



Creation of own rules - The validation rules editor

August 2011

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Contents

1. Introduction.....	3
Conditions.....	3
Definitions	3
Fact – precisely addressed, one value, reported within the report.....	3
Objectives.....	3
2. The rules management.....	4
The rules origin	4
The rules types	4
aSISSt’s rules browser.....	5
Migration of own rules from one taxonomy to another	6
Activation and deactivation of the rules	6
3. The rules editor	7
Selection of facts – aliases	8
Definition of the expression with aliases.....	8
Direct definition of the expressions.....	9

1. Introduction

Conditions

The data reported by banks is subjected to many rules and relationships, which overall consistency allows user to presume that the data is correct. The possibility of detecting the inconsistencies in the reports is very important. The aSISSt system enables validation based on the rules defined within XBRL taxonomies, as well as on the rules defined in aSISSt (e.g. sum of values in the dimension). A user cannot modify these rules, but only change the level of reaction of the system for inconsistencies, which allows user to generate the report in a situation when the rules are not complied with.

To adjust the conditions to the specific needs of the bank it is necessary to use a mechanism enabling the possibility of defining the additional rules, which are not or cannot be defined within the regulatory process as they do not refer to all banks.

Definitions

Fact – precisely addressed, one value, reported within the report

Rule – logical or arithmetical expression defining the correctness or the method of calculation of one fact on the basis of others

Objectives

The validation rules editor enables the rules management to achieve the following goals:

1. More effective and precise management of predefined rules including the possibility of disabling them individually.
2. Definition of own rules and implementation of them in the system.
3. Reconciliation of separate reports (e.g. FINREP - COREP), which means the possibility of using some facts from different reports in one validation rule.

2. Validation rules management

The rules origin

Regarding the source of the rules a few groups of rules can be specified. In the aSISSt base module there are 4 sorts of rules implemented:

1. XBRL rules which are simply part of the taxonomy.
2. The supervisor's rules which are published and controlled by the banking sector supervisor. Published separately from the taxonomy, but strictly linked with it, they are implemented in the aSISSt system as a part of the taxonomy that they refer to.
3. The rules introduced by a supervisor for consultation. Temporarily, they are not obligatory until the consultation process ends. Then they are published as the supervisory rules.
4. aSISSt rules – additional control mechanisms ensuring data consistency (e.g. the same facts in two different forms of the statement) or some other requirements not covered by rules (e.g. the details of a person who prepared the statement etc.).

Within the validation rules editor there is another set of rules available:

5. The own rules – rules defined individually by the bank

The rules types

aSISSt with the validation rules editor enables the creation of a few types of rules. The types of rules differ in the ways required relationships between the data are described.

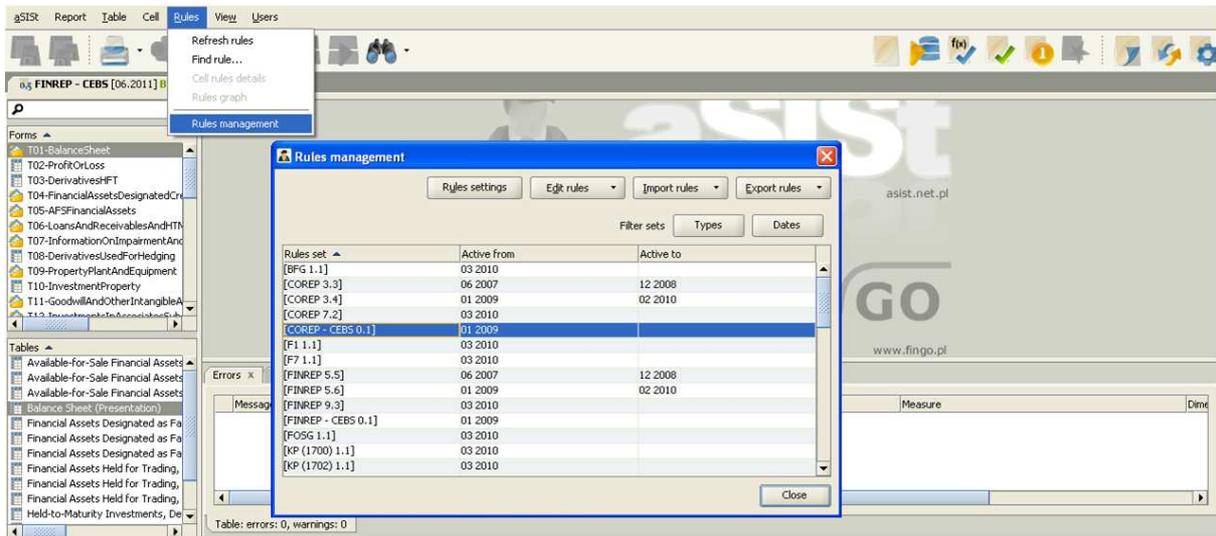
There are four main types of rules, as follows:

1. Rules defining relationships between the facts, measures and dimensions:
 - calculations,
 - correctness rules,
 - conditional rules,
 - complex rules
2. Rules describing a list's relationships, with similar types as the ones above
3. Rules defining obligatory values
4. Rules defining prohibited values

aSISst's rules browser

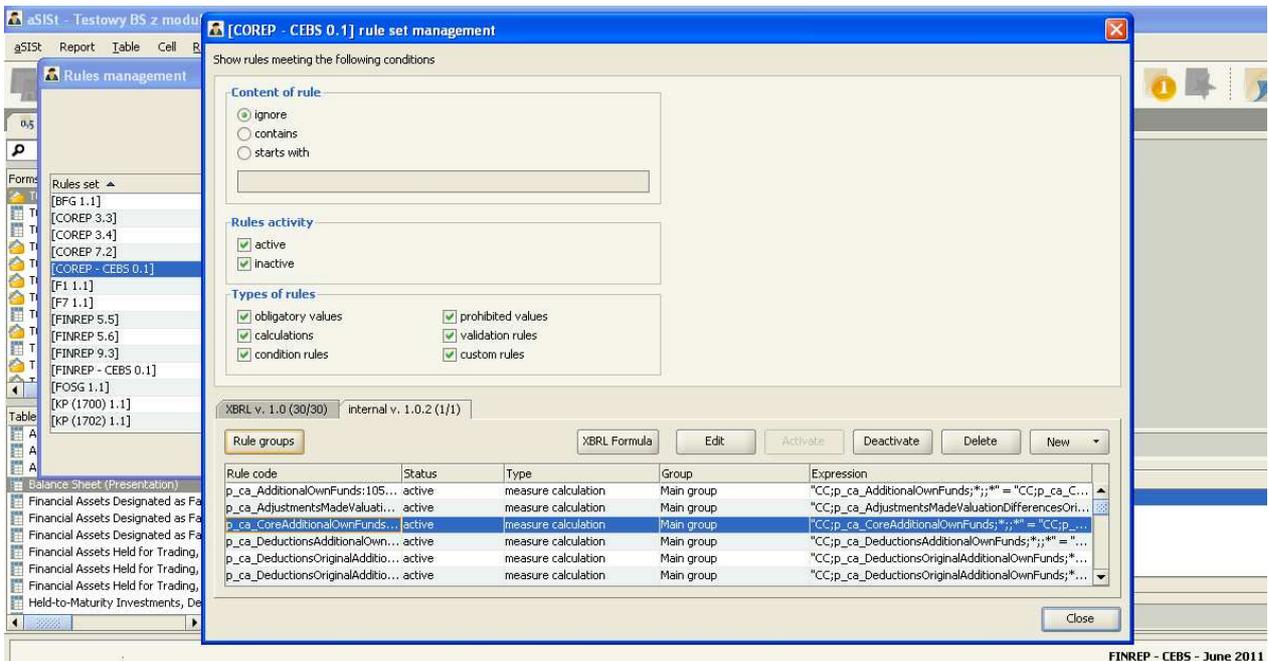
The system presents sets of rules on a filtered list. The criteria for filtering are as follows:

- set of rules
- date
- type of rules



Picture 1. The sets of rules browser

Additionally, thanks to the validation rules editor, it is possible to search for a rule by the code (if available) and by a part of the expression defining the rule.



Picture 2. Extended management of rules in the validation rules editor

In the case of own rules it is possible to edit, create new and delete existing ones. An editor described in chapter 3 is used for creating and editing own rules.

Migration of own rules from one taxonomy to another

Technically speaking, rules are linked with one specific version of taxonomy. In the case of rules distributed as an update of the application (the XBRL rules, regulator's rules) it doesn't make any difference for the user. Together with a new taxonomy a complete set of rules is provided. However, the new taxonomy does not contain any of the own rules previously created. To avoid the need of their re-creation, aSISt includes a special mechanism for rules migration.

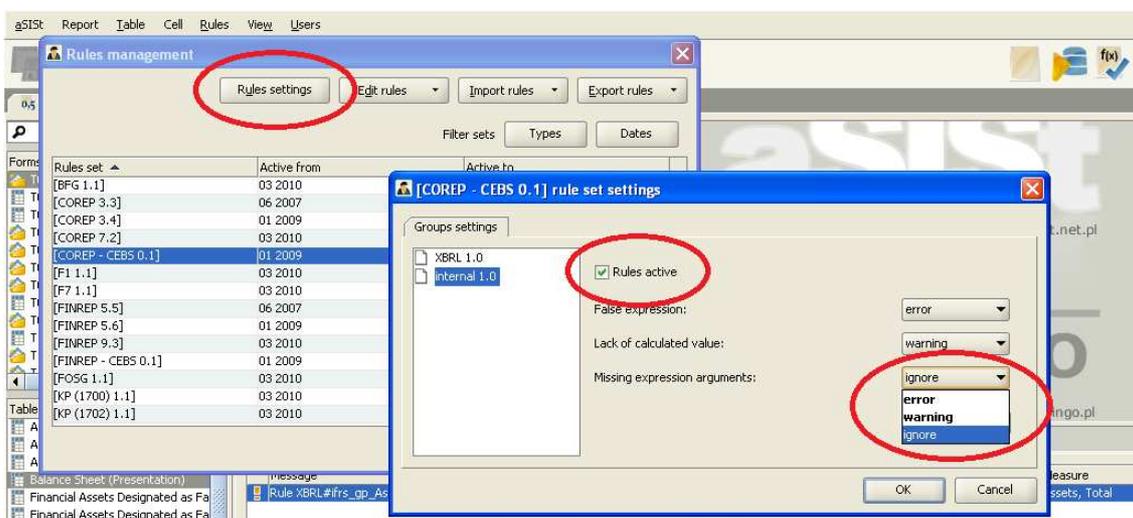
The migration takes place at the time of importing the new taxonomy (update). As in the application, a few taxonomies can be active at once, the user is asked to select the source. It is obviously also possible to skip the migration and perform it at a later time.

The rules that become incorrect due to some changes in taxonomy are automatically deactivated. It is possible to correct them manually and to activate them again.

Activation and deactivation of the rules

The extended management of the validation rules makes it possible to deactivate a single rule, including those defined by the banking sector regulator. Additionally, besides deactivating single ones, it is also possible to deactivate whole groups of rules, e.g. "rules introduced for consultation", etc.

As opposed to changing the level of the system's reaction at inconsistencies, the deactivated rules are not presented at all. However, the option of changing the level of reporting for a whole group is still available.



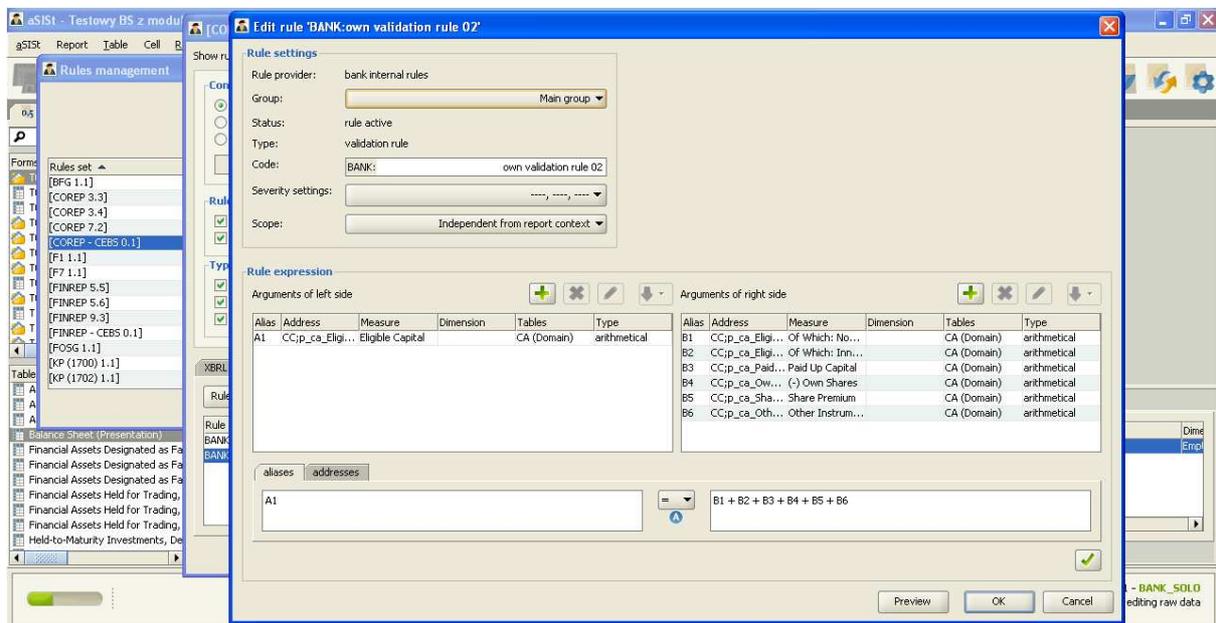
Picture 3. Setup of a set of rules activity

3. The rules editor

The editor is user-friendly for creating rules and editing existing ones.

The rules editor enables to determine the parameters of the rules:

- the range
 - monthly, quarterly or annual reports,
 - accountancy standard,
- type of rule – obligatory, calculation, correctness etc.,
- code of rule – unique for whole group, optional ID,
- level of reporting – error or warning,
- status – active / deactivated,
- expression defining the rule.



Picture 4. The rules editor

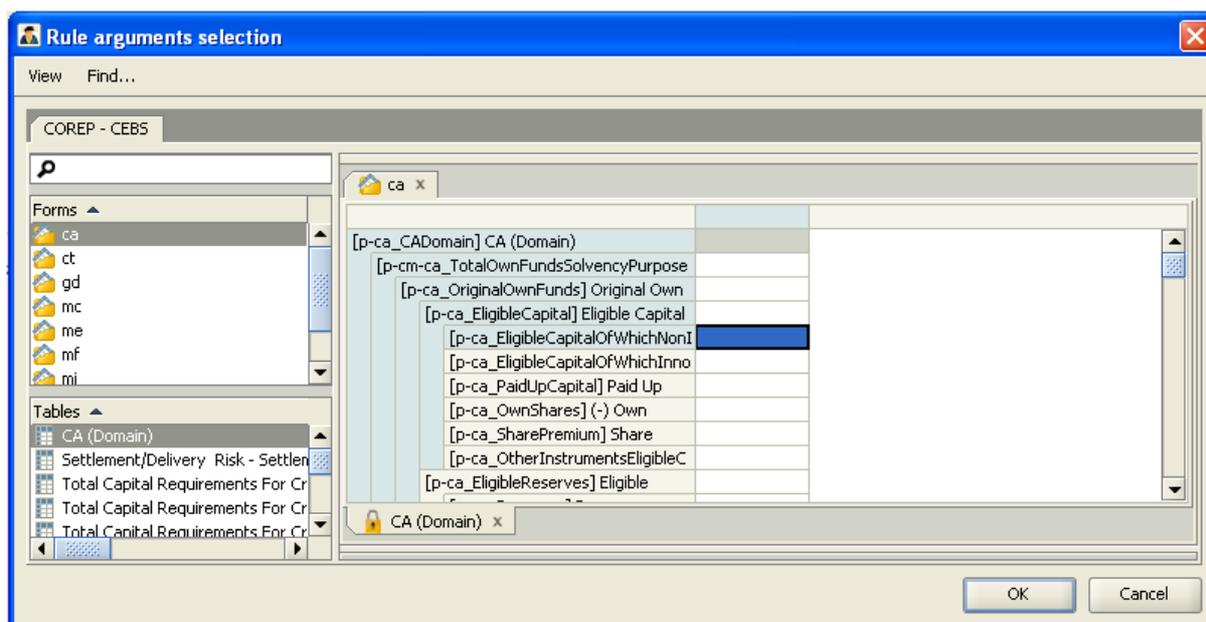
For every rule, its details, fundamental expression, activity, and the rule's ID (if available) are presented.

The essence of creating any rule is the definition of its expression. Due to the fact that the addresses of facts (the cells in the statement) are complicated and complex codes, the rules editor allows user to create the expressions in two steps:

1. Visual selection of facts from the template of the statement
2. Definition of the expression based on selected facts

Selection of facts – aliases

Rules are presented in analogical form as they are presented currently in the application, i.e. as one or two lists of facts taken into account in the expression of the rule and combined with the operator. The application allows for the selection of facts on the templates of empty statement forms – the user selects the facts by selecting adequate cells. The forms of statements are in the same form as the ones used for creating XBRL reports.



Picture 5. Visual selection of facts on the template of the statement

Any of the chosen facts are automatically marked with a short ID (alias), combined of one letter and one digit e.g. F1, F2 ... Fn

Definition of the expression with aliases

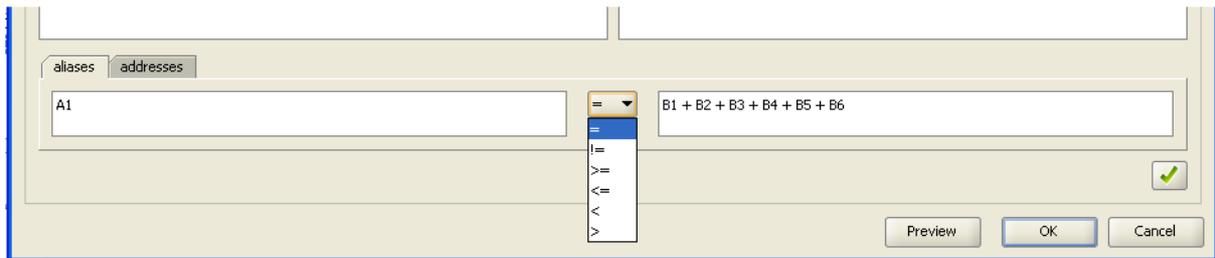
For every list, an optional window, which allows user to define the expression, is available. Definition of a rule is simple description, on the right side, of the relationships between the selected facts with the use of arithmetical expression and the aliases, for example:

$$F1 + F2 + F3 + \dots + Fn$$

The user has the possibility to define the expression using the ID's of selected facts, the operators (+, -, *, /) and the parentheses (and), for example:

$$A * 0,2 + B * 0,3 \dots \text{itd.}$$

After the expression is edited, the application makes a syntax check and allows saving only the correct formulas.



Picture 6. Rule expression – an example

For the correctness rules, a selection from a pick list of one of the operators used for equalization: =, <, <=, > or >= is also possible.

Direct definition of the expressions

Apart from the two-steps definition, the user has the possibility to define a whole expression directly in the rules language. Switching between the modes is possible at any time, provided that the expression being defined is correct. The application translates one form into another automatically.

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