

A PROCESS SIMULATION SYSTEM

Field of the Invention

- 5 The present invention relates to a process simulation system for simulating a rule dependent process in an information technology system.

Background of the Invention

- 10 For a complex rule-dependent system, it is useful to have the ability to simulate a process carried out using the complex system so that the business impact of the process and/or the business impact of a rule change affecting the process can be analysed.
- 15 Process simulation arrangements exist in current information technology systems, and these are of dedicated function-type generally limited to specific functions or boundaries. Typically, current simulations rely on manual recreation of all the relevant information needed to simulate a particular scenario in a simulation environment.
- 20 However, as a consequence, current simulation arrangements for complex rule-dependent processes are cumbersome, laborious and time consuming.

Summary of the Invention

- 25 In accordance with a first aspect of the present invention, there is provided a process simulation system for a rule-dependent processing system arranged to apply processing rules to defined scenarios and in response produce a processing result, the process simulation system comprising:
- 30 a data collector arranged to receive processing data from the rule-dependent processing system, the processing data indicative of scenarios processed by the processing system;
- a user interface arranged to:
- facilitate selection by an operator of a subset of the processing data received from the processing system so as to thereby define a dataset defining
- 35 scenarios desired to be simulated by the process simulation system; and
- facilitate selection of at least one simulation parameter including at least one processing rule to be applied to the defined dataset; and

a simulation engine arranged to run a simulation of the rule-dependent processing system based on the defined simulation dataset and the selected at least one processing rule;

- 5 the process simulation system arranged to communicate the results of the simulation by the simulation engine to an operator.

In an embodiment, the rule-dependent processing system includes a production database arranged to store the processing data and the data collector is arranged to receive the processing data from the production database.

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In an embodiment, the system is arranged to store a plurality of selectable rules corresponding to current, past and/or future applicable rules. The stored rules may be maintained by a rule management centre.

- 15 In an embodiment, the system is arranged to facilitate creation of simulated processing data and to facilitate selection by an operator of the created simulated processing data for inclusion in the dataset defining scenarios desired to be simulated by the process simulation system.

- 20 In an embodiment, the system is arranged to facilitate modification of simulated processing data and to facilitate selection by an operator of the modified simulated processing data for inclusion in the dataset defining scenarios desired to be simulated by the process simulation system.

- 25 In an embodiment, the at least one simulation parameter includes code table definition parameters.

In an embodiment, the at least one simulation parameter includes at least one simulation parameter sourced from a system external to the process simulation system.

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In an embodiment, the system includes a catalogue builder arranged to enable an operator to group production data according to a defined classification so as to facilitate searching.

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In an embodiment, the system includes a simulation analyser arranged to enable an operator to view simulation results. The simulation analyser may be arranged to

enable an operator to compare simulation results with processing results and/or to display simulation results and the associated rules that are relevant to the simulation results.

- 5 In an embodiment, the rule-dependent processing system is a rule-dependent customs system arranged to receive and process customs declarations, the processing data relates to customs declarations, and the process simulation system is arranged to simulate processing of customs declarations by the rule-dependent customs system.
- 10 In accordance with a second aspect of the present invention, there is provided a method of simulating a rule-dependent processing system arranged to apply processing rules to defined scenarios and in response produce a processing result, the method comprising:
- receiving processing data from the rule-dependent processing system, the
 - 15 processing data indicative of scenarios processed by the processing system;
 - selecting a subset of the processing data received from the processing system so as to thereby define a dataset defining scenarios desired to be simulated by the process simulation system;
 - selecting at least one simulation parameter including at least one processing
 - 20 rule to be applied to the defined dataset;
 - running a simulation of the rule-dependent processing system based on the defined simulation dataset and the selected at least one processing rule; and
 - communicating the results of the simulation by the simulation engine to an operator.

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Brief Description of the Drawings

The present invention will now be described, by way of example only, with reference to the accompanying drawings, in which:

- 30 Figure 1 is a diagrammatic block diagram showing functional components of a process simulation system in accordance with an embodiment of the present invention;

Figure 2 is a diagrammatic representation showing interaction between a production environment associated with a complex rule-dependent system and a simulation environment associated with the process simulation system shown in Figure

- 35 1;

Figure 3 is a diagrammatic representation illustrating components of a simulation analyser of the system shown in Figure 1; and

Figures 4 to 8 are representations of screens presented to an operator during use.

Description of an Embodiment of the Invention

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Referring to Figure 1 of the drawings, an example simulation environment that includes a process simulation system 10 is shown.

10 The system 10 is accessible using a user computing terminal 12 that may take the form of any suitable device usable by an operator to enable the operator to interact with the system 10.

15 In this example, the system 10 is implemented using a computing device such as a personal computer or server computer and as such the system 10 may use human interface devices and permanent and temporary data storage of the personal computer, with the functionality of the system 10 implemented using one or more suitable software applications executed by a processor of the personal computer.

20 The process simulation system 10 provides a tool that enables creation, modification, submission and analysis of an end-to-end simulation of a rule-dependent process using live production data, for example in order to analyse the effect of a new rule change affecting the process, or to verify, investigate and/or troubleshoot a single or multiple case scenario.

25 For complex systems, having the ability to simulate processes in a production environment based on defined process rules using live production data will strengthen the decision making capability of the relevant entity associated with the production environment. In addition, providing the ability to simulate the business impact of a process rule change and analyse its repercussions will increase confidence and integrity. Furthermore, allowing business users to recreate production cases in the
30 simulation environment will enhance and expedite investigation processes.

The process simulation system 10 interfaces with a production database 14 of a live production environment so that production data in the production environment can be
35 imported into the system 10 for use by the system 10.

The process simulation system 10 also interfaces with a rule management centre 16

arranged to manage the process rules to be made available for use in simulations carried out by the system 10.

5 The system 10 includes a simulation database 20 arranged to store production data 22 exported from the production database 14 of the live production environment, simulation data 24, and simulation results 26. The simulation data 24 includes reference data used to reference the defined datasets, data indicative of a defined simulation environment including data indicative of the rule(s) selected to use for a simulation, and data indicative of new scenarios defined in the simulation environment
10 that are to be simulated by the simulation system 10.

The system 10 also includes a user interface 30, in this example arranged to provide a graphical user interface usable by an operator to interact with the system 10, in particular to define parameters for a simulation operation and instigate the simulation
15 operation; and operative components arranged to extract the required data from the production database 14, to define parameters for a simulation operation, to implement the simulation operation, and to subsequently carry out analysis of the simulation results.

20 For this purpose, the operative components include a data collector 32 arranged to collect live processing data from the production environment, the processing data comprising all the information received at the production environment, retrieved from internal and external sources, such as from code table records and external application/serve query results, calculated and derived during processing at the
25 production environment. The collected processing data is referred to in this specification as 'time warp data'.

The code tables may include data associated with the production data, including data indicative of country codes, port codes and/or subject matter codes. For example, a
30 code table may include the following information to define codes for data related to the production data.

Country Code

Code	Description
35 US	United States of America
PH	Philippines
SG	Singapore

Port Code

Code Description

JZ Jurong Free Trade Zone

5 CZ Changi Free Trade Zone

HS Code

Code Description

10 24011020 TOBACCO UNMANUFACTURED NOT STEMMED OR STRIPPED
VIRGINIA TYPE NOT FLUE CURED (KGM)

87032440 CKD MOTOR CARS EXCEEDING 3000CC WITH SPARK IGNITION
COMBUSTION RECIPROCATING ENGINE (NMB)

15 In this way, by extracting actual live production data from the production environment
for use by the process simulation system 10, accurate simulation operations can be
carried out in the simulation environment, thereby ensuring data consistency between
production and simulation processing, and rule change simulation integrity can be
maintained.

20 The operative components also include a dataset assembler 34 arranged to enable an
operator to select and assemble datasets that are desired to form the basis of
simulation scenarios. The dataset assembler 34 uses a search tool to facilitate
selection of the desired datasets that is accessed using the user interface 30.

25 The defined simulation datasets may include the following;

1. Historical production data
2. Modified production data
3. Recently created data

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The dataset assembler 34 also includes a data preparation module (not shown) that
enables an operator to create a new data instance and/or to modify existing production
data to suit a desired simulation scenario. In this way, it is possible to instigate a
simulation operation on a dataset that includes data not directly obtained from the
35 production database.

A dataset assembly screen 100 for the dataset assembler 34 is shown in Figure 4.

The dataset assembly screen 100 includes dataset information fields 102 usable to enter dataset identifying information such as a dataset name, description, author and creation date; search fields 104 usable by an operator to locate particular records or groups of records that are representative of one or more particular scenarios that the operator wishes to use for a process simulation based on the dataset; and an added records section 106 that shows the records that have been added to the assembled dataset.

The operative components also include an environment assembler 36 arranged to enable an operator to define the simulation environment, that is, the parameters, including processing rules, that will be applied to the selected and/or defined datasets.

The parameters may include:

1. Processing rule version
2. Code table definition parameters
3. External systems integration simulation option

The processing rule version intended for simulation may correspond to current, future and/or previous processing rule sets. The rule versions are maintained and managed in the simulation environment 61 using the rule management centre 16.

The option for an operator to select the code table definition parameters enables the operator to select the desired source of code table values required for the data processing simulation. The available sources of code table values may include:

1. Time warp data
2. Current production tables mirrored in the simulation environment
3. Customized / updated code tables in the simulation environment

Since simulation processing may also require inputs from external systems, the system 10 may be arranged to enable an operator to create a simulation environment wherein external system inputs are also simulated.

The following options may be available:

1. Time warp data sourced from an external system

2. Simulated external systems response

An environment assembler screen 110 for the environment assembler 36 is shown in Figure 5. The environment assembler screen 110 includes rules 112 icons usable to enable an operator to select the relevant rules to be applied to the simulation. Using the environment assembler screen 110, an operator is also able to select other parameters of the simulation environment, including code table definition parameters using a code table tab 114.

The operative components also include a simulation engine 48 arranged to run a simulation based on the defined simulation dataset(s) and defined simulation environment. Multiple concurrent simulations are possible.

A run screen 118 usable to select the desired assembled dataset and assembled simulation environment and instigate the simulation is shown in Figure 6.

Each simulation will generate a respective set of simulation results 26 that are stored in the simulation database 20.

The operative components also include a catalogue builder 40 that enables an operator to define classifications of production data, for example based on key fields and/or values criteria that identifies the classification, such as #motorvehicle, #strategicgoods, #seastore, #rice. After classification using the catalogue builder 40, the data may be accessed using a catalogue search function, and in this way an operator is able to identify like data more easily for inclusion in an assembled dataset.

The catalogue builder 40 will determine the appropriate catalogue for selected data based on defined criteria, and a catalogue search function 42 is provided to facilitate subsequent access to the production data in order to fetch, collate, group, sort and trim the data.

The operative components also include a simulation analyser 38 arranged to enable an operator to view and compare simulation results with each other and/or compare simulation results with production processing results. The simulation analyser 38 is arranged to display approval/rejection details and the rules that influence the approval/rejections. The simulation analyser is also able to categorize production data and highlight data sets with the most difference (delta δ), for example between

simulation and live production results.

An example comparison screen 130 that an operator can use to view and compare simulation results is shown in Figure 7.

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The operative components also include a statistics builder 44 arranged to analyse the simulation results and provide statistical information about the results. For example, the statistics builder 44 may be arranged to enable an operator to produce information indicative of:

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1. Processing Status, including
 - Rejections
 - Routed Online
 - Pending
 - Approvals
 - Performance Service Level Agreement
2. Categorical views
 - Motor Vehicles
 - Import Declarations
 - Dangerous Goods
 - etc.

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An example results screen 120 including processing status categories approved, pending, routed online and rejected is shown in Figure 7. A 'routed online' status indicates that the declaration requires manual processing by an authorized user.

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The categorical views may show simulation results grouped according to defined categories, for example in the present customs processing example grouped according to subject matter such as 'motor vehicles' or 'dangerous goods' or according to type such as 'import declarations'.

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The operative components also include a star schema builder 46 arranged to enable an operator to navigate to and view the detail of simulation results and thereby identify approval conditions and/or rejection reasons as well the relevant rule(s) that have contributed to the processing result.

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Figure 2 shows a representation of the interaction between a production environment 60 associated with a complex rule-dependent system and a simulation environment 61 associated with the process simulation system 10.

5 In this example, the production environment 60 corresponds to a rule-dependent customs system arranged receive and process customs declarations, and generate approval or rejection decisions based on stored processing rules. For example, a customs processing rule may define the requirement for importation of particular types of toys, and the production environment 60 arranged to facilitate reception of details
10 associated with a customs declaration relating to the toys and to use the stored processing rules to make a determination as to whether importation of the toys described in the customs declaration should be allowed or not.

The simulation environment 61 mirrors the production environment 60 and therefore
15 corresponds to a simulated rule-dependent customs system arranged receive and process customs declarations.

The processing environment 60 includes enterprise integration infrastructure 62 arranged to provide an interface to the processing environment using defined
20 protocols, such as web services, MQ, sFTP and/or REST; a translation/parsing component 64 arranged to transform a message, for example from XML to application data values; application data 65 that includes declaration data 66 indicative of customs declarations that have been entered into the system 10; code table data 68 and external data 70 received from external systems, for example including payment status
25 data and clearance status data.

The production environment 60 also includes processing rules 72 indicative of parameters used to make determinations as to whether a customs declaration should be allowed or rejected, approval results 74 indicative of decisions that have been made
30 in relation to the entered customs declarations, and a response and distribution component 76.

During use, a customs operator receives custom declarations associated with goods that are proposed to be imported, and enters details of the received customs
35 declarations into the processing environment 60. In response, the production environment 60 applies the stored rules 72 to the entered declarations and generates a decision as to whether the declaration is allowable or not.

Similarly, the simulation environment 61 includes enterprise integration infrastructure 62', a transition/parsing component 64', application data 65' that includes declaration data 66', code table data 68' and external data 70', processing rules 72' indicative of parameters used to make determinations as to whether a customs declaration should be allowed or rejected, approval results 74' indicative of decisions that have been made in relation to the entered customs declarations, and a response and distribution component 76'.

10 The data collector 32, also shown in Figure 1, is arranged to extract production data including the declaration data 66 from the production environment 60 for storage in the simulation environment 61. The extracted data stored in the simulation environment 61 is used by the dataset assembler 34 to generate declaration datasets that will be used to implement simulations.

15 Referring to Figure 3, a representation illustrating components of the simulation analyser 38 is shown.

The simulation analyser 38 includes a user interface 84; an analyser 86 arranged to summarise simulation results, for example so as to indicate the approved and rejected simulation scenarios, the scenarios that are routed online, the duration of a simulation, and so on; a comparison engine 88 that receives production data 80 including production rules 90 and production approval results 92, and simulation data including simulation rules 90', and simulation approval results 92' and compares them; and an analysis and reports component 94.

Examples of the process simulation system 10 will now be described in relation to a rule-dependent customs system arranged to receive and process customs declarations, and generate approval or rejection decisions based on stored processing rules.

In the following example, the system 10 is used as an impact analysis tool.

35 In the example, a customs officer receives a legislative order that will change the processing rules for particular goods. The legislative order requires importation control of die cast toys from Central Asia and India, the order stating that imports containing toxic PCBs and die cast metals with a high concentration of lead or aluminium are not

allowed. In addition, die cast metals with iron and nickel require an import licence and inspection.

5 The current importation rules are open in that traders only need a licence to import die cast toys. There are currently 120 import declarations of die cast toys daily mainly from Central Asia, and 98% of the daily imports of die cast toys are approved and cleared.

10 In order for the relevant customs officers to conduct a thorough impact analysis prior to actual implementation of the processing rule change in the production environment, the customs officer would need to painstakingly undertake the following tasks:

- 15 • Manually create / gather relevant import declarations of die cast toys, for example most of the import declarations for die cast toys in production.
- Manually setup a test environment to enable successful processing of each of the case scenarios.
- Manually create corresponding records for each code table associated with each case scenario
- 20 • Setup external interface inputs manually
- Update and test business rules to reflect legislation updates.
- Submit each case scenario in the test environment manually.
- Manually compare the processing results with similar production scenarios.
- 25 • Gather reports and statistics using ad hoc reports.
- Perform impact analysis, usually considering a defined percentage of error.

30 The above tasks are tedious and prone to errors, both in the case scenario and environment setup. Impact analysis accuracy is low.

Using the process simulation system 10, the impact analysis process is improved both in terms of accuracy and amount of effort required by customs officers.

35 Prior to implementing a simulation of the rule change, the time warp data is received at the simulation environment 61 from the production environment 60. The time warp data includes:

- Instance of the application data model, for example including declaration details.
- Relevant code table records retrieved during processing, for example tariff codes and country codes.
- 5 • External interface inputs received during processing, for example payment status information and goods clearance status information.
- Derived / computed data during processing.
- Rule execution results, for example individual rule assertion results.
- 10 • Processing outcomes, for example overall goods declaration processing status (approved, rejected, route online).

Using the dataset assembler 34, a subset of the time warp data that is to be used for the simulation can be defined.

- 15 In this example, all of the 120 daily import declarations for die cast toys are included in the dataset over a defined period covering multiple days, weeks, months or years.

After the dataset to use in the simulation has been defined, the simulation environment is defined using the environment assembler 36 so that the processing rules to use for the simulation are identified.

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The relevant case scenarios defined by the selected dataset are then submitted to the simulation engine 48 which will automatically submit the case scenarios to the simulation environment 61. Since the production time warp data extracted directly from the production environment 60 is used for each case scenario, the simulation environment will be able to use the exact production case scenario parameters, and this will ensure that the simulation case scenario is identical to the production case, with the only difference being to the processing being the business rule change.

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30 The statistics builder 44 then generates simulation processing results statistics that reflect the number of import declarations for die cast toys that are approved, rejected or require manual approvals, and this enables an operator to perform a direct comparison of processing output based on the proposed rule change and actual production outputs according to current rules.

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In a further example, the system 10 is used as a tool for verification, investigation and troubleshooting a single or multiple case scenario.

For example, a customs officer receives an enquiry regarding a rejected import declaration that includes a message to the effect that the country of origin declared for items 3 and 4 are invalid, and a check by the declaring agent is required.

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The declaring agent considers that based on current practice and known processing rules, the country of origin declared in the customs declaration should have been considered as valid.

10 In order for the concerned customs officer to verify, investigate and troubleshoot this particular case the officer would need to painstakingly undertake the following tasks:

- Manually identify the rule that had caused the rejection
- Manually verify the declared parameters in the rejected import declaration
- 15 • Manually verify and reconcile code table records, their validity, values, and settings at the time of processing
- Manually assess all of the above information to investigate the reason for rejection
- 20 • Manually create an identical import declaration in a test / simulation environment.
- Manually setup the test / simulation environment to enable successful processing of the case scenario.
 - Manually create a corresponding record for each code table associated with the case scenario
 - Setup external interface inputs manually
- Ensure that the test / simulation environment is using a production version of the business rules
- Submit the case scenario in the test / simulation environment manually
- 30 • Manually compare the processing result with the production result
- Perform manual investigation and troubleshooting.

35 The above tasks are tedious and prone to errors.

Using the process simulation system 10, the verification, investigation and

troubleshooting process is much simplified, saves a customs officer a substantial amount of effort, and therefore results in a speedy resolution to the inquiry.

5 The time warp data related to the import declaration is used to recreate the exact production processing in the simulation environment 61, enabling immediate replication of the import declaration rejection and confirmation of the rejection reason. Using the system 10, a customs officer will be able to determine the rule which returned the rejection message as well as the import declaration fields and other parameters used in the rule execution, immediately identifying the cause of the rejection message.

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It is to be understood that, if any prior art publication is referred to herein, such reference does not constitute an admission that the publication forms a part of the common general knowledge in the art.

15 In the claims which follow and in the preceding description of the invention, except where the context requires otherwise due to express language or necessary implication, the word "comprise" or variations such as "comprises" or "comprising" is used in an inclusive sense, i.e. to specify the presence of the stated features but not to preclude the presence or addition of further features in various embodiments of the invention.

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Modifications and variations as would be apparent to a skilled addressee are deemed to be within the scope of the present invention.

Claims:

1. A process simulation system for a rule-dependent processing system arranged to apply processing rules to defined scenarios and in response produce a processing
5 result, the process simulation system comprising:
a data collector arranged to receive processing data from the rule-dependent processing system, the processing data indicative of scenarios processed by the processing system;
a user interface arranged to:
10 facilitate selection by an operator of a subset of the processing data received from the processing system so as to thereby define a dataset defining scenarios desired to be simulated by the process simulation system; and
facilitate selection of at least one simulation parameter including at least one processing rule to be applied to the defined dataset; and
15 a simulation engine arranged to run a simulation of the rule-dependent processing system based on the defined simulation dataset and the selected at least one processing rule;
the process simulation system arranged to communicate the results of the simulation by the simulation engine to an operator.
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2. A process simulation system as claimed in claim 1, wherein the rule-dependent processing system includes a production database arranged to store the processing data and the data collector is arranged to receive the processing data from the production database.
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3. A process simulation system as claimed in claim 1 or claim 2, wherein the system is arranged to store a plurality of selectable rules corresponding to current, past and/or future applicable rules.
- 30 4. A process simulation system as claimed in claim 3, wherein the stored rules are maintained by a rule management centre.
5. A process simulation system as claimed in any one of the preceding claims, wherein the system is arranged to facilitate creation of simulated processing data and
35 to facilitate selection by an operator of the created simulated processing data for inclusion in the dataset defining scenarios desired to be simulated by the process simulation system.

6. A process simulation system as claimed in any one of the preceding claims, wherein the system is arranged to facilitate modification of simulated processing data and to facilitate selection by an operator of the modified simulated processing data for inclusion in the dataset defining scenarios desired to be simulated by the process
5 simulation system.

7. A process simulation system as claimed in any one of the preceding claims, wherein the at least one simulation parameter includes code table definition
10 parameters.

8. A process simulation system as claimed in any one of the preceding claims, wherein the at least one simulation parameter includes at least one simulation
parameter sourced from a system external to the process simulation system.

9. A process simulation system as claimed in any one of the preceding claims, wherein the system includes a catalogue builder arranged to enable an operator to
15 group production data according to a defined classification so as to facilitate searching.

10. A process simulation system as claimed in any one of the preceding claims, wherein the system includes a simulation analyser arranged to enable an operator to
20 view simulation results.

11. A process simulation system as claimed in claim 10, wherein the simulation
analyser is arranged to enable an operator to compare simulation results with
25 processing results and/or to display simulation results and the associated rules that
that are relevant to the simulation results.

12. A process simulation system as claimed in any one of the preceding claims, wherein the rule-dependent processing system is a rule-dependent customs system
30 arranged to receive and process customs declarations, the processing data relates to
customs declarations, and the process simulation system is arranged to simulate
processing of customs declarations by the rule-dependent customs system.

13. A method of simulating a rule-dependent processing system arranged to apply
35 processing rules to defined scenarios and in response produce a processing result, the
method comprising:

receiving processing data from the rule-dependent processing system, the

processing data indicative of scenarios processed by the processing system;

selecting a subset of the processing data received from the processing system so as to thereby define a dataset defining scenarios desired to be simulated by the process simulation system;

5 selecting at least one simulation parameter including at least one processing rule to be applied to the defined dataset;

 running a simulation of the rule-dependent processing system based on the defined simulation dataset and the selected at least one processing rule; and

 communicating the results of the simulation by the simulation engine to an
10 operator.

14. A method as claimed in claim 13, wherein the rule-dependent processing system includes a production database arranged to store the processing data and the method includes receiving the processing data from the production database.

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15. A method as claimed in claim 13 or claim 14, comprising storing a plurality of selectable rules corresponding to current, past and/or future applicable rules.

16. A method as claimed in claim 15, comprising maintaining the stored rules by a
20 rule management centre.

17. A method as claimed in any one of claims 13 to 16, comprising facilitating creation of simulated processing data by an operator and facilitating selection by an operator of the created simulated processing data for inclusion in the dataset defining
25 scenarios desired to be simulated by the process simulation system.

18. A method as claimed in any one of claims 13 to 17, comprising facilitating modification of simulated processing data by an operator, and facilitating selection by an operator of the modified simulated processing data for inclusion in the dataset
30 defining scenarios desired to be simulated by the process simulation system.

19. A method as claimed in any one of claims 13 to 18, wherein the at least one simulation parameter includes code table definition parameters.

35 20. A method as claimed in any one of claims 13 to 19, wherein the at least one simulation parameter includes at least one simulation parameter sourced from a system external to the process simulation system.

21. A method as claimed in any one of claims 13 to 20, comprising enabling an operator to group production data according to a defined classification using a catalogue builder so as to facilitate searching.

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22. A method as claimed in any one of claims 13 to 21, enabling an operator to view simulation results using a simulation analyser.

23. A method as claimed in claim 22, comprising using the simulation analyser by an operator to compare simulation results with processing results and/or to display simulation results and the associated rules that are relevant to the simulation results.

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23. A method as claimed in any one of claims 13 to 23, wherein the rule-dependent processing system is a rule-dependent customs system arranged to receive and process customs declarations, the processing data relates to customs declarations, and the method comprises simulating processing of customs declarations by the rule-dependent customs system.

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