

OXO Connect & Evolution - Hospitality Link

API Developers Guide

Platform	Alcatel-Lucent Enterprise OXO Connect & OXO Evolution
Interface	OHL (TCP/IP link)
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Abstract	This specification describes the OXO Connect & Evolution Hospitality Link (OHL) dialog between the OmniPCX Office Hotel driver and a hospitality/hotel application, in order to interface the Alcatel-Lucent Enterprise OmniPCX Office to the application

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History of the document

Edition 1	- June 04	Creation of the document
Edition 1.1	- September 04	Update regarding R1.6.0
Edition 1.2	- April 05	Update regarding R1.7.0 Add Trunk number information under SMDR frames Allow subscriber number greater than 4 digits under SMDR frames
Edition 1.3	- June 05	Update regarding R1.8.0 Add clarification for cost field under SMDR frames (§4.1.1, §4.1.2) Add clarification about TCP/IP keep alive message (§3.1, §3.3.1)
Edition 1.4	- August 2009	New logos.
Edition 2.0	- December 2012	Adding the support for 6 digits password from OmniPCX Office R8.2
Edition 2.1	- November 2013	Corrections (OLDriver 2.3.8)
Edition 3.0	- October 2015	New form and corrections (OLDriver 2.3.12)
Edition 3.1	- February 2017	New version of OLD 2.3.14 compliant with OXO Connect R2
Edition 4.0	- November 2019	OLD version 2.4.1 for OXO connect & Evolution R3.2: Add new features: a) Room barring: the call between room and authorize the call between people of the same group (section 6) b) Call accounting duration (flexible call accounting): time-based tax creation

References

- [1] OHL Driver Installation & Configuration
- [2] Technical Communication TC0091: OLD Driver

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1 ABOUT THIS GUIDE

1.1 Who Should Read This Guide

This guide is for developers willing to learn how to write Hotel or Hospitality applications communicating to Alcatel-Lucent OmniPCX Office platforms

1.2 What This Guide Tells You

This guide provides the complete and detailed description of the OHL interface.

1.3 TERMINOLOGY – DEFINITIONS

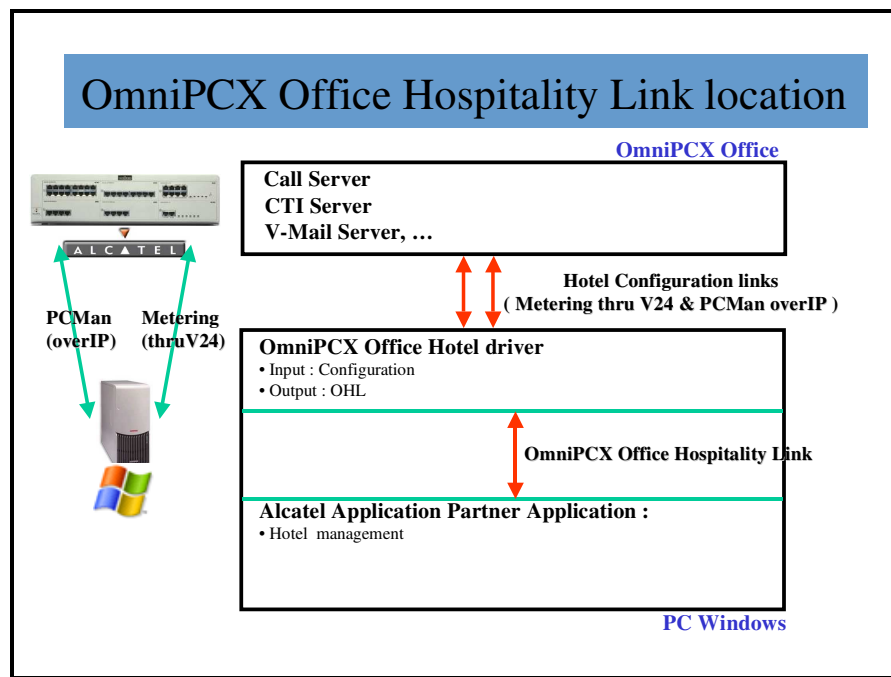
- ACK **ACK**nowledgement message
- AAPP Alcatel-Lucent Enterprise **A**pplication **P**artners **P**rogram
- AHL Alcatel-Lucent Enterprise **H**ospitality **L**ink
- API **A**pplication **P**rogramming **I**nterface
- CRC **C**yclic **R**edundancy **C**ode
- ETX **E**nd **T**ransmission
- IP **I**nternet **P**rotocol
- NACK **N**on-**ACK**nowledgement message
- OXO **O**mni**P**CX **O**ffice
- STX **S**tart **T**ransmission
- SMDR **S**tation **M**essage **D**etail **R**ecording
- TCP **T**ransmission **C**ontrol **P**rotocol
- GUI **G**raphical **U**ser **I**nterface
- PCMAN OmniPCX Office internal management IP interface
- OHL **O**mni**P**CX **O**ffice **H**ospitality **L**ink
- PM5 OmniPCX configuration management application
- MMC **M**an **M**achine **C**onfiguration

2 INTRODUCTION

This specification describes the OmniPCX Office Hospitality Link (OHL) dialog between the OmniPCX Office Hotel driver and a Hotel application, in order to interface the Alcatel-Lucent OmniPCX Office to this application.

2.1 Overview

Both, the Hotel application and the OmniPCX Office, can perform some identical functions. The hotel application has to manage the consistency of this data. This is out of the scope of this specification. The OmniPCX Office Hospitality Link allows the synchronization between the operations made on both application and OmniPCX Office sides.



2.2 Link connection keep-alive process

- Connection from PMS (acked by Pbx)
 - > **MASTER : read from EXT APP "(STX)@FFFF(ETX)"** // Pbx read from computer link the connection frame.
 - > **MASTER write to node FFFFFFFF "(ACK)"** // Pbx write to computer link the Ack frame to send to PMS.
- Keep-alive from Pbx to PMS (not to be acked)
 - > **MASTER write to node FFFFFFFF "(STX)\$0001(ETX)"** // Pbx write to computer link the frame for keep-alive, here this PBX is node 0001.
- Keep-alive from PMS to PBX (not to be acked)
 - > **MASTER : read from EXT APP "(STX)\$FFFF(ETX)"** // PBX read the keep-alive of PMS.

2.3 Roles of ACK frames and REPLY frames

ACK frame is at Data link level to confirm that frame has been well received and has correct format.

REPLY frame is at Application level to confirm that hotel application has understood the request and confirm if the action is done or not.

The “ACK” frame sent back by PBX to PMS as an answer to a received request frame, should not be seen as an agreement for the frame content but only as an agreement for the frame format (frame type → number of characters + checksum). The “ACK” is used to validate the Link/layer level but not the hotel and telephone application layer.

To acknowledge the application layer, the real content of frame with all information related to type of frame (check-in, check-out, Modification), the PBX will send back a “Reply” frame with status codes. As we know that OmniPCX Office and OmniPCX Office Link Driver could be impacted by a blast of frames sent without waiting for answer “Reply” from PBX and only taking into account the Ack sent by the link driver but not the PBX application.

3 What's in Office Link Driver v2.4.1

New features:

Hotel Room to Room calls Barring

Restrictions with OLD 2.4.1:

- Installation:
 - Upgrade from OLD 2.0.0 does not work. If you have OLD 2.0.0 installed, first uninstall OLD driver and run the last OLD setup.
 - Upgrade from OHL 1.x.x is working well, no need to uninstall.
 - Upgrade from OLD >= 2.0.1 is working well, no need to do uninstall
- Windows Vista/Windows 7/Windows 2008 Server (Compatibility only available from OLD 2.3.0 and higher version).
- Windows 8/ Windows 8.1/ Windows 10/ Windows 2012 server/ Windows 2012 R2 server (Compatibility only available from OLD 2.3.12 and higher version).
- Starting with OLD 2.3.16, Microsoft .Net Framework is mandatory.

Known O.L.D limitations:

Default Wake up setting on Checkout: Currently on check-out an inactive wakeup time is set on a guest room in the OmniPCX Office and the default time is 12:05. On check-in without wakeup programming, the operator set hospitality application displays this appointment as ACTIVE with this default time, but it is not really active. Be careful when leaving the wakeup menu. Do not press 'OK' it will activate the 12:05 wakeup! (corrected since O.L.D v 2.2.0).

SMDR ticket cost center field: After starting the driver, if no re-initialization frame for all devices is requested, the cost center field could be filled with spaces.

Currently there is no possibility to change the room clean/unclean status and the room problems on a checked-out or checked-in room. It is also not possible to view both room cleaning status and room problem on a checked-out room.

The Configuration Application is not refreshed during a test sequence. Wait until the test succeeds or after timeout popup.

Meter Total Recall assignment charge SMDR does not contain the Booth phone extension number in order to make the association with the initial metering ticket. The current method to associate the two SMDR is by the date /time /duration/Trunk number and cost contained in the two SMDR.

The Language field must be filled in the check in frame from the Hotel application.

It is required to send a Password in the Check in frame to the OLD. Otherwise, the Voice mail will not be initialized.

4 Physical Link And Protocol

The connection must be initialized by the hotel application, using the OmniPCX Office service port that is reserved for the hotel interface (port number 2561).

4.1 Acknowledgement on TCP/IP

Any received message must be verified (parity, CRC, length) and a **ACK** or a **NACK** must be sent back immediately (within 25 seconds max.) except for **keep alive** message.

If the answer is NACK or no answer is received within 25 seconds, the message is destroyed and an error incident is generated in the OmniPCX Office Hotel Driver "Global_log_file".

4.2 TCP/IP connection message

This message is sent by the Hotel Application to initialize the connection.

If the link is disconnected, the Hotel Application must send again a connection message to re-connect.

4.2.1 Message format

Field	Length (bytes)	Value	Comments
1 STX	1	'0x02'	start of text
2 type	1	@	TCP/IP link connection (message type)
3 node id.	4	FFFF	message sent by the Hotel Application. (FFFF character : coded in ASCII)
			node number, message sent by the Hotel Driver. (hexadecimal value, coded in ASCII)
4 ETX	1	'0x03'	end of text
Total length msg	7		

Note: This message frame contains no CRC field by default. However, to allow compatibility with some applications the CRC field is an option : with or without CRC field (without is the implicit as shown). If CRC is enabled, a two character field preceding the "ETX" field is created and reserved for "CRC".

4.3 TCP/IP keep alive messages

These messages are sent every 30 seconds by both sides.

If the OmniPCX Office Hotel Driver does not receive any "keep alive" message within 60 seconds, the connection is closed and the hotel application message queued buffer is emptied

4.3.1 Message format

Field	Length (bytes)	Value	Comments
1 STX	1	'0x02'	start of text
2 type	1	\$	keep alive (message type)
3 node id.	4	FFFF	message sent by the Hotel Application. (FFFF character : coded in ASCII)
			node number, message sent by the Hotel Driver. (hexadecimal value, coded in ASCII)
4 ETX	1	'0x03'	end of text
Total length msg	7		

Note: This message frame contains no CRC field by default. However, to allow compatibility with some applications the CRC field is an option : with or without CRC field (without is the implicit as shown). If CRC is enabled, a two character field preceding the "ETX" field is created and reserved for "CRC".

The keep alive messages are not acknowledged with ACK or NACK messages.

4.4 TCP/IP Link Buffer

An OHL messages buffer is available on the Hotel Driver. The size of this buffer is: 2000 messages. When this communication buffer is 80 % full, an alarm is automatically generated and a warning alarm message is reported in the OHL Driver "Global_Log_file". When this communication buffer becomes 95 % full, any new incoming message will automatically cause an alarm to be generated and the deletion of the oldest message in memory.

4.5 Start And End Characters


Any message, except ACK, NACK, XON and XOFF, begins with an "STX" character (value: 0x02) and ends with an "ETX" character (value: 0x03).

4.6 Longitudinal Control Characters

The last two characters preceding the "ETX" are reserved for the "CRC". It is calculated by making an "exclusive or" on each character from the STX (excluded) to the "CRC". The result is split into 2 ASCII characters corresponding to the translation in ASCII of its hexadecimal value.

For example, the one character result corresponding to binary "0001 0011" is split into the 2 ASCII characters "1" and "3". (See page 29 - 8.1. .)

4.7 Field Justification

Except if otherwise specified, every field not completed **is right justified** and filled up with blank (ASCII space: value 0x20) character(s), noted in the document: 

4.8 Management

A guest is identified through his **"ROOM" (extension) number**.
Using this extension number does accounting and management.
If guests want to receive directly their incoming calls, a **"DDI"** number (direct dial inward) can be associated to that extension on the OmniPCX Office system.

5 Support for Subscriber six digit password

From release R820, OXO supports both four (4) and six (6) digits password length for room sets. To support the new password length (6 digits), new OHL message types are introduced with password field length as six.

The new message types are used for either four or six digits password.
The new message types are described under [section 7](#).

The old (current) message types are not modified to support existing hotel application.

Hotel application can use the existing message format with four digits password without any modification.

From the hotel application, for four digits password either new or existing message types can be used.

For six digits password, new message types has to be used. OLD Driver selects the message type (new or old message) to be sent to application based on the password length configured in OXO.

If OXO has software **version 8.1 or earlier** then only “4 digit password” can be used.

If OXO has software **version 8.2 and above** then 2 possibilities:

- Configuration done in OXO and Partner Application software with “4 digit password” -> OLD **version should be 2.3.5 or higher**, and we use the currents frames (A, M, ...).
- Configuration done in OXO and Partner Application software with “6 digit password” -> OLD **version should be at least 2.3.6**, and we use the new frames (B, N, ...).

6 New feature – Room to Room call barring

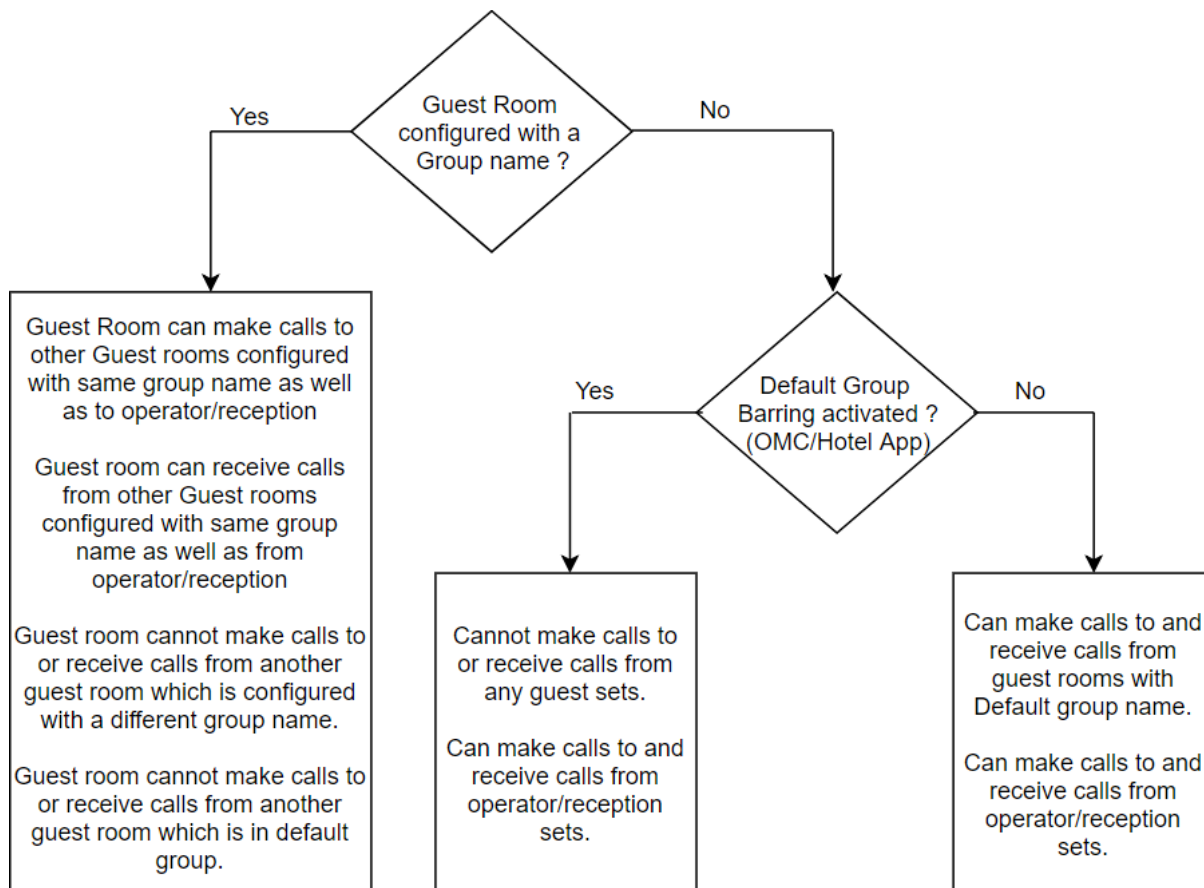
6.1 Overview

From OXO Connect R3.2, Room-to-Room call barring can be configured for each guest set and is used to block unauthorized inter room calls to guest sets.

This feature provides the following:

- Barring of Room-to-Room calls
- Allowing calls only between the guests within a same group

Receptionist or Operator can activate/deactivate Room barring feature through Reception set (NOE C/D) by configuring the guest set with a check-in group name.



Room to Room Barring in Hotel Mode : synopsis

When a guest set is configured with a group name, inter-room calls to such sets are allowed only if the caller and called sets are in same group.

All checked in guest sets have empty group name by default. Room-to-room calls between such guest sets which are in default group are allowed/barred based on the Default Group Barring configuration.

When a guest set is configured with a Group name, it can always call other guest sets in the same group, even if “Default Group Barring” is activated. i.e., Default Group Barring configuration is only applicable to the Guest sets in Default group (empty group name).

Reception/Operator sets can always call the guest set irrespective of the feature activation status.

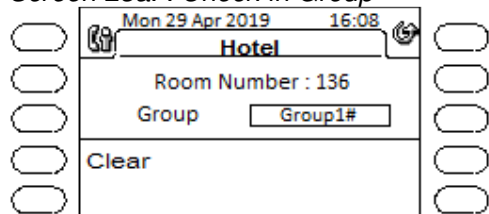
Group name is reset to default after check-out.

6.2 Check-in Group management

A new soft-key **Group** is introduced in NOE C/D screen 6 for managing room-to-room barring feature. This feature cannot be accessed via MR2 sets.

If the operator/receptionist selects this **Group** soft-key in screen 6 then Screen 23a is displayed, where each guest set can be associated with a check-in group by configuring a Group name.

Screen 23a. : Check-in Group



NOE C / D screen

SOFTKEYS	MEANING
Rubout	Erase the character before the cursor.
Clear	Erase all the characters.
Return	Goes back to the previous screen, without taking into account the modifications.
OK	Takes into account the modification. Presented with a temporary message Accepted .

Group name can be any string of maximum 8 characters long.

This group name is used only to bring together the guest sets under a check-in group for managing Room barring feature and is independent of any other groups configured from OMC.

Number of Groups can be as many as the number of guest sets.

If a guest set is tagged with a Group name, then room-to-room calls to such guest sets will be allowed only if the caller and called guest sets are members of same group. All other inter room calls are released.

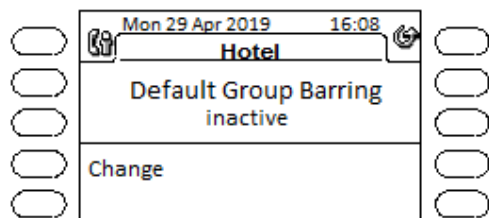
1.1.1 Default Group Barring Programming

All the checked-in guest sets will have empty group name by default. Behavior of room-to-room calls between guests in default group can be modified as follows:

Selecting **DefaultValue** from screen 1 will display screen 24, where a new soft-key **Group** is introduced. (Applicable only for NOE C/D)

If the receptionist/operator selects **Group** soft-key from screen 24 then screen 40 is presented, where the default barring behavior for room-to-room calls can be modified.

Screen 40. : Default Group Barring: NOE C/D screen



TEXT FIELDS	MEANING
1- inactive	Default Group barring is inactive: Room-to-room calls are allowed between all guests sets in default group.
active	Default Group barring is activated: Room-to-room calls are barred between all guests sets in default group.

SOFTKEYS	MEANING
Change	Toggles default group barring On/Off
Return	Goes back to the previous screen, without taking into account the modifications.
Ok	Takes into account the modifications, displaying an <i>input accepted</i> screen.

Default Group barring behavior can be controlled from OMC32.0 as well.

7 Basic messages from Hotel Driver to Hotel Application

If the OmniPCX Office does not handle information included in a message, this information is replaced by the right number of blank character(s).

7.1 SMDR or telephone call ticket

SMDR tickets (written proof metering tickets) are sent at the end of call. Administrative SMDR, can be differentiated from guest SMDR through "cost center" field (0=administrative sets, 1=room sets, 2=phone booth).

7.1.1 Message format

Field	Length (bytes)	Value	Comments	
1	STX	1	'0x02'	start of text
2	type	1	J	SMDR identification (message type)
3	room extension	8	bbbbbb0 to 99999999	charged extension (room, administration set, ...)
4	cost center	4	bbb0	0=administrative set
			bbb1	1=room set
			bbb2	2=phone booth
			bbb	information not available
5	call type	1	0 to Z	call type
6	acting ext.	8	bbbbbb0 to 99999999	acting extension
			bbbbbb	information not available
7	date-time	11	00 00 00 00 00 b to 31 12 99 23 59 b	date and time of the beginning of the communication day, month, year, hour minute (no AM/PM management)
8	duration	5	000 00 to 999 59 and 999 99	duration of call in minutes (3 char.) and seconds (2 char.) 999 99 means overflow
9	cost	8	0bbbbbb or 0.0bbbbbb to 99 999 999	cost (7 char. + 1 floating point, left justified, number of digits after floating point described in PM5) or number of meter pulses. 99 999 999 means overflow
10	trunk group number	4	bbb or XXXX	if available provide a trunk number either on 4 characters
11	called number	20	0bb...bb to 99.....99	
			bb...bb	information not available in case of assignment charge
12	CRC	2	XOR fields 2 to 11	control characters
13	ETX	1	'0x03'	end of text
Total length msg		74		

7.1.2 Notes

- Field 3: "room extension" is right justified. The room extension may include "*"and "#"characters. By default the system will give the last 4 digits of calling or called subscriber, In case of numbering plan base on more than 4 digits, please select "User8" under PM5 metering fields parameter. In case of unanswered incoming calls it is possible to have a hunt group number instead of a room extension number.
- Field 5: the "call type" has the following values if available (other values may be added

later):

- 0 for public network "outgoing call"
- 1 for "transfer" of public network outgoing call followed by the transferring extension number in the acting extension field if available
- 3 reserved
- 4 for public network "incoming call"
- 5 for MTR charge assignment call arising from Booth phone call ; initiator extension no. is in the acting extension field (see Note1)
- 5 for booth call; followed by blank (space) characters in the acting extension field
- 5 for "other"; the acting extension field contain blank (space) characters
- 6 for "transit"
- A for "transfer" of public network incoming call followed by the transferring extension number in the acting extension
- E for "SO data outgoing call"
- F for "SO data incoming call"
- Field 6: the "acting extension" (if available) is the extension from where the call is placed. It can be different from the "charged extension" in field 3 (e.g. in case of substitution). The acting extension may include "*" and "#" characters. By default the system will give the last 4 digits of calling or called subscriber, In case of numbering plan base on more than 4 digits, please select "User8" under PM5 metering fields parameter. In case of unanswered incoming calls it is possible to have a hunt group number instead of a room extension number.
- Field 9: VAT not included. Number of digits after floating point depends on system metering configuration (programmed in PM5 metering screen). The field is left justified and full with blank if necessary. So if no digit after floating point is configured, the floating point will not be printed (e.g. for a cost of 45 units : 45.00000 if no digit after floating point and 45.00000 if one digit after floating point).
- Field 10: Trunk Number, allows metering ticket correlation (i.e. correlation between booth phone SMDR and assignment charge SMDR) - available values:
 - Lxxx analog trunk (000-xxx) to public network (PSTN)
 - Nxxx ISDN basic rate access (000-xxx) to public network (PSTN) or private network
 - Pxxx Public or private primary rate access (000-xxx)
 - Vxxx IP trunk (000-xxx)

By default metering tickets from the OmniPCX office system provides trunk numbers from 000 to 099, trunk numbers above 099 will appear as "****" (i.e. "N****", "P****"). Therefore, in order to get the correct line identification the system installer must select "trunk4" under PM5 metering fields parameter.
- Field 11: "number called" is left justified. The called number may include "*" and "#" characters. If the number is over 20 digits the first 20 digits are used.
-

Note 1: If the PBX hotel feature 'Charge Assignment' is used which results from a Booth phone MTR call(meter total recall), then two SMDR frames are generated. One SMDR for the Booth phone call and the second for the room which has been assigned the charge. To associate these two SMDR's, it is necessary to use the date / time and duration fields of the two SMDR frames, as the dialled number field of the 'Charge assignment' SMDR is empty. The Acting extension field is only completed on the 'Charge Assignment' SMDR and contains the extension no. of the initiator of the MTR call (i.e.: initiator is the extension which allocates the trunk using the MTR feature:
- normally the operator).

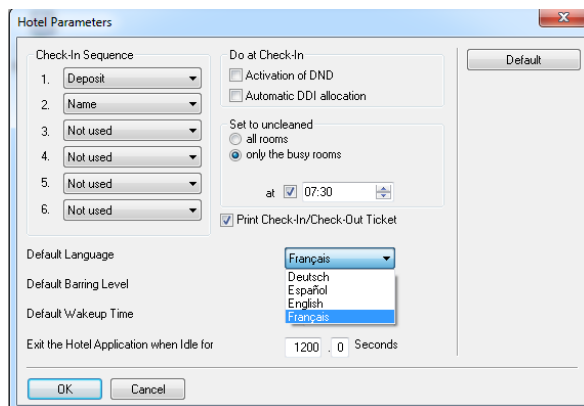
7.2 Check-in

The Hotel Driver sends this message to the Hotel Application when a check-in is done by the integrated application (e.g. From Reception set).

7.2.1 Message format

Field	Length (bytes)	Value	Comments	
1	STX	1	'0x02'	start of text
2	type	1	A	guest Arrival (Check-In) message
3	room extension	8	bbbbbbb0 to 99999999	room set extension
4	unused	1	b	for compatibility reason.
5	guest name	10	NNNNNNNNNN	N = ISO latin character see Annex.
6	unused	8	bbbbbbbb	for compatibility reason.
7	unused	2	bb	for compatibility reason.
8	set language	1	1 to 4	room set language (one of the 4 languages of the OmniPCX Office)
9	unused	4	bbbb	for compatibility reason.
10	passw ord	4	0000 to 9999	room set password (bbbb = no password proposed)
11	barring category	2	00	no outgoing calls authorized
			01	only local calls authorized
			02	only local and national calls authorized
			03	all outgoing calls authorized
12	deposit	9	0.0000000 to 99999999.	deposit value: 8 characters plus one floating point.
			bbbbbbbb	no pre-payment
13	message waiting	1	b	no change
			1	message(s) waiting at the front desk
			0	no message waiting at the front desk
14	wake-up time	4	00 00 to 23 59	wake-up time hour (2 char.) and minutes(2 char.)
			bbbb	no wake-up programmed
15	wake-up action	1	b	not used
16	do not disturb	1	0	clear DND and forwarding
			2	set room extension in DND
			1	forward room extension to voice mail
17	CRC	2	XOR fields 2 to 16	control characters
18	ETX	1	'0x03'	end of text
Total length msg		61		

Nota: The “set language” could be a value from 1 to 4 and associated languages depends of language selected while installing the OXO. There will be default set of 4 languages according to system language. The languages loaded into the system can be found using the management interface.



7.3 Phone allocation

This message is sent to the Hotel Application after a DDI number is allocated to the guest room, or DDI number information is requested.

7.3.1 Message format

	Field	Length (bytes)	Value	Comments
1	STX	1	'0x02'	start of text
2	type	1	H	phone allocation message
3	room extension	8	bbbbbbb0 to 99999999	room set extension
4	sub-type	1	D	DDI number programmed
5	DDI number	8	bbbbbbb to 99999999	DDI number (bbbbbbb = no DDI number)
6	CRC	2	XOR fields 2 to 5	control characters
7	ETX	1	'0x03'	end of text
	Total length msg	22		

A phone allocation message request is sent by the application to the driver to request a DDI allocation (4.2.1). This phone allocation message (3.3.1) is the answer (and the acknowledgement): it gives the DDI number; the sub-type is here always and only “D”.

7.4 Voice mail facilities attribution

Not supported in OmniPCX Office or OXO Connect (a mailbox is systematically opened at the check-in phase and closed at check-out: in fact they are reset at check-in, to permit a consultation from receptionist set in case of problem).

7.5 Modification

The Hotel Driver sends this message when a modification is done by the integrated application. (E.g.: Reception set)

7.5.1 Message format

Field	Length (bytes)	Value	Comments	
1	STX	1	'0x02'	start of text
2	type	1	M	Modification message
3	room extension	8	bbbbbb0 to 99999999	room set extension
4	unused	1	b	for compatibility reason.
5	guest name	10	NNNNNNNNNN	N = ISO latin character see Annex.
			00000000	'no change'
			bbbbbbbbb	'clear' the name : return to 'RoomNumber'
6	DDI number	8	bbbbbb to 99999999	DDI number (bbbbbb = no DDI number)
7	unused	2	bb	for compatibility reason.
8	set language	1	1 to 4	room set language (one of the 4 languages of the OmniPCX Office)
			0	'no change'
9	unused	4	bbbb	for compatibility reason.
10	passw ord	4	0000 to 9999	room set password (bbbb = no password proposed)
			bbbb	'no change'
11	barring category	2	00 to 03	new choice
			bb	'no change'
12	deposit	9	0.0000000 to 99999999.	remaining deposit (balance)
			bbbbbbbbb	no pre-payment
13	message waiting	1	b	'no change'
			1	message(s) waiting at the front desk
			0	no message waiting at the front desk
14	wake-up time	4	00 00 to 23 59	wake-up time hour (2 char.) and minutes(2 char.)
			bbbb	'no change'
15	wake-up action	1	b	program wake-up or 'no change'
			0	cancel wake-up
16	do not disturb	1	0	clear DND and forwarding
			2	set room extension in DND
			1	forward room extension to voice mail
			b	'no change'
17	CRC	2	XOR fields 2 to 16	control characters
18	ETX	1	'0x03'	end of text
Total length msg		61		

Nota: The deposit field corresponds to the remaining deposit (balance).

7.6 Check-out

The Hotel Driver sends this message when a checkout is done by the integrated application. (e.g. Reception set).

7.6.1 Message format

	Field	Length (bytes)	Value	Comments
1	STX	1	'0x02'	start of text
2	type	1	D	guest Departure (check-out) message
3	room extension	8	bbbbbb0 to 99999999	room set extension
4	CRC	2	XOR fields 2 to 3	control characters
5	ETX	1	'0x03'	end of text
Total length msg		13		

7.7 Room status change

Codes are sent by room maid to change the status of the room.

7.7.1 Message format

	Field	Length (bytes)	Value	Comments
1	STX	1	'0x02'	start of text
2	type	1	C	room status Change message
3	room extension	8	bbbbbb0 to 99999999	room set extension
4	status	1	1 or 2	1 the room has been cleaned and is ready 2 the room must be cleaned
5	problem code	3	000 to 999	The problem code of the room : the PBX transmits the digits dialed by the maid without any interpretation. (000 means no problem).
6	CRC	2	XOR fields 2 to 5	control characters
7	ETX	1	'0x03'	end of text
Total length msg		17		

7.8 Guest telephone account

7.8.1 Message format

Field	Length (bytes)	Value	Comments
1 STX	1	'0x02'	start of text
2 type	1	T	guest Telephone account message
3 room extension	8	bbbbbbb0 to 99999999	room set extension
4 communications number	4	0000 to 9999	Communications: number of effective (charged) outside calls
5 cost	9	0.0000000 to 99999999.	Cost: total expense (8 characters plus one floating point).
6 total deposit	9	0.0000000 to 99999999.	Total of "deposits": (8 characters plus one floating point) corresponding to the original (or reset) amount plus the added values.
7 unused	9	bbbbbbb	compatibility reason
8 CRC	2	XOR fields 2 to 7	control characters
9 ETX	1	'0x03'	end of text
Total length msg	44		

Notes: **Field 5**: VAT not included.

7.9 Data transfer

Not supported in OmniPCX Office or OXO Connect.

7.10 Interactive data transfer

Not supported in OmniPCX Office or OXO Connect.

7.11 Specific data transfer

Not supported in OmniPCX Office or OXO Connect.

7.12 Wake-up events

If a wake-up problem occurs or for any observed wake-up event, the PABX can inform the Hotel Application.

7.12.1 Message format

Field	Length (bytes)	Value	Comments	
1	STX	1	'0x02'	start of text
2	type	1	P	PBX data transfer
3	room extension	8	bbbbbb0 to 99999999	room set extension
4	sub-type	1	W	Wake-Up (message sub-type)
5	unused	2	bb	unused (presence for compatibility)
6	cause	1	A	Acknowledge
			N	Not acknowledge : Free
			B	Not acknowledge : Busy
			O	Set Inaccessible (OUT OF ORDER)
			P	Programmed (wake-up)
			M	Not available (modification=programmed)
			C	Cancelled (wake-up)
			R	Not available (programming rejected)
7	unused	1	b	unused (presence for compatibility)
8	event date	6	00 00 00 to 31 12 99	even date (e.g. wake-up cancellation date)
9	event time	4	00 00 to 23 59	even time
10	originator	5	bbbb	programmed from extension or information not available
			Obbb	programmed from operator/receptionist (not available)
			Rbbb	programmed from room service (not available)
11	wake-up time (*)	4	00 00 to 23 59	wake-up time hour (2 char.) and minutes(2 char.)
			bbbb	'no change'
12	unused	1	b	unused (presence for compatibility)
13	CRC	2	XOR fields 2 to 10	control characters
14	ETX	1	'0x03'	end of text
Total length msg		49		

(*): The wake-up time (field 11) is used only for cause (field 6) programming “P” but for all other causes it will be empty “no changes”.

7.13 Voice-mail events

Not supported in OmniPCX Office or OXO Connect.

7.14 Guest data re-initialization

This message is the positive answer to a re-initialization request.

7.14.1 Full re-initialization message format

Field	Length (bytes)	Value	Comments
1 STX	1	'0x02'	start of text
2 type	1	U	re-initialization answer message
3 room extension	8	bbbbbbb0 to 99999999	room set extension
4 sub-type	1	F	Full re-initialization on going
		E	End of re-initialization (last message, or only message)
5 DDI number	8	bbbbbbb to 99999999	DDI number (bbbbbbb = no DDI number)
6 unused	1	b	for compatibility reason.
7 guest name	10	NNNNNNNNNN	programmed name.
8 unused	8	bbbbbbb	for compatibility reason.
9 unused	2	bb	for compatibility reason.
10 set language	1	1 to 4	room set language (one of the 4 languages of the OmniPCX Office)
11 unused	4	bbbb	for compatibility reason.
12 password	4	0000 to 9999	room set password
13 barring category	2	00 to 03	barring value
14 deposit	9	0.0000000 to 99999999.	remaining deposit (balance)
		bbbbbbb	no pre-payment
15 message waiting	1	0	no message waiting at the front desk
		1	message(s) waiting at the front desk
16 wake-up time	4	00 00 to 23 59	wake-up time hour (2 char.) and minutes(2 char.)
		bbbb	no wake-up programmed
17 wake-up action	1	b	unused
18 do not disturb	1	0	no DND and forwarding programmed
		2	set room extension in DND
		1	forward room extension to voice mail
19 unused	1	b	for compatibility reason.
20 unused	1	b	for compatibility reason.
21 unused	4	bbbb	for compatibility reason.
22 unused	5	bbbbbb	for compatibility reason.
23 status	1	1 or 2	1 the room has been cleaned and is ready 2 the room must be cleaned
24 problem code	3	000 to 999	The problem code of the room : the PBX transmits the digits dialed by the maid without any interpretation. (000 means no problem).
25 unused	11	bbbbbbbbbbb	for compatibility reason.
25 CRC	2	XOR fields 2 to 23	control characters
26 ETX	1	'0x03'	end of text
Total length msg	96		

The deposit field corresponds to the remaining deposit (balance).

If there is are no guests checked-in, the *room number* is set to blanks and the *sub-type* to 'E'.

Sub-type E:

- If you have 3 guests checked-in: you will received 2 messages with sub-type "F" and the last message with sub-type "E";
- If you have only one guest checked-in: you will received only message with sub-type "E";
- If you have no guest checked-in: you will received only message with sub-type "E";

Between the message "re-init request" and the last message "guest data-base reinit" (sub-type "E") the application has to wait: no other message can be sent.

7.14.2 Partial re-initialization message format

There is no difference between full and partial re-initialization except the volume of data transferred.

	Field	Length (bytes)	Value	Comments
1	STX	1	'0x02'	start of text
2	type	1	U	re-initialization answer message
3	room extension	8	bbbbbb0 to 99999999	room set extension
4	sub-type	1	P	Partial re-initialization on going
			O	End of re-initialization (last message, or only message)
5	DDI number	8	bbbbbb to 99999999	DDI number (bbbbbb = no DDI number)
6	password	4	0000 to 9999	room set password
7	CRC	2	XOR fields 2 to 6	control characters
8	ETX	1	'0x03'	end of text
Total length msg		26		

If there are no guests checked-in, the *room number* is set to blanks and the *sub-type* to 'O'.

sub-type 'O':

- If you have 3 guests checked-in: you will received 2 messages with sub-type "P" and the last message with sub-type "O";
- If you have only one guest checked-in: you will received only message with sub-type "O";
- If you have no guest checked-in: you will received only message with sub-type "O";

Between the message "re-init request" and the last message "guest data-base reinit" (sub-type "O") the application has to wait: no other message can be sent.

7.15 Dynamic suite

Not supported in OmniPCX Office or OXO Connect.

7.16 Extended SMDR

Not supported in OmniPCX Office or OXO Connect.

7.17 Reply

This message is sent from the Hotel Driver to the Hotel Application as layer 3 acknowledgement:

- To accept a command with a restrictive warning
- To refuse a command with the reason

If a previous computer command was handled correctly, and if information or warnings are not necessary, the Hotel Driver does not send any "reply".

7.17.1 Message format

Field	Length (bytes)	Value	Comments	
1	STX	1	'0x02'	start of text
2	type	1	R	Reply (message type)
3	room extension	8	bbbbbb0 to 9999999	room set extension
4	password	4	0000 to 9999	room set password
5	action	1	I J O P M N A B Q R T	Check In accepted Check In refused Check Out accepted (not used) Check Out refused Modification accepted Modification refused Phone Allocation accepted Phone Allocation refused Interrogation accepted (not used) Interrogation refused Re-initialisation refused
6	reason	1	A G O R U M J K Q T	Room already allocated or room not allocated Invalid number Room set out of service Invalid room extension number (not used) Unavailable room extension Not consulted message (in mailbox or at message desk): Non available feature, messages are deleted on Check Out Non available feature Wrong message Unreachable database (the PBX doesn't answer) Other
7	CRC	2	XOR fields 2 to 6	control characters
8	ETX	1	'0x03'	end of text
Total length msg		19		

- **List of possible Reply with room extension management (non exhaustive):**

Reply to check-in

Refuse:

action = 'J',

reason =

'R' Invalid room extension number (out of range)

'A' room already checked-in

'Q' the PBX doesn't answer – bad hostname, unreachable system, wrong password, OmniPCX Office PCMan connection busy (PM5, MMC, 4760...).

- Accepted:

action = 'I',

reason = 'b'

Reply to modification

Refuse:

action = 'N',

reason =

'R' Invalid room extension number (out of range)

'A' room not checked-in

'P' Invalid or unavailable guest password ("INVb" in password field) Unavailable value with OmniPCX Office

'Q' the PBX doesn't answer – bad hostname, unreachable system, wrong password, OmniPCX Office PCMan connection busy (PM5, MMC, 4760...).

- Accepted:

action = 'M',

reason = 'b'

Reply to check-out

Refuse:

action = 'P',

reason =

'R' Invalid room extension number (out of range)

'A' room not checked-in

'Q' the PBX doesn't answer – bad hostname, unreachable system, wrong password, OmniPCX Office PCMan connection busy (PM5, MMC, 4760...).

Reply to interrogation

Refuse:

action = 'R',

reason =

'R' Invalid room extension number (out of range)

'A' room not checked-in

'Q' the PBX doesn't answer – bad hostname, unreachable system, wrong password, OmniPCX Office PCMan connection busy (PM5, MMC, 4760...).

7.18 Message acknowledgement

1 character ACK or NACK to confirm the transmission of message/frame.

This does not acknowledge the message from the hotel application perspective.

7.19 Control characters

1 character XON or XOFF

8 Basic messages from Hotel Application to Hotel Driver

8.1 Check-in

8.1.1 Message format

Field	Length (bytes)	Value	Comments	
1	STX	1	'0x02'	start of text
2	type	1	A	guest Arrival (Check-In) message
3	room extension	8	bbbbbbb0 to 99999999	room set extension
4	unused	1	b	for compatibility reason.
5	guest name	10	NNNNNNNNNN	N = ISO latin character see Annex.
6	unused	8	bbbbbbbb	for compatibility reason.
7	unused	2	bb	for compatibility reason.
8	set language	1	1 to 4	room set language (one of the 4 languages of the OmniPCX Office)
9	unused	4	bbbb	for compatibility reason.
10	passw ord	4	0000 to 9999	room set password (bbbb = no password proposed)
11	barring category	2	00	no outgoing calls authorized
			01	only local calls authorized
			02	only local and national calls authorized
			03	all outgoing calls authorized
12	deposit	9	0.0000000 to 99999999.	deposit value: 8 characters plus one floating point.
			bbbbbbbb	no pre-payment
13	message waiting	1	b	no change
			1	message(s) waiting at the front desk
			0	no message waiting at the front desk
14	wake-up time	4	00 00 to 23 59	wake-up time hour (2 char.) and minutes(2 char.)
			bbbb	'no change'
15	wake-up action	1	b	program wake-up or 'no change'
			0	cancel wake-up
16	do not disturb	1	0	clear DND and forwarding
			2	set room extension in DND
			1	forward room extension to voice mail
17	CRC	2	XOR fields 2 to 16	control characters
18	ETX	1	'0x03'	end of text
Total length msg		61		

Deposit, on OmniPCX Office only fixed deposit available. If a floating-point deposit is transmitting, the floating part will not be taking into account.

Possible cause of 'Check-in' reject, the check-in message will be refused by a 'reply' in case of:

- Invalid room extension number (out of range)
- Room already checked-in
- A PBX doesn't answer response due to bad hostname, unreachable system, wrong password or OmniPCX Office PCMan connection busy (PM5, MMC, 4760...).

8.2 Phone allocation

This message is sent by the Hotel Application to request the allocation of, or to program, a DDI (Direct Dial In) number to the guest room.

8.2.1 Message format

	Field	Length (bytes)	Value	Comments
1	STX	1	'0x02'	start of text
2	type	1	H	phone allocation message
3	room extension	8	bbbbbb0 to 99999999	room set extension
4	sub-type	1	D	DDI number programmed
			R	DDI number request
			I	DDI number information (to read an already allocated number)
5	unused	8	bbbbbbb-	for compatibility reason
6	CRC	2	XOR fields 2 to 5	control characters
7	ETX	1	'0x03'	end of text

Possible cause of 'Phone Allocation' reject, the 'Phone Allocation' message will be refused by a 'reply' in case of:

- Invalid room extension number (out of range)
- A PBX doesn't answer response due to bad hostname, unreachable system, wrong password or OmniPCX Office PCMan connection busy (PM5, MMC, 4760...).

8.3 Voice mail facility attribution

Not supported in OmniPCX Office or OXO Connect.

(a mailbox is systematically and automatically allocated at check-in).

8.4 Modification

8.4.1 Message format

Field	Length (bytes)	Value	Comments	
1	STX	1	'0x02'	start of text
2	type	1	M	Modification message
3	room extension	8	bbbbbbb0 to 99999999	room set extension
4	unused	1	b	for compatibility reason.
5	guest name	10	NNNNNNNNNN	N = ISO latin character see Annex.
			00000000	'no change'
			bbbbbbbbbb	'clear' the name : return to 'RoomNumber'
6	unused	8	bbbbbbbb	for compatibility reason.
7	unused	2	bb	for compatibility reason.
8	set language	1	1 to 4	room set language (one of the 4 languages of the OmniPCX Office)
			0	'no change'
9	unused	4	bbbb	for compatibility reason.
10	passw ord	4	0000 to 9999	room set password (bbbb = no password proposed)
			bbbb	'no change'
11	barring category	2	00 to 03	new choice
			bb	'no change'
12	deposit	9	0.0000000 to 99999999.	force this value
			+.0000000 to +9999999.	add this value to the current deposit
			-.0000000 to -9999999.	subtract this value to the current deposit
			bbbbbbbbbb	'no change'
13	message waiting	1	b	'no change'
			1	message(s) waiting at the front desk
			0	no message waiting at the front desk
14	wake-up time	4	00 00 to 23 59	wake-up time hour (2 char.) and minutes(2 char.)
			bbbb	'no change'
15	wake-up action	1	b	program wake-up or 'no change'
			0	cancel wake-up
16	do not disturb	1	0	clear DND and forwarding
			2	set room extension in DND
			1	forward room extension to voice mail
			b	'no change'
17	CRC	2	XOR fields 2 to 16	control characters
18	ETX	1	'0x03'	end of text
Total length msg		61		

Possible cause of 'Modification' reject, the modification message will be refused by a 'reply' in case of:

- Invalid room extension number (out of range)
- Room not checked-in
- Invalid or unavailable guest password
- A PBX doesn't answer response due to bad hostname, unreachable system, wrong password or OmniPCX Office PCMan connection busy (PM5, MMC, 4760...).

8.5 Check-out

8.5.1 Message format

Field	Length (bytes)	Value	Comments
1 STX	1	'0x02'	start of text
2 type	1	D	guest Departure (check-out) message
3 room extension	8	bbbbbb0 to 99999999	room set extension
4 CRC	2	XOR fields 2 to 3	control characters
5 ETX	1	'0x03'	end of text
Total length msg	13		

If the room extension is busy with an external outgoing call, when the Hotel Driver resets the pre-payment value, depending on the PBX configuration the call will be immediately cut or not. No indication is given to the Hotel Application: *Reply* message (parameters = "Ob").

On checkout the following elements are set:

- Room State: Free
- Room clean status:Unclean
- Voice Mailbox: Content erased
- Personal code: Reset
- Wakeup call request: Disabled
- Do Not Disturb: Disabled
- Guest Name: set to "RoomNumber"
- Allocated DDI: Free

Possible cause of 'Check-out' reject, the checked-out message will be refused by a 'reply' in case of:

- Invalid room extension number (out of range)
- Room not checked-in
- A PBX doesn't answer response due to bad hostname, unreachable system, wrong password or OmniPCX Office PCMan connection busy (PM5, MMC, 4760...).

8.6 Interrogation

The hotel Application uses this command to request guest telephone accounts.

8.6.1 Message format

Field	Length (bytes)	Value	Comments
1 STX	1	'0x02'	start of text
2 type	1	I	Interrogation message
3 room extension	8	bbbbbb0 to 99999999	room set extension
4 CRC	2	XOR fields 2 to 3	control characters
5 ETX	1	'0x03'	end of text
Total length msg	13		

8.7 Data transfer

Not used in OmniPCX Office or OXO Connect.

8.8 Night audit request

Not used in OmniPCX Office or OXO Connect.

8.9 Re-initialization request

8.9.1 Message format

Field	Length (bytes)	Value	Comments	
1	STX	1	'0x02'	start of text
2	type	1	Z	Re-Initialization message
3	room extension	8	bbbbbbb0 to 99999999	to have a specific room state
			bbbbbbb	to have all check-in room state
4	initialization type	1	F	full guest data are required
			P	partial guest data are required
5	CRC	2	XOR fields 2 to 4	control characters
6	ETX	1	'0x03'	end of text
Total length msg		14		

The Hotel Application can ask the PABX to send all the data it has on a specific guest or on every checked-in guests/extensions.

The Re-initialization request is mandatory, otherwise de-synchronization between the computer and the PABX occurs, the Hotel Application must use this command to retrieve the PABX guest room database information, then modify the de-synchronized information. It must avoid sending a succession of "Check-out" then "Check-in" commands.

The computer must wait up to the end of the database re-initialization (reception of a *re-initialization* message with a *sub-type* value 'E' (End) for full data, and 'O' for partial data), before sending any new command.

Possible cause of 'Check-out' reject, the checked-out message will be refused by a 'reply' in case of:

- Invalid room extension number (out of range) (in case of specific room state re-initialization request)
- A PBX doesn't answer response due to bad hostname, unreachable system, wrong password or OmniPCX Office PCMan connection busy (PM5, MMC, 4760...).

8.10 Dynamic suite

Not used in OmniPCX Office or OXO Connect.

8.11 Message acknowledgement

1 character ACK or NACK.

8.12 Control characters

1 character XON or XOFF.

9 New messages for support of 6 digits password

9.1 Messages sent from Hotel driver to Hotel Application

9.1.1 Check-in message format with six bytes password length

The new message introduced is similar to the existing check-in message except, change in 'type' value and change in length of password field

Field	Length (bytes)	Value	Comments	
1	STX	1	'0x02'	start of text
2	type	1	B	guest Arrival (Check-In) message
3	room extension	8	bbbbbb0 to 9999999	room set extension
4	unused	1	b	for compatibility reason.
5	guest name	10	NNNNNNNNNN	N = ISO latin character see Annex.
6	unused	8	bbbbbb	for compatibility reason.
7	unused	2	bb	for compatibility reason.
8	set language	1	1 to 4	room set language (one of the 4 languages of the OmniPCX Office)
9	unused	4	bbbb	for compatibility reason.
10	password	6	bb0000 to bb9999	room set four digit password (bbbbbb = no password proposed)
			000000 to 999999	room set six digit password (bbbbbb = no password proposed)
11	barring category	2	00	no outgoing calls authorized
			01	only local calls authorized
			02	only local and national calls authorized
			03	all outgoing calls authorized
12	deposit	9	0.0000000 to 99999999.	deposit value: 8 characters plus one floating point.
			bbbbbb	no pre-payment
13	message waiting	1	b	no change
			1	message(s) waiting at the front desk
			0	no message waiting at the front desk
14	wake-up time	4	00 00 to 23 59	wake-up time hour (2 char.) and minutes(2 char.)
			bbbb	no wake-up programmed
15	wake-up action	1	b	not used
16	do not disturb	1	0	clear DND and forwarding
			2	set room extension in DND
			1	forward room extension to voice mail
17	CRC	2	XOR fields 2 to 16	control characters
18	ETX	1	'0x03'	end of text
Total length msg		63		

9.1.2 Modification message format with six bytes password length

The new message introduced is similar to the existing Modification message except, change in 'type' value and change in length of password field.

Field	Length (bytes)	Value	Comments	
1	STX	1	'0x02'	start of text
2	type	1	N	Modification message
3	room extension	8	bbbbbbb0 to 99999999	room set extension
4	unused	1	b	for compatibility reason.
5	guest name	10	NNNNNNNNNN	N = ISO latin character see Annex.
			000000000	'no change'
			bbbbbbbbbb	'clear' the name : return to 'RoomNumber'
6	DDI number	8	bbbbbbb to 99999999	DDI number (bbbbbbb = no DDI number)
7	unused	2	bb	for compatibility reason.
8	set language	1	1 to 4	room set language (one of the 4 languages of the OmniPCX Office)
			0	'no change'
9	unused	4	bbbb	for compatibility reason.
10	password	6	bb0000 to bb9999	room set four digit password (bbbbbb = no password proposed)
			000000 to 999999	room set six digit password (bbbbbb = no password proposed)
11	barring category	2	00 to 03	new choice
			bb	'no change'
12	deposit	9	0.0000000 to 99999999.	remaining deposit (balance)
			bbbbbbbbbb	no pre-payment
13	message waiting	1	b	'no change'
			1	message(s) waiting at the front desk
			0	no message waiting at the front desk
14	wake-up time	4	00 00 to 23 59	wake-up time hour (2 char.) and minutes(2 char.)
			bbbb	'no change'
15	wake-up action	1	b	program wake-up or 'no change'
			0	cancel wake-up
16	do not disturb	1	0	clear DND and forwarding
			2	set room extension in DND
			1	forward room extension to voice mail
			b	'no change'
17	CRC	2	XOR fields 2 to 16	control characters
18	ETX	1	'0x03'	end of text
Total length msg		63		

The deposit field corresponds to the remaining deposit (balance).

9.1.3 Full re-initialization message format with six bytes password length

The new message introduced is similar to the existing Full re-initialization message except, change in 'type' value and change in length of password field.

Field	Length (bytes)	Value	Comments	
1	STX	1	'0x02'	start of text
2	type	1	V	re-initialization answer message
3	room extension	8	bbbbbbb0 to 99999999	room set extension
4	sub-type	1	F	Full re-initialization on going
			E	End of re-initialization (last message, or only message)
5	DDI number	8	bbbbbbb to 99999999	DDI number (bbbbbbb = no DDI number)
6	unused	1	b	for compatibility reason.
7	guest name	10	NNNNNNNNNN	programmed name.
8	unused	8	bbbbbbb	for compatibility reason.
9	unused	2	bb	for compatibility reason.
10	set language	1	1 to 4	room set language (one of the 4 languages of the OmniPCX Office)
11	unused	4	bbbb	for compatibility reason.
12	password	6	bb0000 to bb9999	room set four digit password
			000000 to 999999	room set six digit password
13	barring category	2	00 to 03	barring value
14	deposit	9	0.000000 to 99999999.	remaining deposit (balance)
			bbbbbbbb	no pre-payment
15	message waiting	1	0	no message waiting at the front desk
			1	message(s) waiting at the front desk
16	wake-up time	4	00 00 to 23 59	wake-up time hour (2 char.) and minutes(2 char.)
			bbbb	no wake-up programmed
17	wake-up action	1	b	unused
18	do not disturb	1	0	no DND and forwarding programmed
			2	set room extension in DND
			1	forward room extension to voice mail
19	unused	1	b	for compatibility reason.
20	unused	1	b	for compatibility reason.
21	unused	4	bbbb	for compatibility reason.
22	unused	5	bbbbbb	for compatibility reason.
23	status	1	1 or 2	1 the room has been cleaned and is ready 2 the room must be cleaned
24	problem code	3	000 to 999	The problem code of the room : the PBX transmits the digits dialed by the maid without any interpretation. (000 means no problem).
25	unused	11	bbbbbbbbbb	for compatibility reason.
25	CRC	2	XOR fields 2 to 23	control characters
26	ETX	1	'0x03'	end of text
Total length msg		98		

The deposit field corresponds to the remaining deposit (balance).

If there is are no guests checked-in, the *room number* is set to blanks and the *sub-type* to 'E'.

Sub-type E:

- If you have 3 guests checked-in: you will received 2 messages with sub-type "F" and the last message with sub-type "E";

- If you have only one guest checked-in: you will received only message with sub-type “E”;
- If you have no guest checked-in: you will received only message with sub-type “E”;

9.1.4 Partial re-initialization message format with six bytes password length

The new message introduced is similar to the existing Partial re-initialization message except, change in ‘type’ value and change in length of password field.

Field	Length (bytes)	Value	Comments
1 STX	1	'0x02'	start of text
2 type	1	V	re-initialization answer message
3 room extension	8	bbbbbb0 to 9999999	room set extension
4 sub-type	1	P	Partial re-initialization on going
		O	End of re-initialization (last message, or only message)
5 DDI number	8	bbbbbbb to 9999999	DDI number (bbbbbbb = no DDI number)
6 password	6	bb0000 to bb9999	room set four digit password password
		000000 to 999999	room set six digit password password
7 CRC	2	XOR fields 2 to 6	control characters
8 ETX	1	'0x03'	end of text
Total length msg	28		

If there are no guests checked-in, the *room number* is set to blanks and the *sub-type* to ‘O’.

sub-type ‘O’:

- If you have 3 guests checked-in: you will received 2 messages with sub-type “P” and the last message with sub-type “O”;
- If you have only one guest checked-in: you will received only message with sub-type “O”;
- If you have no guest checked-in: you will received only message with sub-type “O”;

Between the message “re-init request” and the last message “guest data-base reinit” (sub-type “O”) the application has to wait: no other message can be sent.

9.1.5 Reply Message format with six bytes password length

The message is similar to existing Rely message except, change in 'type' value and change in length of the password field.

Field	Length (bytes)	Value	Comments	
1	STX	1	'0x02'	start of text
2	type	1	S	Reply (message type)
3	room extension	8	bbbbbb0 to 9999999	room set extension
4	password	6	bb0000 to bb9999	room set with four digit password
			000000 to 999999	room set with six digit password
5	action	1	I J O P M N A B Q R T	Check In accepted Check In refused Check Out accepted Check Out refused Modification accepted Modification refused Phone Allocation accepted Phone Allocation refused Interrogation accepted Interrogation refused Re-initialisation refused
6	reason	1	A G O R U M J K Q T	Room already allocated or Room not allocated Invalid number Room set out of service Invalid room extension number (not used) Unavailable room extension Not consulted message (in mailbox or at message desk): Non available feature, messages are deleted on Check Out Non available feature Wrong message Unreachable database (the PBX doesn't answer) Other
7	CRC	2	XOR fields 2 to 6	control characters
8	ETX	1	'0x03'	end of text
Total length msg		21		

9.2 Messages sent from Hotel Application to Hotel driver

9.2.1 Check-in message format with six bytes password length

The message is similar to existing check-in message except, change in message 'type' value and change in password field length.

Field	Length (bytes)	Value	Comments	
1	STX	1	'0x02'	start of text
2	type	1	B	guest Arrival (Check-In) message
3	room extension	8	bbbbbb0 to 9999999	room set extension
4	unused	1	b	for compatibility reason.
5	guest name	10	NNNNNNNNNN	N = ISO latin character see Annex.
6	unused	8	bbbbbb	for compatibility reason.
7	unused	2	bb	for compatibility reason.
8	set language	1	1 to 4	room set language (one of the 4 languages of the OmniPCX Office)
9	unused	4	bbbb	for compatibility reason.
10	password	6	bb0000 to bb9999	room set four digit password with (bbbb = no password proposed)
			000000 to 999999	room set six digit password (bbbbbb = no password proposed)
11	barring category	2	00	no outgoing calls authorized
			01	only local calls authorized
			02	only local and national calls authorized
			03	all outgoing calls authorized
12	deposit	9	0.0000000 to 99999999.	deposit value: 8 characters plus one floating point.
			bbbbbb	no pre-payment
13	message waiting	1	b	no change
			1	message(s) waiting at the front desk
			0	no message waiting at the front desk
14	wake-up time	4	00 00 to 23 59	wake-up time hour (2 char.) and minutes(2 char.)
			bbbb	no wake-up programmed
15	wake-up action	1	b	not used
16	do not disturb	1	0	clear DND and forwarding
			2	set room extension in DND
			1	forward room extension to voice mail
17	CRC	2	XOR fields 2 to 16	control characters
18	ETX	1	'0x03'	end of text
Total length msg		63		

Deposit, on OmniPCX Office only fixed deposit available. If a floating-point deposit is transmitting, the floating part will not be taking into account.

Possible cause of 'Check-in' reject, the check-in message will be refused by a 'reply' in case of:

- Invalid room extension number (out of range)
- Room already checked-in
- A PBX doesn't answer response due to bad hostname, unreachable system, wrong password or OmniPCX Office PCMan connection busy (PM5, MMC, 4760...).

9.2.2 Modification message format with six bytes password length

The message is similar to existing Modification message except, change in message 'type' value and change in password field length.

Field	Length (bytes)	Value	Comments	
1	STX	1	'0x02'	start of text
2	type	1	N	Modification message
3	room extension	8	bbbbbb0 to 9999999	room set extension
4	unused	1	b	for compatibility reason.
5	guest name	10	NNNNNNNNNN	N = ISO latin character see Annex.
			00000000	'no change'
			bbbbbbbbbb	'clear' the name : return to 'RoomNumber'
6	DDI number	8	bbbbbbb to 9999999	DDI number (bbbbbbb = no DDI number)
7	unused	2	bb	for compatibility reason.
8	set language	1	1 to 4	room set language (one of the 4 languages of the OmniPCX Office)
			0	'no change'
9	unused	4	bbbb	for compatibility reason.
10	password	6	bb0000 to bb9999	room set four digit password (bbbbbb = no password proposed)
			000000 to 999999	room set six digit password (bbbbbb = no password proposed)
11	barring category	2	00 to 03	new choice
			bb	'no change'
12	deposit	9	0.000000 to 9999999.	remaining deposit (balance)
			bbbbbbbbbb	no pre-payment
13	message waiting	1	b	'no change'
			1	message(s) waiting at the front desk
			0	no message waiting at the front desk
14	wake-up time	4	00 00 to 23 59	wake-up time hour (2 char.) and minutes(2 char.)
			bbbb	'no change'
15	wake-up action	1	b	program wake-up or 'no change'
			0	cancel wake-up
16	do not disturb	1	0	clear DND and forwarding
			2	set room extension in DND
			1	forward room extension to voice mail
			b	'no change'
17	CRC	2	XOR fields 2 to 16	control characters
18	ETX	1	'0x03'	end of text
Total length msg		63		

Possible cause of 'Modification' reject, the modification message will be refused by a 'reply' in case of:

- Invalid room extension number (out of range)
- Room not checked-in
- Invalid or unavailable guest password
- A PBX doesn't answer response due to bad hostname, unreachable system, wrong password or OmniPCX Office PCMan connection busy (PM5, MMC, 4760...).

10 New Messages for Group Name Configuration and Room Barring

10.1 Messages sent from Hotel driver to Hotel Application

10.1.1 Room Barring

This message is sent to the Hotel Application after request to get the Group Name configured for the guest room.

	Field	Length (bytes)	Value	Comments
1	STX	1	'0x02'	start of text
2	type	1	G	Room barring message
3	room extension	8	bbbbbb0 to 99999999	room set extension
4	sub-type	1	D	Group name Programmed
5	group name	8	NNNNNNNN	N = ISO latin character see Annex.
6	CRC	2	XOR fields 2 to 5	control characters
7	ETX	1	'0x03'	end of text
	Total length msg	22		

A Room barring message request is sent by the application to the driver to request to assign group name to guest room (6.2.1). This Room barring message (6.1.1) is the answer (and the acknowledgement): it gives the group name; the sub-type is here always and only "D".

10.1.2 Full re-initialization message format with group name

The new message introduced is similar to the existing Full re-initialization message except, a new "group name" parameter is added for a guest room.

Field		Length (bytes)	Value	Comments
1	STX	1	'0x02'	start of text
2	type	1	W	re-initialization answer message
3	room extension	8	bbbbbb0 to 99999999	room set extension
4	sub-type	1	F	Full re-initialization on going
			E	End of re-initialization (last message, or only message)
5	DDI number	8	bbbbbbb to 99999999	DDI number (bbbbbbb = no DDI number)
6	unused	1	b	for compatibility reason.
7	guest name	10	NNNNNNNNNN	programmed name.
8	group name	8	NNNNNNNN	programmed group name.
9	unused	2	bb	for compatibility reason.
10	set language	1	1 to 4	room set language (one of the 4 languages of the OXO Connect)
11	unused	4	bbbb	for compatibility reason.
12	password	6	bb0000 to bb9999	room set four digit password
			000000 to 999999	room set six digit password
13	barring	2	00 to 03	barring value
14	categorydeposit	9	0.0000000 to 99999999.	remaining deposit (balance)
			bbbbbbbbb	no pre-payment
15	message waiting	1	0	no message waiting at the front desk
			1	message(s) waiting at the front desk
16	wake-up time	4	00 00 to 23 59	wake-up time hour (2 char.) and minutes(2 char.)
			bbbb	no wake-up programmed
17	wake-up action	1	b	unused
18	do not disturb	1	0	no DND and forwarding programmed
			2	set room extension in DND
			1	forward room extension to voice mail
18	unused	1	b	for compatibility reason.
19	unused	1	b	for compatibility reason.
20	unused	4	bbbb	for compatibility reason.
21	unused	5	bbbbb	for compatibility reason.
22	status	1	1 or 2	1 the room has been cleaned and is ready 2 the room must be cleaned
23	problem code	3	000 to 999	The problem code of the room : the PBX transmits the digits dialed by the maid without any interpretation. (000 means no problem).
24	unused	11	bbbbbbbbbbb	for compatibility reason.
25	CRC	2	XOR fields 2 to 23	control characters
26	ETX	1	'0x03'	end of text
Total length msg		98		

The deposit field corresponds to the remaining deposit (balance). If there are no guests checked-in, the room number is set to blanks and the sub-type to 'E'.

Sub-type **E**:

- If you have 3 guests checked-in: you will receive 2 messages with sub-type "F" and the last message with sub-type "E";
- If you have only one guest checked-in: you will receive only message with sub-type "E";
- If you have no guest checked-in: you will receive only message with sub-type "E";

1.1 Messages sent from Hotel Application to Hotel driver

This message is sent by the Hotel Application to request or to program group name to the guest room.

10.1.3 Room Barring

Field	Length (bytes)	Value	Comments	
1	STX	1	'0x02'	start of text
2	type	1	G	Room barring message
3	room extension	8	bbbbbb0 to 99999999	room set extension
4	sub-type	1	I	Group name information (to read an already allocated group name)
			D	Group name Programming (number in field 5)
5	group name	8	NNNNNNNN	N = ISO latin character see Annex.
			00000000	'no change'
			bbbbbb	'Clear name' set to default group name
6	CRC	2	XOR fields 2 to 5	control characters
7	ETX	1	'0x03'	end of text
Total length msg		22		

Possible cause of 'Room Barring' reject, the 'Room Barring' message will be refused by a 'reply' in case of:

- Invalid room extension number (out of range)
- A PBX doesn't answer response due to bad hostname, unreachable system, or OXO Connect PCMan connection busy (PM5, MMC, 4760...).

10.1.4 Re-initialization request

In the existing Re-Initialization request message, a new initialization type "G" is added in order to request the driver for new Full-Reinitialization message that contains the group name of the guest room.

Field	Length (bytes)	Value	Comments	
1	STX	1	'0x02'	start of text
2	type	1	Z	Re-Initialization message
3	room extension	8	bbbbbb0 to 99999999	to have a specific room state
			bbbbbb	to have all check-in room state
4	initialization type	1	F	full guest data are required
			P	partial guest data are required
			G	full guest data along with group name required
5	CRC	2	XOR fields 2 to 4	control characters
6	ETX	1	'0x03'	end of text
Total length msg		14		

The Hotel Application can ask the PABX to send all the data it has on a specific guest or on every checked-in guests/extensions.

The Re-initialization request is mandatory, otherwise de-synchronization between the computer and the PABX occurs, the Hotel Application must use this command to retrieve the PABX guest room database information, then modify the de-synchronized information. It must avoid sending a succession of "Check-out" then "Check-in" commands.

The computer must wait up to the end of the database re-initialization (reception of a re-initialization message with a sub-type value 'E' (End) for full data, and 'O' for partial data), before sending any new command.

Possible cause of 'Re-Init' reject: the message will be refused by a 'reply' in case of:

- Invalid number (out of range) (in case of specific room state re-initialization request)
- A PBX doesn't answer response due to bad hostname, unreachable system, wrong password or OXO Connect PCMan connection busy (PM5, MMC, 4760...).

11 Appendix A: Example of CRC calculation

For the following message:

#	1	2	3	4	5	6	7	8	9	10
Value	'STX'	D	b	3	9	5	6	crc1	crc2	'ETX'

The CRC is calculated from field 2 to field 7.

6Dh is the result of XOR calculation on the following bytes: 44h(D), 20h(b), 33h, 39h, 35h, 36h.

```


0100 0100 XOR 0010 0000 = 0110 0100 (44h XOR 20h = 64h)
0110 0100 XOR 0011 0011 = 0101 0111 (64h XOR 33h = 57h)
0101 0111 XOR 0011 1001 = 0110 1110 (57h XOR 39h = 6Eh)
0110 1110 XOR 0011 0101 = 0101 1011 (6Eh XOR 35h = 5Bh)
0101 1011 XOR 0011 0110 = 0110 1101 (5Bh XOR 36h = 6Dh)

```

This result is then split into the 2 two ASCII characters **6** (36h) and **D** (44h).

12 Appendix B: ISO 8859-1 (or iso latin-1) character set

	x0	x1	x2	x3	x4	x5	x6	x7	x8	x9	xA	xB	xC	xD	xE	xF
0x																
1x																
2x	SP	!	"	#	\$	%	&	'	()	*	+	,	-	.	/
3x	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
4x	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
5x	P	Q	R	S	T	U	V	W	X	Y	Z	[\]	^	_
6x	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
7x	p	q	r	s	t	u	v	w	x	y	z	{		}	~	
8x																
9x																
Ax	NBSP	ı	¢	£	¤	¥	¦	§	¨	©	ª	«	¬	-	®	¯
Bx	°	±	²	³	´	µ	¶	·	¸	¹	º	»	¼	½	¾	¿
Cx	À	Á	Â	Ã	Ä	Å	Æ	Ç	È	É	Ê	Ë	Ì	Í	Î	Ï
Dx	Ð	Ñ	Ò	Ó	Ô	Õ	Ö	×	Ø	Ù	Ú	Û	Ü	Ý	Þ	ß
Ex	à	á	â	ã	ä	å	æ	ç	è	é	ê	ë	ì	í	î	ï
Fx	ð	ñ	ò	ó	ô	õ	ö	÷	ø	ù	ú	û	ü	ý	þ	ÿ

 Characters not available on OmniPCX Office Reflexes™ sets.
They have to be replaced with a character as close as possible

- End Of Document -