

## The Third Wave

April 2004



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In the UK, every home that has a television must have a TV license. The license revenue is used to fund the BBC and programs such as BBC World Service. In the UK, adverts on the side of London buses proclaim:

**We have a database of everyone who does not have a TV licence.**

The logic is this: The TV Licensing authority has a database of over 28 million addresses that identifies any business or domestic address that is unlicensed. With its teams of enquiry officers on the ground, TV Licensing catches over 1,000 evaders every day. They use the latest, state-of-the-art detector equipment, including a new fleet of high-tech vans, to detect those unlicensed addresses using television.

People intuitively understand the power of “data” and the role of “databases” in catching wrong doers, for databases are decades old technologies. In the TV licensing ad the word “database” means, “Those TV spooks have some super-smart techie way to find me!”

Robert Heinlein, author of science fiction, coined the neologism “grok,” (a Martian verb for a thorough understanding), though “grok” would never have taken hold, had the young rebels of the 1960s not discovered his book, *Stranger In A Strange Land*, and made it their counterculture bible. Beth Ager wrote, “Some went even further and formed “nests” and churches based on what they found in *Stranger*, perhaps the most famous instance of that is the Church of All Worlds, a pagan group that lifted its name and logo intact from the book. *Stranger* has also been included in many canonical college reading lists, and Billy Joel saw fit to mention the title in his 1989 Top-40 hit about history, ‘We Didn’t Start the Fire.’”

The TV ad works because everyone groks data. Data crossed over from tech-voodoo to everyday speech because of twenty years of exposure to myriad computer applications built around two very different ideas: Data – what the computer knows, and Software – what the computer can do. People grok data and software code even though virtually no one in the general population can develop data models and write software.

**But what if, instead of being able to process data,  
a computer system could process PROCESSES?**

**What if there were a business process management system (BPMS),  
not just a relational database management system (RDBMS)?**

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To grok the significance of a BPMS requires an ability to shift from “data” as the object of attention to PROCESS<sup>(p)</sup> as the object of attention, and to forget about data altogether, for it’s “just there” as part of PROCESS. With PROCESS, data no longer has to be a distraction separately managed with great effort. Data disappears from the mind’s eye for it’s no longer the state of the computer; the whole PROCESS is the state—past, present, and future plan. In a BPMS, PROCESS does not have the usual connotations of “data processing.” Since the PROCESS entity is now the mathematical fusion and normalization of data and processing into a single entity, “data processing” morphs into “PROCESS Processing,” pushing aside all those unnatural and CRUDy (create, read, update, and delete) tasks associated with data processing. It’s all just the *new* entity, PROCESS. After all, since the beginning, mankind wanted computers for what they can *do*, not for keeping CRUDy records of the state of the doing—they wanted behavioral machines, not filing cabinets maintained with separate behavioral entities we today call Tasks, Workflows, Activities, Procedures, and Functions. With a computer that deals in PROCESS, not data, peoples’ mental models of the computer can shift from *record keeping* to *doing*, from after-the-fact storing of state to here-and-now behavior with state built-in. Tasks, Workflows, Activities, Procedures, and Functions are relics of a pre-Pi calculus, Lambda calculus computing era. PROCESS is something new. It transcends the concepts we already grok and gives us something new to try and grok.

Here’s what Merriam-Webster says about Process:

**Noun**

**1 a** : PROGRESS, ADVANCE <in the *process* of time> **b** : something going on : PROCEEDING

**2 a** (1) : a natural phenomenon marked by gradual changes that lead toward a particular result <the *process* of growth> (2) : a natural continuing activity or function <such life *processes* as breathing> **b** : a series of actions or operations conducing to an end; *especially* : a continuous operation or treatment especially in manufacture

**3 a** : the whole course of proceedings in a legal action **b** : the summons, mandate, or writ used by a court to compel the appearance of the defendant in a legal action or compliance with its orders

**4** : a prominent or projecting part of an organism or organic structure <a bone *process*>

**Transitive verb**

**2 a** : to subject to a special process or treatment (as in the course of manufacture) **b** (1) : to subject to or handle through an established usually routine set of procedures <*process* insurance claims> (2) : to subject to examination or analysis <computers *process* data>

**Adjective**

**1** : treated or made by a special process especially when involving synthesis or artificial modification

**Intransitive verb**

Etymology: back-formation from <sup>1</sup>procession

*chiefly British* : to move in a procession

After reading the dictionary definition of PROCESS, try it on these:

Insurance claim  
Health record  
Lost parcel  
Trouble ticket

Are these computer data, or IT processes, or both? Is there such a thing as a standard accident, a standard catastrophe, or a standard customer? Is there



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such a thing as a standard medical life history? How can complaints about lost parcels be correlated with packages misrouted or whose delivery addresses have been lost? How can global IT services firms focus the efforts of their staff on eradicating the process exceptions that lead to trouble tickets? Aren't these PROCESSES?

Here's the irony:

Everyone already groks PROCESS, but not in the same way that "process" has been manifest in computer systems over the last decades. Examples include growing up, learning to ride a bike, getting through high school, coping with tragedies, bringing up a family, and managing a career. But in the context of computers, everyone cannot grok PROCESS (yet) because the applications of BPMS are not (yet) widespread. So the word "process" in computing is still associated with Tasks, Workflows, Activities, Procedures, and Functions, which are, of course, utterly unlike PROCESSES. Our experience is that to grok BPMS requires direct, hands-on experience. A father can read to a child books that describe riding a bicycle, but it's only when the child climbs onto the seat of a real bicycle that the groking really begins, scrapes and bruises included at first. Just like data, to understand PROCESS means to experience its effects. So for the time being, those who grok BPMS will be limited to those who have taken the step to install it, apply it, and use it.

So why does BPMI.org use the term PROCESS, a word overloaded with past meanings from workflow and ERP systems? Isn't that just confusing? Not really. Once people actually get their hands on a BPMS, they come to understand that PROCESSES are much closer to everyone's grok of processes in the real world. It would be tempting to try to develop another term. Perhaps marketing executives at some BPMS vendor might try. But for now it's the best word we have. We think it's a good one. We'll all have to be patient, however. Grok takes time.

Winding the clock forward:

Here is what the London bus TV Licensing ad might say in the future:

**"We have a PROCESS for everyone who does not have a TV licence that ends in a trip to court and a £1000 fine. What to know where you are?"**

When people grok PROCESS, here is the list of things they infer from the future ad:

I am being tracked.  
 The spooks are closing in.  
 It's only a matter of time before I'm caught.  
 They have a coordinated approach for finding me.  
 They probably know already when and how I'll be caught.  
 Their method is foolproof, I will be found out.



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\* PROCESS<sup>(P)</sup> is a *proper name<sup>(P)</sup>*, a noun that denotes a *particular* thing, not the generally known term, process. It is derived from the specific, named entity, the *mobile process*, used by computer scientist Robin Milner to describe the unification of communication and computation into a single entity, a process.

A PROCESS consolidates people, information and systems into a desirable behavior and outcome. The example below comes from the field of logistics. It matches Lost and Found letters and packages across a distributed level 2-call center support organization.

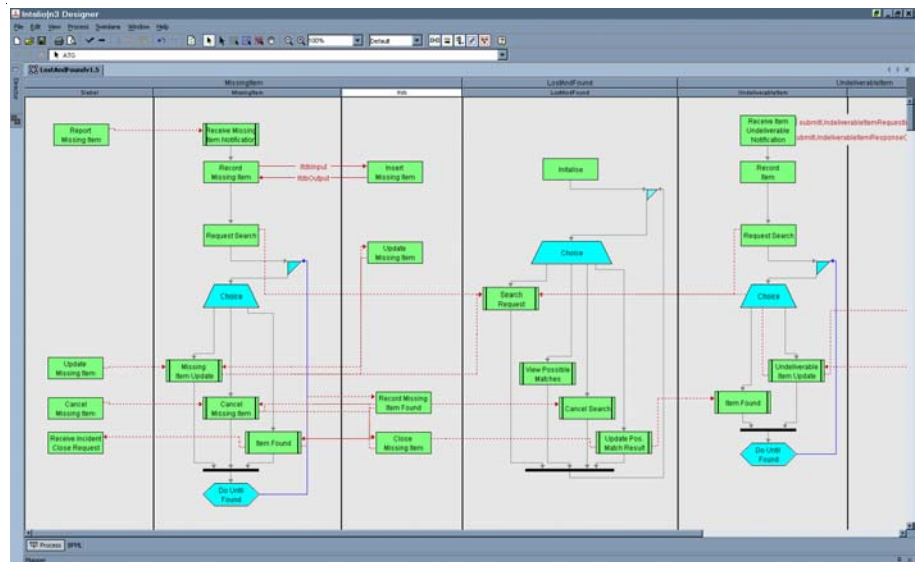


Figure 1 - A Logistics PROCESS<sup>(P)</sup>

In today's technology landscape, an end-to-end PROCESS is a set of BPML processes (one per "swimlane") interacting through communication *only*. Such PROCESS participants interact at arbitrary points in their execution according to the end-to-end PROCESS design model deployed on the BPMS. This is essentially the same idea as a relational data model deployed on an RDBMS. The technique is called Design Driven Architecture or DDA. Instances of PROCESS designs are managed using a BPMS just as an RDBMS manages new sets of data. All PROCESSES can be reused as participants in other PROCESSES.

Each "swimlane" (or participant in a PROCESS) can be brand new functionality or the reuse of functionality from previous IT investments such as CRM, ERP, or legacy systems. Reuse of functionality and services in packaged applications can be at whatever level of detail makes sense to achieve relevant business outcomes set out in the PROCESS. IT systems reused in this way can be taken back to vanilla form (no customization), using *only* the PROCESS in order to create new custom PROCESSES.

We have written in other articles that an organization can be viewed as a *portfolio of end-to-end PROCESSES*. A BPMS therefore has *many* potential applications. Examples include adding missing business processes, fixing (see below) broken



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business processes, and making implicit processes explicit (in order to enhance understanding) or to implement measurements (key performance indicators) over existing processes.

The business case for using a BPMS is built upon metrics specific to the PROCESS under consideration. Examples include reducing elapsed process times, achieving higher productivity per person, improving quality/reducing errors in processes, reducing number of steps in processes, increasing employee satisfaction through process clarity, reducing the number of people needed to execute processes, improving coordination across departments/geographies, automating administrative tasks, reducing the cost per transactions within processes, enabling external users access to internal processes, improving regulatory/legal compliance, adding flexibility in processes (business agility), data/process integration across applications, reducing risk of process failure, and eradicating nugatory work.

In the logistics example above, the PROCESS was designed to achieve a reduction in the time to find lost packages from five days to five minutes.

