Next Generation Court Technology Standards

Phase 1

Court Business Process Model Methodology

March, 2016

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CONTENTS

1 INTRODUCTION

The purpose of this document is to describe how the NextGen standards will be applied by courts in documenting business processes. It also will address extracting requirements for new technology and preparing documentation for use with a business process automation tool, though that is not its primary focus. These issues will be covered in more detail in separate documents included with this one in Phase 1 of the NextGen Standards project.

It is not known, at this point, what the business process modeling application will look like, but it is assumed that there will be an application, web site, or database that will house the NextGen Court Business Process Model (Reference Model). A court will acquire or access this reference model and tailor it to fit its own environment, and then will use the tools provided with the model to generate the outputs that it desires. An iterative discovery process will start by examining statutes, court rules, and existing policy and procedure manuals.

The steps in the methodology, as outlined in this paper, are as follows.

- Court Structure Analysis
- Case Type Analysis
- Business Process Category Analysis
- Business Process Group Analysis
- Elementary Business Process Analysis
- Complete Business Process Model

This paper assumes that:

- A project team has been assembled by the court or court system to do the work
- Team members have been organized and trained to fulfill their responsibilities
- An analysis plan has been created
- Oversight and management of the project have been addressed

An analysis plan is important because of the need to involve experts in court operations in the process. With a good plan, these resources can be scheduled to contribute their expertise when it is needed, and will not be required to sit through meetings in which other parts of the court process are being discussed.

2 COURT STRUCTURE ANALYSIS

The court business model contains a set of generic entries for courts. The first step in the court structure analysis is to review the court table entries in the reference model and update them to match to local structure. A court also may need to duplicate entries if it has more than one court at any level. The advantage of duplicating courts and renaming them is that all of the underlying linkage information

will be retained.[1] It is easier to delete case types (and all of the structure within the case type) from a court than to add them.[2]

If this analysis is done at the state level, then all court levels should be listed. If it is specific to a geographical area or jurisdiction, then only courts that will be included in the analysis should be entered.

This process may require changing the names of the court levels from the generic labels in the model, using the Terminology Translation Tool. For example, the entries for Supreme Court and Court of Appeals may match the names of these court for the state, but the name of the general jurisdiction trial court may require modification, e.g., to District Court, or Circuit Court, or Superior Court. In the end, there should be a local label attached to each entry in the court table (created with the Terminology Translation Tool) that corresponds to the court structure of the local jurisdiction. This local label will be used throughout the analysis, and will be printed on all reports.

Properties and attributes for the court table include a Court Type Indicator (e.g., general jurisdiction trial court, limited jurisdiction trial court, or intermediate court of appeals); Active Flag (courts marked as inactive will not appear on any system outputs); Government Level (e.g., state, county, city, or other); and Number of Court Locations.

NextGen Court Structure Model

Court Name:	Supreme Court
Court Type Indicator:	Appellate court of last resort
Active Flag:	Active
Government Level:	State
Number of Locations:	One court location
Court Name:	Court of Appeals
Court Type Indicator:	Intermediate appellate court
Active Flag:	Active
Government Level:	State
Number of Locations:	One court location
Court Name:	District Court
Court Type Indicator:	General jurisdiction trial court
Active Flag:	Active
Government Level:	State
Number of Locations:	30 court locations
Court Name:	Juvenile Court
Court Type Indicator:	Special jurisdiction trial court
Active Flag:	Active
Government Level:	State
Number of Locations:	30 court locations
Court Name:	Justice Court
Court Type Indicator:	Limited jurisdiction trial court
Active Flag:	Active
Government Level:	County or City
Number of Locations:	134 court locations

Sample Court Structure Model

[1] This includes case type categories, case type groups, elementary business processes, etc.

[2] The general jurisdiction trial court initially will have all of the trial court case types in the model associated with it, and the Supreme Court will have all of the appellate case types attached.

Once all entries have been made, the court can generate the court structure model for review, refinement, and approval. The court structure model lists each of the courts by its local label, along with all of the properties and attributes that have been entered.

3 CASE TYPE ANALYSIS

When the court structure model is approved, the project team can start work on the case type analysis. This begins with a review of the case types that are included in the NextGen Court Business Process Reference Model, comparing them to those authorized by statute and rule in the state. Local case types should be mapped to the generic references. NextGen case types may be more specific than the case types that are used by courts, but not as detailed as the civil subtypes that often are defined.

It is recommended that the case type initially follow the level of granularity of the Reference Model. If a court breaks the case types down into too many subtypes, a great deal of unnecessary effort will be required. If case types are not specific enough, the project team will end up splitting case types later, and going back to redo a lot work.

The key is to separate case types when there are significant, identifiable processing differences. A civil tax foreclosure case, for example, may have many extra steps that are not included in a standard civil suit. If so, then a separate case type should be created for tax foreclosures. A medical malpractice case and a product liability case likely would follow the same process as a standard civil suit, so separate case types would not be created for them. It will not be possible to make every one of these decisions correctly in the beginning, and the project team should plan on doing some rework after more processing details are known. The model allows adjustments to be made at any point in the process.

In mapping case types, the project team may need to duplicate case types that exist in the reference model and change the names, applying local labels to existing entries, as with the court names. If necessary, new case types also can be created. The Terminology Translation Tool can be used to make global adjustments in the database to case type names.

Properties and attributes should be entered for each case type. These include the Major Grouping (e.g., civil, criminal, traffic, domestic, probate, juvenile, and appeals) that includes the case type; and the Active Flag (case types that are marked as inactive will not appear on any system outputs).[3] The graphic below, *Sample Level One Business Process Model, Part A*, illustrates how the output of this analysis will look.

The next step is to create linkages between the case type entries and the court entries. A case type can be linked to more than one court, but any changes to the case type (and lower levels of the model) will affect both courts, so if differences in processing are expected, it is better to create separate case types. For example, both a general jurisdiction trial court and a limited jurisdiction trial court hear civil cases. The general jurisdiction court can hear all civil cases, but the limited jurisdiction court can only hear cases where the relief claimed is less than a certain dollar amount. If the limited jurisdiction court processes the cases in exactly the same manner as the general jurisdiction court, then the case type can

[3] All Active Flag values are set to Inactive in the Reference Model. As the project team reviews each component, it should set these values to Active. Then it will be possible to generate reports that show only the parts of the Reference Model that have been addressed.

be linked to both courts. If there are any differences, then it will not be possible for the model to accurately describe both courts' processes without creating a separate civil case type entry for each court, e.g., District Civil Suit and Circuit Civil Suit.

NextGen Level One Business Process Model

Case Type: Civil Suit
Major Grouping: Civil
Active Flag: Active

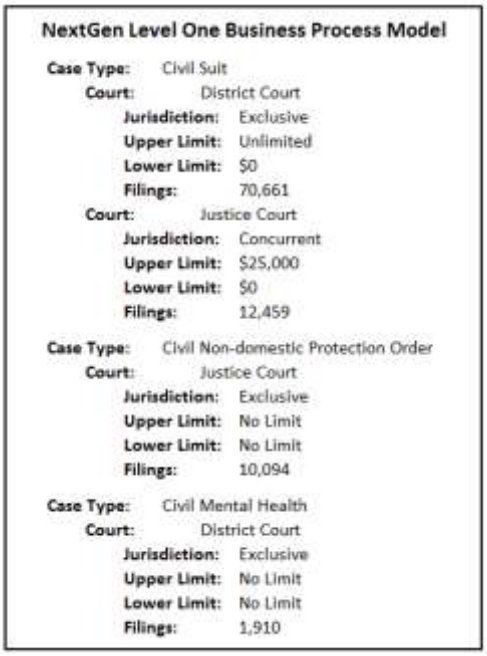
Case Type: Civil Small Claims
Major Grouping: Civil
Active Flag: Active

Case Type: Civil Non-domestic Protection Order
Major Grouping: Civil
Active Flag: Active

Case Type: Civil Mental Health
Major Grouping: Civil
Active Flag: Active

Sample Level-One Business Process Model, Part A

It is important to note that the NextGen Court Business Process Model already has linkages between courts and case types. All linkages can be removed or modified, and new linkages can be created. Each case type in the model also is linked to lower-level components. The value of duplicating and renaming case types is that all of these lower level relationships can be maintained. The benefit of using the Reference Model is that it is not necessary to start with nothing – a significant amount of modeling work has already been done.



NextGen Level One Business Process Model

Case Type: Civil Suit
Court: District Court
Jurisdiction: Exclusive
Upper Limit: Unlimited
Lower Limit: $0
Filings: 70,661
Court: Justice Court
Jurisdiction: Concurrent
Upper Limit: $25,000
Lower Limit: $0
Filings: 12,459

Case Type: Civil Non-domestic Protection Order
Court: Justice Court
Jurisdiction: Exclusive
Upper Limit: No Limit
Lower Limit: No Limit
Filings: 10,094

Case Type: Civil Mental Health
Court: District Court
Jurisdiction: Exclusive
Upper Limit: No Limit
Lower Limit: No Limit
Filings: 1,910

Sample Level-One Business Process Model, Part B

Each time a case type is linked to a court, several properties and attributes must be supplied. They include the nature of the Jurisdiction (Exclusive or Concurrent); approximate Annual Filings of this case

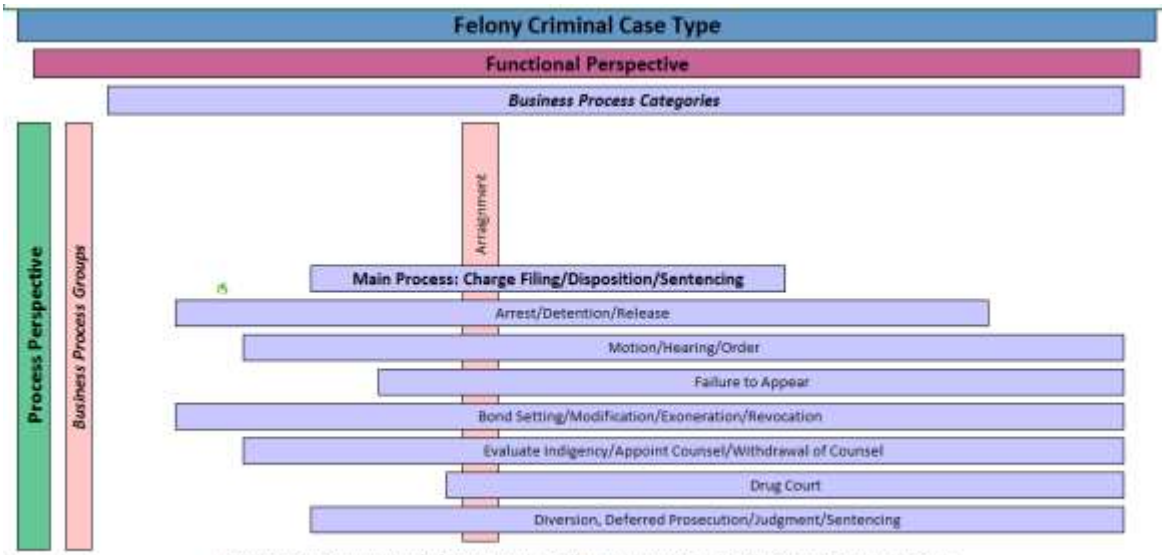
type in this court; Dollar Limits of jurisdiction (as a high and low value range); Offense Seriousness limits of jurisdiction (e.g., Class A misdemeanors and lower); and Other Limits (e.g., law or equity matters).

Next, the project team will generate the level one business process model, which contains a distribution of case types by court, with properties and attributes that have been supplied, as illustrated above. This model should be reviewed, refined, and approved.

4 BUSINESS PROCESS CATEGORY ANALYSIS[4]

The next step in the project is to analyze the business process categories that are associated with each case type. The NextGen Court Business Process Model contains a set of prototype business process categories that should cover most court needs. Business process categories are a method of organizing lower-level business processes and identifying their possible reuse.

Business process categories separate and describe the various (and optional) end-to-end processes that exist in case processing. A business process category is called "end-to-end" because, if it occurs in a case one or more times, it has a lifecycle of its own, triggered by some event in the case, and terminates by the time the case is resolved. The criminal felony case type has eight identified business process categories depicted below. The process category "Arrest/ Detention/ Release," for example, may occur before charges are filed, in response to a failure to appear at any stage in the process during the case lifecycle, or post-disposition awaiting rehearing of a sentencing. A business process category is "optional" because it may or may not occur during any particular case.



Court Business Model Decomposition Example - Functional Perspective

Characteristics of Business Process Categories. Business process categories can be divided into three groups: key, normal, and other. Key business process categories are those which are required for a case

[4] The business process category is best defined as the paths that a case can follow through the justice system.

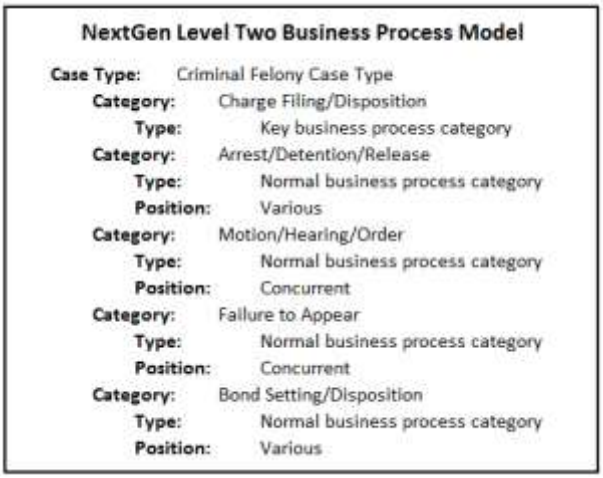
to exist, e.g., charge filing/disposition is the key business process category for the criminal felony case type, and petition filing/adjudication is key business process category for the juvenile delinquency case type. Normal categories are those that occur frequently in the case type, e.g., evaluation of indigency in the domestic protection order case type. Other categories are those that are possible, but that are infrequent, e.g., an interlocutory appeal in the civil suit case type.

The project team should evaluate the business process categories in each case type and determine if modifications are required. Business process categories may be reused in different case types, e.g., the motion/hearing/order business process category may occur in any case type. It is only necessary to create a new business process category if the processing is different than that of an existing category.

As with other aspects of the model, the Terminology Translation Tool can be used to rename business process categories to match local needs, if necessary. Properties and attributes also are defined for each category. Category Type can be Key, Normal, or Other. Position can be Key, Pre, Post, Concurrent, or Various. This refers to the relationship to the key category: Arrest/detention/release can occur before, during, or after the Charge filing/disposition category, so it would be labeled as Various. Arrest warrant application would occur before charge filing, so it would be labeled as Pre.

"Case States" of Business Process Categories. Another step in this process of analyzing business process categories, starting with the prototype business process categories provided, is to validate the subject of the category for the local jurisdiction, and the range of "states" in which the process can exist. The status of a case is the "Case State." A Case State indicator may be as simple, for the case as a whole, as "Open" or "Closed," used for reporting case statistics to the state. In contrast, the Case State of a business process category may be "Active" if it has been triggered, or may have a default value of "Inactive." Each business process category will define a large set of Case States used to track changes of the status of the process category used to guide caseflow management decisions. These states are associated with the category and stored in the state table.

Business Process Categories of Various Case Types. At this point it is necessary to compare business process categories between case types, to determine which ones can be reused. If the categories appear to be identical, only one need be retained. If there are known differences that are not yet reflected at this level of detail, it is best to retain separate business process categories, naming them appropriately to avoid confusion.



Sample Level Two Business Process Model

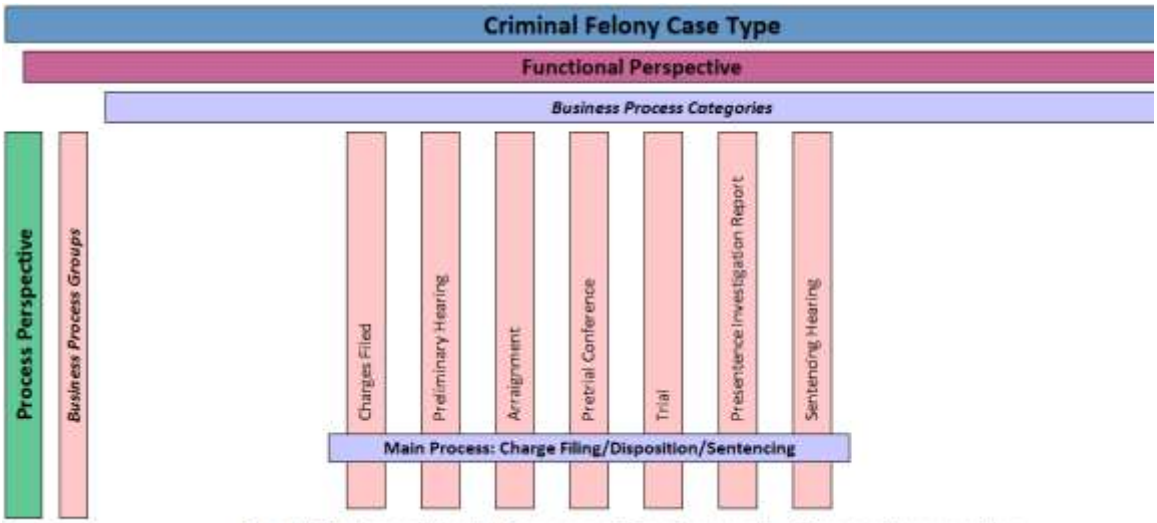
Linkages can then be modified or created between the business process categories and the case types. Then the project team can generate the level two business process model, which is a list of business process categories by case type, with properties and attributes. This model is then reviewed, refined, and approved.

5 BUSINESS PROCESS GROUP ANALYSIS[5]

After case types are identified, and after business process categories are identified, the next step is business process group analysis. Business process groups relate to functional activities of the court: court hearings, clerk events, and other activities where staff works on the case. Most flowcharting or diagramming of business processes is performed at the level of business process groups, ideally with swim lanes that indicate which role is performing what activity. Business Process Model and Notation (BPMN) Version 2.0 has been available since 2011, but no comprehensive set of BPMN models for courts has been published. Before then, many efforts have revealed a failure to organize processes according to different levels of processes, (i.e., distinguish business process groups from elementary business processes), hindering the opportunity to identify potential reuse of common lower-level processes.

Within a case type, all of the possible business process groups should be defined. This is done in the context of the end-to-end business processes – the business process categories. Each business process group may overlap with multiple business process categories. For example, in a typical criminal felony case depicted in the diagram below, the court will perform a series of optional process groups including Charges Filed, Preliminary Hearing, Arraignment, Pretrial Conference, Trial, Presentence Investigation Report, and Sentencing Hearing. Business process groups are "optional" because a given process group may be triggered or not, depending on what happens in the case. A defendant may plead guilty after arraignment or after a pretrial conference, and a pretrial investigation report may not be needed.

[5] The business process group is best defined as the way that a court does its work.



Court Business Model Decomposition Example - Process Perspective

Business process groups may occur before filing and after sentencing, so it is necessary to consider all business process categories when identifying business process groups. Starting with business process categories as an organizing principle and then identifying possible events which can occur will produce a complete analysis. The project team should review all of the business process groups in each business process category for the case type, making whatever additions, modifications, and deletions that are needed to reflect the way the court operates. Labels for business process groups can be adjusted with the Terminology Translation Tool, just as is done with other reference model components.

Characteristics of Business Process Groups. Certain business process categories, such as failure to appear or request for continuance, may occur in many different business process groups. There is a way to designate the properties and attributes of these categories in such a way that they will appear in all of the appropriate business process groups, without repeating the data entry process.

The next step is to edit or create properties and attributes for the business process groups.[6] The business process group has an Active Flag, like other reference model components. This determines if the group will appear on output reports. The Activity Type may be Hearing, Filing, or one of several other values that may be defined. The Sequence is the position of the group relative to other groups in the category.[7]

Business Process Groups of Various Process Categories. The next step is for the project team to create appropriate linkages between the business process categories and the business process groups, including the properties and attributes already mentioned.

At this point the project team is ready to generate the level-three business process model, which consists of three parts: A) business process groups by case type, B) business process groups by business

[6] Because of the complexity of the diagrams, the properties and attributes for the business process groups will not appear in the samples. They are similar to properties and attributes for courts, case types, linkages between courts and case types, and linkages between case types and categories.

[7] In the reference model, these numbers are defined in increments of ten, to allow the project team to insert additional groups between the initial components without being required to renumber.

process category (in proper sequence); and C) business process categories by business process group. Samples of each of these reports follow, without the properties and attributes. The project team should then review, refine, and obtain approval for the level three business process model.

NextGen Level Three Business Process Model

Case Type: Criminal Felony Case Type
- **Group:** First Appearance
- **Group:** Preliminary Hearing
- **Group:** Bindover
- **Group:** Information Filing
- **Group:** Arraignment
- **Group:** Motion Filed
- **Group:** Pretrial Hearing
- **Group:** Motion Filed
- **Group:** Motion Hearing
- **Group:** Trial
- **Group:** Sentencing Hearing
- **Group:** Violation of Probation Hearing

Case Type: Civil Suit Case Type
- **Group:** Summons/Complaint Filing
- **Group:** Service Recorded
- **Group:** Answer Filed

Sample Level-Three Business Process Model, Part A

NextGen Level Three Business Process Model

Group: Charge Filing/Disposition
- **Category:** First Appearance
- **Category:** Preliminary Hearing
- **Category:** Bindover
- **Category:** Information Filing
- **Category:** Arraignment
- **Category:** Pretrial Hearing
- **Category:** Trial
- **Category:** Sentencing Hearing

Group: Civil Suit Filing/Disposition
- **Category:** Summons/Complaint Filing
- **Category:** Service Recorded
- **Category:** Answer Filed

Sample Level-Three Business Process Model, Part B

NextGen Level Three Business Process Model

Category: First Appearance
- **Group:** Charge Filing/Disposition
- **Group:** Arrest/Detention/Release
- **Group:** Bond Setting/Modification/Exoneration/Revocation
- **Group:** Evaluate Indigency/Appoint Counsel/Withdrawal
- **Group:** Diversion/Deferred Prosecution/Judgment/Sentence
- **Group:** Extradition

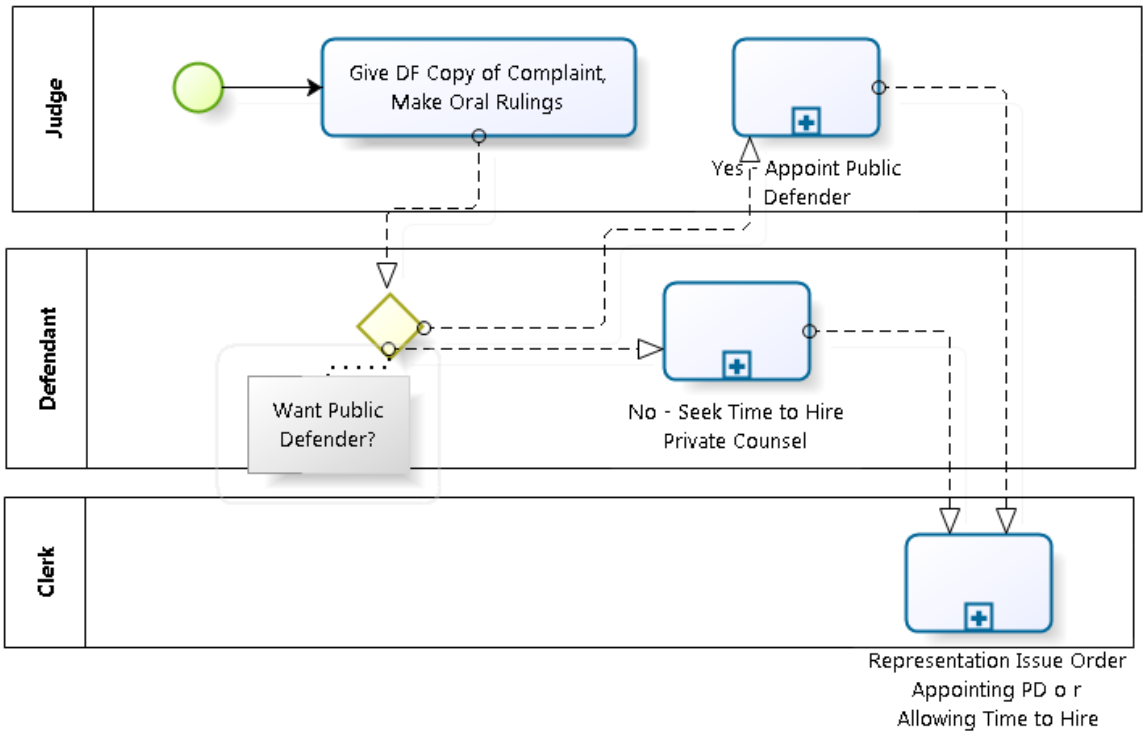
Sample Level-Three Business Process Model, Part C

6 ELEMENTARY BUSINESS PROCESS ANALYSIS

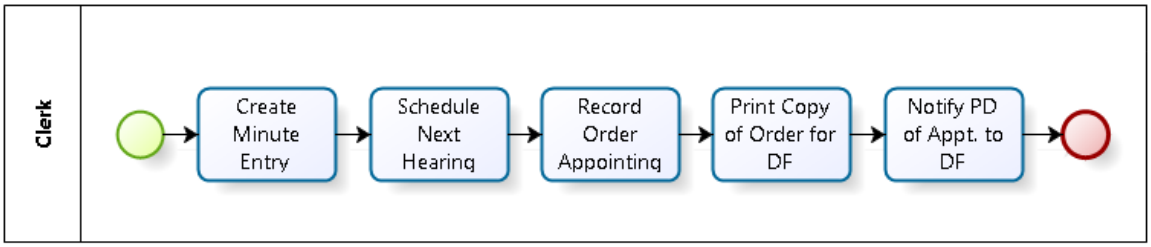
Elementary business processes (EPBs) are the fundamental unit of the Process Model, as they are the elements of a business process group. Each one consists of activities performed by one person in one

place at one time, in response to the triggering event of the process group. Elementary business processes are defined at each intersection of a business process category and business process group. The elementary business process describes what parts of the business process can be performed at that stage of the proceedings (business process group).

The business process group "Felony First Appearance" is depicted below. Depending on whether a defendant accepts public defender representation or wants to hire private counsel, the elementary business process triggered will be either "Appoint Public Defender" or "Seek Time to Hire Private Counsel."



The elementary business process "Appoint Public Defender" is depicted below. Hypothetically, the clerk is the one person who will perform these activities in one place at one time, and these activities can often be fully automated via workflow and business rules.



When an elementary business process can occur in multiple business process groups, it is only defined once, and is automatically linked to the appropriate process categories/ groups.

The Reference Model has elementary business processes defined for each intersection between business process categories and groups. As a court evaluates the Reference Model and tailors it to fit its environment, it may be necessary to create new elementary business processes. Local labels also may be required, and these can be created with the Terminology Translation Tool.

Use Cases. Individual use cases then should be created for each actor's role in the process that requires interaction with a system.[8] If the elementary business process is to create a minute entry (or summary of proceedings), for example, the use case would describe the steps that the clerk would take to produce the document, and the functions performed by the system in response to those clerk actions.

A very specific grammar and syntax must be used in constructing the use cases. The following examples illustrate how system steps in the use case must be described. This is essential for two reasons. First, this information can be extracted as system requirements by the Application Capability Extraction Tool, so it must fully describe the requirement outside of the context of the use case. Second, the NextGen Court Business Process Model will sort information based on terms used in the use case, particularly the verbs that are at the beginning.

- Validate [data entered by user].
- Store [data entered by user].
- Display [information from system requested by user].
- Create [something in the system, e.g., a case or a case number].
- Schedule [a specific court hearing or appointment].
- Generate [system output] for [individual or organization].
- Copy [system output] to [individual or organization other than primary recipient].
- Send [information] to [individual or organization].
- Record [decision, ruling, sentence, judgment, etc.].
- Create docket entry for [transaction].
- Issue [official court document] to [individual or organization].
- Update [system information].
- Notify [individual or organization] of [event or action].
- Queue [assignment] for [individual or organization].
- Transmit [information] to [external individual, organization, or system].
- [Action, e.g., link] [item, e.g., cases] when [condition, e.g., when multiple citations for single incident].
- Retrieve [data or document] from [external system or input queue].
- Place actor signature on [electronic document].
- Assign [actor, e.g., judge, probation officer, or interpreter] to the [item, event, or action].

[8] These artifacts can be created with any of the available BPM tools that are available in the marketplace.

Properties and Attributes of Elementary Business Processes. Properties and attributes for the elementary business processes are extensive. A number of tables are used to store this information. They include the following:

- Alternate processing paths (these define different possible routing in a use case, e.g., an alternate path would be created for a jury trial, if a bench trial were the main workflow)
- Process inputs (these describe documents or collections of data elements that are used in the process – the specific data elements for these documents also will be added to the system)
- Input source
- Process outputs (these describe documents or collections of data elements that are produced in the process – the specific data elements for these documents also will be added to the system)
- Output destination
- Workflow connections (connections to other elementary business processes, for example, the same document created at a hearing may relate to multiple elementary business processes)
- Active flag
- Sequence of elementary business processes within the business process group (this will be stored on the linkage between the two records)
- Business rules (these show things that the user must do that are not directly described by the process, e.g., hearings of a certain kind are scheduled into an appropriate slot)
- User requirements (these indicate things that the system must do that are not defined by the process, e.g., the system must maintain the last case number assigned so the next number can be given to the next case that is filed)

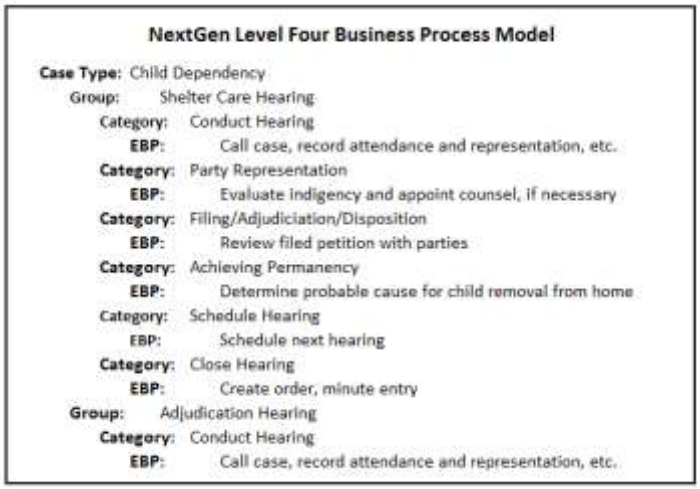
Change of Case State. Another important model component is the state change. Cases have states, parties have states, and certain other entities (e.g., charges, motions, and service of process) can have states. In the linkage between the business process category and the business process group, state changes that must occur and that may occur are defined.

- A traffic case can be pre-plea or post-plea.
- A filing in an appellate court can be lodged or filed.
- A civil case can be pending or disposed.
- An appellate case can be at the briefing stage, or it may be at issue.

Stage changes move the entity from one state to the next. The case state model will define these state changes for the court, and its elements are located in these linkages between the business process category and business process group.

Reuse of Elementary Business Processes. The project team then should evaluate the relationships between elementary business processes and business process groups, considering reuse and sequence (some elementary business processes, such as creating a docket entry or scheduling a hearing, may be reused dozens of times). The team then should create or modify these linkages in the model.

Putting the Levels of Processes Together. The next step is to generate level four business process model that shows each elementary business process and the business process categories and groups with which it is associated in each case type. The model then can be reviewed, refined, and approved.



Sample Level-Four Business Process Model, Part D

7 Complete Business Process Model

Various process flowcharts should be created. At the category level, a simple flowchart should show the groups within the category. At the group level a flowchart with swim lanes for each actor in the process, should show the elementary business processes for that group. Finally, a flowchart should be created for each elementary business process.

8 Extracting Application Requirements from the Business Process Model

The Application Capabilities Extraction Tool will pull the system functions from the use cases for system design or system procurement as a requirements matrix. It will add user requirements that were generated by the analysis. This tool and its use are described in a separate document titled *NextGen Application Capability Extraction Tool Conceptual Description*.

9 Summary

At this point, the local business process model is complete. The project team can then use NextGen tools to produce business process documentation and to extract system requirements. The process flowcharts can be used as inputs to a business process automation tool, but the format of the flowcharts must match the requirements of the particular tool for this to work.