PLEASE NOTE THAT THIS DOCUMENT IS NOT A WfMC STANDARD. IT IS BEING MADE AVAILABLE, AS A DEVELOPMENT DOCUMENT, IN ORDER TO FACILITATE UNDERSTANDING OF THE PUBLISHED INTERFACE 1 SPECIFICATION.

Workflow Management Coalition
Interface 1: Process Definition Interchange
Q&A and Examples

Document Number WfMC TC-1016-X
Document Status - Draft 7.01
Issued on January 1, 1999

Author:
Work Group 1

Send comments to: Workflow Management Coalition
WfMC@wfmc.org or
kdkreplin@empirica.de "Klaus-Dieter Kreplin"
Remark:

This document is intended to accompany the IF1 document. It is an intermediate working version, i.e. it includes the "Representative Business Example" chapters, but the "Questions and Answers" part is still under work.

This working version is not fully checked. However, to provide help in understanding the WPDL of the standard better the Working Group 1 decided to make this public in the version as-is.

Comments and Questions relating to this document should be submitted to the Working Group One mailing list or kdkreplin@empirica.de, Questions relating to the WPDL itself to robert@metasoft.com.
1. INTRODUCTION

1.1. Purpose
1.2. Audience
1.3. Overview
1.4. Conformance
1.5. References

2. PROCESS DIAGRAMS: ELEMENTS

3. QUESTIONS & ANSWERS <UNDER REVISION>

4. REPRESENTATIVE BUSINESS EXAMPLE

4.1. Informal Scenario Description
   4.1.1. New Business Process Rules
   4.1.2. In The Mail Room:
   4.1.3. At The Finance Department:
   4.1.4. At The Manufacturing Department:
   4.1.5. At The Sales Department:
   4.1.6. Company Organisation

4.2. Representative Business Example in WPDL Notation
   4.2.1. Workflow Model
   4.2.2. Departmental Processes
      4.2.2.1. In the Mailroom
      4.2.2.2. At the Finance Department
      4.2.2.3. At the Manufacturing Department
      4.2.2.4. At the Sales Department
   4.2.3. Common Process for Sales-Order

5. FURTHER EXAMPLES

5.1. Subflow Example
   5.1.1. Description and native Flow Definition
      5.1.1.1. Cutout of top level process
      5.1.1.2. Refinement of the activity 'check credit standing'
   5.1.2. WPDL Description

6. INDEX

6.1. Index of Figures
6.2. Index of Tables
1. Introduction


1.1. Purpose

The purpose of the WfMC Process Definition Interchange documents is to describe a common interface for the exchange of workflow process definitions. This interface is based on a standardised language - the Workflow Process Definition Language, "WPDL" - which can be supported by vendors of workflow management products to allow the exchange and documentation of workflow process definitions.

This document illustrates the WPDL by providing Questions and Answers and Examples. Its distributed is intended only for explanation purposes, i.e. it is not a standard.

1.2. Audience

The intended audience of this document includes all participants in the workflow industry. Comments should be addressed to the Workflow Management Coalition.

1.3. Overview

This document contains three parts:

- a section with questions and answers explaining different features of the WPDL definition and providing small examples,
- a Representative Business Example and its WPDL formulation,
- further examples for features of the WPDL not contained in the Representative Business Example.

1.4. Conformance

This document is not a specification to which conformance can be claimed, it is for illustrative purposes only.

A vendor can not claim conformance to any WfMC specification unless specifically authorised to make that claim by the WfMC. WfMC grants this permission only upon the verification of the particular vendor's implementation of the published specification, according to applicable test procedures defined by WfMC.
1.5. References

The following documents are associated with this document and should be used as a reference.

- WfMC Glossary
- WfMC Reference Model
- WfMC WPDL - Process Model
2. Process Diagrams: Elements

In this document the following notation for the graphical representation of Process diagrams is used:

The notation consists of four types of elements: Rectangles for Activities, Lines for Transitions that connect Activities, Triangles for Process Start and End and Dots on Lines for Conditions of Transitions. There are two equivalent sets of symbols, one for a horizontal notation (direction left to right) and one for a vertical notation (top to bottom). In this paragraph the former is described; the latter has a corresponding layout.

The Activities are built up from a "body" and an "envelope". The "body" is characterised by a letter inside the Activity box. The body kind is either a ROUTE, characterised by 'R', or has an Implementation Application (N), NO (N), or subflow ('W'). A subflow has a box divided into two parts, permitting specification of the Workflow Identifier for the subflow.

The "envelope" of an Activity characterises the Transition restrictions (SPLIT-JOIN and Inline Block). AND restrictions are characterised by a semi-circle, XOR restrictions by default (no additional symbol). A JOIN is left of the Activity box, a SPLIT right. SPLITs have additional notations, the XOR SPLIT has a triangle to symbolise the sequence of evaluation, the ANDOR SPLIT has in addition to the semi-circle a DOT besides it to denote the OTHERWISE. To minimise the required number of symbols the XOR SPLIT sequence triangle is also present in case it is only a simple Transition without SPLIT.

Examples:

1. ROUTE

2. IMPLEMENTATION ACTIVITY, NO, WORKFLOW

3. AND JOIN and XOR SPLIT

4. XOR JOIN and AND SPLIT

5. Start of Process symbol

   End of Process symbol

Figure 2-1: Elements of SPLIT-JOIN Diagrams
3. **Questions & Answers** <under revision>
4. **Representative Business Example**

**Preface**

This section contains the methodology and results which will be used to verify that the standard being proposed for Interface 1 is in fact possible to implement.

The objective is to define a fictitious business case example containing most of the standard workflow entities and attributes (as defined in the Meta Model) for modelling a workflow process.

The Informal Description is provided in a form that is often employed by a user organisation. This especially means it does not fully use the terminology that normally is associated with a process-oriented description (e.g. Department names are used when a business process or function is referenced).

**4.1. Informal Scenario Description**

The FBN Sports Equipment Company, located in Luxembourg, manufactures a complete range of soccer, baseball, tennis and general athletic equipment. They only sell to European resellers, major sports outlets and North American Distributors. All sales are made by way of Purchase Orders.

The company has grown from a small organisation to the point where response to their customers is getting longer and longer. They have decided to employ a workflow management system in order to improve their business processes. In the existing environment all mail comes into the mail room and is then distributed as shown in Figure 4-1. Since the company receives 80% of its sales_order activity by mail and FAX, it has been determined to have an image scanner in the mail room as one of the methods to enhance the workflow system.

![Figure 4-1: FBN Sports Equipment](image-url)
4.1.1. New Business Process Rules

For this business case, we would like to build a representative model for streamlining the sales order entry and shipping process. The business case provides for workflow concepts which "flow" the work according to:

- parallel paths
- AND / OR routing conditions (SPLIT),
- AND / OR rendezvous linkages (JOIN)

Activities can have states such as:

- in process
- suspended
- resumeable
- completed

And, of course activities have roles or performers associated with them.

4.1.2. In The Mail Room:

The new business process involves giving a mandate to the mail room clerk to review all mail which will be scanned into the system and then to make decisions as to which routing process the mail documents should take. Only the mail to the President or marked "personal" will be sent directly and un-opened to the person.

![Diagram of Mail Room Process]

*Figure 4-2: In the Mail Room*

If the documents are a sales_order:
Then all documents go to Sales, Finance and Manufacturing in parallel;
If the documents are invoices for payment:
   Then the documents go to Finance;
If the documents are addressed to the President:
   Then the documents go directly to the Secretary;
   The Secretary sorts mail for immediate response by President
   Sales leads go to Vice President, Sales
   Product inquiries go to Customer Support
If the documents are payments (or payment notices):
   Then the documents go to Finance;

4.1.3. At The Finance Department:

If the documents are for a sales_order:
   Then check if sales_order is from an existing customer:
      If an existing customer
         Then Check Account Limits
            If Account Limits OK
               Then Release to Manufacturing;
               Else refer to next manager level;
               If sales_order approved:
                  Then Release to Manufacturing;
                  Else decline sales_order;
                  Route to Sales Representative
                  Route to Manufacturing;
            End;
      If not an existing customer;
         Then request Credit_Check:
            If Credit_Check OK
               Then Release to Manufacturing
               Else decline sales_order
               Route to Sales Representative
               Route to Manufacturing;
            End;

The rules for Check Account Limit are as follows:

- If the customer has a good payment record for sales_orders which are within 20% of
  this sales_order then the sales_order can be accepted according to the limits of the
  signing authorities within the Finance Department.

- If the sales_order is greater by more than 20% of the normal sales_order value, then a
  Credit Check can be requested or approval from the President. If the President
  approves, no Credit Check is performed. Or, the President can suspend approval until
  results from the Credit Check are returned to her for review.

Once a shipment has been completely shipped the Finance Department will issue an invoice to the
customer. The FBN policy is to not invoice until the complete shipment has been made.
4.1.4. **At The Manufacturing Department:**

In our business example, we have elected to send all sales_order documents directly to Manufacturing - even before the sales_orders have been "released". Our rationale here is to allow Manufacturing to determine:

- If there is sufficient stock in the inventory to ship immediately;
- If there is "work-in-process" which can meet the delivery schedule;
- What new materials will be needed to build out this order;
- What the partial shipment plan could be.

The new business process has been defined as follows;

![Schematic Definition of New Manufacturing Process](image)

**Figure 4-3: Schematic Definition of New Manufacturing Process**

The new business process rules within Manufacturing will be as follows:

Determine the availability of stock or plan new production cycle.

If sales_order is released and can be shipped:

Then 1. prepare product order;
2. issue shipping instructions and prepare forms
3. notify sales, finance and customer service on ship date
4. adjust inventory levels.

If sales_order is not released, place sales_order into suspend mode.

If sales_order is released but lack of product:

Then notify sales representative of partial ship plan.

Freeze parts and stock for 24 hours

Suspend order for 24 hours

When the sales_order is released and the partial shipment program has been approved by the customer, then Manufacturing will:

- Build and ship to the partial program;
- Notify Finance on shipping
- Expedite missing parts from suppliers
- Suspend the sales_order until the parts arrive;
- Complete the sales_order;
- Issue notification to Finance, Sales and Customer Service
4.1.5. At The Sales Department:

In order to streamline the business and improve customer service, it has been decided to bring in a new position - Customer Service Representative. The objective of this new role will be to stay in touch with the customer:

- during partial shipment periods, and
- after the goods have been shipped to verify acceptance in good condition.

4.1.6. Company Organisation

FBN is a small company with a President and three (3) departments; Sales, Finance and Manufacturing. The organisation is presented in Tables 5-3 and 5-4. There should be sufficient detail to determine the roles for each activity, a deputy (when required) and the specific name of an actor if needed.

In the definition of the business case, constraints have been defined which may be used as Workflow Process Relevant Data or Transition Conditions.

<table>
<thead>
<tr>
<th>Position</th>
<th>Name</th>
<th>Roles</th>
</tr>
</thead>
<tbody>
<tr>
<td>President</td>
<td>Adelle Dastler</td>
<td>1. Approves Purchase Orders over $100,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Release Sales Contracts over $250,000</td>
</tr>
<tr>
<td>Sales Secretary</td>
<td>France Baroque</td>
<td>1. Schedules President's meetings</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Arranges Travel</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. Deputy For Marketing Manager on Advertising</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4. Prepares &amp; Sends All Sales Quotations</td>
</tr>
<tr>
<td>Vice-President, Sales</td>
<td>Dick Meadows</td>
<td>1. Approves sales commission bonuses</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Release Sales Contracts Less Than $250,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. Approves travel expenses less than $10,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4. Can Approve Manufacturing Build Changes On Orders Greater Than $250,000</td>
</tr>
<tr>
<td>Channel Manager</td>
<td>Mark Smith</td>
<td>1. Handles Advertising</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Handles all USA Distributor Sales</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. Release All Distributor Sales Under $250,000</td>
</tr>
<tr>
<td>Sales Manager</td>
<td>Jake Goodfellow</td>
<td>1. Deputy for Vice-President, Sales</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Release Sales Contracts Less Than $100,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. Approves travel expenses less than $5,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4. Can Approve Manufacturing Build Changes On Orders Less Than $100,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5. Handles All Other European Sales</td>
</tr>
<tr>
<td>Sales Representative</td>
<td>Patrick LaFleur</td>
<td>1. Deputy for Sales Manager</td>
</tr>
<tr>
<td>Position</td>
<td>Name</td>
<td>Roles</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>--------------------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Release Sales Contracts Less Than $50,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. Can Approve Manufacturing Build Changes On Orders Less Than $50,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4. Handles All Sales For UK &amp; France</td>
</tr>
<tr>
<td>Sales Representative</td>
<td>Marlene Braun</td>
<td>1. Release Sales Contracts Less Than $50,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Can Approve Manufacturing Build Changes On Orders Less Than $50,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. Handles All Sales For Germany</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Handles Direct Customer Inquiries</td>
</tr>
</tbody>
</table>

*Table 4-1: FBN Organisation and Roles (part 1)*

<table>
<thead>
<tr>
<th>Position</th>
<th>Name</th>
<th>Roles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vice President, Manufacturing</td>
<td>John Hammer</td>
<td>1. Manages Product Cost</td>
</tr>
<tr>
<td>Manufacturing Secretary</td>
<td>Heidi Werner</td>
<td>2. Expedites parts from suppliers</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. Plans Production Schedule</td>
</tr>
<tr>
<td>Production Manager</td>
<td>Ralph Cramden</td>
<td>1. Plans Production Schedule</td>
</tr>
<tr>
<td>Production Operator</td>
<td>Norman Bates</td>
<td>2. Expedites parts from suppliers</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. Deputy for Vice President, Manufacturing</td>
</tr>
<tr>
<td>Production Operator</td>
<td>Dave Bennie</td>
<td>1. Builds product line-B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Packages all product shipments</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. Receives all returned goods</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4. Receives &amp; Stores all manufacturing materials</td>
</tr>
<tr>
<td>Shipper</td>
<td>Theo Christensen</td>
<td>1. Packages all product shipments</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Prepares shipping &amp; customs forms</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. Schedules transport</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4. Receives all returned goods</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5. Receives &amp; Stores all manufacturing materials</td>
</tr>
<tr>
<td>Position</td>
<td>Name</td>
<td>Roles</td>
</tr>
<tr>
<td>--------------------------</td>
<td>-----------------</td>
<td>-----------------------------------------------------------------------</td>
</tr>
<tr>
<td>Purchasing Agent</td>
<td>Bob Cratchett</td>
<td>1. Purchases all parts</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Expedites parts from suppliers</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. Can approve escalation payments up to $10,000</td>
</tr>
<tr>
<td>Vice President, Finance</td>
<td>Rose Chutney</td>
<td>1. OK’s Credit Approval on New Distributor Accounts</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Approves all sales_orders less than $250,000 +20%</td>
</tr>
<tr>
<td>Finance Secretary</td>
<td>Elizabeth Blume</td>
<td>1. Handles all Human Resource functions</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Prepares Purchase Orders</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. Prepares Invoices</td>
</tr>
<tr>
<td>Accountant</td>
<td>Anna Kopinski</td>
<td>1. Performs Credit Checks</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. OK’s Credit Approval on New Reseller Accounts</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. Approves Invoices for Mailing</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4. Deputy for Vice President, Finance</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5. Approves all sales_orders less than $100,000 +20%</td>
</tr>
<tr>
<td>Finance Clerk</td>
<td>Jim Samson</td>
<td>1. Approves all sales_orders less than $50,000 +20%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Deposits customer payments</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. Handles customer interface</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4. Deputy for Accountant</td>
</tr>
<tr>
<td>Mail Room Clerk</td>
<td>Tim White</td>
<td>1. Opens and distributes all mail</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Operates company FAX distribution</td>
</tr>
</tbody>
</table>

*Table 4-2: FBN Organisation and Roles (part2)*
4.2. Representative Business Example in WPDL Notation

The WPDL formulation of the Representative Business Example takes into account that the original formulation is rather department oriented. The corresponding process definition can be handled in two ways,

- departmental-oriented processes as the original formulation,
- more process oriented, taking department relationships only into account at the performer level.

The two approaches relate to different type of process interworking (see IF4 document).

In the sequel examples for both approaches are outlined to some extent. For simplicity both approaches are combined in one Workflow Model which incorporates the common Workflow Participant, Application and Workflow Relevant Data definitions.

4.2.1. Workflow Model

Remark: Elements listed in "// <insert ...>" have to be replaced by the corresponding chapters.

MODEL

'Model_Business_Example'

WPDL_VERSION "7.0 Beta"
VENDOR "Vendor:Product:Release"
CREATED 1998-07-15
NAME "Representative Business Example"
DESCRIPTION "WPDL-Notation of Representative Business Example"
AUTHOR "WG/1B"
STATUS UNDER_REVISION
EXTENDED_ATTRIBUTE 'VENDOR_A_SPECIFIC' STRING
"This is vendor A's attribute!"

// Workflow Participant List

PARTICIPANT 'France_Baroque'
NAME "France Baroque"
DESCRIPTION "President's Secretary"
TYPE HUMAN
END_PARTICIPANT

PARTICIPANT 'Tim_White'
NAME "Tim White"
DESCRIPTION "Mail Room Clerk"
TYPE HUMAN
END_PARTICIPANT

PARTICIPANT 'Presidents_Secretary'
NAME "Presidents Secretary"
DESCRIPTION "handles presidents mail"
TYPE ROLE
END_PARTICIPANT

PARTICIPANT 'Mail_Room_Clerk'
NAME "Mail-Room Clerk"
DESCRIPTION "handles incoming mail"
TYPE ROLE
END_PARTICIPANT

PARTICIPANT 'VP_Sales'
NAME "VP Sales"
DESCRIPTION "Vice president; handles sales leads"
TYPE ROLE
END_PARTICIPANT

PARTICIPANT 'Sales_Department'
NAME "Sales Department"
DESCRIPTION "is involved in handling sales orders"
TYPE ORGANISATIONAL_UNIT
END_PARTICIPANT

PARTICIPANT 'Manufacturing_Department'
NAME "Manufacturing Department"
DESCRIPTION "is involved in handling sales orders"
TYPE ORGANISATIONAL_UNIT
END_PARTICIPANT

PARTICIPANT 'Finance_Department'
NAME "Finance Department"
DESCRIPTION "is involved in handling sales orders, invoices for payments and payments"
TYPE ORGANISATIONAL_UNIT
END_PARTICIPANT

PARTICIPANT 'Customer_Support'
NAME "Customer Support"
DESCRIPTION "handles product inquiries"
TYPE ORGANISATIONAL_UNIT
END_PARTICIPANT

// <Workflow Application List>

APPLICATION 'scan_document'
NAME "scan document"
TOOLNAME "winscan.exe"
OUT_PARAMETERS 'scanned_document'
END_APPLICATION

APPLICATION 'identify_document'
NAME "identify document"
IN_PARAMETERS 'scanned_document'
OUT_PARAMETERS 'document_type'
END_APPLICATION

APPLICATION 'send_document'
NAME "send document"
TOOLNAME "abcmail.exe"
IN_PARAMETERS 'scanned_document'
'document_type'
END_APPLICATION

APPLICATION 'handle_document'
NAME "handle document"
IN_PARAMETERS 'scanned_document'
'document_type'
END_APPLICATION

// <Workflow Process Relevant Data List>

DATA 'document_type'
TYPE STRING
Interface 1: The Process Definition Interchange - Q&A and Examples

NAME "document type"
DEFAULT_VALUE "Sales Order"
END_DATA

DATA 'scanned_document'
TYPE REFERENCE
NAME "scanned document"
END_DATA

// <insert Workflow "In the Mail Room">
// <insert Workflow "At the Finance Department">
// <insert Workflow "At the Manufacturing Department">
// <insert Workflow "At the Sales Department">
// <insert Workflow "Sales Order Processing">

END_MODEL
4.2.2. Departmental Processes

4.2.2.1. In the Mailroom

Figure 4-4: In the Mail Room

WORKFLOW  'In_the_Mail_Room'
CREATED  1998-07-15
NAME  "In the Mail Room"

// <Activity List>

ACTIVITY  'MailRoom'
NAME  "Mail Room"
IMPLEMENTATION  APPLICATIONS
TOOL_LIST  'scan_document'
'identify_document'
'send_document'
DESCRIPTION  "sequential execution"
END_TOOL_LIST
PERFORMER  'Mail_Room_Clerk'
SPLIT
END_ACTIVITY
ACTIVITY
'Sales_Order_Handling'
NAME "Sales Order Handling"
IMPLEMENTATION WORKFLOW SYNCHR 'At_the_Sales_Department'
PERFORMER 'SALES_DEPARTMENT'
END_ACTIVITY

ACTIVITY
'Finance_Processing'
NAME "Finance Processing"
IMPLEMENTATION WORKFLOW SYNCHR 'At_the_Finance_Department'
PERFORMER 'Finance_Department'
END_ACTIVITY

ACTIVITY
'Manufacturing'
NAME "Manufacturing"
IMPLEMENTATION WORKFLOW SYNCHR 'At_the_Manufacturing_Department'
PERFORMER 'Manufacturing_Department'
END_ACTIVITY

ACTIVITY
'Presidents_Secretary_Dispatch'
NAME "Presidents Secretary Dispatch"
IMPLEMENTATION APPLICATIONS 'send_document'
PERFORMER 'Presidents_Secretary'
SPLIT XOR 't_5' 't_6' 't_7'
END_ACTIVITY

ACTIVITY
'Immediate_Response_by_President'
NAME "Immediate Response by President"
IMPLEMENTATION APPLICATIONS 'handle_document'
PERFORMER 'Presidents_Secretary'
END_ACTIVITY

ACTIVITY
'VP_Sales_handling'
NAME "VP Sales handling"
IMPLEMENTATION APPLICATIONS 'handle_document'
PERFORMER 'VP_Sales'
END_ACTIVITY

ACTIVITY
'Customer_Support'
NAME "Customer Support"
IMPLEMENTATION APPLICATIONS 'handle_document'
PERFORMER 'Customer_Support'
END_ACTIVITY

// <Transition Information List>

TRANSITION
't_1'
FROM 'MailRoom'
TO 'Sales_Order_Handling'
CONDITION 'document_type'="Sales Order"
END_TRANSITION

TRANSITION
't_2'
FROM 'MailRoom'
TO 'Finance_payment_processing'
CONDITION 'document_type'="Sales Order" OR 'document_type'="invoices_for_payment" OR 'document_type'="payments"
END_TRANSITION

TRANSITION
't_3'
FROM 'MailRoom' TO 'Manufacturing' CONDITION 'document_type'="Sales Order"
END_TRANSITION

TRANSITION 't_4'
FROM 'MailRoom'
TO 'Presidents_Secretary'
CONDITION 'document_type'="Presidents Mail"
END_TRANSITION

TRANSITION 't_5'
FROM 'Presidents_Secretary_Dispatch'
TO 'Immediate_Response_by_President'
CONDITION 'document_type'="Immediate Response"
END_TRANSITION

TRANSITION 't_6'
FROM 'Presidents_Secretary_Dispatch'
TO 'VP_Sales_handling'
CONDITION 'document_type'="Sales leads"
END_TRANSITION

TRANSITION 't_7'
FROM 'Presidents_Secretary_Dispatch'
TO 'Customer_Support'
CONDITION 'document_type'="Product_Inquiry"
END_TRANSITION

END_WORKFLOW
4.2.2.2. At the Finance Department

![Diagram of workflow at the Finance Department]

**Figure 4-5: At the Finance Department**

```
WORKFLOW   'At_the_Finance_Department'
CREATED    1998-07-15
NAME       "At the Finance Department"

// <Activity List>

ACTIVITY    'Inmail_Checking'
NAME        "Inmail Checking"
IMPLEMENTATION NO
PERFORMER   'Finance_Department'
SPLIT       XOR 'T_1' 'T_2' 'T_3'
END_ACTIVITY
```
// <Transition Information List>

TRANSITION
FROM 'Inmail_Checking'
'Check_Finances'
'document_type'="Sales Order"
END_TRANSITION

't_3'
FROM 'Finance_payment_processing'
END_TRANSITION

't_2'
FROM 'Checking'
TO 'Credit_Check'
CONDITION 'document_type'="invoices_for_payment"
END_TRANSITION

TRANSITION
't_4'
FROM 'Check_Finances'
TO 'Check_Finances'
END_TRANSITION

TRANSITION
FROM 'Check_Finances'
TO 'Check_Account_Limit'
'account_ok'=TRUE
END_TRANSITION

't_6'
FROM 'Credit_Check'
END_TRANSITION

TRANSITION
FROM 'Check_Account_Limit'
TO 'Check_at_next_management_level'
END_TRANSITION

TRANSITION
FROM 'Check_Account_Limit'
CONDITION 'R_1'
END_TRANSITION

TRANSITION
FROM 'Credit_Check'
'Decline_Sales_Order'
END_TRANSITION

TRANSITION
FROM 'Credit_Check'
CONDITION 'R_1'
END_TRANSITION
TRANSITION 't_11'
FROM 'Check_at_next_management_level'
TO 'Decline_Sales_Order'
OTHERWISE
END_TRANSITION

TRANSITION 't_12'
FROM 'Check_at_next_management_level'
TO 'R_1'
CONDITION 'management_ok'=TRUE
END_TRANSITION

TRANSITION 't_13'
FROM 'Decline_Sales_Order'
TO 'R_1'
END_TRANSITION

// <Workflow Application List>
APPLICATION 'customer_check'
NAME "customer check"
DESCRIPTION "sets 'customer_ok'"
END_APPLICATION

APPLICATION 'credit_check'
NAME "credit check"
DESCRIPTION "sets 'credit_ok'
END_APPLICATION

APPLICATION 'management_check'
NAME "management check"
DESCRIPTION "sets 'management_ok'
END_APPLICATION

APPLICATION 'account_check'
NAME "account check"
DESCRIPTION "sets 'account_ok'
END_APPLICATION

// <Workflow Process Relevant Data List>
DATA 'customer_ok'
NAME "customer ok"
TYPE BOOLEAN
END_DATA

DATA 'credit_ok'
NAME "credit ok"
TYPE BOOLEAN
END_DATA

DATA 'account_ok'
NAME "account ok"
TYPE BOOLEAN
END_DATA

DATA 'management_ok'
NAME "management ok"
TYPE BOOLEAN
END_DATA
<table>
<thead>
<tr>
<th>NAME</th>
<th>TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BOOLEAN</td>
</tr>
</tbody>
</table>

END_WORKFLOW
At the Manufacturing Department

description details are left as an exercise to the reader.

![Diagram of Manufacturing Process](image)

Figure -6

WORKFLOW

'At_the_Manufacturing_Department'
1998-07-15
Interface 1: The Process Definition Interchange - Q&A and Examples

NAME "At the Manufacturing Department"

// <Insert Activity List>
// <Insert Transition Information List>

END_WORKFLOW

WORKFLOW 'Suspend_until_Release'
CREATED 1998-07-15
NAME "Suspend until Release"
DESCRIPTION "The workflow - after some delay - polls for release, using an automatic Activity"

// <Activity List>
// <Transition Information List>

END_WORKFLOW
4.2.2.4. At the Sales Department

The business process definition for the sales department is split into two different processes, the general process (e.g. for processing new orders) which is not further defined in this section, and the Customer Service Request process.

**General sales processing**

```plaintext
WORKFLOW 'At_the_Sales_Department'
CREATED 1998-07-15
NAME "At the Sales Department"
DESCRIPTION "Process for e.g. new orders - not further described here"

// <Insert Activity List>
// <Insert Transition Information List>

END_WORKFLOW
```

**Customer service processing**

![Diagram of Customer Service Processing]

Figure 4-7: Customer Service Processing

The WPDL description details are left as an exercise to the reader.

```plaintext
WORKFLOW 'Customer_Service_Request'
CREATED 1998-07-15
```
NAME "Customer Service Request"
DESCRIPTION "Process handled by the Customer Service"

// <Insert Activity List>
// <Insert Transition Information List>

END_WORKFLOW
4.2.3. Common Process for Sales-Order

This paragraph gives a feeling for the WPDL formulation of a central cutout of the Representative Business Example in a common process. However, it demonstrates only one possible solution. It represents the processing of a sales order, leaving out some details of the example but including all details relevant to synchronization, both within the manufacturing section and between manufacturing and finance. The process is also described in WPDL (again leaving out details).

This example is to demonstrate the possibility of describing processes that involve synchronization. It uses And-Joins to provide the synchronization, and end-of-activities to represent asynchronous events. In regards to the use of an activity and And-Join in this example to handle specification of a maximum-24-hour delay: notifying the customer is a real workflow activity that takes real time. The fact that it's restricted to a maximum of 24 hours is not that important, and is left to the activity implementation.
Sales Order Processing

Figure 4-8: Sales Order Processing
In WPDL notation (for simplicity only subflow implementations of an Activity were taken into account, and the performers described in the previous chapters are omitted; also Definition of Workflow Relevant Data is omitted):

WORKFLOW 'SALES_ORDER_PROCESSING'
   CREATED 1998-07-15
   NAME "Sales Order Processing"

// <Activity List>

ACTIVITY 'RECEIVE_ORDER'
   DESCRIPTION "In the mailroom.
   When sales order comes in, send copies to Sales, Finance, and Mfg."
   IMPLEMENTATION NO
   SPLIT AND
END_ACTIVITY

ACTIVITY 'NOTIFY_SALES'
   DESCRIPTION "Track sale, keep customer happy"
   IMPLEMENTATION NO
END_ACTIVITY

ACTIVITY 'CHECK_FINANCES'
   DESCRIPTION "Credit-checking process"
   IMPLEMENTATION WORKFLOW SYNCHR 'CHECK_CREDIT'
   SPLIT XOR 'T_5' 'T_4'
END_ACTIVITY

ACTIVITY 'CHECK_STOCK'
   DESCRIPTION "First step in manufacturing"
   IMPLEMENTATION NO
END_ACTIVITY

ACTIVITY 'DECLINE_ORDER'
   DESCRIPTION "Tell customer they haven't credit for order"
   IMPLEMENTATION NO
END_ACTIVITY

ACTIVITY 'CHECK_DECLINED'
   DESCRIPTION "Check the stock for declined"
   IMPLEMENTATION NO
END_ACTIVITY

ACTIVITY 'R1'
   ROUTE
   DESCRIPTION "Proceed as credit permits"
   JOIN XOR
END_ACTIVITY

ACTIVITY 'R2'
   DESCRIPTION "Wait for both stock to be checked and order released before shipping and production"
   ROUTE
   JOIN AND
   SPLIT XOR 'T_10' 'T_11' 'T_12'
END_ACTIVITY

ACTIVITY 'R3'
   DESCRIPTION "For partial shipments, check with customer and plan production in parallel"
   ROUTE
SPLIT AND
END_ACTIVITY

ACTIVITY 'CHECK_PART_SHIP'
  DESCRIPTION "Ask customer if OK to partial-ship (24 hrs)"
  IMPLEMENTATION WORKFLOW SYNCHR 'Customer_Service_Request'
  SPLIT XOR 'T_15' 'T_16'
END_ACTIVITY

ACTIVITY 'PLAN_PART_PRODUCTION'
  DESCRIPTION "Make plan assuming OK to partial-ship"
  IMPLEMENTATION NO
END_ACTIVITY

ACTIVITY 'R4'
  DESCRIPTION "For partial shipments, partial shipment and production in parallel"
  ROUTE
  SPLIT AND
END_ACTIVITY

ACTIVITY 'R5'
  DESCRIPTION "For partial production, wait until check with customer"
  ROUTE
  JOIN AND
END_ACTIVITY

ACTIVITY 'PLAN_FULL_PRODUCTION'
  DESCRIPTION "Either out-of-stock condition or rejection of partial ship can start full-order planning. Make plan to produce entire order"
  IMPLEMENTATION NO
  JOIN XOR
END_ACTIVITY

ACTIVITY 'PRODUCE'
  DESCRIPTION "Assemble parts, execute plan"
  IMPLEMENTATION WORKFLOW SYNCHR 'PRODUCE_WIDGETS'
  JOIN XOR
END_ACTIVITY

ACTIVITY 'SHIP'
  DESCRIPTION "Ship from stock or production"
  IMPLEMENTATION NO
  JOIN XOR
END_ACTIVITY

// In case of partial shipping the 'SHIP' Activity is executed twice.

ACTIVITY 'NOTIFY_SALES_ET_AL'
  DESCRIPTION "Notify Finance on shipping, Sales and CS on order fulfilment"
  IMPLEMENTATION NO
END_ACTIVITY

ACTIVITY 'RECEIVED_IN_GOOD_CONDITION'
  DESCRIPTION "Notify Finance on shipping, Sales and CS on order fulfilment"
  IMPLEMENTATION NO
END_ACTIVITY
TRANSITION 'T_1'
  FROM 'RECEIVE_ORDER'
  TO 'NOTIFY_SALES'
END_TRANSITION

TRANSITION 'T_2'
  FROM 'RECEIVE_ORDER'
  TO 'CHECK_FINANCES'
END_TRANSITION

TRANSITION 'T_3'
  FROM 'RECEIVE_ORDER'
  TO 'CHECK_STOCK'
END_TRANSITION

TRANSITION 'T_4'
  DESCRIPTION "Finance did OK the customer's credit"
  FROM 'CHECK_FINANCES'
  TO 'R1'
  OTHERWISE
END_TRANSITION

TRANSITION 'T_5'
  DESCRIPTION "Finance did not OK the customer's credit"
  FROM 'CHECK_FINANCES'
  TO 'DECLINE_ORDER'
  CONDITION CreditStatus = "NOT OK"
END_TRANSITION

TRANSITION 'T_6'
  FROM 'DECLINE_ORDER'
  TO 'CHECK_DECLINED'
END_TRANSITION

TRANSITION 'T_7'
  FROM 'CHECK_DECLINED'
  TO 'R1'
END_TRANSITION

TRANSITION 'T_8'
  DESCRIPTION "Sales order released, allow full or partial shipment to proceed"
  FROM 'R1'
  TO 'R2'
END_TRANSITION

TRANSITION 'T_9'
  FROM 'CHECK_STOCK'
  TO 'R2'
END_TRANSITION

TRANSITION 'T_10'
  DESCRIPTION "Ordered items all in stock"
  FROM 'R2'
  TO SHIP
  CONDITION StockedStatus = "All"
END_TRANSITION

TRANSITION 'T_11'
  DESCRIPTION "Ordered items partly in stock"
  FROM 'R2'
  TO 'R3'
  CONDITION StockedStatus = "Partial"
END_TRANSITION
TRANSITION 'T_12'
  DESCRIPTION "Ordered items not in stock"
  FROM 'R2'
  TO 'PLAN_FULL_PRODUCTION'
  OTHERWISE
END_TRANSITION

TRANSITION 'T_13'
  DESCRIPTION "After wait for both stock to be checked and order released ask customer about partial ship"
  FROM 'R3'
  TO 'CHECK_PART_SHIP'
END_TRANSITION

TRANSITION 'T_14'
  FROM 'R3'
  TO 'PLAN_PART_PRODUCTION'
END_TRANSITION

TRANSITION 'T_15'
  DESCRIPTION "Partial ship is approved"
  FROM 'CHECK_PART_SHIP'
  TO 'R4'
  CONDITION PartialShipStatus = "OK"
END_TRANSITION

TRANSITION 'T_16'
  DESCRIPTION "Partial ship is not approved"
  FROM 'CHECK_PART_SHIP'
  TO 'PLAN_FULL_PRODUCTION'
  OTHERWISE
END_TRANSITION

TRANSITION 'T_17'
  FROM 'PLAN_PART_PRODUCTION'
  TO 'R5'
END_TRANSITION

TRANSITION 'T_18'
  FROM 'PLAN_FULL_PRODUCTION'
  TO 'PRODUCE'
END_TRANSITION

TRANSITION 'T_19'
  FROM 'R4'
  TO 'SHIP'
END_TRANSITION

TRANSITION 'T_20'
  FROM 'R4'
  TO 'R5'
END_TRANSITION

TRANSITION 'T_21'
  FROM 'R5'
  TO 'PRODUCE'
END_TRANSITION

TRANSITION 'T_22'
  FROM 'PRODUCE'
  TO 'SHIP'
END_TRANSITION

TRANSITION 'T_23'
  DESCRIPTION "After shipping, always notify other departments"
  FROM 'SHIP'
TO 'NOTIFY_FINANCE_ET_AL'
END_TRANSITION

TRANSITION 'T_24'
  DESCRIPTION "Customer Service is to be checking good receipt of partial and full shipping"
  FROM 'NOTIFY_FINANCE_ET_AL'
  TO 'RECEIVED_IN_GOOD_CONDITION'
END_TRANSITION

END_WORKFLOW
5. Further Examples

5.1. Subflow Example

The following example demonstrates the implementation of a refinement as an Inline Block. In addition the example demonstrates the use of Extended Attributes.

The "native" notation of the vendor who provided this example, although somewhat relating to WPDL, differs especially in the formulation of the Activities. The example in the native description uses the vendor's notion of subflows to represent a refinement. In WPDL for this feature the inline block notation is provided. Pre- and Post-Conditions in fact are a redundant listing of pre- and successor nodes in the flow.

5.1.1. Description and native Flow Definition

5.1.1.1. Cutout of top level process

Native notation describing this process:

```plaintext
// ACTIVITY "Order_management.9"
NAME "Order management.9"
DESCRIPTION 
IMPLEMENTATION WORKFLOW "V_Order_management.9"
CHARACTERISTIC NORMAL
DOCUMENTATION 
PRE_CONDITION 
POST_CONDITION 
PARTICIPANT "Internal_marketing"
START_MODE MANUAL
FINISH_MODE MANUAL
WAITING_TIME 0
DURATION 3600
```

Figure 5-1: Sample Top-level Process

Native notation describing this process:
5.1.1.2. Refinement of the activity 'check credit standing'
Figure 5-2: Refinement of the activity 'check credit standing'

Native notation describing this refinement:

```plaintext
// ----------------------------------------------------------------------- Workflow
WORKFLOW "V_check_credit_standing.8"
NAME "V: check credit standing.8"
DESCRIPTION ""

// ----------------------------------------------------------------------- ACTIVITY
ACTIVITY "Input.16"
NAME "Input.16"
DESCRIPTION ""
IMPLEMENTATION ATOMIC
CHARACTERISTIC BEGIN
DOCUMENTATION ""
POST_CONDITION "( Bank_check.33 )"
PRIORITY 0
DURATION 0
EXTENDED_ATTRIBUTE X_POS 96.629213
EXTENDED_ATTRIBUTE Y_POS 7.874016
EXTENDED_ATTRIBUTE BEGIN 0
EXTENDED_ATTRIBUTE END 0
EXTENDED_ATTRIBUTE JOBS 0
END_ACTIVITY

ACTIVITY "Document_credit_approval_on_delivery_notice.35"
NAME "Document credit approval on delivery notice.35"
DESCRIPTION ""
```
NAME ""  
DESCRIPTION ""  
FROM "Input.16"  
TO "Bank_check.33"  
EXTENDED_ATTRIBUTE TRANS_TYPE INFO_TRANS  
EXTENDED_ATTRIBUTE INFORMATION "order_data"  
EXTENDED_ATTRIBUTE VARIABLECOSTS 0.00  
EXTENDED_ATTRIBUTE FIXEDCOSTS 0.00  
EXTENDED_ATTRIBUTE TRANSPORTTIME 0  
EXTENDED_ATTRIBUTE ITEMCOUNT 1  
EXTENDED_ATTRIBUTE DESTINATIONCOUNT 1  
END_TRANSITION  
TRANSITION  
NAME ""  
DESCRIPTION ""  
FROM "Document_credit_approval_on_delivery_notice.35"  
TO "Output.15"  
EXTENDED_ATTRIBUTE TRANS_TYPE INFO_TRANS  
EXTENDED_ATTRIBUTE INFORMATION "order_data"  
EXTENDED_ATTRIBUTE VARIABLECOSTS 0.00  
EXTENDED_ATTRIBUTE FIXEDCOSTS 0.00  
EXTENDED_ATTRIBUTE TRANSPORTTIME 0  
EXTENDED_ATTRIBUTE ITEMCOUNT 1  
EXTENDED_ATTRIBUTE DESTINATIONCOUNT 1  
END_TRANSITION  
TRANSITION  
NAME ""  
DESCRIPTION ""  
FROM "Determine_existing_debt.34"  
TO "Document_credit_approval_on_delivery_notice.35"  
EXTENDED_ATTRIBUTE TRANS_TYPE INFO_TRANS  
EXTENDED_ATTRIBUTE INFORMATION "order_data"  
EXTENDED_ATTRIBUTE VARIABLECOSTS 0.00  
EXTENDED_ATTRIBUTE FIXEDCOSTS 0.00  
EXTENDED_ATTRIBUTE TRANSPORTTIME 3600  
EXTENDED_ATTRIBUTE ITEMCOUNT 1  
EXTENDED_ATTRIBUTE DESTINATIONCOUNT 1  
END_TRANSITION  
TRANSITION  
NAME ""  
DESCRIPTION ""  
FROM "Bank_check.33"  
TO "Determine_existing_debt.34"  
EXTENDED_ATTRIBUTE TRANS_TYPE INFO_TRANS  
EXTENDED_ATTRIBUTE INFORMATION "order_data"  
EXTENDED_ATTRIBUTE VARIABLECOSTS 0.00  
EXTENDED_ATTRIBUTE FIXEDCOSTS 0.00  
EXTENDED_ATTRIBUTE TRANSPORTTIME 3600  
EXTENDED_ATTRIBUTE ITEMCOUNT 1  
EXTENDED_ATTRIBUTE DESTINATIONCOUNT 1  
END_TRANSITION

5.1.2. WPDL Description

// ============================================================== Model
MODEL 'Inline_Block_Example'
WPDL_VERSION "7.0 Beta"
VENDOR "...
CREATED 1998-07-15
NAME "Inline Block Example"
ACTIVITY 'Document_credit_approval_on_delivery_notice.35'
NAME "Document credit approval on delivery notice.35"
DESCRIPTION ""
IMPLEMENTATION NO
PERFORMER 'Accounting'
START_MODE MANUAL
FINISH_MODE MANUAL
WAITING_TIME 0
DURATION 90
COST "0.00"
DOCUMENTATION ""
EXTENDED_ATTRIBUTE 'X_POS' FLOAT 99.625468
EXTENDED_ATTRIBUTE 'Y_POS' FLOAT 75.590551
EXTENDED_ATTRIBUTE 'QUANTITY' INTEGER 0
END_ACTIVITY

ACTIVITY 'Determine_existing_debt.34'
NAME "Determine existing debt.34"
DESCRIPTION ""
IMPLEMENTATION NO
PERFORMER 'Accounting'
START_MODE MANUAL
FINISH_MODE MANUAL
WAITING_TIME 0
DURATION 450
COST "0.00"
DOCUMENTATION ""
EXTENDED_ATTRIBUTE 'X_POS' FLOAT 100.000000
EXTENDED_ATTRIBUTE 'Y_POS' FLOAT 55.118110
EXTENDED_ATTRIBUTE 'QUANTITY' INTEGER 0
END_ACTIVITY

ACTIVITY 'Bank_check.33'
NAME "Bank check.33"
DESCRIPTION ""
IMPLEMENTATION NO
PERFORMER 'Accounting'
START_MODE MANUAL
FINISH_MODE MANUAL
WAITING_TIME 0
DURATION 1620
COST "0.00"
DOCUMENTATION ""
EXTENDED_ATTRIBUTE 'X_POS' FLOAT 99.625468
EXTENDED_ATTRIBUTE 'Y_POS' FLOAT 32.480315
EXTENDED_ATTRIBUTE 'QUANTITY' INTEGER 0
END_ACTIVITY

ACTIVITY 'Output.15'
NAME "Output.15"
DESCRIPTION ""
IMPLEMENTATION NO
PERFORMER 'Automatic' // added
DOCUMENTATION ""
EXTENDED_ATTRIBUTE 'X_POS' FLOAT 97.378277
EXTENDED_ATTRIBUTE 'Y_POS' FLOAT 100.000000
END_ACTIVITY

// Inline Block 'V_Order_management.9'

ACTIVITY 'Order_management.9.body'
NAME "Order management.9.body"
DESCRIPTION ""
IMPLEMENTATION NO
PERFORMER 'Somebody' // added
PRIORITY 0
DURATION 0
DOCUMENTATION ""
EXTENDED_ATTRIBUTE 'X_POS' FLOAT 96.629213
EXTENDED_ATTRIBUTE 'Y_POS' FLOAT 7.874016
EXTENDED_ATTRIBUTE 'BEGIN' INTEGER 0
EXTENDED_ATTRIBUTE 'END' INTEGER 0
EXTENDED_ATTRIBUTE 'JOBS' INTEGER 0
END_ACTIVITY

// Transition Information

TRANSITION 'Transition 1'
NAME ""
FROM 'Order_management.31'
TO 'check_credit_standing.8'
DESCRIPTION ""
EXTENDED_ATTRIBUTE 'TRANS_TYPE' STRING "INFO_TRANS"
EXTENDED_ATTRIBUTE 'INFORMATION' STRING "order_data"
EXTENDED_ATTRIBUTE 'VARIABLECOSTS' FLOAT 0.00
EXTENDED_ATTRIBUTE 'FIXEDCOSTS' FLOAT 0.00
EXTENDED_ATTRIBUTE 'TRANSPORTTIME' INTEGER 600
EXTENDED_ATTRIBUTE 'ITEMCOUNT' INTEGER 1
EXTENDED_ATTRIBUTE 'DESTINATIONCOUNT' INTEGER 1
END_TRANSITION

TRANSITION 'Transition 2'
NAME ""
FROM 'check_credit_standing_last'
TO 'Order_management.9'
DESCRIPTION ""
EXTENDED_ATTRIBUTE 'TRANS_TYPE' STRING "INFO_TRANS"
EXTENDED_ATTRIBUTE 'INFORMATION' STRING "order_data"
EXTENDED_ATTRIBUTE 'VARIABLECOSTS' FLOAT 0.00
EXTENDED_ATTRIBUTE 'FIXEDCOSTS' FLOAT 0.00
EXTENDED_ATTRIBUTE 'TRANSPORTTIME' INTEGER 600
EXTENDED_ATTRIBUTE 'ITEMCOUNT' INTEGER 1
EXTENDED_ATTRIBUTE 'DESTINATIONCOUNT' INTEGER 1
END_TRANSITION

// Inline Blocks Connect

TRANSITION 'Block_connect 1'
NAME ""
FROM 'Order_management.9'
TO 'Order_management.9.body'
DESCRIPTION "Connection Begin"
EXTENDED_ATTRIBUTE 'TRANS_TYPE' STRING "INFO_TRANS"
EXTENDED_ATTRIBUTE 'INFORMATION' STRING ""
EXTENDED_ATTRIBUTE 'VARIABLECOSTS' FLOAT 0.00
EXTENDED_ATTRIBUTE 'FIXEDCOSTS' FLOAT 0.00
EXTENDED_ATTRIBUTE 'TRANSPORTTIME' INTEGER 0
EXTENDED_ATTRIBUTE 'ITEMCOUNT' INTEGER 1
END_TRANSITION
EXTENDED_ATTRIBUTE 'DESTINATIONCOUNT' INTEGER 1
END_TRANSITION

TRANSITION 'Block_connect 2'
NAME ""
FROM 'Order_management.9.body'
TO 'general_paper_work.11'
DESCRIPTION "Connection End"
EXTENDED_ATTRIBUTE 'TRANS_TYPE' STRING "INFO_TRANS"
EXTENDED_ATTRIBUTE 'INFORMATION' STRING ""
EXTENDED_ATTRIBUTE 'VARIABLECOSTS' FLOAT 0.00
EXTENDED_ATTRIBUTE 'FIXEDCOSTS' FLOAT 0.00
EXTENDED_ATTRIBUTE 'TRANSPORTTIME' INTEGER 0
EXTENDED_ATTRIBUTE 'ITEMCOUNT' INTEGER 1
EXTENDED_ATTRIBUTE 'DESTINATIONCOUNT' INTEGER 1
END_TRANSITION

TRANSITION 'Block_connect 3'
NAME ""
FROM 'check_credit_standing.8'
TO 'Input.16'
DESCRIPTION "Connection Begin"
EXTENDED_ATTRIBUTE 'TRANS_TYPE' STRING "INFO_TRANS"
EXTENDED_ATTRIBUTE 'INFORMATION' STRING ""
EXTENDED_ATTRIBUTE 'VARIABLECOSTS' FLOAT 0.00
EXTENDED_ATTRIBUTE 'FIXEDCOSTS' FLOAT 0.00
EXTENDED_ATTRIBUTE 'TRANSPORTTIME' INTEGER 0
EXTENDED_ATTRIBUTE 'ITEMCOUNT' INTEGER 1
EXTENDED_ATTRIBUTE 'DESTINATIONCOUNT' INTEGER 1
END_TRANSITION

TRANSITION 'Block_connect 4'
NAME ""
FROM 'Output.15'
TO 'check_credit_standing_last'
DESCRIPTION "Connection End"
EXTENDED_ATTRIBUTE 'TRANS_TYPE' STRING "INFO_TRANS"
EXTENDED_ATTRIBUTE 'INFORMATION' STRING ""
EXTENDED_ATTRIBUTE 'VARIABLECOSTS' FLOAT 0.00
EXTENDED_ATTRIBUTE 'FIXEDCOSTS' FLOAT 0.00
EXTENDED_ATTRIBUTE 'TRANSPORTTIME' INTEGER 0
EXTENDED_ATTRIBUTE 'ITEMCOUNT' INTEGER 1
EXTENDED_ATTRIBUTE 'DESTINATIONCOUNT' INTEGER 1
END_TRANSITION

// Inline Block 'V_check_credit_standing.8'

TRANSITION 'Transition 3'
NAME ""
FROM 'Input.16'
TO 'Bank_check.33'
DESCRIPTION ""
EXTENDED_ATTRIBUTE 'TRANS_TYPE' STRING "INFO_TRANS"
EXTENDED_ATTRIBUTE 'INFORMATION' STRING "order_data"
EXTENDED_ATTRIBUTE 'VARIABLECOSTS' FLOAT 0.00
EXTENDED_ATTRIBUTE 'FIXEDCOSTS' FLOAT 0.00
EXTENDED_ATTRIBUTE 'TRANSPORTTIME' INTEGER 0
EXTENDED_ATTRIBUTE 'ITEMCOUNT' INTEGER 1
EXTENDED_ATTRIBUTE 'DESTINATIONCOUNT' INTEGER 1
END_TRANSITION

TRANSITION 'Transition 4'
NAME ""
FROM 'Document_credit_approval_on_delivery_notice.35'
TO 'Output.15'
DESCRIPTION ""
6. Index

6.1. Index of Figures

Figure 2-1: Elements of SPLIT-JOIN Diagrams ................................................................. 4
Figure 4-1: FBN Sports Equipment ............................................................... 6
Figure 4-2: In the Mail Room ................................................................. 7
Figure 4-3: Schematic Definition of New Manufacturing Process ...................................... 9
Figure 4-4: In the Mail Room ................................................................. 16
Figure 4-5: At the Finance Department ................................................................. 19
Figure 4-6: At the Manufacturing Department .......................................................... 24
Figure 4-7: Customer Service Processing .............................................................. 26
Figure 4-8: Sales Order Processing ................................................................. 29
Figure 5-1: Sample Top-level Process ............................................................... 35
Figure 5-2: Refinement of the activity 'check credit standing' ........................................... 37

6.2. Index of Tables

Table 4-1: FBN Organisation and Roles (part 1) ......................................................... 11
Table 4-2: FBN Organisation and Roles (part 2) ......................................................... 12