

BUID: A key for Integrated Core Financial System

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ABSTRACT

Today core financial system has become the major part of financial system. Presently, to fulfill the basic financial needs, the several customers open different account numbers in financial institutions for various transactions. The major drawback of this system is that, there is no unique identification code of a customer to maintain various transactions and different accounts detail in different branches of different banks and other financial institutions. Using BUID (Bank unique Identification) codes of proposed system, the customers can manage his financial needs and transactions. The government authorities can easily centralized managed and overall control on all financial system through maintaining data warehouse of either individual or a group. The 7-tier architectural model has developed the account number of financial institutes using its seven layers. The detail information of customer will be taken by first layer of 7-tier architecture model. The information will be passed up to fifth layer i.e. fulfillment layer. The fulfillment layer will be delivered account number and BUID number using BUID algorithm with check digit. BUID will provide aid to know the customers accounts in assorted banks or other financial institutes under one roof. The BUID will be tightly integrated with overall core financial system. BUID code will be used to unhide customer details and transaction from government authorities. The BUID can be easily unified in current financial core system. It will be better alternative of pan card or Aadhaar card. The BUID will be well-built to execute a position to augment the present financial core system.

Keywords: BAN, BUID, CORE, CRM.

I. INTRODUCTION

CORE stands for "centralized online real-time exchange"[1]. This basically means that the entire bank's branches access applications from centralized data centers. The 7-tier architecture model is designed for account opening process using seven layers with biometric tools and the data of customer is stored in Data Warehouse through data mart with BUID [2] [3]. Banks will make available all transactions across multiple channels like ATMs, Internet Banking, Insurances, and etc. using customer BUID. This new concept of BUID has changed the way of banks are working and defines a core banking system as a back-end system that processes daily banking transactions, and posts updates to accounts and other financial records. Using BUID card of proposed system, the customers can manages his financial needs and transactions [4].

The BUID will generate by strictly following 7-tier architecture model. The model has seven layers; these are customer, registration counter, verification and legal, compliances, fulfillment, data mart and data warehouse, defined in well manner [2]. The customer will get BUID implicitly following 7-tier architecture. The customer is opening his account for first time in his life should submit the biometric details and then he/she will receive BUID code, BAN, Cards, Books

and etc. and if he/she is already having BUID code then only BAN, Card and books will be received using 7-tier architecture.

To make the transparency in customer processes, channels, customer information and management tools are integrated and administered through a central database of the bank or other financial institutes with branches using BUID code and It also supports configuration of features, structure, commission, redemptions, relationship pricing, customer communication and a wide range of related properties and entities for structured products, distribution of insurance products and distribution of mutual funds. The BUID core system is tightly integrated with the banking and CRM and transaction processing [3]. It also proposed a powerful tool for corporate banking and financial institutes.

Here, we have included the bank unique identification code of customer to enhance the current Core financial System using 7-tier architectural model and the core system has radically changed the way in which financial system functions. The greatest advantage of having a Core Bank System is that new features and functionalities can be easily added to the proposed system [3] [4].

All these facilities have made available to customers using the concept of Data Warehouse

where it is a repository of subjectively selected and adapted operational data, which can successfully answer any ad-hoc, complex, statistical or analytical queries [5]. It is situated at the centre of a decision support system of an organization and contains integrated historical data, both summarized and detailed information.

The government authorities like Income Tax department, Financial Industry Regulatory Authority, Financial Services Authority, Reserve Bank of India (RBI), Securities and Exchange Board of India (SEBI), Forward Markets Commission (India) (FMC), Insurance Regulatory and Development Authority (IRDA), etc can easily centralized managed and overall control on all financial system through maintaining data warehouse of either individual or a group [6].

II. BUID (BANK UNIQUE IDENTIFICATION CODE) ALGORITHM:

ACADPB22031982N is a 15 digit alpha numeric BUID Code, where the first six characters are letters, the next eight numbers are digits and last one letter is check digit alphabet.

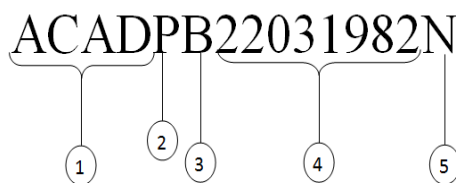


Fig 1: BUID Code

2.1. Description:

1. First four character of BUID code:

The first four character of BUID code are alphabetic series running from AAAA to ZZZZ with cycle. It is a sequential series generates 4, 56,976 (Four Lac Fifty Six Thousands Nine Hundred and Seventy Six) different combination for a specific date. It will generate next combination from AAAA to ZZZZ for specific date whenever requirement.

2. Fifth character of BUID:

The Fifth character of BUID code represents the status of the card holder

- C – Company
- P – Person
- H – HUF(Hindu Undivided Family)
- F – Firm
- A – Association of Persons(AOP)
- T – AOP(Trust)
- B – Body of Individuals(BOI)
- L – Local Authority
- J – Artificial Juridical Person
- G – Government

3. Sixth character of BUID:

The sixth character of BUID code represents first character of card holder's last name/surname.

4. Next Eight digits of BUID:

Next eight digits of BUID code are Date of Birth/Date of Registration/Date of Establishment of card holder.

5. Last Character in BUID:

The last character of BUID code is an alphabetic check digit. The check digit generate by the check digit algorithm of BUID code.

2.2. BUID Algorithm:

Step-1: First determine any one **STATUS** to generate the BUID code from the below list:

- C – Company
- P – Person
- H – HUF(Hindu Undivided Family)
- F – Firm
- A – Association of Persons(AOP)
- T – AOP(Trust)
- B – Body of Individuals(BOI)
- L – Local Authority
- J – Artificial Juridical Person
- G – Government

Select **STATUS** of new BUID from the above list:

Step-2: Select Date of Birth/Date of registration of BUID holder in MM-DD-YYYY format.

Step-3: Select first character of surname/ last name of BUID holder.

Step-4: Select the next automatic generated four digit characters from AAAA to ZZZZ of specific date.

Step-5: Generate BUID code without check digit by concatenating sequential data generated from Step-4, Step-1, Step-3 and Step-2.

Step-6: Pass concatenated alpha-numeric number to '**CHECK DIGIT ALGORITHM**' to generate the check digit alphabet.

Step-7: Receive check digit number from '**CHECK DIGIT ALGORITHM**'.

Step-8: Concatenate BUID code without check digit alphabet generated from step-5 with received check digit from step-7 to generate the complete BUID code.

III. CHECK DIGIT ALGORITHM of BUID:

A check digit is used to check redundancy in identification number. It is also used for error detection on identification numbers which have been input manually. It is used to check for errors in computer-generated data. It consists of a single digit generated from a '**CHECK DIGIT ALGORITHM**'. With a check digit, one can detect simple errors in the input of a series of characters or digits such as a single mistyped digit or some permutations of successive digits. The check digit of

BUID is used to validate a BUID numbers and as a simple method of distinguishing valid numbers from mistyped or otherwise incorrect numbers.

3.1. Description:

Check digit is dependent on first fourteen alpha-numeric digit of BUID and last fifteenth alphabet is check digit. The BUID number must pass the following test:

1. Assign all alphabets a numeric value according to the following table-1:

Alphabets	Values	Alphabets	Values	Alphabets	Values
A	0	J	9	S	18
B	1	K	10	T	19
C	2	L	11	U	20
D	3	M	12	V	21
E	4	N	13	W	22
F	5	O	14	X	23
G	6	P	15	Y	24
H	7	Q	16	Z	25
I	8	R	17	-	-

Table-1: Alphabets and Values

2. Assume an example of a BUID number "ACADPB22031982N" where the last character 'N' is a check digit and make it in the form of ACADPB22031982x. The check digit (x) is to be calculating as follows:

BUID	Value	Sum of Digits
A	0	0
C	2	2
A	0	0
D	3	3
P	15	6
B	1	1
2	2	2
2	2	2
0	0	0
3	3	3
1	1	1
9	9	9
8	8	8
2	2	2
x	-	= 39

Table-2: Sum of Digits

3. From the above table-2, we get sum of digit i.e. x=39. Now divide x by 26 and take modulo. The result is 13 (i.e. 39 modulo 26 = 13).

4. Now match the value 13 with appropriate alphabet as mentioned in table-1. We get N. thus the complete BUID is "ACADPB22031982N".

3.2. Check Digit Algorithm:

Step-1: Receive the alpha numeric fourteen digits from step-6 of **BUID Algorithm**.

Step-2: Assign all alphabets a numeric value according to Table-1.

Step-3: Assign values to first six alphabet of received alpha-numeric digit as per table-1 and remaining eight numbers have their own value.

Step-4: Sum the assigned values of first six alphabets and eight numbers (make total i.e. sum of digits).

Step-5: Total modulo 26. The result will be number less than 26.

Step-6: Match the result with step-2 table-1 will get specific alphabet. So that alphabet is a check digit.

Step-7: Pass the check digit to step-7 of BUID algorithm.

IV. CONCLUSION

The BUID will generate by strictly following 7-tier architecture model. The BUID is fifteen digit alpha numeric codes and the last character of BUID is check digit. The BUID algorithm is generate the robust unique identification number for proposed financial system. The BUID algorithm has seven steps to generate BUID code and the check digit algorithm has also seven steps to generate check digits. A check digit is used to check redundancy in identification number. The BUID algorithm and check digit algorithm are inter connect with each other. The both algorithm are depends on each other to generate BUID code. We have made an effort to focus to remove the drawbacks by launching the concept of Bank unique identification code (BUID code) in present financial system. The concept behind launching the BUID is to monitor and manage the complete transaction in overall financial system under a roof.

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