Article
Robert Cemper · Mar 22, 2019 2m read

 Open Exchange
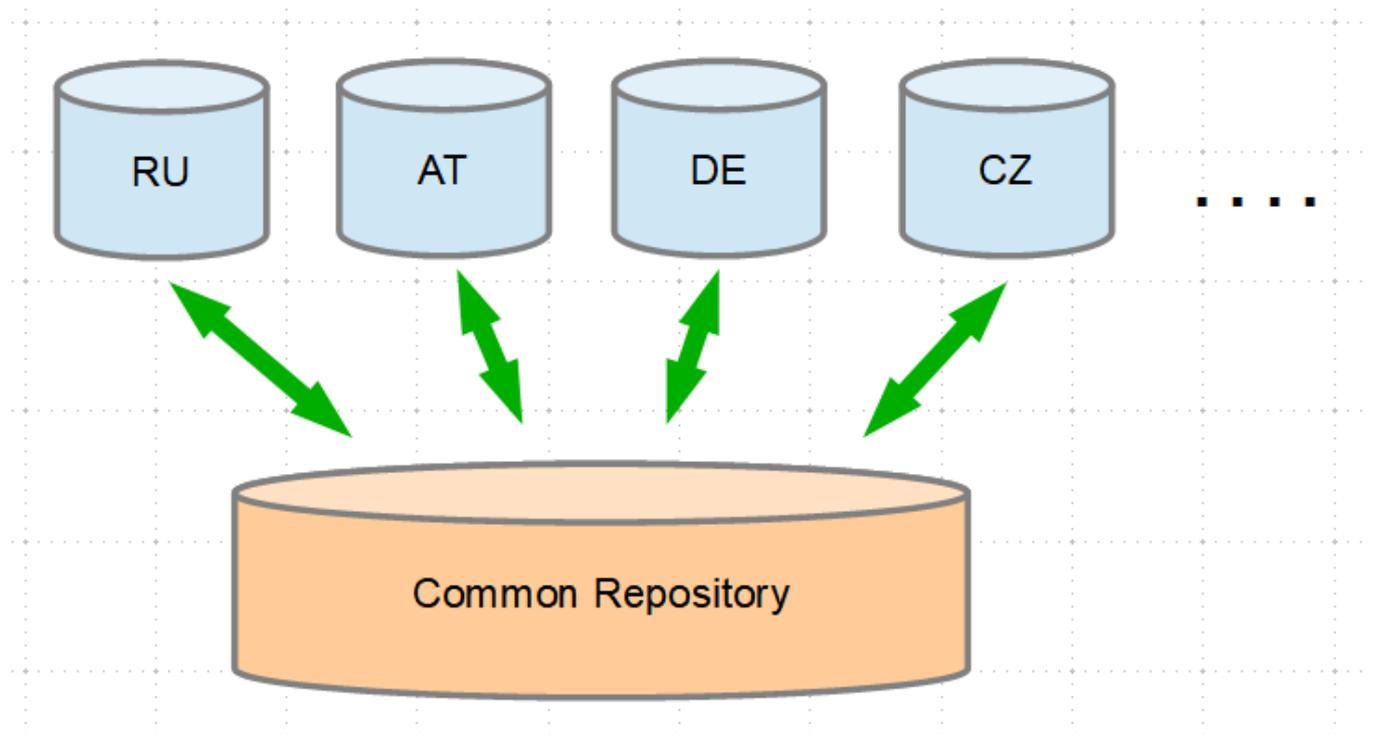
Adopted Bitmaps example now on Open Exchange

In my earlier article on Adopting Bitmaps I described the technique already.
Now you can find a code example also on Open Exchange.

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This is a coding example working on Caché 2018.1.3 and IRIS 2020.2
It will not be kept in sync with new versions
It is also NOT serviced by InterSystems Support !
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Summary:

The base class Bmap.Person defines persons within an organization distributed
by various countries. All records are indexed by (Country, PersonalId).
The idea is to separate data by country and have an easy way to MERGE it into a common Repository

As you know this structure doesn't allow the use of bitmaps.

So a wrapper class Bmap.PersonQ around the data eliminates the top level of
the index (Country) and isolates the PersonId (%Integer, MINVAL=1) as its IdKey
Now you are ready to use a Bitmap index.

A few performance figures on 300010 generated records.
You see also that Relative Cost is sometimes quite misleading.
At the end of the day, the count of Global references and Lines Executed is the truth.

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

Test #1: total count for a specific country
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

Test #2: Persons with a specifc Home_State
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 home_state='MA'
Relative cost = 2012.8
16 global references 478 lines executed

Test #3: Persons by Home_State
select home_state,count(*) from Bmap.Person where Ctry='RU' group by home_state
Relative cost = 372162
Row count: 50
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
817 global references 155475 lines executed

Here it is obvious that grouping takes quite a significant part of lines executed.

#Globals #Indexing #Performance #SQL #Caché #Ensemble #InterSystems IRIS #Open Exchange
Check the related application on InterSystems Open Exchange

Source URL: https://community.intersystems.com/post/adopted-bitmaps-example-now-open-exchange