* console; *wyde* command line utility provides only few possibilities to control the calls. This section explains how to manage the calls using *mf* console; the alternative *wyde* command will be noted if applicable.

Dropping Call Participants

If during a call, you wish to cancel a conference call for specific participants, you may use the *call-drop* command of *mf* console to kick someone off the call. To drop someone from a conference call you should run the following *mf* console command:

```
call-drop <conf_number> <ses_id>
```

where

- `<conf_number>` – The number of the conference which calls you would like to drop. You can use *confless* keyword instead of conference number to indicate calls which have not placed to any conference.
- `<ses_id>` – The session (i.e. call) identifier you wish to drop from the conference.

Both arguments are required.

For example if you would like to drop the session *16777261* from the conference *667788* you should run *mf* console command:

```
call-drop 667788 16777261
```

If the command was implemented successfully you will receive the message: "*Success*"; if the conference not found or not started you will receive the message "*Error : Conference not found*"; if the session not found you will receive the message "*Error : Session not found*".

As the alternative to this command to drop call participants you can use the *wyde* command *drop-call*; see `wyde` Command Reference for details. This *wyde* command is basically used in automated scripts only.

Mute Call Participants

While a conference call is in progress, you can mute and un-mute the specific participants and listeners using the *call-mute* command of *mf* console. That means they will be muted, but they will be able to hear the conversation. To mute someone in a conference call you should run the following *mf* console command:

```
call-mute {false|strict|relaxed} <conf_number> <ses_id>
```

where

- `{false|strict|relaxed}` – The argument `false` indicates that the call should be un-muted, `strict` indicates that the call should be muted and participants can not un-mute themselves, `relaxed` indicates that the call should be muted but participants can un-mute themselves.
- `<conf_number>` – The number of the conference which call you would like to mute or un-mute.
- `<ses_id>` – The session (i.e. call) identifier you wish to mute or un-mute.

All arguments are required.

For example if you would like to mute the session *16777262* in the conference *667788* without the possibility to un-mute itself you should run *mf* console command:

```
call-mute strict 667788 16777262
```

If the command was implemented successfully you will receive the message: "*Success*"; if the conference not found or not started you will receive the message "*Error : Conference not found*"; if the session not found you will receive the message "*Error : Session not found*".

Placing Call Participants on Hold

While a conference call is in progress, you can place the specific participants and listeners on hold or take them of hold using the *call-hold* command of *mf* console. That means they will hear music and do not hear the conversation. To place someone on hold or to take someone of hold in the conference call you should run the following *mf* console command:

```
call-hold {true|false} <conf_number> <ses_id>
```

where

- `{true|false}` – The argument `true` indicates that the call should be placed on hold, `false` indicates that the call should be taken of hold.
- `<conf_number>` – The number of the conference which call you would like to place on hold or to take of hold.
- `<ses_id>` – The session (i.e. call) identifier you wish to place on hold or to take of hold.

All arguments are required.

For example if you would like to place the session *16777262* in the conference *667788* on hold you should run *mf* console command:

```
call-hold true 667788 16777262
```

If the command was implemented successfully you will receive the message: "*Success*"; if the conference not found or not started you will receive the message "*Error : Conference not found*"; if the session not found you will receive the message "*Error : Session not found*".

Set Custom Name for a Call

While a conference call is in progress, you can define the custom name for any conference participants using the *call-custom-name* command of *mf* console. To change the custom name for someone in the conference call you should run the following *mf* console command:

```
call-custom-name <conf_number> <ses_id> [<name>]
```
where
- `<conf_number>` – The number of the conference for which call you wish to define the custom name.
- `<ses_id>` – The session (i.e. call) identifier for which you wish to define the custom name.
- `<name>` – new custom name for the call, if this argument is omitted the empty custom name will be set to this call.

Arguments `<conf_number>` and `<ses_id>` are required.

For example if you would like to define the custom name *Guest* for the session *16777262* in the conference *667788* you should run *mf* console command:
```
call-custom-name 667788 16777262 Guest
```
If you would like to remove the custom name for this call, i.e. to define the empty custom name for it you should run *mf* console command:
```
call-custom-name 667788 16777262
```

If the command was implemented successfully you will receive the message: "*Success*"; if the conference not found or not started you will receive the message "*Error : Conference not found*"; if the session not found you will receive the message "*Error : Session not found*".

Set Audio Key for a Call

While a conference call is in progress, you can define the audio key for any conference call using the *call-associate* command of *mf* console. The calls with the same audio key are being grouped into the same bundle. To change the audio key for someone in the conference call you should run the following *mf* console command:
```
call-associate <conf_number> <ses_id> [<audiokey>]
```
where
- `<conf_number>` – The number of the conference for which call you wish to define the audio key, i.e. the bundle.
- `<ses_id>` – The session (i.e. call) identifier for which you wish to define the audio key (bundle).
- `<audiokey>` – new audio key for the call, if this argument is omitted the audio key for this call will be set to 0, i.e. the call in this case will not belong to any bundle.

Arguments `<conf_number>` and `<ses_id>` are required.

You can associate the audio key for the voice call only if there is the control
call in the conference that already has the same audio key and the roles of
both calls (the control call and the voice call) are the same.

For example if you would like to define the audio key *886* for the session *16777287* in the
conference *758288* you should run *mf* console command:
```
call-associate 758288 16777287 886
```
If you would like to remove the audio key for this call, i.e. to exclude the call from any
bundle you should run *mf* console command:
```
call-associate 758288 16777287
```

As you can see on Figure 29 after assigning the audio key to the voice call, both calls – the
control and the PSTN – have the same audio key; *AKey* column after the command
execution has *886* value for both records; that means both these calls belong to the same
bundle. After removing of the audio key from the voice call the *AKey* column shows *0*
value for the voice call, the control call still have the audio key *886*.

Figure 29: *mf* Console *call-associate* Commands Output Sample

If the command was implemented successfully you will receive the message: "*Success*"; if
the conference not found or not started you will receive the message "*Error : Conference
not found*"; if the session not found you will receive the message "*Error : Session not
found*".

Conferences Management using *mf* Console

The basic tool to manage the conferences is *mf* console; *wyde* command line utility
provides only few possibilities to control them. This section explains how to manage the
conferences using *mf* console; the alternative *wyde* command will be noted if applicable.

Dropping a Conference

If during a call, you wish to cancel the entire conference for all users, you may use the *conf-drop* command of *mf* console to end the conference. To drop a conference you should run the following *mf* console command:

```
conf-drop <conf_number>|all
```

where

- `<conf_number>` – The number of the conference you would like to drop. You can use *all* keyword instead of conference number to indicate that all conferences started on the bridge should be dropped. This argument is required.

For example if you would like to drop the conference *667788* you should run *mf* console command:

```
conf-drop 667788
```

If the command was implemented successfully you will receive the message: "*Success*"; if the conference not found or not started you will receive the message "*Error : Conference not found*".

As the alternative to this command to drop call participants you can use the *wyde* command *drop-conf*; see `wyde` Command Reference for details. This *wyde* command is basically used in automated scripts only.

Moreover you can drop the individual conference participants as it was previously described in section: Dropping Call Participants.

Conference Mute and Q&A Modes

The conference can be in one of the following muting modes that determine how the conference is muted. The conference modes are:

- *open* – Anyone can talk and un-mute themselves.
- *relaxed* – All participants are muted by default, but they can un-mute themselves, using default `*6` on their DTMF keypad. Hosts are not muted.
- *strict* – None of the participants can un-mute themselves. The only way to un-mute a caller is through the command line interface or by the host. In this mode, when participant tries to un-mute using default `*6` – the system tells "conference host has muted the conference; this line can not be unmuted".
- *question* – The conference is in Q&A mode. In this mode, if participant presses `*6` the system tells "If you'd like to ask a question – press 1". Q&A Sessions will be described later in the next section of this guide.

If during a call, you wish to mute or un-mute all hosts or all participants in the conference you may use the *conf-mute-group* command of *mf* console to mute them. To mute/un-mute the group of callers you should run the following *mf* console command:

```
conf-mute-group {false|strict|relaxed} {host|participant}
    <conf_number>
```

where
- `{false|strict|relaxed}` –
  o *false* indicates that the group (hosts or participants) should be un-muted – the conference mode will be *open*;
  o if the next argument is *host*, *strict* or *relaxed* indicates that the hosts should be muted, but they can un-mute themselves;
  o if the next argument is *participant*, *strict* indicates that all participants should be muted and they can not un-mute themselves – the conference mode will be *strict*;
  o if the next argument is *participant*, *relaxed* indicates that all participants should be muted but they can un-mute themselves – the conference mode will be *relaxed*.
- `{host|participant}` – Denotes who (all hosts or all participants) should be muted or un-muted.
- `<conf_number>` – The number of the conference which calls you wish to mute or un-mute.

All arguments are required.

For example if you would like to mute all *participants* in the conference *667788* without the possibility to un-mute themselves you should run *mf* console command:
```
conf-mute-group strict participant 667788
```

If the command was implemented successfully you will receive the message: "*Success*"; if the conference not found or not started you will receive the message "*Error : Conference not found*", if you transferred wrong argument (not *false*, *strict*, *relaxed*, *host*, *participant*) you will receive the message "*Error : Wrong argument*".

Moreover you can mute/unmute the individual conference participants as it was previously described in section: Mute Call Participants.

Q&A Sessions
The WYDE conferencing software has a feature built in known as Q&A (questions and answers). You can set up and manage a Q&A session using the command line interface *mf* console that allows conference participants to, in turn, ask questions and receive answers. When Q&A session is started all participants will be muted and they will be unable to unmute their self, but they will be able to request to speak (to request question). You as the host can allow them to speak using *mf* console. After they have finished speaking you can drop them out of the Q&A queue or you can drop the user from the Q&A queue without allowing them to speak using *mf* console commands.

The Q&A also can be managed using DTMF keypad and the Web Administration Interface as it is described in "Web Administration Interface – User Guide".

To start or stop Q&A mode for the conference and to clear Q&A queue you should run the following *mf* console command:
```
conf-qa-mode {start|stop|clear} <conf_number>
```

where
- `{start|stop|clear}` – *start* indicates that Q&A session should be started for the conference, i.e. the conference mode should be *question*; *stop* indicates that Q&A session should be stopped for the conference; *clear* indicates that Q&A queue should be cleared for the conference. i.e. all participants should be removed from Q&A queue.
- `<conf_number>` – The number of the conference for which you would like to manage the Q&A session.

All arguments are required.

To request to speak and to cancel this request within Q&A session you should run the following *mf* console command:

`call-qa-request {start|stop} <conf_number> <ses_id>`

where
- `{start|stop}` – *start* indicates that the call should start the request to speak (the request to ask the question), i.e. placed into Q&A queue; *stop* indicates that the call should stop (cancel) the request to speak, i.e. removed from Q&A queue.
- `<conf_number>` – The number of the conference where Q&A session is started.
- `<ses_id>` – The call session identifier that should be placed into Q&A queue or removed from it.

All arguments are required.

To enable Q&A session for the specific call from Q&A queue, i.e. to unmute this call and to disable Q&A session for the specific call, i.e. to mute this call you should run the following *mf* console command:

`call-qa-talk {enable|disable} <conf_number> <ses_id>`

where
- `{enable|disable}` – *enable* indicates that the call from Q&A queue should be unmuted and the participants should be able to speak (to ask his question); *disable* indicates that the unmuted call should be muted and removed from Q&A queue.
- `<conf_number>` – The number of the conference where Q&A session is started.
- `<ses_id>` – The call session identifier that should be unmuted to ask his question or should be muted again and/or removed from Q&A queue.

All arguments are required.

To move to the next questioner from Q&A queue, i.e. to allow speaking (enable Q&A session) for the first call in the queue you should run the following *mf* console command:

`conf-qa-talk <conf_number>`

where
- `<conf_number>` – The number of the conference where Q&A session is started and where you would like to enable (unmute) the first call in the Q&A queue. The active questioner (if exists) will be removed from Q&A queue, so this command ends Q&A session for the current questioner and starts it for the next one. This argument is required.

To mute and unmute the active Q&A session you should run the following *mf* console command:

```
conf-qa-mute {true|false} <conf_number>
```

where

- `{true|false}` – `true` indicates that the active Q&A session should be muted; `false` indicates that the active Q&A session should be unmuted (*). Both these options do not remove the questioner from Q&A queue; the command just temporary allows/disallows the active questioner to speak.
- `<conf_number>` – The number of the conference where Q&A session is started and where you would like to mute/unmute the active Q&A session (*).

All arguments are required.

Let's assume that we are maintaining Q&A session in the conference *667788* and there are two participants' sessions in this conference: *16777302* and *16777303*. Table 5 shows samples how to manage this conference Q&A sessions using *mf* console commands.

Table 5: Q&A Sessions Management Samples Using *mf* Console Commands

Description	*mf* Console Command	DTMF
Start Q&A mode for the conference	`conf-qa-mode start 667788`	`*1 1`
Request to speak (question) for specific calls, i.e. place the calls to Q&A queue	`call-qa-request start 667788 16777302` `call-qa-request start 667788 16777303`	`*6`
Cancel the request to speak for specific calls	`call-qa-request stop 667788 16777303`	
Clear Q&A queue in the conference	`conf-qa-mode clear 667788`	`*1 5`
Enable Q&A session for the specific call from Q&A queue, i.e. to allow him to speak	`call-qa-talk enable 667788 16777302`	
Disable Q&A session for the specific call, mute the call, and remove participant from Q&A queue	`call-qa-talk disable 667788 16777302`	
Enable Q&A session for the first call in Q&A queue, i.e. move to the next questioner	`conf-qa-talk 667788`	`*1 2`
Mute the active questioner	`conf-qa-mute true 667788`	`*1 4`
Unmute the active questioner	`conf-qa-mute false 667788`	`*1 4`
Stop Q&A mode for the conference	`conf-qa-mode stop 667788`	`*1 3`

Placing a Conference on Hold

While a conference is in progress, you can place all participants and listeners on hold or take them of hold (i.e. place them on line) using the *conf-hold-group* command of *mf* console. That means they will hear music and do not hear the conversation while hosts have a private discussion. To place all participants or all listeners on hold or to take them of hold you should run the following *mf* console command:

```
conf-hold-group {true|false} {participant|listener}
    <conf_number>
```

where

- {true|false} – The argument *true* that the group (participants or listeners) should be placed on hold, *false* indicates that the group (participants or listeners) should be taken of hold.
- {participant|listener} – Denotes who (all participants or all listeners) should be placed on hold or taken of hold.
- <conf_number> – The number of the conference which calls you would like to place on hold or to take of hold.

All arguments are required.

For example if you would like to place on hold *participants* in the conference *667788* you should run *mf* console command:

```
conf-hold-group true participant 667788
```

If the command was implemented successfully you will receive the message: "*Success*"; if the conference not found or not started you will receive the message "*Error : Conference not found*", if you transferred wrong argument (not *true*, *false*, *participant*, *listener*) you will receive the message "*Error : Wrong argument*".

Moreover you can place on hold and take of hold the individual conference participants as it was previously described in section: Placing Call Participants on Hold.

Broadcast a Conference for Listeners

While a conference is in progress you may need to start or stop conference broadcasting for listeners. When the broadcasting is stopped all listeners are on hold, i.e. hear music on hold, and do not hear the conference. To start/stop the conference broadcast mode for listeners you should use the *conf-broadcast* command of *mf* console:

```
conf-broadcast {start|stop} <conf_number>
```

where

- {start|stop} – Denotes should the conference be broadcasted to listeners or not: *start* indicates that the listeners should hear the conference; *stop* indicates that all listeners should be on hold and do not hear the conference.
- <conf_number> – The number of the conference you wish to broadcast.

All arguments are required.

For example if for the conference *667788* you would like to *stop* broadcasting for listeners you should run *mf* console command:

```
conf-broadcast stop 667788
```

All listeners will be placed on hold as the result of this command execution. If you would like to *start* the conference broadcasting for them again you should run *mf* console command:

```
conf-broadcast start 667788
```

All listeners will be online as the result of this command execution, i.e. they will hear the conference.

If the command was implemented successfully you will receive the message: "*Success*"; if the conference not found or not started you will receive the message "*Error : Conference*

not found", if you transferred wrong argument (neither `start`, nor `stop`) you will receive the message "*Error : Wrong argument*".

Making a Conference Secure

While a conference is in progress, from time to time you may want to make a call secure. That is, make it so that no other participants or listeners can join to the conference (hosts still can join to secured conferences). To do this you should use the *conf-secure* command of *mf* console:

```
conf-secure {secure|unsecure} <conf_number>
```

where

- `{secure|unsecure}` – Denotes should the conference be made secured or unsecured.
- `<conf_number>` – The number of the conference you wish to make secured or unsecured.

All arguments are required.

For example if you would like to make the conference *667788 secured* you should run *mf* console command:

```
conf-secure secure 667788
```

If the command was implemented successfully you will receive the message: "*Success*"; if the conference not found or not started you will receive the message "*Error : Conference not found*", if you transferred wrong argument (neither `secure`, nor `unsecure`) you will receive the message "*Error : Wrong argument*".

Setting a Conference Job Code

While a conference is in progress, you can define the conference job code using the *conf-jobcode* command of *mf* console. When any of the calls ends the current conference job code will be stored in the CDR record of the call; for example this job code can be used in the calls reporting. To set the conference job code you should run the following *mf* console command:

```
conf-jobcode <conf_number> [<code>]
```

where

- `<conf_number>` – The number of the conference which job code you would like to set. This argument is required.
- `<code>` – New job code for the conference. If this argument is omitted there will be no job code stored in CDR records of the calls.

For example if you would like to set job code *8899* for the conference *667788* you should run *mf* console command:

```
conf-jobcode 667788 8899
```

If the command was implemented successfully you will receive the message: "*Success*"; if the conference not found or not started you will receive the message "*Error : Conference not found*".

Recording a Conference

While a conference is in progress, you can record the conference using the *conf-recording* command of *mf* console. The recorded conferences can be playback as it will be described later in this guide. To start/stop the conference recording you should run the following *mf* console command:

```
conf-recording {start|stop} <conf_number> [<accesscode>
    <subscriber_pin>]
```

where

- `{start|stop}` – Denotes should the conference recording be started or stopped.
- `<conf_number>` – The number of the conference you wish to record.
- `<accesscode>` – Denotes the host access code, i.e. password to the recording server if "*Recording method*" (`recording_method`) call flow attribute value is either "*local+pin*" or "*remote+pin*" (this value can be either defined on call flow level or overridden on DNIS level).
- `<subscriber_pin>` – Denotes the subscriber's pin (that usually could be requested from the user) to perform the recording authorization if "*Recording method*" (`recording_method`) call flow attribute value is either "*local+pin*" or "*remote+pin*" (this value can be either defined on call flow level or overridden on DNIS level).

The arguments `{start|stop}` and `<conf_number>` are required. The arguments `<accesscode>` and `<subscriber_pin>` should be used only if "*Recording method*" call flow attribute value is either "*local+pin*" or "*remote+pin*".

For example if you would like to *start* the recording for the conference *667788* you should run *mf* console command:

```
conf-recording start 667788
```

If the command was implemented successfully you will receive the message: "*Success*"; if the conference not found or not started you will receive the message "*Error : Conference not found*", if you transferred wrong argument (neither *start*, nor *stop*) you will receive the message "*Error : Wrong argument*".

Note that the conference recording could be made either locally (i.e. to the computer where your WYDE bridge software installed) or to the external recording server; different recording methods configuration is described later in this Guide in section: Recording Settings Configuration.

Playing an Audio File to a Conference

While a conference is in progress, you can playback the audio file to the conference using the *conf-play-file* command of *mf* console. Using this command you can either playback previous this conference recordings or playback the files that were previously uploaded via web interface. To playback the file you usually need to use the control call to this conference and play this file via such control call. To manage of playing the audio file to the conference you should run the following *mf* console command:

```
conf-play-file <conf_number> <ses_id> {assign <dir>
   <filename>|start|stop|seek <offset> <whence>}
```
where
- `<conf_number>` – The number of the conference where you would like to play the audio file.
- `<ses_id>` – The session identifier (usually the identifier of the control call) which should be used to play the audio file.
- `{assign <dir> <filename>|start|stop|seek <offset> <whence>}` – One of the following arguments should be specified here:
  - o `assign <dir> <filename>` – assign the file for the playback:
    - o `<dir>` – either *record* for the conference recorded files (i.e. previous this conference recordings) or `upload` for the uploaded files (i.e. the files uploaded via web);
    - o `<filename>` – the audio file name without extension, this file should be in the conference *recording* folder (usually */usr/local/DNCA/var/recordings/* folder) subfolder, either *record* subfolder or *upload* subfolder for the specific conference.
  - o `start` – Start the playback from the current position.
  - o `stop` – Stop the playback.
  - o `seek <offset> <whence>` – Seek the audio file playback indicator (pointer) on `offset` seconds relative to the parameter `whence`:
    - o `0` – starting from the beginning of the file;
    - o `1` – starting from the current position in the file;
    - o `2` – starting from the end of the file.

All arguments are required.

Let's assume that you should implement the following scenario: for the conference *758288* you would like to play the conference recording file *38* (actually this is the conference identifier that is used as conference recording file name), i.e. you need to *assign* this file to the control call; after that you need to *seek* the audio file on *5* seconds starting from the *beginning* of the file; and finally you need to *start* the playback from the current position. To implement this scenario you should run the following *mf* console commands:
```
conf-play-file 758288 16777297 assign record 38
conf-play-file 758288 16777297 seek 5 0
conf-play-file 758288 16777297 start
```

You will see the screen similar to shown on Figure 30.

Figure 30: *mf* **Console** *conf-play-file* **Commands Output Sample**

If the command was implemented successfully you will receive the message: "*Success*"; if the conference not found or not started you will receive the message "*Error : Conference not found*"; if the session not found you will receive the message "*Error : Session not found*".

Dialing another User

Often, there will be a conference call in progress and you will need to call another participant. That is where the dialout feature comes in. If your system supports dialing outside users, you can dial-out another user using the *dialout* command of *mf* console. To dial to another user you should run the following *mf* console command:

```
dialout <peer_number> <did_number> <accesscode>
```
where
- `<peer_number>` – The phone number you wish to dial.
- `<did_number>` – The target conference DNIS (DID) number where the call should be joined after the dial-out is complete.
- `<accesscode>` – The access code that should be used to join to the target conference.

All arguments are required.

Note that this command allows making dial-out and connecting the call to another conference; the target conference is being defined by the pair: access code and role. The access code and role are being verified and the target conference is being defined prior to the call; while the dialout is in progress and when dialout is complete the call is being joined to the conference defined by access code and role transferred to the *dialout* command as its parameters.

While the conference is in progress if you need to see its dialout attributes, i.e. DNIS numbers and access codes that could be used in *dialout* command and that were used by the calls that already connected to this conference, you can use the following *mf* console command:

```
dialout-attr <originator_conf_number>
```

where

- `<originator_conf_number>` – the number of the started conference which
  dialout attributes (DNISes and access codes) you would like to show. This argument is
  required.

This command returns the list of all used DNIS numbers and access codes with roles for the
requested started conference:

```
DID: <did1>[,<did2>[,<did3>[,...]]]
AccessCode: <role1>:<access code1>
      [,<role2>:<access code2>[,<role3>:<access code3>[,...]]]
```
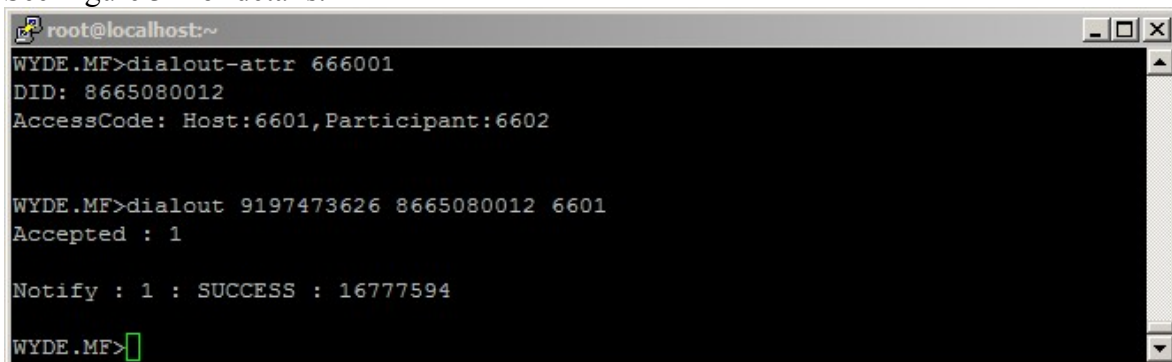
For example if you would like

- to show DNIS numbers and access codes for the started conference *666001*;
- to make dialout to phone number *9197473626*, and connect this call to this conference
  using DNIS number *8665080012* and access code *6601*

you should run *mf* console commands:

```
dialout-attr 666001
dialout 9197473626 8665080012 6601
```

See Figure 31 for details.

Figure 31: *mf* Console *dialout-attr* and *dialout* Commands Output Sample

The command *dialout* is asynchronous command; because of that *mf* console is unable to
return its result immediately after the command was started. When you run this command,
the system returns the message: "*Accepted : <taskId>*", where *<taskId>* – is identifier for
the dialout task. If the command was implemented successfully you will receive the
message: "*Notify : <taskId> : SUCCESS : <sessionId>*" , where *<taskId>* – the same task
identifier that was assigned to dialout task and was shown in "*Accepted*" message and
<sessionId> – the dialout call session identifier; if there was any error during the command
execution you will receive the message: "*Notify : <taskId> : ERROR : <error message>*",
where *<taskId>* – once again the same task identifier and *<error message>* – the specific
error message (for example "*DID*" or "*AccessCode*" reporting what is wrong in the
command, etc.).

Note that the WYDE bridge should be configured to perform dialout; this dialout
configuration is described later in this Guide in section: Dialout Settings Configuration.

Move a Call to another Conference

From time to time you may need to move the caller from one started conference to another conference. That means that the call is being removed from his current conference and moved to another conference. The target conference could be either started or it could be not started, but it becomes started during this move. To make such move you should run the following *mf* console command:

```
call-move <conf_number> <ses_id> <new_did_number>
    <new_accesscode> [<new_role>]
```

where

- `<conf_number>` – The source conference number whose call you would like to move to another conference.
- `<ses_id>` – The call session identifier that you wish to move to another conference.
- `<new_did_number>` – New (i.e. target) conference DNIS (DID) number where the call should be moved.
- `<new_accesscode>` – The access code that should be used to join to new (i.e. target) conference.
- `<new_role>` – The role that will be granted to the call when it joins to new conference. This argument is applicable only for call flows without authorization, for example *CONF* call flow.

The argument `<new_role>` is optional and should be used for call flows without authorization only. All other arguments are required.

Let's review the following scenario: there are two conferences on the bridge – the conference *667788* with the call session *16777325* and the conference *758288* with the call session *16777324*; we need to move the call *16777324* from the second conference to the first one; DNIS (DID) number to connect to the conference *667788* is *12* and the access code is *6601* (for hosts). To implement this scenario the following command should be run:

```
call-move 758288 16777324 12 6601
```

See Figure 32 for details. In addition this figure shows what conferences and calls were on the bridge prior to this command call and after this command call.

```
root@ZILBER:~                                                    _ □ ×
WYDE.MF>show
Number          Members    On IVR    On MP      Flags
------          -------    ------    -----      -----
667788          1          1         0          B
758288          1          1         0          TB
2 calls in 2 conferences.
WYDE.MF>show 667788
Conference: number=667788, id=49, flags=B, policy=M(False,False,Strict,False);H(
False,False,False,False)

SesId           Node    Role        Location  Type   Flags     AKey
-----           ----    ----        --------  ----   -----     ----
16777325        1       Participant IVR       PSTN             0
1 calls
WYDE.MF>show 758288
Conference: number=758288, id=48, flags=TB, policy=M(False,False,Strict,False);
H(False,False,False,False)

SesId           Node    Role        Location  Type   Flags     AKey
-----           ----    ----        --------  ----   -----     ----
16777324        1       Host        IVR       PSTN             0
1 calls
WYDE.MF>call-move 758288 16777324 12 6601
Accepted : 6
Notify : 6 : Success
WYDE.MF>show
Number          Members    On IVR    On MP      Flags
------          -------    ------    -----      -----
667788          2          0         2          B
2 calls in 1 conferences.
WYDE.MF>show 667788
Conference: number=667788, id=49, flags=B, policy=M(False,False,Strict,False);H(
False,False,False,False)

SesId           Node    Role        Location  Type   Flags     AKey
-----           ----    ----        --------  ----   -----     ----
16777324        1       Host        MP        PSTN             0
16777325        1       Participant MP        PSTN             0
WYDE.MF>
```

Figure 32: *mf* **Console** *call-move* **Command Output Sample**

The command *call-move* is asynchronous command; because of that *mf* console is unable to return its result immediately after the command was started. When you run this command, the system returns the message: "*Accepted : <taskId>*", where *<taskId>* – is identifier for the call move task. If the command was implemented successfully you will receive the message: "*Notify : <taskId> : Success*" , where *<taskId>* – the same task identifier that was assigned to the move task and was shown in "*Accepted*" message; if the was any error during the command execution you will receive the message: "*Notify : <taskId> : Error : <error message>*", where *<taskId>* – once again the same task identifier and *<error message>* – the specific error message (for example "*Conference not found*", "*Session not found*", "*DID*" – if DNIS number specified in `<new_did_number>` argument does not exist or incorrect, "*AccessCode*" – if the access code in `<new_accesscode>` argument does not exist or incorrect, etc.).

Move a Call between Sub-Conferences

Sometimes you may need to attach the callers to specific sub-conference or to detach the callers from specific sub-conference or to move the callers between sub-conferences. The callers that are joined to the same sub-conference are having private conversations between each other, but not listening/talking remaining conference callers. To manage sub-conferences, i.e. to attach/detach/move the callers from/to/between sub-conferences you should run the following *mf* console command:

```
subconf <conf_number> <ses_id> {attach <subconf>|detach
    <subconf>|move <subconf_from> <subconf_to>}
```

where

- `<conf_number>` – The conference number whose call you would like to attach to sub-conference or detach from sub-conference or to move between sub-conferences. This argument is required.
- `<ses_id>` – The call session identifier that you wish to attach to sub-conference or detach from sub-conference or to move between sub-conferences. This argument is required.
- One of the following arguments should be specified as the next argument of this command:
  - `attach <subconf>` – denotes the name of the sub-conference up to 16 characters length (only letters and digits are allowed as the name of the sub-conference) to which the call should be attached;
  - `detach <subconf>` – denotes the name of the existed sub-conference from which the call should be detached;
  - `move <subconf_from> <subconf_to>` – denotes the source sub-conference name from which the call should be transferred and the target sub-conference name to which the call should be transferred.

Let's review the following scenario: for the started conference *660660* attach its call sessions (for example *16777240* and *16777243*) to the sub-conference with name "*1*". To implement this scenario the following commands should be run:

```
subconf 660660 16777240 attach 1
subconf 660660 16777243 attach 1
```

See Figure 33 for details. In addition this figure shows the conference calls prior to this command call and after this command call. As you can see if the conference has sub-conferences, the name (or names) of the sub-conference together with the calls that are joined to the sub-conference are listed in *show* conference *mf* command output below the list of calls that are joined to the conference.

```
root@localhost:~/robot                                          _|□|×|
WYDE.MF>show
Number          Members    On IVR    On MP    Foreign    Flags
------          -------    ------    -----    -------    -----
660660          4          0         4        0          T
4 calls in 1 conferences.

WYDE.MF>show 660660
Conference: number=660660, id=134217739, flags=T, policy=M(False,False,Strict,Fa
lse);H(False,False,False,False)

SesId           Node      Role           Location  Type   Flags   AKey
-----           ----      ----           --------  ----   -----   ----
16777240        1         Host           MP        PSTN           0
16777241        1         Participant MP           PSTN           0
16777242        1         Participant MP           PSTN           0
16777243        1         Participant MP           PSTN           0
4 calls


WYDE.MF>subconf 660660 16777240 attach 1
Success
WYDE.MF>subconf 660660 16777243 attach 1
Success
WYDE.MF>show 660660
Conference: number=660660, id=134217739, flags=T, policy=M(False,False,Strict,Fa
lse);H(False,False,False,False)

SesId           Node      Role           Location  Type   Flags   AKey
-----           ----      ----           --------  ----   -----   ----
16777240        1         Host           IVR       PSTN           0
16777241        1         Participant MP           PSTN           0
16777242        1         Participant MP           PSTN           0
16777243        1         Participant IVR          PSTN           0
4 calls

SubConference 1 (8590595252) : 16777240, 16777243


WYDE.MF>
```

Figure 33: *mf* Console *subconf* Command Output Sample

The command *subconf* is asynchronous command; because of that it could take some time after the *subconf* command was run before the call would be actually attached to the sub-conference or detached from it. If the specified conference not found or not started you receive the error message "*Error : [ivr] Conference not found :
confNumber=<conf_number>*"; if the specified session not found or not belong to the specified conference you receive the error message "*Error : [ivr] Session not found :
confNumber=<conf_number> sesId=<ses_id>*"; if the command arguments are correct and the command could be implemented you receive the message: "*Success*".

Making a Shunt between Two Conferences

While two conferences are in progress, you may allow to the callers from one of them hearing the callers from another and vice versa using the *conf-shunt* command of *mf* console. The shunt (cross join bridge) is being created between these two conferences and

all callers from these conferences can hear each other, but both these conferences still remain. To start/stop the shunt between two conferences you should run the following *mf* console command:

```
conf-shunt {start <conf_number> [<peer_conf_number>|
          stop <conf_number>}
```

where

- `{start|stop}` – *start* denotes that the shunt between two conferences should be made (started). *stop* denotes that the shunt between two conferences should be dropped (stopped). This argument is required.
    - o `<conf_number>` – The number of the conference you wish to shunt or un-shunt. This argument is required.
    - o `<peer_conf_number>` – The number of the peer conference you wish to shunt with the first one. This argument should be specified for *start* option only.

For example if you would like to *start* shunt between two conferences: *667788* and *758288*, i.e. to allow these conferences hearing each other, you should run *mf* console command:

```
conf-shunt start 667788 758288
```

If you would like to *stop* shunt between these two conferences you should run *mf* console command:

```
conf-shunt stop 667788
```

If the command was implemented successfully you will receive the message: "*Success*"; if any of the conferences not found or not started you will receive the message "*Error : Conference not found*", if you transferred wrong argument (neither `start`, nor `stop`) you will receive the message "*Error : Wrong argument*", if the shunt already exist for the conference you will receive the message "*Error : Shunt is already exists for this conference.*".

Polling

While a conference is in progress, you can start polling (voting) for the conference using the *conf-polling* command of *mf* console. While the polling is in progress all conference participants can vote, i.e. select one of the available options defined when the polling was started. If you need detail information about the polling process, including information how to get polling results please read "Web Administration Interface – User Guide", section: Polling. To start/stop the conference polling you should run the following *mf* console command:

```
conf-polling <conf_number> {start <keys>|stop}
```

where

- `<conf_number>` – the number of the conference for which you would like to start or to stop the polling;
- `{start <keys>|stop}` – *start* indicates that the polling should be started for the conference, *stop* indicates that the polling should be stopped for the conference;
    - o `<keys>` – available polling options (i.e. digits 1, 2, ..., 9, 0) that should be specified when the polling is started.

All arguments are required.

For example if you would like to *start* the polling for the conference *667788* and options *1*, *2*, and *3* should be available for voting, you should run *mf* console command:
```
conf-polling 667788 start 123
```
If you would like to *stop* the polling for this conference you should run *mf* console command:
```
conf-polling 667788 stop
```

If the command was implemented successfully you will receive the message: "*Success*"; if the conference not found or not started you will receive the message "*Error : Conference not found*", if you transferred wrong argument (neither `start`, nor `stop`) or if you do not specify the polling options when you starting the polling you will receive the message "*Error : Wrong argument*".

Scheduling

Any conference could be scheduled to take place at specific date (date range), time, week day (DOW), with specified number of the conference participants. The following call flow attributes are responsible for the conference scheduling:

- `conference_scheduled` (Conference scheduled) – denotes is the conference scheduled or not, this attribute value should be equal "`on`" for the scheduled conferences, if this attribute value is "`off`" all scheduling attributes are being ignored;

- `conference_schedule` (Conference schedule) – denotes date (date range), time, day of the week when the conference is scheduled and how many participants can be joined to this scheduled conference, this attribute has the following format:
  `<scheduling 1>[;<scheduling 2>[;<scheduling 3>[;...]]]`
  i.e. this is the list of the conference scheduling records separated with semicolon (;); each scheduling record has the following format:
  `<part_count>,<days>,<tm_begin>,<duration>,<date_begin>,<date_end>`
  where
  o `part_count` – number of allowed the scheduled conference participants;
  o `days` – day of weeks when the scheduled conference is allowed: 1 (Sunday), 2 (Monday), ..., 7 (Saturday);
  o `tm_begin` – time when the scheduled conference begins in *hhmm* format;
  o `duration` – the scheduled conference duration in minutes;
  o `date_begin` – the beginning date in *YYMMDD* format when the conference scheduling is active (i.e. the first date when the scheduling is on);
  o `date_end` – the ending date in *YYMMDD* format when the conference scheduling is active (i.e. the last date when the scheduling is on)
  For example if you need to schedule the conference for 20 participants on Monday, Wednesday, Thursday, from 10:00 a.m. for 90 minutes (i.e. till 11:30 a.m.), for the date range from November 1st, 2009 till March 1st, 2010 the attribute value should be:
  ```
  20,245,1000,90,091101,100301
  ```
  If in addition to previous scheduling you need to schedule the conference for 30 participants on November 11th, 2009 (Wednesday) the attribute value should be:
  ```
  20,245,1000,90,091101,091110;30,4,1000,90,091111,091111;20
  ,245,1000,90,091112,100301
  ```

- `conference_schedule_extend_dtmf` (Schedule conference extend DTMF policy) – denotes who (h/p/l, default: h – host) can extend duration of the scheduled conference;
- `conference_schedule_extend_dtmf_binding` (Schedule conference extend DTMF binding) – denotes what keys should be used to extend duration of the scheduled conference, when these keys are pressed the following message will be played: "*please press 1 to extend conference duration for 5 minutes, press 2 – for 10 minutes, press * – to return to the conference*", the total maximal extension time is defined in the attribute `conference_schedule_extend`;
- `conference_schedule_extend` (Schedule conference extend maximal time in seconds) – denotes to what maximal time in seconds the duration of the scheduled conference can be extended;
- `conference_schedule_remind` (Schedule conference end remind time in seconds) – denotes remind time in seconds before the scheduled conference ends when the reminder (warning) message should be played to moderator, for instance if this attribute value is 600 before 10 minutes (600 seconds) till the scheduled conference ending time the remind message will be played to the host;
- `conference_schedule_hold` (Wait before scheduled conference begin) – denotes wait time in seconds before the scheduled conference begins when the participants can join; if the participant connected prior to this time his call will be dropped, if he connected after this time but prior the conference begin time music-on-hold will be played to him until the conference starts, for instance if the conference is scheduled to be started at 11:00 and this parameter values is 600 (i.e. 10 minutes) all participants' calls earlier than 10:50 will be dropped with the message that the conference is scheduled to be started at 11:00, the participants' calls from 10:50 till 11:00 will be placed on hold (music on hold will be played) until the conference begins.

The following conference scheduling logic is being implemented:
- if `conference_scheduled` attribute is "off", the conference is not scheduled (the processing logic is usual, as for non-scheduled conferences);
- if `conference_schedule` attribute is empty, the conference is not scheduled;
- otherwise, if `conference_scheduled` attribute is "on" and `conference_schedule` attribute describes conference scheduling, the conferences are being considered as scheduled and the following logic will be applied:
  - if there are no any scheduled conferences for the nearest 30 days, the call will be dropped with the message "*This conference has no schedule. Please check with the organizer. Good bye.*";
  - if for the current day of week all scheduled conferences are already completed, i.e. the current time is more than ending time for the last scheduled conference, the call will be dropped with the message "*Your conference is not running or scheduled. Please check its schedule with the organizer. Good bye.*";
  - if till the scheduled conference beginning time (`<tm_begin>`) more than hour the message "*There is no upcoming conference scheduled within an hour. Please check the schedule with the organizer. Good bye.*" will be played and the call will be dropped;

- o if till scheduled conference beginning time (`<tm_begin>`) less than hour, but more than period defined in `conference_schedule_hold` attribute value the message "*Your conference will begin in <NNN> minutes. Please call again later. Good bye.*" (where *<NNN>* – minutes till the conference beginning time) will be played and the call will be dropped;
- o if till scheduled conference beginning time (`<tm_begin>`) less than `conference_schedule_hold` attribute value the message "*Please wait. Your conference will begin shortly. This line is now on hold.*" will be played and the call will be placed on hold (music on hold will be played); at conference beginning time (`<tm_begin>`) the message "*Your conference is started. Please wait while we place you into the conference.*" will be played to inform that the conference is ongoing;
- o if the new call exceeds `<part_count>` amount the call will be dropped with the message "*This conference is already full. Please call again later. Good bye.*", the host also receives the warning about that;
- o at `conference_schedule_remind` seconds before the conference ending time of the scheduled conference, the host receives announcement "*This conference has <MMM> more minutes to complete. Press <KEY> to request an extension.*" (where *<MMM>* – minutes till the conference ending time, *<KEY>* – keys defined in `conference_schedule_extend_dtmf_binding` call flow attribute value that should be used on DTMF keypad by the host if he wishes to extend the conference duration); the host can extend the conference duration, the maximal extension time is defined in `conference_schedule_extend` attribute value;
- o when the scheduled conference time is over the message "*This conference has run out of time. All calls will now end.*" will be played and all this conference calls will be dropped.

While the scheduled conference is in progress you can use *mf* console to extend conference duration using the *conf-schedule-extend* command and to increase number of allowed participants using the *conf-schedule-incsize* command. To extend the started scheduled conference duration you should run the following *mf* console command with two required arguments:

`conf-schedule-extend <conf_number> <seconds>`

where

- • `<conf_number>` – The number of the started scheduled conference which duration you would like to extend.
- • `<seconds>` – The increment in seconds that should be added to the allowed duration for this scheduled conference. Note that the call flow attribute `conference_schedule_extend` (Schedule conference extend maximal time in seconds) denotes to what maximal time in seconds the duration of the scheduled conference can be extended and you are unable to extend duration more than specified in this attribute.

To increase the number of allowed scheduled conference participants that was previously defined in `conference_schedule` (Conference schedule) call flow attribute,

`part_count` value for the started conference you should run the following *mf* console command with two required arguments:
```
conf-schedule-incsize <conf_number> <count>
```
where
- `<conf_number>` – The number of the started scheduled conference where you would like to increase the number of the allowed participants.
- `<count>` – The increment in the count of the conference participants that should be added to the number of maximal allowed the scheduled conference participants.

For example if you would like to extend scheduled conference *999020* duration on *600* seconds (i.e. 10 minutes) you should run *mf* console command:
```
conf-schedule-extend 999020 600
```
If you would like to increase the maximal number of allowed scheduled conference *999020* participants on *2* callers you should run *mf* console command:
```
conf-schedule-incsize 999020 2
```
Note that the scheduled conference must be started prior to these commands execution.

If the command was implemented successfully you will receive the message: "*Success*"; if the conference not found or not started you will receive the message: "*Error : Conference not found*"; if the specified conference is not scheduled you will receive the message: "*Schedule doesn't defined for this conference*"; if you are trying to extend the conference duration more than allowed by `conference_schedule_extend` call flow attribute you will receive the message: "*Error : Conference cannot be extended*".

Maintaining Conferences Maximal Duration

The WYDE bridge software allows you to define the maximal duration time for your conferences. The following call flow attributes are responsible for the conference maximal duration definition:
- `conference_maxduration` (Maximal conference duration) – denotes the maximal duration of the conference; if this attribute value equal *-1* (default) that means that there are no duration limit for the conference, this attribute positive value denotes maximal conference duration in seconds;
- `conference_schedule_extend_dtmf` (Schedule conference extend DTMF policy) – denotes who (h/p/l, default: h – host) can extend maximal duration of the conference;
- `conference_schedule_extend_dtmf_binding` (Schedule conference extend DTMF binding) – denotes what keys should be used to extend maximal duration of the conference, when these keys are pressed the following message will be played: "*please press 1 to extend conference duration for 5 minutes, press 2 – for 10 minutes, press * – to return to the conference*", the total maximal extension time is defined in the attribute `conference_schedule_extend`;
- `conference_schedule_extend` (Schedule conference extend maximal time in seconds) – denotes to what maximal time in seconds the duration of the conference can be extended, i.e. the maximal conference duration could be `conference_maxduration` + `conference_schedule_extend`, default this

attribute value is `1800` seconds (30 minutes), the conference can be extended multiple
times by 5 or 10 minutes by the callers in the roles defined in
`conference_schedule_extend_dtmf` attribute using DTMF keys defined in
`conference_schedule_extend_dtmf_binding` attribute till maximum time
defined it this attribute;

- `conference_schedule_remind` (Schedule conference end remind time in
  seconds) – denotes remind time in seconds before the conference ends when the
  reminder (warning) message should be played to moderator, for instance if this attribute
  value is 600 before 10 minutes (600 seconds) till the conference ending time the remind
  message will be played to the host, default this attribute value is `120` seconds (2
  minutes).

Note if the conference is scheduled and it has maximal conference duration defined, the
actual maximum conference duration is being defined using the scheduler's parameters.

The following conference maximal duration logic is being implemented:
- if `conference_maxduration` attribute value is less than `0`, that means that there is
  no duration limit for the conference, i.e. its duration is unlimited;
- if `conference_maxduration` attribute value is equal to `0`, that means that the
  conference will be stopped immediately after its start, the message "*This conference has
  exceeded it's time limit. All calls will now end.*" will be played;
- otherwise, if `conference_maxduration` attribute value is positive, this value
  defines the conference maximal duration in seconds and the following logic will be
  applied:
  - at `conference_schedule_remind` seconds before the conference ending
    time of the conference with maximal duration defined and
    `conference_schedule_extend_dtmf_binding` attribute value not
    defined, the host receives announcement "*This conference has <MMM> more
    minutes to complete.*" (where *<MMM>* – minutes till the conference ending time);
  - at `conference_schedule_remind` seconds before the conference ending
    time of the conference with maximal duration defined and
    `conference_schedule_extend_dtmf_binding` attribute value also
    defined, the host receives announcement "*This conference has <MMM> more
    minutes to complete. Press <KEY> to request an extension.*" (where *<MMM>* –
    minutes till the conference ending time, *<KEY>* – keys defined in
    `conference_schedule_extend_dtmf_binding` call flow attribute value
    that should be used on DTMF keypad by the host if he wishes to extend the
    conference duration); the host can extend the conference duration, the maximal
    extension time is defined in `conference_schedule_extend` attribute value;
  - if hosts or callers in the roles defined in
    `conference_schedule_extend_dtmf` attribute press the keys defined by
    `conference_schedule_extend_dtmf_binding` attribute they hear the
    message "*Please press 1 to extend conference duration for 5 minutes, press 2 for 10
    minutes, press * to return to the conference.*" and are able to extent the conference
    duration using these keys;

- o after the conference duration has been extended the message "*Your conference has been extended for <X> minutes.*" will be played (where *<X>* – either *5* or *10* minutes);
- o if the conference maximal extend time defined by `conference_schedule_extend` attribute is over the message "*We are sorry. Your conference cannot be extended.*" will be played;
- o when the conference maximal duration time is over the message "*This conference has exceeded it's time limit. All calls will now end.*" will be played and all this conference calls will be dropped.

While the conference with defined maximal duration is in progress you can use *mf* console to extend conference duration using the *conf-schedule-extend* command as it was described in the previous section of this guide.

Conferences and Calls Management using *asterisk* Console

Calls and conferences can be also managed not for the entire bridge but for specific *asterisk* node only, i.e. the specific computer where *Frontend* components were installed. See section Nodes Administration for the information how to install and configure additional nodes.

If you are using the single bridge installation where all the WYDE software components were installed *asterisk* console commands will return the same conferences and calls information that analogous *mf* console commands return.

Using the IVR/*asterisk* Console
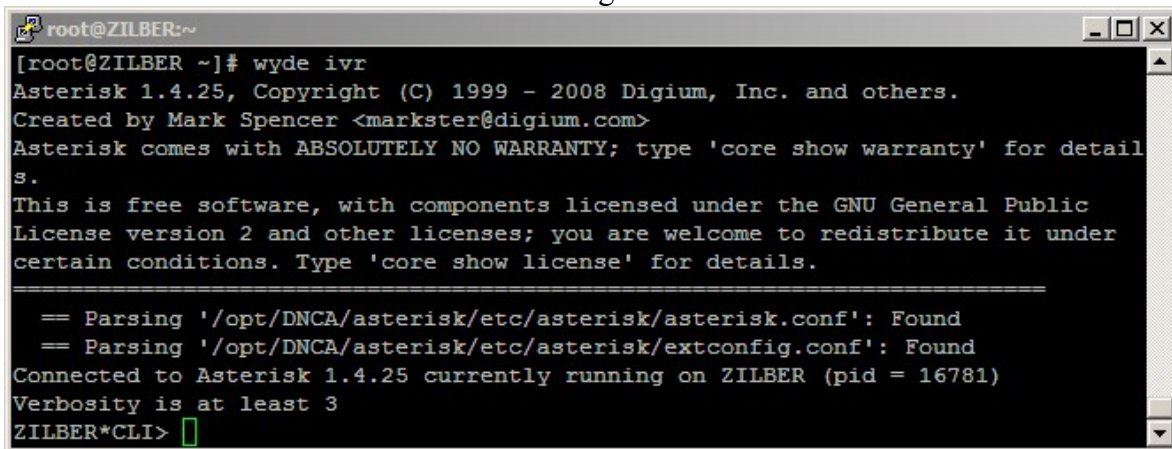
To start IVR, i.e. *asterisk* console you should either use the *wyde* command line utility with the *ivr* option:
```
wyde ivr
```
or you can use the following command to run the *asterisk* console:
```
/opt/DNCA/asterisk/usr/sbin/asterisk -rvvv -C
     /opt/DNCA/asterisk/etc/asterisk/asterisk.conf
```

You will see the screen similar to shown on Figure 34.

Figure 34: Starting *asterisk* Console
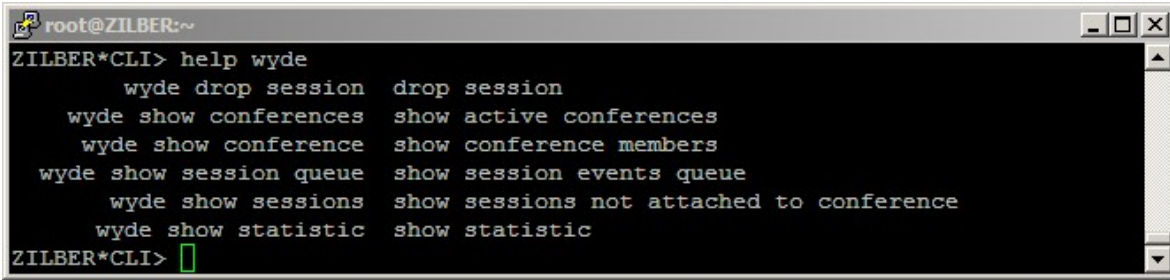
This console is the standard *asterisk* console where you can execute standard *asterisk* commands. But additionally this console has *wyde* commands extension, i.e. additional *wyde* commands can be executed using this console. This section describes *wyde* commands that were added to the *asterisk* console only and does not describe standard *asterisk* commands.

To see the list of all available *asterisk* console *wyde* commands in the console you should type the command:
```
help wyde
```
You will see the screen similar to shown on Figure 35. All *wyde* commands available in *asterisk* console are listed in Table 6, the command reference is given in Chapter 3:

Command Reference, Section: `asterisk` Console Command Reference. These
commands will be described in more detail later in this Guide.

Figure 35: *asterisk* **Console,** *help wyde* **Command Output**

Table 6: *asterisk* **Console Utility Available** *wyde* **Commands**

Commands	Description
wyde drop session	drop session
wyde show conferences	show active conferences
wyde show conference	show conference members
wyde show session queue	show session events queue
wyde show sessions	show sessions not attached to conference
wyde show statistic	show statistic

If you need detail help about any of these commands you should use the command:
`help command`
where
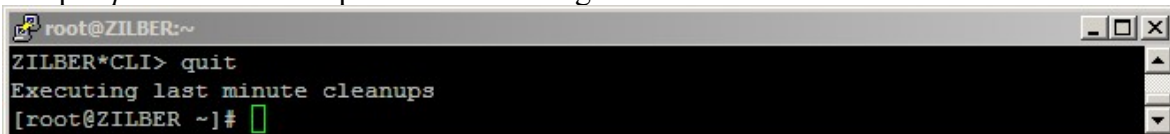
- `command` – the specific *asterisk* command on which you would like to get help.

If you would like to exit from *asterisk* console you should use the command:
`quit`
Sample *quit* command output is shown on Figure 36.

Figure 36: *asterisk* **Console** *quit* **Command Output Sample**

View Conferences in Progress

Any time when there are conferences in progress, you can view them for the specific node
using *asterisk* console.

To show a list of all conferences that currently are in process on the bridge node using the
command line, you should use *asterisk* console and run the following command from it:
`wyde show conferences`
You will see the screen similar to shown on Figure 37.

```
root@ZILBER:~                                                          _ □ ×
ZILBER*CLI> help wyde show conferences
usage: wyde show conferences
       display active conferences.
ZILBER*CLI> wyde show conferences
Conf          Members    On IVR    On MP      Flags
----          -------    ------    -----      -----
667788        2          0         2          B
2 calls in 1 conferences
Flags: R - recording, B - broadcast, S - secure, L - lecture mode (strict/relaxe
d), T - realTime
ZILBER*CLI> []
```

Figure 37: *asterisk* **Console** *wyde show conferences* **and its** *help* **Commands Output Sample**

All active conferences are listed sorted ascending by conference number. There are several columns of information about each conference. Table 3 details what each column indicates. See section View Conferences in Progress for *mf* console for additional information.

View Conference Calls in Progress

Any time when there are conference calls in progress, you can view them in the command line interface using *asterisk* console.

To show a list of all calls that are joined to the specific conference using *asterisk* console you can use the following command:
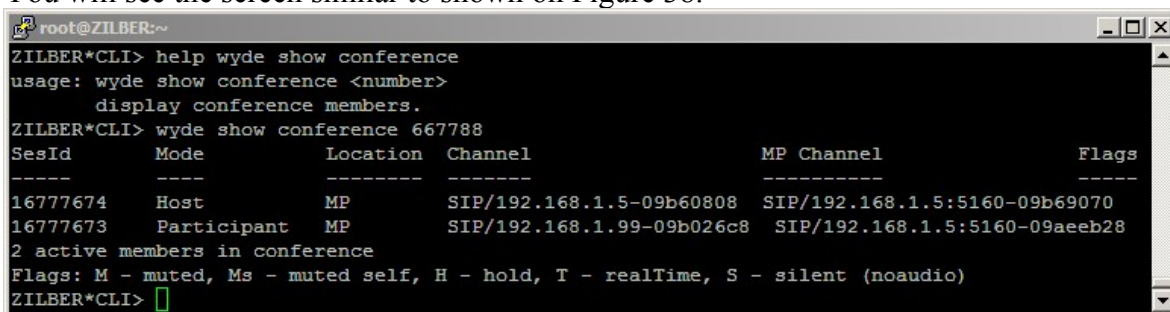
```
wyde show conference <number>
```
where

- <number> – The number of the conference which calls you would like to view.

For example if you would like to view the calls that were joined to the conference *667788* you should run the command:
```
wyde show conference 667788
```
You will see the screen similar to shown on Figure 38.

```
root@ZILBER:~                                                          _ □ ×
ZILBER*CLI> help wyde show conference
usage: wyde show conference <number>
       display conference members.
ZILBER*CLI> wyde show conference 667788
SesId         Mode          Location  Channel               MP Channel              Flags
-----         ----          --------  -------               ----------              -----
16777674      Host          MP        SIP/192.168.1.5-09b60808  SIP/192.168.1.5:5160-09b69070
16777673      Participant   MP        SIP/192.168.1.99-09b026c8 SIP/192.168.1.5:5160-09aeeb28
2 active members in conference
Flags: M - muted, Ms - muted self, H - hold, T - realTime, S - silent (noaudio)
ZILBER*CLI> []
```

Figure 38: *asterisk* **Console** *wyde show conference* **and its** *help* **Commands Output Sample**

All active conference calls will be shown. There are several columns of information about each conference call. Table 4 details what each column indicates. In addition to *mf* console *show* command output this command returns two extra columns:

- *Channel* – name/address of the channel from asterisk to the user, for instance it could be the IP address where the call came from;
- *MP Channel* – name/address of the channel from asterisk to the *MP*.
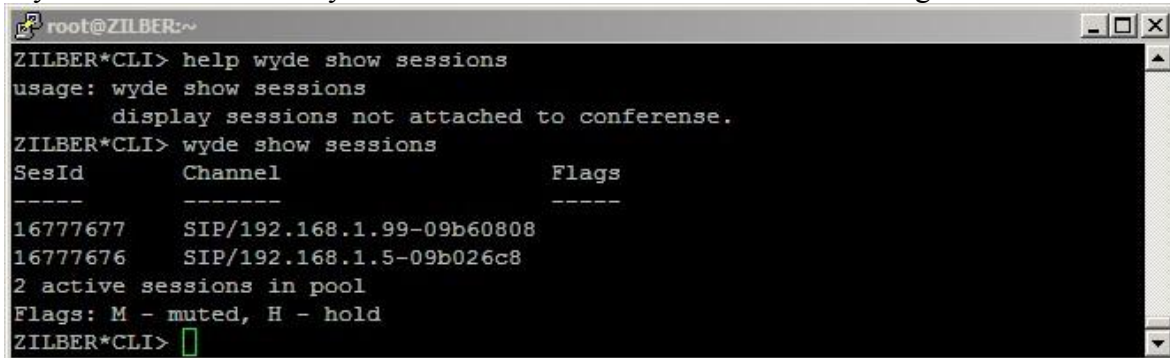
If you try to show conference calls for the conference that does not started or does not exist the error message "*Conference '<number>' not found*" will be returned back to you.

Show Calls that have not placed to Conferences

To show a list of all calls that are not joined to any of the conferences using *asterisk* console you can use the following command:
```
wyde show sessions
```
If you run this command you will see the screen similar to shown on Figure 39.

Figure 39: *asterisk* **Console** *wyde show sessions* **and its** *help* **Commands Output Sample**

Because these calls are not connected to any of the conferences this view contains only session identifier, channel and flags columns and it does not contains other columns that are shown in *wyde show conference* command output.

Dropping Conference Call Participants

If during a call, you wish to cancel a conference call for specific participants, you may use the *wyde drop session* command of *asterisk* console to kick someone off the call. To drop someone from a conference call you should run the following *asterisk* console command:
```
wyde drop session <conf_number> <session_id>
```
where

- `<conf_number>` – The number of the conference which call you wish to drop (disconnect).
- `<session_id>` – The call session identifier you wish to drop from the conference.
Both arguments are required.

For example if you would like to drop the session *16777673* from the conference *667788* you should run *asterisk* console command:
```
wyde drop session 667788 16777673
```

If the conference not found or not started you will receive the message "*Conference '<conf_number>' not found*"; if the session not found you will not receive any error message, but the call will not be dropped; otherwise if all parameters are correct the conference call will be dropped and you may receive *asterisk* messages in the console about the call hang-up processing.

Show Session Events Queue

Each call has its own events (commands) queue to *Frontend*. For example when the caller tries to execute any DTMF command this command is being placed into command queue. For debugging purposes you may wish to show the session events queue. This can be made using the following *asterisk* console command:

```
wyde show session queue <conf_number> <session_id>
```

where
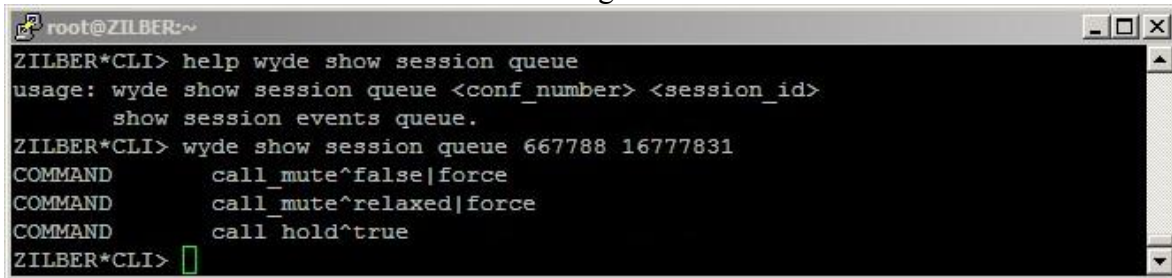
- `<conf_number>` – the call conference number which events queue you would like to show.
- `<session_id>` – the call session identifier which events queue you would like to show.

Both arguments are required.

For example if you would like to show the events queue for the session *16777831* of the conference *667788*, you should run *asterisk* console command:

```
wyde show session queue 667788 16777831
```

You will see the screen similar to shown on Figure 40.
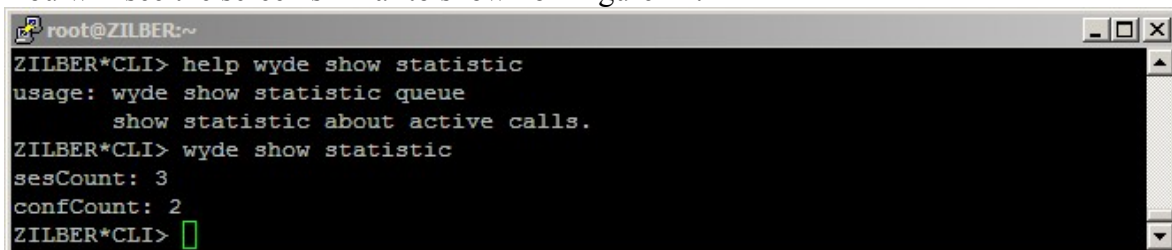
Figure 40: *asterisk* **Console** *wyde show session queue* **and its** *help* **Commands Output Sample**

Show Node Statistics

If you would like to see statistics, i.e. number of conferences and number of calls, for specific *asterisk* node it can be made using the following *asterisk* console command:

```
wyde show statistic
```

You will see the screen similar to shown on Figure 41.

Figure 41: *asterisk* **Console** *wyde show statistic* **and its** *help* **Commands Output Sample**

Note that information returned by this command displays statistics not for entire bridge, but for selected *asterisk* node only.

Conferences and Calls Management using *mp* Console

The *mp* console is the tool that could be used to manage *Backend* components (media processer, *mpw* service) of the WYDE bridge. Calls and conferences that are being managed by this console are being controlled for specific *Backend* only.

Using the *mp* Console

The *mp* console is being installed in *Backend* installation of the WYDE bridge software.

If you are using the single bridge installation where all the WYDE software components were installed to start *mp* console you should run the command:
```
telnet <Your Bridge IP> 4545
```
or, for example if you are running this command from your bridge computer:
```
telnet localhost 4545
```

If you use distributed installation to start *mp* console you should point to the computer where *Backend* components were installed:
```
telnet <Your Backend Computer IP> 4545
```

If you enter any unknown command the *mp* console returns you the list of all available commands, see Figure 42 for details. Additionally if you try using any *mp* command incorrectly, the console returns the format of the command you are trying to use. All *mp* console commands are listed in Table 7. These commands will be described in more detail later in this Guide.

```
Telnet 192.168.1.5                                               _ □ ×
Welcome to WYDE.MPs admin console 2.1.103 compiled May 20 2010
>help
Unknown command: try show, drop, kill, stop, mute, unmute, restart, remove
>
```
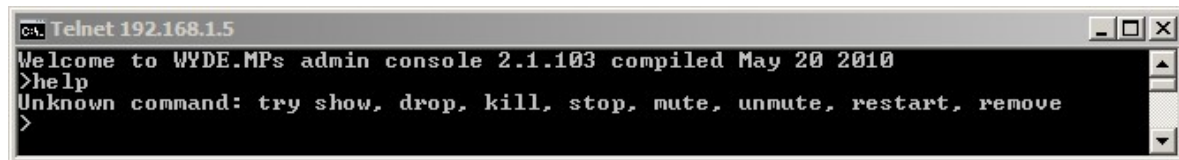
Figure 42: Starting *mp* console, Available Commands

Table 7: *mp* Console Utility Available Commands

Commands	Description
show	Show different *mp* statistics
timer	Start timer running *show* command
kill	Stop specific timer or all timers
drop	Drop boards and calls
stop	Stop *mp* components
restart	Restart *mp* boards and logs

Show Different *mp* Information

The *mp* console *show* command displays information about conferences, calls, boards, and other statistics. The syntax is as follows:
```
show {sw|conf|conf <conf_number>|calls|stat|boards}
```
where one of the following arguments should be specified:
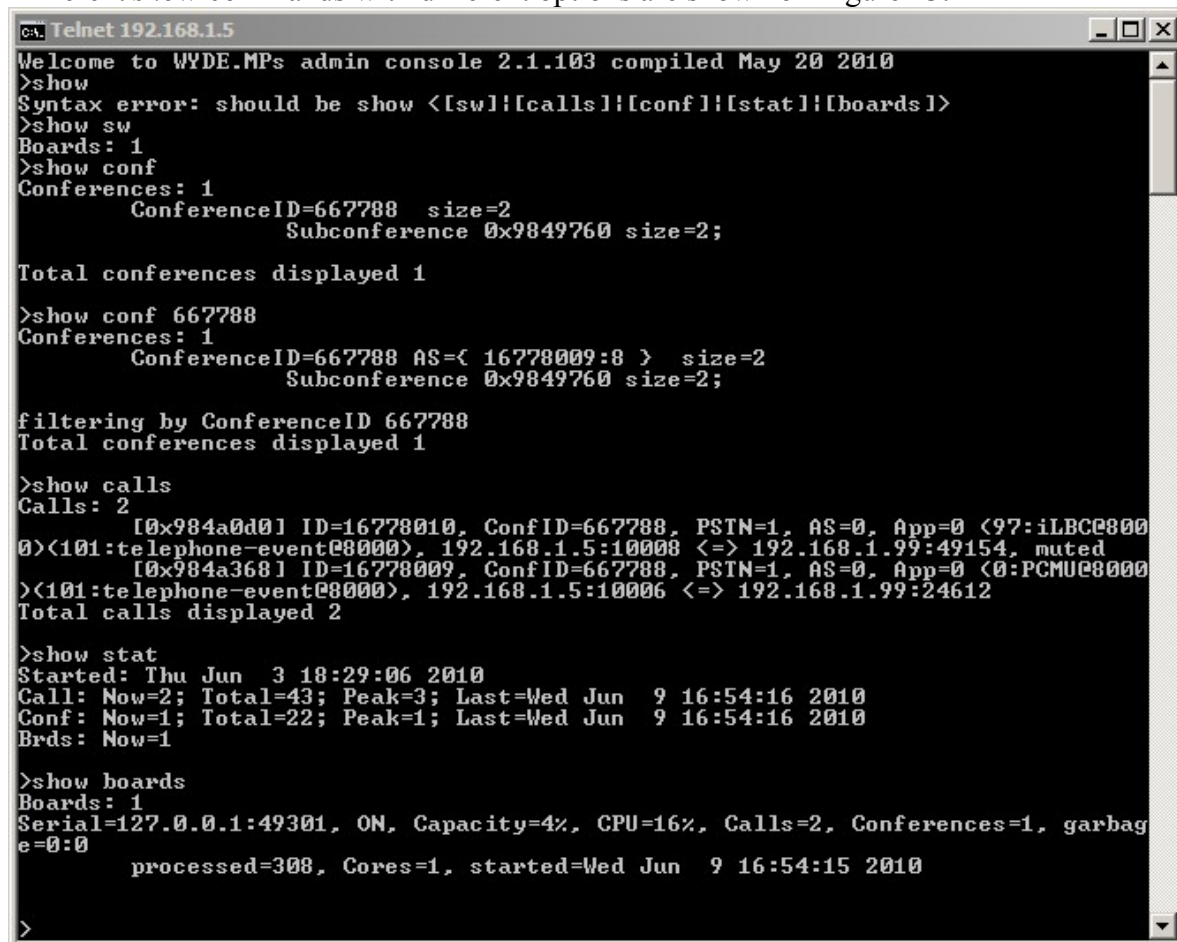
- sw – show the number of available *MPw* boards, i.e. backend components count;

- • conf – show all conferences currently running on the *mp*;
- • conf <conf_number> – show statistics for the specific conference only, including active speaker notifications;
- • calls [<id1>-<id2>] – show all calls currently running on the *mp* (the command returns calls identifiers, conference numbers, IP addresses, ports, codecs, status, etc.); if you specify the calls sessions identifiers range, only the calls within this range will be returned by the command;
- • stat – show overall *mp* statistics about calls, conferences and *MPs* boards (*now* column shows current data, *total* column shows data from *mp* start, *peak* column shows acme/height value);
- • boards – show detail *MPs* boards statistics, including the board current state, capacity, CPU load, number of conferences and calls, etc.

Different *show* commands with different options are shown on Figure 43.

Figure 43: *mp* **Console** *show* **Commands Output Sample**

Start and Stop *mp* Console Timers

If it is necessary you can run any *mp* console *show* command automatically in a given interval using *timer* command. The syntax is as follows:

```
timer <interval> show <options>
```

where

- `<interval>` – denotes interval in seconds in which the *show* command should be re-run;
- `show <options>` – denotes specific *show* command with its options that should be repeated in the given *interval*.

These commands will be repeated until the timer will be stopped. The *mp* console *kill* command should be used to stop the specific timer of all started timers. The syntax is as follows:

```
kill {<id> [<id>] ...|all}
```

where

- `<id>` – the specific timer identifier that should be stopped;
- `all` – denotes that all started timers should be stopped.
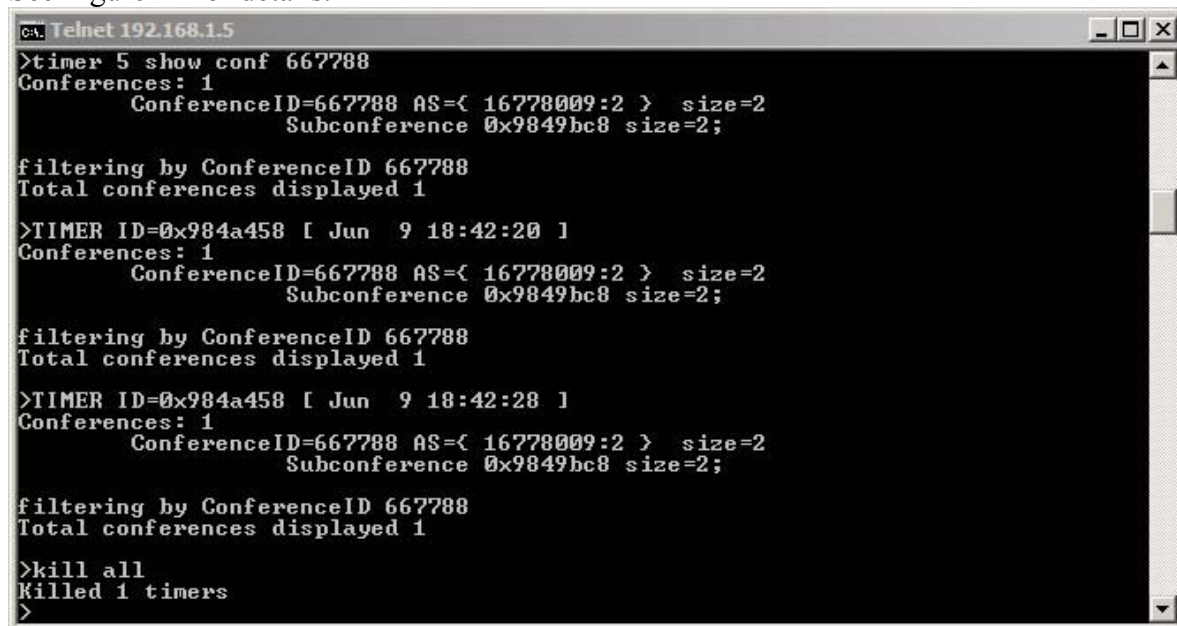
For example if you would like to show conference *667788* status each *5* seconds you should run the command:

```
timer 5 show conf 667788
```

To stop this timer you could use the command:

```
kill all
```

See Figure 44 for details.

Figure 44: *mp* Console *timer* and *kill* Commands Output Sample

Dropping Boards and Calls

To drop *MPw* boards and calls from *mp* you can use *mp* console *drop* command. The
syntax is as follows:

`drop {<boards <serial> [<serial>] ...>|<calls <<id> [<id>] ...>|all>}`

where one of the following arguments should be specified:

- `<boards <serial> [<serial>] ...>` – denotes *MPw* boards that should be
  dropped (placed on hold); use `<serial>` to specify the boards that should be dropped;
  - ✓ this option works as toggle switch – if you repeat this command the board will
    be switched on;
- `<calls <<id> [<id>] ...>|all>` – denotes that the calls should be dropped
  from *mp*; use `<id>` to specify the call sessions identifiers that should be dropped or use
  `all` keyword to drop all calls.
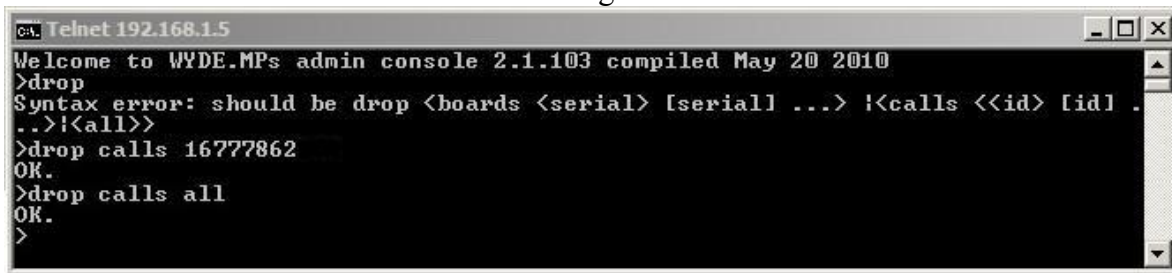
For example if you would like to drop the call *16777862* from *mp* you show run the
command:

`drop calls 16777862`

To drop all calls from *mp* use the command:

`drop calls all`

You will see the screen similar to shown on Figure 45.

Figure 45: *mp* **Console** *drop* **Commands Output Sample**

Restarting and Stopping *mp* Boards and Logs

If it is necessary to restart *MPw* boards or *mp* logs you can use *mp* console *restart*
command. The syntax is as follows:

`restart {<log [<level>]>|<board <serial>|all>}`

where

- `<log [<level>]>` – denotes that the log should be restarted; `<level>` – specifies
  what messages should be stored in the log: *3* – denotes that only information and error
  messages should be stored in the log file (default); *9* – denotes that debugging mode is
  switched on and all possible log messages should be added to the log file.
- `<board <serial>|all>` – denotes the *MPw* boards that should be restarted; use
  `all` keyword to restart all *MPw* boards.
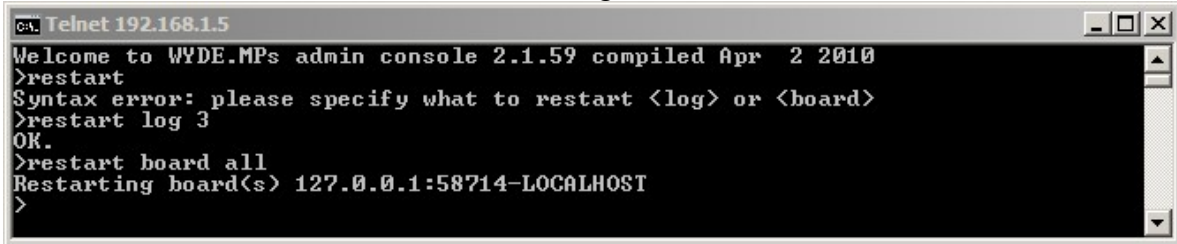
For example if you would like to restart the log and include into the log file only
information and error messages you show run the following command from *mp* console:

`restart log 3`

For example if you would like to restart all *MPw* boards you should run *mp* console command:
```
restart board all
```

You will see the screen similar to shown on Figure 46.

Figure 46: *mp* **Console** *restart* **Commands Output Sample**

To stop *mp* processes (*mpw* and *mps* services) you can use *mp* console *stop* command, but this service is being restarted automatically because it is need for the WYDE bridge activity. The syntax is as follows:
```
stop
```

Operator Conferences

Operator conferences and call flows are designed to administrate the conferences and assist the users in case of any problems. In other words operator conferences can be used as quick technical support for users. The operator can monitor the conferences, connect to the different conferences, receive requests from the users, attach the users to the different conferences, dialout, etc. When operator connects to his OPERATOR conference he is being notified when new requests are assigned to his queue or he can initiate the conference surveillance and management.

To act as the operator the voice phone call should be connected to the operator conference. There are two possibilities to connect to the operator conference:

- the operator can call to the operator conference, i.e. to call to the OPERATOR conference DNIS number and enter his access code to connect to the conference;
- the WYDE bridge can be configured to call to the operator automatically in case if specific conditions occurred:
  - o there are no operators connected to the bridge but the caller from operators' queue is expecting operator assistance;
  - o waiting period for the caller from the operators' queue exceeds specific period of time;

  in both cases when the call is made to the operator phone number the operator is being asked to enter his access code; only if the access code is valid, the caller is being joined to his operator conference.

Note that these conditions can be specified not only for entire WYDE bridge, but also for DNIS number or its mask.

See section Operator Invite Settings Configuration for information how to configure the WYDE bridge to call to the operator phone number when it is necessary.

During the conference any call participants can request a call to an operator. To do that they should press *0 (default, can be overridden); after that the users will be asked to press:

1 – to speak to an operator

2 – to pause the request and return to the conference

If the user presses 1 button he will be prompted: "*Please wait and you will connect to an operator*". After that the user will be placed to the operator queue.

Any time while the user is waiting the operator response he can press *0 again and he will be asked to press:

1 – to cancel the request

2 – to return to the conference

In addition some call flows can provide that if the user is entering access code three times incorrectly (default, can be overridden) this user is being placed to an operator queue automatically. The operator can assist to such user connect to the requested conference.

Operator conference management can be implemented using *mf* console. In addition operator conferences can be managed using DTMF keypad on your phone and the Web Administration Interface as it is described in "Web Administration Interface – User Guide".

Operator Conferences Management using *mf* Console

To show started operator conferences, i.e. the operator conferences that are in progress, you should run the following *mf* console command:
`op-show *[<operator_number>]*`
where

- `<operator_number>` – The operator conference number that you would like to show.
    o If this argument is omitted the brief information about all started operator conferences will be displayed; this information includes operator conference number, used DNIS (DID) number and current operator status (Free, Talk, Listen).
    o If this argument is specified the detail information about specific operator conference will be shown; this information includes data about this operator conference, such as current operator status (the same as above), flags, and information about users who are talking to the operator: their source conference number, DNIS, session identifier. Operator conference flag is two-digit number MN, where M and N is either 0 or 1; M=1 means that the operator is currently connected to another conference, N=1 means that the operator is currently scanning and listening other conferences. For example status=Talk, flags=01 means that the operator is currently talking to a user and he has activated conference surveillance, when he finishes the conversation the conference monitoring will be automatically resumed.

To show the operator queue you should run the following *mf* console command:
`op-queue`
This command displays all users who are currently waiting the operator assistance in operator queue. This information includes source conference number (if applicable), DNIS and session identifier; if there are no any users in the queue the message "*there are 0 calls in the queue*" will be returned.

For example to show all started operator conferences you should run *mf* console command:
`op-show`
To show detail information about operator conference *390008* you should run *mf* console command:
`op-show *390008*`
To show the operator queue you should run *mf* console command:
`op-queue`

Figure 47 displays both these commands samples when the operator queue is empty, non-empty, and when the operator is talking to the user from another conference.

Figure 47: *mf* **Console** *op-show* **and** *op-queue* **Commands Output Sample**

To start or stop conference monitoring (scan), i.e. surveillance call, you should run the following *mf* console command:

op-scan *<operator_number> {start|stop}*

where

- <operator_number> – The operator conference number where you would like to start or stop conference monitoring (surveillance call).
- {start|stop} – *start* denotes that the monitoring should be started; *stop* denotes that the monitoring should be stopped.

All arguments are required. When monitoring is started the operator is being switched between all started conferences each 30 seconds until he stops the monitoring or connects to another specific conference or talking to the user from his queue.

To connect and talk to the user, i.e. either to receive the call from the user from the operator queue or to talk to the specific user from any active conference, you should run the following *mf* console command:

```
op-talk <operator_number> {start [<conf_number>
    <ses_id>]|stop}
```
where
- `<operator_number>` – The operator conference number where you would like to start or stop talking to a user.
- `{start|stop}` – *start* denotes that the talking should be started; *stop* denotes that the talking should be stopped. If together with `start` option the parameters `<conf_number> <ses_id>` omitted the operator starts talking to the first user from his queue, if these parameters are presented the operator starts talking to the user specified by these parameters:
    - o `<conf_number>` – the number of the conference which caller should be taken to talk with the operator (0 for IVR calls);
    - o `<ses_id>` – the session identifier of the caller that should be taken to talk with the operator.

All arguments are required. When the talking is stopped the user who was talking to the operator is being returned to his conference or IVR.

To reject the user from the operator queue, i.e. to refuse the conversion with the user and remove the user from the operator queue without starting the conversation with him, you should run the following *mf* console command:
```
op-reject <conf_number> <ses_id>
```
Arguments:
- `<conf_number>` – the number of the conference which caller should be rejected from the operator queue, i.e. it is the conference where the caller came from (0 for IVR calls).
- `<ses_id>` – the session identifier of the caller that should be rejected from the operator queue, i.e. the conversion with this user will be refused and the user will be removed from the operator queue.

All arguments are required. When the user from the operator is rejected from the operator queue, he is being returned to his conference or IVR.

To connect and listen another conference you should run the following *mf* console command:
```
op-listen <operator_number> {start <conf_number>
    [{directlink|shunt} [mute]]|stop}
```
where
- `<operator_number>` – the operator conference number that would like to listen other users conferences. This argument is required.
- `{start|stop}` – *start* denotes that the listening should be started; *stop* denotes that the listening should be stopped. This argument is required. If *start* is specified the following arguments could be specified here:
    - o `<conf_number>` – the number of the conference you wish to start listening, must be indicated if *start* option is specified;
    - o `{directlink|shunt}` – *directlink* denotes that the operator should be directly connected to the requested conference (in this case only operator can

hear the requested conference, the user connected to the operator can not hear
that conference), *shunt* denotes that between operator conference and
requested conference is being made the shunt and both conferences can hear
each other (operator and the connected user both can hear the requested
conference), if this argument is omitted the *directlink* mode is being used
by default;
  o *mute* – when specified denotes that the operator is muted, so he can only hear
     the specified conference and he is unable to talk.
Note that *op-show* command display information about connected conference, i.e. the
connection mode (*directlink* or *shunt*) and the number of the conference you are listening.

To attach the user who currently is talking to the operator to a different conference, i.e.
move user to a conference, you should run the following *mf* console command:
```
op-call-move <operator_number> <new_did_number>
    <new_accesscode> [<new_role>]
```
where
* <operator_number> – The operator conference number whose current call (i.e. the
   user that currently talking to the operator) you would like to move to another
   conference.
* <new_did_number> – New (i.e. target) conference DNIS (DID) number where the
   call should be moved.
* <new_accesscode> – The access code that should be used to join to new (i.e.
   target) conference.
* <new_role> – The role that will be granted to the call when it joins to new
   conference (applicable only for call flows without authorization, for example *CONF*
   call flow).
The argument <new_role> is optional and should be used for call flows without
authorization only. All other arguments are required.

To initiate dial-out from the operator conference you should run the following *mf* console
command:
```
op-dialout <operator_number> <peer_number>
```
where
* <operator_number> – The operator conference number where you are initiating
   the dialout.
* <peer_number> – Denotes the phone number you wish to dial.
All arguments are required. When dial-out is performed the user that was dialed is being
connected to the operator conference. After that the operator is able to talk to the connected
user, attach him to another conference, etc.

To manage the operator message from the operator conference, i.e. to initiate recording and
playing back of the operator message or to clear (i.e. switches off) the operator message
you should run the following *mf* console command:
```
op-message <operator_number> {start {queue|all} [<message>]|
    stop}
```
where

- `<operator_number>` – The operator conference number where the message should be recorded or listened.
- `{start|stop}` – Determines what action should be performed with the message:
  - `start` denotes that the operator message should be recorded, activated and sent either to users from the operator's queue (when *queue* parameter is specified) or to all users on the bridge (when *all* parameter is specified); optional *message* parameter specifies prerecorded audio file that will be played to the callers, if the parameter is omitted the operator will be asked to leave his message – if there is no voice call connected to the conference with the specified number the command returns the error "*Error : Conference not found*", if the operator voice call is connected to the operator conference and *message* parameter is omitted the operator will be asked to leave his message after the tone and press # when it is done, after the message has been recorded (and # was pressed) this message will be played back to the operator and he will have the options either press 1 to send the recorded message or press * to cancel (this command works this way regardless there is or there is no previously recorded operator message);
  - *stop* denotes that the operator message should be cleared, i.e. playing this message should be stopped.

The *<message>* argument is optional, all other arguments are required.

To initiate recording and playing back the operator message from the operator conference to the user's conference hosts, participants, or listeners you should run the following *mf* console command:

```
op-message-to-conf <operator_number> <conf_number>
    {host|participant|listener} [<message>]
```

where
- `<operator_number>` – The operator conference number where the message should be recorded. This argument is required.
- `<conf_number>` – The number of the user's conference where the operator message should be played. If 0 is specified as the target conference number the message will be recorded and played to the conference to which the operator is currently connected or to whose user the operator is currently talking. This argument is required.
- `{host|participant|listener}` – The callers' role to which the message should be played. If the message should be played to multiply roles, all these roles could be specified separated by colon (`:`). This argument is required.
- `<message>` – The prerecorded audio file that will be played to the callers, if the parameter is omitted the operator will be asked to leave his message after the tone and press # when it is done, after the message has been recorded (and # was pressed) this message will be played back to the operator and he will have the options either press 1 to send the recorded message to the conference or press * to cancel. This argument is optional.

If the operator conference not found or not started or if there is no voice call connected to the conference with the specified number the command returns the error "*Error : Conference not found*"; if the operator is not connected to the user's conference, but the

second parameter is omitted, you receive the message "*Error : There is not connected conference*"; otherwise if the operator voice call is connected to the operator conference and the target conference is established you receive the message "*Success*". Next if the `message` parameter is specified the message from the file will be played to the conference; if it is omitted the operator will be asked to leave his message.

Let's assume that the operator conference *390008* is stated; another conference that we use to connect to is *667788*, its DNIS is *8665080012*, its participant access code is *6602*; phone number to dial-out *6046880331*. Table 8 shows samples what commands could be implemented to assist users via this operator conference using *mf* console commands.

Table 8: Operator Conference Management Samples Using *mf* Console Commands

Description	*mf* Console Command	DTMF
Start conference monitor (surveillance call)	`op-scan 390008 start`	`*1`
Stop conference monitor (surveillance call)	`op-scan 390008 stop`	`*1 2`
Connect and talk to the next user from the operator queue	`op-talk 390008 start`	`*2`
Stop talking to the current user and return him to his conference or IVR	`op-talk 390008 stop`	`*3`
Reject the user from the operator queue and return him to his conference	`op-reject 667788 16783926`	
Connect and listen another conference without current user (default `directlink` mode used)	`op-listen 390008 start 667788`	`*4 2`
Connect and listen another conference without current user and muting himself	`op-listen 390008 start 667788 directlink mute`	`*4 2`
Connect and listen another conference with current user (`shunt` mode used)	`op-listen 390008 start 667788 shunt`	`*4 1`
Stop listening another conference	`op-listen 390008 stop`	`*3`
Attach current user to a different conference	`op-call-move 390008 8665080012 6602`	`*5`
Dialing out to another user	`op-dialout 390008 6046880331`	`*7`
Initiate recording and activation of the operator message	`op-message 390008 start all`	`*8`
Initiate recording and playing back the operator message to specific conference	`op-message-to-conf 390008 667788 participant:listener`	`*9`

Samples and Use-Cases of Operator Conference Procedures

This section of the document will describe few samples about how the operator can assist users in their conference calls.

First of all the operator can monitor (hear) the conference to examine if there are any problems where he can assist.

Also for some call flows the operator will receive automatic requests from users who entered incorrect access codes three times (default, can be overridden). In this case the operator asks the user information about who he is and about the conference he wish to connect, connects to the requested conference, asks if this conference expecting this user, and if so, returns and attaches the user to this conference.

Moreover the users can request operator assistance in case of any problems, for instance bad audio quality or noises. In this case operator can connect to the user conference and use Web Administration Interface – Active Speaker notification mode (see "Web Administration Interface – User Guide", section: Active Speaker Notification (ASN) mode) to examine where is the problem and after that inform the user about the reason of the problems.

In addition the operator can dialout to another user and attach the user to the conference. If call flows do not allow making dialout within the conference the operator assistance is needed.

WYDE Bridge Administration

In addition to the daily conferences and calls administration, subscriber user management, call flow and DNIS management, you will have to administer the WYDE bridge system itself. These system management tasks could be the following:

- bridge monitoring;
- bridge settings management, including their save and restore;
- nodes administration;
- distributed conferencing administration;
- peers management;
- calls transferring management;
- audio prompts management;
- other WYDE bridge administration tasks.

Note that you should be very careful with your bridge administration. It is possible to render your system inoperable if you are not familiar with the WYDE bridge administration. Changing any of the bridge preferences, unless instructed to do so by WYDE technical support, also can render your system inoperable.

Monitoring

The WYDE bridge exposes metrics to allow the monitoring system to measure health and activity on it. Some of these metrics are available via *mf* console commands; some of them are available via web.

To show the number of commands executed on bridge from *mf* starts till now you should run the following *mf* console command:
`cmdcount-show`
The counters that are being returned by this command are described in `cmdcount-show` (Display Values of *Command* Counters). You can also use URL:
http://<Wyde bridge domain>/status/cmdcount to expose these counters via web.

To show the break-up of conferences according to the participant size from *mf* starts till now you should run the following *mf* console command:
`confcount-show`
The counters that are being returned by this command are described in `confcount-show` (Display Values of *confcount* Counters). You can also use URL:
http://<Wyde bridge domain>/status/confcount to expose these counters via web.

To show the counters related to the participants from *mf* starts till now you should run the following *mf* console command:
`partcount-show`
The counters that are being returned by this command are described in `partcount-show` (Display Values of *partcount* Counters). You can also use URL:
http://<Wyde bridge domain>/status/partcount to expose these counters via web.

To show the number of terminated/incomplete calls from *mf* starts till now you should run the following *mf* console command:

```
errcount-show
```

The counters that are being returned by this command are described in `errcount-show` (Display Values of *Error* Counters). You can also use URL: *http://<Wyde bridge domain>/status/errors* to expose these counters via web.
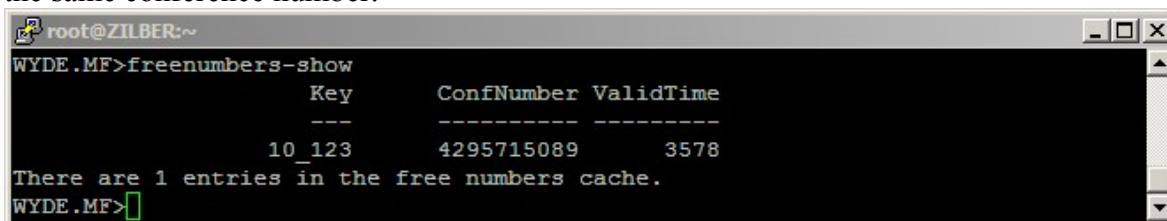
In addition you can use web to show the duration of the conferences that have ended in the last 2 minutes (*http://<Wyde bridge domain>/status/confduration*) and to show the duration of the participants calls that have ended in the last 2 minutes (*http://<Wyde bridge domain>/status/partduration*).

Conference numbers for call flows without authorization (like CONF) are being issued automatically, once the conference begins. To show these conference numbers together with phone number called, access code used, and valid time, you should run the following *mf* console command:

```
freenumbers-show
```

You will see the screen similar to shown on Figure 48. *Key* column contains *<DNIS number>_<access code>*; *ValidTime* column contains the conference number expiration time in seconds till the end of conference number validity – the calls with the same DNIS number/access code pairs till end of the conference number valid time will get the same conference number.

Figure 48: *mf* Console *freenumbers-show* Command Output Sample

If you would like to see all activities (actions) that take place in the conferences and calls you can use the following *mf* console command:

```
activities-show {start|stop}
```

where

- `{start|stop}` – *start* indicates that the conferences calls activities (actions) should be outputted to the *mf* console, *stop* indicates that the activities output should be stopped. This argument is required.
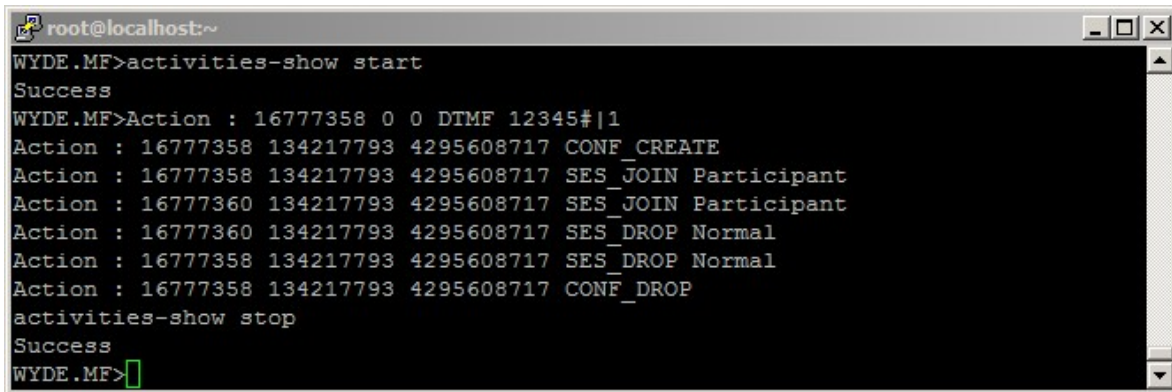
Thus when you wish to start activities output you should run the command:

```
activities-show start
```

and to stop this output you should run the command:

```
activities-show stop
```

You will see the screen similar to shown on Figure 49.

```
root@localhost:~                                              _ □ ×
WYDE.MF>activities-show start
Success
WYDE.MF>Action : 16777358 0 0 DTMF 12345#|1
Action : 16777358 134217793 4295608717 CONF_CREATE
Action : 16777358 134217793 4295608717 SES_JOIN Participant
Action : 16777360 134217793 4295608717 SES_JOIN Participant
Action : 16777360 134217793 4295608717 SES_DROP Normal
Action : 16777358 134217793 4295608717 SES_DROP Normal
Action : 16777358 134217793 4295608717 CONF_DROP
activities-show stop
Success
WYDE.MF>
```

Figure 49: *mf* **Console** *activities-show* **Command Output Sample**

WYDE bridge logs *mf* activity into */usr/local/DNCA/log/mf.log* file. To set the logger level you should run the following *mf* console command:
```
set-log-level {debug|event|info}
```
where
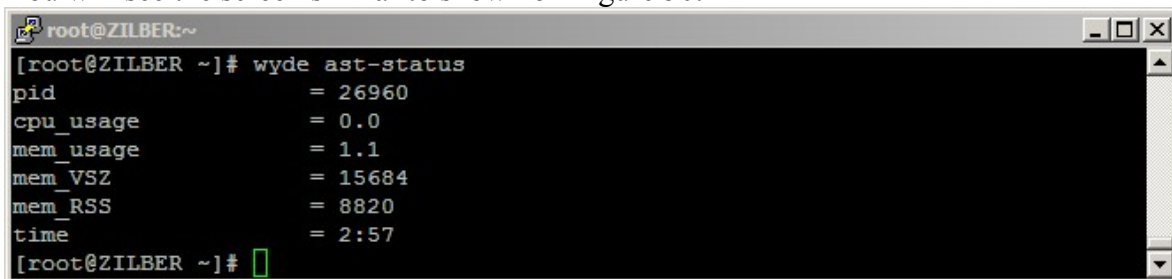
- `info` – denotes that only information and error messages should be stored in the log file (default); `event` – denotes that additionally the log should contain all events logging; `debug` – denotes that debugging mode is switched on, so additionally debug messages should be added to the log. This argument is required.

You can use the information from this *mf.log* file in case of any problems or if you need to monitor WYDE bridge activity.

To show the *asterisk* process status using the command line interface you should use the *wyde* command line utility with the *ast-status* option. The syntax is as follows:
```
wyde ast-status
```
You will see the screen similar to shown on Figure 50.

```
root@ZILBER:~                                              _ □ ×
[root@ZILBER ~]# wyde ast-status
pid                = 26960
cpu_usage          = 0.0
mem_usage          = 1.1
mem_VSZ            = 15684
mem_RSS            = 8820
time               = 2:57
[root@ZILBER ~]#
```

Figure 50: *wyde ast-status* **Command Output Sample**

To show the WYDE bridge status using the command line interface you should use the *wyde* command line utility with the *status* option. The syntax is as follows:
```
wyde status
```
You will see the screen similar to shown on Figure 51.

```
root@ZILBER:~                                                    _ □ ×
[root@ZILBER ~]# wyde status
System load:
cpu_idle              = 77.97
mem_swpd              = 288
mem_free              = 23912
mem_buff              = 67200
mem_cache             = 378884

Calls:
calls                 = 0
conferences           = 0
avg_conf_size         = 0
max_conf_size         = 0
min_conf_size         = 0

Errors:
total_terminated      = 18
sip_terminated        = 1
max_calls_terminated  = 0
agi_terminated        = 0
mp_terminated         = 7
asterisk_terminated   = 1
max_duration_terminated = 9
[root@ZILBER ~]#
```

Figure 51: *wyde status* **Command Output Sample**

Additionally you can watch the same status permanently and refresh it automatically with the given interval. To do so you should use the *wyde* command line utility with the *watch* option. The syntax is as follows:

`wyde watch [interval <interval>]`

- `<interval>` – The interval in seconds that denotes the period of how often the bridge status should be refreshed. This argument is optional; if it is omitted the 5 seconds interval is used by default.

This command output is similar to *wyde status* command output (see Figure 51); the only difference is that this screen is being refreshed automatically with the given period. To interrupt and exit from this command you should use CTRL+C keystroke. Note that each command execution takes 1-2 seconds, so the real interval is greater than you define.

WYDE Bridge Settings Management

If it is necessary you can change your WYDE bridge settings you can use the command line interface. To set WYDE bridge parameter value using the command line interface you should use the *wyde* command line utility with the *settings-edit* option. The syntax is as follows:

`wyde settings-edit <arguments>`

Each of the arguments is followed by a space and a value. In *settings-edit* you can specify the following arguments:

- `bridge <value>` – The name of the bridge which settings you would like to edit.
- `name <value>` – The parameter name that should be edited.
- `value <value>` – New parameter value that should be set.

The argument `name` is required, all other arguments are optional. If argument `bridge` is omitted the settings will be edited for the current bridge; the default bridge is defined in */usr/local/DNCA/etc/dnca.conf* file:
```
[general]
bridge_id = 1
```
If the argument `value` is omitted the empty value will be set to the parameter. The arguments can be transferred to this command in any order.
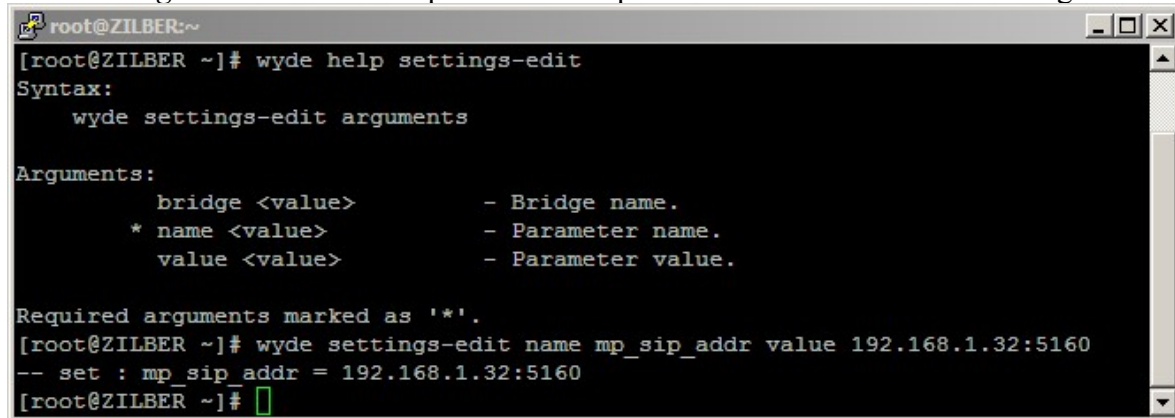
For example if you would like to change *mp_sip_addr* parameter value to *192.168.1.32:5160* (set new IP address) for the current bridge, you should run the following command (the transferred command arguments are shown in *italic*):
```
wyde settings-edit name mp_sip_addr value 192.168.1.32:5160
```

If the command is successful, the system will return updated parameter name and new value that was set; after that it will return you back to the command prompt (#). The sample of the *settings-edit* command output and the help on this command is shown on Figure 52.


```
[root@ZILBER ~]# wyde help settings-edit
Syntax:
    wyde settings-edit arguments

Arguments:
          bridge <value>          - Bridge name.
        * name <value>            - Parameter name.
          value <value>           - Parameter value.

Required arguments marked as '*'.
[root@ZILBER ~]# wyde settings-edit name mp_sip_addr value 192.168.1.32:5160
-- set : mp_sip_addr = 192.168.1.32:5160
[root@ZILBER ~]#
```

Figure 52: *wyde help settings-edit* and *wyde settings-edit* Commands Output Sample

If any of WYDE bridge parameters has been changed you should reload them from the database, from *bridge_settings* table. To send the signal on the WYDE bridge *MF* engine to reload all system settings the following *mf* console command should be executed:
```
settings-reload
```
or you should use the *wyde* command line utility with the *settings-reload* option:
```
wyde settings-reload
```

If the command is successful, the system will not return any errors or messages.

If new system parameter was added it should be added into *bridge_settings* table and populated with the default values. Usually you do not need doing it, because it is being run in the WYDE software upgrade installation automatically. However you can update *bridge_settings* table in the database using the *wyde* command line utility with the *settings-update* option. The syntax is as follows:
```
wyde settings-update <arguments>
```
Each of the arguments is followed by a space and a value. In *settings-update* you can specify the following argument only:

- `bridge <value>` – The name of the bridge which settings should be updated. This argument is optional; if it is omitted the default bridge is being taken from */usr/local/DNCA/etc/dnca.conf* file as it was previously described in this section.

This command adds missing bridge parameters populated with default values as well as removes obsolete bridge parameters for the bridge.

If this command is successful, the system will return the message "*Update settings for <bridge name>*"; after that it will return you back to the command prompt (#).

To show a list of all or specific WYDE settings, i.e. system parameters and their values, using the command line, you should use the *wyde* command line utility with the *settings-show* option. The syntax is as follows:

`wyde settings-show <arguments>`

Each of the arguments is followed by a space and a value. In *settings-show* you can specify the following arguments:

- `bridge <value>` – The name of the bridge which settings you would like to show.
- `prefix <value>` – The prefix of the parameters names that should be shown.

All arguments are optional. If argument `bridge` is omitted the settings will be shown for the current bridge; the default bridge is being taken from */usr/local/DNCA/etc/dnca.conf* file as it was previously described in this section. If argument `prefix` is omitted all bridge parameters will be shown; if this argument is specified the command shows only parameters that starts with the specified prefix.

For example if you would like to see all current WYDE bridge settings you should use the command:

`wyde settings-show`

This command outputs all system parameters for the current bridge, see Figure 53 for details. As you can see, the *wyde settings-show* command shows the bridge name, parameters names and their current values.

```
root@ZILBER:~                                                        _ □ ×
[root@ZILBER ~]# wyde help settings-show
Syntax:
    wyde settings-show arguments

Arguments:
            bridge <value>          - Bridge name.
            prefix <value>          - Parameters prefix.

Required arguments marked as '*'.
[root@ZILBER ~]# wyde settings-show
Bridge              Parameter                   Value
------              ---------                   -----
WYDE                agiserver_addr              192.168.1.5:5050
WYDE                agiserver_pool_size         5
WYDE                billing_localdb_host        192.168.1.5
WYDE                billing_localdb_name        dnca_calls
WYDE                billing_localdb_passwd      wyde4db
WYDE                billing_localdb_storing_period  180
WYDE                billing_localdb_user        dnca
WYDE                billing_split_nodes         0
WYDE                callspersecond              100
WYDE                crash_notify                wyde-test@freeconferencecall.com
WYDE                ivr_checkpeer               0
WYDE                ivr_gw_addr
WYDE                ivr_gw_prefix
WYDE                ivr_rec_addr
WYDE                maxcalls                    500
WYDE                mf_agi_addr                 192.168.1.5:4450
WYDE                mf_agi_pool_size            10
WYDE                mf_console_addr             192.168.1.5:4440
WYDE                mf_dc                       0
WYDE                mf_dc_connector_addr        192.168.1.5:4480
WYDE                mf_event_qdisc              4:20
WYDE                mf_localdb_pool_size        5
WYDE                mp_as_granularity           500
WYDE                mp_console_addr             192.168.1.5:4545
WYDE                mp_keepalive_timeout        300
WYDE                mp_log_file                 mp.log
WYDE                mp_max_calls                100
WYDE                mp_sip_addr                 192.168.1.5:5160
WYDE                prefered_codec              ul
WYDE                web_strict                  true
[root@ZILBER ~]#
```

Figure 53: *wyde help settings-show* **and** *wyde settings-show* **Commands Output Sample**

Bridge Configuration Changes

If all WYDE bridge software components are installed on one single computer and the IP address of this computer has been changed you can update this IP address in all configuration parameters using the single *wyde* command line utility run with the *set-ip* option. The syntax is as follows:

```
wyde set-ip <arguments>
```

Each of the arguments is followed by a space and a value. In *set-ip* you can specify the following arguments:

- `ip <value>` – New IP address of the bridge. This argument is required.

- `bridge <value>` – The name of the bridge which IP address should be changed. This argument is optional; if it is omitted the default bridge is being taken from */usr/local/DNCA/etc/dnca.conf* file as it was previously described in this section.

This command updates the following settings parameters (the parameters from `bridge_settings` table): `agiserver_addr`, `billing_localdb_host`, `mf_agi_addr`, `mf_console_addr`, `mf_dc_connector_addr`, `mp_console_addr`, `mp_sip_addr` with new IP address; it also updates `ip_addr` field value in `bridges` table and `ivr_addr` field value in `nodes` table. In addition this command updates *PostgreSQL* configuration file *pg_hba.conf*, *tomcat* configuration files and the IP information in the following files: *opt/tomcat/webapps/wydevoice/index.html*, */opt/tomcat/webapps/wydevoice/playback.html*, */opt/tomcat/webapps/supportmodule/WEB-INF/classes/supportmodule.properties*.

If you would like to change your notification email address using the command line, you should use the *wyde* command line utility with the *set-email* option. The syntax is as follows:

`wyde set-email <arguments>`

Each of the arguments is followed by a space and a value. In *set-email* you can specify the following arguments:

- `email <value>` – New notification email address for the bridge. This argument is required.
- `bridge <value>` – The name of the bridge which notification email address should be changed. This argument is optional; if it is omitted the default bridge is being taken from */usr/local/DNCA/etc/dnca.conf* file as it was previously described in this section.

This command updates settings parameter `crash_notify` (the parameters from `bridge_settings` table) and `MAILTO` parameter in */etc/crontab* file.

Dialout Settings Configuration

The following system parameters are responsible and should be configured to perform dial-out either to external phone number or to subscriber's VoIP phone number:

- `ivr_gw_addr` – denotes the gateway address (IP) where INVITE should be sent during the dial-out, if you are making dial-out to the real phone number the specified gateway should have PSTN output, if you are making dial-out to the subscribers VoIP phone number this could be the address of your Kamailio (OpenSER) server;
- `ivr_gw_prefix` – denotes the prefix that should be added to the beginning of the number during the dial-out or the template for replace.

For example if `ivr_gw_addr="192.168.1.88"` and `ivr_gw_prefix=""` (empty) the dialing out to the number *6046880331* actually will send INVITE to the specified gateway with *To* field equal *6046880331@192.168.1.88*. If, for instance, `ivr_gw_prefix="9"` this prefix will be added to the beginning of the number, i.e. *To: 96046880331@192.168.1.88*. If, for instance, `ivr_gw_prefix="00:11"` *00* in the number will be replaced with *11* and the dialing out to the number *006046880331* will be made as *To: 116046880331@192.168.1.88* (*00* will be replaced with *11*).

To set this gateway address for your bridge you can use the following *wyde* command:
```
wyde settings-edit name ivr_gw_addr value 192.168.1.88
```

In addition for testing purposes you can use the gateway *voice.freeconferencecallhd.com*:
```
wyde settings-edit name ivr_gw_addr value
     voice.freeconferencecallhd.com
```

Note after you changed dialout settings you should use the *wyde* command line utility with the *settings-reload* options to reload and apply system configuration changes that are being implemented:
```
wyde settings-reload
```

In addition to general WYDE bridge dialout settings you can also define peers – external gateways that could be used for the same purposes. If it is necessary to add new peer you can use the command line interface. To put in new peer using the command line interface you should use the *wyde* command line utility with the peer-add option. The syntax is as follows:
```
wyde peer-add <arguments>
```
Each of the arguments is followed by a space and a value. In *peer-add* you can specify the following arguments:

- `name <value>` – The unique name of the peer that should be added.
- `ipaddr <value>` – The unique peer IP address and optionally port. The logic of this peer attribute is similar to `ivr_gw_addr` system settings parameter.
- `dialout_prefix <value>` – The prefix that should be added to the beginning of the number during the dial-out or the template for replace for the peer. The logic of this peer attribute is similar to `ivr_gw_prefix` system settings parameter.
- `zone <value>` – The location zone for the peer.

The arguments `name` and `ipaddr` are required, all other arguments are optional. The arguments can be transferred to this command in any order.

For example you can add new peer using the following command (new peer attributes are shown in *italic*):
```
wyde peer-add name fcc ipaddr voice.freeconferencecallhd.com
```

If the command is successful, the system will not return any errors or messages, in typical Linux fashion, it will just drop you back to the command prompt (#). The sample of the *peer-add* command output and the help on this command is shown on Figure 54.

```
root@localhost:~                                                    _ □ ×
[root@localhost ~]# wyde help peer-add
Syntax:
    wyde peer-add arguments

Arguments:
          name <value>            - Peer name.
        * ipaddr <value>          - Peer IP address.
          dialout_prefix <value> - Dialout prefix.
          zone <value>            - Location zone

Required arguments marked as '*'.
[root@localhost ~]# wyde peer-add name fcc ipaddr voice.freeconferencecallhd.com
[root@localhost ~]#
```

Figure 54: *wyde help peer-add* **and** *wyde peer-add* **Commands Output Sample**

To update the properties of existing WYDE bridge peer using the command line, you
should use the *wyde* command line utility with the *peer-set* option. The syntax is as
follows:
`wyde peer-set <arguments>`
Each of the arguments is followed by a space and a value. In *peer-set* you can specify the
following arguments:

- `name <value>` – The name of the peer to update.
- `ipaddr <value>` – The IP address and optionally port of the peer which properties
  should be updated.
- `dialout_prefix <value>` – The prefix that should be added to the beginning of
  the number during the dial-out or the template for replace for the peer;
- `zone <value>` – New location zone for the peer to update.

Argument `ipaddr` is required. Other arguments should be transferred only if you would
like to update the specific peer property. The arguments can be transferred to this command
in any order.

For example you can update previously created peer and set its dialout prefix to *9* using the
following command:
`wyde peer-set ipaddr` *voice.freeconferencecallhd.com*
  `dialout_prefix` *9*

To drop the existing WYDE bridge peer definition using the command line, you should use
the *wyde* command line utility with the *peer-del* option. The syntax is as follows:
`wyde peer-del <arguments>`
Each of the arguments is followed by a space and a value. In *peer-del* you can specify the
following arguments:

- `id <value>` – The identifier of the peer that should be deleted.

Argument `id` is required.

If you would like to show a list of the peers in the system using the command line, you
should use the *wyde* command line utility with the *peer-show* option. The syntax is as
follows:
`wyde peer-show`

This command will output a list of the all existed peers on the system, similar to shown on Figure 55. As you can see, the *wyde peer-show* command shows the peers that have been created in the system as well as their basic properties.

```
root@localhost:~                                                              _ □ ×
[root@localhost ~]# wyde peer-show
Id        Name             IP Addr              Zone              Dialout prefix
--        ------           -------              ----              --------------
1         fcc              voice.freeconferencecallhd.com                      9

[root@localhost ~]#
```

Figure 55: wyde peer-show Command Output Sample

For detail information how to perform dialout using *mf* console see section Dialing another User in this guide.

Recording Settings Configuration

Conference recording can be made using any of two recording methods:

*   *local* – the recording is being made directly to the bridge where the conference take place:
    *   the recording files are being placed to the */usr/local/DNCA/var/recordings/* folder,
    *   the frontend components of the WYDE bridge software are responsible for maintaining of the recording,
    *   if the cluster configuration where different WYDE software components installed on different computers is used, the */usr/local/DNCA/var/recordings/* folder is placed on the computer where core components are installed and this folder should be accessible through NFS (Network File System) by the computer where frontends components are installed;
*   *remote* – the recording is being made to the external recording server:
    *   in this case additional call to the external recoding server is being placed to maintain the conference recording,
    *   the external recording server is the separate computer with the *asterisk* service installed, to maintain the recording it should be able to process INVITE in WYDE format or specific recording server software should be installed on that computer;
        *   for detail information about WYDE recording server please contact your WYDE Voice representative,
        *   alternatively, if you with, you can create your own recording server, in this case it must be able to process INVITE in WYDE format.

The recording method is being set using `recording_method` call flow attribute either for call flow or for DNIS. The *local* value of this attribute is used to make the recording locally, the *remote* value is used to denote that the conference recording should be made to the external recording server.

The following system parameter is responsible and should be configured if you wish to use external recording server for your bridge conferences:

*   `ivr_rec_addr` – denotes the IP address of the external recording server.

For example, if you are going to use the computer with IP address *192.168.1.81* as your recording server, to set this recording server address for your bridge you can use the following *wyde* command:

```
wyde settings-edit name ivr_rec_addr value 192.168.1.81
```

You can override your bridge external recording server settings defined in `ivr_rec_addr` for your call flow or DNIS using the recording server address (`recording_addr`) call flow attribute either for call flow or for DNIS. If you use *remote* recording method and `recording_addr` call flow attribute is not empty, this address is being used as your recording server IP; if it is empty, the address from `ivr_rec_addr` system settings parameter is being used as your recording server IP.

Operator Invite Settings Configuration

As it was previously told in the section Operator Conferences the WYDE bridge can be configured to perform dialout to the operator when it is necessary. The following system parameter is responsible and should be configured to perform dial-out to operator:

- `operator_invite` – denotes when, to what number, from what DNIS the invite call should be made from the bridge to the operator as well as some other options; the parameter has the following format:
  ```
  <phone number>:<operator_did>
      [:<waiting_time>[:<dial_timeout>[:<invite_interval>
      [:<waiting_time_max>:<on_wait_time_max_direct_number>]]]]
  ```
  where
  - `<phone number>` – denotes operator's phone number to dialout, it also could be operator business telephone system / PBX phone number;
  - `<operator did>` – denotes DNIS number of the operator conference;
  - `<waiting_time>` – denotes the waiting period in seconds how long the caller from the operators' queue will wait until the system performs dialout to the operator; if the parameter not defined the system starts dialout immediately once the user arises in the operator queue;
  - `<dial_timeout>` – denotes the operator response waiting period in seconds, i.e. the operator dialout call answering period; if the parameter not defined the default dialout timeout is 45 seconds;
  - `<invite_interval>` – denotes the interval in seconds between subsequent attempts to redial to the operator; if the parameter not defined the default invite interval is 60 seconds;
  - `<waiting_time_max>` – denotes the maximal waiting time in seconds for the user in operator's queue, after that time the system starts dialout to the operator direct phone number defined in `<on_wait_time_max_direct_number>` parameter; if the parameter not defined the waiting period is endless so the dialout to the operator direct phone number is not being performed;
  - `<on_wait_time_max_direct_number>` – denotes direct phone number to dialing out to the operator; in this case the operator is not being connected to the operator conference, his call is just being directly connected with the user from the operator queue and he has the possibility to talk to this user.

When the call to the operator is made, the operator is being asked to enter his access code. If the access code is valid, the caller is being joined to his operator conference.

To set the bridge to automatically call to the phone number *6046880331* and connect to the operator DNIS *8665080020* you can use the following *wyde* command:
```
wyde settings-edit name operator_invite
      value 6046880331:8665080020
```

Bridge Configurations Reloading

From time to time you may need to reload some or all WYDE bridge configuration features. If any changes in the bridge configuration could interfere with normal bridge work, these changes could be applied only manually, i.e. you should manually reload necessary module or sub-system. If the changes could be safely made without interfering in the functioning of the bridge, such changes could be applied automatically.

You can use the *wyde* command line utility with the following options to apply configuration changes that are usually being implemented automatically:
* `did-reload` – reload DIDs cache;
* `sounds-reload` – reload music-on-hold and welcome prompt sound files.

You should always use the *wyde* command line utility with the following options to apply configuration changes that are being implemented only manually:
* `auth-reload` – reload *auth* configuration;
* `billing-reload` – reload billing configuration;
* `bridge-reload` - reload DC bridges configuration;
* `callflow-reload` - reload all call flows;
* `node-reload` – reload nodes configuration;
* `settings-reload` – reload system settings.

All these commands, both automatic and manual, are described in this guide in details with the description where they should be executed.

In addition you have the possibility to reload all configurations, i.e. to run all reload commands described above. To do so you could use the *wyde* command line utility with the *reload-all* option. The syntax is as follows:
```
wyde reload-all
```

WYDE Bridge Configuration Save and Restore

The WYDE bridge software allows you to save the currently installed and configured system. This includes:
* Main database *dnca*;
* Billing database *dnca_calls*;
* Contents of the folder */usr/local/DNCA/etc*;
* Contents of the folder */usr/local/DNCA/var*;
* Configuration files of *asterisk*.

If you would like to save the current bridge settings using the command line, you should use the *wyde* command line utility with the *config2-save* option. The syntax is as follows:
`wyde config-save` *`file <target file name>`*
where
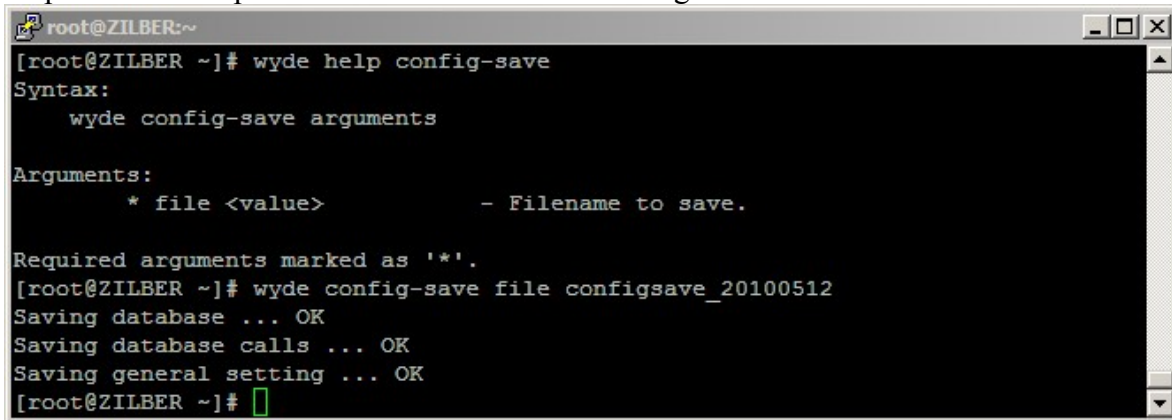
- `<target file name>` – The file name to save configuration settings. This argument is required.

For example to save the current WYDE bridge configuration into *configsave_20100512* file you should run the command:
`wyde config-save file` *`configsave_20100512`*

If the command is successful, you will be informed about each step that performs the command, i.e. you receive the messages when main database is saved, when billing database is saved and when general system settings are saved; after that the command will return you back to the command prompt (#). The sample of the *config-save* command output and the help on this command is shown on Figure 56.


```
root@ZILBER:~                                                          _ □ ×
[root@ZILBER ~]# wyde help config-save
Syntax:
    wyde config-save arguments

Arguments:
        * file <value>           - Filename to save.

Required arguments marked as '*'.
[root@ZILBER ~]# wyde config-save file configsave_20100512
Saving database ... OK
Saving database calls ... OK
Saving general setting ... OK
[root@ZILBER ~]#
```
Figure 56: *wyde help config-save* **and** *wyde config-save* **Commands Output Sample**

To restore previously saved configuration settings from the file using the command line, you should use the *wyde* command line utility with the *config-restore* option. The syntax is as follows:
`wyde config-restore` *`<arguments>`*
Each of the arguments is followed by a space and a value. In *config-restore* you can specify the following arguments:

- `file <source file name>` – The file name to restore configuration settings. This argument is required.
- `force <value>` – Force required `{yes|no}`:
    - `yes` denotes that the configuration file should be restored even if the versions of previously saved configuration data and currently installed WYDE software are different;
    - `no` denotes that the configuration file should be restored only if the versions of previously saved configuration data and currently installed WYDE software are the same.
    This argument is optional, if the argument is omitted `force no` is used by default.

If the versions of previously saved data and currently installed WYDE software are the same this command will restore all saved settings, i.e. databases *dnca* and *dnca_calls*, folders */usr/local/DNCA/etc* and */usr/local/DNCA/var*, and *asterisk* configuration files. If these versions are different and parameter `force` either omitted or equal `no`, you will receive the error message about versions mismatch and restore will be canceled. If these versions are different and parameter `force` equal `yes`, you will receive the warning message about versions mismatch, but restore still will be processed.

Nodes Administration

In terms of WYDE bridge *MF* service, the *node* is the computer with the *asterisk* service installed and running. The *asterisk* is being installed in *Frontend* components installation. If you are performing cluster installation you can have multiple nodes, i.e. multiple *asterisk* computers in your WYDE bridge environment. Note that the version of the WYDE software must be the same on all nodes of you bridge.

If you are configuring the large scale bridges, i.e. the bridges that should support large amount of simultaneous calls, the single bridge resources may be insufficient. In this case you may consider using multiple nodes for you bridge. Later in this section we will describe how to install and configure additional node for you bridge.

To add new node definition on the bridge using the command line, you should use the *wyde* command line utility with the *node-add* option. The syntax is as follows:
`wyde node-add <arguments>`
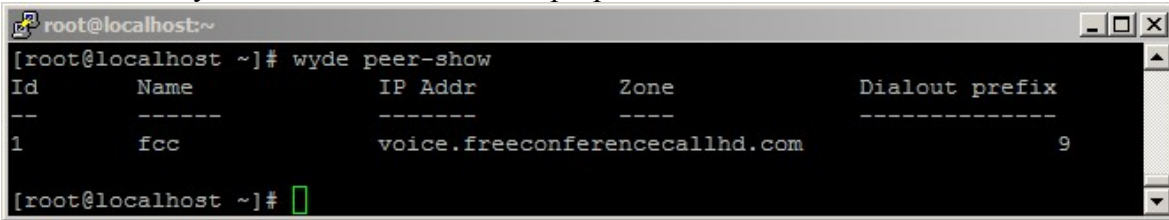Each of the arguments is followed by a space and a value. In *node-add* you can specify the following arguments:

- `bridge <value>` – The name of the bridge to which you would like to add the node. If this argument is omitted the node will be added for the current bridge.
- `name <value>` – The name of the node that should be added.
- `ivr_addr <value>` – The node IVR address, i.e. IP address and port of the node.
- `ivr_maxcalls <value>` – The maximum number of calls on the IVR for the node. The optimal value of this parameter also depends on your WYDE bridge node hardware configuration (the default value: *500*).
- `zone <value>` – The location zone for the node.

Arguments `name` and `ivr_addr` are required. The arguments can be transferred to this command in any order.

To update the properties of existing WYDE bridge node using the command line, you should use the *wyde* command line utility with the *node-set* option. The syntax is as follows:
`wyde node-set <arguments>`
Each of the arguments is followed by a space and a value. In *node-set* you can specify the following arguments:

- `bridge <value>` – The name of the bridge which node properties should be updated. If this argument is omitted the node for the current bridge will be taken.

- `name <value>` – The name of the node which properties should be updated.
- `ivr_addr <value>` – The node new IVR address, i.e. IP address and port of the node.
- `ivr_maxcalls <value>` – New maximum number of calls on the IVR for the node. The optimal value of this parameter also depends on your WYDE bridge node hardware configuration (the default value: *500*).
- `zone <value>` – New location zone for the node.

Argument `name` is required. Other arguments should be transferred only if you would like to update the specific node property. The arguments can be transferred to this command in any order.

To drop the existing WYDE bridge node definition using the command line, you should use the *wyde* command line utility with the *node-del* option. The syntax is as follows:
```
wyde node-del <arguments>
```
Each of the arguments is followed by a space and a value. In *node-del* you can specify the following arguments:

- `bridge <value>` – The name of the bridge which node should be deleted. If this argument is omitted the node will be deleted from the current bridge.
- `name <value>` – The name of the node that should be deleted.

Argument `name` is required. The arguments can be transferred to this command in any order.

For these *node-add*, *node-set*, and *node-del* commands the default bridge is defined in */usr/local/DNCA/etc/dnca.conf* file:
```
[general]
bridge_id = 1
```
If the argument `bridge` is omitted in these commands the bridge defined in *dnca.conf* file will be taken as default.

If any of these commands is successful, the system will not return any errors or messages; it will just return you back to the command prompt (#).

If you added new node, updated node properties, or deleted existing node you should reload *MF* cluster nodes list, i.e. reload *nodes* table from the database. To send the signal on the WYDE bridge *MF* engine to reload all nodes the following *mf* console command should be executed:
```
node-reload
```
or you should use the *wyde* command line utility with the *node-reload* option:
```
wyde node-reload
```
If new *asterisk* computer was added this command will connect and turn on this node. If the properties of existing nodes were changed they will be renewed and actualized. If existing node was deleted all conferences and calls on this node will be dropped and the node will be disconnected and turned off.

If you would like to show nodes configuration in the database, you should use the *wyde* command line utility with the *node-show* option. The syntax is as follows:

`wyde node-show` *`[bridge <bridge>]`*
where
- `<bridge>` – the name of the bridge which nodes you would like to show. This argument is optional.

If you would like to show current nodes status, you should use the following *mf* console command:
`node-show`

Let's assume that you have the bridge with full installation of the WYDE software on IP *192.168.1.5* and you would like to add new node on IP *192.168.1.33*. To do that first of all you should install on the *192.168.1.33* computer the *Frontend* components of the WYDE software, i.e. install the *asterisk* service. After that on your *192.168.1.5* computer you should run the following *wyde* command to add this node registration:
`wyde node-add name` *`AST33`* `ivr_addr` *`192.168.1.33:4460`*
Next you should run *mf* console command `node-reload` to send the signal on the WYDE bridge *MF* engine to reload all nodes.
As soon as these steps have been made you are able to call either on *192.168.1.5* or *192.168.1.33*.

Samples of *wyde node-show* and *mf* console *node-show* commands are shown on Figure 57. Please see nodes identifiers in *mf* console *node-show* command output: *1* – for *192.168.1.5* and *6* – for *192.168.1.33*; when you are looking the conference information these identifiers are shown in *mf* Console *show*, column Node. Figure 58 shows two conference calls, as you can see the *host* call has been made to the node *1* (*192.168.1.5*) and the *participant* call has been made to the node *6* (*192.168.1.33*).
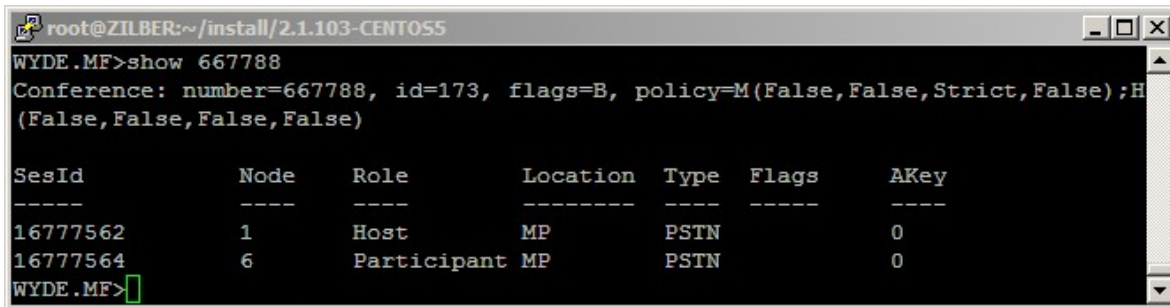
Figure 57: *wyde node-show* **and** *mf* **Console** *node-show* **Commands Output Sample**

Figure 58: *mf* Console *show* Conference – Different Nodes Calls Command Output Sample

Distributed Conferencing Administration

In terms of WYDE bridge, the *distributed conference* is the conference that is taking place on the multiple bridges simultaneously. That means that the calls are being made to the different bridges, but these calls are participating in the same conference.

You may need to use distributed conferences if your users are geographically located remotely from each other in different regions or countries and you prefer having the local bridges for them. In this case the users will be able to call to the local bridges, but their calls could be joined into distributed conferences.

This section contains only basic information about distributed conferencing configuration. If you would like to use distributed conferences please contact WYDE Voice technical support for detail instructions and assistance in distributed conferencing configuration for the WYDE Voice conferencing bridge software.

The following steps and conditions should be implemented if you are going to use distributed conferences:
*   all necessary bridges that perform distributed conferences must have the same version of the WYDE software installed on them;
*   all necessary bridges that perform distributed conferences should be added to the `bridges` table on all bridges that you use, you can use *wyde bridge-add* command for these purposes;
*   the identifiers of your bridges (`id` field in `bridges` table) should be between 1 and 15;
*   the identifiers of your bridges should be the same on all bridges that are performing distributed conferences;
*   the system parameter `mf_dc` should be set `1` on all these bridges, see section WYDE Bridge Settings Management for instructions how to set the system parameter value;
*   the system parameter `mf_dc_connector_addr` should be set; it denotes the IP address and the port (for example 192.168.1.5:4480) for binding between *MF* and *ASD*; it is being used to establish connection between bridges in distributed conferences; if *MF* sees that the conference is distributed, it sends to this IP address and port the *ASD* commands that establishes *SIP* connection between distributed conferences bridges;
*   after that the bridge sends notifications about the conferences to all bridges described in `bridges` table;

- call flow attribute `conference_distributed` (Distributed conferencing) should be equal "*on*" either on call flow or on DNIS or on conference level for the conference where you are calling;
- if another bridge has the conference with the same conference number, and `conference_distributed` call flow attribute for this conference equal "*on*", and `mf_dc` parameter is equal to *1* on that bridge as well, these conferences are being joined into single distributed conference.

The following algorithm is being applied for the distributed conferences:
- the bridge knows identifiers, IP addresses and ports of all bridges, that are participating in distributed conferencing;
- the bridge announces all own conferences each minute and when new conference is being created to all other bridges;
- to send these announcements UDP datagrams are being used, these datagrams have their own specific format;
- if the conference with the same conference number and `conference_distributed` attribute equal "*on*" exists on two or more bridges the master bridge is being selected for this conference,
  - the *weight* entity is being used to determine what bridge is being selected as the master bridge,
  - the system parameter `mf_dc_weight` is being set for any of distributed bridges (the default value is *0*),
  - the *weight* of the bridge is being calculated as number of links with another bridges plus `mf_dc_weight` system parameter value,
  - the master bridge is the bridge with the largest *weight*,
  - if the weights of the bridges are the same, the master bridge is the bridge where the conference was started earlier than on other bridges;
- subordinate bridges make connection with the master bridge using real time protocol;
- real time clients translate all RT commands to another bridges using control calls, by this approach the status of distributed conference is being kept the same on all bridges;
- if during the distributed conference the subordinate bridge RT client loses the master bridge, the existing master bridge is being canceled and new master bridge is being selected again using the same algorithm that was described above.

Note, thus if you wish to select the specific bridge as your master bridge (for example, if it has more powerful hardware, or if the bandwidth for it is higher, or if it is in the center of you star topology network, etc.) you can achieve that using `mf_dc_weight` system parameter.

To add new bridge definition you should use the *wyde* command line utility with the *bridge-add* option. The syntax is as follows:
```
wyde bridge-add <arguments>
```
Each of the arguments is followed by a space and a value. In *bridge-add* you can specify the following arguments:
- `id <value>` – The identifier of the bridge that should be added.
- `name <value>` – The name of the bridge that should be added.

- `ip_addr <value>` – IP address of the bridge that should be added.

All these arguments are required. The arguments can be transferred to this command in any order.

If you need to change existing bridge definition you should use the *wyde* command line utility with the *bridge-set* option. The syntax is as follows:

`wyde bridge-set <arguments>`

Each of the arguments is followed by a space and a value. In *bridge-add* you can specify the following arguments:

- `id <value>` – The identifier of the bridge which properties should be updated.
- `name <value>` – The name of the bridge that should be updated.
- `ip_addr <value>` – IP address of the bridge that should be updated.
- `new_id <value>` – New identifier of the bridge if it should be changed.

The argument `id` is required. Other arguments should be transferred only if you would like to update the specific bridge property. The arguments can be transferred to this command in any order.

To delete existing bridge definition you should use the *wyde* command line utility with the *bridge-del* option. The syntax is as follows:

`wyde bridge-del id <bridge id>`

where

- `<bridge id>` – The required identifier of the bridge that should be deleted.

Note that this command does not allow deletion of the local bridge; if you try to use it to delete the local bridge you receive the error message "*<bridge id>: you can't remove local bridge!*". If the bridge with the specified identifier does not exist you receive the error message "*<bridge id>: bridge with same Id not exist!*".

If you added new bridge, updated existing bridge properties, or deleted existing bridge you should reload bridge information, i.e. reload *bridges* table from the database, to apply the changes you made. To send the signal on the WYDE bridge to reload all bridges the *wyde* command line utility with the *bridge-reload* option should be used:

`wyde bridge-reload`

Alternatively you can use *mf* command *dc-reload* to reload DC bridges configuration.

To see all registered WYDE bridges, i.e. the bridges described in `bridges` table you should use the *wyde* command line utility with the *bridge-show* option. The syntax is as follows:

`wyde bridge-show`

For each defined bridge this command returns the bridge identifier, name of the bridge, IP address of the bridge, and information showing is the bridge reachable or not. The *Reachable* column can have the following values:

- `Local` – for your local bridge, i.e. for the bridge installed on the same computer where you are running this *bridge-show* command;
- `Yes` – if the bridge is reachable via network for distributed conferences, i.e. the bridge can participate in distributed conferences;

- *No* – if the bridge is not reachable via network for distributed conferences, i.e. the bridge can not participate in distributed conferences because either distributed conferencing is switched off either for local or for remote bridge (*mf_dc* parameter is equal *0*, see below), the remote bridge is inaccessible, there are no such definition on the remote bridge, etc.

Let's assume that you would like to configure distributed conferences between two bridges: *192.168.1.5* (let the name of the bridge is *WYDE5* and identifier of the bridge is *1*) and *192.168.1.31* (let the name of the bridge *WYDE31* and identifier of the bridge is *2*). To do that you should run the following *wyde* commands on the first bridge (i.e. on the bridge with identifier *1*, name *WYDE5*):

```
wyde bridge-set id 1 name WYDE5
wyde bridge-add id 2 name WYDE31 ip_addr 192.168.1.31
wyde bridge-reload
```

Next you should run the following *wyde* commands on the second bridge (i.e. on the bridge with identifier *2*, name *WYDE31*):

```
wyde bridge-set id 1 name WYDE31 new_id 2
wyde bridge-add id 1 name WYDE5 ip_addr 192.168.1.5
wyde bridge-reload
```

On the second bridge when you change the identifier for the local bridge the system shows the message "*Local bridge has been switched. You should run 'service wyde restart' to apply changes.*" That means the current local bridge identifier has been updated in the */usr/local/DNCA/etc/dnca.conf* file as the result of this command:

```
[general]
bridge_id = 2
```

as well as *bridge_settings* table and nodes configuration have been updated. Next you should run the command:
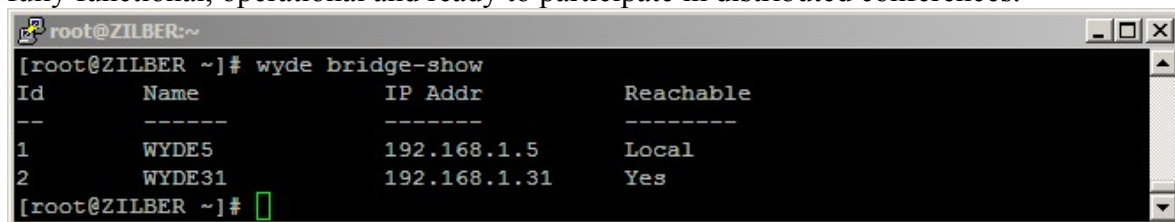
```
service wyde restart
```

to apply these changes.

After that on all these bridges you should switch on the distributed conferences configuration mode and set the system parameter *mf_dc* equal *1*; the following *wyde* command should be used for that:
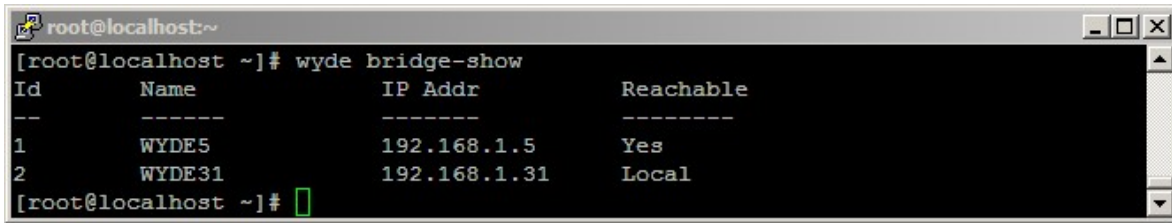
```
wyde settings-edit name mf_dc value 1
```

After these changes the content of *bridges* table, i.e. the configuration of the bridges will be exactly the same on both bridges (see Figure 59 and Figure 60) and both bridges will be fully functional, operational and ready to participate in distributed conferences.

Figure 59: *wyde bridge-show* **Command Output Sample on** *WYDE5* **Bridge**

```
root@localhost:~                                              _ □ ×
[root@localhost ~]# wyde bridge-show
Id        Name             IP Addr           Reachable
--        ------           -------           --------
1         WYDE5            192.168.1.5       Yes
2         WYDE31           192.168.1.31      Local
[root@localhost ~]# []
```

Figure 60: *wyde bridge-show* Command Output Sample on *WYDE31* Bridge

If you have large quantity of bridges that should participate in distributed conferencing you may consider using *wyde* commands *bridge-list-save* and *bridge-list-load* to simplify bridges configuration process. Using this approach all necessary bridges are being configured on one bridge, next the list of bridges is being saved on this bridge using the *wyde* command line utility with the *bridge-list-save* option, the created file is being copied to other bridges, and the *wyde* command line utility with the *bridge-list-load* option is being run on them to load all necessary bridges.

To save the list of all registered WYDE bridges into the file you should use the *wyde* command line utility with the *bridge-list-save* option. The syntax is as follows:
```
wyde bridge-list-save file <file name>
```
where

• `<file name>` – The required output file name to save the list of bridges.
This file contains the following comma-delimited columns: the bridge identifier, the name of the bridge, IP address of the bridge, IP port of the bridge.

To load the list of all registered WYDE bridges from the file you should use the *wyde* command line utility with the *bridge-list-load* option. The syntax is as follows:
```
wyde bridge-list-load file <file name>
```
where

• `<file name>` – The required input file name to load the list of bridges.
The structure of the import file should be exactly the same that has the output file created by *bridge-list-save* command.

After that you are able to configure the distributed conference for a subscriber. This conference should have the same conference number on both bridges, other conference properties could be different, but for this sample we configure the conference accounts exactly the same. Let's assume that the conference number is *889900*, the subscriber PIN is *nrobert*, the DNIS number to call is *8665080012*, host access code is *505051* and participant access code is *505052*.
```
wyde confuser-add subscriber nrobert did 8665080012
   conference 889900 accesscode 505051 role Host
wyde confuser-add subscriber nrobert did 8665080012
   conference 889900 accesscode 505052 role Participant
wyde conference-attr-set number 889900
   name conference_distributed value on
```
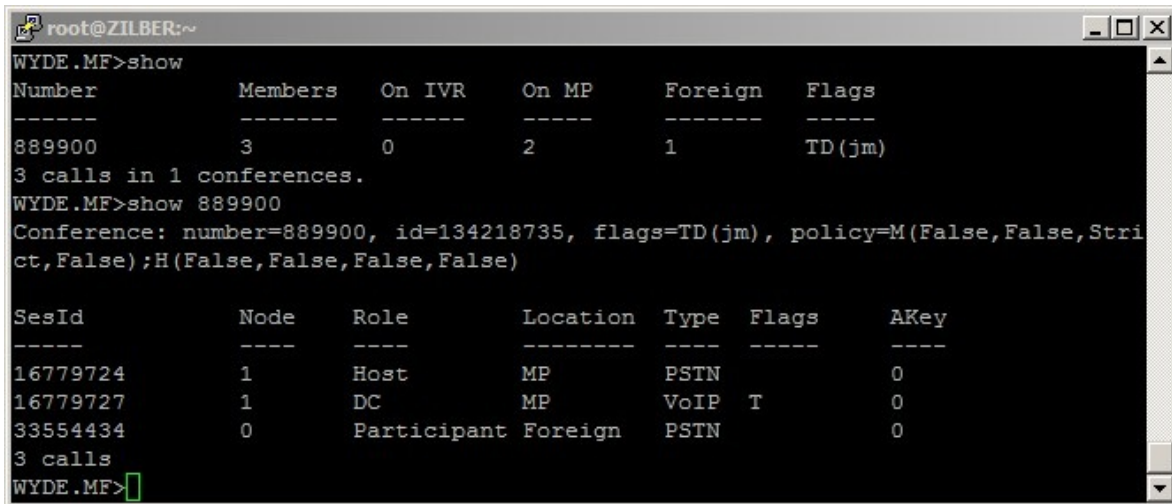
Now all calls to both bridges to the conference *889900* are being joined into single distributed conference and all conference participants will be hear and talk to each other.

Figure 61 shows the distributed conference on the first bridge (*WYDE5*) and Figure 62 shows the distributed conference on the second bridge (*WYDE31*). In our sample the first bridge (*WYDE5*) is being selected as master and the second bridge (*WYDE31*) is subordinate bridge. According to the algorithm described above the subordinate bridge (*WYDE31*) makes connection with the master bridge (*WYDE5*) using real time protocol. Because of that you can see on both bridges the third connection with the role *DC* – distributed conferencing and the flag *T* – real time (RT) mode.
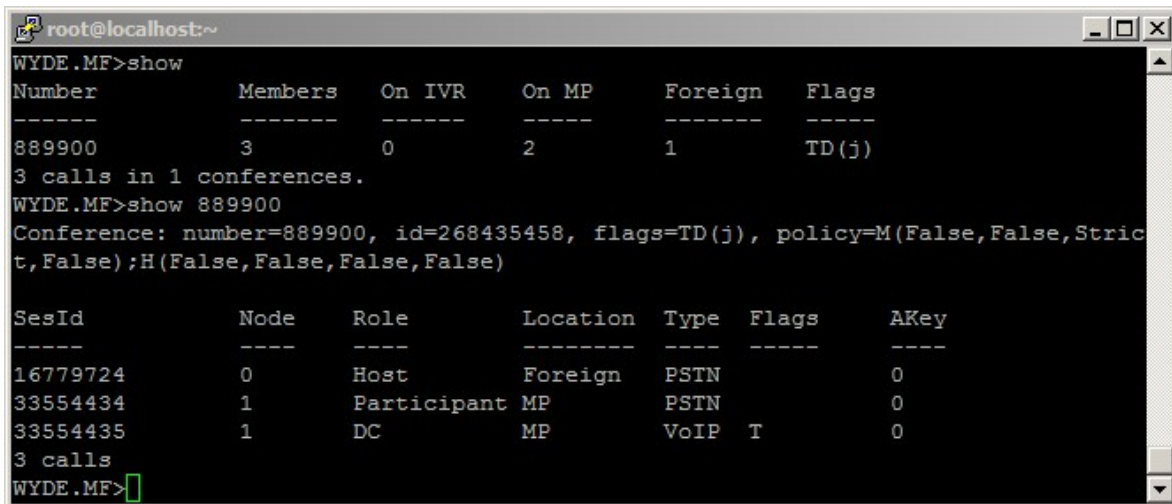
```
root@ZILBER:~                                                          _ □ ×
WYDE.MF>show
Number          Members    On IVR     On MP      Foreign    Flags
------          -------    ------     -----      -------    -----
889900          3          0          2          1          TD(jm)
3 calls in 1 conferences.
WYDE.MF>show 889900
Conference: number=889900, id=134218735, flags=TD(jm), policy=M(False,False,Stri
ct,False);H(False,False,False,False)

SesId           Node       Role       Location  Type  Flags      AKey
-----           ----       ----       --------  ----  -----      ----
16779724        1          Host       MP        PSTN             0
16779727        1          DC         MP        VoIP  T          0
33554434        0          Participant Foreign  PSTN             0
3 calls
WYDE.MF>
```

Figure 61: Show Distributed Conference on *WYDE5* Bridge

```
root@localhost:~                                                       _ □ ×
WYDE.MF>show
Number          Members    On IVR     On MP      Foreign    Flags
------          -------    ------     -----      -------    -----
889900          3          0          2          1          TD(j)
3 calls in 1 conferences.
WYDE.MF>show 889900
Conference: number=889900, id=268435458, flags=TD(j), policy=M(False,False,Stric
t,False);H(False,False,False,False)

SesId           Node       Role       Location  Type  Flags      AKey
-----           ----       ----       --------  ----  -----      ----
16779724        0          Host       Foreign   PSTN             0
33554434        1          Participant MP       PSTN             0
33554435        1          DC         MP        VoIP  T          0
3 calls
WYDE.MF>
```
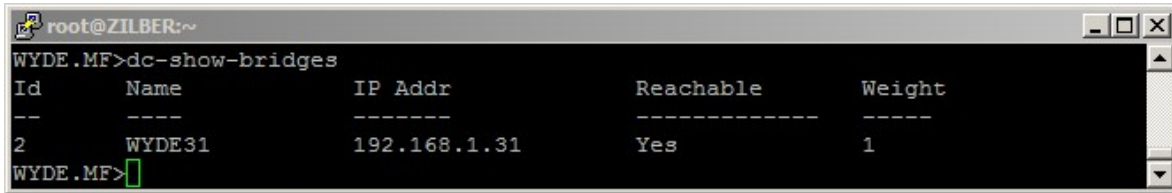
Figure 62: Show Distributed Conference on *WYDE31* Bridge

If distributed conferencing is switched on you can see all bridges that can participate in distributed conferences using *mf* console command:
```
dc-show-bridges
```
This command returns bridge identifier, name, IP address, flag showing is the bridge reachable for distributed conferences or not, and number of links visible from this bridge. This command does not return information about the local bridge; it only returns information about other bridges that can participate in distributed conferences.

Figure 63 shows DC bridges information on the bridge *WYDE5*, the master bridge in the
started conference; the single row shows information about the subordinate bridge
WYDE31 and it tells the bridge IP and that it is reachable now. Figure 64 shows DC bridges
information on the bridge *WYDE31*, the subordinate bridge in the started conference; it has
the single row with information about the master bridge *WYDE5* and it tells that the master
bridge is also reachable now.
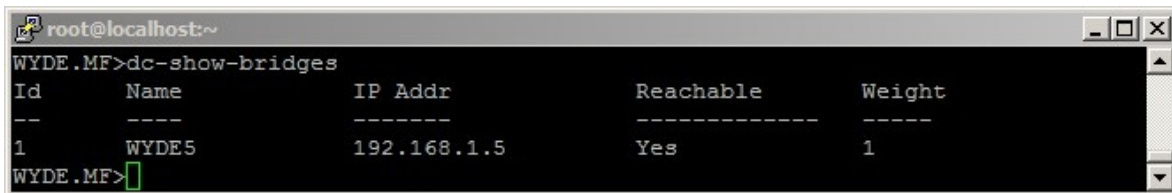
```
root@ZILBER:~                                                              _|□|x|
WYDE.MF>dc-show-bridges
Id         Name            IP Addr           Reachable        Weight
--         ----            -------           -------------    -----
2          WYDE31          192.168.1.31      Yes              1
WYDE.MF>
```

Figure 63: *mf* Console *dc-show-bridges* Command Output Sample on *WYDE5* Bridge

```
root@localhost:~                                                          _|□|x|
WYDE.MF>dc-show-bridges
Id         Name            IP Addr           Reachable        Weight
--         ----            -------           -------------    -----
1          WYDE5           192.168.1.5       Yes              1
WYDE.MF>
```
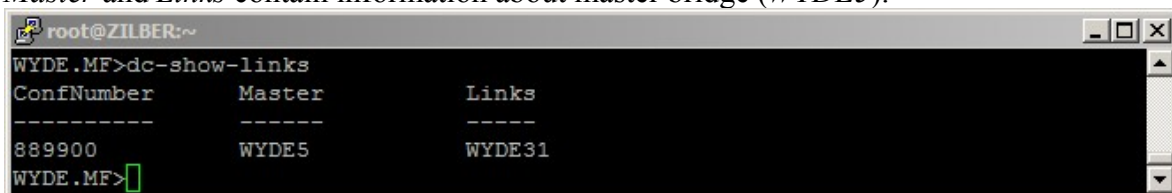
Figure 64: *mf* Console *dc-show-bridges* Command Output Sample on *WYDE31* Bridge

If distributed conferencing is switched on and there are distributed conferences running on
the bridge you can see all distributes conferences using *mf* console command:
`dc-show-links`
For all started distributed conferences this command outputs conference number, master
bridge name, and comma-separated linked bridges names.

Figure 65 shows output of this command that was run on master bridge (*WYDE5*), because
of that the *Master* column has its name – *WYDE5* and the *Links* column contains
information about the subordinate bridge (*WYDE31*). Figure 66 shows output of this
command that was run on the subordinate bridge (*WYDE31*), because of that both columns
Master and *Links* contain information about master bridge (*WYDE5*).
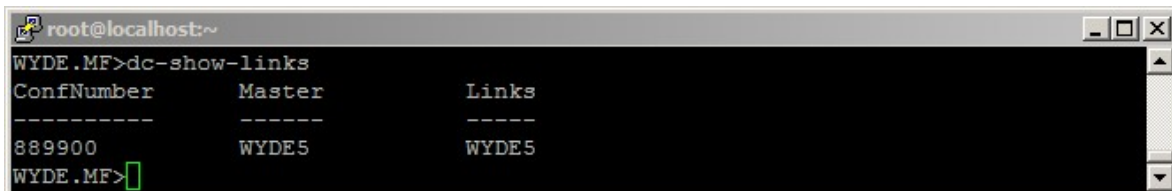
```
root@ZILBER:~                                                              _|□|x|
WYDE.MF>dc-show-links
ConfNumber       Master          Links
----------       ------          -----
889900           WYDE5           WYDE31
WYDE.MF>
```

Figure 65: *mf* Console *dc-show-links* Command Output Sample on *WYDE5* Bridge

```
root@localhost:~                                                          _|□|x|
WYDE.MF>dc-show-links
ConfNumber       Master          Links
----------       ------          -----
889900           WYDE5           WYDE5
WYDE.MF>
```

Figure 66: *mf* Console *dc-show-links* Command Output Sample on *WYDE31* Bridge

Peers Management

In terms of WYDE bridge *MF* service, the *peer* is the SIP client from which the bridge accepts the calls. Peers information is being stored in *peers* table. If you would like to configure the WYDE bridge to accept not all calls, but only the calls from specific IP address you should update *bridge_settings* table and set *ivr_checkpeer* parameter value equal to *1* (default value is *0*, no peers limitation applied) and populate *peers* table with allowed IP address together with other information.

If you added new peers into *peers* table you should reload them from the database. To send the signal on the WYDE bridge *MF* engine to reload all peers from the *peers* table the following *mf* console command should be executed:
```
peer-reload
```

If the command is successful, the system will not return any errors or messages.

Calls Transferring

If you would like to transfer started conference calls from one WYDE bridge or bridge frontend to another (for instance if you need to switch off the specific frontend or entire bridge), you can make this transfer using the following *mf* console command:
```
transfer {node <node_id>|node all}|{conference <conf_number>}|
    {did <did>} <destination_ip>
```
where
* One of the following arguments should be specified as the first argument of this command:
    o {node <node_id>|node all} – denotes the node identifier (or all nodes) from which the calls should be transferred;
    o {conference <conf_number>} – denotes the conference number for which the calls should be transferred;
    o {did <did>} – denotes the DNIS (DID) number for which the calls should be transferred.
* <destination_ip> – Denotes destination IP address of the bridge or bridge frontend to which the specified calls should be transferred. This argument is required.

You can also use *wyde* command line utility with the *transfer* option for the same purposes. See wyde Command Reference: transfer (Transfer Calls) for detail command information and parameters format.

After this command execution all conference calls that currently are started on the bridge and fit with the criteria that is specified as the first argument of this command will be transferred to the bridge or bridge frontend specified as the second argument of this command.

Audio Prompts Management

The WYDE bridge software allows you using your own audio prompts as welcome prompt and music-on-hold prompt in the conferences. If you would like using your own audio files you should perform the steps described in this section of the guide.

Custom audio files should be placed into the following subfolders of */usr/local/DNCA/var* folder:

- *welcome-prompts* (*/usr/local/DNCA/var/welcome-prompts*) – the folder for welcome prompts audio files;
- *moh* (*/usr/local/DNCA/var/moh*) – the folder for music-on-hold prompts audio files.

Thus you should place your audio files in required formats (**.wav, *.ul, *.al*, etc.) into these folders.

The audio files for music-on-hold prompts are being searched in specific order:

- if the music-on-hold file name defined in `confefence_moh` call flow attribute value is not empty and is not equal to `default`, the system checks the conference recording folder (usually */usr/local/DNCA/var/recordings/* folder) *upload* subfolder for the specific conference, the files could be uploaded into this folder using Web Control Console (for example the folder name could be */usr/local/DNCA/var/recordings/673/946673/upload/*);
- if the file was not found in the previous location, the system searches the file in */usr/local/DNCA/var/moh* folder, the files could be uploaded into this folder using Web Administration Interface;
- otherwise, if the file not found, the system treats `confefence_moh` call flow attribute value as equal to `default`, and searches the audio files in */usr/local/DNCA/callflows/<call flow name>/moh/* folder, files *musiconhold.<codec>* for specific codecs;
- if the audio file was not found in the previous location, the system uses the files *musiconhold.<codec>* for specific codecs from */usr/local/DNCA/lib/sounds/moh/* folder.

Note, that if you have file in *wav* format only, you can convert it into other formats on your WYDE server using *transcoder.x* utility:

```
USAGE: /usr/local/DNCA/bin/transcoder.x [options]
WHERE options:
  -i <file>   - set an input file ('-' to use stdin);
  -o <file>   - set an output file ('-' to use stdout);
  -f <format> - set an input format;
  -t <format> - set an output format;
  -l          - list all supported formats;
  -v          - show more verbose output;
  -h          - show this help.
```
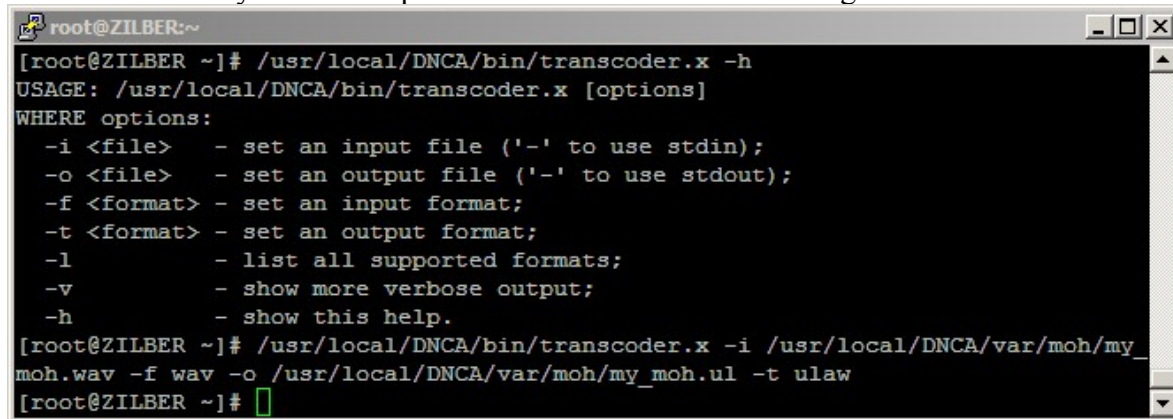
For example if you would like to convert music-on-hold *my_moh.wav* file from *wav* format into *ulaw* format you should use the command (the transferred command arguments are shown in *italic*):

```
/usr/local/DNCA/bin/transcoder.x
    -i /usr/local/DNCA/var/moh/my_moh.wav -f wav
    -o /usr/local/DNCA/var/moh/my_moh.ul -t ulaw
```

If the command is successful, the system will not return any errors or messages; it will just
return you back to the command prompt (#). The sample of the audio file conversion using
transcoder.x utility and the help on this command is shown on Figure 67.

Figure 67: Audio File Conversion using *transcoder.x* Utility Sample

To convert the audio files into different codecs you can also use *convert.sh* utility that acts
as a wrapper over *transcoder.x* utility:
```
Usage: /usr/local/DNCA/bin/convert.sh <-a|-format|dst_file> <src_file>
 * Available formats: [ul al g729 g722 g7221 isac ilbc amrwb wav mp3]
```
This utility allows you convert audio files not only from *wav* format, but from *mp3* format
as well.
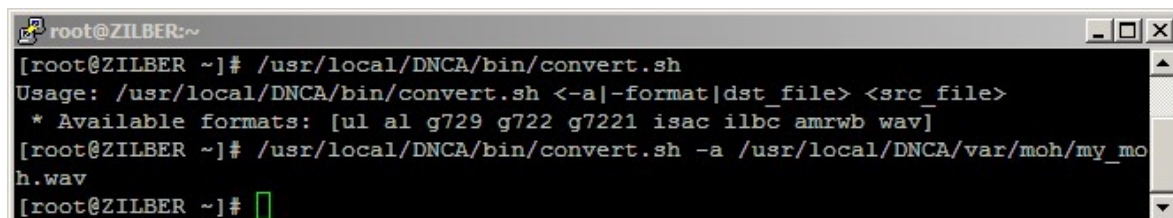
For example if you would like to convert music-on-hold *my_moh.wav* file from *wav* format
into all supported formats (codecs) you should use the command (the transferred command
arguments are shown in *italic*):
```
/usr/local/DNCA/bin/convert.sh
    -a /usr/local/DNCA/var/moh/my_moh.wav
```
If your source file is in *mp3* format (*my_moh.mp3*), you can convert it into all supported
formats (codecs) using the command:
```
/usr/local/DNCA/bin/convert.sh
    -a /usr/local/DNCA/var/moh/my_moh.mp3
```

If the command is successful, the system will not return any errors or messages; it will just
return you back to the command prompt (#). The sample of the audio file conversion using
convert.sh utility and the help on this command is shown on Figure 68.

Figure 68: Audio File Conversion using *convert.sh* Utility Sample

If you have placed all necessary welcome prompt audio files into *welcome-prompts*
subfolder or if you have placed all necessary music-on-hold audio files into *moh* subfolder
you should reload them using *mf* console command:
```
sounds-reload
```
or you should use the *wyde* command line utility with the *sounds-reload* option:
```
wyde sounds-reload
```
If any of these *mf* commands was implemented successfully you will receive the message:
"*Success*"; as the result of these *wyde* commands implementation you will receive the
message: "*Reloading sound files.*".

Once you reloaded your audio prompts you can use them in your call flows, DNISes and
conferences. If you would like to use your own custom welcome prompt you should update
`dnis_welcomeprompt` (Welcome prompt) call flow attribute value either on call flow
level or on DNIS level with your welcome prompt audio file name (without extension). If
you would like to use your own custom music-on-hold prompt you should update
`conference_moh` (Music on hold) call flow attribute value either on call flow level or
on DNIS level or conference account level with your music-on-hold prompt audio file
name (without extension).

Max Number of Calls and Licensing
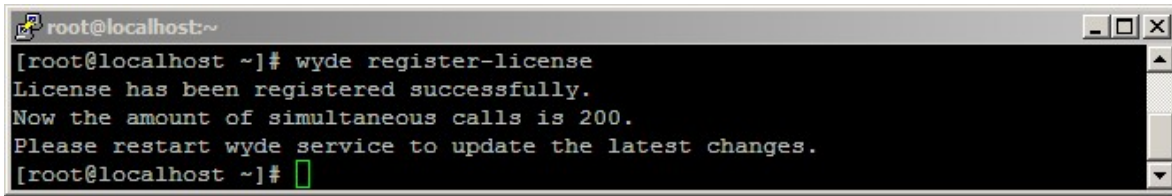
The total number of all calls that can be processed by the WYDE bridge is being defined
using system parameter `maxcalls`. The optimal value of this parameter depends on your
WYDE bridge hardware configuration (the default value: *10*). This value represents the so-
called soft limit of maximal number of allowed calls; if the call that being connected
exceeds this parameter value, this call receives the message: "*This conference bridge is full.
Please call again later.*" and after that it is being dropped. In addition to the soft max calls
limit the bridge constrains number of calls using so-called hard limit; this limit is being
calculated as `maxcalls` system parameter value plus 5% or at least 5 calls more; if the
call that being connected exceeds this hard limit it is being immediately dropped.

Your WYDE bridge number of simultaneous calls license limits the number of calls that
directly participating in the conferences (i.e. processed by *MP*). By default the WYDE
Voice conferencing bridge software has the maximum number of the simultaneous calls on
the bridge equal to 10. To support larger number of calls you should obtain the additional
licenses. See detail information about how to obtain additional licenses in "WYDE
Software Installation Guide", Chapter 3: Licensing.

When you obtain your licenses you receive generated license file *license.bin* (either if it is
new license of renewed license). This file should be placed on the bridge into
/usr/local/DNCA/etc folder. After that you should register new license using the following
command:
```
wyde register-license
```
The screen similar to shown on Figure 69 appears next.

Figure 69: Register New/Updated Licenses on the Bridge

Once you have updated your license the *maxcalls* system parameter value also will be updated with the amount of simultaneous calls from your license as well as the amount of allowed simultaneous calls for the WYDE Voice conferencing bridge software will be set equal to the amount specified by your license file. After that you will be able to have this number of simultaneous calls to your WYDE bridge.

Authorization Adapters and Methods

In terms of WYDE bridge software the *Authorization Adapter* is the component (function) responsible for specifying access rights in the conferences. More formally, "to authorize" is to define access policy, i.e. the right to connect to the conference and specific role (host/moderator/listener) in the conference.

For authorization in the conferences are being used authorization methods. *Authorization Method* determines the specific authorization adapter and if necessary its parameters that are used to perform authorization. The authorization method name should be selected in dnis_authorizemethod (Authorize method) call flow attribute value either on call flow or on DNIS level.

If you have your own security infrastructure the customized authorization adapter can be written to integrate your security into call flows authorization.

To see detailed information about WYDE bridge authorization process, about authorization adapters and methods see *"WYDE Authorization Guide"*. That guide contains information not only about standard authorization adapters, but also about custom adapters as well as information how to write your own authorization adapter. You can download this guide from the WYDE Voice documentation Web site as noted in Appendix A: Support Resources, Support Documentation section.

Add an Authorization Adapter

Before you add new authorization adapter, you should create the *<Adapter Name>.pm* file in the */usr/local/DNCA/lib/Auth/Adapter* folder for this adapter as it was described above.

To add new authorization adapter registration using the command line interface you should use the *wyde* command line utility with the *auth-adapter-add* option. The syntax is as follows:
wyde auth-adapter-add <arguments>
Each of the arguments is followed by a space and a value. In *auth-adapter-add* you can specify the following arguments:
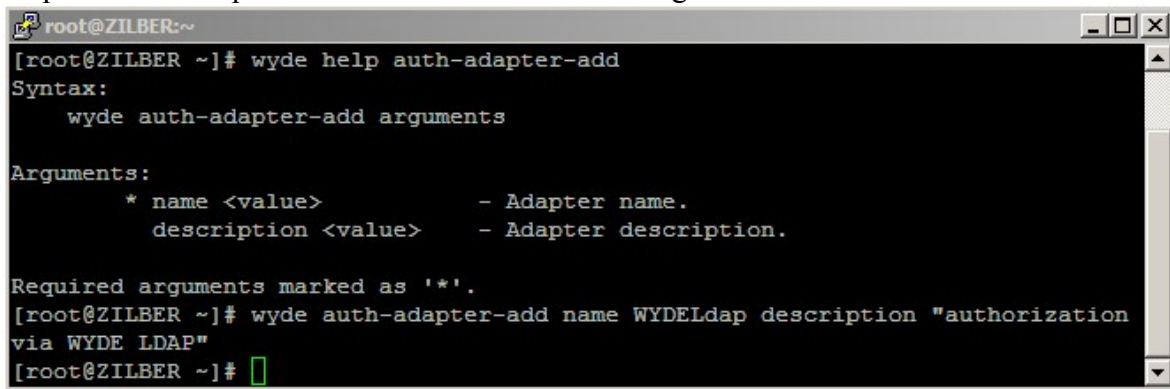
- `name <value>` – The name of the authorization adapter that should be added. This is required argument. This name should be unique, i.e. there should no be any other authorization adapter with the same name on the bridge.
- `description <value>` – The optional description of the authorization adapter that should be added.

The arguments can be transferred to this command in any order.

Let's assume that we have created the file *WYDELdap.pm* in the folder */usr/local/DNCA/lib/Auth/Adapter* for new authorization adapter *WYDELdap*. To add this adapter to the bridge you should use the command:
```
wyde auth-adapter-add name WYDELdap
    description "authorization via WYDE LDAP"
```

If the command is successful, the system will not return any errors or messages; it will just return you back to the command prompt (#). The sample of the *auth-adapter-add* command output and the help on this command is shown on Figure 70.

Figure 70: *wyde help auth-adapter-add* **and** *wyde auth-adapter-add* **Commands Output Sample**

Delete an Authorization Adapter

To delete an authorization adapter using the *wyde* command line utility you should use *auth-adapter-del* option. The syntax is as follows:
```
wyde auth-adapter-del name <authorization adapter name>
```
where

- `<authorization adapter name>` – the name of the authorization adapter you wish to delete.

Note that you can delete only authorization adapters that are not in use, i.e. there should no be any authorization methods that refer to this authorization adapter. If the authorization adapter is used by any authorization method you will receive the error and the deletion will be cancelled.

For example to delete authorization adapter *VSRRadius* you should run the command:
```
wyde auth-adapter-del name VSRRadius
```

If deletion is successful, you will be returned to the command line with no additional prompts.

View Authorization Adapters

To show a list of all authorization adapters in the system using the command line, you should use the *wyde* command line utility with the *auth-adapter-show* option. The syntax is as follows:

```
wyde auth-adapter-show
```

This command will output a list of the all existed authorization adapters on the system, similar to shown on Figure 71. As you can see, the *wyde auth-adapter-show* command shows the authorization adapters that have been created in the system as well as their basic properties: authorization adapter name and description.

Figure 71: *wyde auth-adapter-show* **Command Output Sample**

Add an Authorization Method

To create new authorization method for the authorization adapter using the command line interface you should use the *wyde* command line utility with the *auth-method-add* option. The syntax is as follows:

```
wyde auth-method-add <arguments>
```

Each of the arguments is followed by a space and a value. In *auth-method-add* you can specify the following arguments:

- `name <value>` – The name of the authorization method that should be added.
- `description <value>` – The description of the authorization method that should be added.
- `adapter <value>` – The authorization adapter name for the authorization method that should be added.
- `parameters <value>` – The list of parameters for the authorization method that should be added. The parameters are specific for authorization adapters that are being used: *Free* and *LocalDb* authorization adapters do not require any parameters; for *WYDELdap* it is the string that defines the list of LDAP servers separated by semicolon (;), and each of these servers is defined as
  `<server IP>:[<server port>]:<password>:<LDAP root DN path>`
  (default port is *389*, DN path means distinguished name of the LDAP folder that contains conference authorization info); for *WYDERadius* it is the string that defines the list of RADIUS servers separated by semicolon (;), and each of these servers is defined as `<password>@<server IP>[:<server port>]` (default port is *1812*).
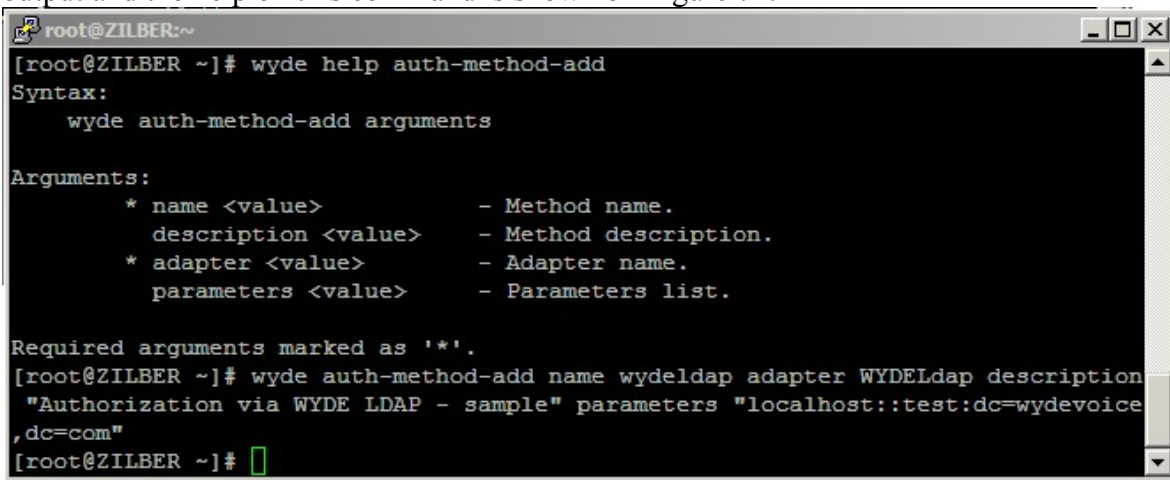
Arguments `name` and `adapter` are required. The arguments can be transferred to this command in any order.

For example if you would like to create the authorization method *wydeldap* for the
authorization adapter *WYDELdap* with description "*Authorization via WYDE LDAP –
sample*" and parameters "*localhost::test:dc=wydevoice,dc=com*" you should run the
following command (new authorization method properties are shown in *italic*):

```
wyde auth-method-add name wydeldap adapter WYDELdap
   description "Authorization via WYDE LDAP – sample"
   parameters "localhost::test:dc=wydevoice,dc=com"
```

Note that to set the description that contains spaces and parameters you should use double
quotes (").

If the command is successful, the system will not return any errors or messages; it will just
return you back to the command prompt (#). The sample of the *auth-method-add* command
output and the help on this command is shown on Figure 72.

Figure 72: *wyde help auth-method-add* **and** *wyde auth-method-add* **Commands Output Sample**

Delete an Authorization Method

If you wish to delete the specific authorization method, you can use the *wyde* command line
utility with *auth-method-del* option. The syntax is as follows:

```
wyde auth-method-del name <authorization method name>
```

where

- `<authorization method name>` – The name of the authorization method that
  should deleted. This argument is required.

Note that you can delete only authorization methods that are not in use. If the method is
used by any call flow and/or DNIS you will receive the error: "*<authorization method
name>: Authorization method is in use and can not be removed.*".

For example to delete the authorization method *vsrradius* you should run the command:

```
wyde auth-method-del name vsrradius
```

If deletion is successful, you will be returned to the command line with no additional
prompts.

Modify an Authorization Method

To modify authorization method properties, such as description and parameters, using the command line interface you should use the *wyde* command line utility with the *auth-method-set* option. The syntax is as follows:

```
wyde auth-method-set <arguments>
```

Each of the arguments is followed by a space and a value. In *auth-method-set* you can specify the following arguments:

- `name <value>` – The name of the authorization method that should be changed.
- `description <value>` – New description of the authorization method that should be set.
- `parameters <value>` – New list of parameters for the authorization method that should be set.

The argument `name` is required; you should specify arguments `description` and `parameters` only if you would like to change them. The arguments can be transferred to this command in any order.

For example if you would like to change *wyderadius* authorization method and set its description equal to "*Authorization via WYDE RADIUS server - sample*" and it parameters equal to "*test@192.168.1.41:1812*", you should run the following command (the transferred command arguments are shown in *italic*):

```
wyde auth-method-set name wyderadius
    description "Authorization via WYDE RADIUS server - sample"
    parameters "test@192.168.1.41:1812"
```

If the command is successful, the system will not return any errors or messages; it will just return you back to the command prompt (#). The sample of the *auth-method-set* command output and the help on this command is shown on Figure 73.
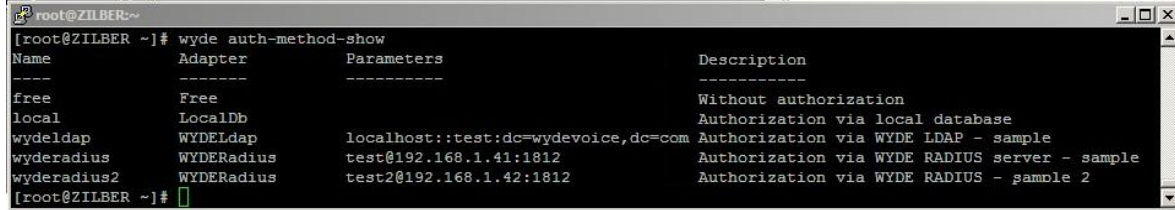
Figure 73: *wyde help auth-method-set* **and** *wyde auth-method-set* **Commands Output Sample**

View Authorization Methods

To show a list of all authorization methods in the system using the command line, you should use the *wyde* command line utility with the *auth-method-show* option. The syntax is as follows:

```
wyde auth-method-show
```

This command will output a list of the all existed authorization methods on the system, similar to shown on Figure 74. As you can see, the *wyde auth-method-show* command shows the authorization methods that have been created in the system as well as their basic properties: authorization method name, adapter, parameters, and description.

```
root@ZILBER:~                                                                        _ □ X
[root@ZILBER ~]# wyde auth-method-show
Name            Adapter         Parameters                    Description
----            -------         ----------                    -----------
free            Free                                          Without authorization
local           LocalDb                                       Authorization via local database
wydeldap        WYDELdap        localhost::test:dc=wydevoice,dc=com Authorization via WYDE LDAP - sample
wyderadius      WYDERadius      test@192.168.1.41:1812        Authorization via WYDE RADIUS server - sample
wyderadius2     WYDERadius      test2@192.168.1.42:1812       Authorization via WYDE RADIUS - sample 2
[root@ZILBER ~]# []
```
Figure 74: *wyde auth-method-show* **Command Output Sample**

Billing

For billing purposes the WYDE bridge software can store and transmit CDRs (Call Detail Records). Please note, that the WYDE bridge software is not responsible for financial billing; it neither tracks credit cards nor sends invoices to the clients. It only provides CDR data and it is up to you how to use them in your financial billing.

WYDE bridge *MF* service writes CDR information about completed calls into internal journal; such CDRs journal is being created for each billing adapter. That journal could be accessed by the billing adapter to catch and store CDR information.

In terms of WYDE bridge software the *Billing Adapter* is the component (function) responsible for storing billing, i.e. CDR information. Billing adapter processes information from the internal CDRs journal created by *MF* service; in this journal *MF* keeps information about completed calls; billing adapter receives this information, transforms it into required format and stores it in required data carrier. More formally, "billing" is the information about completed conferences and calls also called CDR.

For the conference billing information storing are being used billing rules. *Billing rule* determines the specific billing adapters that are used to save CDR information; this includes comma-separated billing adapters that should be used in the specific billing rule. The billing rule name should be selected in `dnis_billingrule` (Billing rule) call flow attribute value either on call flow or on DNIS level.

If you would like to store CDR information in your own database you can create your custom billing adapter that will be responsible for saving CDR data as it is required for your organization.

To see detailed information about WYDE bridge billing, about billing adapters and rules see *"WYDE Billing Guide"*. That guide contains information not only about standard billing adapters, but also about custom adapters as well as information how to write your own billing adapter. You can download this guide from the WYDE Voice documentation Web site as noted in Appendix A: Support Resources, Support Documentation section.

Add a Billing Adapter

Before you add new billing adapter, you should create the *<Adapter Driver>.pm* driver file in the */usr/local/DNCA/lib/Billing/Adapter* folder for this adapter driver as it was described above.

To add new billing adapter registration using the command line interface you should use the *wyde* command line utility with the *billing-adapter-add* option. The syntax is as follows:

```
wyde billing-adapter-add <arguments>
```

Each of the arguments is followed by a space and a value. In *billing-adapter-add* you can specify the following arguments:

- `name <value>` – The name of the billing adapter that should be added. This name should be unique, i.e. there should no be any other billing adapter with the same name on the bridge.
- `description <value>` – The optional description of the billing adapter that should be added.
- `driver <value>` – The driver name for the billing adapter that should be added. The file *<Adapter Driver Name>.pm* should exist in the */usr/local/DNCA/lib/Billing/Adapter* folder.
- `parameters <value>` – The list of parameters for the billing adapter that should be added.

Arguments `name`, `driver` and `parameters` are required. The arguments can be transferred to this command in any order.

Let's assume that we have created the file *TFCC.pm* in the folder */usr/local/DNCA/lib/Billing/Adapter* for new billing adapter *tfcc*, parameters that should be used are *192.168.1.45:9000*. To add this billing adapter to the bridge you should use the command:

```
wyde billing-adapter-add name tfcc driver TFCC
   description "Billing using TFCC - sample"
   parameters 192.168.1.45:9000
```

If the command is successful, the system will not return any errors or messages; it will just return you back to the command prompt (#). The sample of the *billing-adapter-add* command output and the help on this command is shown on Figure 75.

```
root@localhost:~                                        _ □ ×
[root@localhost ~]# wyde help billing-adapter-add
Syntax:
    wyde billing-adapter-add arguments

Arguments:
        * name <value>          - Adapter name.
          description <value>   - Adapter description.
        * driver <value>        - Driver name.
        * parameters <value>    - Parameters list.

Required arguments marked as '*'.
[root@localhost ~]# wyde billing-adapter-add name tfcc driver TFCC description "
Billing using TFCC - sample" parameters 192.168.1.45:9000
[root@localhost ~]#
```

Figure 75: *wyde help billing-adapter-add* **and** *wyde billing-adapter-add* **Commands Output Sample**

Delete a Billing Adapter

To delete a billing adapter using the *wyde* command line utility you should use *billing-adapter-del* option. The syntax is as follows:
```
wyde billing-adapter-del name <billing adapter name>
```
where

• `<billing adapter name>` – the name of the billing adapter you wish to delete. Note that you can delete billing adapters that are not in use only, i.e. there should no be any billing rules that refer to this billing adapter. If the billing adapter is used by any billing rule you will receive the error message: "*<billing adapter name>: Billing adapter is in use and can not be removed.*" and the deletion will be cancelled.

For example to delete billing adapter *tfcc* (created in previous sample) you should run the command:
```
wyde billing-adapter-del name tfcc
```

If deletion is successful, you will be returned to the command line with no additional prompts.

Modify a Billing Adapter

To modify billing adapter properties, such as description, driver and parameters, using the command line interface you should use the *wyde* command line utility with the *billing-adapter-set* option. The syntax is as follows:
```
wyde billing-adapter-set <arguments>
```
Each of the arguments is followed by a space and a value. In *billing-adapter-set* you can specify the following arguments:
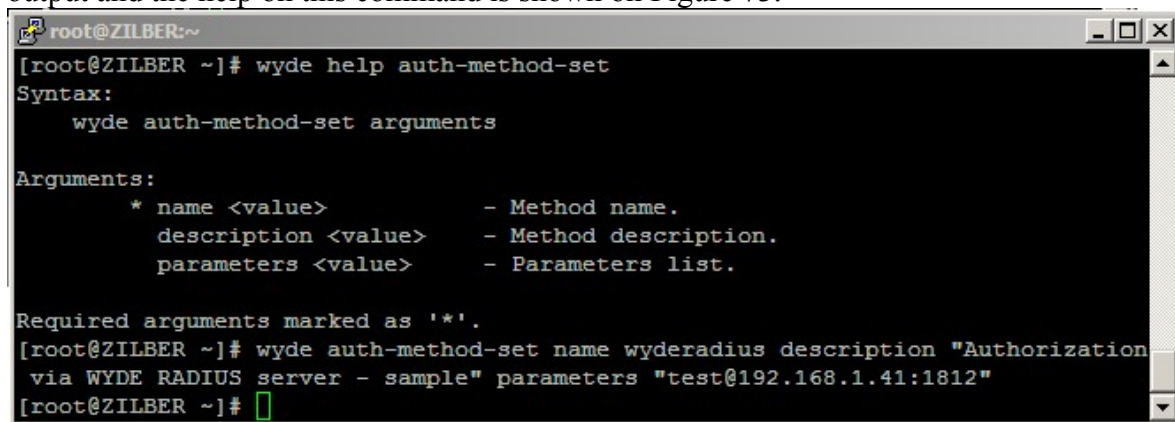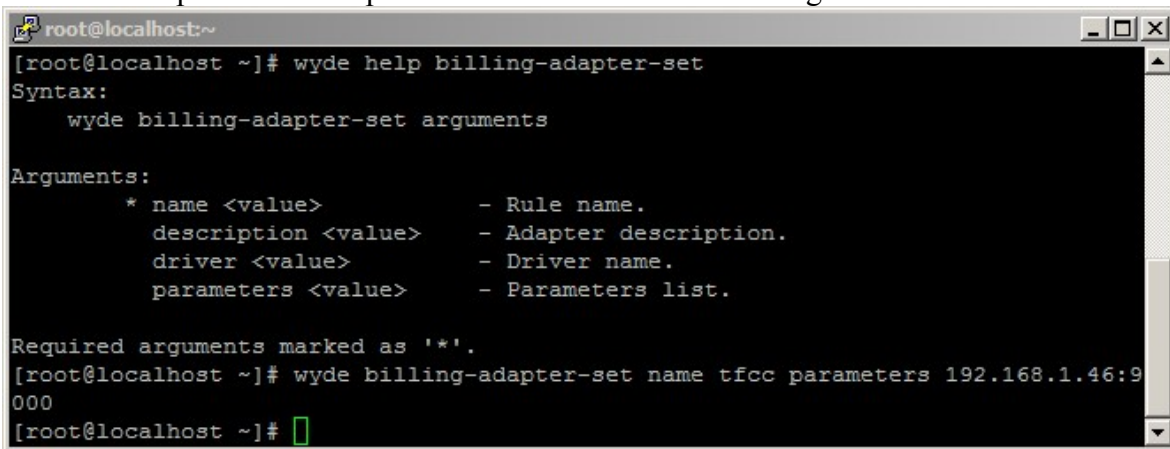
• `name <value>` – The name of the billing adapter that should be changed.
• `description <value>` – New description of the billing adapter that should be set.
• `driver <value>` – New driver name for the billing adapter that should be set.
• `parameters <value>` – New list of parameters for the billing adapter that should be set.

The argument `name` is required; you should specify other arguments only if you would like to change them. The arguments can be transferred to this command in any order.

For example if you would like to change *tfcc* billing adapter and set its parameters equal to "*192.168.1.46:9000*", you should run the following command (the transferred command arguments are shown in *italic*):

```
wyde billing-adapter-set name tfcc
   parameters 192.168.1.46:9000
```

If the command is successful, the system will not return any errors or messages; it will just return you back to the command prompt (#). The sample of the *billing-adapter-set* command output and the help on this command is shown on Figure 76.

Figure 76: *wyde help billing-adapter-set* **and** *wyde billing-adapter-set* **Commands Output Sample**

View Billing Adapters

To show a list of all billing adapters in the system using the command line, you should use the *wyde* command line utility with the *billing-adapter-show* option. The syntax is as follows:

```
wyde billing-adapter-show
```

This command will output a list of the all existed billing adapters on the system, similar to shown on Figure 77. As you can see, the *wyde billing-adapter-show* command shows the billing adapters that have been created in the system as well as their basic properties: billing adapter name, driver, parameters and description.

Figure 77: *wyde billing-adapter-show* **Command Output Sample**

Add a Billing Rule

To create new billing rule for the billing adapter using the command line interface you should use the *wyde* command line utility with the *billing-rule-add* option. The syntax is as follows:

```
wyde billing-rule-add <arguments>
```

Each of the arguments is followed by a space and a value. In *billing-rule-add* you can specify the following arguments:

- `name <value>` – The name of the billing rule that should be added.
- `description <value>` – The description of the billing rule that should be added.
- `rule <value>` – The billing rule content that should be added, comma-separated values: `{[file][,][localdb][,][adapter:<name>]}`:
  - `file` – denotes that CDR information should be stored into */usr/local/DNCA/log/CDR.log* file;
  - `localdb` – denotes that CDR information should be stored into *dnca_calls* local database;
  - `adapter:<name>` – denotes custom billing adapter name that should be used to store CDR information.

Arguments `name` and `rule` are required. The arguments can be transferred to this command in any order.

For example if you would like to create the billing rule *custom* that defines that CDR records should be stored into file, local *dnca_calls* database and using *tfcc* billing adapter with description "*Store CDRs in file, local database and via TFCC*" you should run the following command (new billing rule properties are shown in *italic*):

```
wyde billing-rule-add name custom
   description "Store CDRs in file, local database and via TFCC"
   rule "file,localdb,adapter:tfcc"
```

Note that to set the description that contains spaces and parameters you should use double quotes (").

If the command is successful, the system will not return any errors or messages; it will just return you back to the command prompt (#). The sample of the *billing-rule-add* command output and the help on this command is shown on Figure 78.

Figure 78: *wyde help billing-rule-add* **and** *wyde billing-rule-add* **Commands Output Sample**

Delete a Billing Rule

If you wish to delete the specific billing rule, you can use the *wyde* command line utility
with *billing-rule-del* option. The syntax is as follows:
```
wyde billing-rule-del name <billing rule name>
```
where

- `<billing rule name>` – The name of the billing rule that should deleted. This
  argument is required.

Note that you can delete only billing rules that are not in use. If the rule is used by any call
flow and/or DNIS you will receive the error: "*<billing rule name>: Billing rule is in use
and can not be removed.*" and the deletion will be cancelled.

For example to delete the billing rule *custom* you should run the command:
```
wyde billing-rule-del name custom
```

If deletion is successful, you will be returned to the command line with no additional
prompts.

Modify a Billing Rule

To modify billing rule properties, such as description and rule content, using the command
line interface you should use the *wyde* command line utility with the *billing-rule-set* option.
The syntax is as follows:
```
wyde billing-rule-set <arguments>
```
Each of the arguments is followed by a space and a value. In *billing-rule-set* you can
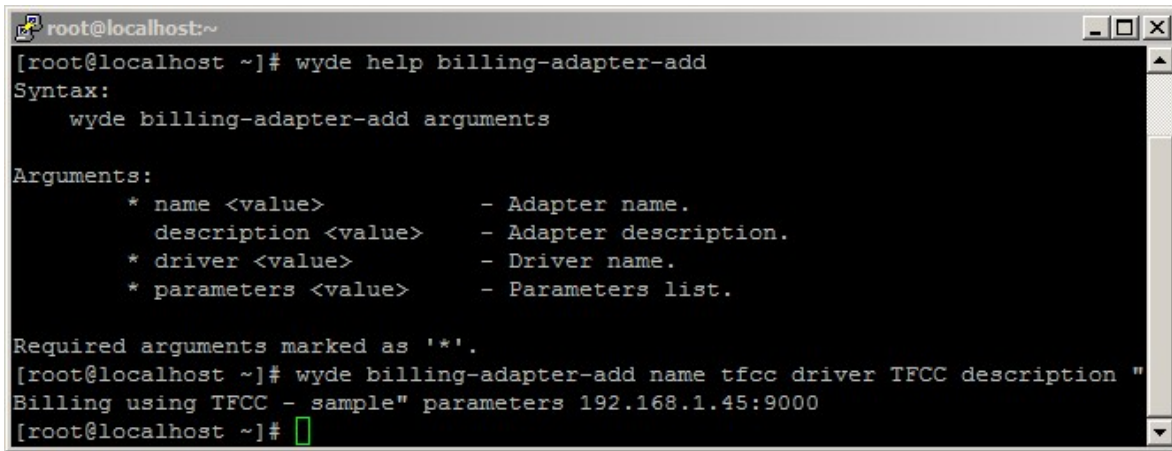specify the following arguments:
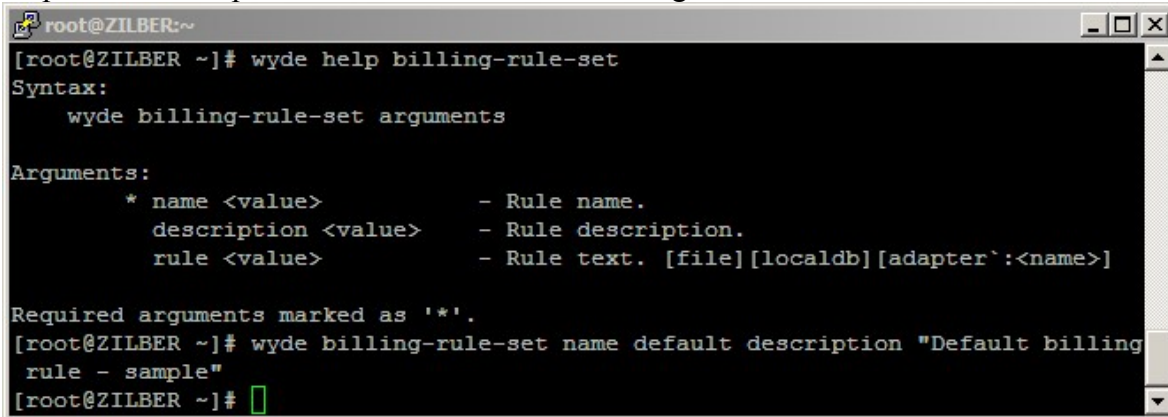
- `name <value>` – The name of the billing rule that should be updated.
- `description <value>` – New description of the billing rule that should be set.
- `rule <value>` – New billing rule content that should be set, comma-separated
  values: `{[file][,][localdb][,][adapter:<name>]}`:
  - `file` – denotes that CDR information should be stored into
    /usr/local/DNCA/log/CDR.log file;
  - `localdb` – denotes that CDR information should be stored into *dnca_calls*
    local database;
  - `adapter:<name>` – denotes custom billing adapter name that should be
    used to store CDR information.

The argument `name` is required; you should specify arguments `description` and `rule`
only if you would like to change them. The arguments can be transferred to this command
in any order.

For example if you would like to change *default* billing rule and set its description equal to
"*Default billing rule - sample*", you should run the following command (the transferred
command arguments are shown in *italic*):
```
wyde billing-rule-set name default
   description "Default billing rule - sample"
```

If the command is successful, the system will not return any errors or messages; it will just return you back to the command prompt (#). The sample of the *billing-rule-set* command output and the help on this command is shown on Figure 79.

```
root@ZILBER:~                                                              _ |□| x|
[root@ZILBER ~]# wyde help billing-rule-set
Syntax:
    wyde billing-rule-set arguments

Arguments:
        * name <value>              - Rule name.
          description <value>       - Rule description.
          rule <value>              - Rule text. [file][localdb][adapter`:<name>]


Required arguments marked as '*'.
[root@ZILBER ~]# wyde billing-rule-set name default description "Default billing
 rule - sample"
[root@ZILBER ~]# []
```
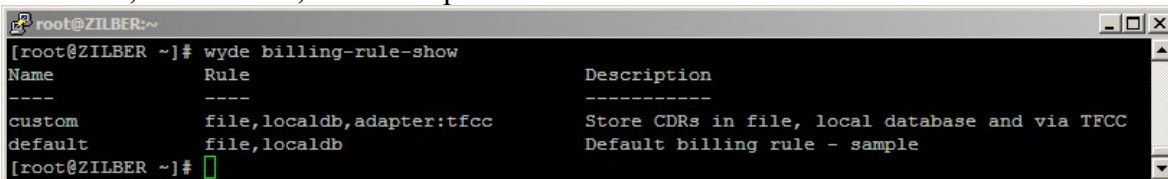
Figure 79: *wyde help billing-rule-set* **and** *wyde billing-rule-set* **Commands Output Sample**

View Billing Rules

To show a list of all billing rules in the system using the command line, you should use the *wyde* command line utility with the *billing-rule-show* option. The syntax is as follows:
```
wyde billing-rule-show
```

This command will output a list of the all existed billing rules on the system, similar to shown on Figure 80. As you can see, the *wyde billing-rule-show* command shows the billing rules that have been created in the system as well as their basic properties: billing rule name, rule content, and description.

```
root@ZILBER:~                                                              _ |□| x|
[root@ZILBER ~]# wyde billing-rule-show
Name              Rule                      Description
----              ----                      -----------
custom            file,localdb,adapter:tfcc  Store CDRs in file, local database and via TFCC
default           file,localdb              Default billing rule - sample
[root@ZILBER ~]# []
```

Figure 80: *wyde billing-rule-show* **Command Output Sample**

Database Administration

The WYDE bridge administration also can be made using the *PostgreSQL* interactive terminal (i.e. database console). This is standard external tool to work with *PostgreSQL* databases.

The following databases are being used by the WYDE bridge software:
*   `dnca` – the main database;
*   `dnca_calls` – the billing database.

To perform initialization of the databases, i.e. database creation, necessary tables creation and population using the command line, you should use the *wyde* command line utility with the *db-init* option. The syntax is as follows:

```
wyde db-init [database {Main|Billing}]
```
where
- `database {Main|Billing}` – Denotes what kind of database should be initialized:
    - o *Main* is being used for *dnca* database.
    - o *Billing* is being used for *dnca_calls* database.

When the `database` argument is omitted the main (*dnca*) database is being initialized.

Before the initialization of any of the databases it should be deleted using the *wyde* command line utility with the *db-drop* option. The syntax is as follows:
```
wyde db-drop [database {Main|Billing}]
```
where
- `database {Main|Billing}` – Denotes what kind of database should be dropped:
    - o *Main* is being used for *dnca* database.
    - o *Billing* is being used for *dnca_calls* database.

When the `database` argument is omitted the main (*dnca*) database is being dropped.

Usually you do not need to run the commands *wyde db-init* and *wyde db-drop*. If needed these commands are being run automatically during new system installation. However if you need to run them you should use the command *wyde db-drop* first and *wyde db-init* next. If you try to initialize the database that already has been initialized you receive the error messages "*Main database already exists. If you want to reinitialize the main database you should run 'wyde db-drop database Main' before.*" or "*Billing database already exists. If you want to reinitialize the billing database you should run 'wyde db-drop database Billing' before.*"

Prior to database removing you should stop WYDE services using the command:
```
service wyde stop
```
and after that you should start PostgreSQL using the command:
```
service postgresql start
```
Next you can delete necessary databases. If you are going to drop both (main and billing) databases you should drop the billing databases first and the main database next, because the main database contains the billing database configuration parameters. For example to delete and re-initialize the billing database you should run the commands:
```
wyde db-drop database Billing
wyde db-init database Billing
```
See Figure 81 for details. As you can see prior to the database deletion the system asks to confirm that you wish to drop the database.
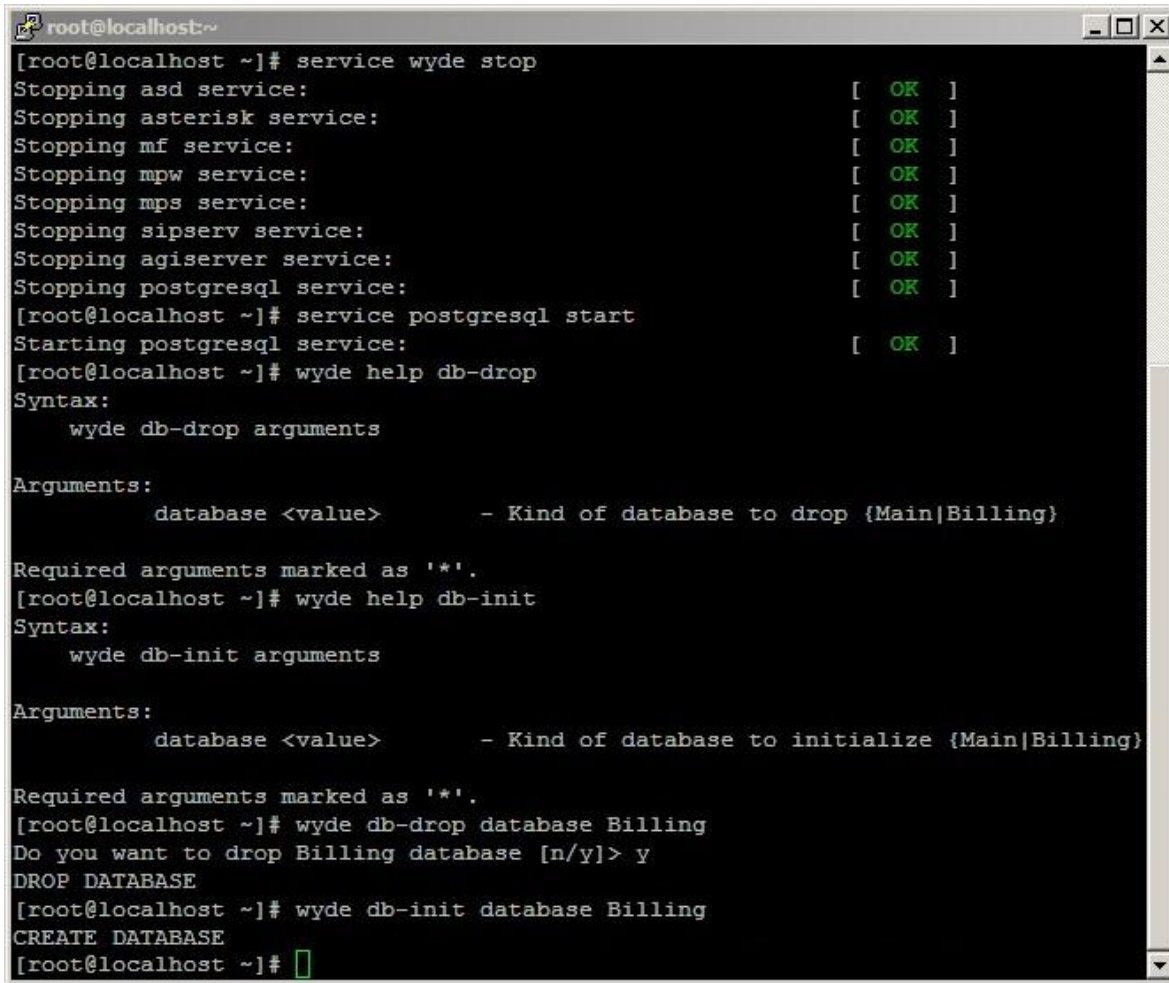
Figure 81: Drop and Initialize the Billing Database

If you drop and initialize the main database after this initialization you should add the local
bridge definition using the *wyde* command line utility with the *bridge-add* option, next you
should populate default settings for this bridge using the *wyde* command line utility with
the *settings-update* option, after that you should add your node using the *wyde* command
line utility with the *node-add* option, and next you should add call flows definitions using
the *wyde* command line utility with the *callflow-add* option. For example the following
commands should be run to drop and re-initialize the main database:

```
wyde db-drop Main
wyde db-init Main
wyde bridge-add id 1 name WYDE31 ip_addr 192.168.1.31
wyde settings-update
wyde node-add bridge WYDE31 name AST31
     ivr_addr 192.168.1.31:4460 sip_addr 192.168.1.31:5060
     ivr_maxcalls 500
wyde callflow-add name CONF
   directory /usr/local/DNCA/callflows/CONF
wyde callflow-add name OPERATOR
   directory /usr/local/DNCA/callflows/OPERATOR
```
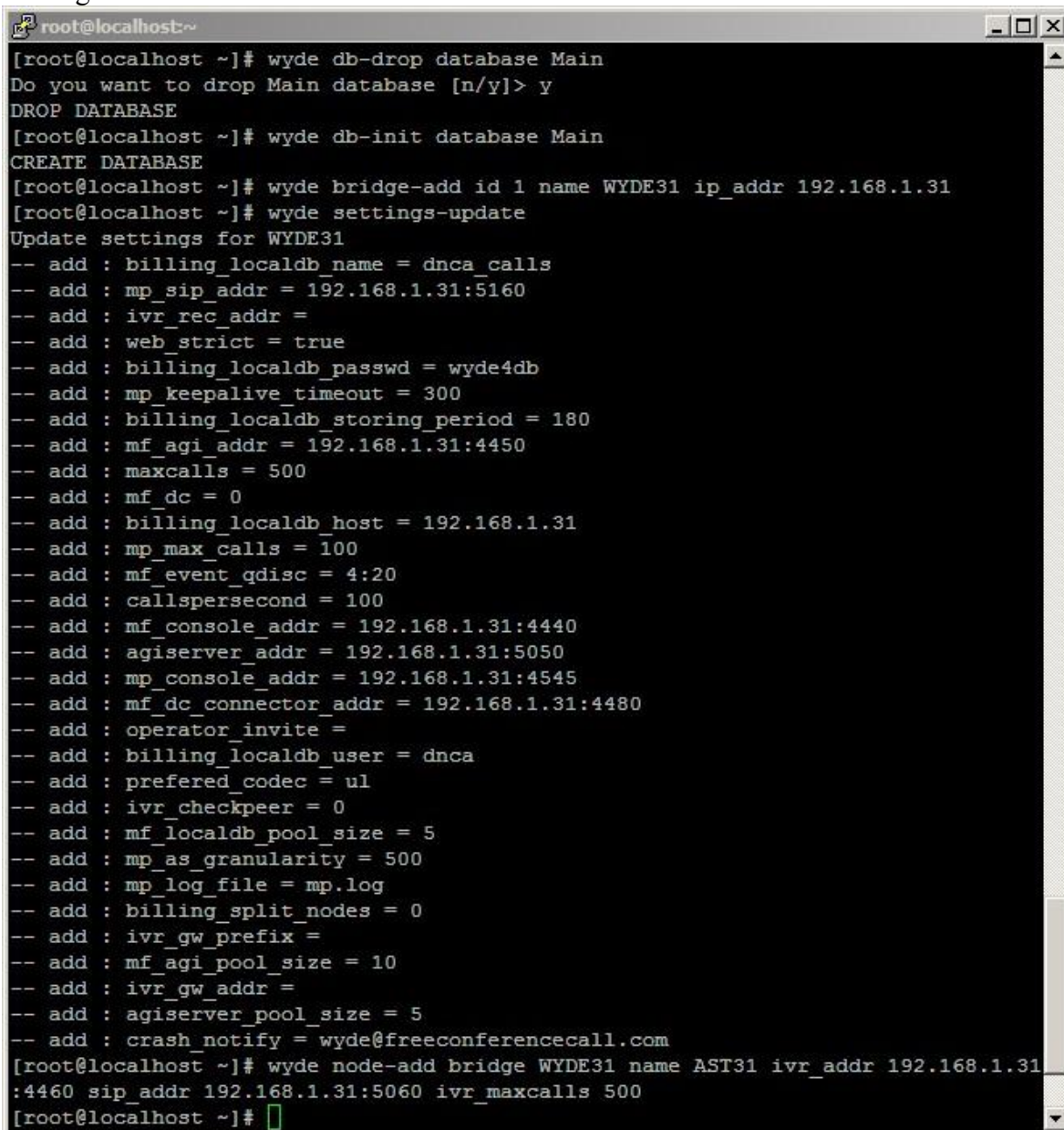
```
wyde callflow-add name PLAYBACK
   directory /usr/local/DNCA/callflows/PLAYBACK
wyde callflow-add name SPECTEL
   directory /usr/local/DNCA/callflows/SPECTEL
```

As it was previously told the bridge identifier should be between *1* and *15*. Note that the local bridge identifier that you use in *bridge-add* command should be the same with the default bridge defined in */usr/local/DNCA/etc/dnca.conf* file:

```
[general]
bridge_id = 1
```

See Figure 82 for details.


```
[root@localhost ~]# wyde db-drop database Main
Do you want to drop Main database [n/y]> y
DROP DATABASE
[root@localhost ~]# wyde db-init database Main
CREATE DATABASE
[root@localhost ~]# wyde bridge-add id 1 name WYDE31 ip_addr 192.168.1.31
[root@localhost ~]# wyde settings-update
Update settings for WYDE31
-- add : billing_localdb_name = dnca_calls
-- add : mp_sip_addr = 192.168.1.31:5160
-- add : ivr_rec_addr =
-- add : web_strict = true
-- add : billing_localdb_passwd = wyde4db
-- add : mp_keepalive_timeout = 300
-- add : billing_localdb_storing_period = 180
-- add : mf_agi_addr = 192.168.1.31:4450
-- add : maxcalls = 500
-- add : mf_dc = 0
-- add : billing_localdb_host = 192.168.1.31
-- add : mp_max_calls = 100
-- add : mf_event_qdisc = 4:20
-- add : callspersecond = 100
-- add : mf_console_addr = 192.168.1.31:4440
-- add : agiserver_addr = 192.168.1.31:5050
-- add : mp_console_addr = 192.168.1.31:4545
-- add : mf_dc_connector_addr = 192.168.1.31:4480
-- add : operator_invite =
-- add : billing_localdb_user = dnca
-- add : prefered_codec = ul
-- add : ivr_checkpeer = 0
-- add : mf_localdb_pool_size = 5
-- add : mp_as_granularity = 500
-- add : mp_log_file = mp.log
-- add : billing_split_nodes = 0
-- add : ivr_gw_prefix =
-- add : mf_agi_pool_size = 10
-- add : ivr_gw_addr =
-- add : agiserver_pool_size = 5
-- add : crash_notify = wyde@freeconferencecall.com
[root@localhost ~]# wyde node-add bridge WYDE31 name AST31 ivr_addr 192.168.1.31
:4460 sip_addr 192.168.1.31:5060 ivr_maxcalls 500
[root@localhost ~]#
```

Figure 82: Drop and Initialize the Main Database

To apply the latest patches (changes) to the existing databases using the command line, you should use the *wyde* command line utility with the *db-patch* option. The syntax is as follows:

```
wyde db-patch
```

Usually you also do not need to run this command. This command is being run automatically during the system upgrade installation.

To connect to the WYDE *dnca* (main) database, i.e. to open the PostgreSQL interactive terminal (*psql*) for this database using the command line, you should use the *wyde* command line utility with the *db* option. The syntax is as follows:

```
wyde db
```

To connect to the WYDE *dnca_calls* (billing) database, i.e. to open the PostgreSQL interactive terminal (*psql*) for this database using the command line, you should use the *wyde* command line utility with the *db-bill* option. The syntax is as follows:

```
wyde db-bil
```

Asterisk Administration

In the section Conferences and Calls Management using *asterisk* Console we described how to run the *asterisk* console and how to manage the conferences and calls using this console. This section describes what additional changes and adjustments could be made in the *asterisk* configuration.

SIP Listening Host IP and Port Configuration

By default the SIP is being configured to use *0.0.0.0* as default IP address to bind to and *5060* as default UDP port to bind to. IP address *0.0.0.0* means that *asterisk* binds to all available nodes. This is being configured in the configuration file */opt/DNCA/asterisk/etc/asterisk/sip.conf* as follows:

```
[general]
...
bindport=5060    ; UDP Port to bind to (SIP standard port is 5060)
bindaddr=0.0.0.0 ; IP address to bind to (0.0.0.0 binds to all)
...
```

If it is necessary you can configure SIP to listen on non-default IP address and/or port by changing these configuration parameters. When you are changing these configuration parameters you should also update SIP address of your nodes using *wyde node-set* command with *sip_addr* argument.

For example if you would like to configure SIP to listen on the port *5061* you should change *sip.conf* file to have the line:

```
bindport=5061
```

After that you should run the following command (we assume that this command is being run for the *asterisk* node *AST1*):

```
wyde node-set name AST1 sip_addr 192.168.1.5:5061
```

Next you should either restart *asterisk* or run IVR console and reload the SIP using the commands:

```
wyde ivr
sip reload
```
See Figure 83 for details.

Figure 83: Changing SIP Bind Address and Port

MF Connection on Non-default Host IP and Port Configuration

By default the connection from *mf* service is being expected at *0.0.0.0:4460*. But if it is necessary another host IP and/or port can be set in the configuration file */opt/DNCA/asterisk/etc/asterisk/wyde.conf*:
```
[general]
bind_addr=<ip>:<port>
```
Using this configuration settings *ivrhelper* could be configured to another IP address and port.

If it is necessary you can configure *ivrhelper* to listen on non-default IP address and/or port by changing these configuration parameters. When you are changing them you should also update IVR address of your nodes using *wyde node-set* command with *ivr_addr* argument.

For example if you would like to configure IVR to listen on the port *4461* you should change *wyde.conf* file to have the line:
```
bind_addr=0.0.0.0:4461
```
After that you should run the following command (we assume that this command is being run for the *asterisk* node *AST1*):
```
wyde node-set name AST1 ivr_addr 192.168.1.5:4461
```
Next you should restart *asterisk* service using the command:
```
service asterisk restart
```
See Figure 84 for details.
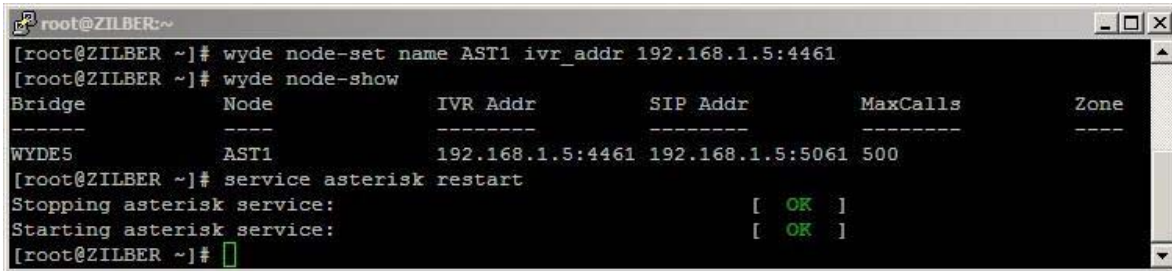
Figure 84: Changing IVR Bind Address and Port

Enable and Disable Audio Codecs

Audio codecs that are being used by the *asterisk* are listed in the file
/opt/DNCA/asterisk/etc/asterisk/sip.conf as follows:
```
disallow=all
allow=g722
allow=isac
allow=amrwb
allow=siren7
allow=siren14
allow=ulaw
allow=alaw
allow=ilbc
allow=novoice
```
These are the audio codecs that are supported by the WYDE bridge. The codecs *ulaw*,
alaw, *ilbc* are 8 KHz codecs; the codecs *g722*, *isac*, *amrwb*, *siren7*, *siren14* are 16 KHz HD
codecs; the codec *novoice* is the codec for control calls. By default *sip.conf* configuration
file disallows all codecs (the line: *disallow=all*); after that *allow* parameters define what
audio codecs are allowed by the bridge. In this section of the file you can list the codecs
that you are going to use.

If you changed the list of codecs in the *sip.conf* file you should either restart *asterisk* using
the command:
```
service asterisk restart
```
or run IVR console and reload the SIP using the commands:
```
wyde ivr
sip reload
```

System settings of the WYDE bridge contain *prefered_codec* parameter; this parameter
determines preferred codec that is being used when the bridge initiates the calls, i.e. dialout
calls, calls to the recording server, etc. To see your preferred codec settings you can use the
command:
```
wyde settings-show prefix prefered_codec
```

Chapter 3: Command Reference

wyde Command Reference

All *wyde* commands have the following format:
```
wyde command [arguments]
```

This chapter describes all available *wyde* commands with their arguments. For any of the commands the required arguments marked with asterisk (*).

`ast-status` (Show WYDE *asterisk* Status)

Syntax:
```
wyde ast-status
```

`auth-adapter-add` (Add *auth* Adapter)

Syntax:
```
wyde auth-adapter-add arguments
```
Arguments:
   `name <value>` – The name of the authorization adapter that should be added (*);
   `description <value>` – The description of the authorization adapter that should be added.

`auth-adapter-del` (Delete *auth* Adapter)

Syntax:
```
wyde auth-adapter-del arguments
```
Arguments:
   `name <value>` – The name of the authorization adapter that should deleted (*).

`auth-adapter-show` (Show *auth* Adapters)

Syntax:
```
wyde auth-adapter-show
```

`auth-method-add` (Add *auth* Method)

Syntax:
```
wyde auth-method-add arguments
```
Arguments:
   `name <value>` – The name of the authorization method that should be added (*);
   `description <value>` – The description of the authorization method that should be added;
   `adapter <value>` – The authorization adapter name for the authorization method that should be added (*);
   `parameters <value>` – The list of parameters for the authorization method that should be added.

`auth-method-del` **(Delete *auth* Method)**

Syntax:
    wyde auth-method-del *arguments*
Arguments:
    name <value> – The name of the authorization method that should deleted (*).

`auth-method-set` **(Set *auth* Method)**

Syntax:
    wyde auth-method-set *arguments*
Arguments:
    name <value> – The name of the authorization method that should be changed (*);
    description <value> – New description of the authorization method that should
        be set;
    parameters <value> – New list of parameters for the authorization method that
        should be set.

`auth-method-show` **(Show *auth* Methods)**

Syntax:
    wyde auth-method-show

`auth-reload` **(Reload *auth* configuration)**

Syntax:
    wyde auth-reload

`billing-adapter-add` **(Add Billing Adapter)**

Syntax:
    wyde billing-adapter-add *arguments*
Arguments:
    name <value> – The name of the billing adapter that should be added (*);
    description <value> – The description of the billing adapter that should be
        added;
    driver <value> – The driver name for the billing adapter that should be added (*);
    parameters <value> – The list of parameters for the billing adapter that should
        be added (*).

`billing-adapter-del` **(Delete Billing Adapter)**

Syntax:
    wyde billing-adapter-del *arguments*
Arguments:
    name <value> – The name of the billing adapter that should deleted (*).

`billing-adapter-set` **(Set Billing Adapter Properties)**

Syntax:
    wyde billing-adapter-set *arguments*

Arguments:
   `name <value>` – The name of the billing adapter that should be updated (*);
   `description <value>` – New description of the billing adapter that should be set;
   `driver <value>` – New driver name for the billing adapter that should be set;
   `parameters <value>` – New list of parameters for the billing adapter that should
      be set.

`billing-adapter-show` (Show Billing Adapters)

Syntax:
   `wyde billing-adapter-show`

`billing-reload` (Reload Billing Configuration)

Syntax:
   `wyde billing-reload`

`billing-rule-add` (Add Billing Rule)

Syntax:
   `wyde billing-rule-add` *arguments*
Arguments:
   `name <value>` – The name of the billing rule that should be added (*);
   `description <value>` – The description of the billing rule that should be added;
   `rule <value>` – The billing rule content that should be added (*), comma-separated
      values: `{[file][,][localdb][,][adapter:<name>]}`:
      o `file` – denotes that CDR information should be stored into
         /usr/local/DNCA/log/CDR.log file;
      o `localdb` – denotes that CDR information should be stored into *dnca_calls*
         local database;
      o `adapter:<name>` – denotes custom billing adapter name that should be used
         to store CDR information.

`billing-rule-del` (Delete Billing Rule)

Syntax:
   `wyde billing-rule-del` *arguments*
Arguments:
   `name <value>` – The name of the billing rule that should deleted (*).

`billing-rule-set` (Set Billing Rule)

Syntax:
   `wyde billing-rule-set` *arguments*
Arguments:
   `name <value>` – The name of the billing rule that should be updated (*);
   `description <value>` – New description of the billing rule that should be set;
   `rule <value>` – New billing rule content that should be set, comma-separated
      values: `{[file][,][localdb][,][adapter:<name>]}`:

- o `file` – denotes that CDR information should be stored into
  /usr/local/DNCA/log/CDR.log file;
- o `localdb` – denotes that CDR information should be stored into *dnca_calls*
  local database;
- o `adapter:<name>` – denotes custom billing adapter name that should be used
  to store CDR information.

`billing-rule-show` (Show Billing Rules)

Syntax:
```
wyde billing-rule-show
```

`bridge-add` (Add WYDE Bridge)

Syntax:
```
wyde bridge-add arguments
```
Arguments:
```
id <value>
```
– The identifier of the bridge that should be added (*);
```
name <value>
```
– The name of the bridge that should be added (*);
```
ip_addr <value>
```
– IP address of the bridge that should be added (*).

`bridge-del` (Delete WYDE Bridge)

Syntax:
```
wyde bridge-del arguments
```
Arguments:
```
id <value>
```
– The identifier of the bridge that should be deleted (*).

`bridge-list-load` (Load List of Bridges from the File)

Syntax:
```
wyde bridge-list-load arguments
```
Arguments:
```
file <value>
```
– The input file name to load the list of bridges (*).

`bridge-list-save` (Save List of Bridges to the File)

Syntax:
```
wyde bridge-list-save arguments
```
Arguments:
```
file <value>
```
– The output file name to save the list of bridges (*).

`bridge-reload` (Reload DC Bridges Configuration)

Syntax:
```
wyde bridge-reload
```

`bridge-set` (Set WYDE Bridge Properties)

Syntax:
```
wyde bridge-set arguments
```

Arguments:
   `id <value>` – The identifier of the bridge which properties should be updated (*);
   `name <value>` – The name of the bridge that should be updated;
   `ip_addr <value>` – IP address of the bridge that should be updated;
   `new_id <value>` – New identifier of the bridge if it should be changed.

`bridge-show` (Show WYDE Bridges)

Syntax:
   `wyde bridge-show`

`callflow-add` (Add Call Flow)

Syntax:
   `wyde callflow-add` *arguments*
Arguments:
   `name <value>` – The name of the call flow (*);
   `directory <value>` – Call flow directory path.

`callflow-attr-set` (Set Call Flow Attribute)

Syntax:
   `wyde callflow-attr-set` *arguments*
Arguments:
   `callflow <value>` – The name of the call flow (*);
   `name <value>` – This call flow attribute name (*);
   `value <value>` – This call flow attribute value.

`callflow-attr-show` (Show Call Flow Attributes)

Syntax:
   `wyde callflow-attr-show` *arguments*
Arguments:
   `callflow <value>` – The name of the call flow (*).

`callflow-attr-update-db` (Update Call Flow Attributes Definition in a Database)

Syntax:
   `wyde callflow-attr-update-db` *arguments*
Arguments:
   `callflow <value>` – The name of the call flow (*).

`callflow-del` (Delete Call Flow)

Syntax:
   `wyde callflow-del` *arguments*
Arguments:
   `name <value>` – The name of the call flow (*).

`callflow-reload` (Reload All Call Flows)

Syntax:
    wyde callflow-reload
Note:
    This command works the same as *mf* console command: `callflow-reload` (Reload
    Call Flows).

`callflow-show` (Show Call Flows Table)

Syntax:
    wyde callflow-show

`conference-attr-del` (Remove Conference Attribute Redefinition)

Syntax:
    wyde conference-attr-del *arguments*
Arguments:
    number <value> – The conference number (*);
    name <value> – This conference call flow attribute name (*).

`conference-attr-set` (Set Conference Attribute)

Syntax:
    wyde conference-attr-set *arguments*
Arguments:
    number <value> – The conference number (*);
    name <value> – This conference call flow attribute name (*);
    value <value> – This conference call flow attribute new value (*).

`conference-attr-show` (Show Conference Attributes)

Syntax:
    wyde conference-attr-show *arguments*
Arguments:
    number <value> – The conference number (*).

`config-restore` (Restore WYDE Configuration)

Syntax:
    wyde config-restore *arguments*
Arguments:
    file <value> – The file name to restore configuration settings (*);
    force <value> – Force required {yes|no} (default no):
    o yes denotes that the configuration file should be restored even if the versions of
       previously saved configuration data and currently installed WYDE software are
       different;
    o no denotes that the configuration file should be restored only if the versions of
       previously saved configuration data and currently installed WYDE software are the
       same.

config-save (Save WYDE Configuration)

Syntax:
    wyde config-save *arguments*
Arguments:
    file <value> – The file name to save configuration settings (*).

confuser-add (Add Conference User)

Syntax:
    wyde confuser-add *arguments*
Arguments:
    accesscode <value> – Access code, if this parameter is omitted unique numeric
        access code will be generated;
    did <value> – DID (DNIS) number (*);
    conference <value> – Conference number, if this parameter is omitted unique
        numeric access code will be generated;
    conf-accesscode – Set conference number the same as access code, if this
        parameter is transferred the conference number will be set equal to access code (if
        conference and conf-accesscode parameters both transferred, the
        conference parameter will be ignored and the conference number will be set
        equal to the access code);
    role <value> – Role in the conference (case-sensitive): *Host* or *Participant* or
        Listener (*);
    subscriber <value> – Subscriber login name, i.e. subscriber PIN (*).

confuser-del (Delete Conference User)

Syntax:
    wyde confuser-del *arguments*
Arguments:
    accesscode <value> – Access code (*).

confuser-show (Show Conference Users Table)

Syntax:
    wyde confuser-show *arguments*
Arguments:
    subscriber <value> – Subscriber login name, i.e. subscriber PIN;
    accesscode <value> – Access code.

db (Connect to WYDE Main, i.e. *dnca*, Database)

Syntax:
    wyde db

db-bil (Connect to WYDE Billing, i.e. *dnca_calls*, Database)

Syntax:
    wyde db-bil

`db-drop` (Drop of WYDE Database)

Syntax:
    wyde db-drop *arguments*
Arguments:
    database <value> – Denotes what kind of database should be dropped; the
        possible values: {Main|Billing} –
        o *Main* is being used for *dnca* database (default);
        o *Billing* is being used for *dnca_calls* database.

`db-init` (Initialize of WYDE Database)

Syntax:
    wyde db-init *arguments*
Arguments:
    database <value> – Denotes what kind of database should be initialized; the
        possible values: {Main|Billing} –
        o *Main* is being used for *dnca* database (default);
        o *Billing* is being used for *dnca_calls* database.

`db-patch` (Apply Last Patches for Databases)

Syntax:
    wyde db-patch

`did-add` (Add DNIS/DID Number)

Syntax:
    wyde did-add *arguments*
Arguments:
    number <value> – Dial-in number (*);
    callflow <value> – The name of the call flow (*);
    description <value> – DNIS (DID) description.

`did-alias-add` (Add DNIS/DID Number Alias)

Syntax:
    wyde did-alias-add *arguments*
Arguments:
    number <value> – Main dial-in number (*);
    alias <value> – Alias of the number (*);
    description <value> – Description of the alias.

`did-alias-del` (Delete DNIS/DID Number Alias)

Syntax:
    wyde did-alias-del *arguments*
Arguments:
    number <value> – Main dial-in number (*);
    alias <value> – Alias of the number (*).

did-alias-show (Show DNIS/DID Number Aliases)

Syntax:
    wyde did-alias-show *arguments*
Arguments:
    number <value> – Main dial-in number; if the argument omitted show aliases for
        all DNISes.

did-attr-del (Remove DNIS/DID Attribute Redefinition)

Syntax:
    wyde did-attr-del *arguments*
Arguments:
    number <value> – DNIS (DID) number (*);
    name <value> – This DNIS call flow attribute name (*).

did-attr-set (Set DNIS/DID Attribute)

Syntax:
    wyde did-attr-set *arguments*
Arguments:
    number <value> – DNIS (DID) number (*);
    name <value> – This DNIS call flow attribute name (*);
    value <value> – This DNIS call flow attribute new value (*).

did-attr-show (Show DNIS's Attributes)

Syntax:
    wyde did-attr-show *arguments*
Arguments:
    number <value> – DNIS (DID) number (*).

did-del (Delete DNIS/DID Number)

Syntax:
    wyde did-del *arguments*
Arguments:
    number <value> – DNIS (DID) number (*).

did-reload (Reload all DNISes/DIDs Caches)

Syntax:
    wyde did-reload
Note:
    This command works the same as *mf* console command: did-reload (Reload all
    DNISes/DIDs Caches).

did-show (Show DNISes/DIDs Table)

Syntax:
    wyde did-show

`drop-call` (Drop Call)

Syntax:
    wyde drop-call *arguments*
Arguments:
    conference <value> – the number of the conference which calls you wish to
        drop, use '*confless*' keyword instead of conference number to indicate calls
        which have not placed to any conference (*);
    call <value> – the call session ID (*).
Note:
    This command works the same as *mf* console command: call-drop (Drop Call in the
    Conference).

`drop-conf` (Drop Conference)

Syntax:
    wyde drop-conf *arguments*
Arguments:
    number <value> – the number of the conference you wish to drop (disconnect), you
        can use the keyword *all* instead of conference number to drop all conferences.
Note:
    This command works the same as *mf* console command: conf-drop (Drop
    Conference).

`help` (Show Help Page and Exit)

Syntax:
    wyde help *arguments*
Arguments:
    command – the specific wyde command on which you would like to get help.

`ivr` (Connect to IVR/*asterisk* Console)

Syntax:
    wyde ivr

`node-add` (Add Node to the WYDE Bridge)

Syntax:
    wyde node-add *arguments*
Arguments:
    bridge <value> – the name of the bridge, if this argument is omitted the node will
        be added for the current bridge (default bridge is defined in
        /usr/local/DNCA/etc/dnca.conf file);
    name <value> – the name of the node that should be added (*);
    ivr_addr <value> – the node IVR address, i.e. IP address and port of the node
        (*);
    ivr_maxcalls <value> – the maximum number of calls on the IVR for the node;
    zone <value> – the location zone for the node.

`node-del` (Delete Node from the WYDE Bridge)

Syntax:
```
wyde node-del arguments
```
Arguments:
> `bridge <value>` – the name of the bridge, if this argument is omitted the node will
> be deleted from the current bridge (default bridge is defined in
> */usr/local/DNCA/etc/dnca.conf* file);
>
> `name <value>` – the name of the node that should be deleted (*).

`node-reload` (Reload Nodes Configuration)

Syntax:
```
wyde node-reload
```

`node-set` (Set Node Properties)

Syntax:
```
wyde node-set arguments
```
Arguments:
> `bridge <value>` – the name of the bridge which node properties should be updated,
> if this argument is omitted the node for the current bridge will be taken (default
> bridge is defined in */usr/local/DNCA/etc/dnca.conf* file);
>
> `name <value>` – the name of the node which properties should be updated (*);
>
> `ivr_addr <value>` – the node new IVR address, i.e. IP address and port of the
> node;
>
> `ivr_maxcalls <value>` – new maximum number of calls on the IVR for the
> node;
>
> `zone <value>` – new location zone for the node.

`node-show` (Show Nodes of WYDE Bridge)

Syntax:
```
wyde node-show arguments
```
Arguments:
> `bridge <value>` – the name of the bridge, if this argument is omitted the command
> shows nodes for all available bridges.

Note:
> This command works similar to *mf* console command: `node-show` (Show *MF* Cluster
> Nodes List) , but it has few differences in format, output and returned data – this *wyde*
> command shows nodes configuration in the database, *mf* console `node-show`
> command shows the current nodes status.

`peer-add` (Add Peer to the WYDE Bridge)

Syntax:
```
wyde peer-add arguments
```
Arguments:
> `name <value>` – the unique name of the peer that should be added (*);

`ipaddr <value>` – the unique peer IP address and optionally port (*);

`dialout_prefix <value>` – the prefix that should be added to the beginning of the number during the dial-out or the template for replace for the peer;

`zone <value>` – the location zone for the peer.

`peer-del` (Delete Peer from the WYDE Bridge)

Syntax:
```
wyde peer-del arguments
```
Arguments:

`id <value>` – the identifier of the peer that should be deleted (*).

`peer-set` (Set Peer Properties)

Syntax:
```
wyde peer-set arguments
```
Arguments:

`name <value>` – the name of the peer to update;

`ipaddr <value>` – the peer IP address and optionally port that should be updated (*);

`dialout_prefix <value>` – the prefix that should be added to the beginning of the number during the dial-out or the template for replace for the peer;

`zone <value>` – the location zone for the peer to update.

`peer-show` (Show Peers of WYDE Bridge)

Syntax:
```
wyde peer-show
```

`register-license` (Register License)

Syntax:
```
wyde register-license
```

`reload-all` (Reload All System Configuration)

Syntax:
```
wyde reload-all
```

`set-email` (Change Email Address)

Syntax:
```
wyde set-email arguments
```
Arguments:

`email <value>` – new notification email address (*);

`bridge <value>` – the name of the bridge which email should be changed, if this argument is omitted the changes will be made for the current bridge (default bridge is defined in */usr/local/DNCA/etc/dnca.conf* file).

set-ip (Change IP Address)

Syntax:
```
wyde set-ip arguments
```
Arguments:
ip <value> – new IP address of the bridge (*);

bridge <value> – the name of the bridge which IP address should be changed, if this argument is omitted the changes will be made for the current bridge (default bridge is defined in */usr/local/DNCA/etc/dnca.conf* file).

settings-edit (Edit WYDE System Settings)

Syntax:
```
wyde settings-edit arguments
```
Arguments:
bridge <value> – the name of the bridge which settings you would like to edit, if this argument is omitted the settings will be edited for the current bridge (default bridge is defined in */usr/local/DNCA/etc/dnca.conf* file);

name <value> – the parameter name that should be edited (*);

value <value> – new parameter value that should be set.

settings-reload (Reload System Settings)

Syntax:
```
wyde settings-reload
```

settings-show (Show WYDE Settings)

Syntax:
```
wyde settings-show arguments
```
Arguments:
bridge <value> – the name of the bridge which settings you would like to show, if this argument is omitted the settings will be shown for the current bridge (default bridge is defined in */usr/local/DNCA/etc/dnca.conf* file);

prefix <value> – the prefix of the parameters names that should be shown.

settings-update (Update WYDE Settings with Default Values)

Syntax:
```
wyde settings-update arguments
```
Arguments:
bridge <value> – the name of the bridge which settings should be updated, if this argument is omitted the settings are being updated for the current bridge (default bridge is defined in */usr/local/DNCA/etc/dnca.conf* file).

Note:
This command adds missing and removes obsolete bridge parameters for the bridge.

`show-conf` (Show Conference or Conferences List)

Syntax:
   `wyde show-conf` *arguments*

Arguments:
   `number <value>` – Conference number:
   - o if this parameter is omitted the command returns the list of all conferences on the bridge;
   - o if the conference number is transferred the command returns the list of all calls joined to the requested conference;
   - o use '*`confless`*' keyword instead of conference number to show calls which have not placed to any conference.

Note:
   This command works the same as *mf* console command: `show` (Show Conferences and Calls).

`sounds-reload` (Reload Sound Files)

Syntax:
   `wyde sounds-reload`

`status` (Show WYDE Status)

Syntax:
   `wyde status`

`subscriber-add` (Add Subscriber)

Syntax:
   `wyde subscriber-add` *arguments*

Arguments:
   `login <value>` – Login name, i.e. subscriber PIN, if this parameter is omitted unique numeric subscriber PIN will be generated;
   `name <value>` – Subscriber's first name;
   `lastname <value>` – Subscriber's last name;
   `parent <value>` – Parent login name, i.e. parent subscriber PIN;
   `password <value>` – Subscriber's password;
   `zip <value>` – Subscriber's ZIP code;
   `email <value>` – Subscriber's email address;
   `sip_phone <value>` – Subscriber's VoIP phone number.

`subscriber-del` (Delete Subscriber)

Syntax:
   `wyde subscriber-del` *arguments*

Arguments:
   `login <value>` – Login name, i.e. subscriber PIN (*).

subscriber-set (Set Subscriber Properties)

Syntax:
    wyde subscriber-set *arguments*
Arguments:
    login <value> – Login name, i.e. subscriber PIN (*);
    name <value> – Subscriber's first name;
    lastname <value> – Subscriber's last name;
    password <value> – Subscriber's password;
    zip <value> – Subscriber's ZIP code;
    email <value> – Subscriber's email address;
    sip_phone <value> – Subscriber's VoIP phone number.

subscriber-show (Show Subscribers Table)

Syntax:
    wyde subscriber-show

transfer (Transfer Calls)

Syntax:
    wyde transfer *arguments*
Arguments:
    One of the following arguments should be specified as the first argument of this
        command (*):
        o {node <node_id>|node all} – denotes the node identifier (or all nodes)
            from which the calls should be transferred;
        o {conference <conf_number>} – denotes the conference number for
            which the calls should be transferred;
        o {did <did>} – denotes the DNIS (DID) number for which the calls should
            be transferred;
    destination <destination IP value> – denotes destination IP address to
        which the specified calls should be transferred (*).
Note:
    This command works the same as *mf* console command: sounds-reload (Reload
    Sounds).

version (Show WYDE Version)

Syntax:
    wyde version

watch (Watch WYDE Status)

Syntax:
    wyde watch *arguments*
Arguments:
    interval <value> – Watch interval in seconds to refresh the WYDE bridge status,
        if it is omitted the 5 seconds interval is used by default.

mf Console Command Reference

Once you enter into *mf* console you can run any of the console command just typing the
command name and optionally the command arguments:
```
command [arguments]
```

This chapter describes all available *mf* console commands with their arguments. For any of
the commands the required arguments marked with asterisk (*); optional arguments are
shown in square brackets – [...] – in the command syntax.

activities-show (Enable/Disable Printing Activities on the *mf* Console)

Syntax:
```
activities-show {start|stop}
```
Arguments:

{start|stop} – *start* indicates that the conferences calls activities (actions)
should be outputted to the *mf* console, *stop* indicates that the activities output
should be stopped (*).

billing-reload (Reload Billing Configuration)

Syntax:
```
billing-reload
```

call-associate (Set Bundle for the Call)

Syntax:
```
call-associate <conf_number> <ses_id> [<audiokey>]
```
Arguments:

<conf_number> – the number of the conference for which call you wish to define
the audio key, i.e. the bundle (*);
<ses_id> – the call session identifier (*);
<audiokey> – new audio key for the call, if this argument is omitted the audio key
for this call will be set to 0, i.e. the call in this case will not belong to any bundle.

call-custom-name (Set Custom Name for the Call)

Syntax:
```
call-custom-name <conf_number> <ses_id> [<name>]
```
Arguments:

<conf_number> – the number of the conference for which call you wish to define
the custom name (*);
<ses_id> – the call session identifier (*);
<name> – new custom name for the call, if this argument is omitted the empty custom
name will be set to this call.

call-drop (Drop Call in the Conference)

Syntax:

    call-drop <conf_number> <ses_id> [force [nocdr]]

Arguments:

<conf_number> – the number of the conference which calls you wish to drop
(disconnect), use 'confless' keyword instead of conference number to indicate
calls which have not placed to any conference (*);

<ses_id> – the call session identifier (*);

force – denotes that the command should force call drop;

nocdr – denotes that CDR record should not be created for this call.

Note:

This command works similar to *wyde* command: drop-call (Drop Call).

call-gain-set (Gain Control)

Syntax:

    call-gain-set <conf_number> <ses_id> <value>

Arguments:

<conf_number> – the number of the conference for which call you wish to change
the volume level (*);

<ses_id> – the call session identifier for which you would like to change the volume
level (*);

<value> – could be from −10 till 10 or 255; it indicates what volume level should
be set for the call, 255 denotes that the volume level is being automatically
generated by the backend (*).

call-hold (Hold Call)

Syntax:

    call-hold {true|false} <conf_number> <ses_id>

Arguments:

{true|false} – *true* indicates that the call should be placed on hold, *false*
indicates that the call should be taken of hold (*);

<conf_number> – the number of the conference which call you wish to place on
hold or take of hold (*);

<ses_id> – the call session identifier (*).

call-move (Move Call to Other Conference)

Syntax:

    call-move <conf_number> <ses_id> <new_did_number>
        <new_accesscode> [<new_role>]

Arguments:

<conf_number> – the source conference number whose call you would like to move
to another conference (*);

<ses_id> – the call session identifier that you wish to move to another conference
(*);

`<new_did_number>` – new (i.e. target) conference DNIS (DID) number where the
call should be moved (*);

`<new_accesscode>` – the access code that should be used to join to new (i.e. target)
conference (*);

`<new_role>` – the role that will be granted to the call when it joins to new conference
(applicable only for call flows without authorization, for example *CONF* call flow).

Note:

This command is asynchronous.

`call-mute` (Mute Call)

Syntax:

    call-mute {false|strict|relaxed} <conf_number> <ses_id>

Arguments:

`{false|strict|relaxed}` – *false* indicates that the call should be un-muted,
strict indicates that the call should be muted and participants can not un-mute
themselves, *relaxed* indicates that the call should be muted but participants can
un-mute themselves (*);

`<conf_number>` – the number of the conference which call you wish to mute or un-
mute (*);

`<ses_id>` – the call session identifier (*).

`call-qa-request` (Start/Stop Q&A Request for the Call)

Syntax:

    call-qa-request {start|stop} <conf_number> <ses_id>

Arguments:

`{start|stop}` – *start* indicates that the call should start the request to speak (the
request to ask the question), i.e. placed into Q&A queue, *stop* indicates that the
call should stop (cancel) the request to speak, i.e. removed from Q&A queue (*);

`<conf_number>` – the number of the conference where Q&A session is started (*);

`<ses_id>` – the call session identifier that should be placed into Q&A queue or
removed from it (*).

Note:

When Q&A session is started the participants can use *6 (default) on theirs DTMF
keypads and confirm that he wants to ask a question. The participants will be placed in
a queue in the order that they requested to speak.

`call-qa-talk` (Enable/Disable Q&A Session for the Call in the Queue)

Syntax:

    call-qa-talk {enable|disable} <conf_number> <ses_id>

Arguments:

`{enable|disable}` – *enable* indicates that the call from Q&A queue should be
unmuted and the participants should be able to speak (to ask his question),
disable indicates that the unmuted call should be muted and removed from Q&A
queue (*);

`<conf_number>` – the number of the conference where Q&A session is started (*);

`<ses_id>` – the call session identifier that should be unmuted to ask his question or
should be muted again (*).

Note:

When Q&A session is started the hosts can use theirs DTMF keypads to mange Q&A
sessions: default `*1 2` can be used to move to the next questioner and `*1 4` can be
used to mute or unmute the active questioner.

callflow-reload **(Reload Call Flows)**

Syntax:

    callflow-reload

Note:

This command works the same as *wyde* command: `callflow-reload` (Reload All
Call Flows).

cmdcount-show **(Display Values of *Command* Counters)**

Syntax:

    cmdcount-show

Note:

Reports the number of commands executed on bridge from *mf* starts till now. The
following counters are being returned by this command:

- o `rt_drop` – number of DROP commands from RT;
- o `rt_mute` – number of MUTE commands from RT;
- o `rt_hold` – number of HOLD commands from RT;
- o `rt_mutegroup` – number of MUTE-GROUP commands from RT;
- o `rt_holdgroup` – number of HOLD-GROUP commands from RT;
- o `rt_setrole` – number of SET-ROLE commands from RT;
- o `rt_broadcast` – number of START-BROADCAST commands from RT;
- o `rt_playfile` – number of PLAY-FILE commands from RT;
- o `rt_customname` – number of SET-CUSTOMNAME commands from RT;
- o `rt_secure` – number of SECURE commands from RT;
- o `rt_recording` – number of START-RECORDING commands from RT;
- o `rt_broadcast` – number of START-BROADCAST commands from RT;
- o `rt_setrole` – number of SET-ROLE commands from RT;
- o `rt_jobcode` – number of SET-JOBCODE commands from RT;
- o `rt_qamode` – number of QA-MODE commands from RT;
- o `rt_qarequest` – number of QA-REQUEST commands from RT;
- o `rt_qatalk` – number of QA-TALK commands from RT;
- o `rt_subconf` – number of SUB-CONFERENCE commands from RT;
- o `cn_drop` – number of DROP commands from web or *mf* console;
- o `cn_mute` – number of MUTE commands from web or *mf* console;
- o `cn_hold` – number of HOLD commands from web or *mf* console;
- o `cn_customname` – number of SET-CUSTOMNAME commands from web or
  mf console;
- o `cn_move` – number of re-attach commands from web or *mf* console;

- o `cn_secure` – number of SECURE commands from web or *mf* console;
- o `cn_mutegroup` – number of MUTE-GROUP commands from web or *mf* console;
- o `cn_holdgroup` – number of HOLD-GROUP commands from web or *mf* console;
- o `cn_recording` – number of RECORDING commands from web or *mf* console;
- o `cn_broadcast` – number of START-BROADCAST commands from web or *mf* console;
- o `cn_playfile` – number of PLAY-FILE commands from web or *mf* console;
- o `cn_dialout` – number of DIALOUT commands from web or *mf* console;
- o `cn_setrole` – number of SET-ROLE commands from web or *mf* console;
- o `cn_jobcode` – number of JOB-CODE commands from web or *mf* console;
- o `cn_transfer` – number of TRANSFER commands from web or *mf* console;
- o `cn_qamode` – number of QA-MODE commands from web or *mf* console;
- o `cn_qarequest` – number of QA-REQUEST commands from web or *mf* console;
- o `cn_qatalk` – number of QA-TALK commands from web or *mf* console;
- o `cn_subconf` – number of SUBCONF commands from web or *mf* console;
- o `dtmf_mute` – number of MUTE commands from DTMF;
- o `dtmf_secure` – number of SECURE commands from DTMF;
- o `dtmf_mutegroup` – number of MUTEGROUP commands from DTMF;
- o `dtmf_broadcast` – number of START-BROADCAST commands from DTMF;
- o `dtmf_recording` – number of START-RECORDING commands from DTMF;
- o `dtmf_jobcode` – number of SET-JOBCODE commands from DTMF;
- o `dtmf_qamode` – number of QA-MODE commands from DTMF;
- o `dtmf_qarequest` – number of QA-REQUEST commands from DTMF;
- o `dtmf_qatalk` – number of QA-TALK commands from DTMF;
- o `dtmf_subconf` – number of SUBCONFERENCE commands from DTMF.

`conf-broadcast` (Start/Stop Broadcast Mode for Listeners)

Syntax:
```
conf-broadcast {start|stop} <conf_number>
```
Arguments:

`{start|stop}` – denotes should the conference be broadcasted to listeners or not: *start* indicates that the listeners should hear the conference, *stop* indicates that all listeners should be on hold;

`<conf_number>` – the number of the conference for which you would like to change the broadcast mode.

`conf-drop` (Drop Conference)

Syntax:
    `conf-drop <conf_number>|all`
Arguments:
    One of the following arguments should be specified (*):
        o `<conf_number>` – the number of the conference you wish to drop
           (disconnect);
        o `all` – the keyword determines that all conferences should be dropped.
Note:
    This command works the same as *wyde* command: `drop-conf` (Drop Conference).

`conf-hold-group` (Hold Group)

Syntax:
    `conf-hold-group {true|false} {participant|listener}`
        `<conf_number>`
Arguments:
    `{true|false}` – *true* indicates that the group (participants or listeners) should be
        placed on hold, *false* indicates that the group (participants or listeners) should be
        taken of hold (*);
    `{participant|listener}` – denotes who (all participants or all listeners) should
        be placed on hold or taken of hold (*);
    `<conf_number>` – the number of the conference which calls you wish to place on
        hold or take of hold (*).

`conf-jobcode` (Set Job Code for the Conference)

Syntax:
    `conf-jobcode <conf_number> [<code>]`
Arguments:
    `<conf_number>` – the number of the conference which job code you would like to
        set (*);
    `<code>` – new job code for the conference.

`conf-mute-group` (Mute Group)

Syntax:
    `conf-mute-group {false|strict|relaxed} {host|participant}`
        `<conf_number>`
Arguments:
    `{false|strict|relaxed}` – *false* indicates that the group (hosts or
        participants) should be un-muted, *strict* indicates that the group (hosts or
        participants) should be muted and participants can not un-mute themselves,
        relaxed indicates that the group (hosts or participants) should be muted but
        participants can un-mute themselves (*);
    `{host|participant}` – denotes who (all hosts or all participants) should be muted
        or un-muted (*);

`<conf_number>` – the number of the conference which calls you wish to mute or un-mute (*).

conf-play-file (Manage of Playing File to the Conference)

Syntax:
```
conf-play-file <conf_number> <ses_id> {assign <dir>
    <filename>|start|stop|seek <offset> <whence>}
```
Arguments:
`<conf_number>` – the number of the conference where you would like to play the audio file (*);

`<ses_id>` – the session identifier (usually the identifier of the control call) which should be used to play the audio file (*);

`{assign <dir> <filename>|start|stop|seek <offset> <whence>}` – one of the following arguments should be specified here (*):

- o `assign <dir> <filename>` – assign the file for the playback:
    - o `<dir>` – either *record* for the conference recorded files (i.e. previous this conference recordings) or `upload` for the uploaded files (i.e. the files uploaded via web);
    - o `<filename>` – the audio file name without extension, this file should be in the conference *recording* folder (usually */usr/local/DNCA/var/recordings/* folder) subfolder, either *record* subfolder or *upload* subfolder for the specific conference;
- o `start` – start the playback from the current position;
- o `stop` – stop the playback;
- o `seek <offset> <whence>` – seek the audio file playback indicator (pointer) on `offset` seconds relative to the parameter `whence`:
    - o `0` – starting from the beginning of the file;
    - o `1` – starting from the current position in the file;
    - o `2` – starting from the end of the file.

conf-polling (Conference Polling)

Syntax:
```
conf-polling <conf_number> {start <keys>|stop}
```
Arguments:
`<conf_number>` – the number of the conference for which you would like to start or to stop the polling (*);

`{start <keys>|stop}` – *start* indicates that the polling should be started for the conference, *stop* indicates that the polling should be stopped for the conference (*);

- o `<keys>` – available polling options (i.e. digits 1, 2, ..., 9, 0) that should be specified when the polling is started.

conf-qa-mode (Manage Q&A Sessions)

Syntax:
```
conf-qa-mode {start|stop|clear} <conf_number>
```

Arguments:

{start|stop|clear} – *start* indicates that Q&A session should be started for
     the conference, i.e. the conference should be placed in *question* mode, *stop*
     indicates that Q&A session should be stopped for the conference, *clear* indicates
     that Q&A queue should be cleared for the conference (*);
<conf_number> – the number of the conference for which you would like to manage
     the Q&A session (*).

Note:

To implement the same Q&A sessions management hosts can use DTMF keypad on
their phones: Q&A session can be started using default *1 1; Q&A session can be
stopped using default *1 3; Q&A queue can be cleared using default *1 5.

conf-qa-mute (Mute/Unmute Active Q&A Session)

Syntax:

conf-qa-mute *{true|false} <conf_number>*

Arguments:

{true|false} – *true* indicates that the active Q&A session should be muted,
     false indicates that the active Q&A session should be unmuted (*); both these
     options do not remove the questioner from Q&A queue, the command just
     temporary allows/disallows the active questioner to speak;
<conf_number> – the number of the conference where Q&A session is started and
     where you would like to mute/unmute the active Q&A session (*).

Note:

To implement the same Q&A sessions actions hosts can use DTMF keypad on their
phones: to mute or unmute the active questioner in Q&A session default *1 4 should
be used.

conf-qa-talk (Enable Q&A Session for the First Call in the Queue)

Syntax:

conf-qa-talk *<conf_number>*

Arguments:

<conf_number> – the number of the conference where Q&A session is started and
     where you would like to enable (unmute) the first call in the Q&A queue; the active
     questioner (if exists) will be removed from Q&A queue, so this command ends
     Q&A session for the current questioner and starts it for the next one (*).

Note:

To implement the same Q&A sessions action, i.e. to allow the first questioner to speak,
hosts can use DTMF keypad on their phones and press default *1 2.

conf-recording (Start/Stop Conference Recording)

Syntax:

conf-recording *{start|stop} <conf_number> [<accesscode>
     <subscriber_pin>]*

Arguments:

{start|stop} – denotes should the conference recording be started or stopped (*);

`<conf_number>` – the number of the conference you wish to record (*);

`<accesscode>` – denotes the host access code, i.e. password to the recording server
if "*Recording method*" (`recording_method`) call flow attribute value is
either "*local+pin*" or "*remote+pin*" (this value can be either defined on call
flow level or overridden on DNIS level);

`<subscriber_pin>` – denotes the subscriber's pin (that usually could be requested
from the user) to perform the recording authorization if "*Recording method*"
(`recording_method`) call flow attribute value is either "*local+pin*" or
"*remote+pin*" (this value can be either defined on call flow level or overridden
on DNIS level).

conf-schedule-extend (Extend Scheduled Conference Duration)

Syntax:
```
conf-schedule-extend <conf_number> <seconds>
```
Arguments:

`<conf_number>` – the number of the started scheduled conference which duration
you would like to extend (*);

`<seconds>` – the increment in seconds that should be added to the allowed duration
for this scheduled conference (*).

conf-schedule-incsize (Resize Scheduled Conference Subscription)

Syntax:
```
conf-schedule-incsize <conf_number> <count>
```
Arguments:

`<conf_number>` – the number of the started scheduled conference where you would
like to increase the number of the allowed participants (*);

`<count>` – the increment in the count of the conference participants that should be
added to the number of maximal allowed the scheduled conference participants (*).

conf-secure (Secure Conference)

Syntax:
```
conf-secure {secure|unsecure} <conf_number>
```
Arguments:

`{secure|unsecure}` – denotes should the conference be made secured or
unsecured (*);

`<conf_number>` – the number of the conference you wish to make secured or
unsecured (*).

conf-shunt (Make/Drop Shunt between Two Conferences)

Syntax:
```
conf-shunt {start <conf_number> [<peer_conf_number>|
           stop <conf_number>}
```

Arguments:

{start|stop} – *start* denotes that the shunt between two conferences should be made (started), *stop* denotes that the shunt between two conferences should be dropped (stopped) (*);

- o <conf_number> – the number of the conference you wish to shunt or un-shunt (*);
- o <peer_conf_number> – the number of the peer conference you wish to shunt with the first one.

confcount-show (Display Values of *confcount* Counters)

Syntax:
    confcount-show

Note:

Reports the break-up of conferences according to participants size from *mf* starts till now. The following counters are being returned by this command:

- o co_total_count – gives the total number of conferences;
- o co_1_count – is the total number of 1-person conferences;
- o co_2_count – is the total number of 2-person conferences;
- o co_3_count – is the total number of conferences with 3 people;
- o co_le_10_count – is the total number of conferences with 4-10 participants;
- o co_le_100_count – gives the total number of conferences with 11-100 participants;
- o co_gt_100_count – gives the total number of conferences with 100+ participants;
- o co_avg_pt_size – gives the average size of conferences hosted on bridge;
- o co_max_pt_size – max size of conference;
- o co_min_pt_size – min size of conference;
- o co_md_pt_size – median size of conference.

dc-reload (Reload DC Bridges Configuration)

Syntax:
    dc-reload

dc-show-bridges (Show Known DC Bridges)

Syntax:
    dc-show-bridges

dc-show-links (Show DC Links)

Syntax:
    dc-show-links

dialout (Do Dialout)

Syntax:
    dialout *<peer_number> <did_number> <accesscode>*

Arguments:
    <peer_number> – denotes the phone number you wish to dial (*);
    <did_number> – the target conference DNIS (DID) number where the call should be
        joined after the dial-out is complete (*);
    <accesscode> – the access code that should be used to join to the target conference
        (*).

Note:
    This command is asynchronous.

dialout-attr (Show Dialout Attributes for Specified Conference)

Syntax:
    dialout-attr *<originator_conf_number>*

Arguments:
    <originator_conf_number> – the number of the started conference which
        dialout attributes, i.e. DNISes and access codes with roles, you would like to show
        (*).

did-reload (Reload DID Entries)

Syntax:
    did-reload

Note:
    This command works the same as *wyde* command: did-reload (Reload all
    DNISes/DIDs Caches).

errcount-show (Display Values of *Error* Counters)

Syntax:
    errcount-show

Note:
    Reports the number of terminated/incomplete calls on bridge from *mf* starts till now.
    The following counters are being returned by this command:
    o   pt_total_terminated – gives the total number of terminated calls;
    o   pt_sip_terminated – provides the total number of calls terminated
        because of incomplete SIP handshakes;
    o   pt_max_calls_terminated – terminate by call amount limits;
    o   pt_agi_terminated – terminated by *agiserver*;
    o   pt_mp_terminated – terminated by *mp*;
    o   pt_asterisk_terminaned – terminated by *asterisk*;
    o   pt_max_duration_terminated – provides the total number of
        participants that exceeded the maximum call duration.

freenumbers-show (Show Free Number Leases)

Syntax:
```
freenumbers-show
```

help (Show Help for Console Commands)

Syntax:
```
help command
```
Arguments:
   command – the specific *mf* console command on which you would like to get help.

node-reload (Reload *MF* Cluster Nodes List)

Syntax:
```
node-reload
```

node-show (Show *MF* Cluster Nodes List)

Syntax:
```
node-show
```
Note:
   This command works similar to *wyde* command: node-show (Show Nodes of WYDE
   Bridge), but it has few differences in format, output and returned data – this *mf* console
   command shows the current nodes status, `wyde node-show` command shows nodes
   configuration in the database.

op-call-move (Move User that Currently Talking with Operator to other Conference)

Syntax:
```
op-call-move <operator_number> <new_did_number>
    <new_accesscode> [<new_role>]
```
Arguments:
   <operator_number> – the operator conference number whose current call (i.e. the
       user that currently talking to the operator) you would like to move to another
       conference (*);
   <new_did_number> – new (i.e. target) conference DNIS (DID) number where the
       call should be moved (*);
   <new_accesscode> – the access code that should be used to join to new (i.e. target)
       conference (*);
   <new_role> – the role that will be granted to the call when it joins to new conference
       (applicable only for call flows without authorization, for example *CONF* call flow).
Note:
   To implement the same operator conference actions, i.e. to attach current user to a
   different conference, operator conference hosts can use DTMF keypad on their phones
   and press default *5.
   This command is asynchronous.

`op-dialout` (Initiate Dialout from Operator's Console)

Syntax:
    op-dialout *<operator_number> <peer_number>*

Arguments:
    <operator_number> – the operator conference number where you are initiating the
        dialout (*);
    <peer_number> – denotes the phone number you wish to dial (*).

Note:
    To implement the same operator conference actions, i.e. to dial-out to another user,
    operator conference hosts can use DTMF keypad on their phones and press default *7.
    This command is asynchronous.

`op-listen` (Listen Conference)

Syntax:
    op-listen *<operator_number> {start <conf_number>*
        [{directlink|shunt} [mute]]|stop}

Arguments:
    <operator_number> – the operator conference number that would like to listen
        other users conferences (*);
    {start|stop} – *start* denotes that the listening should be started, *stop* denotes
        that the listening should be stopped (*);
        o <conf_number> – the number of the conference you wish to start listening,
           must be indicated if *start* option is specified;
        o {directlink|shunt} – *directlink* denotes that the operator should be
           directly connected to the requested conference (in this case only operator can
           hear the requested conference, the user connected to the operator can not hear
           that conference), *shunt* denotes that between operator conference and
           requested conference is being made the shunt and both conferences can hear
           each other (operator and the connected user both can hear the requested
           conference), if this argument is omitted the *directlink* mode is being used
           by default;
        o mute – when specified denotes that the operator is muted, so he can only hear
           the specified conference and he is unable to talk.

Note:
    To connect and listen another conference operator conference hosts can use DTMF
    keypad on their phones and press default *4, the operator also has the options to
    connect with current user (*shunt* mode) and without current user (*directlink*
    mode).

`op-message` (Control Operator Message)

Syntax:
    op-message <operator_number> *{start {queue|all} [message]*
        |stop}

Arguments:

<operator_number> – the operator conference number where the message should
    be recorded (*);

{start|stop} – *start* denotes that the operator message should be recorded,
    activated and sent either to users from the operator's queue (when *queue*
    parameter is specified) or to all users on the bridge (when *all* parameter is
    specified); optional *message* parameter specifies prerecorded audio file that will
    be played to the callers, if the parameter is omitted the operator will be asked to
    leave his message – if there is no voice call connected to the conference with the
    specified number the command returns the error, if the operator voice call is
    connected to the operator conference and *message* parameter is omitted the
    operator will be asked to leave his message after the tone and press # when it is
    done, after the message has been recorded (and # was pressed) this message will be
    played back to the operator and he will have the options either press 1 to send the
    recorded message or press * to cancel (this command works this way regardless
    there is or there is no previously recorded operator message); *stop* denotes that the
    operator message should be cleared, i.e. playing this message should be stopped.

Note:

The command either initiates recording and playing back of the new operator message
or playing back of prerecorded message or clears (i.e. switches off) the operator
message. The similar actions can be performed by the operator conference hosts using
default *8 on DTMF keypad of their phones.

Prerecorded messages are being stored in the *$varlib_dir/sounds/operator-messages*
folder; messages recorded by the operator are being temporary stored in the
$varlib_dir/recordings/operator-messages folder.

op-message-to-conf (Send Operator's Message to Conference)

Syntax:

op-message-to-conf *<operator_number> <conf_number>*
    {host|participant|listener} [<message>]

Arguments:

<operator_number> – the operator conference number where the message should
    be recorded (*);

<conf_number> – the number of the user's conference where the operator message
    should be played; if 0 is specified as the target conference number the message will
    be recorded and played to the conference to which the operator is currently
    connected or to whose user the operator is currently talking (*);

{host|participant|listener} – the callers role to which the message should
    be played, if the message should be played to multiply roles they all could be
    specified separated by colon (:), for instance *participant:listener*
    argument specifies that the message should be played to participants and listeners
    (*);

<message> – the prerecorded audio file that will be played to the callers, if the
    parameter is omitted the operator will be asked to leave his message after the tone
    and press # when it is done, after the message has been recorded (and # was

pressed) this message will be played back to the operator and he will have the
options either press `1` to send the recorded message or press * to cancel.

Note:

The similar actions can be performed by the operator conference hosts using default `*9`
on DTMF keypad of their phones.

Prerecorded messages are being stored in the *$varlib_dir/sounds/operator-messages*
folder; messages recorded by the operator are being temporary stored in the
$varlib_dir/recordings/operator-messages folder.

`op-queue` (Display Operator Calls Queue)

Syntax:

```
op-queue
```

`op-reject` (Reject Request from Operator's Queue)

Syntax:

```
op-reject <conf_number> <ses_id>
```

Arguments:

`<conf_number>` – the number of the conference which caller should be rejected
from the operator queue, i.e. it is the conference where the caller came from (0 for
IVR calls) (*);

`<ses_id>` – the session identifier of the caller that should be rejected from the
operator queue, i.e. the conversion with this user will be refused and the user will be
removed from the operator queue.

`op-scan` (Scan Conferences)

Syntax:

```
op-scan <operator_number> {start|stop}
```

Arguments:

`<operator_number>` – the operator conference number where you would like to
start or stop conference monitoring (surveillance call) (*);

`{start|stop}` – *start* denotes that the monitoring should be started, *stop*
denotes that the monitoring should be stopped (*).

Note:

To implement the same operator conference actions, i.e. to start or stop conference
monitor (surveillance call) operator conference hosts can use DTMF keypad on their
phones and press default `*1`.

`op-show` (Display Operators)

Syntax:

```
op-show [<operator_number>]
```

Arguments:

`<operator_number>` – the operator conference number that you would like to
show.

Note:

> To hear the operator conference current status the operators can use DTMF keypad on
> their phones and press default `*6`.

`op-talk` (Operator Talk to User)

Syntax:

```
op-talk <operator_number> {start [<conf_number>
    <ses_id>]|stop}
```

Arguments:

> `<operator_number>` – the operator conference number where you would like to
> start or stop talking to a user (*);
>
> `{start|stop}` – *start* denotes that the talking should be started, *stop* denotes
> that the talking should be stopped (*); if together with `start` option the parameters
> `<conf_number> <ses_id>` omitted the operator starts talking to the first user
> from his queue, if these parameters are presented the operator starts talking to the
> user specified by these parameters:
>
> - o `<conf_number>` – the number of the conference which caller should be taken
>   to talk with the operator (0 for IVR calls);
> - o `<ses_id>` – the session identifier of the caller that should be taken to talk with
>   the operator.

Note:

> This command allows operator to start talking not only to the user from the operator
> queue, but also to any user from any active conference.
>
> To implement the same operator conference actions, i.e. to start talking with the next
> user from the operator queue or stop talking to the user and return him to his conference
> or ivr operator conference hosts can use DTMF keypad on their phones and press
> default `*2` to start talking or `*3` to stop talking.

`partcount-show` (Display Values of *partcount* Counters)

Syntax:

```
partcount-show
```

Note:

> Reports the counters related to the participants from *mf* starts till now. The following
> counters are being returned by this command:
>
> - o `pt_total_count` – gives the total number of participants;
> - o `pt_ivr_count` – gives the total number of participants that does not joined to
>   any conference;
> - o `pt_1_count` – gives number of participants in 1-person conferences;
> - o `pt_2_count` – gives number of participants in 2-person conferences;
> - o `pt_3_count` – gives number of participants in 3-person conferences;
> - o `pt_le_10_count` – gives number of participants from 4 to 10-person
>   conferences;
> - o `pt_le_100_count` – gives number of participants from 11 to 100-person
>   conferences;
> - o `pt_gt_100_count` – gives number of participants from 100+ conferences;

- o `pt_pcmu_count` – gives number of participants in PCMU codec;
- o `pt_pcmua_count` – gives number of participants in PCMA codec;
- o `pt_isac_count` – gives number of participants in ISAC codec;
- o `pt_ilbc_count` – gives number of participants in ILBC codec;
- o `pt_g729a_count` – gives number of participants in g729a codec;
- o `pt_g722_count` – gives number of participants in g722 codec;
- o `pt_voip_full_count` – gives number of participants that join via voip and have right to speak;
- o `pt_voip_listen_count` – gives number of participants that join via voip and does not have right to speak;
- o `pt_voip_ctrl_count` – gives number of control calls;
- o `pt_voip_rec_count` – gives number of recording calls;
- o `pt_pstn_full_count` – gives number of participants that join via pstn and have right to speak;
- o `pt_pstn_listen_count` – gives number of participants that join via pstn and does not have right to speak.

`peer-reload` (Reload Peers)

Syntax:
```
peer-reload
```

`quit` (Quit Console)

Syntax:
```
quit
```

`set-log-level` (Set Logger Level)

Syntax:
```
set-log-level {debug|event|info}
```
Arguments:
- o `info` – denotes that only information and error messages should be stored in the log file (default); `event` – denotes that additionally the log should contain all events logging; `debug` – denotes that debugging mode is switched on, so additionally debug messages should be added to the log.

Note:
Log file name: */usr/local/DNCA/log/mf.log*.

`settings-reload` (Reload System Settings)

Syntax:
```
settings-reload
```

`show` (Show Conferences and Calls)

Syntax:
```
show [<number>|confless]
```

Arguments:
- o   the command without parameters returns the list of all conferences on the bridge;
- o   `<number>` – the conference number – in this case the command returns the list of all calls joined to the requested conference;
- o   `confless` – the keyword determines that the command should show the calls which have not placed to any conference.

Note:

This command works the same as *wyde* command: `show-conf` (Show Conference or Conferences List).

sounds-reload (Reload Sounds)

Syntax:
```
sounds-reload
```

subconf (Manage Sub-conferences)

Syntax:
```
subconf <conf_number> <ses_id> {attach <subconf>|detach
    <subconf>|move <subconf_from> <subconf_to>}
```
Arguments:

`<conf_number>` – the conference number whose call you would like to attach to sub-conference or detach from sub-conference (*);

`<ses_id>` – the call session identifier that you wish to attach to sub-conference or detach from sub-conference (*);

one of the following arguments should be specified as the next argument of this command (*):
- o   `attach <subconf>` – denotes the name of the sub-conference up to 16 characters length (only letters and digits are allowed as the name of the sub-conference) to which the call should be attached;
- o   `detach <subconf>` – denotes the name of the sub-conference up to 16 characters length from which the call should be detached;
- o   `move <subconf_from> <subconf_to>` – denotes the source sub-conference name from which the call should be transferred and the target sub-conference name to which the call should be transferred.

Note:

This command is asynchronous.

transfer (Transfer Calls)

Syntax:
```
transfer {node <node_id>|all}|{conference <conf_number>}|
    {did <did>} <destination_ip>
```
Arguments:

One of the following arguments should be specified as the first argument of this command (*):
- o   `{node <node_id>|all}` – denotes the node identifier (or all nodes) from which the calls should be transferred;

- o `{conference <conf_number>}` – denotes the conference number for which the calls should be transferred;
- o `{did <did>}` – denotes the DNIS (DID) number for which the calls should be transferred;
- `<destination_ip>` – denotes destination IP address to which the specified calls should be transferred (*).

Note:
   This command works the same as *wyde* command: `transfer` (Transfer Calls).

version (Show WYDE.MF Version)

Syntax:
   `version`

asterisk Console Command Reference

Once you enter into *asterisk* console you can run any of the console command just typing the command name and optionally the command arguments:
```
command [arguments]
```

This chapter describes available *asterisk* console *wyde* commands with their arguments. For any of the commands the required arguments marked with asterisk (*); optional arguments are shown in square brackets – [...] – in the command syntax.

wyde drop session (Drop Session)

Syntax:
```
wyde drop session <conf_number> <session_id>
```
Arguments:
> `<conf_number>` – the number of the conference which call you wish to drop (disconnect) (*);
> `<session_id>` – the call session identifier you wish to drop (*).

wyde show conferences (Show Active Conferences)

Syntax:
```
wyde show conferences
```

wyde show conference (Show Conference Members)

Syntax:
```
wyde show conference <number>
```
Arguments:
> `<number>` – the number of the conference which calls you would like to show (*).

wyde show session queue (Show Session Events Queue)

Syntax:
```
wyde show session queue <conf_number> <session_id>
```
Arguments:
> `<conf_number>` – the call conference number which events queue you would like to show (*);
> `<session_id>` – the call session identifier which events queue you would like to show (*).

wyde show sessions (Show Sessions not Attached to Conference)

Syntax:
```
wyde show sessions
```

wyde show statistic (Show Statistic)

Syntax:
```
wyde show statistic
```

mp Console Command Reference

Once you enter into *mp* console you can run any of the console command just typing the
command name and optionally the command arguments:
```
command [arguments]
```

This chapter describes available *mp* console commands with their arguments. For any of the
commands the required arguments marked with asterisk (*); optional arguments are shown
in square brackets – [...] – in the command syntax.

drop (Drop Boards and Calls)

Syntax:
```
drop {<boards <serial> [<serial>] ...>|
   <calls <<id> [<id>] ...>|all>}
```
Arguments:

One of the following arguments should be specified as the argument of this command
(*):

- o `<boards <serial> [<serial>] ...>` – denotes *MPw* boards that
   should be dropped (placed on hold); use `<serial>` to specify the boards that
   should be dropped;
     - ✓ this option works as toggle switch – if you repeat this command the
        board will be switched on;
- o `<calls <<id> [<id>] ...>|all>` – denotes that the calls should be
   dropped from *mp*; use `<id>` to specify the call sessions identifiers that should
   be dropped or use `all` keyword to drop all calls.

kill (Stop Specific Timer or All Timers)

Syntax:
```
kill {<id> [<id>] ...|all}
```
Arguments:

`<id>` – the specific timer identifier that should be stopped; `all` – denotes that all
   started timers should be stopped (*).

restart (Restart *mp* Boards and Logs)

Syntax:
```
restart {<log [<level>]>|<board <serial>|all>}
```
Arguments:

One of the following arguments should be specified as the argument of this command
(*):

- o `<log [<level>]>` – denotes that the log should be restarted; `<level>` –
   specifies what messages should be stored in the log: *3* – denotes that only
   information and error messages should be stored in the log file (default); *9* –
   denotes that debugging mode is switched on and all possible log messages
   should be added to the log file.

    o `<board <serial>|all>` – denotes the *MPw* boards that should be restarted; use `all` keyword to restart all *MPw* boards.

show (Show Different *mp* Statistics)

Syntax:

   `show {sw|conf|conf <conf_number>|calls|stat|boards}`

Arguments:

One of the following arguments should be specified as the argument of this command (*):

    o `sw` – show the number of available *MPw* boards, i.e. backend components count;

    o `conf` – show all conferences currently running on the *mp*;

    o `conf <conf_number>` – show statistics for the specific conference only, including active speaker notifications;

    o `calls [<id1>-<id2>]` – show all calls currently running on the *mp* (the command returns calls identifiers, conference numbers, IP addresses, ports, codecs, status, etc.);
if you specify the calls sessions identifiers range, only the calls within this range will be returned by the command;

    o `stat` – show overall *mp* statistics about calls, conferences and *MPs* boards (*now* column shows current data, *total* column shows data from *mp* start, *peak* column shows acme/height value);

    o `boards` – show detail *MPs* boards statistics, including the board current state, capacity, CPU load, number of conferences and calls, etc.

stop (Stop *mp* Components)

Syntax:

   `stop`

timer (Start Timer Running *show* Command)

Syntax:

   `timer <interval> show <options>`

Arguments:

   `<interval>` – denotes interval in seconds in which the *show* command should be re-run (*);

   `show <options>` – denotes specific *show* command with its options that should be repeated in the given *interval* (*).

Appendix A: Support Resources

If you have difficulty with this guide and any of the procedures listed herein, please contact us using the following support resources.

Support Documentation

In addition to this Guide, you may obtain other WYDE Voice documentation from WYDE Voice or from the WYDE Voice documentation Web site: http://docs.wydevoice.com/.

Web Support

Our support website is available 24 hours a day, 7 days a week, and 365 days a year at http://www.wydevoice.com. You may download patches, support documentation and other technical support information.

Telephone Support

For difficulties with any procedures described in this Guide, please contact us at 866-508-9020 during our normal phone support hours of 7:00 am to 6:00 pm Pacific Standard Time (PST). An engineer will respond to your inquiry within 24 hours.

Email Support

You may also email us your questions at support@wydevoice.com. We will respond to your question within 24 hours.