

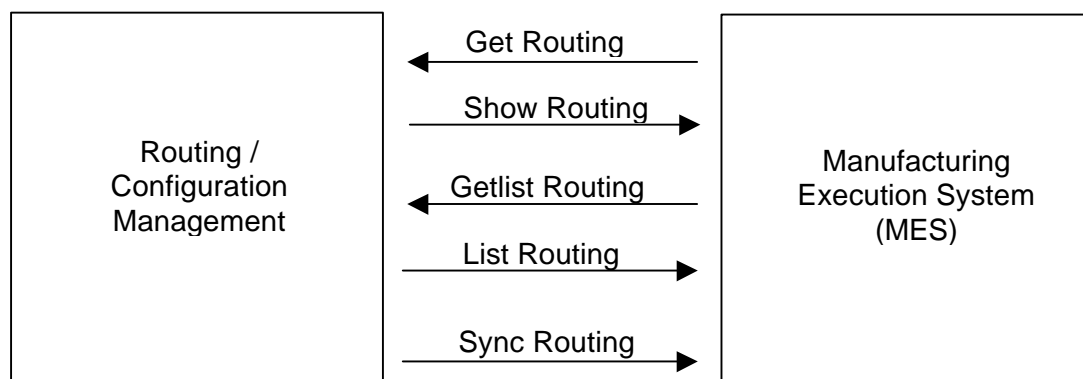
94. GET ROUTING - REVISION 002

94.0 Overview

This chapter describes the Business Service Request named GET ROUTING, the Verb being GET and the Noun being ROUTING. ROUTING is the process an order must take in order to produce the finished good. The environment for this BSR can be within the enterprise or outside the enterprise.

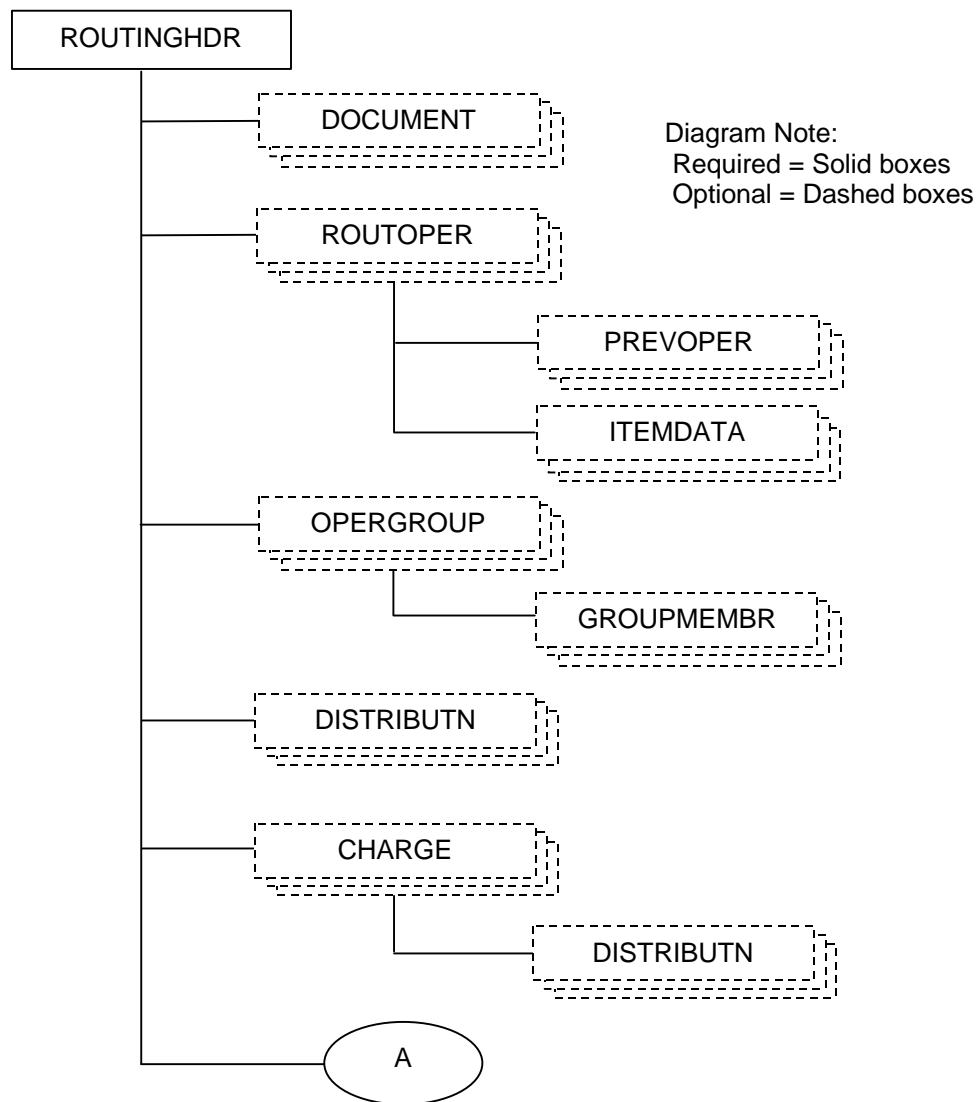
The purpose of the GET ROUTING Business Service Request is to communicate to a business application module or system a request for an existing ROUTING structure to be returned in a SHOW ROUTING BSR.

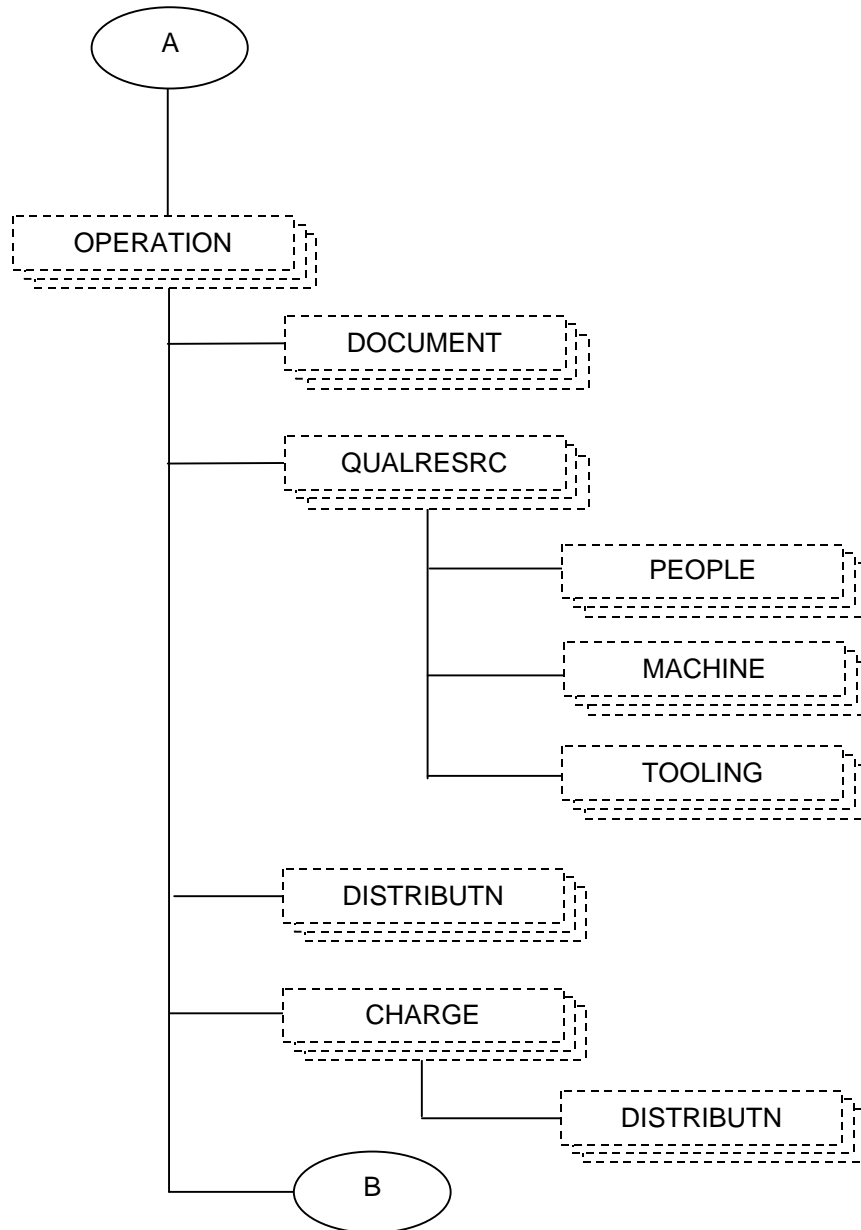
This BSR may be used individually, or as part of a larger interface scenario. The picture below visualizes one of the possible uses of this BSR. This scenario shows a Get Routing to request a routing to be sent via a Show Routing between a Routing / Configuration Management system and a Manufacturing Execution System. This same scenario could exist between a Routing / Configuration Management system and a Finite Scheduling system.

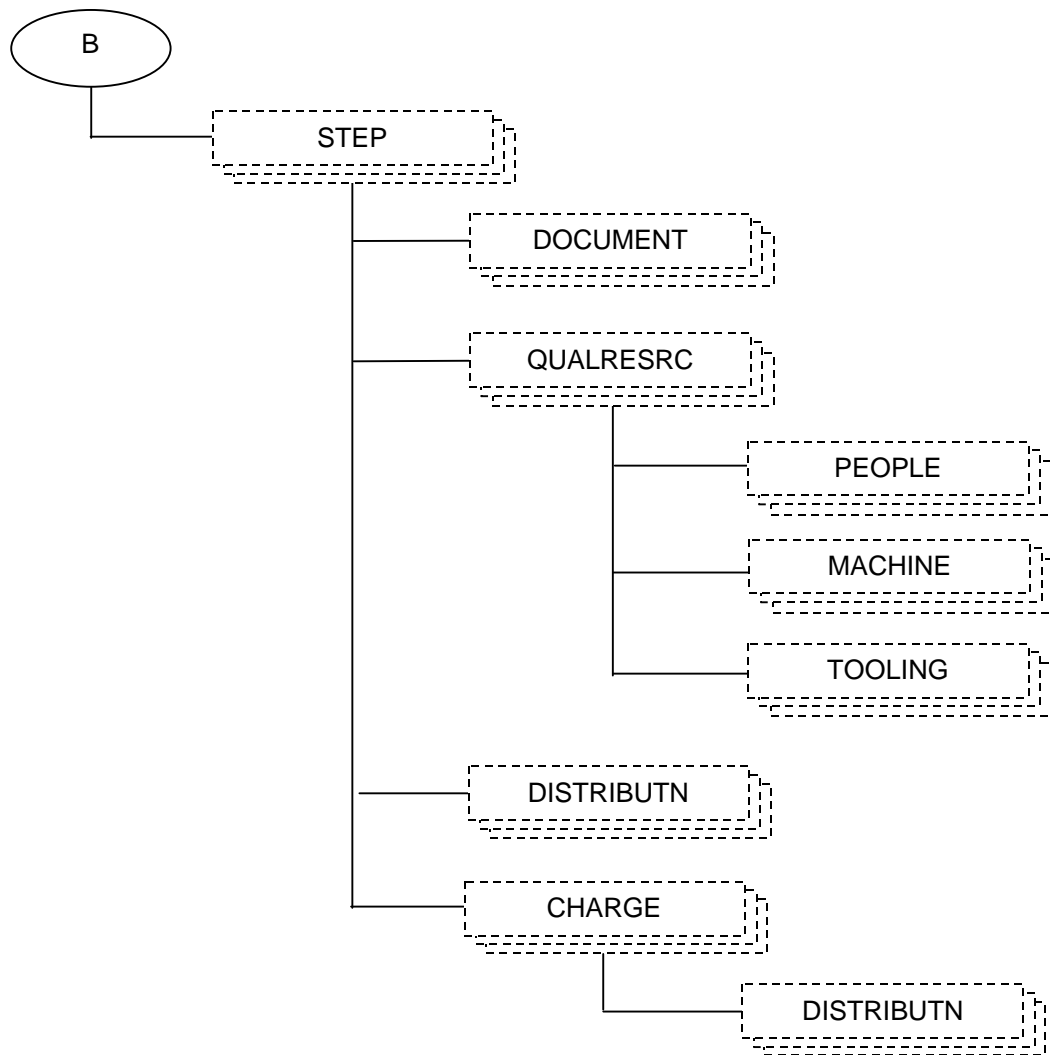


94.1 GET ROUTING

The GET ROUTING Business Object Document will be processed asynchronously and consists of the following components:







The Business Service Request GET ROUTING uses the following Data Types:

1. **ROUTINGHDR** - Information that generally describes the routing. At least occurrence of this Data Type is required.
2. **DOCUMENT** - Information that describes the document. This Data Type is optional.
3. **ROUTOPER** – Information specifying the operations and there order for the specified routing. This Data Type is optional.
4. **PREVOPER** – Information specifying the previous operation. This provides the immediate preceding operation of the current operation defined in ROUTOPER. The ROUTOPER of the operations of the potential first operations will not have an associated PREVOPER, however all others must contain one. This Data Type is optional.
5. **ITEMDATA** - Information that describes the attributes of a specific item. This Data Type is optional.
6. **OPERGROU** – Information specifying a grouping of operations and their relationships. This Data Type is optional.
7. **GROUPMEMBR** – Information specifying the occurrence of the operations within an OPERGROUP. This Data Type is optional.
8. **DISTRIBUTN** - The accounting distribution information associated with a Business Object Document. This may occur for a header, line, or a charge. This Data Type is optional.
9. **CHARGE** - Any miscellaneous charges that are not represented as line items such as freight or handling charges. This Data Type is optional.
10. **OPERATION** - Information that describes the operation to be performed. This Data type is optional.
11. **QUALRESRC** - Information that describes the resources to perform the specified resource usage for the operation and/or the step that is defined by the preceding DDA. This Data Type is optional.
12. **PEOPLE** – Information specific to the personal required to perform the operation. This Data Type is optional.
13. **MACHINE** – Information specific to the machine(s) required to perform the operation. This Data Type is optional.
14. **TOOLING** – Information specific to the tooling required to perform the operation. This Data Type is optional.
15. **STEP** – Information specific to the steps specified to perform the operation. This Data Type is optional.

Processing Notes:

When included in a hierarchy, the Data Types are position dependent for their meaning and applicability to the Routing.

Processing Notes:

For any Data Type except the ROUTINGHDR, if the Data Type is included in this GET, it will be empty of Field Identifiers. This will signify to the responding application that all of the data that corresponds to that Data Type is to be included in the response.

This is to be coded in the meta data by including the Data Type identifier, zero occurrences, and no Field Identifiers.

94.2 ROUTINGHDR

The Data Type, “ROUTINGHDR”, is the first Data Type the Business Service Request “GET ROUTING” uses. For each item represented in the Business Data Area, there must be one occurrence of the ROUTINGHDR Data Type at the beginning of each Business Data Area.

Listed are all the Field Identifiers and Segments that are valid for use within the ROUTINGHDR Data Type. The first column of the table indicates the name. Segment names also include the Qualifier in parenthesis.

The second column indicates in which OAGIS Appendix the data is described, basically if the data is a Field Identifier or a Segment. Details of the Field Identifiers can be located in Appendix C, and details of the Segments can be located in Appendix D.

The first table represents required data.

REQUIRED ROUTINGHDR DATA	
NAME	APPENDIX
ROUTINGID	C
ROUTINGREV	C
ROUTETYPE	C

The second table describes data that is optional.

OPTIONAL ROUTINGHDR DATA	
NAME	APPENDIX
BOMID	C
BOMREVISION	C
DATETIME(EFFECTIVE)	D
DESCRIPTN	C
ITEM	C
ITEMRV	C
ITEMVAR	C
ROUTEVAR	C
SITELEVEL1 – SITELEVEL9	C
USERAREA	C

94.3 DOCUMENT

The Data Type “**DOCUMENT**” represents the information about a specific class of DOCUMENT. DOCUMENT is an optional Data Definition Area for the GET ROUTING Business Service Request.

Listed are all the Field Identifiers and Segments that are valid for use within the DOCUMENT Data Type. These fields are present as an example of what may be returned in the SHOW ROUTING response. No Field Identifiers can be used to request information.

This is to be coded in the meta data by including the Data Type identifier, zero occurrences, and no Field Identifiers.

There are no required fields for the DOCUMENT Data Type.

OPTIONAL DOCUMENT DATA	
NAME	APPENDIX
DOCTYPE	C
DOCUMENTID	C
DOCUMENTRV	C
USERAREA	C

Processing Notes:

DOCTYPE is a classification of the document or business transaction. It is also known as document code.

Possible values: CERTIFICATION
 BUY OFF REQ.

94.4 ROUTOPER

The Data Type “**ROUTOPER**” describes the series of operations that create the routing. This Data Type is optional.

Listed are all the Field Identifiers and Segments that are valid for use within the ROUTOPER Data Type. These fields are present as an example of what may be returned in the SHOW ROUTING response. No Field Identifiers can be used to request information.

This is to be coded in the meta data by including the Data Type identifier, zero occurrences, and no Field Identifiers.

There are no required fields for the ROUTOPER Data Type.

OPTIONAL ROUTOPER DATA	
NAME	APPENDIX
CONTAINRID	C
CONTNRTYPE	C
OPRGRPNAME	C
INQUEUEID	C
NOTES	C
OPERATNID	C
OPERATNSEQ	C
QUANTITY(MULTIPLIER)	D
TERMFLAG	C
USERAREA	C

94.5 PREVOPER

The Data Type “**PREVOPER**” describes the previous operation necessary for the routing. PREVOPER is an optional Data Definition Area for the GET ROUTING Business Service Request.

Listed are all the Field Identifiers and Segments that are valid for use within the PREVOPER Data Type. These fields are present as an example of what may be returned in the SHOW ROUTING response. No Field Identifiers can be used to request information.

This is to be coded in the meta data by including the Data Type identifier, zero occurrences, and no Field Identifiers.

OPTIONAL PREVOPER DATA	
NAME	APPENDIX
CONDSTATUS	C
OPRGRPNAME	C
OPERATNID	C
OPERATNSEQ	C
OUTQUEUEID	C
QUANTITY(PLNDPRCT)	D
QUANTITY(QUEUETIME)	D
USERAREA	C

94.6 ITEMDATA

The Data Type “**ITEMDATA**” describes a particular ITEM within a Routing structure. This Data Type is optional.

Listed are all the Field Identifiers and Segments that are valid for use within the ITEMDATA Data Type. These fields are present as an example of what may be returned in the SHOW ROUTING response. No Field Identifiers can be used to request information.

This is to be coded in the meta data by including the Data Type identifier, zero occurrences, and no Field Identifiers.

OPTIONAL ITEM DATA DATA	
NAME	APPENDIX
CONSUMPTN	C
DATETIME(EFFECTIVE)	D
DATETIME(EXECFINISH)	D
DATETIME(EXECSTART)	D
DESCRIPTN	C
FIXDQTYIND	C
ITEM	C
ITEMRV	C
ITEMTYPE	C
LOTLEVEL1 - LOTLEVEL2	C
NOTES	C
OPERATNID	C
OPERATNSEQ	C
PROPERTY1 – PROPERTY99	C
QUANTITY(ITEM)	D
QUANTITY(LDTMOFFSET)	D
QUANTITY(LOTSIZEMAX)	D
QUANTITY(LOTSIZEMIN)	D
QUANTITY(LOTSIZEMLT)	D
QUANTITY(PERCENTREQ)	D
REPRTGFLAG	C
SCRAP	C
SERIALNUM	C
TRAKNGFLAG	C
USERAREA	C

94.7 OPERGROUP

The Data Type “**OPERGROUP**” describes a grouping of operations for the routing as well as a sequencing of operations. It also defines the relationships between operations. **OPERGROUP** is an optional Data Definition Area for the GET ROUTING Business Service Request.

Listed are all the Field Identifiers and Segments that are valid for use within the **OPERGROUP** Data Type. These fields are present as an example of what may be returned in the SHOW ROUTING response. No Field Identifiers can be used to request information.

This is to be coded in the meta data by including the Data Type identifier, zero occurrences, and no Field Identifiers.

OPTIONAL OPERGROUP DATA	
NAME	APPENDIX
OPRGRPNAME	C
OPRGRPTYPE	C
USERAREA	C

Example:

In a manufacturing environment where a CNC Lathe or a Manual Lathe may be alternative operations used in the production of a finished good.

In the example above the OPRGRPTYPE would be ALTERNATE.

94.8 GROUPEMEMBR

The Data Type “**GROUPEMEMBR**” describes an operation instance that makes up the OPERGROUP. This Data Type is optional.

Listed are all the Field Identifiers and Segments that are valid for use within the GROUPEMEMBR Data Type. These fields are present as an example of what may be returned in the SHOW ROUTING response. No Field Identifiers can be used to request information.

This is to be coded in the meta data by including the Data Type identifier, zero occurrences, and no Field Identifiers.

OPTIONAL GROUPEMEMBR DATA	
NAME	APPENDIX
OPERATNID	C
OPERATNSEQ	C
USERAREA	C

94.9 DISTRIBUTN

The Data Type, “**DISTRIBUTN**”, is the Data Type the Business Service Request “**GET ROUTING**” uses to describe accounting distribution. The DISTRIBUTN Data Type is optional.

Listed are all the Field Identifiers and Segments that are valid for use within the DISTRIBUTN Data Type. These fields are present as an example of what may be returned in the SHOW ROUTING response. No Field Identifiers can be used to request information.

This is to be coded in the meta data by including the Data Type identifier, zero occurrences, and no Field Identifiers.

OPTIONAL DISTRIBUTN DATA	
NAME	APPENDIX
BUSNAREA	C
COSTCENTER	C
DEPARTMENT	C
DIVISION	C
ELEMENT1 - ELEMENT999	C
FUND	C
GEOGRAPHY	C
GLENTITYS	C
GLNOMACCT	C
OPERAMT(EXTENDED)(T)	D
PROFITCTR	C
PROJECT	C
UNIT	C
USERAREA	C
WAREHOUSE	C

94.10 CHARGE

The Data Type “**CHARGE**” represents the charges other than the goods or services represented in the Business Object Document. Examples of charges that can be carried in the CHARGE Data Type include freight, taxes, or handling charges. The CHARGE is an optional Data Definition Area.

CHARGE usage is further defined by its position in the GET ROUTING. For example, charges that follow the ROUTINGHDR Data Type or each OPERATION and/or STEP Data Type are inferred to be associated with that ROUTINGHDR or OPERATION Data Types respectively.

Listed are all the Field Identifiers and Segments that are valid for use within the CHARGE Data Type. These fields are present as an example of what may be returned in the SHOW ROUTING response. No Field Identifiers can be used to request information.

This is to be coded in the meta data by including the Data Type identifier, zero occurrences, and no Field Identifiers.

OPTIONAL CHARGE DATA	
NAME	APPENDIX
CHARGEID	C
CHGLINENUM	C
DESCRIPTN	C
OPERAMT(EXTENDED)(T)	D
USERAREA	C

94.11 OPERATION

The Data Type “**OPERATION**” describes a particular OPERATION necessary for the routing. OPERATION is an optional Data Definition Area for the GET ROUTING Business Service Request.

Listed are all the Field Identifiers and Segments that are valid for use within the CHARGE Data Type. These fields are present as an example of what may be returned in the SHOW ROUTING response. No Field Identifiers can be used to request information.

This is to be coded in the meta data by including the Data Type identifier, zero occurrences, and no Field Identifiers.

OPTIONAL OPERATION DATA	
NAME	APPENDIX
CONTRNRTYPE	C
COSTTYPE	C
DEPARTMENT	C

OPTIONAL OPERATION DATA	
NAME	APPENDIX
DESCRIPTN	C
MACHSUDEP	C
NOTES	C
OPERAMT(COST)(F)	D
OPERATNID	C
OPERATTYPE	C
PRCESSCODE	C
QUANTITY(BATCHSIZE)	D
QUANTITY(BATCHTIME)	D
QUANTITY(FIXEDTIME)	D
QUANTITY(MAXPARLTM)	D
QUANTITY(MOVETIME)	D
QUANTITY(PERSHBNOPR)	D
QUANTITY(PERSHWIOPR)	D
QUANTITY(QUEUE TIME)	D
QUANTITY(REJECTED)	D
QUANTITY(REJFIXED)	D
QUANTITY(REJPERCENT)	D
QUANTITY(RUNTIME)	D
QUANTITY(SETUPTIME)	D
QUANTITY(TEARDOWN)	D
QUANTITY(TRANSFRLOT)	D
QUANTITY(WAITTIME)	D
SAVESETUP	C
SITELEVEL1 – SITELEVEL9	C
TRAKNGFLAG	C
USERAREA	C

Processing Notes:

QUANTITY(REJFIXED) above indicates the constant number of items that are destroyed during this operation. This may result from setup, tear down, etc.

The QUANTITY(REJPERCENT) is intended to indicate the percentage of the item that is to be rejected.

The QUANTITY(BATCHTIME) and QUANTITY(RUNTIME) are mutually exclusive such that if one occurs the other should not.

94.12 QUALRESRC

The Data Type “**QUALRESRC**” describes a particular QUALRESRC within an operation. QUALRESRC is an optional Data Definition Area for the GET ROUTING Business Service Request.

Listed are all the Field Identifiers and Segments that are valid for use within the QUALRESRC Data Type. These fields are present as an example of what may be returned in the SHOW ROUTING response. No Field Identifiers can be used to request information.

This is to be coded in the meta data by including the Data Type identifier, zero occurrences, and no Field Identifiers.

OPTIONAL QUALRESRC DATA	
NAME	APPENDIX
QUANTITY(BATCHSIZE)	D
QUANTITY(BATCHTIME)	D
QUANTITY(CAPPERCENT)	D
QUANTITY(DURATION)	D
QUANTITY(EMPREQD)	D
QUANTITY(FIXEDTIME)	D
QUANTITY(MOVETIME)	D
QUANTITY(PERSHBNOPR)	D
QUANTITY(PERSHWIOPR)	D
QUANTITY(QUEUE TIME)	D
QUANTITY(REJPERCENT)	D
QUANTITY(RUNTIME)	D
QUANTITY(SETUPTIME)	D
QUANTITY(TEARDOWN)	D
QUANTITY(TOOLREQD)	D
QUANTITY(TRANSFRLOT)	D
QUANTITY(WAITTIME)	D
RESORCEUSE	C
USERAREA	C
WORKCENTER	C

94.13 PEOPLE

The Data Type “**PEOPLE**” describes the PEOPLE needed within an operation. PEOPLE is an optional Data Definition Area for the GET ROUTING Business Service Request.

Listed are all the Field Identifiers and Segments that are valid for use within the PEOPLE Data Type. These fields are present as an example of what may be returned in the SHOW ROUTING response. No Field Identifiers can be used to request information.

This is to be coded in the meta data by including the Data Type identifier, zero occurrences, and no Field Identifiers.

OPTIONAL PEOPLE DATA	
NAME	APPENDIX
DESCRIPTN	C
EMPCATEGORY	C
EMPLOYEEID	C
EMPQUALIF	C
QUANTITY(EMPLOYEES)	D
USERAREA	C

94.14 MACHINE

The Data Type “**MACHINE**” describes a particular MACHINE within an operation. MACHINE is an optional Data Definition Area for the GET ROUTING Business Service Request.

Listed are all the Field Identifiers and Segments that are valid for use within the MACHINE Data Type. These fields are present as an example of what may be returned in the SHOW ROUTING response. No Field Identifiers can be used to request information.

This is to be coded in the meta data by including the Data Type identifier, zero occurrences, and no Field Identifiers.

OPTIONAL MACHINE DATA	
NAME	APPENDIX
MACHCLASS	C
MACHINEID	C
USERAREA	C

94.15 TOOLING

The Data Type “**TOOLING**” describes a particular TOOLING within an operation, like fixtures, accessories for the operation. TOOLING is an optional Data Definition Area for the GET ROUTING Business Service Request.

Listed are all the Field Identifiers and Segments that are valid for use within the TOOLING Data Type. These fields are present as an example of what may be returned in the SHOW ROUTING response. No Field Identifiers can be used to request information.

This is to be coded in the meta data by including the Data Type identifier, zero occurrences, and no Field Identifiers.

OPTIONAL TOOLING DATA	
NAME	APPENDIX
QUANTITY(REQUIRED)	D
TOOLCLASS	C
TOOLID	C
USERAREA	C

94.16 STEP

The Data Type “**STEP**” describes the STEP within an OPERATION for a specific ROUTING. STEP is an optional Data Definition Area for the GET ROUTING Business Service Request.

Listed are all the Field Identifiers and Segments that are valid for use within the STEP Data Type. These fields are present as an example of what may be returned

in the SHOW ROUTING response. No Field Identifiers can be used to request information.

This is to be coded in the meta data by including the Data Type identifier, zero occurrences, and no Field Identifiers.

OPTIONAL STEP DATA	
NAME	APPENDIX
DEPARTMENT	C
SITELEVEL1 – SITELEVEL9	C
STEPID	C
STEPNUM	C
STEPTYPE	C
USERAREA	C