Business Internet Banking Bulk Services

IBG New Hash Total Algorithm

New Hash Total Algorithm

The algorithm describes in this document is to be used for computing the 'New Account Hash Total' value as required in the Batch Trailer for the File Format.

The computation will only includes the Batch Header (Record type 1) and the main Detail Records (Record Type 2).

For Header Record:

1) Originating Bank Code = B1B2B3B4 (e.g. originating bank code is 7375, B1=7, B2=3, B3=7, B4=5)

2) Originating Branch Code = R1R2R3

3) Originating Account No. = A1A2A3A4A5A6A7A8A9A10A11

4) Sum1 = B1B2 * 2 + R1R2 * 3 + A1A2 * 4 + A5A6 * 5 + A9A10 * 6

5) Sum2 = B3B4 * 9 + R3 * 8 + A3A4 * 7 + A7A8 * 6 + A11 * 5

6) Sum3 = Sum1 * Sum2

7) **Total1** = Sum3 (since there is only one header)

For All Detail Records:

1) Receiving Bank Code = B1B2B3B4 (e.g. receiving bank code is 7375, B1=7, B2=3, B3=7, B4=5)

7	3	7	5
B1	B2	B3	B4

2) Receiving Branch Code = R1R2R3

3) Receiving Account No. = A1A2A3A4A5A6A7A8A9A10A11 (All the spaces must be converted to 0)

4) Transaction Code = T1T2

5) Amount = M1M2M3M4M5M6M7M8M9M10M11

6) Sum1 = B1B2 * 1 + R1R2 * 2 + A1A2 * 3 + A5A6 * 4 + A9A10 * 5 + T1 * 6 +   M1M2 * 7 +   M5M6 * 8 + M9M10 * 9

7) Sum2 = B3B4 * 9 + R3 * 8 + A3A4 * 7 + A7A8 * 6 + A11 * 5 + T2 * 4 +   M3M4 * 3 +   M7M8 * 2 + M11 * 1

8) $Sum3 = Sum1 * Sum2$

9) E.g. if receiving bank code = 7375, receiving branch code = 001, receiving account no = 1013029267, transaction code = 22, amount = 1234.56, then we can compute :

$Sum1 = 73 * 1 + 00 * 2 + 10 * 3 + 02 * 4 + 67 * 5 + 2 * 6 + 00 * 7 + 01 * 8 + 45 * 9 = 871,$

$Sum2 = 75 * 9 + 1 * 8 + 13 * 7 + 92 * 6 + 0 * 5 + 2 * 4 + 00 * 3 + 23 * 2 + 6 * 1 = 1386,$

$Sum3 = 871 * 1386 = 1207206$

10) $Sum4 = Sum4 + Sum3$ (i.e. accumulate Sum3 to Sum4)

11) **Total2** = Sum4

For Trailer Record:

Final Check Sum = **Total1 + Total2**
This Final Check Sum will be the New Hash Total at the trailer.

\# *For info only*
The maximum Sum3 for one detail record can be 11099025, so the total record number can go up to 90 million.