Title: Mitel SX-2000 w/ Dv200xx-U digital integrations

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Overview

This document covers installation and integration issues for the Mitel Sx2000 and the Duvoice DV2000-U digital integration with Dialogic D/82 boards.

Theory of Operation

The Duvoice DV2000-U system connects to Mitel Sx2000 DNIC ports emulating a Mitel SUPERSET 430 phone. This allows for a clean and fast integration with little setup for each voice port.

Critical Considerations

The most difficult task will be the connectivity and configuration of the dialogic digital board. This document will give you the detailed steps to handle the dialogic, Duvoice and COS options setting for the Mitel sx2000.

Features Supported

Message Lights	Customizable - *761=on *762=off by default
Fwd to a personal greeting RNA	Supported
Fwd to a personal greeting Busy	Supported
Fwd to a personal greeting DND	Supported
Different Busy Greeting	
Auto Login to a mailbox	Supported
Trunk ID Multiple Tenant	
Voice Mail Transfer Button to a mailbox	
Record a call	
DID fax	
Caller ID with message	Supported
Trunk to trunk transfer (unsupervised)	
LS Disconnect	
Tone Disconnect	
Supervised Transfers	
Call Screening	
Caller Queuing	

PBX Requirements and Programming

Requirements

Mitel Sx2000 DNIC ports with the ports configured as M430 sets.

Programming

All VMS extensions must be set as to device type 430.

The following list contains the minimum Calls of Service (COS) settings for the VMS extensions. Those not listed in this document shall remain as off or in its default setting.

CLASS OF SERVICE OPTIONS ASSIGNMENT for VM ports	
Option	**Setting/Value**
Emergency Call Notification – Audio.	Yes
COV/ONS/E&M Voice Mail Port.	Yes
Forced Non-Verified Account Code	Yes
Hotel Room Monitoring Allowed.	Yes
Emergency Call Notification – Visual	Yes
Enable Call Duration Limit on External Calls	Yes
Executive Busy Override.	Yes
Flexible Answer Point.	Yes
Follow 2nd Alternate Reroute for Recall to Busy ACD Agent	Yes
Group Call Forward Follow Me – Accept.	Yes
Handset Volume Adjustment – Saved.	Yes
Hot Desk Remote Logout Enabled	Yes
Off-Hook Voice Announce Allowed.	Yes
Override Interconnect Restriction on Transfer.	Yes
Pager Access – Individual Zones.	Yes
Privacy Released	Yes
Public Trunk	Yes
Trunk Flash Allowed.	Yes
Use Held Party Device for Call Re-routing.	Yes
Use Called Party Call Hold Timer	Yes
DASS II OLI/TLI Provided	Yes
Dialed Night Service	Yes
Disable Call Reroute Chaining On Diversion	Yes
Disable Send Message.	Yes
Display ANI/ISDN Calling Number Only	Yes
Display ANI/DNIS/ISDN Calling/Called Number.	Yes
Display Caller ID on multicall/keylines.	Yes
Display DNIS/Called Number Before Digit Modification . . .	Yes
Display Dialed Digits during Outgoing Calls.	Yes
ONS/OPS Internal Ring Cadence for External Callers . .	Yes
Record-A-Call – Save Recording on Hang-up	Yes

Timer Options / Account Code Length	
Account Code Length (2-12)	12
After Answer Display Time(0-60 secs, Blank=off).	
ANSWER PLUS – Delay To Message Timer (0-300 secs).	20
ANSWER PLUS – Expected Offhook Timer (0-255 secs).	30
ANSWER PLUS – Message Length Timer (0-120 secs).	10
ANSWER PLUS – System Reroute Timer (0-720 secs).	0
Attendant Busy-out Timer (1-1440 mins)	10
Auto Camp-on Timer (0-30 secs, Blank for Off).	10
Busy Tone Timer (1-120 secs).	30
Call Duration (2-120 mins).	10
Call Duration Forced Cleardown Timer (0-10 mins) . .	0
Call Forward – Delay (0-125 secs).	0
Call Forward No Answer Timer (0-125 secs).	15
Call Hold Timer (10-600 secs).	30
Camp-on Recall Timer (0-180 secs).	10
Delay Ring Timer (5-60 secs)	10
Dialing Conflict Timer (2-5 secs).	3
Display Caller ID On Multicall/Keylines timer (3-125 secs)	5
Emergency Call – Audio Level for Set(Ringer/Medium/High) .	Ringer
First Digit Timer (5-60 secs).	15
Inter-Digit Timer (3-60 secs).	10
Lockout Timer (1-60 secs)	45
ACD 2000 Logout Agent No Answer Timer (0-125 secs)	15
Message Waiting Ringing Start Time (00:00 to 23:59). . . . :	
Message Waiting Ringing Stop Time (00:00 to 23:59). . . . :	
No Answer Recall Timer (0-125 secs).	17
ONS Vmail-Delay Dial Tone Timer (5-20 secs).	5
Ringing Timer (60-300 secs).	180
Work Timer (0-600 secs).	0

INTERCEPT HANDLING ASSIGNMENT	
Account Code Violation	Reorder Tone
Attendant in night service 1	Reorder Tone
Attendant in night service 2	Reorder Tone
COS Violation.	Reorder Tone
Directory number out of service. . . .	Reorder Tone
Holding party locked out	Reorder Tone
Interconnect restriction	Reorder Tone
MLPP Blocked Precedence	Reorder Tone
MLPP Cannot Preempt.	Reorder Tone
MLPP Unauthorized Precedence Level . .	Reorder Tone
Toll denial – ARS digits	Reorder Tone
Toll denial – route digits	Reorder Tone
Trunks Out of Service.	Reorder Tone
Trunk Re-ring.	Reorder Tone
Unassigned directory number.	Reorder Tone

HUNT GROUP ASSIGNMENT	
Pilot Number : 300	Name :
Hunt Mode : Terminal	Priority : 64
Group Type : VoiceMail	1st Threshold (%) :
RAD1 :	2nd Threshold (%) :
RAD2 :	Alert Device :
NIGHT RAD :	Phase Timer :

Member	Directory Number	Name
1	301	Voice Mail 1
2	302	Voice Mail 2
3	303	Voice Mail 3
4	304	Voice Mail 4
5	305	Voice Mail 5
6	306	Voice Mail 6
7	307	Voice Mail 7

  When creating a hunt group for the Voice mail extensions you must enter all the extension numbers into the group. Then give it an access code which does not match that of another SUPERSET. As shown in the above picture, for this example the VM ports are extensions 301 to 307.

Voicemail Requirements and Programming.

Requirements

Duvoice DV2000 with the Dialogic JCT digital boards and duvoice release 3.05.33 or better List

Programming

Dialogic configurations

- Before configuring the dialogic card for the Mitel digital integrations you must first stop and close all duvoice programs and services.
- Open the dialogic configuration manager program located at **START>PROGRAMS>INTEL DIALOGIC SYSTEM SOFTWARE>CONFIGURATION MANAGER-DCM**
- Stop the dialogic service by selecting the red Stop button located at the top of the menu.
- Once the light on the dialogic card is red you can double click on the card to open its configurations.
- Open the MENU tab and set the following items
  - o PBX type = Mitel M430
  - o TSF File support = Yes
  - o Disconnect Tone=yes
- Next move to the Tab labeled FILES and click on the button to the right of the Parameters field
- A box will open to select a file, direct the file location to C:\PAIRTREE32\VMSYSTEM\PBXTEMPLATES\TONEFILES and select the tone file named MITEL-DIGITAL.tsf   **NOTE:** do not select the duvoice PBX template Mitel-Digital.pbx or the duvoice services will not start properly.
- Close the configuration windows after double checking all setting are configured correctly and select the green start button located on the top of the opening page of DCM. This will take several minuets until the card turns green so be patient.
- Once the card is green turn of the computer for 15to30 seconds then start it back up. Once booted you should see the duvoice voice ports running and if you check the DCM program again you will find the card with a green light. You can also double click on the card (without stopping the card) and confirm that all of your settings have taken correctly.

DuVoice

System configuration

- Select "Mitel Digital" as the PBX template for all ports when creating ports with the port creation wizard.
- Once the new ports are created, label each port with the exact extension number that is connected. If not labeled correctly then integrations will not operate correctly.

Connecting

- The Dialogic JCT digital card connects through a 25pair amphenol cable. Follow the below wiring diagram for exact pin out.

  Example: Port 1 on the card will be the white-orange pair; port two will skip a color (white-green) and connect to the fourth pair white-brown, so every other pair skipping the first.
- Once connected to the PBX the duvoice system will need to be rebooted to allow for the dialogic card to sync with the PBX. When testing this you will need to monitor the display on the back of the Card, when a E1, E2, E3 are displayed on the card then there is a connectivity problem of the dialogic card has not been configured for Mitel M430. When connected properly no E will be displayed.

Color pair		Pairs #			2 Wire Set
White	Blue	1	&	26	NA
White	Orange	2	&	27	VM Port 1
White	Green	3	&	28	NA
White	Brown	4	&	29	VM Port 2
White	Slate	5	&	30	NA
Red	Blue	6	&	31	VM Port 3
Red	Orange	7	&	32	NA
Red	Green	8	&	33	VM Port 4
Red	Brown	9	&	34	NA
Red	Slate	10	&	35	VM Port 5
Black	Blue	11	&	36	NA
Black	Orange	12	&	37	VM Port 6
Black	Green	13	&	38	NA
Black	Brown	14	&	39	VM Port 7
Black	Slate	15	&	40	NA
Yellow	Blue	16	&	41	VM Port 8
Yellow	Orange	17	&	42	NA
Yellow	Green	18	&	43	VM Port 9
Yellow	Brown	19	&	44	NA
Yellow	Slate	20	&	45	VM Port 10
Violet	Blue	21	&	46	NA
Violet	Orange	22	&	47	VM Port 11
Violet	Green	23	&	48	NA
Violet	Brown	24	&	49	VM Port 12
Violet	Slate	25	&	50	NA

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Troubleshooting and Testing
Before you begin the testing and troubleshooting process you will need to create one administration type mailbox and edit so that the tutorial complete check box is checked. The below steps should be done in order and only continue when you have tested and corrected (if needed) each test.

1) **Testing connectivity**
   Test) Confirm that the display on the back of the dialogic card flashes no E1,E2 etc
   If test fails) an E1 E2 E3 is an error that the port number displayed after the E is not connected or the ports are not configured correctly as Mitel M430 sets, Refer to the above wiring diagram or to Dialogic configurations instructions on this document.

2) **Testing Integrations – User login**
   Test)once all E errors are gone you will need to call each port directly (not hunt group) and confirm that it is answering integrated, you should have a mailbox built that matches the phone you will be using to call the duvoice ports.
   If test fails) If a port does not answer with "please enter your password" or "welcome to your new mailbox" then you most likely do not have the duvoice ports labeled with the connected extension correctly. To fix you can open the duvoice system configuration program and double click to open a single port then fill in the field for the extension. Once done close the ports config and on the top of the system config window select TOOLS and then UPLOAD VOICEBOARD PARAMATERS, this will make the changes take effect without a start stop of duvoice server control. Retest

3) **Testing Integrations – Ring No Answer**
   Test) Go to another phone other than the one you created a mailbox for and call it. After a few rings (as set in PBX for forwarding timers) the call should forward to the duvoice hunt group and you should hear the system prompt "the person you are trying to reach is currently unavailable" you can also watch the port activity viewer program to see what mailbox it playing.
   If test fails) IF not integrated repeat test 2 above)

4) **Testing Integrations – Message waiting indicators and disconnect**
   Test) with this test you can confirm the MWI are working and the disconnect is properly working. The default MWI codes that are pre set in the duvoice integration are *761=on and *762=off, so your PBX setting will need to be set to match or you will need to alter the defaults in duvoice system configuration.
   o **Test)** Simply call you test phone that you created a mailbox for and leave a message, but do not press any keys to leave the message simply hang-up. You should see the port with info about RNA to the mailbox recording and then when you hang-up you should see the disconnect appear on the port.
      Note: For some Tone controlled disconnect systems you will have a delay of 5 seconds before disconnect will actually take place
   o **Test)** Once the message is in the mailbox see if the MWI is turned on the test set that you called.
   o **Test)** Call the VM hunt group and log into your mailbox created earlier you will get the "please enter your password" prompt (as tested in test step2 of this document) simply listen to your messages and delete them then hang up. The MWI will turn off shortly after

reviewing and/or deleting the message, in most cases the light will be off right after you press the delete or have reviewed the entire message.

> **Note:** confirm that the PBX is not turning off the light before the duvoice system picks up. This happens if the user has a key that lights up when they have messages and if the press it calls back the duvoice port that turned on the light. This will Cause problem with complaints of delayed messages if the PBX tried to control the lights without the duvoice ports sending the on/off codes. To correct this you will need to train the users to dial the hunt group manually or program a button that automatically does this and tell them not to press that button.

Conclusion

If you need further assistance please contact DuVoice Technical Support Monday - Friday 8am - 5pm Pacific Time, (425)250-2393.