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Product Implementation Training (PIT)

IBM FileNet Content Manager 5.2
Result Counts

Introduction

- Course Overview
  - Result Count Architecture
  - Demonstration
  - Best Practices, Troubleshooting and Documentation
- Target Audience
  - Customer Support and Field Technical Resources
- Prerequisites
  - Familiarity with Content Platform Engine
- Release Date March 2013

Course Objectives

After this course you will be able to:

- Understand the Result Count Architecture
- Configure Server Settings
- Write CE API Code for Result Counts
- Know Best Practices and Troubleshoot

Course Roadmap

- ➔ Product Fundamentals
  - Result Count Architecture
  - Server Settings
  - Coding a Result Count Search
- – Demonstration
- – Best Practices
- – Troubleshooting
- – Documentation

Result Count Architecture

- *Use Case:* A general user would like an indication of how many more results lie ahead in a CE API search against an object store
  - How many more items are in a folder than the display shows
  - How many more search results could be paged to
- *New Feature:* Searches can specify a “Look Ahead” count option
  - SELECT … FROM … OPTION (COUNT_LIMIT N)
    - Only allowed for paged searches
    - Look ahead is only done once, as part of the first page request
    - Look ahead pages internally at 2x pagesize to count to N
    - Allows extended result set traversal if desired
      - Can still be slow for millions of results
      - Security access to results is checked

Result Count Architecture (cont'd)

- *New Feature (cont'd):*
  - SELECT … FROM … OPTION (COUNT_LIMIT N)
    - Must use the CE API to access the count
      - CE API page iterator method call *getTotalCount()*
    - Compatible with TOP N
      - Effective count limit is Min(Count Limit N, Top N)
    - Compatible with CBR
    - Timeout during look ahead returns partial count found
      - Timeout during any search is now thrown when the following page is retrieved to allow for partial result sets
    - Not allowed with merged scope searches

Server Settings

- Domain ServerCacheConfiguration properties
  - QueryCountDefaultSize
    - Used when N = 0 in the COUNT_LIMIT Option
    - Default is twice QueryPageDefaultSize
  - QueryCountMaxSize
    - Server-wide maximum
      - Caps look ahead requested in user searches
    - Default is twice QueryPageMaxSize
    - Setting value to 0 disables all look ahead
      - In case of an impact on system performance

Coding Result Counts

- Java method:
  - *Interface PageIterator*
  - *Method: Integer getTotalCount();*
- C# property:
  - *Interface IPageEnumerator*
  - *Property: Nullable<int> TotalCount;*
- Return values:

  null : Unknown or not requested

  >= 0 : Exact count

  < 0 : Minimum (negative of the minimum value)

Coding Result Counts (cont'd)

- Pseudo Java Code

```
SearchSQL sql = new SearchSQL(sqlString);
SearchScope ss = new SearchScope(objStore);
RepositoryRowSet rrs = ss.fetchRows(sql, pageSize, null, true);
PageIterator iter = rrs.pageIterator();
Integer resultCount = iter.getTotalCount();
while (iter.nextPage())
{
    RepositoryRow [] rr = iter.getCurrentPage();
    ...
}
```

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- ➔ Demonstration
- Best Practices
- Troubleshooting
- Documentation

Best Practices

- Result Counts work best when:
  - COUNT_LIMIT is a multiple of twice the search page size
  - Search has a WHERE condition on an indexed property
  - Keep in mind the RPC time limit settings on the server
  - Keep the search page size < few thousand
    - Frees shared locks
    - Avoids table scans
  - Set the QueryCountMaxSize as needed for performance controls

Troubleshooting

- Result Count is slow
  - Ensure search uses an indexed property
    - Multiple pages will return multiply slow if first page is not fast
  - Check the paging search time using P8 server tracing
    - Enable P8 Server tracing for Search and Database (with detail)
- Result Count times out
  - Ensure the Object Store RPC Timeout is large enough
    - DefaultQueryTimeLimit
    - MaxQueryTimeLimit

Documentation

- SQL Syntax Reference - Query Option: Count_Limit
  - Internal Information Center (available now):
    - http://cmfogbert.usca.ibm.com:7777/p8ic520/topic/com.ibm.p8.ce.dev.ce.doc/query_sql_syntax_rel_queries.htm
  - External Information Center (available at eGA):
    - http://pic.dhe.ibm.com/infocenter/p8docs/v5r2m0/topic/com.ibm.p8.ce.dev.ce.doc/query_sql_syntax_rel_queries.htm