

**GENERAL**  
**CEFACT/TMWG/97N007**  
**14 November 1997**

**Techniques & Methodologies Working Group (TMWG)**

**Detailed Project Plan For  
Modelling and Developing The Next  
Generation of EDI Standards**

**Source:** Techniques & Methodologies Working Group (TMWG)  
**Status:** Approved  
**Action:**

## Introduction:

The TMWG Business Plan sets out the activities and tasks that the group will be working on for the next two years. The Plan illustrates that the most important step to the future development of EDI is business and information modelling. This step is fundamental both to Strategic Objective I (mainstream UN/EDIFACT EDI) and Strategic Objective II (new methodologies for EDI)<sup>1</sup> Therefore, unless a decision is taken by the CSG to implement modelling in the UN/EDIFACT process, then the work of the TMWG is invalidated.

## Plan Design

The underlying assumption for any future work is that modelling should be required for both the existing and future standards processes. The structure of the plan first identifies current and projected processes. Then the implications of modelling are evaluated in terms of their impact on both resource and organisation requirements. Based upon the results of this assessment, the impact on current EDI standards is evaluated (assuming a possible decision not to adopt an Open-edi approach to standards development). Next, the impact of moving to a future state which adopts an Open-edi approach to standards development is evaluated in terms of organisation and resource requirements. The plan concludes with a final analysis and report of the results. See Figure 1 for a graphic portrayal of the logic flow for the plan.

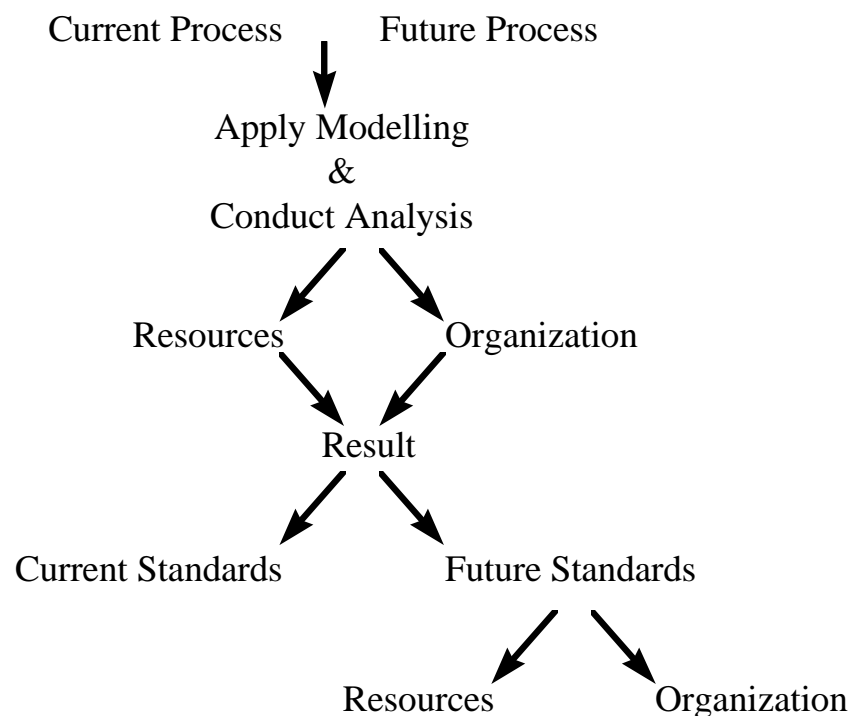


Figure 1. Business Plan Analysis Flow

<sup>1</sup> The strategic objectives are contained within the "Report from the Chairman of the ESG" presented to GE.1 during the September 1997 Session (CEFACT/GE.1/1997/3).

## Detailed Project Plan For Modelling and Developing the Next Generation of EDI Standards

Activity	Task	Subtask	Deliverables	Issues	Dependencies	Dates	Responsibilities
I. Define the processes						2/98	Peter Wilson, US SITG
	A. Define the current EDI standards development processes ("As Is" Model)						
		1. Identify steps in current process to develop new standard	See Informative Annex E	1) See Note 1 regarding identification of what constitutes a "standard"	a) Reference existing procedural documents		
		2. Determine dependency factors that contribute to time for development of new standard					
		3. Identify steps in current process to modify an existing standard					
		4. Determine dependency factors that contribute to time for modifying an existing standard					
		5. Document the current standards development process	"As Is" Model				
	B. Create model for modelled standards development process ("To Be" Model)						
		1. Identify steps in a modelled approach to develop a new standard			a) Consider seeking CALS assistance to implement/ refine their		

Activity	Task	Subtask	Deliverables	Issues	Dependencies	Dates	Responsibilities
					concept of standards development and approval process		
		2. Determine dependency factors that contribute to time for modelled development of a new standard					
		3. Identify steps in a modelled approach to modify an existing standard					
		4. Determine dependency factors that contribute to time for modelled modification of an existing standard					
		5. Document the modelled standards development process	"To Be" Model				
	C. Identify the customer service requirements that must be met under the "to be" modelled approach.						
		1. Define the customer	See Informative Annex A.				
		2. Define the customer service requirements that must be met	See Informative Annex B.				
		3. Define the metrics.	See Informative Annex B.				
		4. Assess the degree to which customer service	Report of analysis.				

Activity	Task	Subtask	Deliverables	Issues	Dependencies	Dates	Responsibilities
		requirements are met by a modelled approach to standards development					
	D. Evaluate impact of modelling						
		1. Conduct comparative analysis of modelling to the existing standards development process	Report of analysis.				
II. Define the resources required for modelling						2/98	Peter Wilson, US SITG
	A. Define the current process resource requirements						
		1. Identify the current EDI/ business expert resource requirements					
		2. Identify the current business process resource requirements					
		3. Identify the current technical (e.g., assessment, syntax, etc.) resource requirements					
		4. Identify the current review process resource requirements					
		5. Identify the current administrative resource requirements					
		6. Identify the current external organisation resource		1) Are resources provided to			

Activity	Task	Subtask	Deliverables	Issues	Dependencies	Dates	Responsibilities
		requirements		supplement the process?			
		7. Identify the current standards repository requirements					
	B. Define the modelled process resource requirements						
		1. Identify the business process experts resource requirements			a) Identify functional domains including required capabilities and business sectors b) Solicit/identify expertise available within existing organisation resources		
		2. Identify the modelling expert resource requirements		1) Cost 2) Consistency of participation 3) Tools 4) Participation of software vendors (to ensure adequate models are developed)	a) Identify core modelling team requirements b) Determine source c) Define the modelling methodology, output products, etc. d) Identify/select trainers e) Train the core		

Activity	Task	Subtask	Deliverables	Issues	Dependencies	Dates	Responsibilities
					modelling team		
		3. Identify the standards review and validation resource requirements	See Informative Annex D	1) Must be independent of the standards development process	a) Identify core team requirements b) Determine source c) Identify/select trainers d) Train the core team		
		4. Identify the administrative resource requirements		1) Existing personnel resources 2) Augmented funding requirements	a) Identify internal and external augment in secretariat, modelling, and repository support requirements		
		5. Identify the associate external organisation resource requirements	Develop strategy to approach outside organisations to obtain supporting resources	1) Are resources provided to supplement the process?			
		6. Identify the model (framework) repository requirements			a) See Activity VII		
III. Define the organisation required for modelling						2/98	Peter Wilson, US TAG
	A. Define the current organisational structure						
		1. Identify current	See Informative				

Activity	Task	Subtask	Deliverables	Issues	Dependencies	Dates	Responsibilities
		organisational structure from requirement determination through implementation (as exists to support the current standards development process)	Annex C				
	B. Develop model of organisation structure						
		1. Identify organisation model to support modelled standards process flow	See Informative Annexes D and A	1) Organisation must support requirements for: <ul style="list-style-type: none"> <li>- membership (voting)</li> <li>- policy development and revision</li> <li>- workflow (submission, approval, appeal, registration, maintenance, &amp; certification)</li> <li>- performance feedback</li> <li>- assessment of business requirements</li> <li>- model development</li> </ul>	a) Identify role, interaction, and responsibilities for each participant in the Annex A model		
	C. Identify role, interaction, and responsibilities for organisations outside standards organisation						
		1. Provide a mechanism for outside organisation input to the process	See Informative Annex A		a) Identify role, interaction, and responsibilities for other vendor		

Activity	Task	Subtask	Deliverables	Issues	Dependencies	Dates	Responsibilities
					and consortium interaction (e.g., software suppliers, SMEs, associations, other standards or business groups, etc.)		
						4/98	Peter Wilson, Harry Featherstone, Jean Kubler
IV. Assess the "To Be" model							
	A. Conduct an analysis of the changes to procedures, resources, and organisational structure necessary to implement modelling within the standards development process		Report of assessment				
V. Assess the impact of modelling on existing EDI standards						5/98	James Werner, US SITG
	A. Define additional impact to standards development if modelling is the only change made to current process						
		1. Determine Message Design Rule implications					

Activity	Task	Subtask	Deliverables	Issues	Dependencies	Dates	Responsibilities
		2. Determine current directory mapping (e.g., conversion) methodology					
		3. Harmonization coordination					
		4. Publication of standards					
		5. Traceability between old standards and models	Report of assessment				
VI. Assess the impact of a modelled Open-edi implementation						8/98	Paul Levine, Scott Nieman, Klaus Naujok, US SITG
	A. Define additional impact to resource requirements						
		1. Identify the business object expert resource requirements	Determine if the resulting standard requires communication of terms and conditions between trading partners to initiate electronic business exchange	1) Cost 2) Consistency of participation 3) Tools 4) Participation of software vendors (to ensure adequate object identification is developed)	a) Identify core business object team requirements b) Determine source c) Define the object development methodology, output products, etc. d) Identify/select trainers e) Train the core team		
		2. Identify the object repository requirements			a) See Activity VII		
		3. Identify the external organisation support					

Activity	Task	Subtask	Deliverables	Issues	Dependencies	Dates	Responsibilities
		requirements and potential resource sources					
	B. Define additional impact to organisational requirements						
		1. Identify changes to organisation model to support Open-edi standards process flow					
		2. Identify role, interaction and responsibilities for organisations outside standards organisation			a) Provide a mechanism for outside organisation input to the process		
	C. Define additional impact to standards development process						
		1. Identify object review, assessment, and approval requirements					
		2. Identify standards publication requirements					
		3. Identify standards development guidance requirements					
VII. Design and develop a work product repository						8/98	Scott Nieman
	A. Determine purpose and scope of repository						
		1. Identify key functions of		1) What should			

Activity	Task	Subtask	Deliverables	Issues	Dependencies	Dates	Responsibilities
		repository		repository do/not do? 2) Determine roles of repository versus application directory service; transactional versus non-transactional, etc.			
		2. Coordinate with X3L8 to obtain assistance in metamodel development for repository content and storage methodology					
	B. Determine the types of information to be retained into repository						
		1. Assess the applicability of various information types - Frameworks ( A0 ) - Scenarios - IDEF0 ( A-0 and below ) - IDEF1x ( ERM ) - IDEF3 - Object Classes - Traditional EDI Implementation Guidelines and Standards - IDL ( Interface Definition Language ) - Components ( Binary; DLLs )					
	C. Determine detailed functions						
		1. Research other products in		1) Visit Component			

Activity	Task	Subtask	Deliverables	Issues	Dependencies	Dates	Responsibilities
		the industry		Directions 98 in December 1997 in Chicago and provide feedback regarding various options 2) Evaluate JTC1/SC14 Repository Workshop data			
		2. Prepare requirements list					
		3. Develop/disseminate Request for Information					
		4. Prepare product selection matrix against requirements list (includes standard types of information; customization capabilities; adding information to repository, etc.)					
		5. Project the number of potential users of repository					
		6. Determine interactive, network access, user interface requirements (query, browse, etc)					
		7. Create wish list ( if required)					
	D. Select Product						
		1. Determine financial sources for product selection					
		2. Determine ownership					
		3. Determine physical location					
	E. Determine administrative requirements						

Activity	Task	Subtask	Deliverables	Issues	Dependencies	Dates	Responsibilities
		1. Determine the maintenance requirements					
		2. Determine the resource requirements					
		3. Determine authorization scheme for CRUD (create, read, update, delete)					
	F. Determine platform and hardware requirements						
		1. Determine system requirements for scalability					
	G. Identify contributed resources for prototype repository unit test						
	H. Perform unit test						
		1. Receive Product					
		2. Receive Server					
		3. Configure Server					
		4. Install Product					
		5. Unit Test Product: - Check-in models - Query models over Internet					
	I. Create feedback mechanism to identify impact of prototype implementation on process, resource and organisational requirements						
		1. Develop periodic review and evaluation process					

Activity	Task	Subtask	Deliverables	Issues	Dependencies	Dates	Responsibilities
	J. Assess degree to which prototype satisfies user requirements		Report of assessment				
VIII. Perform proof-of concept of Open-edi implementation						8/98	Klaus Naujok
	A. Choose a problem domain (framework)						
	B. Determine modelling methodology						
		1. Complete IDEF modelling of Catalog Order					
		2. Complete Unified Modelling Language (UML) modelling of Catalog Order					
		3. Complete EXPRESS G modelling of Catalog Order					Roger Pelletret
		4. Select modelling methodology for the prototype			a) Ensure compatibility of modelling methodology with software vendor requirements		
	C. Build business object class library for the prototype						
		1. Evaluate OMG Common Business Objects for applicability					

Activity	Task	Subtask	Deliverables	Issues	Dependencies	Dates	Responsibilities
	D. Develop class diagrams						
		1. Complete business object class library					
	E. Specify scenarios (if not already specified via chosen modelling tool)						
	F. Baseline Open-edi solution set requirements						
		1. Manage the scenario for each prototype participant					
		2. Manage the information being exchanged					
	G. Build and execute controlled prototype comparing existing EDI and Open-edi implementations						
		1. Identify existing or simulate development of existing EDI implementation (Strategic Objective I)					
		2. Build Open-edi capable software (Strategic Objective II)			a) Identify vendors willing to provide "in kind" contributions toward development of FSV solution set		
	H. Identify end users to evaluate prototype						

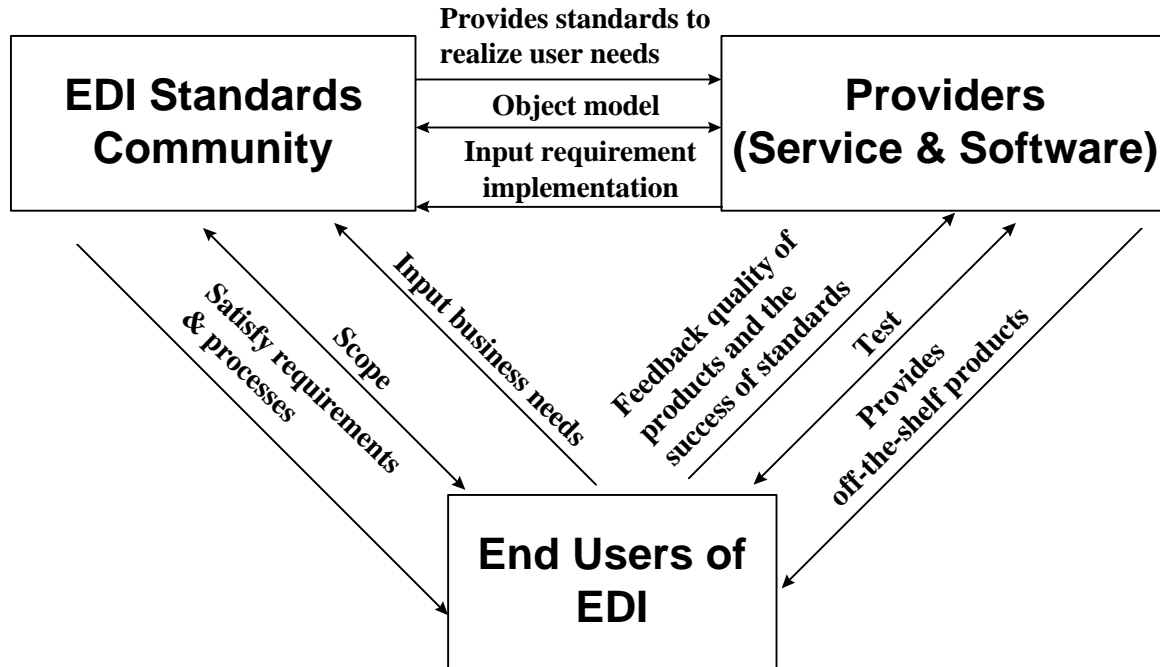
Activity	Task	Subtask	Deliverables	Issues	Dependencies	Dates	Responsibilities
	I. Evaluate and report on prototype						
		1. Compare existing EDI and Open-edi implementations	Report of assessment				
IX. Prepare final report and recommendations						10/98	TMWG, US SITG
	A. Assess Activities IV, V, VI, VII, and VIII		Final report of assessment and recommendations				

Note 1. For purposes of clarification throughout this business plan, standards relate to whether or not Open-edi is adopted. They can therefore include:

- a) business models in a modelled approach for current EDI standards
- b) business models (frameworks) and object class libraries in an Open-edi approach.

## Informative Annex A

# Who Are The Users?



## The different roles involved in developing EDI Standards

In an effort to determine who the users and implementers are, ISO 11179-1 in its introduction contained reference to software developers and their role. The thought is applicable to Open-edi development:

ISO 11179-1

“This ISO standard is to enable the eventual end user to be confident in that what is intended to be said is correctly and unambiguously interpreted. The software developers are the first line users and it is their job to ensure that real end user’s needs are satisfied.”

## **Informative Annex B**

### **Draft Customer Service Requirements and Metrics<sup>2</sup>**

**1. What is the standard and who are the users?**

Metric:

**2. Is the Standard reusable?**

Metric:

**3. Does the standard communicate the:**

- a. business activity,**
- b. business rules (scenarios, context, when and how to send, security needs, etc.),**
- and**
- c. meaning of information transferred (provide for interoperability among the business processes)?**

Metric:

**4. Does the standards development and approval process accommodate change in a timely manner?**

Metric:

**5. Is the end user requirement met in terms of usability?**

Metric:

**6. Does the standard provide the ability to communicate the terms and conditions between trading partners to initiate electronic business interchange with minimal non-electronic communication?**

Metric:

**7. Does the standard provide a metadata model to facilitate its use?**

Metric:

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<sup>2</sup> Metrics will be developed in conjunction with the validation of Customer Service Requirements.

## **Informative Annex C**

### **Comments Concerning the Standards Development and Implementation Processes**

The development and implementation process covers the development and approval of concrete EDI messages and the integration of these messages in customer applications. This step must be executed in today's environment (without modelling) for the following reasons:

- Define the organisations/persons that are involved in the current process. They will be impacted by any modification in the upstream process which means they will have to be consulted and/or informed.
- Identify known problems and shortcomings in the current process. Ideally most of these problems should be alleviated in the renewed process.
- Identify the deliverables that are being produced in the current process, including their use, problems, and shortcomings. Depending on their use these deliverables will still have to be produced in the renewed environment (possibly in an improved way).

This step must be executed in the renewed environment (with modelling) for the following reasons:

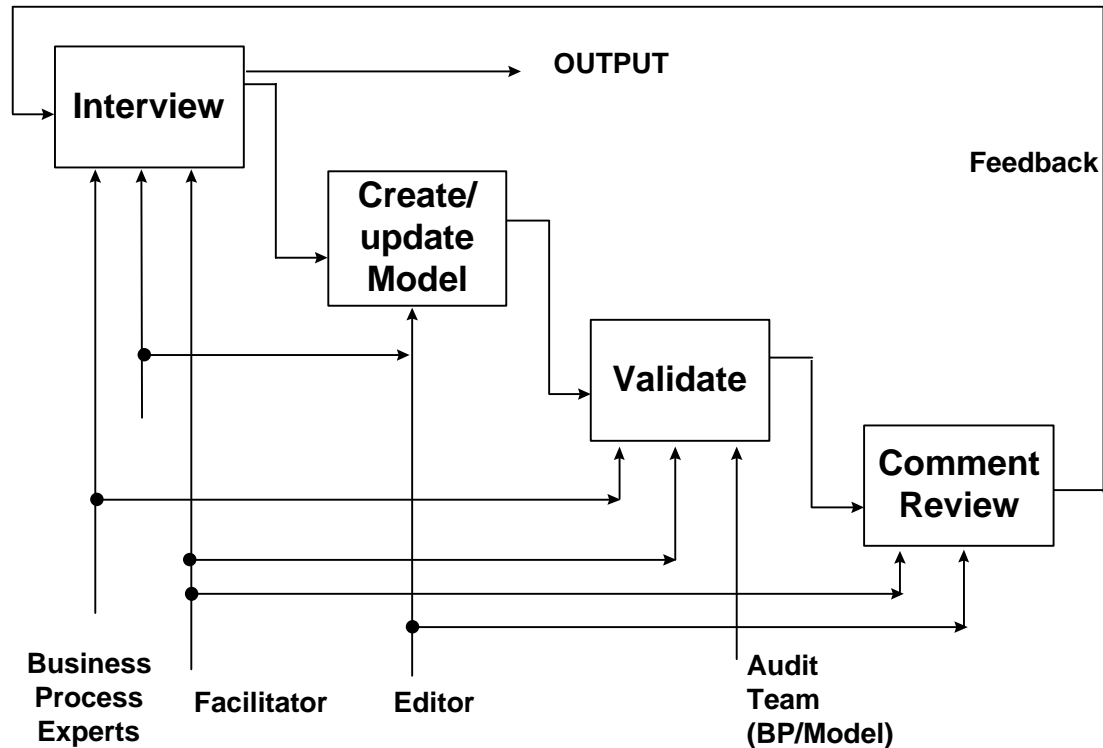
- The required process in the renewed environment is unknown and must thus be defined. This will include following items:
  - \* Impact on the required skills
  - \* Impact on current problems and shortcomings
  - \* Resulting outputs

Additional remarks:

- The current work of UN/EDIFACT doesn't include implementation of messages. The process analysis should however include this phase because it will be impacted by the intended modifications in the upstream process.
- The renewed process can be defined in multiple development environments:
  - \* Development of messages in current syntax based on current directories
  - \* Development of messages in current syntax based on improved directories
  - \* Development of messages (or objects, or ...) in a new syntax to be defined.

## Informative Annex D

# Standard Development Model



The Standards Development Model presumes that a facilitated interview will take place to capture the necessary business process information. From this a model will be developed by resources skilled in the process. An independent group will validate the model and then offer it for review and comment. Based upon the comments received the model will be reworked or accepted by the business process experts. Publication will follow when finally approved by the business process experts. Voting may or may not be a factor in the development and approval process.

## **Informative Annex E**

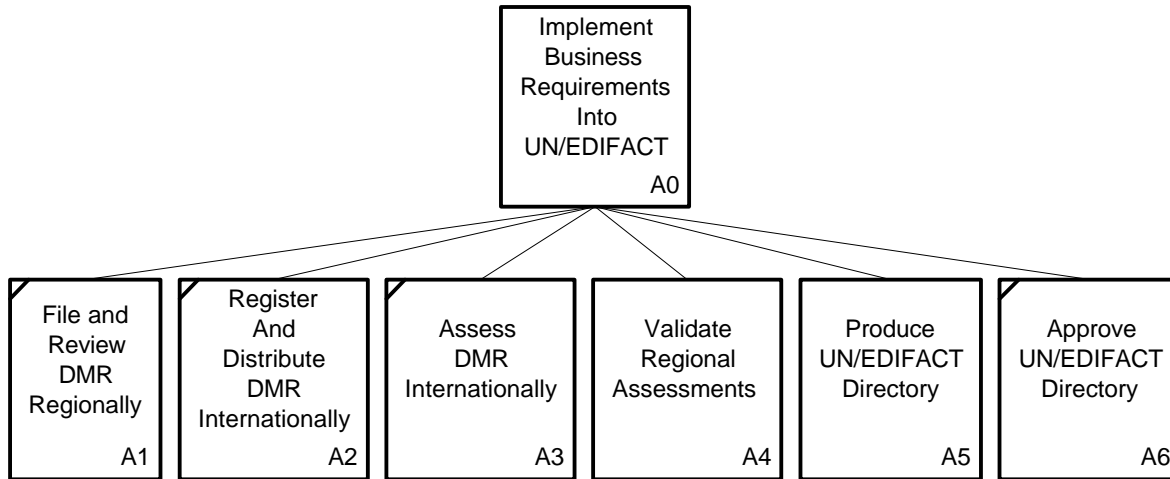
### **IDEF0 - Business Activity Model**

# Implement Business Requirements Into UN/EDIFACT

**Scope:** To document UN/EDIFACT activities employed to process user requests to implement business requirements in the UN/EDIFACT Directories.

**Viewpoint:** The UN/EDIFACT procedures as employed by the UN/ECE formal instances to implement user business requirements.

USED AT:	AUTHOR: Klaus-Dieter Naujok	DATE: 17 Nov. 1996	WORKING	READER	DATE	CONTEXT: <b>TOP</b> A-0
	PROJECT: DMR Process	REV: 17 Nov. 1996	DRAFT			
			RECOMMENDED			
			PUBLICATION			
	NOTES: 1 2 3 4 5 6 7 8 9 10					



- Produce DMR Status List
- Confirm DMRs Approved By All
- Review DMRs With Disapprovals
- Approve Modified DMR
- Produce JTAG-DMR Status List
- Produce Production Directory
- Validate Production Directory
- Audit Production Directory

NODE: <b>A0</b>	TITLE: <b>Node Tree - DMR Process Model</b>	NUMBER:
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# A-0T Implement Business Requirements Into UN/EDIFACT

Scope: To document UN/EDIFACT activities employed to process user requests to implement business requirements in the UN/EDIFACT Directories.

Viewpoint: The UN/EDIFACT procedures as employed by the UN/ECE formal instances to implement user business requirements.

USED AT:	AUTHOR: Klaus-Dieter Naujok	DATE: 16 Apr. 1996	WORKING	READER	DATE	CONTEXT: <b>TOP</b>
	PROJECT: DMR Process	REV: 17 Nov. 1996	DRAFT			
			RECOMMENDED			
			PUBLICATION			
NOTES: 1 2 3 4 5 6 7 8 9 10						

Purpose: To document UN/EDIFACT activities employed to process user requests to implement business requirements in the UN/EDIFACT Directories.

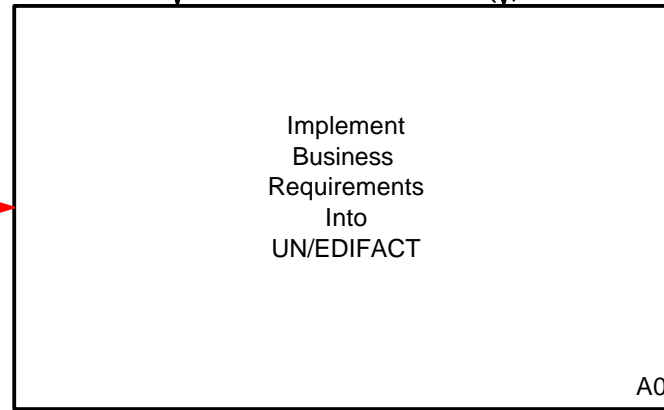
Viewpoint: The UN/EDIFACT procedures as employed by the UN/ECE formal instances to implement user business requirements.

Current  
UN/EDIFACT  
Directory

UN/EDIFACT  
Procedures

User  
Requests

Approved  
UN/EDIFACT  
Directory



UN/ECE  
Secretariat

Regional  
Secretariat

Regional  
TAG

JTAG

JMs

DPT

DAT

WP.4

NODE: **A-0**

TITLE: **Implement Business Requirements Into  
UN/EDIFACT**

NUMBER:

# A0T Implement Business Requirements Into UN/EDIFACT

A user request is submitted to the Regional UN/EDIFACT Board Secretariat for registration. Depending on Regional procedures, the request is either reviewed and approved by the appropriate message design group and then passed to the Regional Technical Assessment Group (TAG), or directly forwarded to the Regional TAG.

The Data Maintenance Request (DMR) is reviewed by the Regional TAG. The review can result either in approval or disapproval of the request.

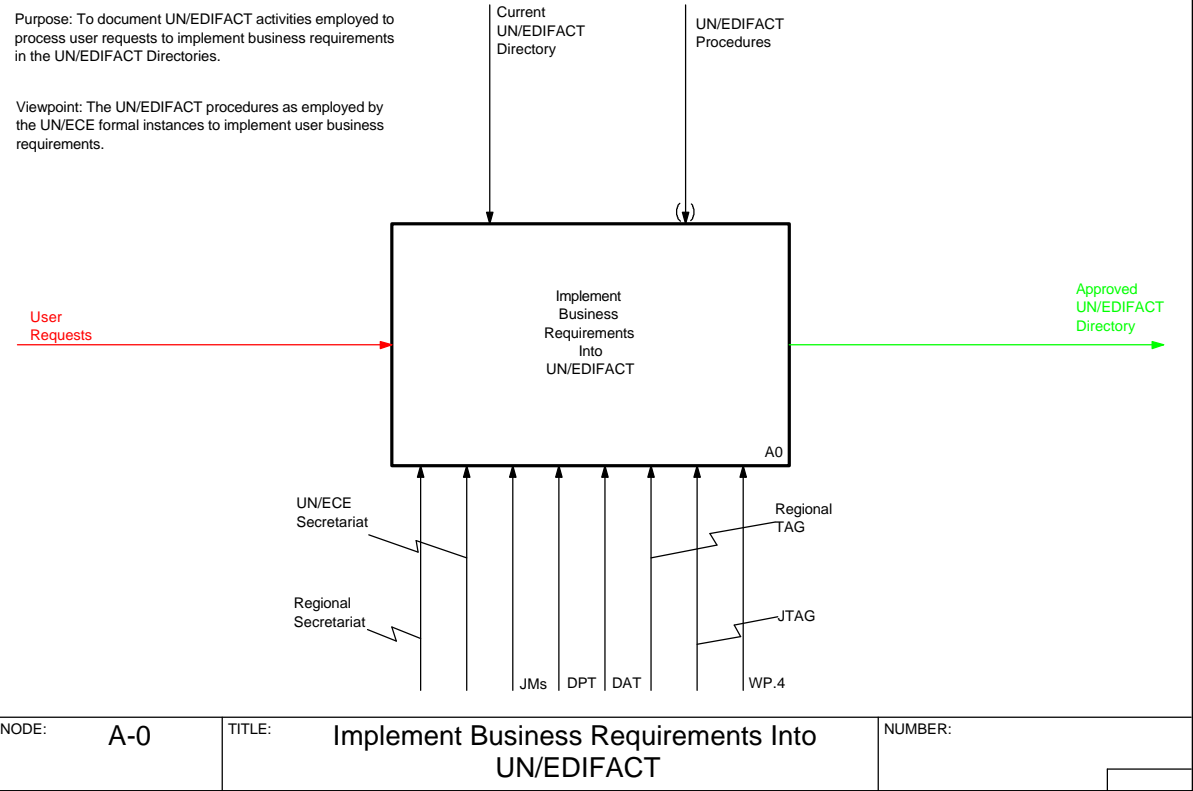
Approved Regional DMRs are forwarded by the regional Secretariat to the UN/EDIFACT Secretariat who will log the DMR. The logged UN DMR will be forwarded by the UN/ECE Secretariat to all other EDIFACT Boards for their assessment.

The Regional Secretariats will forward their Regional DMR Status to the UN/EDIFACT Secretariat after review by their TAGs.

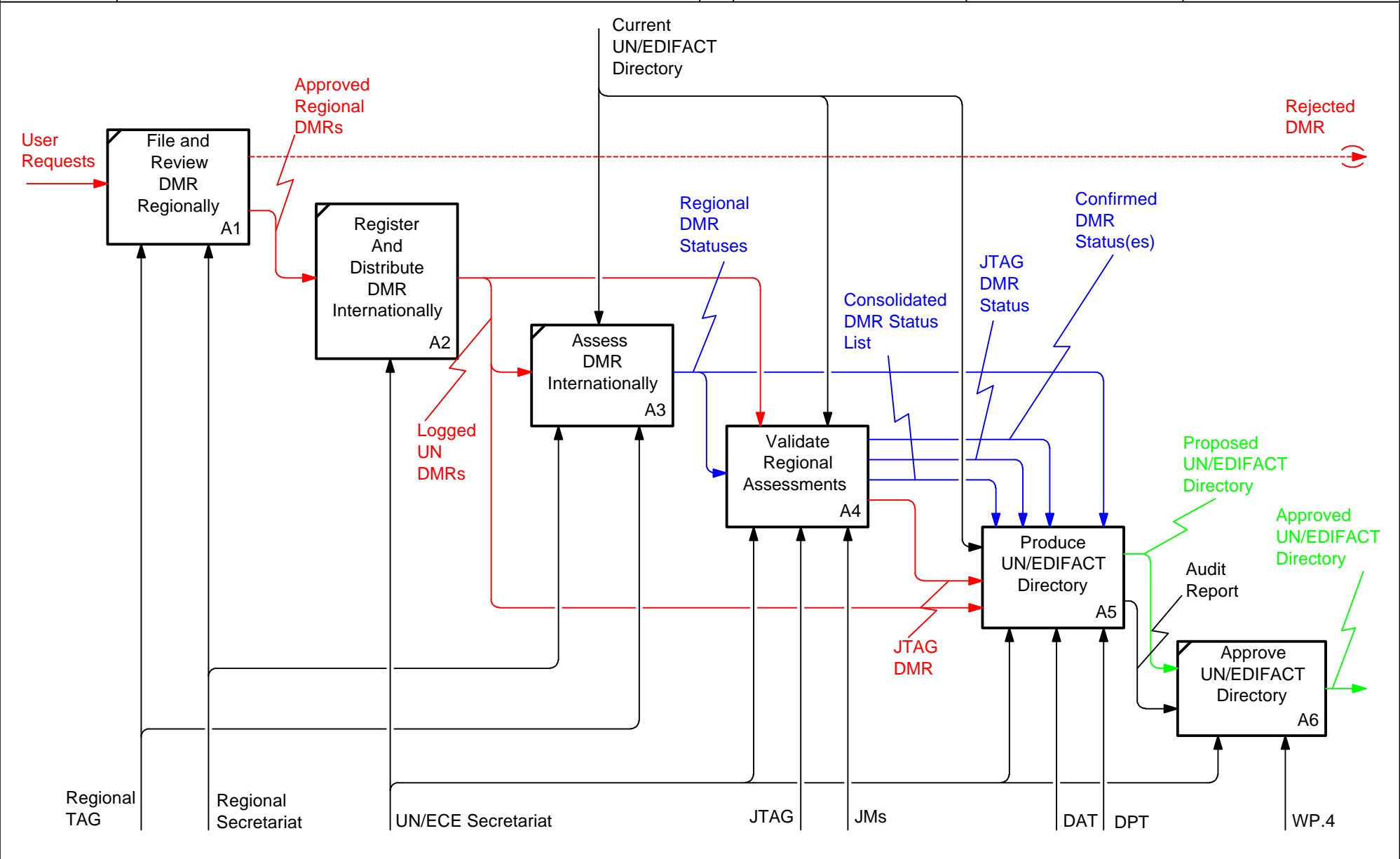
All Regional DMR Statuses are validated by the Joint Technical Assessment Group (JTAG). The result is provided in the Consolidated DMR Status List which is submitted to the UN/ECE Secretariat for integration into the UN/EDIFACT Directory Set.

The UN/EDIFACT Directory Set once produced by the UN/ECE Secretariat is verified by the Directory Production Team (DPT) to ensure that all approved DMRs in the Consolidated DMR list are implemented correctly prior to the audit.

The Directory Audit Team (DAT) submitted UN/EDIFACT Directory Set and DAT Audit Report will serve as input to WP.4 for approval.



USED AT:	AUTHOR: Klaus-Dieter Naujok	DATE: 16 Apr. 1996	WORKING	READER	DATE	CONTEXT:  <b>TOP</b>  A-0
	PROJECT: DMR Process	REV: 17 Nov. 1996	DRAFT			
			RECOMMENDED			
	NOTES: 1 2 3 4 5 6 7 8 9 10		PUBLICATION			



NODE: <b>A0</b>	TITLE: <b>Implement Business Requirements Into UN/EDIFACT</b>	NUMBER:
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# A4T Validate Regional Assessments

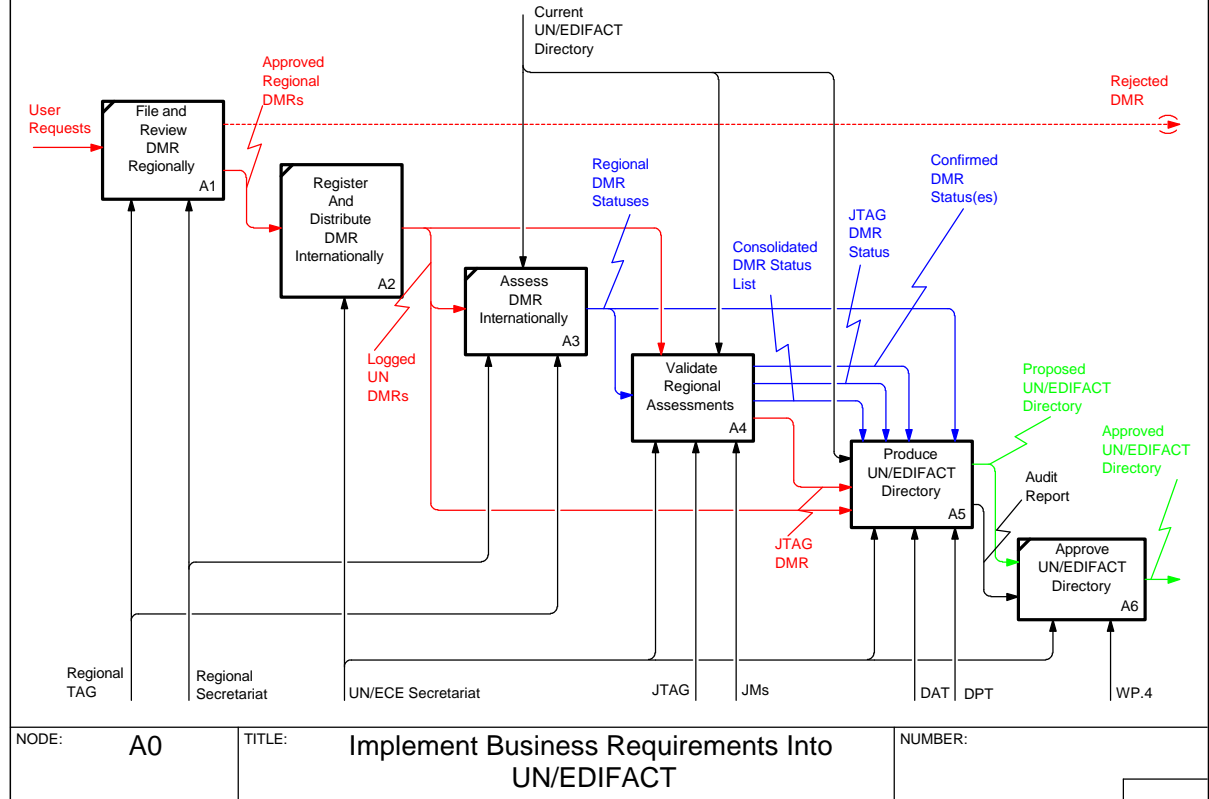
The UN/ECE Secretariat produces a DMR status list showing all the regional responses (or failures to respond in the allocated time frame) to a logged and distributed UN DMR. This list is forwarded to JTAG as input for their meeting.

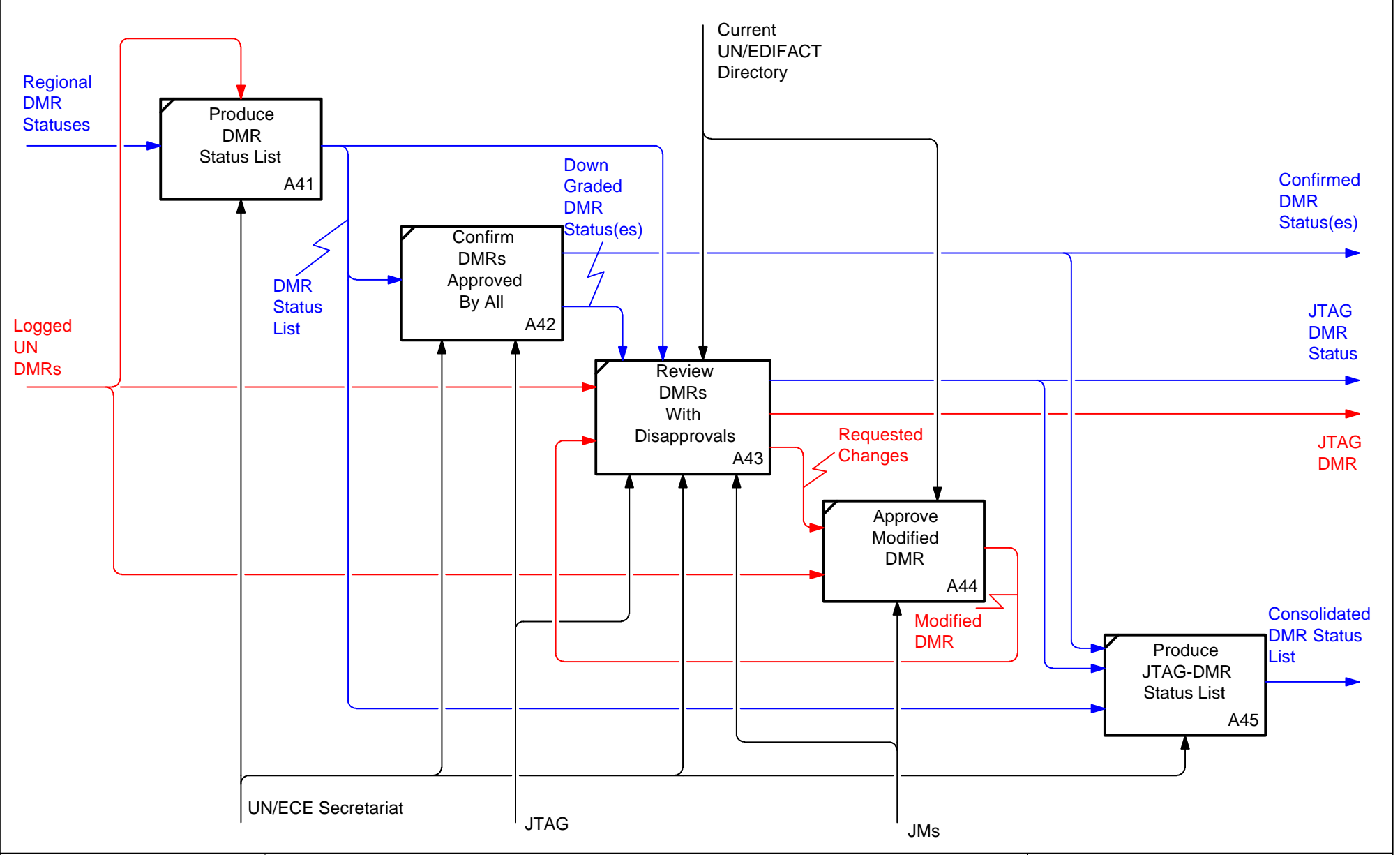
JTAG will confirm the status, and if necessary downgrade a recorded status from approved to disapproved. Approved and confirmed DMRs are not reviewed by JTAG, other than being recorded in the Consolidated DMR Status List.

DMR with disapprovals (including downgraded DMRs) are reviewed by JTAG in order to resolve the DMR. JTAG may approve, reject or request changes to a particular DMR.

DMRs with requested changes are reviewed and approved by the appropriate Joint Message Design Groups (JMs). The Modified DMR is passed by the JM(s) to JTAG for approval.

The UN/ECE Secretariat produces a Consolidated DMR Status List at end of the JTAG meeting.



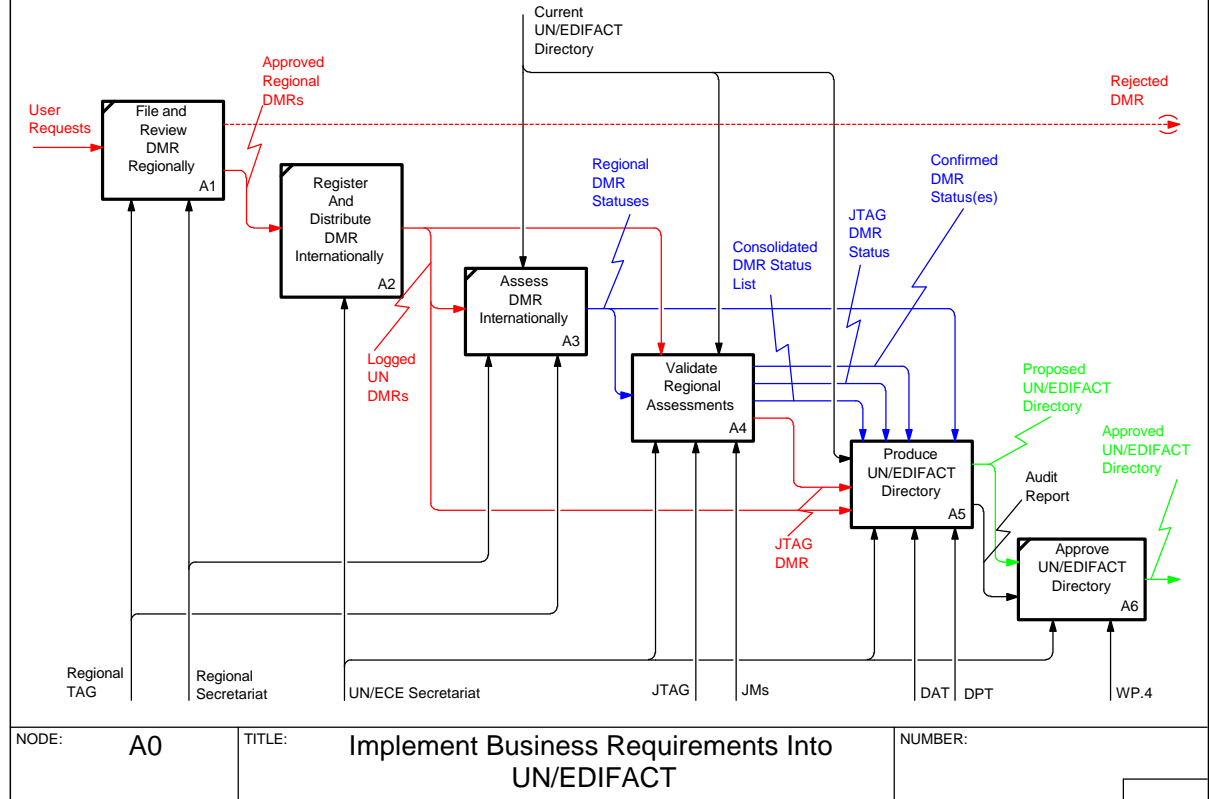


# A5T Produce UN/EDIFACT Directory

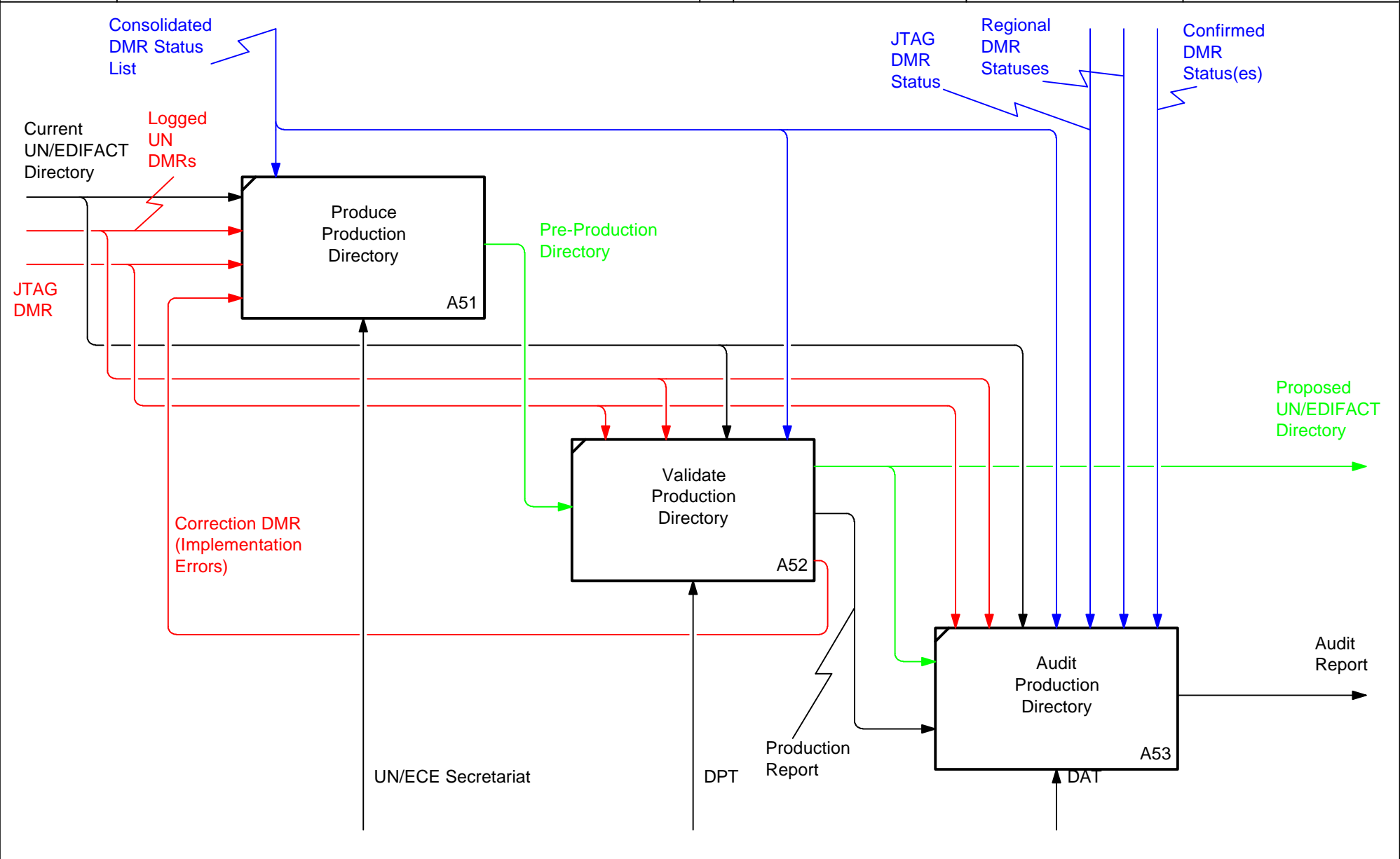
The Consolidated DMR Status List which is submitted to the UN/ECE Secretariat will serve as the reference to integrate approved DMRs into the current UN/EDIFACT Directory Set to produce the Pre-Production Directory Set.

The Pre-Production Directory Set once produced by the UN/ECE Secretariat is verified by the Directory Production Team (DPT) to ensure that all approved DMRs in the Consolidated DMR list are implemented correctly prior to the audit. The DPT will issue a Production report outlining actions taken and possible issues.

The Directory Audit Team (DAT) will review all actions reported and taken by all parties involved in order to ensure that due process was followed. If required DAT may issue a request to the UN/ECE Secretariat to correct an implementation error. If the UN/ECE Secretariat agrees a new Pre-Production Directory Set will be generated for DAT to continue to review. DAT will submit the UN/EDIFACT Directory Set and DAT Audit Report (which includes corrected or un-corrected errors found) as input to WP.4 for approval.



USED AT:	AUTHOR: Klaus-Dieter Naujok	DATE: 17 Apr. 1996	WORKING	READER	DATE	CONTEXT: □ □ □ □ ■ □
	PROJECT: DMR Process	REV: 18 June 1996	DRAFT			
			RECOMMENDED			
	NOTES: 1 2 3 4 5 6 7 8 9 10		PUBLICATION			



NODE: <b>A5</b>	TITLE: <b>Produce UN/EDIFACT Directory</b>	NUMBER:
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