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# *MyProjectName* : Your Title
# Messir Analysis Document
# - v 0.0 -

(*Report type: Specification*)

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# Chapter 1

# Introduction

## 1.1 Overview

## 1.2 Purpose and recipients of the document

## 1.3 Application Domain

## 1.4 Definitions, acronyms and abbreviations

## 1.5 Document structure

# Chapter 2

# General Description

## 2.1 Domain Stakeholders

## 2.2 System's Actors

The objective of this section is not to provide the full requirement elicitation document in this section but to reuse a part of this document to provide a informal introduction to the Messir specification of the system under development. The use case model is made of a use case diagrams modelling abstractly and informally the actors and their use cases together with a set of use cases descriptions. In addition, those diagrams and description tables are adapted to the Messir specification since actor and messages names together with parameters are partly adapted to be consistent with the specification identifiers (see [?] for more details).

## 2.3 Use Cases Model

This section contains the use cases elicited during the requirements elicitation phase. The use cases are textually described as suggested by the Messir method and inspired by the standard Cokburn template [?].

### 2.3.1 Use Cases

#### 2.3.1.1 summary-suVMLifecycle

Name suVMLifecycle Scope system Level summary

| **Use-Case Description** | |
|---|---|
| *Name* | suVMLifecycle |
| *Scope* | system |
| *Level* | summary |
| ***Primary actor(s)*** | |
| 1 | `actSysAdmin[active]` |
| ***Goal(s) description*** | |
| Name suVMLifecycle Scope system Level summary | |
| ***Reuse*** | |
| 1 | `ugSecurelyUseSystem [1..*]` |
| 2 | `ugCreateVMExpert [1..*]` |
| 3 | `ugCreateVMTemplate [1..*]` |
| 4 | `ugBackupVMNow [1..*]` |
| 5 | `ugBackupVMPlanified [1..*]` |
| 6 | `ugDeleteVM [1..*]` |
| ***Protocol condition(s)*** | |
| 1 | the VMMS system has been deployed |
| ***Pre-condition(s)*** | |
| 1 | the sysAdmin is logged in |
| ***Main post-condition(s)*** | |
| 1 | |
| ***Additional Information*** | |
| none | |

#### 2.3.1.2 usergoal-ugBackupVMNow

Name suBackupVMNow Scope system Level usergoal

| Use-Case Description | |
|---|---|
| *Name* | ugBackupVMNow |
| *Scope* | system |
| *Level* | usergoal |
| ***Primary actor(s)*** | |
| 1 | actSysAdmin[active] |
| ***Goal(s) description*** | |
| Name suBackupVMNow Scope system Level usergoal | |
| ***Reuse*** | |
| 1 | sfGetVMList [1..1] |
| 2 | sfSelectVM [1..1] |
| 3 | sfValidateBackup [1..1] |
| ***Protocol condition(s)*** | |
| 1 | the VMMS system has been deployed |
| ***Pre-condition(s)*** | |
| 1 | the sysAdmin is logged in the sysAdmin selected a virtual machine |
| ***Main post-condition(s)*** | |
| 1 | |
| ***Additional Information*** | |
| none | |

Figure 2.1 The sysAdmin's goal is to follow a procedure which allows him to perform a backup on a selected virtual machine.

#### 2.3.1.3 usergoal-ugBackupVMPlanified

Name suBackupVMPlanified Scope system Level usergoal

| Use-Case Description | |
|---|---|
| *Name* | ugBackupVMPlanified |
| *Scope* | system |
| *Level* | usergoal |
| ***Primary actor(s)*** | |
| 1 | actSysAdmin[active] |
| ***Goal(s) description*** | |
| Name suBackupVMPlanified Scope system Level usergoal | |
| ***Reuse*** | |
| 1 | sfGetVMList [1..1] |
| 2 | sfSelectVM [1..1] |
| 3 | sfBackupDescription [1..1] |
| 4 | sfSetDate [1..1] |
| 5 | sfValidateBackup [1..1] |
| ***Protocol condition(s)*** | |
| 1 | |
| ***Pre-condition(s)*** | |
| 1 | the sysAdmin is logged in |

***continues in next page . . .***

***. . . Use-Case Description table continuation***

| *Main post-condition(s)* |
|---|
| 1 |
| ***Additional Information*** |
| none |

Figure 2.2 The sysAdmins procedure is to follow a procedure which should allow him perform a planified backup on a selected virtual machine.

#### 2.3.1.4 usergoal-ugCreateVMExpert

Name ugCreateVMExpert Scope system Level usergoal

| USE-CASE DESCRIPTION | |
|---|---|
| *Name* | ugCreateVMExpert |
| *Scope* | system |
| *Level* | usergoal |
| ***Primary actor(s)*** | |
| 1 | `actSysAdmin[active]` |
| ***Goal(s) description*** | |
| Name ugCreateVMExpert Scope system Level usergoal | |
| ***Reuse*** | |
| 1 | `sfVMDescriptionExpert [1..1]` |
| 2 | `sfVMConfigurationExpert [1..1]` |
| 3 | `sfValidateConfigurationVMExpert [1..1]` |
| 4 | `sfCloseConfigurationVMExpert [1..1]` |
| ***Protocol condition(s)*** | |
| 1 | |
| ***Pre-condition(s)*** | |
| 1 | |
| ***Main post-condition(s)*** | |
| 1 | |
| ***Additional Information*** | |
| none | |

Figure 2.3 The sysAdmin's goal is to follow this procedure which should allow to create a virtual machine by choosing each component individual.

#### 2.3.1.5 usergoal-ugCreateVMTemplate

Name ugCreateVMTemplate Scope system Level usergoal

| USE-CASE DESCRIPTION | |
|---|---|
| *Name* | ugCreateVMTemplate |
| *Scope* | system |
| *Level* | usergoal |

***continues in next page . . .***

***... Use-Case Description table continuation***

| | |
|---|---|
| ***Primary actor(s)*** | |
| 1 | actSysAdmin[active] |
| ***Goal(s) description*** | |
| Name ugCreateVMTemplate Scope system Level usergoal | |
| ***Reuse*** | |
| 1 | sfVMDescriptionTemplate [1..1] |
| 2 | sfVMConfigurationTemplate [1..1] |
| 3 | sfValidateConfigurationVMTemplate [1..1] |
| 4 | sfCloseConfigurationVMTemplate [1..1] |
| ***Protocol condition(s)*** | |
| 1 | |
| ***Pre-condition(s)*** | |
| 1 | |
| ***Main post-condition(s)*** | |
| 1 | |
| ***Additional Information*** | |
| none | |

Figure 2.4 The sysAdmin's goal is to follow a procedure which should allow to create a virtual machine by choosing between predifined and preconfigured virtual machines.

#### 2.3.1.6 usergoal-ugDeleteVM

Name ugDeleteVM Scope system Level usergoal

| USE-CASE DESCRIPTION | |
|---|---|
| *Name* | ugDeleteVM |
| *Scope* | system |
| *Level* | usergoal |
| ***Primary actor(s)*** | |
| 1 | actSysAdmin[active] |
| ***Goal(s) description*** | |
| Name ugDeleteVM Scope system Level usergoal | |
| ***Reuse*** | |
| 1 | sfGetVMList [1..1] |
| 2 | sfSelectVM [1..1] |
| 3 | sfValidateDeletion [1..1] |
| ***Protocol condition(s)*** | |
| 1 | |
| ***Pre-condition(s)*** | |
| 1 | |
| ***Main post-condition(s)*** | |
| 1 | |
| ***Additional Information*** | |
| none | |

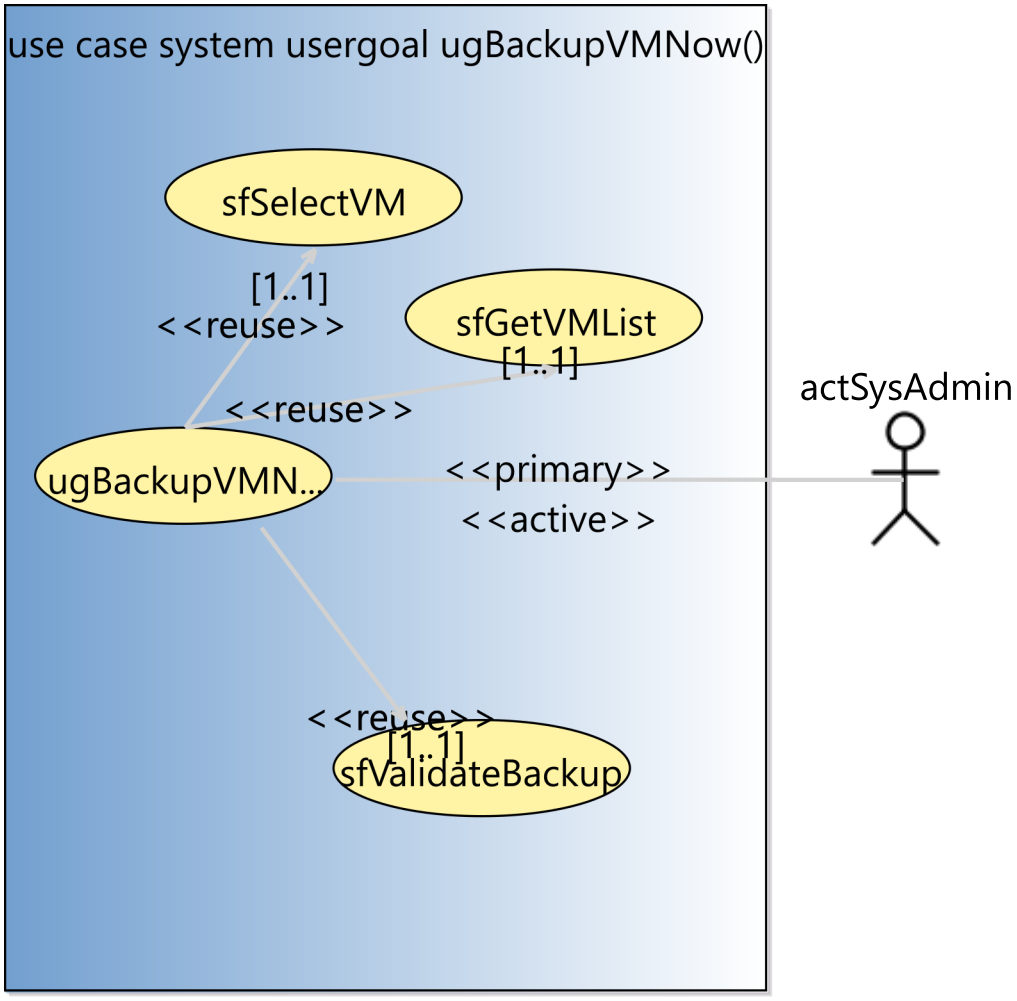
use case system usergoal ugBackupVMNow()
sfSelectVM
[1..1]
<<reuse>>
sfGetVMList
[1..1]
<<reuse>>
actSysAdmin
ugBackupVMN...
<<primary>>
<<active>>
<<reuse>>
[1..1]
sfValidateBackup

Figure 2.1:

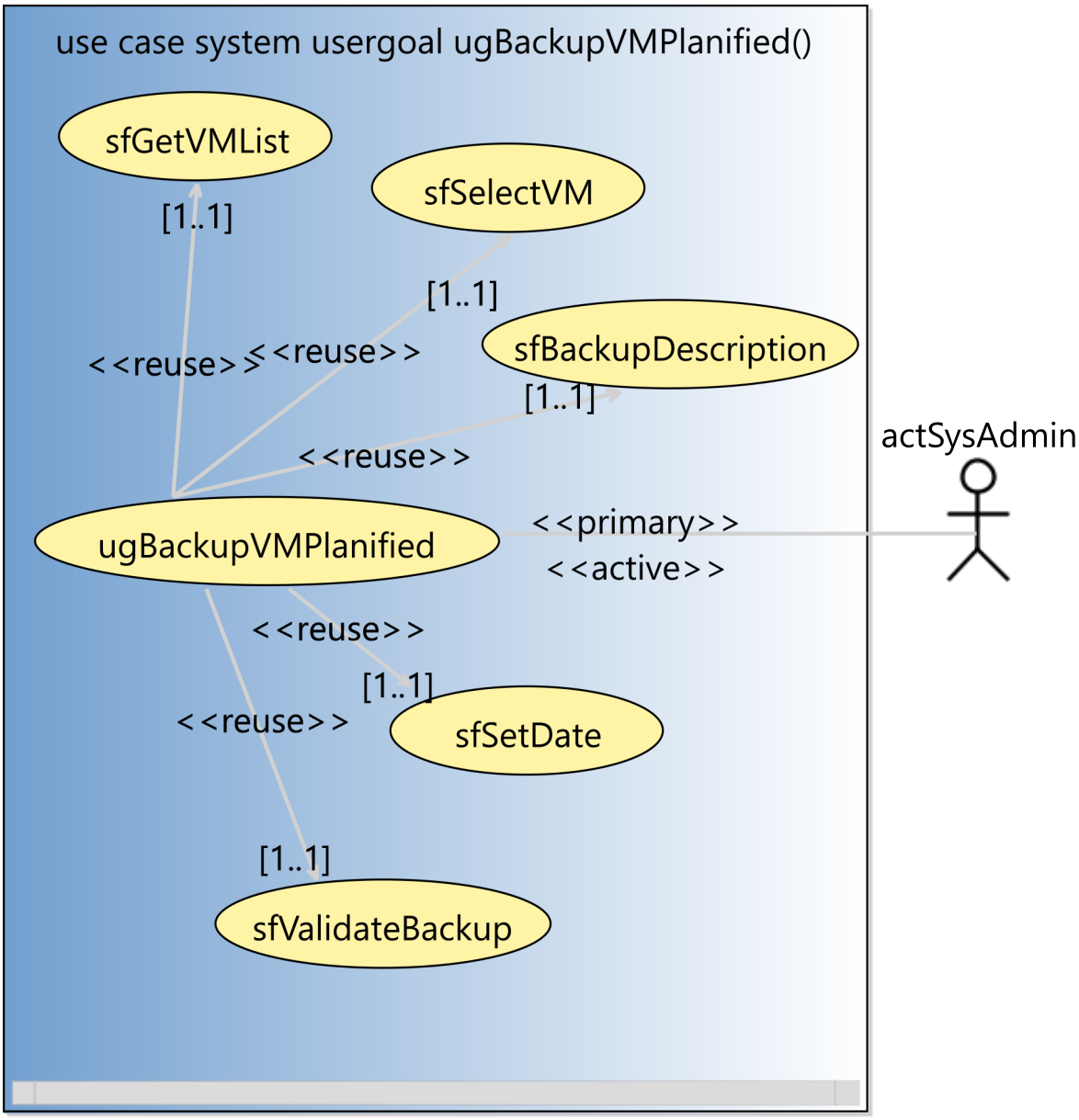
use case system usergoal ugBackupVMPlanified()
sfGetVMList
[1..1]
sfSelectVM
[1..1]
<<reuse>>
<<reuse>>
sfBackupDescription
[1..1]
<<reuse>>
actSysAdmin
ugBackupVMPlanified
<<primary>>
<<active>>
<<reuse>>
[1..1]
<<reuse>>
sfSetDate
[1..1]
sfValidateBackup

Figure 2.2:

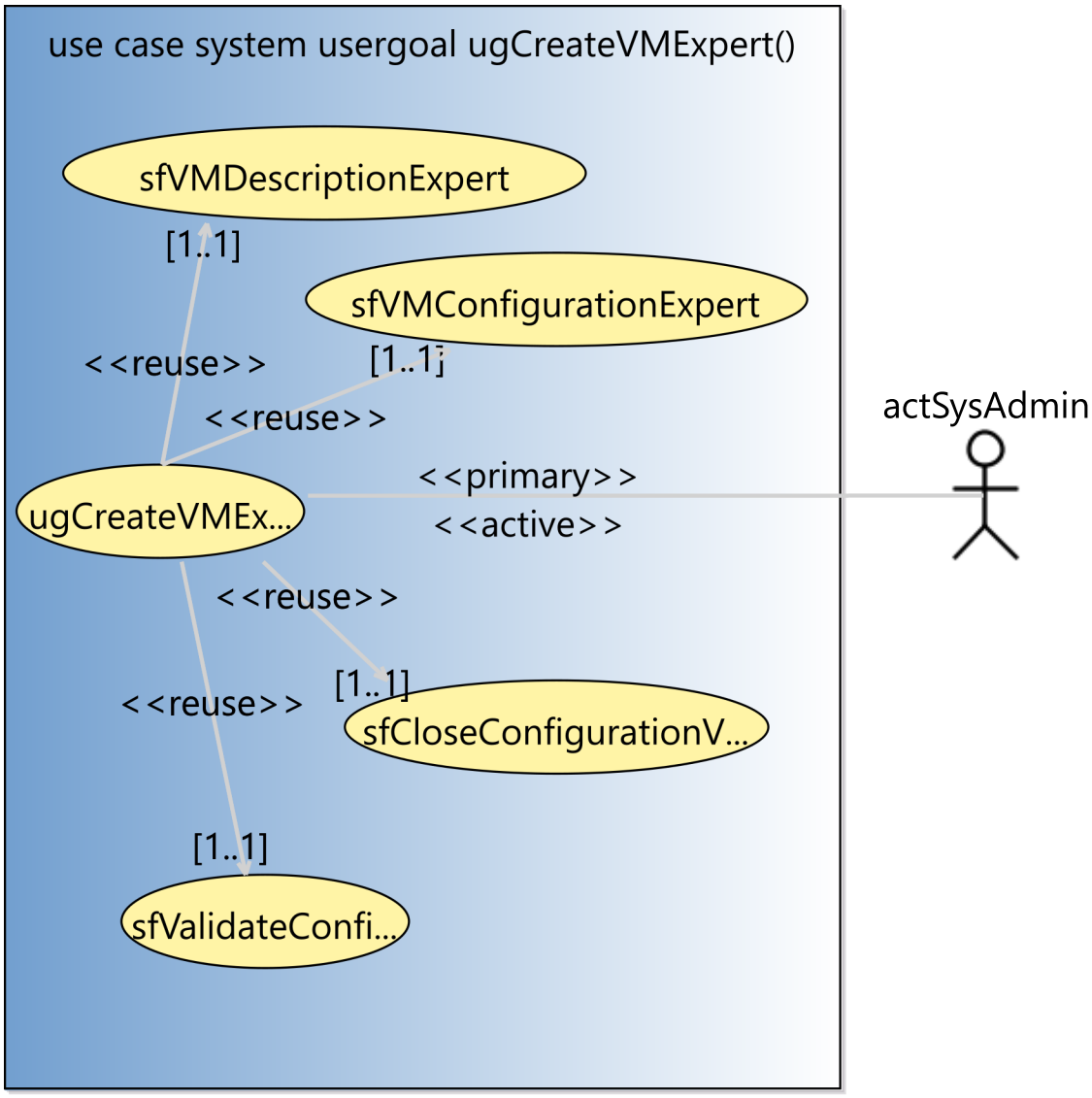
use case system usergoal ugCreateVMExpert()
sfVMDescriptionExpert
[1..1]
sfVMConfigurationExpert
[1..1]
<<reuse>>
<<reuse>>
actSysAdmin
ugCreateVMEx...
<<primary>>
<<active>>
<<reuse>>
[1..1]
<<reuse>>
sfCloseConfigurationV...
[1..1]
sfValidateConfi...

Figure 2.3:

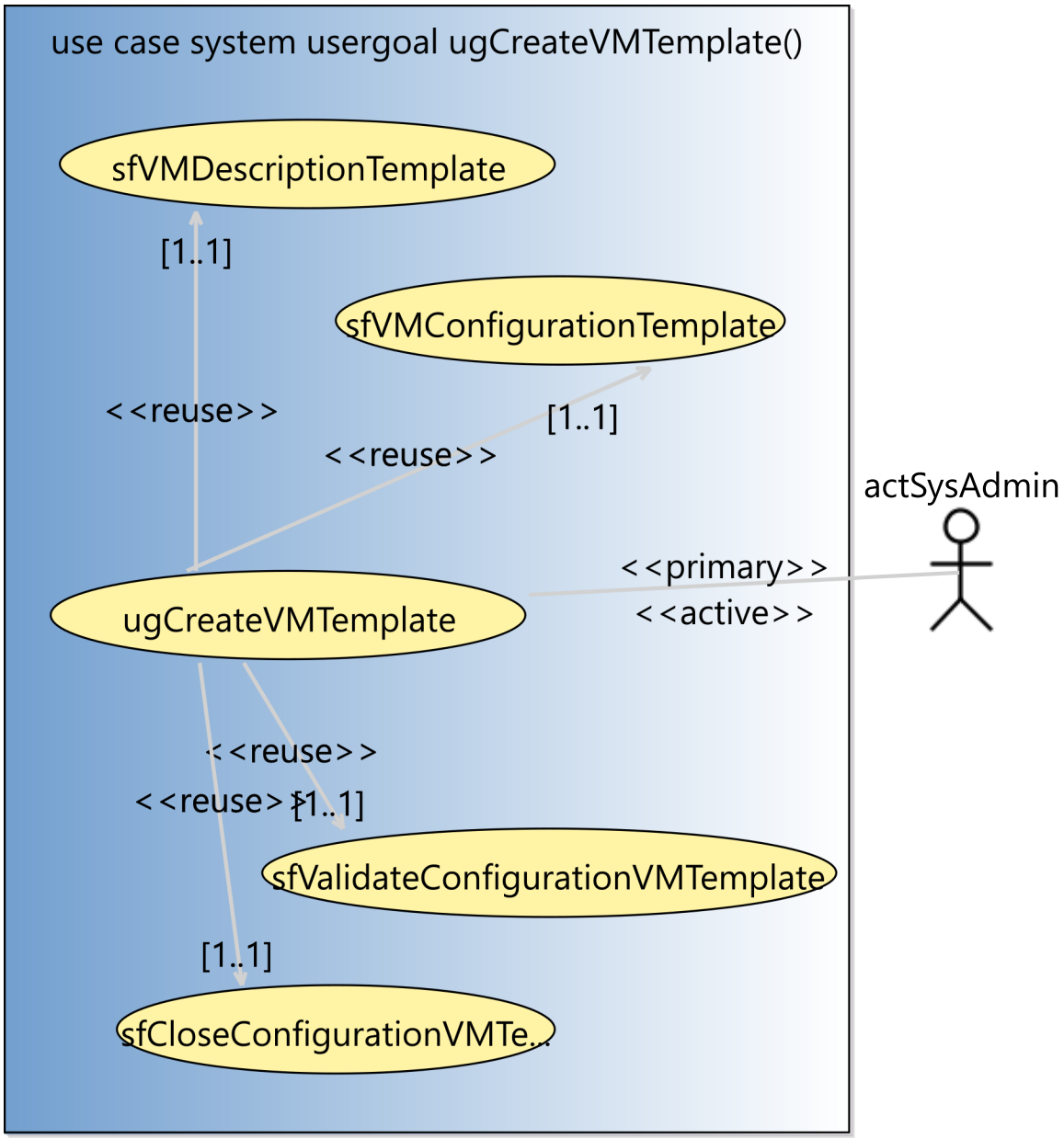
use case system usergoal ugCreateVMTemplate()
sfVMDescriptionTemplate
[1..1]
sfVMConfigurationTemplate
<<reuse>>
[1..1]
<<reuse>>
actSysAdmin
<<primary>>
<<active>>
ugCreateVMTemplate
<<reuse>>
<<reuse>>
[1..1]
sfValidateConfigurationVMTemplate
[1..1]
sfCloseConfigurationVMTe...

Figure 2.4:

Figure 2.5 The sysAdmin's goal is to follow a procedure which should allow him to delete a selected virtual machine.

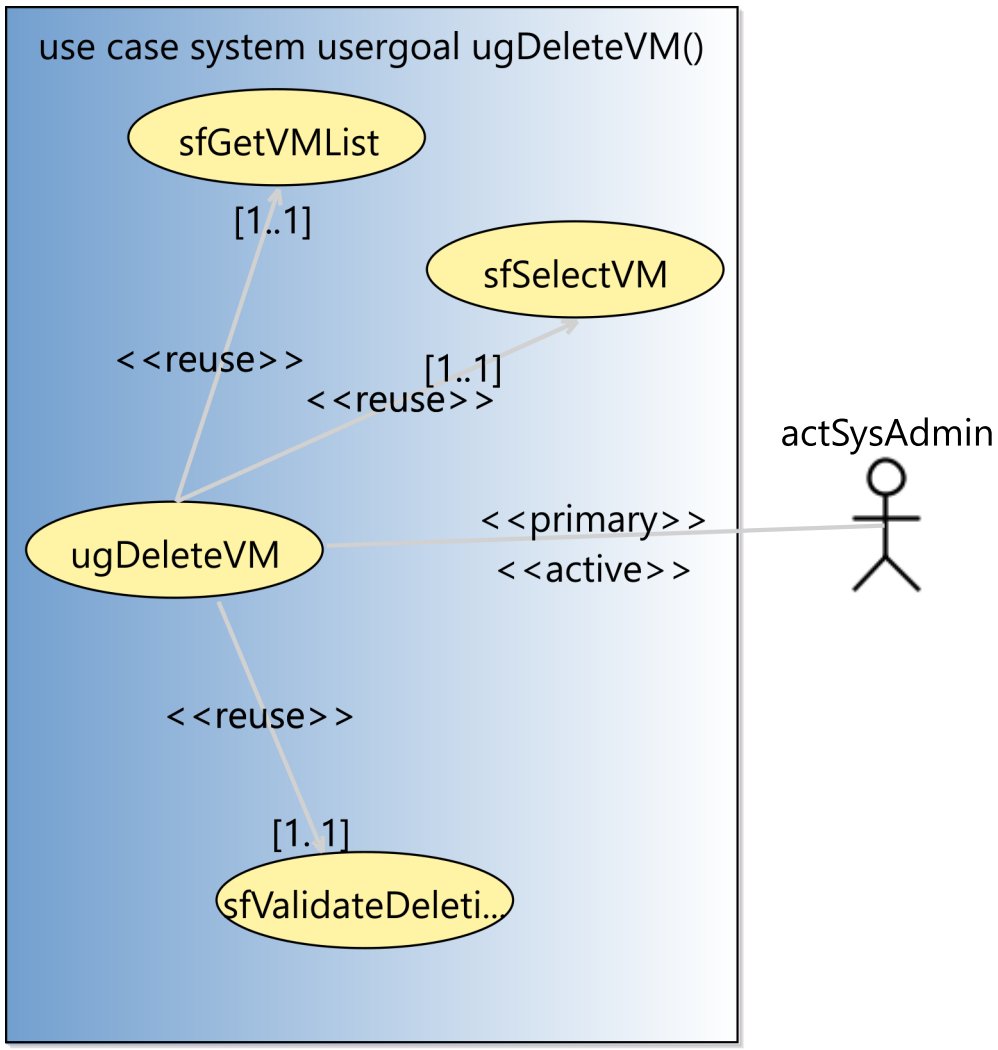


Figure 2.5:

#### 2.3.1.7 usergoal-ugSecurelyUseSystem

Name ugSecurelyUseSystem Scope system Level usergoal

| Use-Case Description | |
|---|---|
| *Name* | ugSecurelyUseSystem |
| *Scope* | system |
| *Level* | usergoal |
| ***Goal(s) description*** | |
| Name ugSecurelyUseSystem Scope system Level usergoal | |
| ***Protocol condition(s)*** | |

***continues in next page . . .***

***. . . Use-Case Description table continuation***

| |
|---|
| 1 |
| ***Pre-condition(s)*** |
| 1 |
| ***Main post-condition(s)*** |
| 1 |
| ***Additional Information*** |
| none |

#### 2.3.1.8 subfunction-sfBackupDescription

Name sfBackupDescription Scope system Level subfunction

| **Use-Case Description** | |
|---|---|
| *Name* | sfBackupDescription |
| *Scope* | system |
| *Level* | subfunction |
| ***Primary actor(s)*** | |
| 1 | `actSysAdmin[active]` |
| ***Goal(s) description*** | |
| Name sfBackupDescription Scope system Level subfunction | |
| ***Protocol condition(s)*** | |
| 1 | |
| ***Pre-condition(s)*** | |
| 1 | |
| ***Main post-condition(s)*** | |
| 1 | |
| ***Additional Information*** | |
| none | |

#### 2.3.1.9 subfunction-sfCloseConfigurationVMExpert

Name sfCloseConfigurationVMExpert Scope system Level subfunction

| **Use-Case Description** | |
|---|---|
| *Name* | sfCloseConfigurationVMExpert |
| *Scope* | system |
| *Level* | subfunction |
| ***Primary actor(s)*** | |
| 1 | `actSysAdmin[active]` |
| ***Goal(s) description*** | |
| Name sfCloseConfigurationVMExpert Scope system Level subfunction | |
| ***Protocol condition(s)*** | |
| 1 | |
| ***Pre-condition(s)*** | |
| 1 | |
| ***Main post-condition(s)*** | |

***continues in next page . . .***

***. . . Use-Case Description table continuation***

| |
|---|
| 1 |
| ***Additional Information*** |
| none |

#### 2.3.1.10 subfunction-sfCloseConfigurationVMTemplate

Name sfCloseConfigurationVMTemplate Scope system Level subfunction

| **Use-Case Description** | |
|---|---|
| *Name* | sfCloseConfigurationVMTemplate |
| *Scope* | system |
| *Level* | subfunction |
| ***Primary actor(s)*** | |
| 1 | `actSysAdmin[active]` |
| ***Goal(s) description*** | |
| Name sfCloseConfigurationVMTemplate Scope system Level subfunction | |
| ***Protocol condition(s)*** | |
| 1 | |
| ***Pre-condition(s)*** | |
| 1 | |
| ***Main post-condition(s)*** | |
| 1 | |
| ***Additional Information*** | |
| none | |

#### 2.3.1.11 subfunction-sfGetVMList

Name sfGetVMList Scope system Level subfunction

| **Use-Case Description** | |
|---|---|
| *Name* | sfGetVMList |
| *Scope* | system |
| *Level* | subfunction |
| ***Primary actor(s)*** | |
| 1 | `actSysAdmin[active]` |
| ***Goal(s) description*** | |
| Name sfGetVMList Scope system Level subfunction | |
| ***Protocol condition(s)*** | |
| 1 | |
| ***Pre-condition(s)*** | |
| 1 | |
| ***Main post-condition(s)*** | |
| 1 | |
| ***Additional Information*** | |
| none | |

#### 2.3.1.12 subfunction-sfSelectVM

Name sfSelectVM Scope system Level subfunction

| Use-Case Description | |
|---|---|
| *Name* | sfSelectVM |
| *Scope* | system |
| *Level* | subfunction |
| ***Primary actor(s)*** | |
| 1 | `actSysAdmin[active]` |
| ***Goal(s) description*** | |
| Name sfSelectVM Scope system Level subfunction | |
| ***Protocol condition(s)*** | |
| 1 | |
| ***Pre-condition(s)*** | |
| 1 | |
| ***Main post-condition(s)*** | |
| 1 | |
| ***Additional Information*** | |
| none | |

#### 2.3.1.13 subfunction-sfSetDate

Name sfSetDate Scope system Level subfunction

| Use-Case Description | |
|---|---|
| *Name* | sfSetDate |
| *Scope* | system |
| *Level* | subfunction |
| ***Primary actor(s)*** | |
| 1 | `actSysAdmin[active]` |
| ***Goal(s) description*** | |
| Name sfSetDate Scope system Level subfunction | |
| ***Protocol condition(s)*** | |
| 1 | |
| ***Pre-condition(s)*** | |
| 1 | |
| ***Main post-condition(s)*** | |
| 1 | |
| ***Additional Information*** | |
| none | |

#### 2.3.1.14 subfunction-sfVMConfigurationExpert

Name sfVMConfigurationExpert Scope system Level subfunction

| Use-Case Description | |
|---|---|
| *Name* | sfVMConfigurationExpert |

***continues in next page . . .***

***. . . Use-Case Description table continuation***

| | |
|---|---|
| *Scope* | system |
| *Level* | subfunction |
| ***Primary actor(s)*** | |
| 1 | `actSysAdmin[active]` |
| ***Goal(s) description*** | |
| Name sfVMConfigurationExpert Scope system Level subfunction | |
| ***Protocol condition(s)*** | |
| 1 | |
| ***Pre-condition(s)*** | |
| 1 | |
| ***Main post-condition(s)*** | |
| 1 | |
| ***Additional Information*** | |
| none | |

#### 2.3.1.15 subfunction-sfVMConfigurationTemplate

Name sfVMConfigurationTemplate Scope system Level subfunction

| USE-CASE DESCRIPTION | |
|---|---|
| *Name* | sfVMConfigurationTemplate |
| *Scope* | system |
| *Level* | subfunction |
| ***Primary actor(s)*** | |
| 1 | `actSysAdmin[active]` |
| ***Goal(s) description*** | |
| Name sfVMConfigurationTemplate Scope system Level subfunction | |
| ***Protocol condition(s)*** | |
| 1 | |
| ***Pre-condition(s)*** | |
| 1 | |
| ***Main post-condition(s)*** | |
| 1 | |
| ***Additional Information*** | |
| none | |

#### 2.3.1.16 subfunction-sfVMDescriptionExpert

Name sfVMDescriptionExpert Scope system Level subfunction

| USE-CASE DESCRIPTION | |
|---|---|
| *Name* | sfVMDescriptionExpert |
| *Scope* | system |
| *Level* | subfunction |
| ***Primary actor(s)*** | |
| 1 | `actSysAdmin[active]` |

***continues in next page . . .***

***. . . Use-Case Description table continuation***

| ***Goal(s) description*** |
|---|
| Name sfVMDescriptionExpert Scope system Level subfunction |
| ***Protocol condition(s)*** |
| 1 |
| ***Pre-condition(s)*** |
| 1 |
| ***Main post-condition(s)*** |
| 1 |
| ***Additional Information*** |
| none |

#### 2.3.1.17 subfunction-sfVMDescriptionTemplate

Name sfVMDescriptionTemplate Scope system Level subfunction

| **Use-Case Description** | |
|---|---|
| *Name* | sfVMDescriptionTemplate |
| *Scope* | system |
| *Level* | subfunction |
| ***Primary actor(s)*** | |
| 1 | `actSysAdmin[active]` |
| ***Goal(s) description*** | |
| Name sfVMDescriptionTemplate Scope system Level subfunction | |
| ***Protocol condition(s)*** | |
| 1 | |
| ***Pre-condition(s)*** | |
| 1 | |
| ***Main post-condition(s)*** | |
| 1 | |
| ***Additional Information*** | |
| none | |

#### 2.3.1.18 subfunction-sfValidateBackup

Name sfValidateBackup Scope system Level subfunction

| **Use-Case Description** | |
|---|---|
| *Name* | sfValidateBackup |
| *Scope* | system |
| *Level* | subfunction |
| ***Primary actor(s)*** | |
| 1 | `actSysAdmin[active]` |
| ***Goal(s) description*** | |
| Name sfValidateBackup Scope system Level subfunction | |
| ***Protocol condition(s)*** | |
| 1 | |

***continues in next page . . .***

***... Use-Case Description table continuation***

| ***Pre-condition(s)*** |
|---|
| 1 |
| ***Main post-condition(s)*** |
| 1 |
| ***Additional Information*** |
| none |

#### 2.3.1.19 subfunction-sfValidateConfigurationVMExpert

Name sfValidateConfigurationVMExpert Scope system Level subfunction

| **Use-Case Description** | |
|---|---|
| *Name* | sfValidateConfigurationVMExpert |
| *Scope* | system |
| *Level* | subfunction |
| ***Primary actor(s)*** | |
| 1 | `actSysAdmin[active]` |
| ***Goal(s) description*** | |
| Name sfValidateConfigurationVMExpert Scope system Level subfunction | |
| ***Protocol condition(s)*** | |
| 1 | |
| ***Pre-condition(s)*** | |
| 1 | |
| ***Main post-condition(s)*** | |
| 1 | |
| ***Additional Information*** | |
| none | |

#### 2.3.1.20 subfunction-sfValidateConfigurationVMTemplate

Name sfVMDescriptionTemplate Scope system Level subfunction

| **Use-Case Description** | |
|---|---|
| *Name* | sfValidateConfigurationVMTemplate |
| *Scope* | system |
| *Level* | subfunction |
| ***Primary actor(s)*** | |
| 1 | `actSysAdmin[active]` |
| ***Goal(s) description*** | |
| Name sfVMDescriptionTemplate Scope system Level subfunction | |
| ***Protocol condition(s)*** | |
| 1 | |
| ***Pre-condition(s)*** | |
| 1 | |
| ***Main post-condition(s)*** | |
| 1 | |

***continues in next page ...***

***. . . Use-Case Description table continuation***

| *Additional Information* |
|---|
| none |

#### 2.3.1.21 subfunction-sfValidateDeletion

Name sfValidateDeletion Scope system Level subfunction

| USE-CASE DESCRIPTION | |
|---|---|
| *Name* | sfValidateDeletion |
| *Scope* | system |
| *Level* | subfunction |
| ***Primary actor(s)*** | |
| 1 | `actSysAdmin[active]` |
| ***Goal(s) description*** | |
| Name sfValidateDeletion Scope system Level subfunction | |
| ***Protocol condition(s)*** | |
| 1 | |
| ***Pre-condition(s)*** | |
| 1 | |
| ***Main post-condition(s)*** | |
| 1 | |
| ***Additional Information*** | |
| none | |

### 2.3.2 Use Case Instance(s)

There are no elements in this category in the system analysed.

# Chapter 3

# Environment Model

## 3.1 Environment model view(s)

There are no view(s) for the Messir environment model.

## 3.2 Actors and Interfaces Descriptions

We provide for the given views the description of the actors together with their associated input and output interface descriptions.

### 3.2.1 `actSysAdmin` Actor

| Actor |
| --- |
| ***actSysAdmin*** <br> represents an actor responsible for creating and managing virtual machines. |

# Chapter 4

# Concept Model

## 4.1 Concept Model view(s)

There are no view(s) for the Messir concept model.

## 4.2 Concept Model Types Descriptions

This section provides the textual descriptions of all the types defined in the concept model and that can be part of the graphical views provided.

### 4.2.1 Primary types - Class types descriptions

There are no elements in this category in the system analysed.

### 4.2.2 Primary types - Datatypes types descriptions

There are no elements in this category in the system analysed.

### 4.2.3 Primary types - Association types descriptions

There are no association types for the primary types.

### 4.2.4 Primary types - Aggregation types descriptions

There are no aggregation types for the primary types.

#### 4.2.4.1 Primary types - Composition types descriptions

There are no composition types for the primary types.

### 4.2.5 Secondary types - Class types descriptions

There are no elements in this category in the system analysed.

### 4.2.6 Secondary types - Datatypes types descriptions

There are no elements in this category in the system analysed.

### 4.2.7 Secondary types - Association types descriptions

There are no association types for the secondary types.

### 4.2.8 Secondary types - Aggregation types descriptions

There are no aggregation types for the secondary types.

### 4.2.9 Secondary types - Composition types descriptions

There are no composition types for the secondary types.

# Chapter 5

# Operation Model

This section contains the operation schemes of each operation defined in either an actor, its output interface, in a primary or secondary type (class, datatype or enumeration types). The Messir OCL code listing is joined to the comment table.

## 5.1 Environment - Out Interface Operation Schemes

There are no elements in this category in the system analysed.

## 5.2 Environment - Actor Operation Schemes

There are no elements in this category in the system analysed.

## 5.3 Primary Types - Operation Schemes for Classes

There are no elements in this category in the system analysed.

## 5.4 Primary Types - Operation Schemes for Datatypes

There are no elements in this category in the system analysed.

## 5.5 Primary Types - Operation Schemes for Enumerations

There are no elements in this category in the system analysed.

## 5.6 Secondary Types - Operation Schemes for Classes

There are no elements in this category in the system analysed.

## 5.7 Secondary Types - Operation Schemes for Datatypes

There are no elements in this category in the system analysed.

## 5.8 Secondary Types - Operation Schemes for Enumerations

There are no elements in this category in the system analysed.

# Chapter 6

# Test Model(s)

There are no elements in this category in the system analysed.

# Chapter 7

# Additional Constraints

# Appendix A

# Undocumented Messir Specification Elements

## A.1 Undocumented Primary Types

### A.1.1 Undocumented Primary Classe Types

- lu.uni.lassy.excalibur.group03.requirements.analysis.concepts.primarytypes.classes.ctState

# Appendix B

# Messir Specification Files Listing

## B.1 File ./src-gen/messir-spec/.views.msr

```
1 //
2 //DON'T TOUCH THIS FILE !!!
3 //
4 package uuid77e3d0e778c340a083a53b5f0e403485 {
5  Concept Model {}
6 }
```

Listing B.1: Messir Spec. file .views.msr.

## B.2 File ./src-gen/messir-spec/environment/environment.msr

```
1 /*
2 * @author nelson
3 * @date Mon Oct 30 14:30:22 CET 2017
4 */
5
6 package lu.uni.lassy.excalibur.group03.requirements.analysis.environment {
7
8 import lu.uni.lassy.messir.libraries.calendar
9 import lu.uni.lassy.messir.libraries.math
10 import lu.uni.lassy.messir.libraries.primitives
11 import lu.uni.lassy.messir.libraries.string
12
13 Environment Model {
14
15 actor actSysAdmin role rnactSysAdmin cardinality[0 .. *] {
16    input interface inactSysAdmin {
17    }
18    output interface outactSysAdmin {
19    }
20   }
21  }
22 }
```

Listing B.2: Messir Spec. file environment.msr.

## B.3 File ./src-gen/messir-spec/concepts/primarytypes-associations/primarytypes-associations.msr

```
1 /*
2 * @author nelson
3 * @date Mon Oct 30 14:30:21 CET 2017
4 */
5
6 package lu.uni.lassy.excalibur.group03.requirements.analysis.concepts.primarytypes.associations {
```

```
 7
 8 import lu.uni.lassy.messir.libraries.calendar
 9 import lu.uni.lassy.messir.libraries.math
10 import lu.uni.lassy.messir.libraries.primitives
11 import lu.uni.lassy.messir.libraries.string
12
13 Concept Model {
14
15  Primary Types {
16
17  }
18 }
19 }
```

Listing B.3: Messir Spec. file primarytypes-associations.msr.

## B.4 File ./src-gen/messir-spec/concepts/primarytypes-classes/primarytypes-classes.msr

```
 1 /*
 2 * @author nelson
 3 * @date Mon Oct 30 14:30:21 CET 2017
 4 */
 5
 6 package lu.uni.lassy.excalibur.group03.requirements.analysis.concepts.primarytypes.classes {
 7
 8 import lu.uni.lassy.messir.libraries.calendar
 9 import lu.uni.lassy.messir.libraries.math
10 import lu.uni.lassy.messir.libraries.primitives
11 import lu.uni.lassy.messir.libraries.string
12
13 import lu.uni.lassy.messir.libraries.primitives
14
15 Concept Model {
16
17  Primary Types {
18
19   state class ctState {
20    attribute vpStarted: ptBoolean
21
22    operation init(AvpStarted:ptBoolean): ptBoolean
23   }
24
25  }
26 }
27 }
```

Listing B.4: Messir Spec. file primarytypes-classes.msr.

## B.5 File ./src-gen/messir-spec/concepts/primarytypes-datatypes/primarytypes-datatypes.msr

```
 1 /*
 2 * @author nelson
 3 * @date Mon Oct 30 14:30:21 CET 2017
 4 */
 5
 6 package lu.uni.lassy.excalibur.group03.requirements.analysis.concepts.primarytypes.datatypes {
 7
 8 import lu.uni.lassy.messir.libraries.calendar
 9 import lu.uni.lassy.messir.libraries.math
10 import lu.uni.lassy.messir.libraries.primitives
11 import lu.uni.lassy.messir.libraries.string
12
13 Concept Model {
14
```

```
15  Primary Types {
16
17  }
18 }
19 }
```

Listing B.5: Messir Spec. file primarytypes-datatypes.msr.

## B.6 File ./src-gen/messir-spec/concepts/secondarytypes-associations/secondarytypes-associations.msr

```
1 /*
2 * @author nelson
3 * @date Mon Oct 30 14:30:21 CET 2017
4 */
5
6 package lu.uni.lassy.excalibur.group03.requirements.analysis.concepts.secondarytypes.associations {
7
8 import lu.uni.lassy.messir.libraries.calendar
9 import lu.uni.lassy.messir.libraries.math
10 import lu.uni.lassy.messir.libraries.primitives
11 import lu.uni.lassy.messir.libraries.string
12
13 Concept Model {
14
15  Secondary Types {
16
17  }
18 }
19 }
```

Listing B.6: Messir Spec. file secondarytypes-associations.msr.

## B.7 File ./src-gen/messir-spec/concepts/secondarytypes-classes/secondarytypes-classes.msr

```
1 /*
2 * @author nelson
3 * @date Mon Oct 30 14:30:22 CET 2017
4 */
5
6 package lu.uni.lassy.excalibur.group03.requirements.analysis.concepts.secondarytypes.classes {
7
8 import lu.uni.lassy.messir.libraries.calendar
9 import lu.uni.lassy.messir.libraries.math
10 import lu.uni.lassy.messir.libraries.primitives
11 import lu.uni.lassy.messir.libraries.string
12
13 Concept Model {
14
15  Secondary Types {
16
17  }
18 }
19 }
```

Listing B.7: Messir Spec. file secondarytypes-classes.msr.

## B.8 File ./src-gen/messir-spec/concepts/secondarytypes-datatypes/secondarytypes-datatypes.msr

```
1 /*
2 * @author nelson
```

```
 3 * @date Mon Oct 30 14:30:22 CET 2017
 4 */
 5
 6 package lu.uni.lassy.excalibur.group03.requirements.analysis.concepts.secondarytypes.datatypes {
 7
 8 import lu.uni.lassy.messir.libraries.calendar
 9 import lu.uni.lassy.messir.libraries.math
10 import lu.uni.lassy.messir.libraries.primitives
11 import lu.uni.lassy.messir.libraries.string
12
13 Concept Model {
14
15  Secondary Types {
16
17  }
18
19 }
20 }
```

Listing B.8: Messir Spec. file secondarytypes-datatypes.msr.

## B.9 File ./src-gen/messir-spec/tests/tests.msr

```
 1 /*
 2 * @author nelson
 3 * @date Mon Oct 30 14:30:22 CET 2017
 4 */
 5
 6 package lu.uni.lassy.excalibur.group03.requirements.analysis.tests {
 7
 8 import lu.uni.lassy.messir.libraries.calendar
 9 import lu.uni.lassy.messir.libraries.math
10 import lu.uni.lassy.messir.libraries.primitives
11 import lu.uni.lassy.messir.libraries.string
12
13  Test Model {
14
15  }
16
17 }
```

Listing B.9: Messir Spec. file tests.msr.

## B.10 File ./src-gen/messir-spec/usecases/usecases.msr

```
 1 /*
 2 * @author nelson
 3 * @date Mon Oct 30 14:30:21 CET 2017
 4 */
 5
 6 package lu.uni.lassy.excalibur.group03.requirements.analysis.usecases {
 7
 8 import lu.uni.lassy.messir.libraries.calendar
 9 import lu.uni.lassy.messir.libraries.math
10 import lu.uni.lassy.messir.libraries.primitives
11 import lu.uni.lassy.messir.libraries.string
12 import lu.uni.lassy.excalibur.group03.requirements.analysis.environment
13
14  Use Case Model {
15
16  use case system usergoal ugSecurelyUseSystem() {
17   }
18  use case system usergoal ugCreateVMExpert() {
19   actor actSysAdmin[primary, active]
20
21   reuse sfVMDescriptionExpert[1..1]
22   reuse sfVMConfigurationExpert[1..1]
23   reuse sfValidateConfigurationVMExpert[1..1]
```

```
24  reuse sfCloseConfigurationVMExpert[1..1]
25
26  }
27 use case system subfunction sfCloseConfigurationVMExpert() {
28   actor lu.uni.lassy.excalibur.group03.requirements.analysis.environment.actSysAdmin[primary,
       active]
29  }
30 use case system subfunction sfVMDescriptionExpert() {
31   actor lu.uni.lassy.excalibur.group03.requirements.analysis.environment.actSysAdmin[primary,
       active]
32  }
33 use case system subfunction sfValidateConfigurationVMExpert() {
34   actor lu.uni.lassy.excalibur.group03.requirements.analysis.environment.actSysAdmin[primary,
       active]
35  }
36 use case system subfunction sfVMConfigurationExpert() {
37   actor lu.uni.lassy.excalibur.group03.requirements.analysis.environment.actSysAdmin[primary,
       active]
38  }
39 use case system subfunction sfVMDescriptionTemplate() {
40   actor lu.uni.lassy.excalibur.group03.requirements.analysis.environment.actSysAdmin[primary,
       active]
41  }
42 use case system subfunction sfVMConfigurationTemplate() {
43   actor lu.uni.lassy.excalibur.group03.requirements.analysis.environment.actSysAdmin[primary,
       active]
44  }
45 use case system subfunction sfValidateConfigurationVMTemplate() {
46   actor lu.uni.lassy.excalibur.group03.requirements.analysis.environment.actSysAdmin[primary,
       active]
47  }
48 use case system subfunction sfCloseConfigurationVMTemplate() {
49   actor lu.uni.lassy.excalibur.group03.requirements.analysis.environment.actSysAdmin[primary,
       active]
50  }
51 use case system usergoal ugCreateVMTemplate() {
52  actor actSysAdmin[primary, active]
53
54  reuse sfVMDescriptionTemplate[1..1]
55  reuse sfVMConfigurationTemplate[1..1]
56  reuse sfValidateConfigurationVMTemplate[1..1]
57  reuse sfCloseConfigurationVMTemplate[1..1]
58
59  }
60 use case system subfunction sfGetVMList() {
61   actor lu.uni.lassy.excalibur.group03.requirements.analysis.environment.actSysAdmin[primary,
       active]
62  }
63 use case system subfunction sfSelectVM() {
64   actor lu.uni.lassy.excalibur.group03.requirements.analysis.environment.actSysAdmin[primary,
       active]
65  }
66 use case system subfunction sfValidateBackup() {
67   actor lu.uni.lassy.excalibur.group03.requirements.analysis.environment.actSysAdmin[primary,
       active]
68  }
69 use case system usergoal ugBackupVMNow() {
70  actor actSysAdmin[primary, active]
71
72  reuse sfGetVMList[1..1]
73  reuse sfSelectVM[1..1]
74  reuse sfValidateBackup[1..1]
75
76  }
77 use case system subfunction sfBackupDescription() {
78   actor lu.uni.lassy.excalibur.group03.requirements.analysis.environment.actSysAdmin[primary,
       active]
79  }
80 use case system subfunction sfSetDate() {
81   actor lu.uni.lassy.excalibur.group03.requirements.analysis.environment.actSysAdmin[primary,
```

```
        active]
 }
use case system usergoal ugBackupVMPlanified() {
 actor actSysAdmin[primary, active]

 reuse sfGetVMList[1..1]
 reuse sfSelectVM[1..1]
 reuse sfBackupDescription[1..1]
 reuse sfSetDate[1..1]
 reuse sfValidateBackup[1..1]

 }
use case system subfunction sfValidateDeletion() {
  actor lu.uni.lassy.excalibur.group03.requirements.analysis.environment.actSysAdmin[primary,
        active]
 }
use case system usergoal ugDeleteVM() {
 actor actSysAdmin[primary, active]

 reuse sfGetVMList[1..1]
 reuse sfSelectVM[1..1]
 reuse sfValidateDeletion[1..1]

 }
use case system summary suVMLifecycle() {
 actor actSysAdmin[primary, active]

 reuse ugSecurelyUseSystem[1..*]
 reuse ugCreateVMExpert[1..*]
 reuse ugCreateVMTemplate[1..*]
 reuse ugBackupVMNow[1..*]
 reuse ugBackupVMPlanified[1..*]
 reuse ugDeleteVM[1..*]

 }
}

}
```

Listing B.10: Messir Spec. file usecases.msr.