

Object/Version PDM Pattern Template

Version: *Pattern Number and Name*

Description: *Brief Description of Pattern*

Table Facsimile

<u>my_oid (pk)</u>	<u>parent_oid (fk)</u>	<u>attr_n_val</u>	<u>crt_dt</u>	<u>last_updt_dt</u>
138	882	PPO	1/12/2004	1/12/2004

Table Creation DDL

```

Create table my_table (
  my_oid      int           not null,
  parent_oid  int           null,
  attr_n_val  char(10)      not null,
  crt_dt      datetime      default getdate() not null,
  last_updt_dt datetime      default getdate() not null);
  
```

Primary Key

```

Alter table my_table
  add constraint pk_my_table
  primary key (my_oid);
  
```

Index DDL

```

Create unique index
  pk_my_table
  on my_table
  (my_oid);
  
```

Foreign Keys

```

Alter table my_table
  add constraint fk_parent_child
  foreign key (parent_oid)
  references parent (parent_oid)
  on delete restrict;
  
```

```

Create clustered index
  fk_parent_child
  on my_table
  (parent_oid);
  
```

Notes: *Special design notes and options*

figure 1

Scenario Template

Scenario: *Version Pattern Number Scenario Number and Name*

Description: *Brief Description of Scenario*

Scenario Figure

1	4				
2					
3					
5					
6	6	6	6	6	6
7	7	7	7	7	7

Insert SQL

Insert into my_table
(my_oid, parent_oid, attr_val, crt_dt)
VALUES(138, 882, 'PPO', '2004-01-12');

Query SQL

Select * from my_table
where my_oid =138;

Notes: *Explanation of how the SQL works and any special notes regarding SQL and criteria. Hints, tips options.*

Query Results

<u>my_oid</u>	<u>parent_oid</u>	<u>attr_n_val</u>	<u>crt_dt</u>	<u>last_updt_dt</u>
138	882	PPO	1/12/2004	1/12/2004

figure 2

Client Table Setup

```
Create table client (  
  client_nbr          int          not null,  
  client_name        varchar(50)  not null,  
  crt_dt             datetime     default getdate() not null,  
  last_updt_dt      datetime     default getdate() not null) ;
```

```
Alter table client  
  add constraint pk_client  
  primary key (client_nbr);
```

```
Insert into client (client_nbr, client_name, crt_dt)  
  values (882, 'Mary Client', '2004-01-19');
```

figure 3

Object/Version PDM Pattern

Version Pattern 1: Updating in Place

Description: No versioning with updates occurring in place, and the end of an object's episode is represented by the deletion of the object.

Table Facsimile

<u>policy_nbr</u> (pk)	<u>client_nbr</u> (fk)	<u>policy_typ</u>	<u>crt_dt</u>	<u>last_updt_dt</u>
138	882	PPO	2004-01-12	2004-01-12

Table Creation DDL

```
Create table p1_policy (
  policy_nbr  int           not null,
  client_nbr  int           null,
  policy_typ  char(10)      not null,
  crt_dt      datetime      default getdate() not null,
  last_updt_dt datetime      default getdate() not null );
```

Primary Key

```
Alter table p1_policy
add constraint pk_p1_policy
primary key (policy_nbr);
```

Index DDL

```
Create unique nonclustered
index ix_pk_p1_policy
on p1_policy
(policy_nbr);
```

Foreign Keys

```
Alter table p1_policy
add constraint pk_p1_policy_client
foreign key (client_nbr)
references client (client_nbr)
on delete no action
on update no action ;
```

```
Create clustered
index ix_fk_p1_policy_client
on p1_policy
(client_nbr);
```

Notes: We clustered this table by the foreign key because access is normally by a foreign key. The delete/update rule is set to "no action" which is similar to "restrict"; however, cascade could be used, also. Remember, however, there is no versioning.

figure 4

Scenario

Scenario 1.1 of Version Pattern 1: an Insert to the Policy Table

Description: shows the result of entering Mary's policy into the Policy table

Scenario Figure

Scenario 1.1	The table after policy P138 has been inserted.			
Policy	Each row of this table represents a legal contract between AHIC and an individual (the client), under which AHIC will reimburse the client for covered health care services.			
n/a				
policy-nbr (PK)	client-nbr (FK)	policy-type	crt-dt	last-updt-dt
P138	C882	PPO	1/12/04	{null}

Insert SQL

```
Insert into p1_policy
(policy_nbr, client_nbr, policy_typ, crt_dt, last_updt_dt)
VALUES(138, 882, 'PPO', '2004-01-12', '2004-01-12');
```

Query SQL

```
Select * from p1_policy
where policy_nbr=138;
```

Notes: Add and look up Mary's Policy.

Query Results

policy_nbr	client_nbr	policy_typ	crt_dt	last_updt_dt
138	882	PPO	2004-01-12	2004-01-12

figure 5

Scenario

Scenario 1.2 of Version Pattern 1: an Update on the Policy Table

Description: On 3/14/05, Mary changes her policy type from PPO to HMO (Health Maintenance Organization). After that change is recorded in the Policy table, Mary's Policy row looks like this:

Scenario Figure

Scenario 1.2	The table after Policy P138's policy type has been updated.			
Policy				
Each row of this table represents a legal contract between				
n/a				
policy-nbr (PK)	client-nbr (FK)	policy-type	crt-dt	last-updt-dt
P138	C882	HMO	1/12/04	3/14/05

Update SQL

```
Update p1_policy
Set policy_typ='HMO', last_updt_dt='2005-03-14'
where policy_nbr=138;
```

Query SQL

```
Select * from p1_policy
where policy_nbr=138;
```

Notes: Update Mary's Policy in place. We've lost all record that Mary originally had PPO

Query Results

policy_nbr	client_nbr	policy_typ	crt_dt	last_updt_dt
138	882	HMO	2004-01-12	2005-03-14

figure 6

Scenario

Scenario 1.3 of Version Pattern 1: *a Physical Delete to the Policy Table*

Description: *On 6/1/06, Mary's policy is ended (by contract expiration, explicit termination, revocation, etc. - it doesn't matter). This is recorded, using Version Pattern 1, by physically deleting her policy's row in the Policy table.*

Scenario Figure

Scenario 1.3		The table after Policy P138 has been physically deleted.		
Policy				
Each row of this table represents a legal contract between				
n/a				
policy-nbr (PK)	client-nbr (FK)	policy-type	crt-dt	last-updt-dt

Delete SQL

Delete from p1_policy
where policy_nbr=138;

Query SQL

Select * from p1_policy
where policy_nbr=138;

Notes: *Mary's Policy is deleted. We've lost all record that Mary originally had PPO, HMO, or had any policy whatsoever*

Query Results

policy_nbr	client_nbr	policy_tpy	crt_dt	last_updt_dt
[no row]				

figure 7