



## CASE STUDY | Boehringer Ingelheim

# Secure High Volume Data Migration to FirstDoc

In the pharmaceutical industry, modifications in operational procedure, business area changes or simply the integration of a new corporate acquisition often lead to massive adaptation costs. In order to simplify matters, many companies therefore move from highly customized Document Management Systems (DMS) to standardized systems like FirstDoc. This often implies a content migration of extremely large data volumes with complex structures and an extensive version history. A successful project of this kind at Boehringer Ingelheim demonstrates how this can be done with migration-center from fme.

For more than 13 years, Boehringer Ingelheim had been running a Documentum system tailored to its specific needs and containing more than 12 million submission relevant documents. All of these had to be migrated to a Documentum-based FirstDoc system. In the project, three major challenges had to be overcome:

- This very large document collection, originating from different company departments globally, had to be transferred safely and accurately to the new system, under full observance of all regulatory requirements and with an audit trail of the migration.
- The migration had to take into account specific and historically grown structures of different business areas, successfully map existing document attributes to the new FirstDoc requirements and reflect the needs of improved business processes.
- During the migration project's 6 month migration duration, the old system would have to continue to be fully operational. All documents, including those created or modified during that interval, had to be available on day one of the new system.

## A Change of System Philosophy

Changing from the old customized DMS to a standardized system also introduced a completely new system philosophy and the kind of metadata associated with documents.



fme expertise for the product lifecycle in the life science industry



### Boehringer Ingelheim

The Boehringer Ingelheim group is one of the world's 20 leading pharmaceutical companies. Headquartered in Ingelheim, Germany, it operates globally with 145 affiliates and over 44,000 employees. Founded in 1885, Boehringer Ingelheim is a family-owned company. Its core activities are the research, development, production, and marketing of new products with high therapeutic benefits for human and veterinary medicine.

Two examples will illustrate this: Storing documents in FirstDoc follows a strict set of rules, primarily defined by the attributes »Document Type«, »Document Sub-type« and »Document Unit«. Those attributes, however, do not exist in the old system and therefore had to be created by extracting and combining information from different data sources.

The old system used virtual documents, each with many associated subdocuments, where only the main document actually carried attributes. FirstDoc however requires all documents, including subdocuments, to be attributed.

The task: Satisfying the requirements of the new FirstDoc attributes as well as tagging each subdocument correctly with the original main document attributes requires the application of specific transformation rules. This ensures that each single document in the new system can be found and worked on just as in the old system.

In addition to the above requirements, some 5,000 plus rules in one business area alone had to be correctly handled. This kind of complexity is in part caused by the different system philosophies, even more so by the historically grown structures within individual Boehringer business areas. Migration complexity of this kind cannot be handled through in-house developed scripts.

## The Chosen Approach

To manage such a highly complex and large volume migration, the team at Boehringer Ingelheim was ably assisted by fme's specialists for Documentum, FirstDoc and content migration. In order to automate the process as much as possible, the team used fme's migration-center, now recognized as the world's leading software for content migration. A FirstDoc adapter was created to utilize FirstDoc's out of box automatic folder structure creation and strict conformity to the FirstDoc metadata requirements and configuration. Any deviations are listed in an error report.

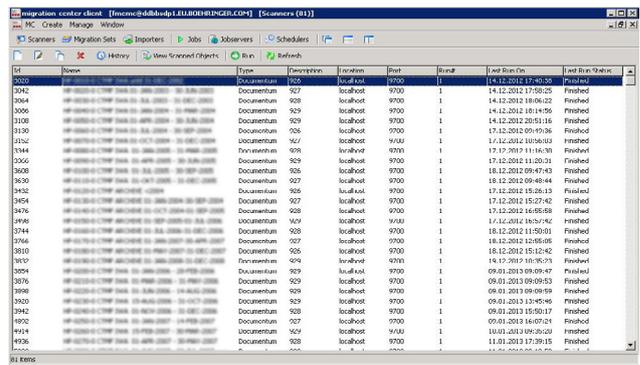
## Maintaining Transparency Despite Thousands of Rules

In the course of the project, transformation rules had to be defined both for the extraction of information from the legacy system as well as for transforming the content into the right format as required by the new system. In the area of human pharmaceuticals, for example, they manage the accurate mapping of metadata from the old to the target system. And for the regulatory department they handle the transfer of an extensive version history in accordance with regulatory requirements. In order to assure that the creation of such an extensive and complex set of rules runs smoothly and error-free the project was divided into five distinct phases.

During the analysis phase, interviews with representatives of the departments helped to identify the structure and the specific migration requirements of the data in question. For each, the right migration approach was then determined, leading to specific rules, with close attention to the historic structure of the original source content. This was followed by a prototyping phase during which test batches of documents were being migrated and reviewed by users from the departments. After their review, a series of formal tests were then conducted to make sure all transformation rules produced the desired results. Finally, department-by-department, the content was then officially migrated to the new target system. A particular technique using Delta Migration (explained below) helped to make sure that users could switch virtually over night from the old to the new system.

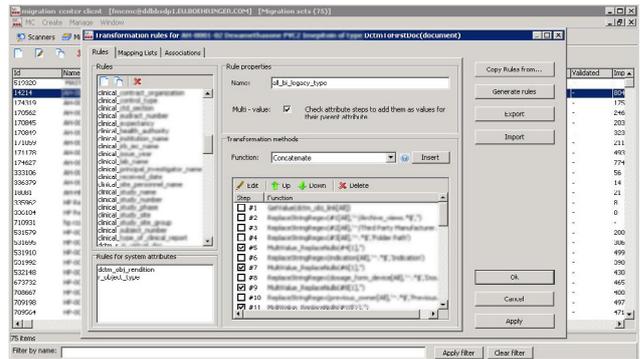
## The Delta Migration Concept

The special migration-center technique for a final disruption-free changeover to the new system is based on the idea of progressive delta migrations while the old system continues to run fully operational. This means, while major portions of the data are successively migrated into the new systems, the users continue to work with the old system undisturbed and just as before. Any changes on the old system on already migrated documents is automatically detected by the migration-center and re-transferred on the next run, so that only new and modified documents are being migrated.



ID	Name	Type	Description	Method	Host	Status	End Date
3042	...	Documentum	926	localhost	9700	1	14.12.2012 17:50:25
3044	...	Documentum	927	localhost	9700	1	14.12.2012 18:09:22
3006	...	Documentum	929	localhost	9700	1	14.12.2012 18:14:56
3128	...	Documentum	928	localhost	9700	1	14.12.2012 20:21:16
3130	...	Documentum	926	localhost	9700	1	17.12.2012 09:19:36
3132	...	Documentum	927	localhost	9700	1	17.12.2012 10:16:02
3044	...	Documentum	928	localhost	9700	1	17.12.2012 11:46:30
3045	...	Documentum	929	localhost	9700	1	17.12.2012 11:40:31
3008	...	Documentum	926	localhost	9700	1	18.12.2012 09:47:43
3050	...	Documentum	927	localhost	9700	1	18.12.2012 09:49:44
3452	...	Documentum	926	localhost	9700	1	17.12.2012 15:36:13
3454	...	Documentum	927	localhost	9700	1	17.12.2012 15:27:42
3476	...	Documentum	928	localhost	9700	1	17.12.2012 16:55:58
3496	...	Documentum	929	localhost	9700	1	17.12.2012 16:51:42
3744	...	Documentum	928	localhost	9700	1	18.12.2012 11:50:01
3746	...	Documentum	927	localhost	9700	1	18.12.2012 12:05:06
3810	...	Documentum	926	localhost	9700	1	18.12.2012 12:12:42
3820	...	Documentum	929	localhost	9700	1	18.12.2012 12:05:21
3824	...	Documentum	929	localhost	9700	1	09.01.2013 09:59:47
3076	...	Documentum	929	localhost	9700	1	09.01.2013 09:59:53
3690	...	Documentum	929	localhost	9700	1	09.01.2013 09:59:59
3920	...	Documentum	929	localhost	9700	1	09.01.2013 13:45:46
3942	...	Documentum	928	localhost	9700	1	09.01.2013 13:50:17
3922	...	Documentum	927	localhost	9700	1	09.01.2013 16:07:24
3914	...	Documentum	929	localhost	9700	1	10.01.2013 09:59:20
3926	...	Documentum	928	localhost	9700	1	11.01.2013 17:29:15

migration-center with Scanners



ID	Name	Rule	Mapping	Association
12124	...	...	...	...
174310	...	...	...	...
170062	...	...	...	...
170845	...	...	...	...
170695	...	...	...	...
171899	...	...	...	...
171178	...	...	...	...
174407	...	...	...	...
333106	...	...	...	...
336379	...	...	...	...
33884	...	...	...	...
339690	...	...	...	...
200414	...	...	...	...
710931	...	...	...	...
931679	...	...	...	...
320990	...	...	...	...
331910	...	...	...	...
221296	...	...	...	...
323148	...	...	...	...
673732	...	...	...	...
708607	...	...	...	...
709198	...	...	...	...
709204	...	...	...	...
441	...	...	...	...

migration-center with Transformation Rules

The successive migration runs become ever smaller until everything has been transferred.

Before the final run, parallel operations are of course stopped. But as this occurs over a weekend it represents no restriction on the users.

## Managing the Risks of Content Migration

According to Boehringer's experience, two things were the main contributing factors to minimizing the risks of such a large migration: The first was the know-how of the project team and the stringent project organization. People with expert knowledge of the old as well as the new systems were paired with technical competence and the experience of the user departments. The second success factor was the flexibility and transparency of the migration tools themselves. »The Delta Migration Concept was the optimal approach for us, and the migration-center definitely the right tool«, says Paul Yuhasz, Boehringer's project leader of the migration. »With this we managed to migrate all documents accurately, in auditable fashion and under observance of all regulatory requirements. During migration we received detailed reports on progress and potential errors. Despite the large data volume and the complexity of the migration, the fme staff tackled all challenges professionally and with high dedication to the project.«

After this positive experience and the excellent user acceptance throughout the project, it is now decided to use fme's migration-center also for other migrations of legacy data from corporate acquisitions and other departments.