Article

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Adopted Bitmap

The base class Bmap.Person defines persons within an organization distributed
by various countries. All records are indexed by (Country, PersonalId).
this structure doesn't allow use of bitmaps.

So a wrapper class Bmap.PersonQ around the data eliminates the top level of
the index (Country) and isolates the PersonalId (%Integer, MINVAL=1).
We are ready to use a Bitmap index.

A few performance figures on 300010 generated records.
You see that Relative Cost are sometimes quite misleading.

base

```
select count(*) from Bmap.Person
300010 global references 1600446 lines executed
```

demo 1

```
select count(*) from Bmap.Person where Ctry='RU'
Relative cost = 197762
10015 global references 70474 lines executed
```

select count(*) from Bmap.PersonQ where Bmap.Ctry('RU')=1
Relative cost = 401400
10 global references 424 lines executed

demo2

```
select count(*) from Bmap.Person
   where Ctry='RU' and home_state='MA'
Relative cost = 457.96
218 Global references 2335 lines executed
```

select count(*) from Bmap.PersonQ
where Bmap.Ctry('RU')=1 and homestate='MA'
Relative cost = 2012.8
16 global references 478 lines executed

demo3

```
select home_state,count(*) from Bmap.Person
   where Ctry='RU' group by home_state
```

```
Relative cost = 372162
Row count: 50 Performance: 0.027 seconds
10420 global references 153708 lines
```

select home_state,count(*) from Bmap.PersonQ
where Bmap.Ctry('RU')=1 group by home_state
Relative cost = 453400
Row count: 50 Performance: 0.018 seconds
817 global references 155475 lines executed

GitHub

#ObjectScript #InterSystems IRIS

Source URL:https://community.intersystems.com/post/adopted-bitmap