

About RuleSpeak: Let the Business People Speak Rules!

Business Rules Platform Netherlands (BRPN) – May 12, 2009

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References by Ronald G. Ross:

Business Rule Concepts (3rd Edition), 3Q 2009, www.BRSolutions.com

Principles of the Business Rule Approach, Addison-Wesley, 2003



Are You Verb Challenged?



Ronald G. Ross is Co-Founder and Principal of Business Rule Solutions, LLC (www.BRSolutions.com). BRS provides workshops, consulting, publications, and methodology supporting business analysis, business rules, business vocabulary, decisioning, and rule management. His popular public seminars on business rules and business analysis, the first on business rules (starting in 1996) and the longest-running in the industry, are given through AttainingEdge (www.AttainingEdge.com).

Mr. Ross co-develops **Proteus**[®], BRS's landmark methodology, featuring numerous innovative techniques including the popular **RuleSpeak**[®] (free on www.RuleSpeak.com, now also in Spanish, German and Dutch). These are the latest offerings in a 35-year career that has consistently featured creative, business-driven solutions.

Mr. Ross also serves as Executive Editor and regular columnist of **BRCommunity.com** and its flagship on-line publication, **Business Rules Journal**. **BRCommunity.com**, hosted and sponsored by BRS, is a vertical community for professionals working with business rules, decisioning, and related areas. Mr. Ross was formerly Editor of the *Data Base Newsletter* from 1977 to 1998.

Mr. Ross is recognized internationally as the “father of business rules.” He has served as Co-Chair of the annual **Business Rules Forum Conference** since 1997. He was a charter member of the Business Rules Group (BRG) in the 1980s, and an editor of the two landmark BRG papers, “The Business Motivation Model: *Business Governance in a Volatile World*” (2000, revised 2005, 2007) and the “Business Rules Manifesto” (2003). He is also active in OMG standards development for business rules and business models, including SBVR.

Mr. Ross (www.RonRoss.info) is the author of eight professional books. His newest are: *Business Rule Concepts* (2009), a third edition of his popular, easy-to-read handbook, and *Principles of the Business Rule Approach*, Addison-Wesley (2003), featuring the business rationale and opportunity for business rules. An earlier work, *The Business Rule Book* (1994, 1997), was the seminal work in the field.

Mr. Ross received his M.S. in information science from Illinois Institute of Technology, and his B.A. from Rice U.

What is the world's leading cause of ambiguity?



Business Rule: *An order must not be shipped if the outstanding balance exceeds credit authorization.*

... something seems to be hidden or missing.

Ask: Outstanding balance *of what?*

↳ order? ...customer? ...account? ...shipment?

Credit authorization *of what?*

↳ order? ...customer? ...account? ...shipment?



Hidden or missing facts ... *... are not good!*

Original Rule: *An order must not be shipped if the outstanding balance exceeds credit authorization.*

Facts:

- customer places order
- customer has credit authorization
- customer holds account
- account has outstanding balance

Revised Rule: *An order must not be shipped if the outstanding balance of the account held by the customer that placed the order exceeds the credit authorization of the customer.*



Use facts explicitly in business rules!

The insight ...

Facts → verbs

- You need *verbs* to write good business rules.
- You need *verbs* to write good requirements.
- You need *verbs* to write good business communications.

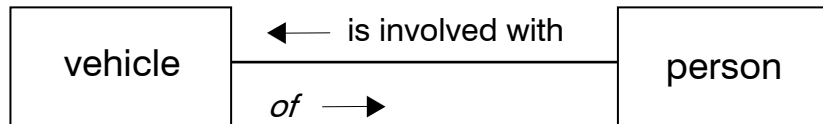
In short, you need verbs to write *anything*.

... *That includes business rules!*



How not to express business rules ...

Data Model ...



What are you going to do with ...

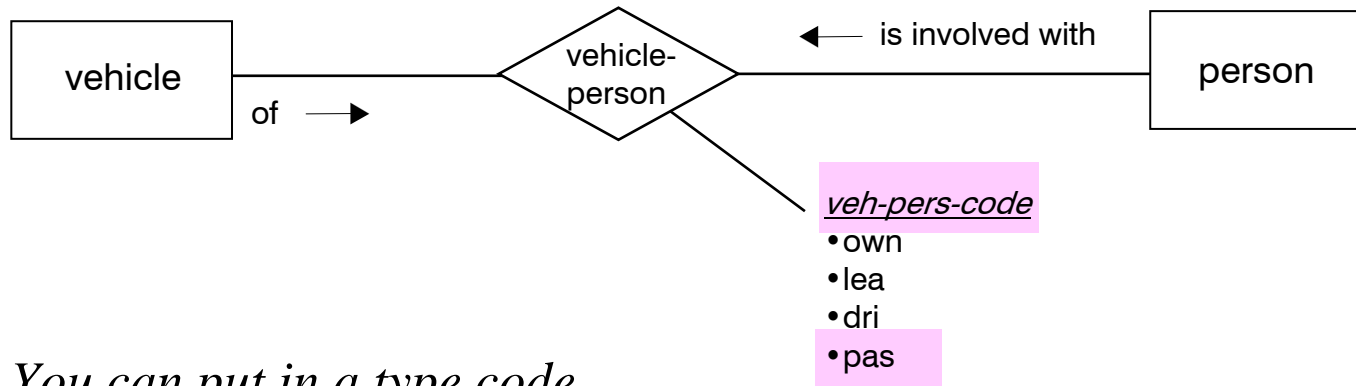
Business Rule: *A vehicle must not transport more than 4 passengers.*

“Intersection data” in data models

Business Rule: *A vehicle must not transport more than 5 passengers.*

↳ But people can *own, lease, drive or ride in* vehicles.

Data Model ...



You can put in a type code ...

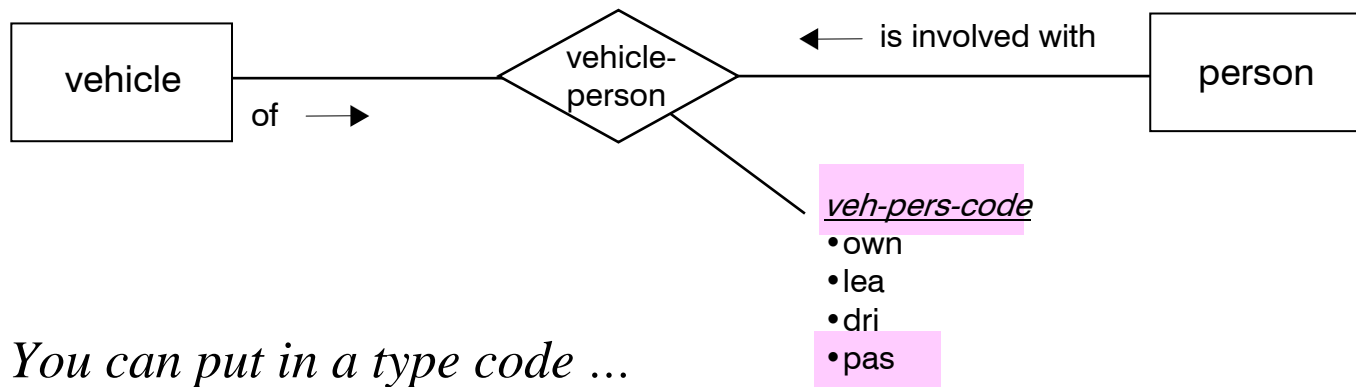
‘Data’ Rule: A vehicle must not be *of* more than 5 people where **veh-pers-code = “pas”**.

Yuck!

“Intersection data” in data models (cont)

Business Rule: *A person must not lease a vehicle the person owns.*

Data Model ...

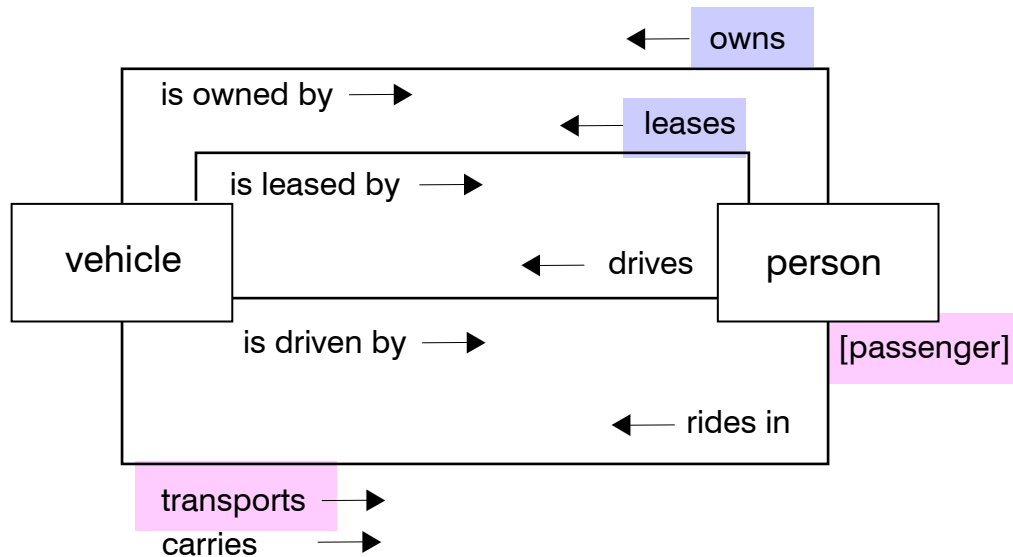


You can put in a type code ...

‘Data’ Rule: A person must not be involved with the same vehicle where `veh-per-code = “lea”` and `veh-per-code = “own”`.

Double Yuck!

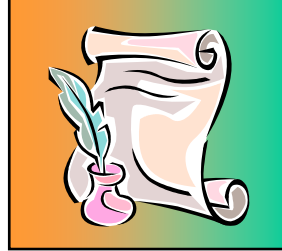
Fact models are really verbal models



Back to the business rules ...

Rule: A vehicle must not transport more than 4 passengers.

Rule: A person must not lease a vehicle the person owns.



Article 3. Deliberate Knowledge, Not A By-Product

3.1. Rules build on facts, and facts build on concepts as expressed by terms.

3.2. Terms express business concepts; facts make assertions about these concepts; rules constrain and support these facts.

3.3. Rules must be explicit. No rule is ever assumed about any concept or fact.

3.4. Rules are basic to what the business knows about itself – that is, to basic business knowledge.

3.5. Rules need to be nurtured, protected, and managed.

~~~~~  
by Business Rules Group, 2003  
[www.BusinessRulesGroup.org](http://www.BusinessRulesGroup.org)

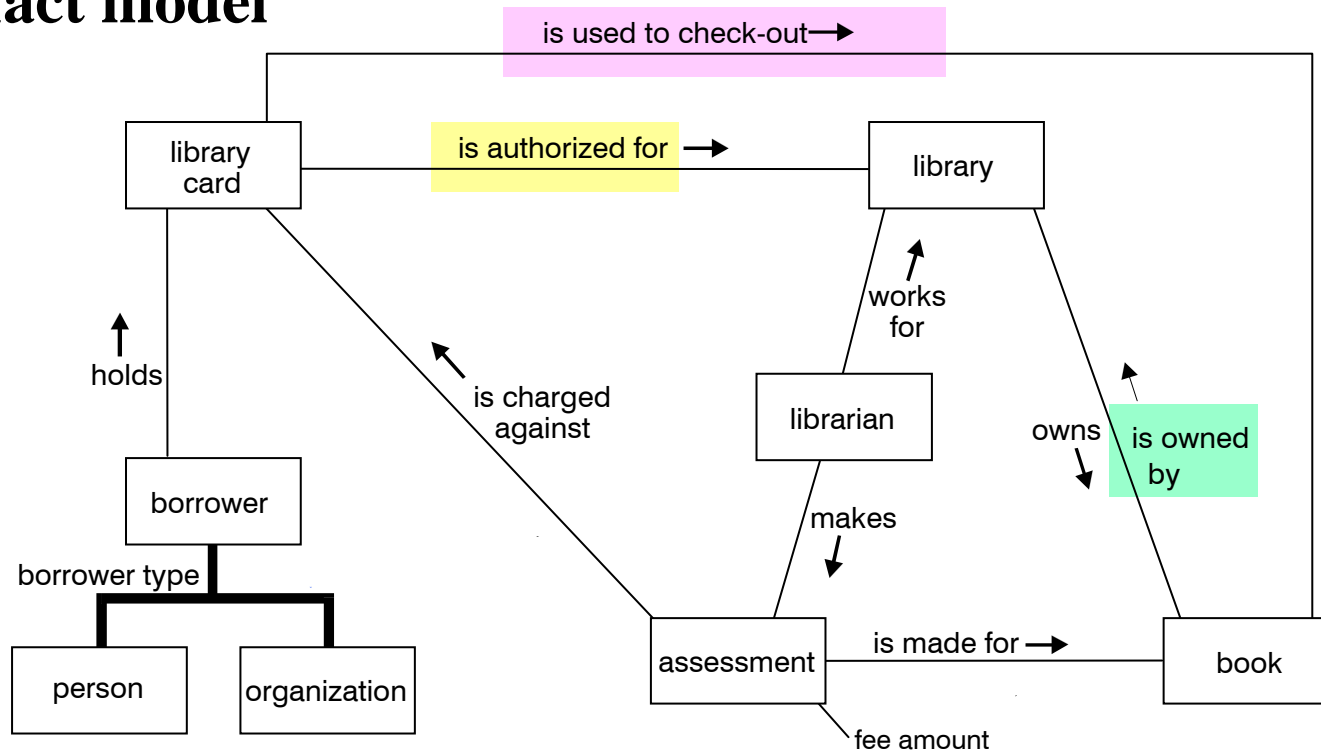


***A building-block approach to developing and retaining operational decision criteria and business know-how ... that scales.***



Reference: Business Rule Concepts, (3rd Ed.), Chapters 1 and 4.

## Library fact model



**Business rules are verbish!**

*Note:* “Must” and “may” are verbal auxiliaries.

**Rule:** A library card must be authorized for a library.

**Rule:** A library card may be used to check-out a book only if the book is owned by a library for which the card is authorized.

# RuleSpeak®

*... for business-friendly business rules in structured natural language*

*... in English (2.0), Dutch, Spanish & German ... released April, 2009*

*... free on **www.RuleSpeak.com***

## Origin:

- Developed by Business Rule Solutions, LLC (BRS) starting in 1996.
- Applied in hundreds of projects since that time.

## Standardization:

- One of three reference notations used in the creation of SBVR.
- Fully consistent with that standard.

**Dutch:** Led by Silvie Spreeuwenberg, LibRT



# RuleSpeak®

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**Definition:** A set of guidelines for expressing business rules in concise, business-friendly fashion using structured natural language.

**Make-Up:** Not a language or syntax per se, but rather a set of best practices.

## **Purpose:**

- To bring greater clarity and consistency in communicating rules, whether among business people or as requirements for IT.
- To capture, express and retain decision criteria and business know-how effectively.



*RuleSpeak is a registered trademark of Business Rule Solutions, LLC*

*When is the best time to find you have anomalies in your rules?*

*Business Leads*

Business Model  
(CIM)

\$



*Logic Architects*

Computable  
Model (PIM)

\$



*Tech. Engineers*

Platform-Spec.  
Model (PSM)

\$



*Technicians*

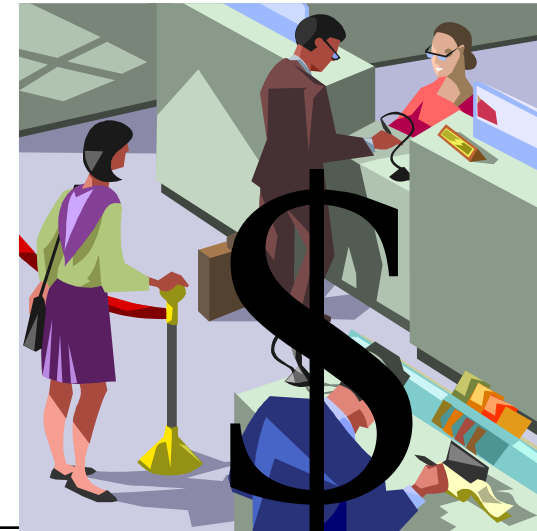
“Code”

\$



*Workers*

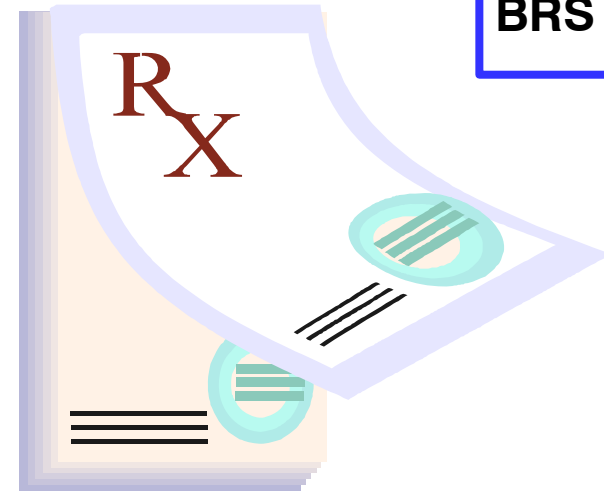
Functioning  
Bus. Capacity



## Case Study

### *Large Health Care Organization*

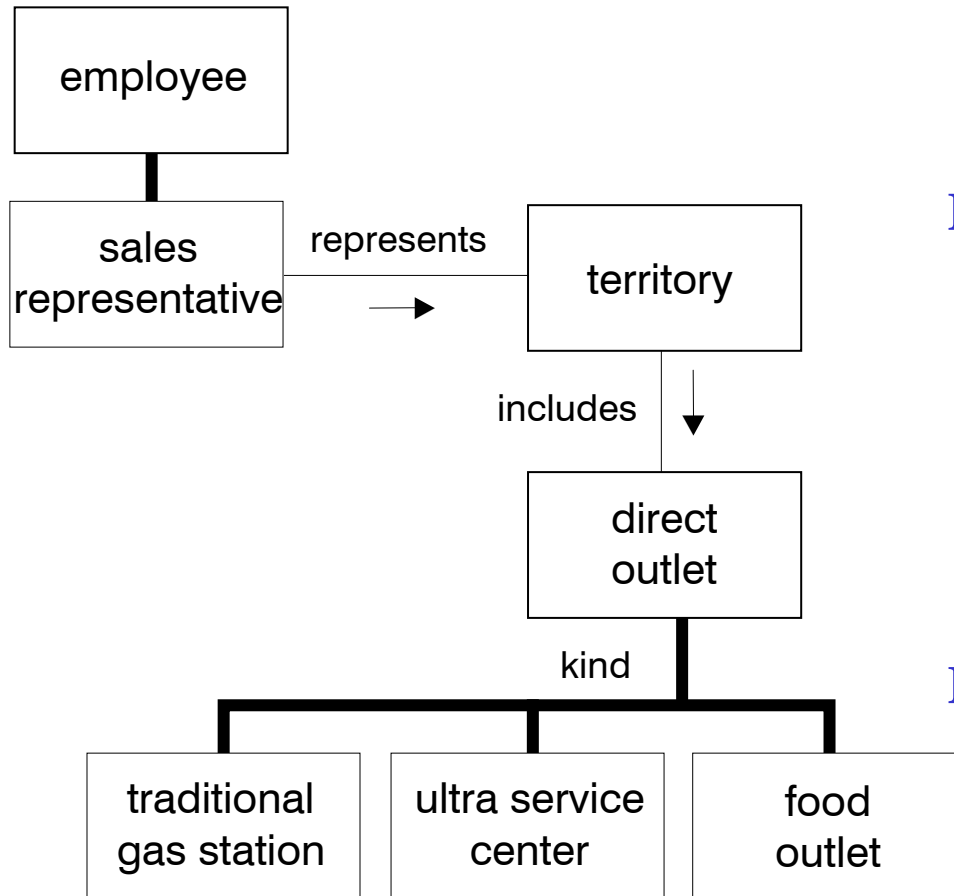
- ❖ **Changes to business rules are passed to IT in the form of pseudo-code and rule engine statements.**
- ❖ **Only one person on the business side is able to perform each of these two hand-offs, respectively.**



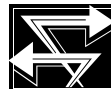
*Assessment: “fast and streamlined” ... BUT, risks:*

- Depends on single business-side resources.
- Requires training and expertise in arcane languages.
- Doesn't allow broader review, analysis, communication and refinement in the business intent associated with each change.
- Provides no guarantee that business intent won't be prematurely slanted to the technical expressions.
- Preempts business-level communication about the changes, and sharing and retention of related motivation and know-how.

## Expressing business rules ...



 is candidate for modification



*Express business rules in natural language sentences!*

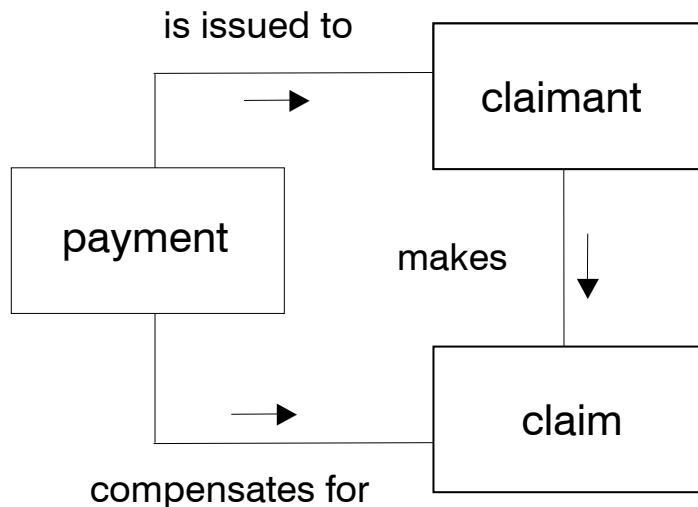
**Rule:** *A territory must not include more than one of the following kinds of direct outlet:*

- *traditional gas station that is not a candidate for modification*
- *ultra service center*
- *food outlet*

**Rule:** *A sales representative must not represent a territory that ... (same).*

## Expressing business rules ...

### Example: *Cycle constraints*



**Rule:** *A payment may be issued only to a claimant who makes the claim for which the payment compensates.*

**Note:** The fact types “is issued to,” “makes,” and “compensates for” form a cycle.



*Express business rules in natural language sentences!*

## ***Semantics of Business Vocabulary and Business Rules (SBVR)***

*Available as document 08-01-02 at <http://www.omg.org/spec/SBVR/1.0/PDF>*

### **Milestones...**

- September 2005 ... *the Object Management Group (OMG) approved SBVR to become a final adopted specification.*
- December 11, 2007 ... *the OMG authorized official release of Version 1.0.*

### **Sampler of Fundamental Principles**

- ✓ *Semantic Communities*
- ✓ *Vocabulary Adoption*
- ✓ *Meaning Separate from Expression*
- ✓ *Support for ISO 1087-1 and 704-2000*
- ✓ *Multi-Language*
- ✓ *Abstract Logical Formulation of Business Rules*
- ✓ *Semantic Communication*
- ✓ *Categorization of Business Guidance*

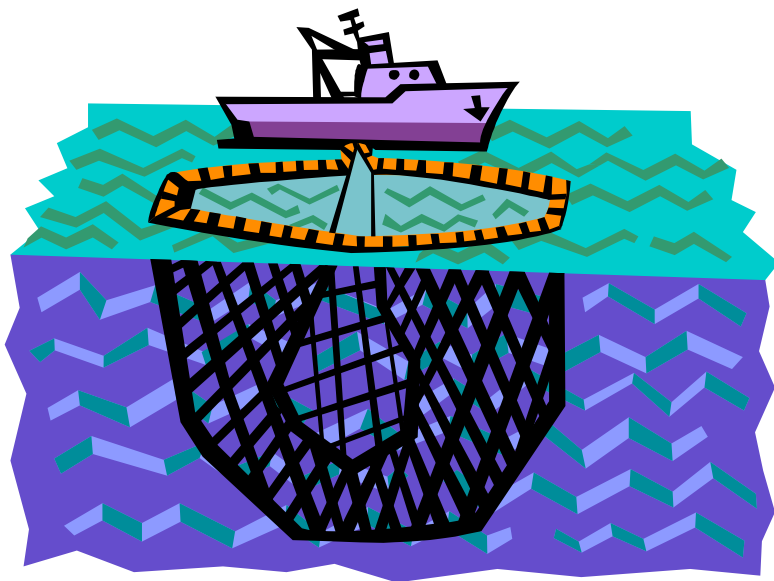
**For background on the SBVR and the consortium that produced it, refer to:**  
**“A Brief History of the Business Rule Approach,” *Business Rules Journal*.**  
**Available at <http://www.BRCommunity.com>**

### **Participants:**

Adaptive  
Automated Reasoning Corp  
Business Rule Solutions, LLC  
Business Rules Group  
Business Semantics Ltd  
Fujitsu Ltd  
Hendryx & Associates  
Hewlett-Packard Company  
InConcept  
LibRT  
KnowGravity Inc  
MEGA  
Model Systems  
Neumont University  
Perpetual Data Systems  
PNA Group  
Sandia National Laboratories  
The Rule Markup Initiative  
Unisys Corporation  
X-Change Technologies Group

## *What SBVR is ... to business practitioners*

SBVR delivers pre-packaged semantics (concepts) for analysis of rule-ish sentences.

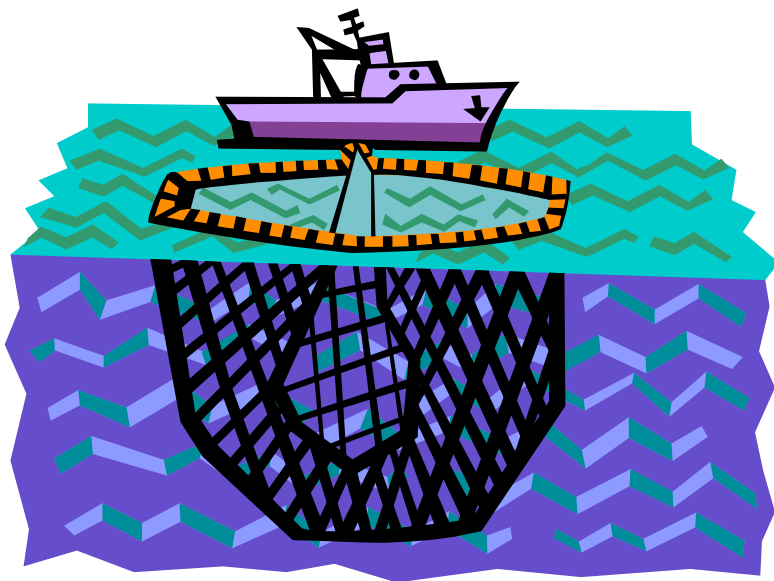


Visible SBVR sub-vocabularies ...

1. A surface vocabulary for building rich, well-structured business vocabularies ... terms such as “category”, “property”, etc. – the stuff of fact models.
2. A surface vocabulary for expressing the rule-ness of sentences ...

## What SBVR is not ...

SBVR delivers pre-packaged semantics (concepts) for analysis of rule-ish sentences.



2. A surface vocabulary and syntax for expressing the rule-ness of sentences.

### **BUT ...**

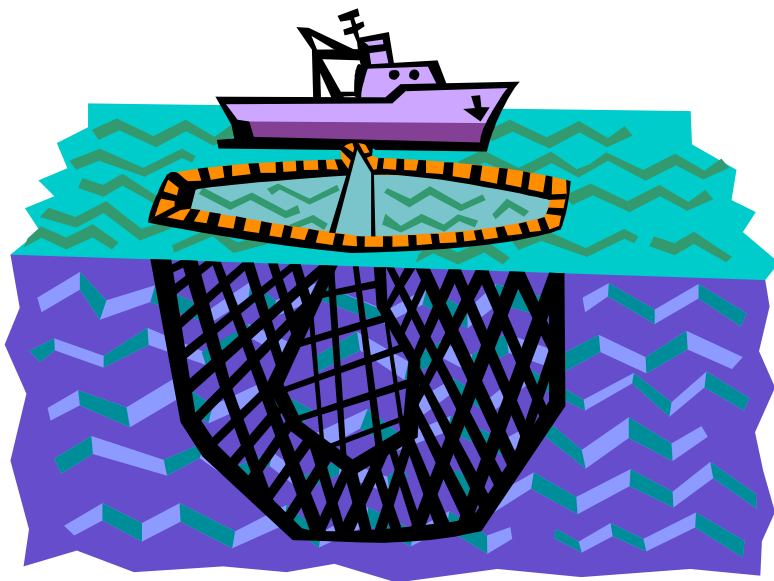
✧ SBVR does *not* standardize this rule-ish vocabulary (or any rule language at all).

✧ You can use RuleSpeak, ORM ...  
... or any other conforming rule language.

✧ You can also speak rule-ishly in Dutch, Spanish, German ...  
... or any other natural language.

## What makes SBVR unique...

SBVR delivers pre-packaged semantics (concepts) for analysis of rule-ish sentences.



From the perspective of business practitioners, SBVR ...

- ✧ is *not* a language.
  - SBVR does not standardize any language.
  - There is *no* 'SBVR language'.
- ✧ does *not* require translation of rule-ish sentences into any IT language.
  - ... SBVR avoids all the pitfalls associated with translation into 'IT-Speak'.
- ✧ is as close to *business-speak* ... and therefore to natural language ... as we can currently conceive.

## How not to express business rules ...

### *Not low-level programming code ...*

|       |    |                  |    |     |        |         |    |  |     |
|-------|----|------------------|----|-----|--------|---------|----|--|-----|
| 34510 | 00 | ACT-NUM          | GT | 0   | AND    |         |    |  |     |
| 34510 | 00 | OPEN-CLOSE-IND-A | EQ | "O" |        |         |    |  |     |
| 34510 | 01 |                  |    |     | "MDLR" | "A0034" |    |  |     |
| 34510 | 02 | FUNCTION-RSLT    | EQ | 3   |        | "AELG"  | 73 |  | "Y" |
| 34510 | 03 |                  |    |     | "NX"   |         |    |  |     |

## How not to express business rules ...

*Business Rule:* An employee must have a name.

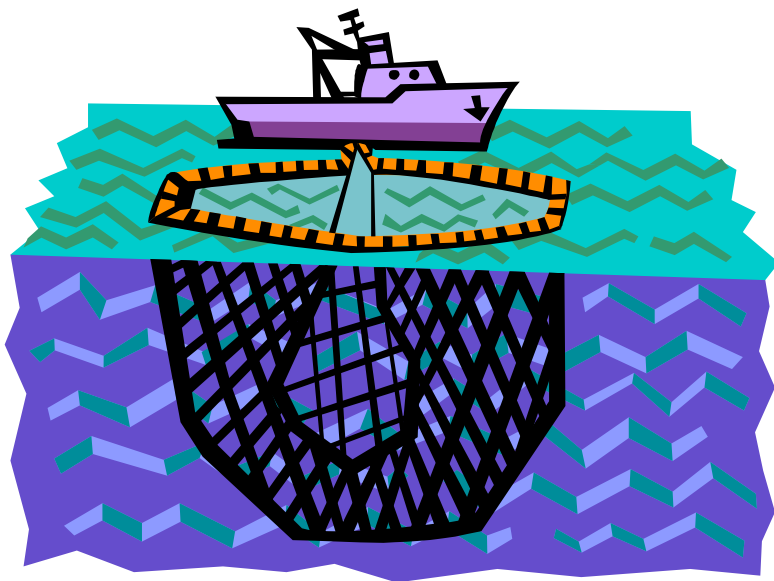
*System Rule:* If an employee does not have a name, then ???

“Business people don’t set variables  
and they don’t call functions.”

Don Baisley, Microsoft  
Architect of Rules Modeler while at Unisys

## What makes *SBVR* unique...

SBVR delivers pre-packaged semantics (concepts) for analysis of rule-ish sentences.



From the perspective of business practitioners, SBVR ...

✧ heralds a new style of expressing and communicating operational business knowledge that is:

✧ *vocabulary-based*

✧ *denotative*

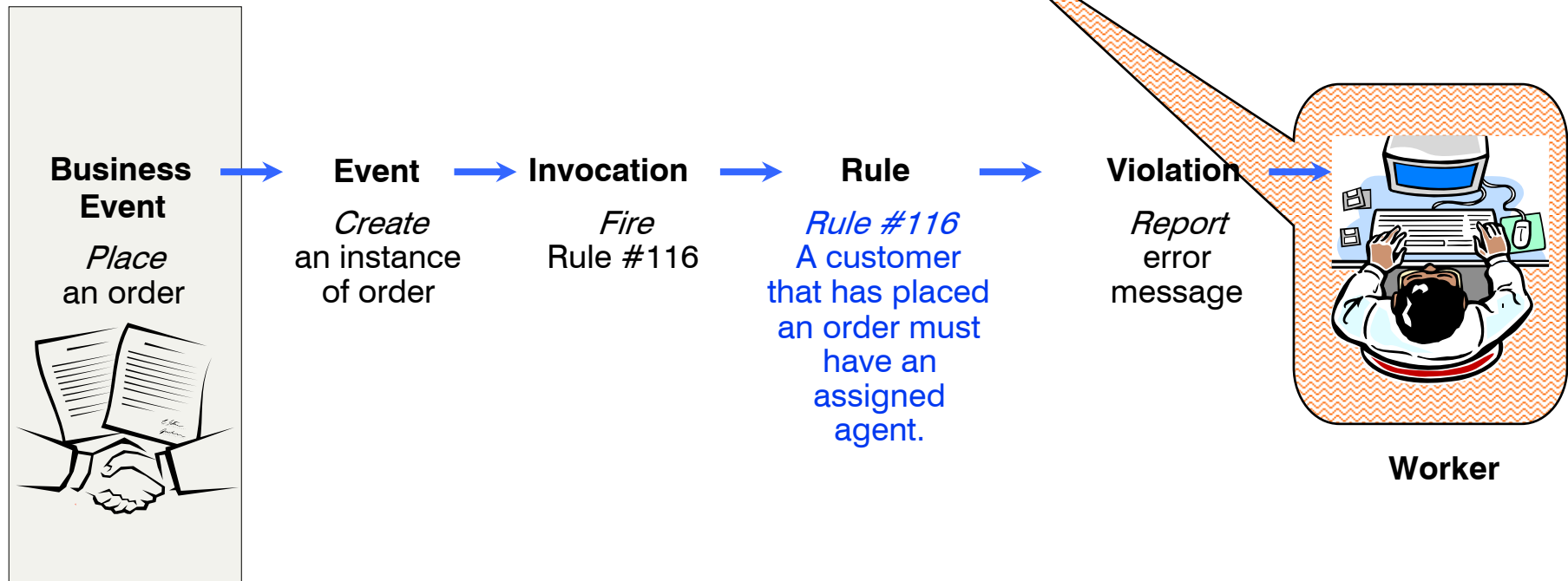
✧ *fact-oriented*

✧ *verb-oriented*

✧ *sentence-oriented*

## Operative/behavioral rules ...

What *error message* should be reported back to the user?



**Business Procedure  
(Script)**

*Note:* This architecture was originally presented in 1994.

## What I have said ...

- ↳ *RuleSpeak* lets you write *high-quality sentences* about business know-how.
- ↳ You need *verbs and verbish models* to write high-quality sentences.
- ↳ High-quality sentences are how you *make sense*.
- ↳ Making sense is how you *communicate with people* ...
  - ↳ ... and in the not too distant future, how you will *communicate with machines(!)*.





*Thank you!*