

Protect your data once and for all

Information is the life blood of business. Making decisions based on out-of-date or incorrect information may result in lost revenue, upset customers or compliance violations and may threaten the viability of the company.

Managing the data is easier when the data definitions and business rules are centrally defined outside the program code. If any of the definitions or rules need to be changed, you only have to make that change in one place! Secondly, you will want to make sure that any program or utility that accesses the data uses the most recent definitions and business rules. In other words, to protect your data, you want the definitions and rules centrally deployed, without exception.

Considering that many companies use a variety of programming languages and utilities that may access the same set of data, that's easier said than done.

LANSA provides tools, collectively called the LANSAs Repository, that describe, store and deploy data definitions and their related business rules.

This Repository facility has always been available to programs developed in LANSAs and programs that use LANSAs Open for .Net to access data. However, from Version 12 onwards, LANSAs Enforcement Triggers can provide the same level of protection to any program or utility that accesses data that has been described in the LANSAs Repository, even Data File Utility (DFU).

Describing the Data and Rules

The Repository allows you to describe data items ("fields" in IBM i terminology) and their business rules, plus tables ("files" in IBM i terminology) and their business rules.

Data item definitions may include:

- Name – a variable programs can refer to
- Labels – for the user interfaces
- Data type – strings, numbers

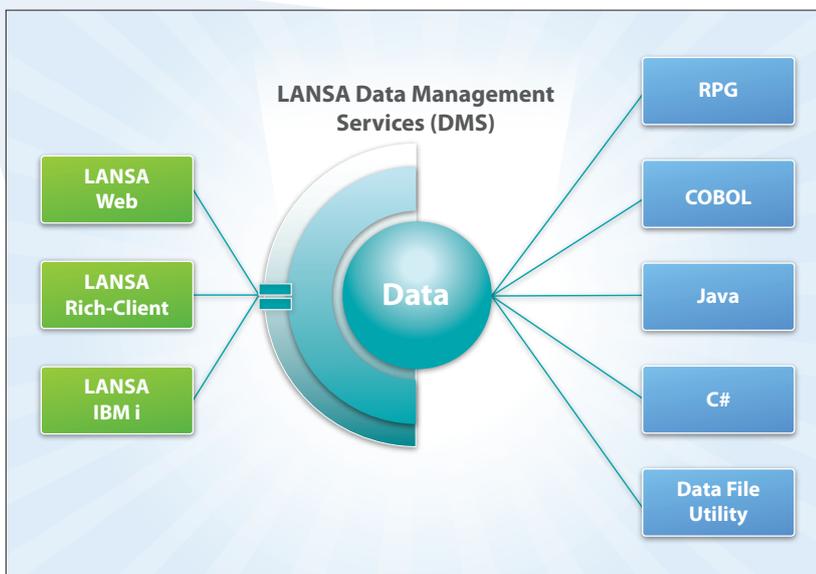


Figure 1: The LANSAs Data Management Services have always protected data when accessed by programs developed with LANSAs.



TECHNICAL ARTICLE
by Richard Lancaster

- Formats – such as dates in various representations
- Validation rules – for example the data item must not be blank
- Actions – actions that need to happen under certain conditions
- Help text – for a better understanding

A table definition may include:

- A list of the data items in the table. Data items can be physical or derived. The latter meaning that their value is based on the value of other data items from the same table or from other tables.
- Validation rules specific to the table context, for example a validation for a customer table could be that you are not allowed to delete a customer if invoices or orders exist for that customer.
- Actions specific to the table context, for example, if a customer record is updated in this table, update customer information in other tables as well (a typical CRM scenario).
- Indexes and relationships with other tables.

All of the specifications are declarative, describing what the objects (data, tables and rules) are like, rather than the code to create them. LANSAs stores the descriptions in database tables in the Repository.

The Repository typically contains thousands of definitions and rules, depending on the size of the application. That's really where the logic is or should be defined, so the applications that use the data don't have to repeat the same definitions and rules.

Deploying the Definitions

From the data, table and business rule descriptions stored in the Repository, LANSAs generates an executable program to manage access to the data. This could be a compiled

C#, C or RPG program, depending on the platform. This executable is a component of LANSAs Data Management Services (DMS).

The DMS provides independence for the data from the applications that use it and provides independence from the database management systems in which the data resides. This means that when you want to move your application to another platform, you simply move and deploy the Repository definitions to the other platform. This is a feature that our solution partners specifically like, because it provides complete cross platform capabilities for their solution.

Enforcing the Rules to All

The LANSAs Data Management Services have always been available to programs developed with LANSAs and programs that use LANSAs Open for .Net to access data.

But how can you enforce the LANSAs DMS routines that deploy the definitions and business rules (potentially thousands) to other applications and utilities? This is where LANSAs Enforcement Triggers come in. Deployed as triggers at the database level, from Version 12 onwards LANSAs Enforcement Triggers can provide the same level of protection to any program or utility that accesses data that has been described in the LANSAs Repository.

A few Enforcement Triggers may activate hundreds of LANSAs DMS defined rules and validations.

How About Existing Datasets?

You can import the definitions of any existing dataset into the LANSAs Repository and then optionally further enhance the definitions using the LANSAs Repository tools. This process of making a file known to LANSAs does not affect the file itself, nor does it involve any duplication of data.

Many companies use the Repository on top of a packaged solution, such as JD Edwards or Insure/90. It allows them, for example, to define more user friendly field names, add formula/derived fields and define additional rules and actions, without affecting the packaged solution itself. It is like putting a mask on top of a dataset or viewing the dataset through a different pair of glasses.

The Benefits of the DMS

With the LANSAs DMS you have one resource to manage the data, acting as a guard to ensure that programs cannot perform inappropriate actions to the data.

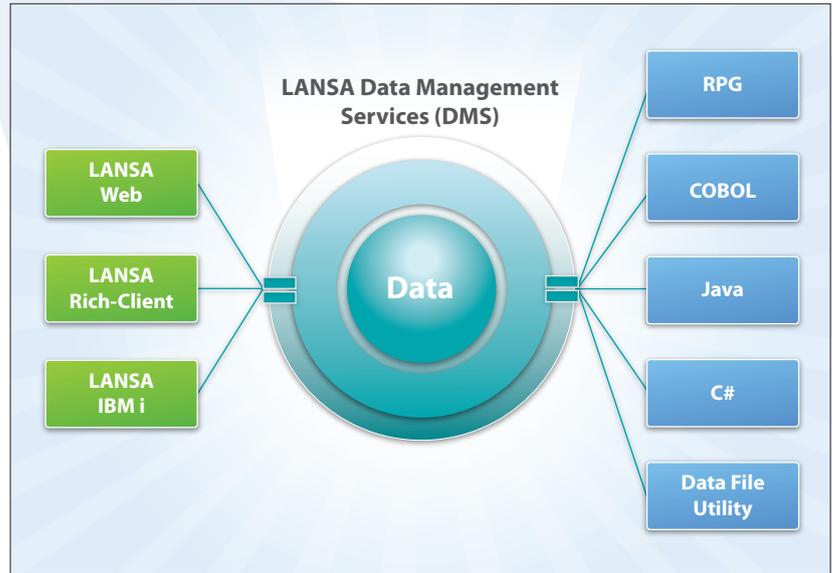


Figure 2: From Version 12 onwards, LANSAs Enforcement Triggers can provide the same level of protection to any program or utility that accesses data described in the LANSAs Repository.

"A major benefit of LANSAs and its Repository is the ease of making changes. That is what first attracted us to LANSAs and what we still see as its major benefit today. The second benefit is the integrity of the data. Referential integrity and accuracy is something LANSAs customers take for granted, but a lot of other organizations cannot claim the same. LANSAs central data definition Repository ensures database integrity and practically removes the need for recompiling programs after a database change."

– Mike Palma, Director of IT, ViaTech Publishing Solutions

You have one place to maintain when change occurs. You do not need to find every program that has access to the database and then modify, compile and test each program – and risk that you may overlook a program.

The LANSAs DMS protects your data from any application that wants to access the data, including COBOL programs, C# programs, Java programs, RPG programs and utilities like DFU. The protection applies even when you implement access to your data via Web services or Microsoft Excel.

LANSAs Data Management Services provide:

Single point of protection for your data but universal coverage – Whether by mistake or intentionally, no program or utility can corrupt your data or cause referential integrity problems. Not even using DFU.

Reduced maintenance costs – With LANSAs you change the definition once, rebuild the Data Management Service and deploy it – no need to change a class and

repair the repercussions, no need to change a /COPY (copybook) and recompile every program that uses the copied code.

Consistency – The business rules associated with a dataset reside in one place and when the rules change you only need to maintain it in the one place. All programs that access the dataset through the LANSAs DMS instantly use the same changed rule.

Business level definitions – When the rules are described at a business level, rather than being coded in a particular programming language, maintenance is easier. The LANSAs tools use data abstraction to remove details specific to program language, database and platform deployment.

Cross platform capabilities – It's easy to generate the Data Management Services for another platform from the same Repository definitions.

LANSAs Data Management Services protect your data once and for all. ■