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# Bonwin Wireless Network Lock System Interface Protocol for 3<sup>rd</sup> Party

The interface is divided into two parts. 3<sup>rd</sup> party software should complete the 1<sup>st</sup> part, and then notify card operation info. to system service program by using 2<sup>nd</sup> part. PMS software should execute the interface of “read & write card” part when doing the reception. If succeed, need use “card issuance” or “card logout” communication interface to inform “Bonwin wireless network lock system” of guest info, in order to realize remote unlocking and remote look-up, etc.

## PART 1 “read & write card” part

### A. BW893 card-writing bw893\_wrkey

```
int bw893_wrkey(unsigned char f_sec,unsigned char *crdinfo,unsigned char *rooms);
```

**Function:** Function of making key card. Sector is optional to support one card for multi-room, including room card A, room card B, staff card, VIP card, logout card.

**Parameter: f\_sec** Lock type and sector No.(1-15) info 1 byte, msb nibble lock type code, lsb nibble sector No. eg. BW893 standard sector 15, lock type code is 0, then f\_sec=0x0F namely 15; if BW8938 standard sector 15, lock type code is 1, then f\_sec=0x1F namely 31;

**crdinfo input: card info** crdinfo=card type (2 characters, room card A='C4', room card B='C5', staff card='15', logout card='00', VIP card='31') + expiry date(10 characters=year 2 month 2 day 2 hour 2 min 2)+ start period(4 characters =hour 2 min 2)+ end period(4 characters =hour 2 min 2)+ card issuance time (10 characters=year 2 month 2 day 2 hour 2 min 2);

- ※ room card A/B don't care start period and end period, so all characters are 0
- ※ staff card doesn't care card issuance time, so all characters are 0

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- ※ **logout card data is all 0**
  - ※ **VIP card doesn't care all data behind card type, so all are 0**

**crdinfo output:** 8 characters HE physical card No.

**rooms** room info. rooms=room QTY (1 character room QTY no more than 8) + room code 1 (6 characters) + room code 2 (6 characters) + ... ++ room code 8 (6 characters)

- ※ If room QTY=0, function is directly written to logout card
- ※ Room code with reference to room list in lock software (building 2 characters; floor 2 characters; room 2 characters)
- ※ VIP card doesn't care room QTY, all variable are 0

**Return:** if succeed, return 0

## **B. BW893 card-reading bw893\_rdkey**

```
int bw893_rdkey(unsigned char f_sec,unsigned char *crdinfo,unsigned char *rooms);
```

**Function:** Function of reading key card Sector is optional to support one card for multi-room, including room card A, room card B, staff card, VIP card, logout card.

**Parameter:** **f\_sec** Lock type and sector No.(1-15) info 1 byte, msb nibble lock type code, lsb nibble sector No. eg. bw423/623 standard sector 15, lock type code is 0, then f\_sec=0x0F namely 15; if bw4238/6238 standard sector 15, lock type code is 1, then f\_sec=0x1F namely 31;

**crdinfo** input: crdinfo=blank (open 100-character space)

**crdinfo** output: crdinfo=card type(2 characters, room card A='C4', room card B='C5', staff card='15')+ expiry date(10 characters=year 2 month 2 day 2 hour 2 min 2)+ start period(4 characters=hour 2 min 2)+end period(4 characters= hour 2 min 2)+card issuance time (10 characters= year 2 month 2 day 2 hour 2 min 2)+ physical card No. (8 characters HEX);

- ※ **room card A/B don't care start period and end period, so function returns to 0**
- ※ **staff card doesn't care card issuance time, so function returns to 0**

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※ **VIP card doesn't care all data behind card type, so function returns to 0**

**rooms** output: room info. rooms=room QTY (1 character room QTY no more than 8) + room code 1 (6 characters) + room code 2 (6 characters) + ... ++ room code 8 (6 characters)

※ **crdinfo/ rooms memory length is no less than 100 bytes**

※ **VIP card basic variable returns to '0'**

**Return:** if succeed, return 0

## PART 2 Communication part

### A. real-time interface implementation mechanism

- **Communication mode: Web Services**
- **Communication protocol: HTTP**
- **Interface name: WLNINTER**
- **MD5 encryption key: BWHISITF**
- **Business categories: card issuance, card cancellation, lock control, lock control result look-up**

### B. Message header definition

Node name	parentNode name	constraint	type	length	Description	
SVCHEAD	SVCINTER	1				
BIPCODE	SVCHEAD	1	String	F2	Biz function code	with reference to chapter for each interface
OPCARD	SVCHEAD	1	String	F8	card No.	VIP card or opening door card No.
PROCID	SVCHEAD	1	String	F3	Initiator biz running number	Ask initiator to fill in the biz running number (max 255, circulation starts from 1 )

						Different operation running number of each biz can be accumulated.
PROCESSTIME	SVCHEAD	1	String	F15	Processing time	YYMMDDHHMISSZZZ This field in the request is filled in by initiator, with content about initiator processing time This field in the response is filled in by responder, with content about responder processing time
SIGN	SVCHEAD	1	String	F14	Certification string	MD5 (biz function code + card No. + initiator biz running number + processing time + KEY)

### C. Specific biz interface definition

#### 1. Card Issuance

- Biz description: registration of person info. and permission
- Transaction attributes

allowed to use original transaction running number to retransmit or not	0: not allowed
Initiator	3 <sup>rd</sup> party management system
Recipient	Server
Biz function code	01

- Request message:

Node name	parentNode name	constraint	type	length	Description
SVCCONT	SVCINTER	1			
TRADECODE	SVCCONT	1	String	F2	Card type: 00 VIP card; 01 guest card A; 02 guest card B; 03 staff card; 04 3 <sup>rd</sup> party card
ROOMCODE	SVCCONT	1	String	V20	room name (with reference to room name in lock software)
CUSNAME	SVCCONT	1	String	V20	Person name
CUSCODE	SVCCONT	?	String	V20	ID number

INTIME	SVCCONT	1	String	F12	Valid time from YYMMDDHHNNS (160101100000)
OUTTIME	SVCCONT	1	String	F12	Valid time to YYMMDDHHNNS (160101120000)

■ Response message:

Node name	parentNode name	constraint	type	length	Description
SVCCONT	SVCINTER	1			
RESPCODE	SVCCONT	1	String	F2	operation return code

## 2. Card cancellation

■ Biz description: cancellation of person info. and permission

■ Transaction attributes

allowed to use original transaction running number to retransmit or not	1: allowed
Initiator	3 <sup>rd</sup> party management system
Recipient	Server
Biz function code	02

■ Request message:

Node name	parentNode name	constraint	type	length	Description
SVCCONT	SVCINTER	1			
TRADECODE	SVCCONT	1	String	F2	Card type: 0 VIP card; 1 guest card A; 2 guest card B; 3 staff card
ROOMCODE	SVCCONT	1	String	V20	room name (with reference to room name in lock software)

■ Response message:

Node name	parentNode name	constraint	type	length	Description
SVCCONT	SVCINTER	1			

RESPCODE	SVCCONT	1	String	F2	operation return code
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### 3. Lock control

- Biz description: remote unlocking
- Transaction attributes

allowed to use original transaction running number to retransmit or not	1: allowed
Initiator	3 <sup>rd</sup> party management system
Recipient	Server
Biz function code	03

- Request message:

Node name	parentNode name	constraint	type	length	Description
SVCCONT	SVCINTER	1			
ROOMCODE	SVCCONT	1	String	V20	room name (with reference to room name in lock software)

- Response message:

Node name	parentNode name	constraint	type	length	Description
SVCCONT	SVCINTER	1			
RESPCODE	SVCCONT	1	String	F2	operation return code

### 4. Lock control result look-up

- Biz description: look up the remote unlocking result according to time responded by remote unlocking biz.
- Transaction attributes

allowed to use original transaction running number to retransmit or not	1: allowed
Initiator	3 <sup>rd</sup> party management system

Recipient	Server
Biz function code	04

■ Request message:

Node name	parentNode name	constraint	type	length	Description
SVCCONT	SVCINTER	1			
ROOMCODE	SVCCONT	1	String	V20	room name (with reference to room name in lock software)
SVRBTIME	SVCCONT	1	String	F15	YYMMDDHHMISSZZZ Processing time responded by server after applying for remote unlocking. As per the time, server can look up the latest one unlocking record, whether it is unlocked successfully.

■ Response message:

Node name	parentNode name	constraint	type	length	Description
SVCCONT	SVCINTER	1			
RESPCODE	SVCCONT	1	String	F2	operation return code
OPENBAKCODE	SVCCONT	?	String	F2	remote unlocking return code

**D. List of operation return info.**

Code	Description
00	succeed
01	fail
02	illegal data
03	room or record not exist
04	card No. incorrect or no permission

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**E. Remote unlocking return code**

0	succeed
1	fail
2	receive timeout (or command string length is not enough)
3	received command string verification error
4	command format error
5	password error
6	record is blank
7	other errors

**F. Data and length constraint**

symbol	Meaning
?	optional
1	only 1 item must be filled in
Fx	data is fixed in length, x bits
Vx	data is variable in length, max x bits