CASE STUDY

Meet Intercom Panel Integration with C4 HA system

Description

It is described how to configure the Meet entrance panel and the C4 controller to enable call reception from the entrance panel on the C4 screens and App.

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INTRODUCTION

The entrance panels of the Meet system can operate in standard SIP mode, which gives them compatibility with systems from many manufacturers. In this case, we are going to see how the call from the MEET entrance panel can be sent to a C4 home automation system.

The C4 controller of a home automation installation incorporates a SIP server that allows this type of integration, so it will be necessary for the MEET entrance panel to register with this server and assign it a valid extension. There are two ways to do it: manually, by configuring the entrance panel through their web server, or through the auto configuration provided by the Meet driver designed specifically for C4, but this method is **only valid for a MILO one-way panel, it is not compatible with Building panels**.

This driver must be installed in the C4 controller, and it is mandatory to be able to access all the functionalities of the entrance panel. The driver is free to download, but it is necessary to pay a user license to activate it.

Once the driver has been installed, its license is activated and the entrance panel must be configured, it will now be possible to make calls from the entrance panel to the installation's C4 screens and to the C4 App, which allows call forwarding to the mobile. You can also install one or more Meet monitors to receive the call in parallel on them and take advantage of the call forwarding to the MeetMe application.

The WIT monitor also allows you to load Android applications previously validated by Fermax and can be used both to receive calls from the outdoor panel and to manage the C4 home automation as if it were done from the mobile, but with a larger and more comfortable screen and a simplified installation.

REQUIRED DEVICES

Any Fermax MEET entrance panel can be used to carry out this integration since they all support SIP protocol. In the case of a single-family home, the one-way MILO panel (a single button) will be used. In the case of a building or condominium, the MILO DIGITAL panel can be used or, if an electronic directory is required, the KIN or MARINE panel.

The entrance panel may require a power supply or PoE splitter if it does not support PoE, in addition to requiring the electric lock release.

In the case of building installation, in which the outdoor panel is shared, there are two options:

- a) If the C4 screen is used, a router with a double Wan port will be necessary to isolate the home network from the building network. Call forwarding to the mobile is done through the C4 app. It will be necessary to have a proxy that allows the entrance panel to be registered in each of the SIP servers of the C4 controller of each home. Control 4 recommends using the Communication Server MDU controller.
- b) If a WIT 10" monitor ref. 14831 is used, installation is simplified since the WIT monitor itself isolates the building's network from the local network of each home. In this case, the WIT monitor requires the C4 App to be installed. Call forwarding to the mobile must be done with the Fermax MeetMe app and an internet connection in the building is required.

SCHEME

Single house.

The usual installation scheme of the MEET system is used, with the only additional requirement of connecting the panel to the local network of the home installation, where it concurs with the C4 controller.



Building (MDU)

There are 2 options:

a) With Control 4 screen as call receiver.



This option will require a C4 MDU communication server (CS) to maintain registration on each of the C4 controllers and panels. All Meet devices are connected to the same lan, together the CS. Every unit requires a double wan router to isolate the private lan of each unit from the other units and entrance lan. This diagram shows a complete example, so individual panel in each unit is optional and also the WIT monitor.

Call divert must be done with C4 app, unless an internet connection is provided at building level, so Meetme app can be used.

b) With WIT 10" monitor ref. 14831



Call through MEET protocol: every unit has a WIT 10" monitor.

This scenario is simpler because we earn the communication server and the double wan router and C4 driver in each unit. WIT monitor must have installed Control4 app as described in last chapter. One way panel is optional. Call divert to smartphone must use Meetme App and a common internet connection must be provided.

INSTALATION

No special requirements, following the installation protocol of a Meet system entrance panel.

COMMISSIONING

C4 CONTROLLER

First of all, you must download the driver from this <u>link</u> and it should be left in the 'Documents/Control4/Drivers' folder. Control 4 controller must use a static IP. Be sure you have driver version 20230223 or later.

The MAC of the C4 controller must be checked in order to request the license. Visit the following link to purchase the licence <u>https://shop.fermaxaus.com.au/control4-driver/</u> Once purchased you will receive two emails. First email will be the confirmation of your purchase. The second email will request your MAC address of the C4 controller. Upon reply, a valid licence will be sent to you.

SINGLE HOUSE INSTALLATION

Once the license is obtained, the configuration can begin:

- Open the C4 'Composer' application and search for 'FERMAX' driver.

Locations	Discovered	My Drivers	Search
Fermax			 ✓ Clear
🖌 Local 🔲 Onlir	e 🔲 Certified		Advanced ~
Category - All			
Type - All			
Manufacturer - All			
Control - All			`
		Sort	Relevance
			_

- Add to project by right clicking on the the driver 'Fermax Placa Milo Door Station Driver'.
- Change the name of the added device if necessary. By default, two devices are created: the intercom panel and the inner camera of the panel.
- Update the following parameters:

Properties	Properties	Sum
Advanced Properties		
Properties Actions Documentation Lua		
Licence Status	ACTIVATED	
Licence Key	wEVs/5qHfP0xYfpq	
Driver Version	20230223	
Control4 MAC Address	000FFF1AE556	
Debug Mode	Off	\sim
	Driver Information	
Model	1 - 1/W Milo Panel	\sim
IP Address	192.168.1.81	
HTTP Port	80	*
Username	admin	
Password	654321	
Last Communication from Device	2023/02/24 - 11:51:28 OK - UNLOCKDOOR	
	SIP Information	
SIP SERVER	192.168.1.213	
SIP USER	MEET2	
SIP PASS	4321	
Intercom Group to Call	All	\sim

- Enter the license code received and check it is activated.
- In *Driver Information* indicate:
 - Select panel Model.
 - IP address of the entrance panel.
 - Port 80 (leave the one that comes by default).
 - Username: admin
 - Password: 123456. This is the default password for the Meet outdoor panel, if it had been changed for security reasons (recommended), enter the new one.
- In SIP Information indicate:
 - SIP SERVER: do not modify. This data is important to configure the entrance panel manually.
 - SIP USER: You can leave the one shown or change it. This value must be configured on the entrance panel.

- SIP PASS: You can leave the one shown or change. This value must be configured on the entrance panel.
- Intercom Group: select which groups should receive the call from the entrance panel.

- Add the opening button in the User Interface and give it a name:



ENTRANCE PANEL

As mentioned before, the one-way entrance panel allow automatic configuration from the C4 controller (Properties, Action tab) if you want to use it as Block 1, Unit 1, otherwise it is not recommended. However, the manual configuration process is very simple, and it is recommended to increase the security of the entrance panel and avoid leaving the default IP.

Manual configuration.

To configure the entrance panel, you must use a browser and access the IP address assigned to the entrance panel, 10.1.1.2 (one-way panel) and enter the username *admin* and default password *123456*.

The following steps will be followed:

1) Network settings

The IP address within the local network assigned to the entrance panel and the rest of the network parameters will be indicated: *Mask, Gateway,* or router to have internet access. The *software IP* does not need to be changed if there is no building manager with the management software.

DEVICE		
GENERAL		
NETWORK	IP:	192.168.1.214
ACCESS	MASK:	255.255.255.0
	GATEWAY:	192.168.1.1
FACIAL RECOG.	DNS:	8.8.8.8
IP CAMERA	SOFTWARE IP:	192.168.1.220
SIP	SW. PIN:	•••••
SIP TRUNK		0.075
SID CALL		SAVE
SIFCALL		
ADVANCED		
PINCODE		
QR ACCESS		
RESET		

When saving this information, it will be necessary to connect again to the web server of the entrance panel through the new assigned IP address to continue the configuration.

2) <u>SIP service configuration</u>

In the SIP Configuration section, the IP of the C4 SIP server will be indicated (192.168.1.213 in this example), as shown in the screen below.

Enter the username and password assigned to the entrance panel in the previous step.

DEVICE			SIP SETTINGS
GENERAL			
NETWORK	ENABLE SIP:	SEARCH SIP STATUS	
ACC	SIP SERVER:	sip:192.168.1.213	
SIP	DOMAIN: STUN IP:	192.168.1.213	
SIP TRUNK	STUN PORT:	5060	
SIP CALL	H.264:	102	
ADVANCED	SIP USER:	MEET2	
PINCODE	CONVERSATION:	120s 🗸	
RESTORE	RING TIME:	30s 🗸	
	-	SAVE	

Note: The SIP TRUNK option should not be used in this type of application.

3) <u>Receiver configuration</u>

In the SIP CALL section, the receiver associated with the call of the individual push-button of this panel must be indicated. The apartment indicated in the GENERAL tab (10 in this example) is indicated and as the assigned number the value: sip: All@192.168.1.213 (the IP assigned to the C4 SIP server) and click on Save. The table will be filled automatically.

DEVICE					SIP CALL S	ETTINGS
GENERAL						
NETWORK	APARTMENT:	0				
ACC	NUMBER:					
SIP	DELETE:	SAVE				
SIP TRUNK						
SIP CALL	APARTMENT	NUMBER	APARTMENT	NUMBER	APARTMENT	NUMBER
ADVANCED	10	sip:All@192.168.1.213				
PINCODE						
RESTORE						

4) <u>Camera resolution settings</u>

In the GENERAL section of the entrance panel, you must choose a suitable camera resolution. The resolution of 320x240 does not give any problem with the screens and the C4 App. You can try a higher resolution (640x480) and see that it does not suffer from image cuts.

DEVICE				GENERAL SETTINGS
GENERAL				
NETWORK	BLOCK:	1		
ACC	APARTMENT:	1		
SIP	DEVICE NO.: TYPE		~	
SIP TRUNK	LANGUAGE:	ENGLISH	~	
SIP CALL	PANEL VOLUME:	1	~	
ADVANCED	VIDEO RESOLUTION:	320x240	~	
PINCODE	DATE FORMAT:	DD/MM/YYYY	* *	
	DATE:	01 / 01 /	2018	
LOGOUT	TIME: TIME ZONE:	02 : 39 : GMT+01:00	01	

SAVE

Once the outdoor panel is configured, do the following steps on Composer:

- Refresh the Navigators (File > Refresh Navigators). This updates the UI on C4 screen.

- Refresh the SIP server (Agents > Communication agent > Advanced tab > Refresh Gateway button). This updates the panel in the SIP server of the C4 controller.

You can check if the panel is correctly configured in the control unit server by clicking on the VIEW SIP STATUS link of the SIP tab.

MDU INSTALLATION

Depending on the selected MDU option (scenario A or B seen before) configuration is more or less complex.

Scenario B

It does not require any special configuration so C4 license is not required. Meet panel and monitor are configured as per Meet basic configuration, so it is neither required the configuration seen in previous Single House chapter. WIT monitor will require to install C4 app as seen in last chapter.

Scenario A

It is required the following steps:



 Connect Composer Pro to MDU Communication server (CS) and add all the individual unit C4 Controllers to the CS. The IP address are the Wan's of each unit and the extension numbers are the extensions that the door stations will use in the call. Example 9011 is for apartment 11.

aents		Local Devices Comm	unication Server Advanced			
gents	Add Remove	Mode This control	er is a Communication Server	~		
Advanced Lighting						
Backup		in the second second				
Color		Programming Even	its			
Communication		Front Door	Add			
Email Notification			Edit			
History			Curr			
Identity			Delete			
Media Sessions						
Push Notrication			1			
Sched for						
UII Configuration		1 Base				
Variables			and a			
Voice Coordinator		Residence Contro	llers		1 contractions	Add
		Name	IP Address	Extension	Group	
	A CONTRACTOR OF STREET, STREET	UNIT3	192.168.80.3	9003	All	Add Multip
ntercom Groups		UNIT4	192.168.80.4	9004	Al	
	New Rename Delete	UNIT5	192.168.80.5	9005	All	Edit
		UNIT6	192.168.80.6	9006	All	Delete
Groups		UNIT7	192.168.80.7	9007	All	
Al		UNIT8	192.168.80.8	9008	/4I	
		UNIT9	192.168.80.9	9010	All	
		UNIT10	192.168.80.10	9011	Al	
		UNITH	192 168 80 12	9012	All	
		UNIT12	192 168 80 13	9013	All	
		UNITIA	192.168.80.14	9014	All	
		UNIT15	192.168.80.15	9015	All	
		UNIT16	192.168.80.16	9016	All	
		UNIT17	192.168.80.17	9017	All	
		UNIT18	192.168.80.18	9018	All	
🛆 System Design				the second s		
O Connections						
> Media						
M Amerik						

2) Add all the door stations (general entrance and one-way panels) using a unique SIP username for each. It is added selecting the Fermax driver for each door station.

ystem Design	Properties		Properties	Summe
ystem	Advanced Properties			
· ~ ~ ~	Properties Actions Documenta	stion Lua		
Remote Hub	Licence Status	ACTIVATED		
E-10 Unit 01 E-10 Unit 02	Licence Key	KUWbkmnvwDw2Ha3c		
⊕ O Unit 03 ⊕ O Unit 04	Driver Version	20230222		
E O Unit OS E O Unit OS	Control4 MAC Address	000FFF9BB064		
⊕ Ont 07 ⊕ Ont 08	Debug Mode	Off		~
⊕ O Unit 09 ⊕ O Unit 10		Driver Information		
0 Unit 12	Model	1 - 1/W Milo Panel		~
BO Unit 15	IP Address	192.168.80.251		
B O Unit 17	HTTP Port	80		÷
	Usemame	admin	,	
Fermax Placa Mio Do	orstation In Password	123456		
Beaconsheld Street Drive	erstation In.	ct 2023/06/14 - 20:21:41 OK - VOIP		
Fernax Place Milo Do	porstation C	SIP Information		
Fermax Placa Milo D	orstation In SIP SERVER	192.168.80.99		
	SIP USER	MEET		
System Design	SIP PASS	1234		
© Connections				~ 12
D Media	Intercom Group to Call	//		
C Agents				

3) Configure each door station to be registered on CS, using its web server. For building panel its default IP is 10.1.0.1 and for one-way panel it is 10.1.1.2. Network and General settings are the same described in single house chapter. For SIP server configuration it must be indicated the following information:

DEVICE	01.00	A B B C C CONTRACT	SIP SETTINGS
GENERAL	and the second		
NETWORK	ENABLE SIP:	SEARCH SIP STATUS • SIP REGISTERED	
	SIP SERVER:	sip:192.168.80.99	
ACCESS	DOMAIN:	192.168.80.99	
FACE RECOG.	OUTBOUND:		
IP CAMERA	STUN IP:	The second se	
SIP	STUN PORT:	5060	
51	H.264:	102	
SIP TRUNK	SIP USER:	MEETBEACON	
SIP CALL	SIP PASS:		
ADVANCED	CONVERSATION:	120s Y	
BINCODE	RING TIME:	30s ×	
FINCODE			3
RESTORE		SAVE	

Where IP address of SIP SERVER is that of the CS. SIP user and password is the one created in step 2.

4) In the SIP CALL section of the **one-way panels** add the Extension number of the unit it is calling. For example, for apartment 11 it is 9011 so the url would be SIP:9011@(CS_IP address):5060 (**important to add the port number**).

DEVICE			
GENERAL	13114		
NETWORK	APARTMENT:	0	
ACC	NUMBER:		
SIP	DELETE.	SAVE	
SIP TRUNK			· ·
SIP CALL	APARTMENT	NUMBER	APAR
ADVANCED	11	sip:9011@192.168.80.99:5060	
PINCODE			
RESTORE	All shires.		

5) In the SIP CALL section of the **digital panels** create a table with each pair of dialling code and extension associated. The table must be created in a CSV file. The CSV format can be downloaded from the SIP CALL section of the panel's web server, EXPORT option.

DEVICE						-
GENERAL						
NETWORK	Choose File	No file chosen	IMPORT	EXPORT		
ACCESS	APARTMENT	NUME	BER	APARTMENT	NUMBER	APART
FACE RECOG.	1	sip:9001@192.1	68.80.99:5060	0 2	sip:9002@192.168.80.99:5060	:
	4	sip:9004@192.1	68.80.99:5060	D 5 、	sip:9005@192.168.80.99:5060	1
PGAWERA	7	sip:9007@192.1	68.80.99:5060	8 0	sip:9008@192.168.80.99:5060	:
SIP	10	sip:9010@192.1	68.80.99:5060	D 11	sip:9011@192.168.80.99:5060	1
	13	sip:9013@192.1	68.80.99:5060	0 14	sip:9014@192.168.80.99:5060	1
SIP CALL	16	sip:9016@192.1	68.80.99:5060	D 17	sip:9017@192.168.80.99:5060	1
ADVANCED						
PINCODE						
RESTORE	Menor astronomicality					

An example is the following:

Apartment,Number, 1,sip:9001@192.168.8.99:5060 2,sip:9002@192.168.8.99:5060 3,sip:9003@192.168.8.99:5060 4,sip:9004@192.168.8.99:5060 5,sip:9005@192.168.8.99:5060 The home's calling code is indicated first, and separated by a comma, the text 'sip:' and the extension associated to the apartment, followed by @ and the IP of the CS. This extension number is the indicated in step 1.

In the example, calling apartment 1 will call the Meet monitor installed in apartment 1 (if any) and also the C4 screen and C4 App associated with the controller in apartment 1.

To load the CSV file on the panel, you must select the file created and click on the IMPORT button. The CSV call list will appear on the screen. Sometimes it is necessary to refresh the browser screen by clicking on the corresponding icon:



- 6) In the Dual WAN Router of each apartment, you need to configure port forwarding, opening port 5060 redirect to C4 controller IP (192.168.1.20 in the diagram).
- 7) On each of the individual C4 Controller you need to enable which devices are allowed to ring in:

File Driver Go Tools Feedback Help	c-onirci i (cocal)											- 0
Agents	Local Devices Communication Server Advanced											
Agents Add Remove	Proxy Server											
Advanced Lighting Backup Color Commiscution Commiscution Head Network Identify Media Sessions	Server Type: FreeSwitch IP Address: 192.168.1.20 Controller Name: Controller Name: Encode Freeswitch Gateway 6 This button will notify the controller to refresh FreeSwitch gateway (external is_trunk).											
Push Natilication Scheduler Timer UI Configuration Vantables	Security Secure all con Use new alt co	munication "When checked, only TLS or	onnections will be a	llowed								
	External Devic	cs										
Intercom Groups	Add Device	e, Edit Device Delete De	vice									
New Penane Dolde	Caller ID Dubec Doonstation Driveway	SIF AOR galec.util 19 mal cont (21 32, 168, 1.20 MEET11(21 32, 168, 80, 111 MEET10EACON(21 32, 168, 80, 250	At Camera False False False	Camera Name	Dev ID	Proxy ID	Doonstation False True True	Button1 False True True	Button1 Title Front Door Garage Door	Button2 False False False	Button2 Tale	Eschole False False False
© Connections												
D Media												
C Agents												
(/) Programming					-	-		1. al		00	Connected to 192.1	68.1.20 (SSL)

In this example, for unit 11, individual one-way panel (MEET11) and main door station (MEETBEACON). First device is the C4 app user.

8) Enable door unlock button for each panel in the individual C4 controller:

Edit External Device Info	×
Sip Device Info	Custom Buttons
* Caller ID: Doorstation	S Doorstation
* SIP AOR: MEET11@192.168.80.111	Custom Button 1
Password: 1234	Use Button
* Required fields	Label: Front Door
Atemate/Preview Camera Use Atemate/Preview Camera Camera Name:	Custom Button 2
Device ID: Proxy ID:	Label:
Exclude from Navigator OK	Cancel Is Mobile User

Tick Use Button 1 and assign one label.

Mode	Connect to a Con	nmunication Server	~	
C	ommunication Serv	er IP Address	Programming Events	
1	92.168.80.99	Apply	Beaconsfield Entry	Add
			Front Door	Edit
				Delete
		and the second of the		1

Assign Events for CS.

Composer Pro 3.3.3 / OS Management Package 3.3.0	- Qubec-Unit11 (Local)								
Programming	Script								
Device Events	Script	Execute							
Room Variables	When External Device 'Doorstation' Custom Button 'Front Door' is pressed								
Pergola Down Lights	Programming Controls								
B G Room Variables	Else & And Or Break Stop Delay 5 seconds	~							
Advanced Lighting	Comment Script Actions								
Bel Color									
C Communication C Driver Update C Enail Notification C Hatory Hatory	Send event Front Door to the Communication Server	*							
Communication Events									
ExDevice - Caller Id: Doorstation									
Custom Button Events									
Button Label: Front Door									
Pressed Released									
		100							

Create one script for each event.

9) In the CS controller create one script for each incoming event:

rogramming	Script									
vice Events	Script	Script								
C Device Variables Fermax Placa Milo Doontation In	Programming C	When remote event Front Door is received								
Fermax Placa Milo Doorstation C	N° Else	& And	l Or	📫 Break	📫 Stop	Delay	5 seconds	~		
Color	# Comm	# Comment								
Communication	I Script Actions	Script Actions								
C Email Notification A History G Identity G Media Sessions	Room->	Unit 11 Unlock	the door							
Communication Events										
ExDevice - Caler Id: Custom Button Events Button Label: O Breased										
Communication Server Events Event Name Exercite.com										
	State of the second									

WORKING MODE

To call the specific home, you must press the individual button (one-way panel) or enter the associated call code and confirm with the bell button in MILO or MARINE panel, or hang-up icon on KIN panel.



Direct call through code

The panel will generate the call both to the Meet monitor of the home (if it exists) and to the C4 screen and the C4 App associated with the chosen group, which will announce the call from the panel and show the image from outdoor panel.



Pressing the answer button will open the bi-directional audio channel. The timing is limited to 120". You have the option of opening the door at any time. Door unlock is available pressing on the defined icon.

Auto-on can be done selecting INTERCOM option on main menu.



It is also possible to watch at the image captured by panel camera as a security camera. The driver configures this as a generic camera with RTSP stream access:

Properties	
Camera Properties Camera Test	
Test	
Get Snapshot URL X 640 x Y 480	
	Test
Get Mipeg URL X 320 x Y 240 Rate (fps)	5
	Test
Get H.264 URL X 320 x Y 240 Rate (fps)	15
rtsp://192.168.1.214:8554/ch01	Test
Status:	^
	~

OTHER CONSIDERATIONS

- The driver is compatible with C4 OS 3.0 or higher. This document is based on C4 driver dated 20230223.

Do not use auto-configuration (on Properties, Actions Tab) on digital panels because it blocks them.

CONTROL 4 APP UPLOAD ON WIT MONITOR

Download the file from the following <u>link</u> and connect to the IP video intercom network where the MEET Monitors are located.

Open the MEET System Upgrade Tool software, select the file C4_32124003_a10 as IMG1 and set the IP address range of the monitor(s), in the example 192.168.1.83-83 (single monitor).

船 700 System	n Auto Tools	-		×	
IMG 1:					IMC to be introlled
IMG 2:					ING to be intralied
IMG 3:					
IP Range:	192 . 168 . 1 . 83 83		-		MONITOR IP

Press "Start" to begin downloading the application to the monitor(s).

Once the monitor is installed it will restart.

Monitor > Go to the Installer menu (password 6666) and open the APPs menu.



Select the "Control4" APP and assign an icon to it. Save changes.

The application will be displayed on the home screen of the monitor.



Once we open it, we must enter the username and password of the installation we want to access. The initial setup download may take a while and fail, but the next time it will connect.

The menu that is displayed is like the one that the C4 screen would show except for the Intercom option, which does not make sense since the internal application of the WIT monitor is used for communication with the street panel.

The application can remain always active, as in a Control 4 screen. When a call is received, it will be temporarily interrupted to answer it and, when the call ends, it will return to the point of the menu where it was interrupted. The monitor has a 60 second return to sleep time in which the screen turns off, if not acted on, to maintain the durability of the TFT and reduce consumption. Touching the screen again will redisplay the application at the same point it was displayed before going to rest.

OTHER CONSIDERATIONS

The operation of the Control4 app on the WIT monitor has been tested with the version 324.13.0.12.

FW monitor WIT: V03.50 (Android 10)

The integration referred to in this document is based on the version of the APP indicated. Therefore, FERMAX does not guarantee the successful integration of the MEET monitor with different versions of the APP that may be developed in the future.