

SNCL Software and Services

IBM Cognos BI Series 7 to IBM Cognos 8 Migration Roadmap

This white paper serves to map out the migrations landscape for IBM Cognos deployments to IBM Cognos 8.

SNCL advocates a modified hybrid approach of “Compress and Optimize” and “Lift and Shift” methodology recommended by IBM Cognos. This paper will outline the SNCL approach using this methodology.

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Cognos Migrations from Previous Versions to 7.4

In order to properly migrate your Cognos deployment to Cognos 8 , you will need to make sure that the deployment is running version 7.4. The IBM Cognos migration tools require version 7.4, although the SNCL tools do not.

IBM Cognos Deployment Assessment

A thorough assessment of the deployment will result in significantly less cost, more value added, and higher chances of success.

The objective is to migrate only the reports and metadata that is currently providing value to the user community. Other benefits:

- 1) The IT Department can use this opportunity to centralize the deployment. This will make the deployment smaller and more manageable going forward.
- 2) The IT Department has the opportunity to improve on existing Change Management policies and procedures, and establish documented best practices/standardization (naming conventions, development / maintenance procedures, etc.)

Determining the Report Candidate Universe

Typically, there are 2 ways to determine the Report Candidate Universe:

- 1) Programmatically, through the analysis of report usage logs
- 2) IT/Management/End User Report Qualification

If the deployment is distributed in terms of users creating and running their own reports (typically with Impromptu client and Powerplay client), the migration team will need to set up a common area on the network, and communicate to the user community with a request to move all of their report candidates to the common area. This will qualify the reports, and allow the migration team to extract the report metadata.

Metadata Extraction

Once the report candidates are collected into common areas, the migration team will need to extract the metadata into a repository (such as Metadata Manager) for analysis. After deployment optimization and compression, the repository will then provide a migration roadmap with a smaller, leaner BI deployment.

IBM Cognos Deployment Preparation

This step is optional if the deployment is considered small and manageable, or if the deployment has already been optimized from the perspectives of metadata, reports, and performance. Typically, it is highly recommended for large deployments and distributed (user authored) reporting environments.

Cube Optimization

This exercise seeks to 1) Clarify the cube metadata; 2) optimize cube build time and cube usage performance

Tasks:

- 1) Remove unreferenced columns in the cube
- 2) Avoid Calculated Columns in the Transformer model
- 3) Convert all non-iqd data sources to iqds
- 4) Optimize the SQL data source queries
- 5) Check iqd field names for metadata standardization
- 6) Ensure proper data retention
- 7) Confirm that all MUN's are unique and stable (no tilde values)

Cube Consolidation

Run queries from the Metadata Extraction tool to determine whether cubes can be consolidated. This scenario typically exists in deployments that are cube intensive (that mostly use cubes as BI content). Typically, an opportunity exists to consolidate cubes only if changes to the target cube are non-impacting.

Report Consolidation to Cubes

Consolidating existing SQL based reports into cubes has the following benefits: 1) There will be potentially less SQL based reports to be migrated; and 2) This will encourage users to use OLAP Sources (cubes) instead of SQL based reports for their content.

Report Consolidation to Existing Cubes

Run queries from the Metadata Extraction tool to determine whether existing reports from the Report Universe can be consolidated into any of the existing cube(s) in Production. If the opportunity exists, either without cube changes or with non-impacting changes, then make cube changes as needed, re-author the report from the existing cube, and eliminate the report from the Report Universe.

Report Consolidation to New Cubes

Run queries from the Metadata Extraction tool to determine whether existing reports from the Report Universe can be consolidated into a new cube.

This exercise could substantially reduce the number of SQL report candidates that need to be migrated. Compare the cost benefit of the number of reports reduced against the cost of developing the cube. Typically, cubes require less maintenance and provide much more reporting content than comparable SQL based reports.

Catalog Consolidation/Reduction

Run queries from the Metadata Extraction tool to determine whether you can reduce the number of catalogs that will be migrated into Framework Manager. Typically, only one catalog should represent each Data Source.

After consolidating catalogs, catalog reduction is highly recommended. This involves the following steps:

- 1) Listing all tables/views that are being used by all reports in each catalog in the Reporting Universe;
- 2) Deleting all tables in each catalog that are not being used by at least one report.

Determine the list of tables/views using the Metadata Extraction tool.

Report Performance Optimization

Determine a performance threshold for Impromptu and Powerplay reports. Then determine poor performing reports using either the audit usage logs, or user feedback. A discussion of optimizing SQL (Impromptu) reports can be quite extensive. In general, a few guidelines are listed below:

- 1) Eliminate unneeded columns in the report (subtotals, in particular)
- 2) Rework the report to run database only (if possible)
- 3) Create views (or materialized views) in the database, and add the views to the catalog
- 4) Optimize the database by providing indexes
- 5) Utilize ETL processes to create DW tables instead of using views

It is not recommended at this time to perform cube optimization. Cube Performance Optimization should be done in IBM Cognos 8, after the migration.

As stated before, after any changes, the reports need to be updated in the metadata repository.

Report Metadata Optimization

This exercise seeks to identify duplication in the report metadata.

Reporting Elements Consolidation

Identify and resolve elements that have the same business meaning. For example, “Customer” and “Customer Name” could mean the same thing.

Reporting Element Definitions Consolidation

Identify and resolve elements that have the same definition. For example, “Customer Name” and “Name” have the same definition.

When consolidation is desired, run impact on these elements and/or definitions, make changes to the reports, move to Production, and then reregister the reports.

Migration Plan

It is recommended that the Migration Plan be executed in the following order:

- 1) Cube Migration
- 2) Cube Views Migration
- 3) Framework Manager Modeling
- 4) SQL Report Migration

Cube Migration Plan

This provides the most value for the migration effort, is inherently the easiest to do, and has the least amount of potential rework. Cubes can be migrated very quickly and easily into Powerplay Studio. As long as the cubes are migrated, the process to migrate Transformer to IBM Cognos 8 is non critical to the migration process.

- 1) Run PCOptimizer on your existing Powerplay 7.4 cubes.
- 2) Create an OLAP data source in Framework Manager
- 3) Publish the data source as a package.
- 4) Open in Powerplay Studio.

Cube Views Migration

Cube Views migration is relatively easy using the IBM Cognos migration utility. However, it is highly recommended to validate custom views first, using the metadata repository (such as Metadata Manager). Metadata Manager can validate cube views in batch, and provide a list of views that are either corrupt or could not be opened. List and eliminate these views from your Report Universe, or recreate them, before using the IBM Cognos custom views migration utility. Not doing so will cause errors.

Framework Manager Modeling

It is highly recommended to perform Catalog Consolidation/Reduction first.

There are 2 methods to convert the existing catalog metadata into Framework Manager:

- 1) Use the IBM Cognos catalog migration utility, then validate; or
- 2) Author the metadata in Framework Manager manually.

It is suggested to migrate the catalog using the IBM Cognos catalog migration utility first, and then see how much rework is involved.

If there is a significant amount of rework, then author the metadata in Framework Manager manually. Follow the steps below.

- a. Produce the migration roadmap files from your metadata repository (such as Metadata Manager).
- b. Add Data Sources as directed by the roadmap.
- c. Add Data Source Tables as directed by the roadmap.
- d. Add table relationships as directed by the roadmap.
- e. Produce Business Level namespace.
- f. Produce packages and publish to Connection portal.

Impromptu Report Migration

There are 2 methods to convert the existing Impromptu reports to Report Studio:

- 1) Use the IBM Cognos report migration utility.
- 2) For reports that require too much rework to migrate, reauthor the reports manually.