
1 The user interface in the initial POS station
generates an update object.

2 The user interface sends the update object to the
patient manager.

3 The patient manager routes all update objects and
acknowledgments.

4 The patient manager sends the update object to the
database manager.

5 The database manager sends the update object to the
database.

6 The collection of record objects within the database
is updated.

7 The update object is temporarily stored until all
acknowledgments are received.

8 The patient manager sends the update object to the PDC
manager.

9 The PDC manager sends an acknowledgment (A) to the
patient manager that it has received the update.

10 The patient manager sends that acknowledgment (A) to
the database manager.

11 The database manager sends that acknowledgment (A) to
the update object in the database.

12 The PDC manager applies the update object to its copy
of the PDC records.

13 The PDC manager sends the updated records to the PDC.

14 The patient manager sends the update object to the
communication manager.

15 The communication manager sends the update object to
the switching station.

16 The switching station sends an acknowledgment (B) to
the communications manager that it received the update.

17 The communications manager sends that acknowledgment
(B) to the patient manager.

18 The patient manager sends that acknowledgment (B) to
the database manager.

19 The database manager sends that acknowledgment (B) to
the update object in the database.

20 The update object is deleted from the database since
it has received the appropriate acknowledgments (A) and
(B).

21 The switching station sorts the update object
according to designated POS station destinations.

22 The switching station stores update objects until all
acknowledgments have been received.

23 The switching station sends the update object to
designated POS stations.

24 The POS station sends acknowledgment (C) of receipt of
the update object to the switching station.

25 The switching station receives the acknowledgment (C).

26 The POS station updates its own database just like the
initial POS station.

27 The POS station stores the update object until all
acknowledgments have been received.

28 The POS station updates the PDC database when a PDC is
presented.

29 The switching station sends the update object to the
administrative services system.

30 The administrative services system sends
acknowledgment (D) of receipt of the update object to the
switching station.

31 The switching station receives acknowledgment (D) from
the administrative services system.

32 The update object is deleted from the switching
station because it has received the appropriate
acknowledgments (C) and (D).

33 The administrative services system updates its own
database.

At the end of this series of events, the patient's PDC database **103**, as well as all designated POS databases **122** and the administrative services system database **150** are all synchronized and current. See FIG. 6. All record objects **220** (FIG. 3) have been deposited appropriately and acknowledged. All update objects **240** (FIG. 4) have been deleted from the system. And this has all been accomplished without needing to access a masterfile.

We claim:

1. A computer system for maintaining the currency of data in distributed databases, comprising:

a data communication network;

a plurality of physically separate databases, each of said databases including means for communicating with said data communication network, said databases collectively defining said distributed databases;

a processor having interface for supplying an input instruction to modify the contents of the distributed databases;

said processor being coupled to said data communication network;

said processor being operable to generate an update object in response to said instruction and to place said update object in said data communication network;

said update object having a self-contained processing tag for causing said update object to be intelligently routed along said data communication network to at least one of said plurality of databases and for causing said one of said plurality of databases to automatically modify its contents in accordance with said input instruction;

said update object further having an object-oriented data structure that defines independently created field objects and record objects, said field objects and said field objects each having stored attributes that record information about processes performed on those objects;

said data structure encapsulating data for storing information independent of said distributed databases, said data structure defining a nested, hierarchical relationship such that said field objects are encapsulated within said record objects and wherein said record objects encapsulated within said update object;

said update object thereby being configured to automatically store data and to automatically store in said attributes an historic record of processes performed on said data as said update object is routed anywhere throughout said communication network.

2. The system of claim **1** wherein said data communication network comprises a system employing a portable data carrier having memory for storing and transferring data among said plurality of databases.

3. The system of claim **1** wherein said data communication network comprises a telecommunication network.

4. The system of claim **1** wherein said data communication network comprises in combination:

a system employing a portable data carrier having memory for storing and transferring data among said plurality of databases; and

a telecommunication network.

5. The system of claim **1** wherein said data communication network is coupled to a routing processor responsive to said processing tag in intelligently routing said update object along said data communication network.

6. The system of claim **1** wherein said processing tag of said update object comprises a data structure for storing a destination datum for causing said update object to be intelligently routed along said data communication network.

7. The system of claim **1** wherein said data communication network is coupled to a routing processor and wherein said processing tag of said update object comprises a data structure for storing a destination datum that is accessed by said routing processor in causing said update object to be intelligently routed along said data communication network.

8. The system of claim **1** wherein at least one of said databases includes a database processor responsive to said processing tag in modifying the contents of its database.