Defining "Essential" Policies and Rules

MODELING BUSINESS REQUIREMENTS

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Most organizations recognize the need to study and radically rethink their business processes. Internal and external customers are no longer satisfied with fragmented and inconsistent responses to common business situations. While some have attempted to improve their operations by streamlining manual processes, true reengineering typically requires the application of modern technology to these business processes.

Organizational Confusion

With the explosion of new hardware and vendor software solutions, the danger for many organizations is to "just buy something" and then force these products into their organization under a failed effort at improvement. The result makes the total business slower, more expensive and requires additional work-arounds. Not exactly the improvements these companies were seeking.

Information technology organizations frequently add to the confusion by placing excessive attention on possible technical components that may be used to implement the ultimate business solution. They emphasize the technical products and never really understand what the customer is attempting to accomplish. The new products may look great but they rarely work the way the customer is expecting. This rush to create a solution also trivializes true analysis. Analysis is and always will be the definition of a problem *prior* to designing the solution. Instead many organizations create or purchase a solution and then try to make it work for the business.

What is often left out in this rush to solution is a valid understanding of the core requirements within each business process. A shell or mere fragments of the business requirements are commonly used to select and implement a solution. Only after these flawed results fail miserably and expensively will organizations accept that studying and understanding their processes is an absolute prerequisite to selecting any solution for their business.

Business Events

One of the most modern and rigorous methods for mining process requirements is *business event modeling*. Born as a specification process for software requirements, this technique has been transformed into a comprehensive way to define what a business must do independent of any solution or technology.

Business Events are decisions or actions that occur beyond the boundary of a specific business process. Each Business Event may be examined to understand *why* it is happening, *what* information or condition will notify the business that the event has occurred along with *what* the business will do to respond to that specific event. The goal is to capture the pure *essential* or

solution neutral requirements for each Business Event.

The decision by a customer to purchase a specific commodity or service is a Business Event. The customer notifies the selected business of this event with a request to purchase the item. The business then performs a process based on how they have elected to conduct such a sale and provide that product to the customer.

Analysis Models

Business Events are best documented using the traditional tool set of Structured Systems Analysis … *Essential* Data Flow Diagrams, *Essential* Mini-Specs and an *Essential* Data Dictionary. When combined, these products become the *Essential Process Model*. These tools and associated techniques have a proven track record for ease of use and clarity for both technical and non-technical audiences.

Of the three, the least significant is the Data Flow Diagram. This DFD is a simple graphic that connects the more significant Essential Data Dictionary and Essential Mini-Specs.

The Essential Data Dictionary contains full descriptions and definitions of all data interfaces and exchanges required by each Business Event and shown on the DFD. The Data Dictionary also defines all data referenced within the Essential Mini-Specs. In many organizations, this information is more fully captured by Data Analysts within a *Logical Data Model*. When formal data models are created, the Data Dictionary may be used to link data from the Data Flow Diagram and Mini-Specs to more comprehensive definitions in the Logical Data Model.

Essential Mini-Specs, when constructed properly, are the most significant product of any analysis effort. These focused statements of business requirements document the very thing that analysis set out to uncover … what the business wishes to do when a specific Business Event occurs … without any solution bias from a current or future implementation.

Mini-Spec Content

Webster defines *system* as "…a set of facts, principles or rules, arranged in a regular, orderly form so as to show a logical plan linking the various parts." Based on this definition, we may naturally conclude that any portion of the system *specification* that accurately details the nature of these "…facts, principles or rules…" provides significant value to the business owners. In fact, this information is the very reason most analysis efforts begin.

Traditional efforts often took a "Victorian Novel" approach to capturing these business system requirements. These "maxi-specs" were overwhelming in length, complexity, redundancy and inconsistency. That is where Structured Analysis with Data Flow Diagrams, and most recently, Event Modeling, enters the picture. All of these combine to partition the large business problem into definable pieces.

Essential Mini-Specs then define what the business system must do to fully satisfy a specific Business Event. They capture the business policies and conditions that will complete this set of work.

Mini-Spec Origin

In their simplest form, Mini-Specs originate from the people charged with carrying out specific, business functions. These "users" or "customers" often provide systems analysts with fragmented views of how their

portion of the business works. This information is captured in an "as is" model known in Structured Analysis as the Current Physical Model. This model is *current* because it is based on what the business system is doing today and it is *physical* due to the tendency to document a good deal of the current implementation constraints.

Making a transition to an *essential* perspective requires distilling former solution bias from the Current Physical Model and then rearranging the remaining process requirements so that they explain what must happen when a specific Business Event occurs. The resulting essential processes are defined by Essential Mini-Specs that are totally focused on the "…facts, principles or rules…" that must be performed to completely satisfy a specific Business Event.

By deriving the Essential Mini-Specs from the Current Physical Model, the systems analyst is assured that the result is valid and complete. It is founded on what the business is doing today and has been proven over years of trial. Caution must be taken during this derivation process that we remove any recognizable bias from the previous implementation of the business process. Failure to do so allows old solutions constraints to limit our new implementations.

Mini-Spec Structure
It is critical that Essential Mini-Specs accurately communicate the reality of business complexity. This is often accomplished using a mix of narrative text, logic diagrams and graphs. Regardless as to the format selected, Essential Mini-Specs must be detailed, precise and clear.

Appropriate detail requires that all component work is identified along with the

specific data that must be used to complete the business process. This information should be organized around the language constructs of simple, imperative statements, decisions and repetition. While some may reject this as a "coding" process, they are confusing the *level* of detail required to fully define business requirements with the *type* of detail needed to write program code. Business policy simply cannot be defined without using these constructs.

Understandability is achieved through careful use of language constructs to arrange the detailed policy statements. This organization of thought also helps the systems analyst identify missing or obsolete requirements.

Mini-Spec Benefits
Creating Essential Mini-Specs requires time and effort. But the benefits are obvious and immediate…

1) **EARLY BUSINESS POLICY EVALUATION:** Since the Essential Mini-Specs (along with the balance of the Essential Process Model) focus on what the business system is required to accomplish without any type of solution bias, this product may be used by the business analysts to examine the relevance of a business' response to the initiating Business Event. These statements of policy should provide a very clear, organize view of what a business is trying to do. The Essential Mini-Specs allow us to consider if the current response is valid and necessary.

2) **ULTIMATE COMMUNICATION WITH KNOWLEDGE EXPERTS:** When an Essential Mini-Spec is created, it defines what the business must do to *completely*

respond to a specific Business Event, without delay, redundancy or solution implications. It is the cleanest, purest view of business policy that can be constructed. It is in context with the basis for the requirements and it has a logical, cohesive flow. As a result, this information must be reviewed and certified by true knowledge experts, typically the real user or customer. In the day-to-day operation of a business, people often carry out only fragments of this policy and may have never seen it collected in such a beginning-to-end manner. This view will give real insight into what the business is actually attempting to do. For the business owner or ultimate customer, the Essential Mini-Spec represents what their whole organization is attempting to accomplish to satisfy each specific Business Event. By reviewing this information, the *process owner* is able to validate the processes, recognize unneeded work, add new policy and begin to consider new automated and manual options for implementing the policy contained in the Essential Mini-Spec. If the user or customer cannot recognize the business process described within the Essential Mini-Spec, it is either badly flawed or being shown to the wrong person. This IS the business. Someone must be able to recognize, iterate and certify this information. When Essential Mini-Specs are not created, the most important product of analysis fails to reach the customer.

3) **TARGET FOR FUTURE POLICY CHANGES:** Business requirements should continue to change over time. If they stop changing, the business has either ceased to exist or innovate. Most business changes, however, cause disproportionate impact on the manual and automated solutions. If Essential Mini-Specs accurately state the business requirements and are used to create a solution for the business, all future business policy change should begin with this product and then be traced into solution components.

4) **VERIFICATION OF DATA REQUIREMENTS:** Many business analysts have attempted to separate their craft into either *process modeling* or *data modeling.* While data models may be created directly with the end user independent of the process model, Essential Mini-Specs allow us to reconcile the data meanings that are required by the processes against the data model definitions. When a data model has not been created, the Essential Mini-Specs may be used to create a partial model of requirements for data identified within the Essential Process Model.

5) **TANGIBLE SOURCE FOR EXTERNAL DESIGN:** Creating a grand solution for the requirements captured in all of the Essential Mini-Specs for a business system is driven by a) our understanding of the technology options available to the organization, b) our knowledge of the end-user's willingness to change and c) the breath of our imagination and ingenuity. This process of External Systems Design is the transition from true analysis (the study of the problem) to Internal Design (the creation of architecturally sound solution components). Essential Mini-Specs

may be most valuable as a basis for considering multiple solutions for the same business requirements. In most cases, the project team is asked to bring the customer multiple options for creating a new technology-based solution with different interface, hardware, software and cost options. Essential Mini-Specs are an ideal product to begin the evaluation of multiple solutions. Each option must clearly identify the new technology and organizational assumptions and then create a clear division between the essential components that will be manual or automated. Further, it is often desirable to create multiple, simultaneous solutions to the same business requirements identified in the Essential Mini-Specs. Whether your team is proposing a single solution option or multiple choices, The Essential Mini-Specs provide a fresh, unbiased basis for each new solution.

Final Thoughts

Business Event Modeling and Essential Mini-Specs should become key strategies for business analysis, reengineering, software development or software acquisition. This will happen when systems analysts, their customers and management commit to defining *business* requirements prior to designing or purchasing solutions ... and when we agree to create system specifications that are truly *specific*.

The Tryon and Associates Approach

Tryon and Associates has offered Process Modeling training and consulting since 1985 to some of the largest (and some of the smallest) organizations in the United States, Canada and Europe. This series of courses is intended for systems analysts and business analysts who are helping their clients define business requirements with the intent to improve the total business through the use of new technology.

The Tryon and Associates Process Modeling curriculum has been crafted for this audience with concise, focused material that provides the type and level of knowledge needed to study business processes. Structured Systems Analysis: Part One – Fundamental Modeling Tools and Techniques provides an in-depth understanding of Data Flow Diagrams, Mini-Specifications and the Data Dictionary. This seminar also identifies how these tools fit together to create a rigorous specification. Structured Systems Analysis: Part Two – Modeling Essential Processes explains the transition from the current view of business requirements into a model of a new solution. The seminar uses Business Event Modeling as the primary means for defining business requirements independently of any particular solution. Structured Systems Analysis: Part Three – External Systems Design completes the transformation of business requirements into a certifiable model of the future automated component of the solution.

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