

Table of Contents

User Management API 1

Structure 1

BS2User 1

BS2UserSetting 2

BS2UserPhoto 3

BS2UserBlob 4

BS2Job 5

BS2UserBlobEx 5

User Management API

API that provides functions to enroll and delete users.

- [BS2_GetUserList](#): Gets the enrolled user ID list.
- [BS2_GetUserInfos](#): Gets the user information of the given user ID.
- [BS2_EnrolUser](#): Enrolls new user.
- [BS2_RemoveUser](#): Deletes user.
- [BS2_RemoveAllUser](#): Deletes all users.
- [BS2_GetUserInfosEx](#): Gets the user information of the given user ID. (Applies only for v2.4 FW group or above, including Job code and User phrase)
- [BS2_EnrolUserEx](#): Enrolls new user. (Applies only for v2.4 FW group or above, including Job code and User phrase)

Structure

BS2User

```
typedef struct {  
    char userID[BS2_USER_ID_SIZE];  
    uint8_t formatVersion;  
    uint8_t flag;  
    uint16_t version;  
    uint8_t numCards;  
    uint8_t numFingers;  
    uint8_t numFaces;  
    uint8_t reserved2[1];  
    uint32_t authGroupID;  
    uint32_t faceChecksum;  
} BS2User;
```

1. *userID*

User ID provided as string, and has a range of 1 ~ 4294967295.

2. *formatVersion*

Not Used.

3. *flag*

Flag that shows the user's status. OR operation is available and the mask value is listed below.

| Value | Description |
|-------|---------------|
| 0x00 | None |
| 0x01 | User enrolled |
| 0x02 | User updated |
| 0x04 | User deleted |
| 0x80 | User disabled |

4. version

Not Used.

5. numCards

Number of cards mapped to user.

6. numFingers

Number of fingerprint templates mapped to user.

7. numFaces

Number of face templates mapped to user.

8. authGroupID

ID of group when face group matching is enabled.

9. faceChecksum

Not Used.

BS2UserSetting

```
typedef struct {  
    uint32_t startTime;  
    uint32_t endTime;  
    uint8_t fingerAuthMode;  
    uint8_t cardAuthMode;  
    uint8_t idAuthMode;  
    uint8_t securityLevel;  
} BS2UserSetting;
```

1. startTime

Start time that a user can identify. When the value is 0, there are no limitations.

2. endTime

End time that that a user can identify. When the value is 0, there are no limitations.

3. fingerAuthMode

Finger authentication mode for user authentication.

| Value | Description |
|-------|--|
| 0 | Uses only fingerprint authentication |
| 1 | Uses fingerprint and PIN authentication |
| 254 | Cannot use |
| 255 | Undefined(Operates as defined in system) |

4. cardAuthMode

Card authentication mode for user authentication.

| Value | Description |
|-------|---|
| 2 | Uses only card authentication |
| 3 | Uses card and fingerprint authentication |
| 4 | Uses card and PIN authentication |
| 5 | Uses fingerprint or PIN after card authentication |
| 6 | Uses card, fingerprint, and PIN authentication |
| 254 | Cannot use |
| 255 | Undefined(Operates as defined in system) |

5. *idAuthMode*

ID authentication mode for user authentication.

| Value | Description |
|-------|--|
| 7 | Uses fingerprint authentication after entering user ID |
| 8 | Uses PIN authentication after entering user ID |
| 9 | Uses fingerprint or PIN authentication after entering user ID |
| 10 | Uses fingerprint and PIN authentication after entering user ID |
| 254 | Cannot use |
| 255 | Undefined(Operates as defined in system) |

6. *securityLevel*

Security level for fingerprint identification or face recognition.

| Value | Description |
|-------|---------------------------------|
| 0 | Default value defined in system |
| 1 | Lowest security level |
| 2 | Low security level |
| 3 | Normal security level |
| 4 | High security level |
| 5 | Highest security level |

BS2UserPhoto

```
typedef struct {  
    uint32_t size;  
    uint8_t data[BS2_USER_PHOTO_SIZE];  
} BS2UserPhoto;
```

1. *size*

Size of the user profile image data.

2. *data*

Data of the profile image, which can be stored up to 16kb.

BS2UserBlob

```
typedef struct {
    BS2User user;
    BS2UserSetting setting;
    uint8_t name[BS2_USER_NAME_SIZE];
    BS2UserPhoto photo;
    uint8_t pin[BS2_PIN_HASH_SIZE];
    BS2CSNCard* cardObjs;
    BS2Fingerprint* fingerObjs;
    BS2Face* faceObjs;
    uint32_t accessGroupId[BS2_MAX_NUM_OF_ACCESS_GROUP_PER_USER];
} BS2UserBlob;
```

1. *user*

Structure that defines the basic user information.

2. *setting*

Structure that defines the configuration value for user identification.

3. *name*

User name having UTF-8 for string encoding.

4. *photo*

User profile image, which supports only Jpeg images.

5. *pin*

Personal Identification Number(PIN). It should be entered through *BS_MakePinCode* function.

6. *cardObjs*

Card list for user authentication that needs to exist as much as **user.numCards**. Refer to [Smartcard API](#) for data format.

7. *fingerObjs*

Fingerprint template for user authentication that needs to exist as much as **user.numFingers**. Refer to [Fingerprint API](#) for data format.

8. *faceObjs*

Face template for user authentication that needs to exist as much as **user.numFaces**. Refer to [Face API](#) for data format.

9. *accessGroupId*

List of access groups where users belong to which can be configured up to 16 groups.

BS2Job

```
typedef struct {
    uint8_t numJobs;
    uint8_t reserved[3];

    struct {
        BS2_JOB_CODE code;
        BS2_JOB_LABEL label;
    } jobs[BS2_MAX_JOB_SIZE];
} BS2Job;
```

1. *numJobs*

Number of job codes allocated to the user.

2. *reserved*

Reserved Space.

3. *jobs*

List of jobs.

BS2UserBlobEx

```
typedef struct {
    BS2User user;
    BS2UserSetting setting;
    uint8_t name[BS2_USER_NAME_SIZE];
    BS2UserPhoto photo;
    uint8_t pin[BS2_PIN_HASH_SIZE];
    BS2CSNCard* cardObjs;
    BS2Fingerprint* fingerObjs;
    BS2Face* faceObjs;
    BS2Job job;
    BS2_USER_PHRASE phrase;
    uint32_t accessGroupId[BS2_MAX_NUM_OF_ACCESS_GROUP_PER_USER];
} BS2UserBlob;
```

1. **user**

Structure that defines the basic user information.

2. **setting**

Structure that defines the configuration value for user identification.

3. **name**

User name having UTF-8 for string encoding.

4. **photo**

User profile image, which supports only Jpeg images.

5. *pin*

Personal Identification Number(PIN). It should be entered through *BS_MakePinCode* function.

6. *cardObjs*

Card list for user authentication that needs to exist as much as **user.numCards**. Refer to [Smartcard API](#) for data format.

7. *fingerObjs*

Fingerprint template for user authentication that needs to exist as much as **user.numFingers**. Refer to [Fingerprint API](#) for data format.

8. *faceObjs*

Face template for user authentication that needs to exist as much as **user.numFaces**. Refer to [Face API](#) for data format.

9. *job*

Job code that will be allocated to user.

10. *phrase*

Private message that will be displayed when the user authenticates. (FaceStation 2 Only)

11. *accessGroupId*

List of access groups where users belong to which can be configured up to 16 groups.

From:

<http://kb.supremainc.com/bs2sdk/> - **BioStar 2 Device SDK**

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