



DBO Operation and Maintenance User Manual v1.0



Shenzhen Dinstar Technologies Co., Ltd.

Addr.: 9th Floor, Guoxing Building, Changxing Road, Nanshan District, Shenzhen, China,
518052

Tel.: +86 755 2645 6664

Fax: +86 755 2645 6659

Emails: sales@dinstar.com, support@dinstar.com

Website: www.dinstar.com www.dinstar.cn

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Chapter 1 Gateway Configuration

1.1 Enable DBO

Configuration page under “System Configuration-> DBO Parameter” page, as below:

DBO Parameter	
Enable DBO	<input type="checkbox"/>

NOTE: 1.If you enable the SIP Forwarding, please:
 (1)Choose the SIP server to modify the SIP configuration register mode;
 (2)Do not enable independent local sip ports mode!
 2.Port is configured as the encryption mode is less than 30000, 30000 or greater non-encrypted mode. Set all ports allows only one mode.

Save

1.2 Configure DBO parameter

More parameter showing on the interface after enable DBO, the main interface as below:

DBO Parameter	
Enable DBO	<input checked="" type="checkbox"/>
Active DBO Server URL/IP	172.16.99.129
Active DBO Server Port 0	3479
Active DBO Server Port 1	6479
Active DBO Server Port 2	12479
Active DBO Server Port 3	24479
Active DBO Server Username	172.16.99.129_3479
Active DBO Server Password	*****
Standby DBO Server URL/IP	172.16.200.101
Standby DBO Server Port 0	3478
Standby DBO Server Port 1	
Standby DBO Server Port 2	
Standby DBO Server Port 3	
Standby DBO Server Username	172.16.200.101_3479
Standby DBO Server Password	*****
Enable SIP Forwarding	<input checked="" type="checkbox"/>
Enable RTP Forwarding	<input checked="" type="checkbox"/>

DBO Advanced	
Enable Bandwidth Compressed	<input checked="" type="checkbox"/>

Parameter Description:

Parameters	Description
Active DBO Server URL/IP	Primary DBO server IP or domain for traffics
Active DBO Server Port	DBO service ports that dedicate by DBO server. There are 4 ports definite in the DBO server by default, 3479, 6479, 12479 and 24479, any one of this 4 ports will work with the DBO server.
Active DBO Server Username	The authenticate username which provide by DBO server. The gateway will not allow to pass the traffics if the username and password doesn't match with the server. The username with the format as x.x.x.x_3479 by default. x.x.x.x is the IP of DBO server.
Active DBO Server Password	The authenticate password which provide by DBO server. The gateway will not allow to pass the traffics if the username and password match with the server.
Standby DBO Server URL/IP	Secondary DBO server IP or domain.
Standby DBO Server Port	DBO service ports that dedicate by DBO server. There are 4 ports definite in the DBO server by default, 3479, 6479, 12479 and 24479, any one of this 4 ports will work with the DBO server.
Standby DBO Server Username	The authenticate username which provide by DBO server. The gateway will not allow to pass the traffics if the username and password match with the server. The username with the format as x.x.x.x_3479 by default. x.x.x.x is the IP of DBO server.
Standby DBO Server Password	The authenticate password which provide by DBO server. The gateway will not allow to pass the traffics if the username and password match with the server.
Enable SIP Forwarding	Enable SIP signaling encryption and forward by DBO server. The SIP signaling will forward by DBO server after this option enable.
Enable RTP Forwarding	Enable RTP encryption and forward by DBO server. The RTP will forward by DBO server after this option enable.
Enable Bandwidth Compressed	Enable bandwidth saving function. This feature works after uploading proper license.

Notes:

- 1) SIP and RTP encryption is free to use
- 2) Please contact with provider or local distributor to apply bandwidth compress license.

1.3 DBO status

You can view the following details under “Statistics-> DBO state” page.

- Connection status between the gateway and DBO server.
- Packets lost statistics of SIP and RTP
- RTP/RTCP channel status

DBO State						
DBO Allocate State	DBO Server IP	DBO Server Port	DBO Agent Port	DBO Server Forwarding IP	DBO Server Forwarding Port	
SUCC	54.254.105.225	40004	32772	54.254.105.225	40006	
SIP Send Packet/LostRate		SIP Recv Packet/LostRate	RTP/RTCP Send Packet/LostRate		RTP/RTCP Recv Packet/LostRate	
0/0		0/0	0/0		0/0	
Port	RTP Channel	RTP Send Packet/LostRate	RTP Recv Packet/LostRate	RTCP Channel	RTCP Send Packet	RTCP Recv Packet
0	0x0	0/0	0/0	0x0	0	0
1	0x0	0/0	0/0	0x0	0	0
2	0x0	0/0	0/0	0x0	0	0
3	0x0	0/0	0/0	0x0	0	0
4	0x0	0/0	0/0	0x0	0	0
5	0x0	0/0	0/0	0x0	0	0
6	0x0	0/0	0/0	0x0	0	0
7	0x0	0/0	0/0	0x0	0	0
8	0x4052	0/0	0/0	0x4053	0	0
9	0x0	0/0	0/0	0x0	0	0
10	0x0	0/0	0/0	0x0	0	0
11	0x0	0/0	0/0	0x0	0	0
12	0x405a	0/0	0/0	0x405b	0	0
13	0x0	0/0	0/0	0x0	0	0
14	0x0	0/0	0/0	0x0	0	0
15	0x0	0/0	0/0	0x0	0	0

Parameter Description:

Parameters	Description
DBO Server Port	This field display the service port of DBO server that assigned to the gateway
DBO Agent Port	This field display the service port of the gateway assigned to communicate with DBO server.
DBO Server Forwarding Port	The DBO server forwarding port is used to forward the SIP and RTP packets.

Chapter 2 DBO Server Operation

2.1 Accessing DBO Server

DBO server provides an embedded web server with a Graphic User Interface (GUI) for maintenance.

To access the web interface of DBO server, make sure your computer connect Internet well.

We recommend to open the DBO server web through Google, IE or Firefox browser. The link is <http://x.x.x.x:8079> by default. x.x.x.x is the IP address of the DBO server.

Example to open the link <http://172.16.99.129:8079>, the main interface as below:

DBO Server Status

Refresh

Version: 01330301_ubuntu_32bit
 Relay: 3.0-mode:multiple
 Built: 2014-07-07 11:50:28
 Uptime: 1 day 17 hours 7 mins 32 secs
 CPU: 10.00%
 Information [Detail](#)

Device List

Index	Device Addr	Device ID	Allocate Time	Status	DBO	RTT(ms)	Devlost rate(%)	Peerlost rate(%)	Bandwidth saving/min/max(%)	Call Count	Statistics switch	Syslog	Detail
1	172.16.167.66:30000	db00-0030-7a00-0165	2014-07-26 11:49:16	ACTIVE	3.0	1	0.0	0.0	NA(10)	1	TURN ON	TURN ON	Detail
2	172.16.167.16:32773	db00-0030-2801-9100	2014-07-26 11:51:41	ACTIVE	3.0	5	0.0	0.0	NA(0)	0	TURN ON	TURN ON	Detail
3	172.16.167.1:32775	db00-0030-7a00-0121	2014-07-26 11:54:39	ACTIVE	3.0	3	0.0	0.0	NA(0)	0	TURN ON	TURN ON	Detail

Note:
 1) Device: dwg device
 2) Peer: at the other end of the call
 3) RTT: Round-Trip Time

2.2 DBO server status

You can view the basic status of DBO server status.

- DBO software version
- Relay
- Software built date
- System running time
- CPU usage

Relay mode can be multiple mode or independent mode, depending on your configuration.

Click “Detail” button to view the username and service port as well as statistics information.

DBO Server Status

Refresh

Back

Configuration Information

USERID: 172.16.99.129_3479
 Port 0: 3479
 Port 1: 6479
 Port 2: 12479
 Port 3: 24479

Statistics Information

Clear

```

mux_recv_pos_err: 0
mux_recv_mem_err: 0
mux_recv_overflow: 0
mux_recv_put_err: 0
mux_len_invalid: 0
mux_numb_invalid: 0
mux_uncomp_err: 0
mux_sip_send_err: 0
mux_rtp_send_err: 0
mux_rtcp_send_err: 0

peer_recv_rtp_pos_err: 0
peer_recv_rtp_mem_err: 0
peer_recv_rtp_overflow: 0
peer_recv_rtp_pur_err: 0
peer_recv_rtcp_pos_err: 0
peer_recv_rtcp_mem_err: 0
peer_recv_rtcp_overflow: 0
peer_recv_rtcp_pur_err: 0
peer_comp_err: 0
peer_sip_send_err: 0
peer_rtp_send_err: 0
peer_hash_err: 0
chan_hash_err: 0
add_sock_err: 0

peer_mux_timeout: 0
mux_chn_null: 0
peer_chn_null: 0
mux_sock_null: 0
peer_sock_null: 0

```

Click "Back" button to return back the main page.

2.3 Device status

Device List

Index	Device Addr	Device ID	Allocate Time	Status	DBO	RTT(ms)	Devlost rate(%)	Peerlost rate(%)	Bandwidth saving/min/max(%)	Call Count	Statistics switch	Syslog	Detail
1	82.118.167.201:32772	db00-0030-1501-293	2014-07-24 11:46:52	ACTIVE	3.0	224	0.0	2.50	NA(17)	6	TURN ON	TURN ON	Detail
2	82.118.167.196:32772	db00-0013-0300-789	2014-07-24 11:26:09	ACTIVE	3.0	798	0.0	1.0	NA(14)	3	TURN ON	TURN ON	Detail

- **Device Addr.** : this field displays the external IP address and port of the gateway.
- **Device ID:** S/N serial number of the gateway. It's unique ID of the gateway.
- **Allocated Time:** this field displays when the gateway connect to the DBO server.
- **RTT:** Roundtrip time between the gateway and DBO server.
- **DevLost rate:** this field displays the packets lost rate from gateway to DBO server.
- **PeerLost rate:** this field displays the packet lost rate from peer softswitch/media server side to DBO server.
- **Bandwidth:** this field displays the percentage rate after enable RTP compression.

- **Call count:** current call count on the gateway.

Click “Detail” button to view the call details of the gateway.

Device Status

Device Addr	Device ID	Rtp Head Compress	MTU	SIP Period(ms)	RTP Period(ms)	Net Change	Bind Ask	Bind Err	Mode	Device Version
82.118.167.201:32772	db00-0030-1501-1293	Disable	1400	30	30	0	9	0	multiple	1

recv: dev->server, send: server->dev

total recv/min/max(Kbit/s)	total send/min/max(Kbit/s)	SIP MUX recv packet	SIP MUX send packet	RTP MUX recv packet	RTP MUX send packet	Bandwidth saving/min/max(%)
142/27/152	210/19/262	22553	11377	583864	816860	NA(0)

Port List

Port	Channel Number	Peer Addr	Call time	Duration Time(s)	RTP package from device/lost/cur lost rate(%)	RTP package from peer/lost/cur lost rate(%)	RTCP package from device	RTCP package from peer
1	0x4044	175.45.38.53:29698	2014-07-24 13:24:34	30	807/1/0.50	1382/23/1.50	6	3
2	0x4046	175.45.38.53:29642	2014-07-24 13:24:30	34	856/1/0.0	778/7/1.50	6	3
7	0x4050	175.45.38.53:29490	2014-07-24 13:22:48	136	4388/2/0.0	5540/30/0.0	28	3
8	0x4052	175.45.38.53:29786	2014-07-24 13:24:42	22	407/2/1.0	3/0/0.0	5	3
11	0x4058	175.45.38.53:29514	2014-07-24 13:24:19	45	1278/0/0.0	993/1/0.0	9	3
12	0x405a	175.45.38.53:29770	2014-07-24 13:24:41	23	268/0/0.0	961/7/0.50	5	3
14	0x405e	175.45.38.53:29690	2014-07-24 13:24:34	30	957/0/0.0	663/7/1.0	6	3

2.4 Exception monitor

Access DBO server through SSH

```
[root@ip-10-133-161-195 ~]# cat /var/log/dbosrv.log | grep ASSERT
```

May 19 11:09:45.000 mpe_sys: <238> [EMERG] ASSERT happen 1 times first [11:09:45:000]

last[00:00:00:000] file=dbosrv_obj.c,line=1001 para[0]

Please copy the logs and send to technician.

1) Statistics of device

Click “Detail” button to view the statistics information.

```
Version:          01330301_ubuntu_32bit
Relay:            3.0-mode:multiple
Built:            2014-07-07 11:50:28
Uptime:           2 days 15 hours 6 mins 12 secs
CPU:              12.00%
Information       Detail
```

2) DBO Errors

No.	Parameters	Description
1	mux_recv_pos_err	Invalid message header of received mux packets
2	mux_recv_mem_err	Assigned memory error when received mux packets
3	mux_recv_overflow	Received mux packets overflow in queue
4	mux_recv_put_err	Received mux packets failed in queue
5	mux_len_invalid	Invalid length of received mux packets
6	mux_num Invalid	Invalid channel ID of received mux packets
7	mux_uncomp_err	Uncompressed error after received mux packets
8	mux_sip_send_err	The SIP message sent fail after division

9	mux_rtp_send_err	The RTP packets sent fail after division
10	mux_rtcp_send_err	The RTCP packets sent fail after division
11	peer_rcv_rtp_pos_err	Received invalid RTP packets from peer side
12	peer_rcv_rtp_mem_err	Assigned memory error after received RTP packets from peer side
13	peer_rcv_rtp_overflow	Overflow in queue after received RTP packets from peer side
14	peer_rcv_rtp_pur_err	Failed in queue after received RTP packets from peer side
15	peer_rcv_rtcp_pos_err	Invalid RTP message header from peer side
16	peer_rcv_rtcp_mem_err	Assigned memory error after received RTCP packets from peer side
17	peer_rcv_rtcp_overflow	Overflow in queue after received RTCP packets from peer side
18	peer_rcv_rtcp_pur_err	Failed in queue after received RTCP packets from peer side
19	peer_comp_err	Compressed error after received SIP message from peer side
20	peer_sip_send_err	Failed to send SIP message to gateway
21	peer_rtp_send_err	Failed to send RTP packets to gateway
22	peer_hash_err	Peer_hash object error count
23	chan_hash_err	Chan_hash object error count
24	add_sock_err	Alloc sock error count in independent mode
25	peer_mux_timeout	Push process timeout count during push mux packets
26	mux_chn_null	Dropped packets of received mux packets
27	peer_chn_null	Dropped packets of received packets from peer side
28	mux_sock_null	Failed to find sock when received mux packets in independent mode
29	peer_sock_null	Failed to find sock when received packets from peer side in independent mode