E.2.3 Common Vocabulary

This subclause illustrates some common SBVR vocabulary that could be adopted by enterprise-specific vocabularies.

In reality this vocabulary would be larger, containing many common terms and fact type forms useful in describing enterprises. Here we have included some extracts that are directly relevant to the EU-Rent example in this annex.

E.2.3.1   General

text
Source:	**Unicode 4.0.0 Glossary** ['Character Sequence']
General Concept:	expression

thing$_1$ *is* thing$_2$
Definition:	The thing$_1$ and the thing$_2$ *are the same* thing

thing [individual concept] *is changed*
Definition:	the extension of the individual concept is different at one point in time from what it is at a subsequent point in time

E.2.3.2   Numbers

integer
Definition:	number with no fractional part

integer$_1$ *is less than* integer$_2$
Definition:	The integer$_1$ *is numerically less than* the integer$_2$
Synonymous Form:	integer$_1$ < integer$_2$
Synonymous Form:	integer$_2$ *is greater than* integer$_1$
Synonymous Form:	integer$_2$ > integer$_1$

nonnegative integer
Definition:	integer that is greater than or equal to zero
Synonym:	whole number

E.2.3.3   Time

actual date/time

Concept Type:	role
Definition:	date/time at which a state of affairs occurs
Description:	Used in business rules such as "the rental start date requested on a rental reservation must not be earlier than the actual date/time of submission of the reservation."

date

Definition:	date/time that is to the precision of year-month-day

date/time

Dictionary Basis:	the point of time at which a transaction or event takes place or is appointed to take place: a given point of time MWU ["date" 2,2]
Dictionary Basis:	a point or period when something occurs : the moment of an event, process, or condition MWU ["time" 2,2A]

date/time$_1$ *is after* date/time$_2$

date/time$_1$ *is before* date/time$_2$

date/time *is in the future*

Definition:	date/time *being after* the date/time of the current moment
Example:	Each reserved rental (rental that does not yet have a car assigned) should have a scheduled pick-up date/time that *is in the future*.

date/time *is in the past*

Definition:	date/time *being before* the date/time of the current moment
	Each returned rental (rental for which the car has been returned to EU-Rent) should have an actual return date/time that *is in the past*.

duration

Definition:	quantity of elapsed time of a period, measured in some time unit(s)

duration$_1$ *is at most* duration$_2$

Synonymous Form:	duration$_2$ *is more than* duration$_1$
Synonymous Form:	duration$_1$ *is less than or equal to* duration$_2$

duration *is measured in* time unit

Definition:	Each duration *is measured in* at least one time unit.

end date/time

Concept Type:	role
Definition:	date/time at which period concludes

period

Definition:	A time interval measured from a start date/time to an end date/time

Necessity:	The start date/time of each period is before the end date/time.
Example:	"From 23-April-2004/11:30 to 27-April-2004/17:50"
Note:	period is related to, but different from, duration. For the example above, the duration is "4 days, six hours and 20 minutes". Different periods can have the same duration.

period *has* duration

Concept Type:	is-property-of fact type

period *has* end date/time

Concept Type:	is-property-of fact type

period *has* start date/time

Concept Type:	is-property-of fact type

period$_1$ *overlaps* period$_2$

Definition:	(the start date/time *of* period$_1$ *is after* the start date/time *of* period$_2$ and *before* the end date/time *of* period$_2$) or (the end date/time *of* period$_1$ *is after* the start date/time *of* period$_2$ and *before* the end date/time *of* period$_2$).

start date/time

Concept Type:	role
Definition:	date/time at which period begins

state of affairs *occurs after* date/time

Concept Type:	associative fact type

state of affairs *occurs at* date/time

Concept Type:	associative fact type

state of affairs *occurs before* date/time

Concept Type:	associative fact type

state of affairs$_1$ *occurs before* state of affairs$_2$ *occurs*

Concept Type:	associative fact type

E.2.3.3.1 Example of a reusable structure in common vocabulary

Fixed and variable periods, described below, are structures that can play roles included in other concepts. For example, "variable period" (with all its necessities and possibilities) is included in EU-Rent's rental, with the role name "rental period."

fixed period

Definition:	period that cannot *be changed*
Example:	Period in the past, e.g., the OMG Burlingame meeting time.
Example:	Period defined by clock or calendar, e.g., "first ten days in May."
Example:	Period in the future fixed by fiat, e.g., trip for which you have bought air tickets that cannot be rescheduled or refunded.

fixed end date/time

Concept Type:	role
Definition:	date/time that *is the end of* a fixed period

fixed start date/time

Concept Type:	role
Definition:	date/time that *is the start of* a fixed period

fixed period *has* fixed end date/time

Necessity:	The end date/time *of* a fixed period *is* not *changed*.

fixed period *has* fixed start date/time

Necessity:	The start date/time *of* a fixed period *is* not *changed*.

variable period

Definition:	period that *can be rescheduled*
Example:	period *of* a EU-Rent rental

variable period *has* actual start date/time

Necessity:	Each variable period *has* at most one actual start date/time
Necessity:	The actual start date time *of* a variable period *is* not *changed*.

variable period *has* actual end date/time

Necessity:	Each variable period *has* at most one actual end date/time
Necessity:	The actual end date time *of* a variable period *is* not *changed*.

variable period *has* scheduled start date/time

Necessity:	Each variable period *has* exactly one scheduled start date/time
Possibility:	The scheduled start date/time *of* a variable period *is changed before* the actual start date/time *of* the variable period.
Necessity:	The scheduled start date/time *of* a variable period *is* not *changed after* the actual start date/time *of* the variable period.
Note:	Additional constraints may be added in specific contexts - e.g., in EU-Rent the cut-off for changing the start date of a points rental is 5 days before its scheduled start date/time.

variable period *has* scheduled end date/time

Necessity:	Each variable period *has* exactly one scheduled end date/time
Possibility:	The scheduled end date/time *of* a variable period *is changed before* the actual end date/time *of* the variable period.
Necessity:	The scheduled end date/time *of* a variable period *is* not *changed after* the actual end date/time *of* the variable period.
Note:	Additional constraints may be added in specific contexts - e.g., EU-Rent won't allow the scheduled end date of a rental to be changed so that the rental would have duration of more than 90 days.

variable period *has* duration

Description: Duration of a variable period is measured in one of three ways, depending on what is known at the time of measurement:

(1) Before the actual start date/time the duration of a variable period is measured from scheduled start date/time to scheduled end date/time.

(2) At any date/time between actual start date/time and actual end date/time the duration of a variable period is measured from actual start date/time to scheduled end date/time.

(3) At any date/time after the actual end date/time the duration of a variable period is measured from actual start date/time to actual end date/time (i.e., the period is then fixed).