2.6 The Order-Status Transaction

The Order-Status business transaction queries the status of a customer's last order. It represents a mid-weight readonly database transaction with a low frequency of execution and response time requirement to satisfy on-line users. In addition, this table includes non-primary key access to the CUSTOMER table.

2.6.1 Input Data Generation

- 2.6.1.1 For any given terminal, the home warehouse number (W_ID) is constant over the whole measurement interval.
- 2.6.1.2 The district number (D_ID) is randomly selected within [1 ..10] from the home warehouse. The customer is randomly selected 60% of the time by last name (C_W_ID, C_D_ID, C_LAST) and 40% of the time by number (C_W_ID, C_D_ID, C_ID) from the selected district (C_D_ID = D_ID) and the home warehouse number (C_W_ID = W_ID). This can be implemented by generating a random number y within [1 .. 100];
 - If $y \le 60$ a customer last name (C_LAST) is generated according to Clause 4.3.2.3 from a non-uniform random value using the NURand(255,0,999) function. The customer is using his/ her last name and is one of the, possibly several, customers with that last name.

Comment: This case illustrates the situation when a customer does not use his/ her unique customer number.

• If y > 60 a non-uniform random customer number (C_ID) is selected using the NURand (1023,1,3000) function. The customer is using his/ her customer number.

2.6.2 Transaction Profile

- 2.6.2.1 Querying for the status of an order is done in a single database transaction with the following steps:
 - 1. Find the customer and his/ her last order, comprised of:
 - Case 1, the customer is selected based on customer number:
 - 2 row selections with data retrieval.
 - Case 2, the customer is selected based on customer last name:
 - 4 row selections (on average) with data retrieval.
 - 2. Check status (delivery date) of each item on the order (average items-per-order = 10), comprised of:
 - (1 * items-per-order) row selections with data retrieval.

Note: The above summary is provided for information only. The actual requirement is defined by the detailed transaction profile below.

- 2.6.2.2 For a given customer number (C_W_ID , C_D_ID , C_ ID):
 - The input data (see Clause 2.6.3.2) are communicated to the SUT.
 - A database transaction is started.
 - Case 1, the customer is selected based on customer number: the row in the CUSTOMER table with matching C_W_ID, C_D_ID, and C_ID is selected and C_BALANCE, C_FIRST, C_MIDDLE, and C_LAST are retrieved.

- Case 2, the customer is selected based on customer last name: all rows in the CUSTOMER table with matching C_W_ID, C_D_ID and C_LAST are selected sorted by C_FIRST in ascending order. Let *n* be the number of rows selected. C_BALANCE, C_FIRST, C_MIDDLE, and C_LAST are retrieved from the row at position *n*/2 rounded up in the sorted set of selected rows from the CUSTOMER table.
- The row in the ORDER table with matching O_W_ID (equals C_W_ID), O_D_ID (equals C_D_ID), O_C_ID (equals C_ID), and with the largest existing O_ID, is selected. This is the most recent order placed by that customer. O_ID, O_ENTRY_D, and O_CARRIER_ID are retrieved.
- All rows in the ORDER-LINE table with matching OL_W_ID (equals O_W_ID), OL_D_ID (equals O_D_ID), and OL_O_ID (equals O_ID) are selected and the corresponding sets of OL_I_ID, OL_SUPPLY_W_ID, OL_QUANTITY, OL_AMOUNT, and OL_DELIVERY_D are retrieved.
- The database transaction is committed.

Comment: a commit is not required as long as all ACID properties are satisfied (see Clause 3).

• The output data (see Clause 2.6.3.3) are communicated to the terminal.

2.6.3 Terminal I/O

2.6.3.1 For each transaction the originating terminal must display the following input/ output screen with all input and output fields cleared (with either spaces or zeros) except for the Warehouse field which has not changed and must display the fixed W_ID value associated with that terminal.

1234567890123456

2.6.3.2 The emulated user must enter, in the appropriate field of the input/output screen, the required input data which is organized as the distinct fields: D_ID and either C_ID or C_LAST.

- The emulated terminal must display, in the appropriate fields of the input/output screen, all input 2.6.3.3 data and the output data resulting from the execution of the transaction. The display fields are divided in two groups as follows:
 - One non-repeating group of fields: W_ID, D_ID, C_ID, C_FIRST, C_MIDDLE, C_LAST, C_BALANCE, O_ID, O_ENTRY_D, and O_CARRIER_ID;
 - One repeating group of fields: OL_SUPPLY_W_ID, OL_I_ID, OL_QUANTITY, OL_AMOUNT, and OL_DELIVERY_D. The group is repeated O_OL_CNT times (once per item in the order).

Comment 1: The order of items shown on the Order-Status screen does not need to match the order in which the items were entered in its corresponding New-Order screen.

Comment 2: If OL_DELIVERY_D is null (i.e., the order has not been delivered), the terminal must display an implementation specific null date representation (e.g., blanks, 99-99-9999, etc.). The chosen null date representation must not change during the test.

2.6.3.4 The following table summarizes the terminal I/ O requirements for the Order-Status transaction:

	Enter	Display Row/ Column	Coordinates
Non-repeating Group		W_ID	2/ 12
	D_ID	D_ID	2/ 29
	C_ID ¹	C_ID	3/ 11
		C_FIRST	3/ 24
		C_MIDDLE	3/ 41
	C_LAST ²	C_LAST	3/ 44
	_	C_BALANCE	4/ 16
		O_ID	6/ 15
		O_ENTRY_D	6/ 38
		O_CARRIER_ID	6/ 76
Repeating Group		OL_SUPPLY_W_ID	8-22/3
		OL_I_ID	8-22/ 14
		OL_QUANTITY	8-22/ 25
		OL_AMOUNT	8-22/ 33
		OL_DELIVERY_D	8-22/ 47
1 Enter only for quer	y by customer numb	per.	

2.6.3.5 For general terminal I/ O requirements, see Clause 2.2.