



# papiNet

**Global Transaction Standards  
for the Paper Supply Chain**

**Availability**

**Papinet Standard - Version 2.10**

**April 2003**

# Availability Documentation - papiNet Standard - Version 2.10

---

## Copyright

Copyright 2000 – 2002 papiNet G.I.E (“papiNet”), International Digital Enterprise Alliance, Inc. (“IDEAlliance”), and American Forest & Paper Association, Inc. (“AF&PA”), collectively “Copyright Owner”. All rights reserved by the Copyright Owner under the laws of the United States, Belgium, the European Economic Community, and all states, domestic and foreign. This document may be downloaded and copied provided that all copies retain and display the copyright and any other proprietary notices contained in this document. This document may not be sold, modified, edited, or taken out of context such that it creates a false or misleading statement or impression as to the purpose or use of the papiNet specification, which is an open standard. Use of this Standard, in accord with the foregoing limited permission, shall not create for the user any rights in or to the copyright, which rights are exclusively reserved to the Copyright Owner.

papiNet (formerly known as the European Paper Consortium for e-business - EPC), IDEAlliance (formerly known as the Graphic Communications Association - GCA), the parent organisation of IDEAlliance the Printing Industries of America (PIA), the American Forest and Paper Association (AF&PA), and the members of the papiNet Working Group (collectively and individually, "Presenters") make no representations or warranties, express or implied, including, but not limited to, warranties of merchantability, fitness for a particular purpose, title, or non-infringement. The presenters do not make any representation or warranty that the contents of this document are free from error, suitable for any purpose of any user, or that implementation of such contents will not infringe any third party patents, copyrights, trademarks or other rights. By making use of this document, the user assumes all risks and waives all claims against Presenters.

In no event shall Presenters be liable to user (or other person) for direct, indirect, special or consequential damages arising from or related to any use of this document, including, without limitation, lost profits, business interruption, loss of programs, or other data on your information handling system even if Presenters are expressly advised of the possibility of such damages.

---

## Use of Documents in papiNet Implementations

Documents may be used as templates for a papiNet implementation. The Presenters grant the right to modify and edit them to fit an actual implementation project provided all copies display the copyright and any other proprietary notices contained in this document. Such modified documents must not be distributed beyond the trading partners implementing or maintaining a papiNet connection.

---

## Additional Copyright Information

Additional copyrights may be referenced throughout this document in the appropriate section.

# Availability Documentation - papiNet Standard - Version 2.10

---

## Table of Contents

---

<b>Copyright .....</b>	<b>2</b>
Use of Documents in papiNet Implementations .....	2
Additional Copyright Information .....	2
<b>Message Documentation .....</b>	<b>4</b>
The Availability Message .....	4
An Overview of the Availability Message .....	4
Availability Message Contrasted with Other Messages .....	4
The Scope of the Availability Message.....	5
Availability Message Types.....	5
Business Rules for the Availability Message .....	5
General Business Rules.....	5
Processing the Availability message .....	5
High-level UML Diagram of the Availability Message.....	6
Overview of Availability Structure .....	7
Graphical Representation of the Availability Message Structure .....	8
Availability Schema – Structure and Processing Logic .....	9
Availability Root Element .....	9
AvailabilityHeader.....	9
AvailabilityDetail.....	10
Common Definition References - Elements .....	10
AvailabilityIssueDate.....	10
AvailabilityNumber.....	10
BuyerParty .....	11
EndUserParty .....	11
InformationalQuantity .....	11
LocationParty .....	12
MachineID .....	12
Product .....	13
Quantity.....	13
ReceiverParty.....	14
RequestingParty .....	14
RequestNumber.....	14
SenderParty.....	15
ShipToParty .....	15
TimePeriod .....	15
Common Definition References - Attributes .....	16
Language .....	16
Availability Business Scenarios .....	17
<a href="#">Scenario A</a> .....	18
<a href="#">Scenario B</a> .....	19
<a href="#">Scenario C</a> .....	20

# Availability Documentation - papiNet Standard - Version 2.10

---

## Message Documentation

---

### The Availability Message

#### An Overview of the Availability Message

The purpose of the Availability message is to provide a means to ask a supplier about the availability of the specified product. The amount of the product immediately available (on-hand) is anticipated to be returned. Optionally, the supplier may also provide the anticipated availability of the product in future manufacturing cycles. The Availability message returns to the requestor the answer to the question, "Does the product exist?"

Prior to implementing an Availability message it is assumed that the parties involved have already opened a trading partner relationship and a collaborative agreement has been reached. Such an agreement might include frequency of messages, content details, etc.

A trading partner sends an Availability message to another trading partner on an event basis agreed between them. The event that triggers an Availability message might be the receipt of an InfoRequest message, a time interval, or perhaps a manufacturing stage. An RFQ or a PurchaseOrder may optionally follow in the business process.

#### Availability Message Contrasted with Other Messages

The Availability message differs from the RFQ/RFQResponse message pair in that:

- The RFQ pair may actually reserve the product for a period of time.
- The RFQ communicates pricing information, shipping conditions, terms of payment, and other financial information.
- A PurchaseOrder frequently follows an RFQ with the PurchaseOrder referencing the RFQResponse number
- An RFQ also has a 'life'. That is, it may continue to exist for a specified length of time before the receiver of the RFQ either receives a Purchase Order that references the RFQ or until the expiry period comes to an end.

The Availability message differs from the Planning message in that:

- the Availability message will not specify purchase order related information
- the Availability message does not specify shipping details related to the product for the requesting party or buyer party
- the available product information itself may or may not be as firm as the same information in the Planning message would be.

# Availability Documentation - papiNet Standard - Version 2.10

---

## The Scope of the Availability Message

The Availability message includes:

- A specific date upon which the Availability is generated
- Sender, Receiver, and Requesting Parties
- Product
- TimePeriod
- Quantity

The Availability message may include:

- Buyer, Ship To, and End User parties.
- InformationalQuantity(s)
- LocationParty and MachineID

## Availability Message Types

There are no message types for the Availability message. To get new and/or corrected information a new message must be sent.

## Business Rules for the Availability Message

### General Business Rules

The following table list the business rules that apply to Availability message

Reference	Rule
AV001	At least one AvailabilityDetail must be present in the message. If neither on-hand nor planned inventory is available for the Product , then a Quantity of zero must be returned.

## Processing the Availability message

The Availability message is the proper response to an InfoRequest message containing the InfoRequestType of "AvailabilityStatus". Alternatively, it may be published on a previously agreed upon schedule based on time intervals or process manufacturing stages. Under the latter scenario, the supplier would publish the message at the agreed upon schedule without requiring an InfoRequest message as the trigger.

It is unlikely that the Availability message would be received and processed by the recipient's procurement or order generation system. The likeliest scenario is that the Availability message would be received and printed out for distribution to interested parties or alternatively published 'on line' and viewed via a URL or some form of website access designed to display the status.

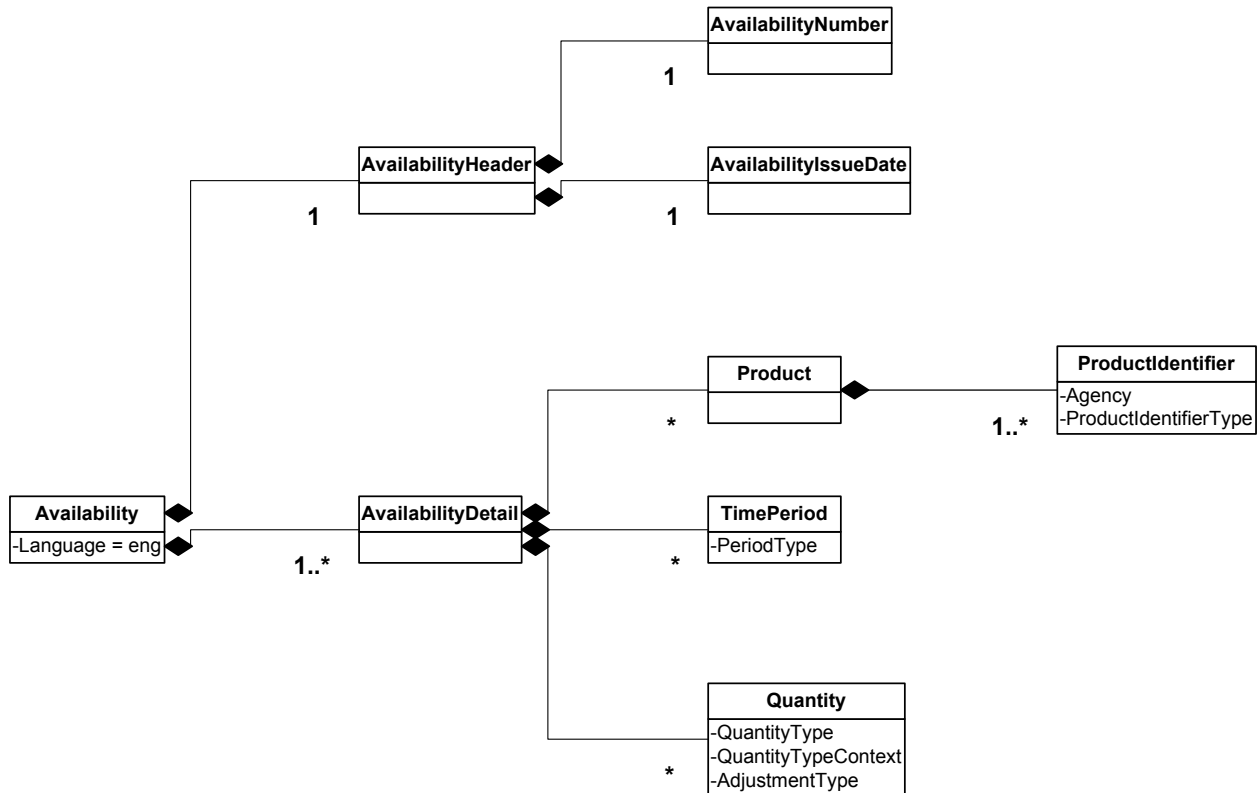
The Availability message is an information-only message. The Availability message does not alter the legal agreement between the parties regarding order submission and fulfilment. If the Availability message indicates a serious

# Availability Documentation - papiNet Standard - Version 2.10

---

problem or issue with the ability of the supplier to fulfil the order, then the parties involved must resolve the issue.

## High-level UML Diagram of the Availability Message



## Availability Documentation - papiNet Standard - Version 2.10

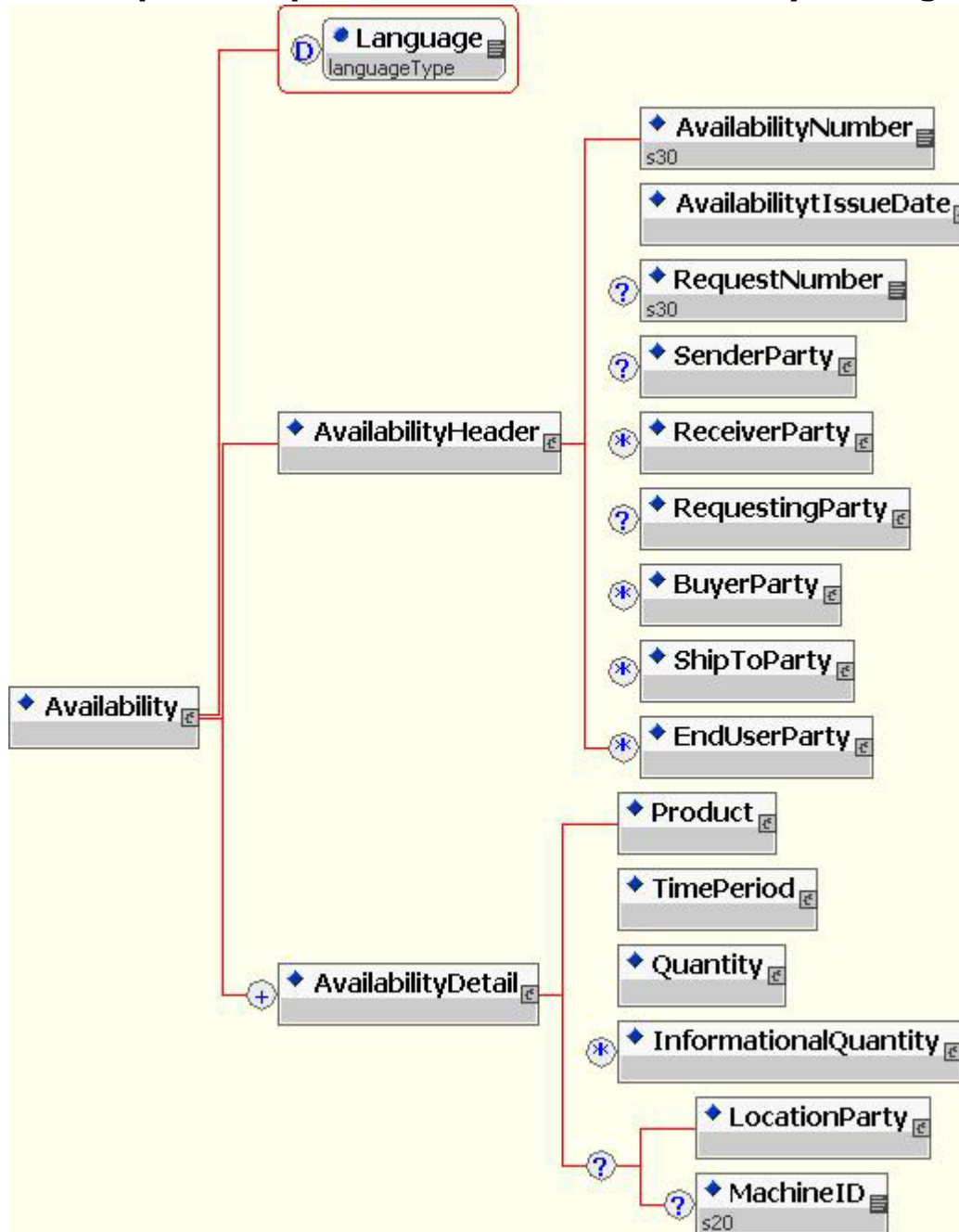
---

### Overview of Availability Structure

Availability	Type	Required	Occurrence
	Root	Required	Single
@Language	Attribute	Optional	Single
AvailabilityHeader	Element	Required	Single
AvailabilityNumber	Element	Required	Single
AvailabilityIssueDate	Element	Required	Single
RequestNumber	Element	Optional	Single
SenderParty	Element	Optional	Single
ReceiverParty	Element	Optional	Multiple
RequestingParty	Element	Optional	Single
BuyerParty	Element	Optional	Multiple
ShipToParty	Element	Optional	Multiple
EndUserParty	Element	Optional	Multiple
AvailabilityDetail	Element	Required	Multiple
Product	Element	Required	Single
TimePeriod	Element	Required	Single
Quantity	Element	Required	Single
InformationalQuantity	Element	Optional	Multiple
LocationParty	Element	Optional	Single
MachineID	Element	Optional	Single

# Availability Documentation - papiNet Standard - Version 2.10

## Graphical Representation of the Availability Message Structure



# Availability Documentation - papiNet Standard - Version 2.10

## Availability Schema – Structure and Processing Logic

This section provides a detailed graphical view of the Availability message schema for the Availability root element, AvailabilityHeader, and AvailabilityDetail. A review of the data types can be found in the data dictionary (available at [www.papiNet.org](http://www.papiNet.org)). This section also contains a review of the processing logic that is special to the Availability message.

The graphical display of the Schema contains occurrence indicators and data type information. These indicators appear to the left of the boxes in the schema graphic and they have the following meanings:

- (Blank) Required, single instance
- (+) Required, multiple instances
- (?) Optional, single instance
- (\*) Optional, multiple instances

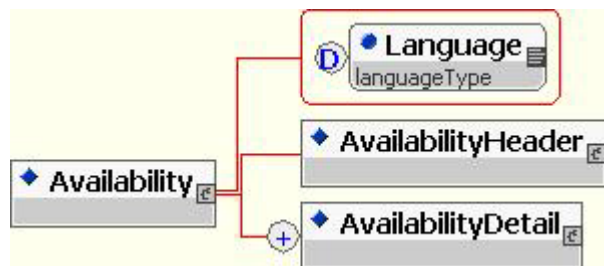
### Availability Root Element

The Availability root element has one optional attribute:

- [Language](#)

Availability contains two elements:

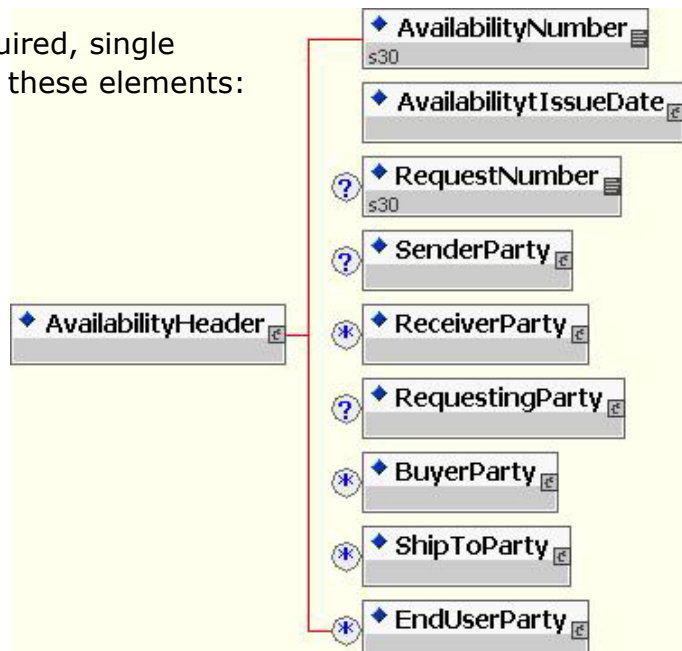
- [AvailabilityHeader](#)
- [AvailabilityDetail](#)



### AvailabilityHeader

The AvailabilityHeader is a required, single instance element that contains these elements:

- [AvailabilityNumber](#)
- [AvailabilityIssueDate](#)
- [RequestNumber](#)
- [SenderParty](#)
- [ReceiverParty](#)
- [RequestingParty](#)
- [BuyerParty](#)
- [ShipToParty](#)
- [EndUserParty](#)



# Availability Documentation - papiNet Standard - Version 2.10

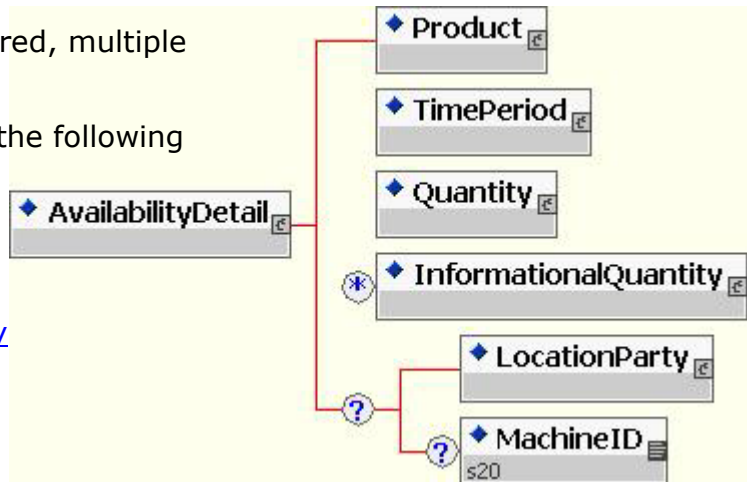
---

## AvailabilityDetail

AvailabilityDetail is a required, multiple instance element.

AvailabilityDetail contains the following elements:

- [Product](#)
- [TimePeriod](#)
- [Quantity](#)
- [InformationalQuantity](#)
- [LocationParty](#)
- [MachineID](#)



## Common Definition References - Elements

### AvailabilityIssueDate

The date and time that the Availability message was created.

AvailabilityIssueDate contains:

- Date
- Time



### AvailabilityNumber

An element that contains the unique identifying number of the Availability message.



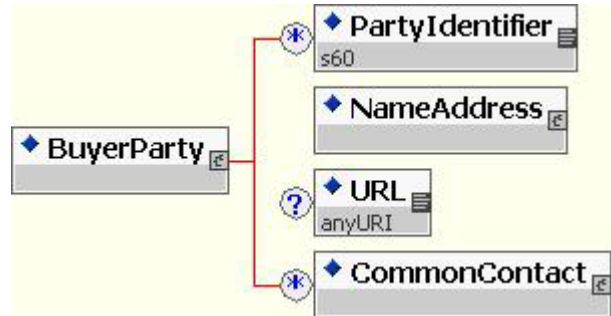
# Availability Documentation - papiNet Standard - Version 2.10

## BuyerParty

The organisation or legal entity authorised to issue the purchase order. See [Party](#) for structure.

BuyerParty contains the following elements:

- [PartyIdentifier](#)
- [NameAddress](#)
- [URL](#)
- [CommonContact](#)

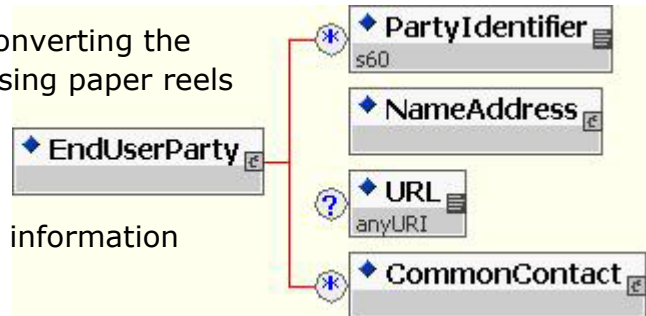


Refer to [Party](#) for additional information

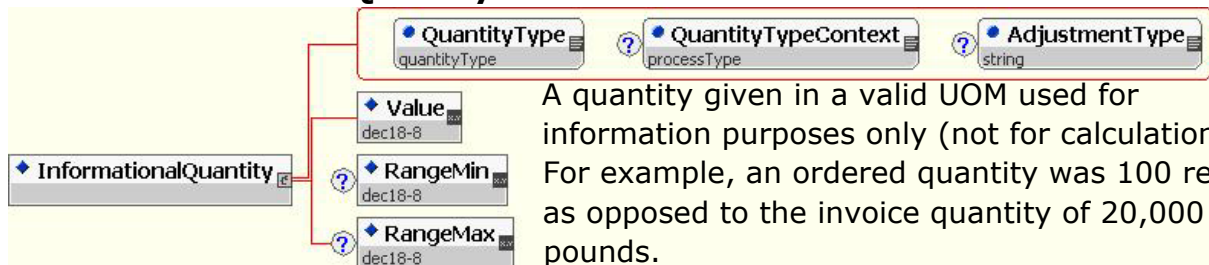
## EndUserParty

The party using, consuming, or converting the product. For example, a printer using paper reels for a print job for a publisher.

The final ShipTo destination for a product is normally to the end user's facilities. Refer to [Party](#) for information about the structure.



## InformationalQuantity



A quantity given in a valid UOM used for information purposes only (not for calculation). For example, an ordered quantity was 100 reels as opposed to the invoice quantity of 20,000 pounds.

InformationalQuantity contains the following attributes:

- [QuantityType](#)
- [QuantityTypeContext](#)
- [AdjustmentType](#)

And the following elements:

- [Value](#)
- [RangeMin](#)
- [RangeMax](#)

# Availability Documentation - papiNet Standard - Version 2.10

---

## LocationParty

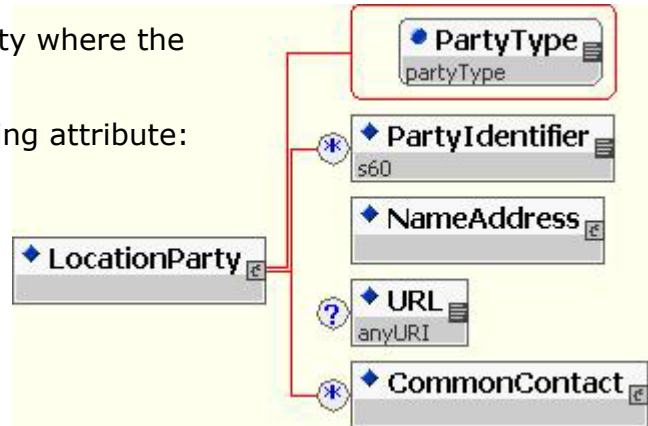
The organization or business entity where the product event take place.

LocationParty contains the following attribute:

- [PartyType](#)

It also contains the following elements:

- [PartyIdentifier](#)
- [NameAddress](#)
- [URL](#)
- [CommonContact](#)



LocationParty is based on the [Party](#) element group.

## MachineID

An identifier assigned to the particular machine being referenced. For example, a machine could be a paper machine, an off-line coater, a sheeter, or a printing press. The particular machine being referenced will be determined by the business event being supported.



# Availability Documentation - papiNet Standard - Version 2.10

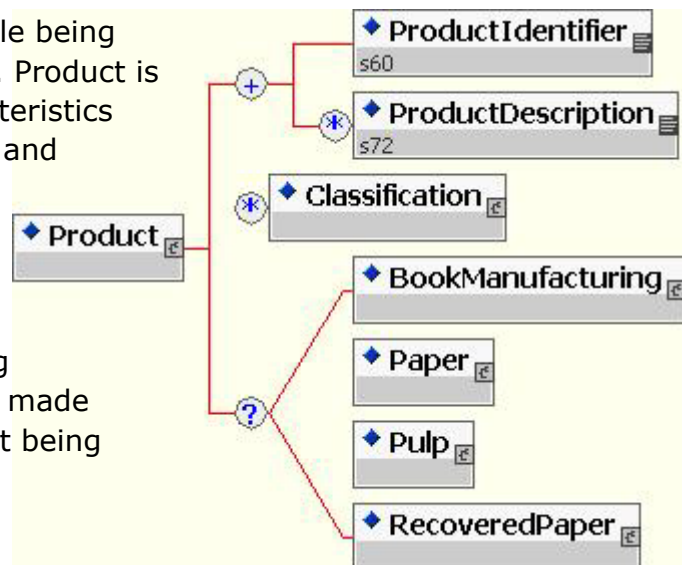
## Product

A group item defining the article being ordered and its characteristics. Product is used to specify product characteristics organized by ProductIdentifier and Classification.

- [ProductIdentifier](#)
- [ProductDescription](#)
- [Classification](#)

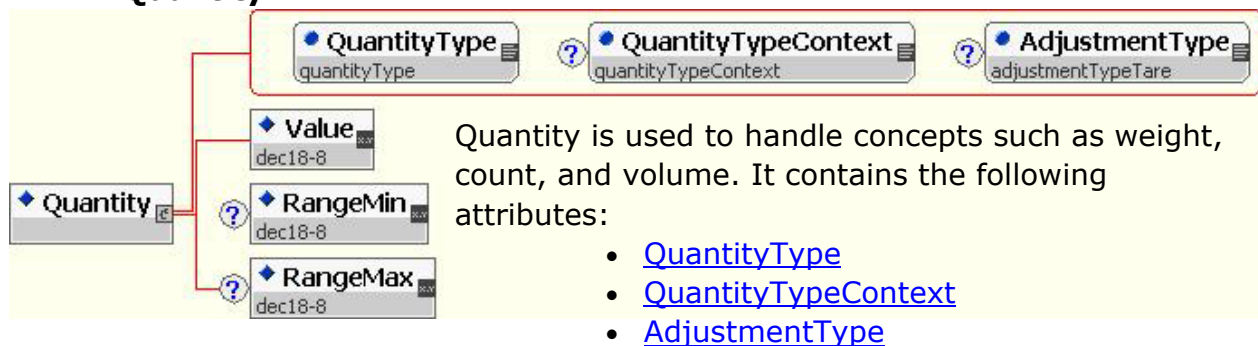
A choice of one of the following "market-segment" elements is made based upon the type of product being ordered.

- [BookManufacturing](#)
- [Paper](#)
- [Pulp](#)
- [RecoveredPaper](#)



Pulp and Paper are the only products whose characteristics and conversion features have been implemented in papiNet. Recovered Paper and Book Manufacturing are in process and additional product types are under consideration based upon user input.

## Quantity



Quantity is used to handle concepts such as weight, count, and volume. It contains the following attributes:

- [QuantityType](#)
- [QuantityTypeContext](#)
- [AdjustmentType](#)

Quantity uses the [Measurement](#) group and has the following elements:

- [Value](#)
- [RangeMin](#)
- [RangeMax](#)

# Availability Documentation - papiNet Standard - Version 2.10

---

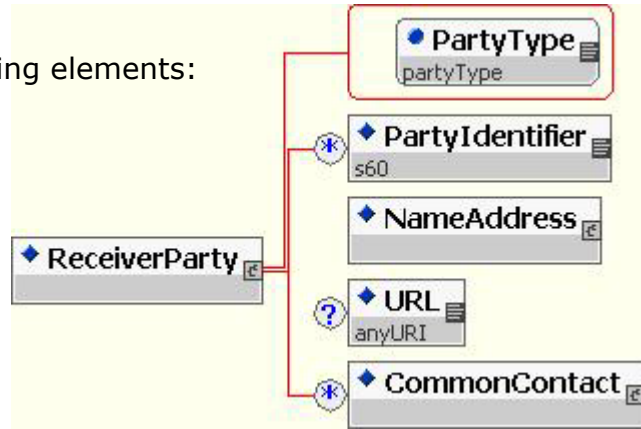
## ReceiverParty

The party for whom the information (message) is intended, typed by the attribute [PartyType](#).

ReceiverParty contains the following elements:

- [PartyIdentifier](#)
- [NameAddress](#)
- [URL](#)
- [CommonContact](#)

Refer to [Party](#) (in the Glossary) for additional information.



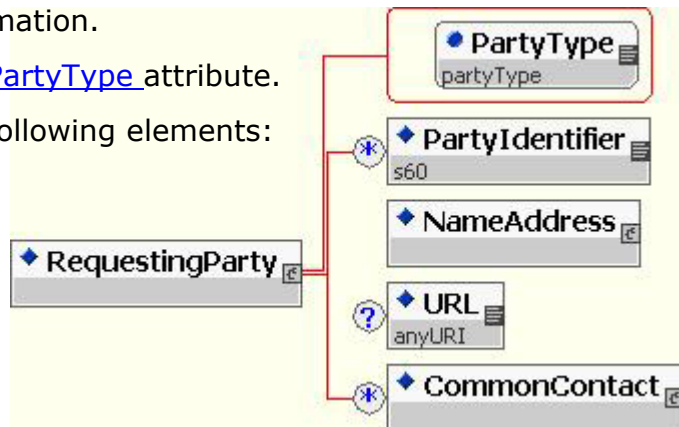
## RequestingParty

The party requesting the information.

RequestingParty contains the [PartyType](#) attribute.

RequestingParty contains the following elements:

- [PartyIdentifier](#)
- [NameAddress](#)
- [URL](#)
- [CommonContact](#)



## RequestNumber

A unique tracking number specifically identifying this InfoRequest message to the originator.



# Availability Documentation - papiNet Standard - Version 2.10

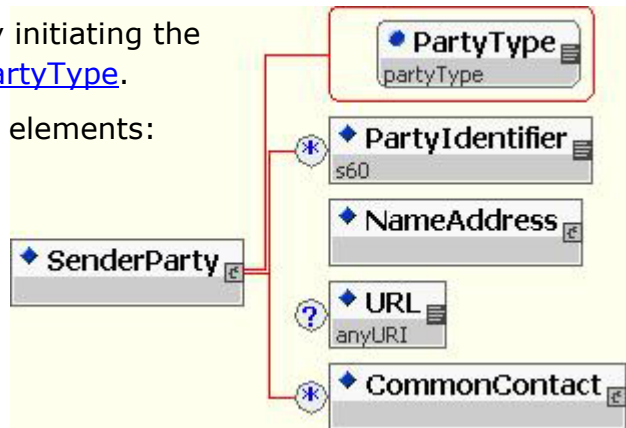
## SenderParty

The organisation or business entity initiating the message, typed by the attribute [PartyType](#).

SenderParty contains the following elements:

- [PartyIdentifier](#)
- [NameAddress](#)
- [URL](#)
- [CommonContact](#)

Refer to [Party](#) (in the Glossary) for additional information.

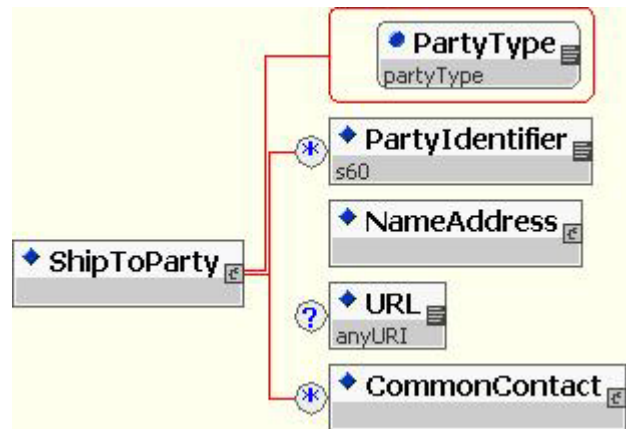


## ShipToParty

The name and/or address to which the goods should be delivered with the party type indicated by the [PartyType](#) attribute.

ShipToParty contains the following elements:

- [PartyIdentifier](#)
- [NameAddress](#)
- [URL](#)
- [CommonContact](#)

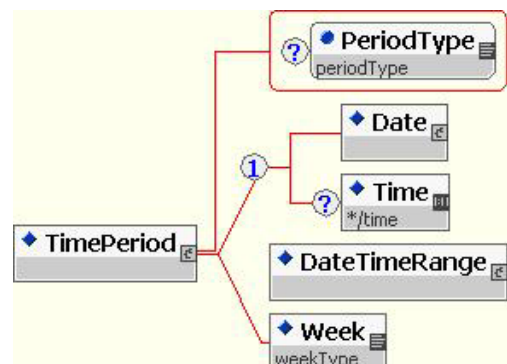


## TimePeriod

The TimePeriod element is used to communicate a duration period of time as indicated in [PeriodType](#).

TimePeriod contains the following elements:

- [Date](#)
- [Time](#)
- [DateTimeRange](#)
- [Week](#)



# Availability Documentation - papiNet Standard - Version 2.10

---

## Common Definition References - Attributes

---

### Language

XML has embraced 2 and 3 digit language codes through the application of an addendum to the standard. The various references are provided below.

papiNet has set the default value for Language to "eng". RFC3066 would indicate that it should be set to "en" however, we feel that it is more appropriate to use the content-rich 3-digit codes whenever possible.

### Used in:

- Availability
- BusinessAcknowledgement
- CallOff
- Complaint
- ComplaintResponse
- CreditDebitNote
- DeliveryMessage
- DeliveryMessageBook
- EndUses
- GoodsReceipt
- InfoRequest
- InventoryChange
- InventoryStatus
- Invoice
- OrderConfirmation
- OrderStatus
- PackagingDescription
- ProductDescription
- ProductQuality
- PurchaseOrder
- RFQ
- RFQResponse
- ShippingInstructions
- SenderProduct-AttributesDescription
- TermsAndDisclaimers
- Usage

### Choices:

- <http://www.loc.gov/standards/iso639-2/>  
This is the official site of the ISO 639-2 Registration Authority.
- <http://www.w3.org/International/O-HTML-tags.html>  
Provides an explanation of the errata updating XML.
- <http://www.ietf.org/rfc/rfc3066.txt>  
is the key document that is referenced in the above errata.

## Availability Documentation - papiNet Standard - Version 2.10

---

### Availability Business Scenarios

<a href="#"><u>Scenario A</u></a>	Buyer/Publisher has a potential job to source a specific type of paper for. The InfoRequestType is "Availability".
<a href="#"><u>Scenario B</u></a>	Partners have previously agreed upon the Supplier publishing a periodic Availability update on a specific schedule. There is no InfoRequest.
<a href="#"><u>Scenario C</u></a>	A small enterprise wants to check the availability of a product via a web browser or at an online marketplace. The InfoRequestType is "Availability".

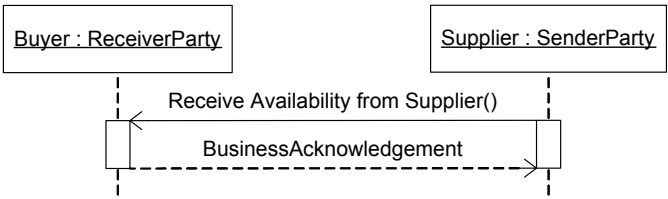
# Availability Documentation - papiNet Standard - Version 2.10

## Scenario A

<b>Message</b>	Availability
<b>Business Scenario</b>	<p>Buyer has a potential job to source a specific type of paper for. The InfoRequestType is "Availability". (Note: a Publisher may be substituted for the Buyer in this scenario.)</p> <div style="text-align: center;"> <pre> sequenceDiagram     participant Buyer as Buyer : RequestingParty     participant Supplier as Supplier : ReceiverParty     Buyer-&gt;&gt;Supplier: Receive InfoRequest from Buyer()     Supplier--&gt;&gt;Buyer: BusinessAcknowledgement     Buyer-&gt;&gt;Supplier: Receive Availability from Supplier     Supplier--&gt;&gt;Buyer: BusinessAcknowledgement             </pre> </div>
<b>Outcome</b>	An InfoRequest is generated by the Buyer.
<b>Initiator</b>	Buyer
<b>Receiver</b>	Supplier
<b>Trigger</b>	None
<b>Step 1</b>	<p>Buyer records an original request into their system then sends it to the Supplier.</p> <ul style="list-style-type: none"> <li>InfoRequestType = "Availability"</li> <li>RequestNumber = unique number</li> <li>SenderParty = buyer</li> <li>RequestingParty = buyer</li> <li>ReceiverParty = supplier</li> <li>Product = specified product id</li> </ul>
<b>Step 2</b>	<p>Seller receives an InfoRequest and responds with Availability. The seller is expected to return the quantity that is available on-hand and optionally return any planned inventory runs.</p> <ul style="list-style-type: none"> <li>AvailabilityNumber = unique number</li> <li>AvailabilityIssueDate = response date</li> <li>SenderParty = supplier</li> <li>RequestingParty = buyer</li> <li>ReceiverParty = publisher</li> </ul> <p>For on hand inventory:</p> <ul style="list-style-type: none"> <li>TimePeriod = today</li> <li>Product = specified product id</li> <li>Quantity = quantity of on hand inventory</li> <li>QuantityTypeContext="OnHand"</li> </ul> <p>Optionally for each manufacturing run:</p> <ul style="list-style-type: none"> <li>TimePeriod = date of planned run</li> <li>Quantity = quantity of planned inventory</li> <li>QuantityTypeContext="Planned"</li> </ul>

## Availability Documentation - papiNet Standard - Version 2.10

### Scenario B

<b>Message</b>	Availability
<b>Type</b>	N/A
<b>Business Scenario</b>	<p>Partners have previously agreed upon the Supplier publishing a periodic Availability update on a specific schedule.</p>  <pre> sequenceDiagram     participant Buyer as Buyer : ReceiverParty     participant Supplier as Supplier : SenderParty     Supplier--&gt;&gt;Buyer: BusinessAcknowledgement     Note over Supplier: Receive Availability from Supplier()     </pre>
<b>Outcome</b>	An Availability message is generated by the Supplier's system and received into the Buyer's system.
<b>Initiator</b>	NA
<b>Receiver</b>	Buyer
<b>Trigger</b>	Prearranged schedule
<b>Step 1</b>	<p>Supplier initiates an Availability message for each agreed upon product at predefined intervals. At a minimum, all required elements and corresponding attributes are recorded:</p> <ul style="list-style-type: none"> <li>• AvailabilityNumber = unique number</li> <li>• AvailabilityIssueDate = response date</li> <li>• SenderParty = supplier</li> <li>• RequestingParty = buyer</li> <li>• ReceiverParty = buyer</li> </ul> <p>For on hand inventory:</p> <ul style="list-style-type: none"> <li>• TimePeriod = today</li> <li>• Product = specified product id</li> <li>• Quantity = quantity of on hand inventory</li> <li>• QuantityTypeContext="OnHand"</li> </ul> <p>Optionally, for each manufacturing run:</p> <ul style="list-style-type: none"> <li>• TimePeriod = date of planned run</li> <li>• Quantity = quantity of planned inventory</li> <li>• QuantityTypeContext="Planned"</li> </ul>

## Availability Documentation - papiNet Standard - Version 2.10

### Scenario C

<b>Message</b>	Availability
<b>Business Scenario</b>	<p>A small enterprise wants to check the availability of a product via a web browser or at an online marketplace. The InfoRequestType is "Availability".</p> <pre> sequenceDiagram     participant Buyer as Buyer : RequestingParty     participant Marketplace as Marketplace : SenderParty     participant Supplier as Supplier : ReceiverParty     Buyer-&gt;&gt;Marketplace: Buyer Interaction with Marketplace     Marketplace-&gt;&gt;Supplier: Receive InfoRequest from Marketplace()     Supplier--&gt;&gt;Marketplace: BusinessAcknowledgement     Supplier--&gt;&gt;Marketplace: Receive Availability from Supplier()     Marketplace--&gt;&gt;Buyer: BusinessAcknowledgement     </pre>
<b>Scenario Outcome</b>	An Availability message is generated by the Supplier's system and received into the Buyer's system.
<b>Initiator</b>	Buyer/marketplace
<b>Receiver</b>	Supplier
<b>Trigger</b>	InfoRequest
<b>Step 1</b>	<p>Buyer logs on to the marketplace's website and views open orders online and indicate orders for which status is requested. Marketplace creates InfoRequest and sends it to the Supplier.</p> <ul style="list-style-type: none"> <li>• InfoRequestType = "Availability"</li> <li>• RequestNumber = unique number</li> <li>• SenderParty = marketplace</li> <li>• RequestingParty = buyer</li> <li>• ReceiverParty = supplier</li> <li>• Product = specified product id</li> </ul>
<b>Step 2</b>	<p>Supplier receives InfoRequest and responds with Availability.</p> <ul style="list-style-type: none"> <li>• AvailabilityNumber = unique number</li> <li>• AvailabilityIssueDate = response date</li> <li>• SenderParty = supplier</li> <li>• RequestingParty = buyer</li> <li>• ReceiverParty = marketplace</li> </ul> <p>For on hand inventory:</p> <ul style="list-style-type: none"> <li>• TimePeriod = today</li> <li>• Product = specified product id</li> <li>• Quantity = quantity of on hand inventory</li> <li>• QuantityTypeContext="OnHand"</li> </ul> <p>Optionally, for each manufacturing run:</p> <ul style="list-style-type: none"> <li>• TimePeriod = date of planned run</li> <li>• Quantity = quantity of planned inventory</li> <li>• QuantityTypeContext="Planned"</li> </ul>