



China Stock Connect Northbound Trading Investor ID Model System File Interface Specification

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|--------------|-------------------|
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Modification History

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| 1.0 | 8 Jan 2018 | HKEX | First Issue |
| 1.1 | 18 Apr 2018 | HKEX | Further updates |
| 1.2 | 11 July 2018 | HKEX | - Added maximum allowed errors in Mapping File and delivery time of files |
| 1.3 | 7 September 2018 | HKEX | - Updated Section 2.1 BCAN-CID Mapping File |
| 1.4 | 24 June 2022 | HKEX | - Updated Section 2.1 BCAN-CID Mapping File and Section 3.2 Result codes used in BCAN-CID Validation Result File |

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1 Overview

This document serves as a reference guide for China Connect Exchange Participants' (CCEPs') and Trade-Through Exchange Participants' (TTEPs') preparation, submission, and processing of Broker-to-Client Assigned Number (BCAN) and Client Identification Data (CID) that are needed to support trading under the Northbound Investor ID Model.

1.1 Summary of Interface Files and Operation Flow

List of BCAN interface files that are involved in the preparation and submission process of BCANs are as follows:

| No | Time | Party | File Exchanged |
|----|------------------|-----------|---|
| 1 | 7:00am | CCEP/TTEP | Start time to allow CCEP/TTEP to submit BCAN-CID Mapping File (BCANMAPP) and Authorised TTEP Firm List (BCANAUFM) |
| 2 | 7:00am - 3:00pm | CCEP/TTEP | Submission of BCAN-CID Mapping File (BCANMAPP) |
| 3 | 7:00am - 3:00pm | CCEP | Submission of Authorised TTEP Firm List (BCANAUFM) |
| 4 | 7:00am - 3:00pm | HKEX | Distribution of BCAN-CID Response File (BCANRESP) |
| 5 | 7:00am - 3:00pm | HKEX | Distribution of Authorised TTEP Firm List Response File (BCANAURP) |
| 6 | 6:00pm - 10:00pm | HKEX | Distribution of BCAN Validation Result File (BCANRSLT) from ChinaClear |
| 7 | 6:00pm - 10:00pm | HKEX | Distribution of BCAN Full Image File as registered in ChinaClear (BCANFIMG) from ChinaClear |
| 8 | After 10:00pm | HKEX | System cleanup – all files submitted will be removed from the system. |

1.2 File Collection and Distribution Channel

Files are exchanged through the secure file transfer protocol (SFTP) facility provided by HKEX, via Securities and Derivatives Network/2 (SDNet/2) or HKEX Service Network (HSN) lines.

Please refer to “Cash Market Secure File Transfer Technical Guide” for details on the SFTP facility.

1.3 Data Format Definition

Data format commonly used in this document are as follows:

| Format | Synopsis |
|----------|--|
| X(n) | Alphanumeric data of n bytes. Left-justified with trailing spaces unless otherwise stated. |
| 9(n) | Numeric field with n digits. No leading zeroes. Right-justified with leading spaces unless otherwise stated. |
| YYYYMMDD | Date field, where YYYY stands for the year, MM stands for the month, and DD stands for the day, e.g. 20171202. |

2 File Specification

2.1 BCAN-CID Mapping File

2.1.1 Description

The BCAN-CID Mapping File is used for submitting BCAN-to-CID mapping data (on T-1 day) to Mainland exchanges/ChinaClear for investors who wish to conduct Northbound trading through Stock Connect on T-day.

CCEPs and TTEPs are allowed to submit the Mapping File on every Northbound trading day¹ within submission hour, i.e. from 7am to 3pm. For each CCEP/TTEP, only one file shall be provided by HKEX to ChinaClear for validation on each Northbound trading day. If there are multiple submissions by the same EP, the files submitted earlier on that day will be overwritten by the file received later before the cutoff time (i.e. 3pm). Late submission will not be accepted.

TTEPs who intend to submit BCAN-CID Mapping Files for submitting orders via another executing CCEP must be authorised and use the BCAN ranges assigned by the executing CCEPs.

CCEPs and TTEPs only need to submit this Mapping File when there are changes on the BCAN-CID mapping data. However, a full list of all mappings is always required to be submitted even if only part of those have been changed.

The BCAN-CID Mapping File uploaded by CCEPs and TTEPs will be handled in batches. Uploaded files with correct file name format and within submission hour will be moved from the OUTBOX to INBOX folder of the SFTP user account, and renamed to "<Original-filename>.HHMMSS.rcvd", e.g. BCANMAPP_20171204.zip.115023.rcvd.

Upon completion of format validation of the Mapping File by HKEX, a Response File will be returned to the CCEP or TTEP for reference. Brief validation result will be given in the Response File for mapping records that have failed the validation. CCEPs/TTEPs may correct the failed mapping records and submit the full mapping file again.

Mapping files will be rejected by the system if:

- File name was not specified correctly: e.g. BCNMADP_20171204.zip is in wrong format (see section 2.1.2 for correct file name format); or
- Date in file name was invalid or past-/post-dated, or beyond submission hour.

Mapping files rejected by the system will be moved from the OUTBOX to the INBOX folder of the SFTP user account, and renamed to "<Original-filename>.HHMMSS.rej", e.g. BCNMADP_20171204.zip.112520.rej, or BCANMAPP_20171204.zip.150001.rej. No

¹ In the case where trading on a scheduled Northbound trading day is suspended due to severe weather conditions, CCEPs and TTEPs are still allowed to submit the BCAN-CID Mapping File as scheduled.

Response File will be given in this case.

In case of file level errors found, mapping records will not be further validated and the entire Mapping File will be discarded. Please refer to Appendix 3.1 for details.

The system will stop validating the Mapping file if it was found to have more than 10,000 records with errors, and the file will be rejected with error code “S0102”.

Only mapping records that have passed the validation will be submitted to Mainland exchanges and/or ChinaClear. If BCAN records that exist in previous BCAN Full Image File but could not be found in the newly submitted mapping file, those BCAN records will be considered as Deletion.

If no BCAN-CID Mapping File was submitted to HKEX by 3 pm, mapping records that are previously accepted by Mainland exchanges and/or ChinaClear will remain effective. No Response File will be given in this case.

All files will be removed from folders after system cleanup.

If a CCEP or TTEP ceases Northbound trading, or if a TTEP discontinues using an executing CCEP for submitting Northbound orders, it should remove the relevant BCAN-CID mapping data from its BCAN-CID Mapping File the day before the effective date.

2.1.2 File Layout

Summary

| | |
|-------------------------|---|
| File ID | BCANMAPP |
| File Name | BCANMAPP_YYYYMMDD.txt, and is zipped into: BCANMAPP_YYYYMMDD.zip <i>where:</i> YYYYMMDD = Date of submission. |
| File Type | Text file delimited by DOS newline characters (CR+LF). Record data fields are in fixed length. UTF-8 without BOM encoded. |
| Submission Hours | 7am to 3pm on scheduled Northbound trading days. |
| Submission Path | /OUTBOX All submitted files will be collected and removed from /OUTBOX by HKEX's system. Once the submitted file is processed by HKEX's system, it will be moved to the /INBOX, and renamed to: BCANMAPP_YYYYMMDD.zip.HHMMSS.rcvd. |

Header Record

| Field No. | Data | Format | Synopsis |
|-----------|----------------------------|----------|---|
| 1 | Record Type | X(1) | = "H" (header record) |
| 2 | File ID | X(20) | = "BCANMAPP". |
| 3 | File Format Version | 9(2) | = 1 |
| 4 | Firm ID | 9(5) | ID of the firm which submits this file. |
| 5 | Submission Date | YYYYMMDD | Same as the date in file name. |
| 6 | Submission Sequence Number | 9(2) | Sequence number of file submissions starting from 1 for this file on the submission date. |

Data Record

| Field No. | Data | Format | Synopsis |
|-----------|------------------------|--------|--|
| 1 | Record Type | X(1) | = "D" (data record) |
| 2 | Record Sequence Number | 9(11) | A running sequence number starting from 1 used for uniquely identifying individual mapping data within the file. 0 is reserved. |
| 3 | Client Type | 9(2) | Domain values: - 1 = Individual - 2 = Joint Account - 3 = Legal Entity – Funds - 4 = Legal Entity – Fund managers and others - 5 = Proprietary or Principal Trading |

| | | | |
|----|------------------------------------|--------|--|
| | | | See also Note 1 and 2. |
| 4 | Executing CCEP Firm ID | 9(5) | CCEP who submit orders directly to HKEX: Their own Firm ID. TTEP who trade through an executing CCEP: Firm ID of the executing CCEP which submits orders with the assigned BCAN on behalf of the submitting TTEP to HKEX. |
| 5 | BCAN | 9(10) | Reserved range: 0 - 99. See Note 1. |
| 6 | Number of Account Holders | 9(2) | Always equals to 1 for client types (field no. 3) of 1, 3, 4, and 5. If Client Type is 2 (Joint Account), the number of accounts holders has to be between 2 and 99 inclusively, and the total number of account holder records with this BCAN must equal to this number. |
| 7 | English First Name and Middle Name | X(40) | For client types (field no. 3) of 1 and 2. Fill in spaces if this field is not available. See Note 3. |
| 8 | English Last Name | X(40) | For client types (field no. 3) of 1 and 2. Fill in spaces if this field is not available. See Note 3. |
| 9 | English Legal Entity Name | X(100) | For client types (field no. 3) of 3, 4, and 5. Fill in spaces if this field is not available. See Note 4. |
| 10 | Chinese Name | X(40) | For client types (field no. 3) of 1 and 2. Fixed length in bytes (i.e. 40 bytes). UTF-8 encoded. Fill in spaces if this field is not available. See Note 3 and Note 5. |
| 11 | Chinese Legal Entity Name | X(120) | For client types (field no. 3) of 3, 4, and 5. Fixed length in bytes (i.e. 120 bytes). UTF-8 encoded. Fill in spaces if this field is not available. See Note 4 and Note 5. |
| 12 | Country of Issuance | X(3) | Follows ISO standard 3166 Alpha-3 code: https://www.iso.org/obp/ui/#search/code/ If ID Type (field no. 13) is LEI, then input place of incorporation if available, otherwise input "OTH". |
| 13 | ID Type | 9(2) | Identity document type, where: - 1 = Identity Card (e.g. HKID, ID issued by the relevant government authority) - 2 = Passport - 3 = Certificate of Incorporation / other official incorporation documents ² |

² If Certificate of Incorporation is unavailable in the jurisdiction where the entity is incorporated or established, the identification number as appeared in the official incorporation document of the entity issued by the relevant official body in the place of incorporation or establishment of the entity should be provided.

| | | | |
|----|-----------|-------|---|
| | | | - 4 = LEI - 5 = Other official identity document (only for Client Types 1 and 2) |
| 14 | ID Number | X(40) | Identity document number. See Note 6. |

Control Record

| Field No. | Data | Format | Synopsis |
|-----------|-------------------------|--------|--|
| 1 | Record Type | X(1) | = "F" (control record) |
| 2 | Total number of records | 9(11) | Total number of records (i.e. number of type "D" records). |

Note:

1. One BCAN-CID mapping record is required for each of the joint account members.
2. Change of "Client Type" (field no. 3) is not allowed.
3. For client types 1 and 2, "English First and Middle Name" (field no. 7), "English Last Name" (field no. 8), and "Chinese Name" (field no. 10) must be provided if available. Field no. 10 may be used for names that are non-alphabetic. These fields cannot be all blank.
4. For client types 3, 4, and 5, "English Legal Entity Name" (field no. 9) and "Chinese Legal Entity Name" (field no. 11) must be provided if available. Field no. 11 may be used for names that are non-alphabetic. These fields cannot be both blank.
5. The name in the BCAN-CID mapping data submitted must be exactly the same as in the official identity document. For example, if the name in the official identity document is in Simplified Chinese, then the name in the BCAN-CID mapping data must also be in Simplified Chinese.
6. Exact ID number should be provided - including characters, numbers, and symbols like brackets. For example, if the ID number shown in the official document is "A123456 (7)", then "A123456 (7)" (including brackets) should be provided in the BCAN-CID mapping data.
7. This document should be read in conjunction with the Information Paper, BCAN-CID Mapping File Data Record Examples, and the Rules of the Exchange.

[For branches or subsidiaries of Mainland incorporated institutions which are lawfully registered in Hong Kong or overseas, they may use their business registration certificate as an identification document \(effective from 25 July 2022\).](#)

2.2 BCAN-CID Response File

2.2.1 Description

The BCAN-CID Response File is used for returning result of format validation of submitted BCAN-CID Mapping File. It contains list of records that failed the validation.

Response code and text, together with the original record sequence number, will be given for each of the failed mapping records. Mapping records that passed the validation will not be put into the Response File. Thus if the submitted BCAN-CID Mapping File has passed the validation successfully and completely, the Response File will carry only 2 records – header and control record.

Normally Response File is given back to CCEPs/TTEPs within 10 minutes after submitting the Mapping File.

Response File is not given for these situations:

- File name of the Mapping File was not specified correctly: e.g. BCNMADP_20171204.zip is in wrong format (see section 2.1.2 for correct file name format); or
- Date in file name was invalid or past-/post-dated, or beyond submission hour.

See Appendix 3.1 for list of response codes.

2.2.2 File Layout

Summary

| | |
|--------------------------|---|
| File ID | BCANRESP |
| File Name | BCANRESP_YYYYMMDD.txt, and is zipped into: BCANRESP_YYYYMMDD.zip <i>where:</i> YYYYMMDD = Date of submission. |
| File Type | Text file delimited by DOS newline characters (CR+LF). Record data fields are in fixed length. UTF-8 without BOM encoded. |
| Distribution Time | Within 10 minutes after submitting BCAN-CID Mapping File. |
| Distribution Path | /INBOX |

Header Record

| Field No. | Data | Format | Synopsis |
|-----------|----------------------------|----------|---|
| 1 | Record Type | X(1) | = "H" (header record) |
| 2 | File ID | X(20) | = "BCANRESP". |
| 3 | File Format Version | 9(2) | = 1 |
| 4 | Firm ID | 9(5) | ID of the firm who submitted the BCAN-CID Mapping File. |
| 5 | Submission Date | YYYYMMDD | Date of the submitted BCAN-CID Mapping File. |
| 6 | Submission Sequence Number | 9(2) | Submission sequence number of the original BCAN-CID Mapping File. |

Data Record

| Field No. | Data | Format | Synopsis |
|-----------|---------------------------------|--------|---|
| 1 | Record Type | X(1) | = "D" (data record) |
| 2 | Original Record Sequence Number | 9(11) | Sequence number of the record as in the submitted BCAN-CID Mapping File. 0 is reserved for general response. |
| 3 | Response Code | X(5) | Refer to Appendix 3.1 |
| 4 | Response Text | X(200) | Refer to Appendix 3.1 |
| 5 | Response Field No. ³ | 9(2) | Field number of the data field which failed the validation, 0 otherwise. |

³ For a record with multiple errors, only the first error detected will be included and CCEPs/TTEPs should review the whole record again.

Control Record

| Field No. | Data | Format | Synopsis |
|-----------|---|--------|--|
| 1 | Record Type | X(1) | = "F" (control record) |
| 2 | Total number of Mapping records submitted | 9(11) | Total number of Mapping records submitted (i.e. number of type "D" records in the original BCAN-CID Mapping File). |
| 3 | Total number of data records | 9(11) | Number of data records that failed validation (i.e. number of type "D" records in this Response File). |

2.3 Authorised TTEP Firm List

2.3.1 Description

The Authorised TTEP Firm List is used for CCEP to submit list of TTEP firms who are authorised to trade through this CCEP. This file is used for validation of BCANs that are submitted by TTEPs to ensure their submission is authorised by the corresponding CCEPs.

It is required to submit the Authorised TTEP Firm List to register corresponding authorised TTEP firms before TTEP submitting the BCAN-CID Mapping File.

Only CCEPs who have TTEPs submitting Northbound orders through them need to submit this file.

Similar to the BCAN-CID Mapping file, CCEPs only need to submit this file when there are changes on the Authorised TTEP Firm List. Full list is always required to be submitted even if only part of those have been changed.

CCEPs are allowed to submit this file on every scheduled Northbound trading day from 7am to 3pm. If there are multiple submissions by the same EP, files submitted earlier on that day will be overwritten by the file received later before the cutoff time (i.e. 3 pm). Late submission will not be accepted.

The Authorised TTEP Firm List uploaded by CCEPs will be handled in batches. Uploaded files with correct file name format and within submission hour will be moved from the OUTBOX to INBOX folder of the SFTP user account, and renamed to "<Original-filename>.HHMMSS.rcvd", e.g. BCNAUFM_20171204.zip.115024.rcvd.

Upon completion of format validation of the file by HKEX, a Response File will be returned to the CCEP for reference. Brief validation result will be given in the Response File for firm records that have failed the validation. CCEPs may correct failed records and submit the file again.

Authorised TTEP Firm List files will be rejected by the system if:

- File name was not specified correctly: e.g. BCNAURZ_20171204.zip (see section 2.3.2 for correct file name format); or
- Date in file name was invalid or past-/post-dated, or beyond submission hour.

Authorised Firm List Files rejected by the system will be moved from the OUTBOX to the INBOX folder of the SFTP user account, and renamed to "<Original-filename>.HHMMSS.rej" e.g. BCNAURZ_20171204.zip.111520.rej. No Response File will be given in this case.

If no Authorised TTEP Firm List File was submitted to HKEX by 3 pm, authorized records that are previously accepted will remain effective. No Response File will be given in this case.

All files will be removed from folders after system cleanup.

If a TTEP discontinues using an executing CCEP for submitting Northbound orders, the CCEP should remove the relevant TTEP Firm ID record from the file after the TTEP ceased from trading through it.

2.3.2 File Layout

Summary

| | |
|-------------------------|---|
| File ID | BCANAUFM |
| File Name | BCANAUFM_YYYYMMDD.txt, and is zipped into: BCANAUFM_YYYYMMDD.zip <i>where:</i> YYYYMMDD = Date of submission. |
| File Type | Text file delimited by DOS newline characters (CR+LF). Record data fields are in fixed length. ASCII encoded. |
| Submission Hours | 7am to 3pm on scheduled Northbound trading days. |
| Submission Path | /OUTBOX All submitted files will be collected and removed from /OUTBOX by HKEX's system. Once the submitted file is processed by HKEX's system, it will be moved to the /INBOX, and renamed to: BCANAUFM_YYYYMMDD.zip.HHMMSS.rcvd. |

Header Record

| Field No. | Data | Format | Synopsis |
|-----------|----------------------------|----------|---|
| 1 | Record Type | X(1) | = "H" (header record) |
| 2 | File ID | X(20) | = "BCANAUFM". |
| 3 | File Format Version | 9(2) | = 1 |
| 4 | Firm ID | 9(5) | ID of the CCEP. |
| 5 | Submission Date | YYYYMMDD | Same as the date in file name. |
| 6 | Submission Sequence Number | 9(2) | Sequence number of file submissions starting from 1 for this file on the submission date. |

Data Record

| Field No. | Data | Format | Synopsis |
|-----------|-------------------------|--------|--|
| 1 | Record Type | X(1) | = "D" (data record) |
| 2 | Record Sequence Number | 9(5) | A running sequence number starting from 1 used for uniquely identifying individual firm records within the file. 0 is reserved. |
| 3 | Authorised TTEP Firm ID | 9(5) | One record for each of the TTEPs. |

Control Record

| Field No. | Data | Format | Synopsis |
|-----------|-------------------------|--------|--|
| 1 | Record Type | X(1) | = “F” (control record) |
| 2 | Total number of records | 9(5) | Total number of records (i.e. number of type “D”). |

2.4 Authorised TTEP Firm List Response File

2.4.1 Description

The Authorised TTEP Firm List Response File is used for returning result of format validation of submitted Authorised TTEP Firm List File. It contains list of records that failed the validation.

Response code and text, together with the original record sequence number, will be given for each of the failed TTEP firm records. Firm records that passed the validation will not be put into the Response File. Thus if the submitted Firm List File has passed the validation successfully and completely, the Response File will carry only 2 records – header and control record.

Normally Response File is given back to CCEPs within 10 minutes after submitting the Authorised TTEP Firm List file.

Response File is not given for these situations:

- File name of the Authorised TTEP Firm List File was not specified correctly: e.g. BCNFM_20171204.zip (see section 2.3.2 for correct file name format); or
- Date in file name was invalid or past-/post-dated, or beyond submission hour.

See Appendix 3.1 for list of response codes.

2.4.2 File Layout

Summary

| | |
|--------------------------|--|
| File ID | BCANAURP |
| File Name | BCANAURP_YYYYMMDD.txt, and is zipped into: BCANAURP_YYYYMMDD.zip <i>where:</i> YYYYMMDD = Date of submission. |
| File Type | Text file delimited by DOS newline characters (CR+LF). Record data fields are in fixed length. ASCII encoded. |
| Distribution Time | Within 10 minutes after submitting Authorised TTEP Firm List File. |
| Distribution Path | /INBOX |

Header Record

| Field No. | Data | Format | Synopsis |
|-----------|----------------------------|----------|--|
| 1 | Record Type | X(1) | = "H" (header record) |
| 2 | File ID | X(20) | = "BCANAURP". |
| 3 | File Format Version | 9(2) | = 1 |
| 4 | Firm ID | 9(5) | ID of the CCEP who submitted the Authorised TTEP Firm List File. |
| 5 | Submission Date | YYYYMMDD | Date of the submitted Authorised TTEP Firm List File. |
| 6 | Submission Sequence Number | 9(2) | Submission sequence number of the original Authorised TTEP Firm List File. |

Data Record

| Field No. | Data | Format | Synopsis |
|-----------|---------------------------------|--------|--|
| 1 | Record Type | X(1) | = "D" (data record) |
| 2 | Original Record Sequence Number | 9(5) | Sequence number of the record as in the submitted Authorised TTEP Firm List File. 0 is reserved for general response. |
| 3 | Response Code | X(5) | Refer to Appendix 3.1 |
| 4 | Response Text | X(200) | Refer to Appendix 3.1 |
| 5 | Response Field No. ⁴ | 9(2) | Field number of the data field which failed the validation, 0 otherwise. |

⁴ For a record with multiple errors, only the first error detected will be included and CCEPs should review the whole record again.

Control Record

| Field No. | Data | Format | Synopsis |
|-----------|--|--------|--|
| 1 | Record Type | X(1) | = “F” (control record) |
| 2 | Total number of Authorised TTEP Firm records submitted | 9(5) | Total number of Authorised TTEP Firm records submitted (i.e. number of type “D” records in the original Authorised TTEP Firm List File). |
| 3 | Total number of data records | 9(5) | Number of data records that failed validation (i.e. number of type “D” records in this Response File). |

2.5 BCAN-CID Validation Result File

2.5.1 Description

The BCAN-CID Validation Result File contains the validation result prepared by the Mainland exchanges/ChinaClear after receiving and processing BCAN-CID Mapping Files submitted by CCEPs/TTEPs. It provides final process status of BCAN-CID mappings for that day.

Newly created BCANs that are not accepted by Mainland exchanges/ChinaClear on T-1 day cannot be used for Northbound trading on T-day.

Note that the Validation Result File contains only list of BCAN records that have been either added, deleted, or modified. BCAN records that remain unchanged (compared with master record as saved in Mainland exchanges'/ChinaClear's systems) are not reported in the Validation Result File.

Joint accounts are considered as an individual entity. All BCAN records belonging to a joint account will be submitted to the Mainland exchanges/ChinaClear for validation even if only part of the records has been changed, and all records of that joint account will be returned in the Validation Result File.

See Appendix 3.2 for list of result codes.

2.5.2 File Layout

Summary

| | |
|--------------------------|--|
| File ID | BCANRSLT |
| File Name | BCANRSLT_YYYYMMDD.txt, and is zipped into: BCANRSLT_YYYYMMDD.zip <i>where:</i> YYYYMMDD = Date of submission. |
| File Type | Text file delimited by DOS newline characters (CR+LF). Record data fields are in fixed length. ASCII encoded. |
| Distribution Time | After 6:00pm on scheduled Northbound trading days. |
| Distribution Path | /INBOX |

Header Record

| Field No. | Data | Format | Synopsis |
|-----------|---------------------|----------|---|
| 1 | Record Type | X(1) | = "H" (header record) |
| 2 | File ID | X(20) | = "BCANRSLT". |
| 3 | File Format Version | 9(2) | = 1 |
| 4 | Firm ID | 9(5) | ID of the firm who submitted the BCAN-CID Mapping file. |
| 5 | Submission Date | YYYYMMDD | Date of the submitted BCAN-CID Mapping File. |

Data Record

| Field No. | Data | Format | Synopsis |
|-----------|--|--------|--|
| 1 | Record Type | X(1) | = "D" (data record) |
| 2 | BCAN | 9(10) | |
| 3 | Action Code | X(1) | Domain values: - "A" = Addition - "U" = Update - "S" = Deletion |
| 4 | Result Code | X(4) | Refer to Appendix 3.2 |
| 5 | Record Sequence Number and Result Text | X(120) | Fixed length in bytes. Refer to Appendix 3.2 |

Control Record

| Field No. | Data | Format | Synopsis |
|-----------|------------------------------|--------|---|
| 1 | Record Type | X(1) | = “F” (control record) |
| 2 | Total number of data records | 9(11) | Number of data records (i.e. number of type “D” records in this result file). |

2.6 BCAN Full Image File

2.6.1 Description

The BCAN Full Image File contains the final list of BCANs of each CCEP and TTEP, which are accepted by the Mainland exchanges/ChinaClear and ready for Northbound trading on T-day.

The file is distributed to all CCEPs and TTEPs on Northbound trading days, regardless whether they submitted BCAN-CID Mapping File or not.

For CCEPs, this file contains list of BCANs that are submitted by CCEPs themselves and accepted by the Mainland exchanges/ChinaClear, as well as those that are submitted by their authorised TTEPs and accepted by the Mainland exchanges/ChinaClear.

For TTEPs, this file contains list of BCANs that are submitted by themselves and accepted by the Mainland exchanges/ChinaClear.

CCEPs and TTEPs are reminded to check the BCAN records in this file to ensure that they are accurate, including the fact that the TTEPs are using the correct reserved range assigned by their CCEPs.

2.6.2 File Layout

Summary

| | |
|--------------------------|--|
| File ID | BCANFIMG |
| File Name | BCANFIMG_YYYYMMDD.txt, and is zipped into: BCANFIMG_YYYYMMDD.zip <i>where:</i> YYYYMMDD = Date of distribution. |
| File Type | Text file delimited by DOS newline characters (CR+LF). Record data fields are in fixed length. ASCII encoded. |
| Distribution Time | After 6:00pm on scheduled Northbound trading days. |
| Distribution Path | /INBOX |

Header Record

| Field No. | Data | Format | Synopsis |
|-----------|---------------------|----------|-----------------------|
| 1 | Record Type | X(1) | = "H" (header record) |
| 2 | File ID | X(20) | = "BCANFIMG". |
| 3 | File Format Version | 9(2) | = 1 |
| 4 | Firm ID | 9(5) | ID of the CCEP/TTEP. |
| 5 | Distribution Date | YYYYMMDD | |

Data Record

| Field No. | Data | Format | Synopsis |
|-----------|-----------------|--------|--|
| 1 | Record Type | X(1) | = "D" (data record) |
| 2 | Record Status | X(1) | Domain values: - "N" = Normal - "S" = Cancelled |
| 3 | BCAN | 9(10) | Refer to BCAN-CID Mapping File |
| 4 | Submitting Firm | 9(5) | ID of the CCEP or TTEP firm which submitted this BCAN. |

Control Record

| Field No. | Data | Format | Synopsis |
|-----------|------------------------------|--------|--|
| 1 | Record Type | X(1) | = "F" (control record) |
| 2 | Total number of data records | 9(11) | Number of records (i.e. number of type "D" records in this Full Image File). |

3 Appendix

3.1 Response Codes used in Response Files

| Response Code | File Level Error | Synopsis |
|---------------|------------------|---|
| D0101 | Yes | Submitted file is corrupted. |
| D0102 | Yes | Invalid (txt) file name. |
| D0103 | Yes | Invalid file layout (e.g. format or missing of header/control records). |
| D0104 | Yes | Invalid control counters (record count in control record). |
| D0105 | Yes | Invalid encoding (file is not UTF-8 encoded). |
| D0106 | No | Invalid data record layout (e.g. invalid record type, invalid record length). |
| D0201 | Yes | Header record error: Invalid file ID. |
| D0202 | Yes | Header record error: Invalid file format version. |
| D0203 | Yes | Header record error: Invalid Firm ID. |
| D0204 | Yes | Header record error: Invalid submission date. |
| D0205 | Yes | Header record error: Invalid submission sequence number. |
| D0221 | No | Data record error: Duplicated record sequence number. |
| D0222 | No | Data record error: Invalid data format (e.g. putting in text for BCAN). |
| D0223 | No | Data record error: Invalid data value (e.g. putting in 20 for Client Type). |
| D0224 | No | Data record error: Failed validation rule (e.g. Client Type was 1 but English First Name and Middle Name, English Last Name and Chinese Name were all missing). |
| D0225 | No | Data record error: Invalid Executing CCEP Firm ID. Submitting Firm is not authorised by the executing CCEP. |
| S0102 | Yes | General system error. Contact HKEX. |

3.2 Result Codes used in BCAN-CID Validation Result File

Process result codes returned by ChinaClear are listed in the table below.

Process result text has two parts: first part is the Record Sequence Number (enclosed in square brackets, [nnnnnnnnnn]) of the BCAN-CID record in the submitted mapping file; second part, which follows the Record Sequence Number and is optional, is the text description of the process result.

| Process Result Code | Process Result Text |
|---------------------|--|
| 0000 | [nnnnnnnnnn] Successfully processed and accepted. |
| 9001 | [nnnnnnnnnn] XXX (field name) cannot be blank |
| 9002 | [nnnnnnnnnn] The content in XXX (field name) is in wrong format |
| 9003 | [nnnnnnnnnn] When sending an ADD entry, "broker code + BCAN" already exists in system |
| 9004 | [nnnnnnnnnn] When sending a MODIFY entry, "broker code + BCAN" does not exist |
| 9005 | [nnnnnnnnnn] "Broker code + BCAN" is not unique |
| 9006 | [nnnnnnnnnn] The number of BCANs does not equal the number of clients in a joint account |
| 9007 | [nnnnnnnnnn] The identification card number does not conform with standards |
| 9008 | [nnnnnnnnnn] The status of BCANs in a joint account are inconsistent |
| 9009 | [nnnnnnnnnn] Client Type cannot be modified |
| 9011 | [nnnnnnnnnn] The client name does not match the identification card number |
| 9012 | [nnnnnnnnnn] The information of the closed BCAN cannot be modified |
| 9015 | [nnnnnnnnnn] The Action Codes for BCANs from the same joint account are different |
| 9016 | [nnnnnnnnnn] The Numbers of Account Holders for BCANs from the same joint account are different. |
| 9017 | [nnnnnnnnnn] The other BCAN of Account Holders is in wrong format |
| 0999 | [nnnnnnnnnn] Other error ⁵ |

⁵ [BCAN registration of Mainland investors will be rejected with this result code \(effective from 25 July 2022\).](#)