

# SAP Global Trade Services

## How to Use BOM Dependent License Determination



### Applies to:

SAP Global Trade Services 8.0

### Summary

In SAP Global Trade Services (GTS) 8.0, legal control functionality in Compliance Management has been enhanced to support license determination at the bill of material (BOM) level. If your company is subject to regulations that are conditionally based on the contents of the goods you import or export this new feature can be leveraged to analyze BOMs for license determination and assign the right license to the BOM component in the customs document.





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**Created on:** 01 November 2009

### Version 1

## Typographic Conventions

Type Style	Description
<i>Example Text</i>	Words or characters quoted from the screen. These include field names, screen titles, pushbuttons labels, menu names, menu paths, and menu options.  Cross-references to other documentation
<b>Example text</b>	Emphasized words or phrases in body text, graphic titles, and table titles
Example text	File and directory names and their paths, messages, names of variables and parameters, source text, and names of installation, upgrade and database tools.
<b>Example text</b>	User entry texts. These are words or characters that you enter in the system exactly as they appear in the documentation.
<Example text>	Variable user entry. Angle brackets indicate that you replace these words and characters with appropriate entries to make entries in the system.
EXAMPLE TEXT	Keys on the keyboard, for example, F2 or ENTER.

## Icons

Icon	Description
	Caution
	Note or Important
	Example
	Recommendation or Tip

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# 1. Business Scenario

Traditionally, import and export licensing requirements<sup>1</sup> have been determined at the product level based on the combination of product classification (e.g. export control classification number), country of departure and country of destination. Some industries are subject to more stringent regulations where the legal control requirements of the finished good are dependent on its contents.

Beginning in release 8.0 of SAP Global Trade Services (GTS), the legal control functionality in Compliance Management can be applied to BOM components of a product. Licenses are automatically determined, assigned, and depreciated for those BOM components that determined to be legal control relevant.

In this guide, we will review an US export scenario for a product which contains several BOM components. Among these BOM components, there is one legal control relevant component. To export the product, an export license is required for this BOM component. We will present the major steps of how to utilize the BOM dependent license determination process to assign license to this BOM component.

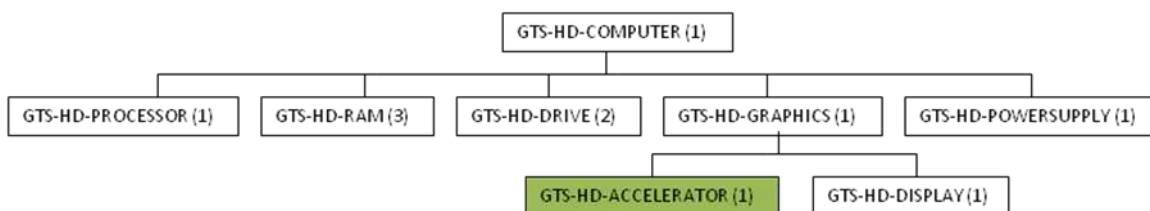
# 2. Background Information

To explain the process, we are going to use outbound delivery as the logistics document from SAP ERP to demonstrate the license assignment for the legal control relevant BOM component in customs document in GTS.

**Note**

The BOM license determination works for both sales order and outbound delivery document types. However, if your scenario is subject to the International Traffic in Arms Regulations (ITAR), you must use the outbound delivery document type.

The sample BOM structure used in this guide is shown below. The product GTS-HD-COMPUTER is assembled with several BOM components. Only the highlighted BOM component GTS-HD-ACCELERATOR is controlled by the US Export Administration Regulations (EAR) in this example. The product GTS-HD-COMPUTER and all the other components are not legal control relevant. The numbers in the brackets indicates the amount of the components required for the product GTS-HD-COMPUTER.



<sup>1</sup> Import and export license requirements are referred to as legal controls in GTS

## 3. Prerequisites

This guide is intended for GTS consultants or GTS IT personal with the knowledge of SAP GTS Compliance Management and its integration with SAP ERP.

Here are the prerequisites for the systems.

- SAP GTS 8.0 is implemented and configured to work with a SAP ERP as a feeder system.
- The GTS Compliance Management functionality is configured and working without issue.
- Material masters have been created in SAP ERP and transferred to GTS.
- All the necessary master data have been created in SAP ERP and GTS, such as BOMs in ERP, license masters in GTS.

## 4. Step-by-Step Procedure

Here is the list of major steps we are going to cover for the BOM dependent license determination process:

- Customization in GTS
- BOM definition in the feeder system
- Classify the product and its components
- BOM transfer
- BOM explosion
- License determination of BOM components


### 4.1 Customizing in GTS

1. Customize the functionality in GTS through IMG.

SPRO → SAP Global Trade Services → SAP Compliance Management → “Legal Control” Service → Control Settings for “Legal Control” Service → EAR → Detail → BOP Check

Select the option: “Determination for All BOP Items”.

With this option, GTS will analyze every BOP component during license determination process, and assigns and depreciates license as needed.

Document-Related BOPs	
BOP Check	Determination for All BOP Items 
	Ignore BOP Items
Incompleteness Check in Transit and	Determination for All BOP Items
Response to Document Block	End Determination at First Check

The option “Ignore BOP Items” turns off this new functionality. The product BOM is ignored. The license determination is at the document item level.

The option “End Determination at First Check” basically means as soon as a license is assigned to a BOM component, the subsequent BOM components are ignored. The assigned license is therefore valid for all the components contained in the product.

## 4.2 Bill of Material (BOM) definition in ERP

1. Define the BOM structures in SAP ERP system with the transaction CS01.

**Create material BOM: Initial Screen**

Material BOM Edit Goto Extras Environment Settings System Help

/ncs01

**Create material BOM: Initial Screen**

Create variant of...

Material: GTS-HD-COMPUTER  
 Plant: 3000 New York  
 BOM Usage: 1 Production  
 Alternative BOM:

**Effectivity**

Change Number:   
 Valid From: 12/11/2009  
 Revision Level:

Add all the components into the BOM structure of the product GTS-HD-COMPUTER.

Material: GTS-HD-COMPUTER Computer  
 Plant: 3000 New York  
 Alternative BOM: 1

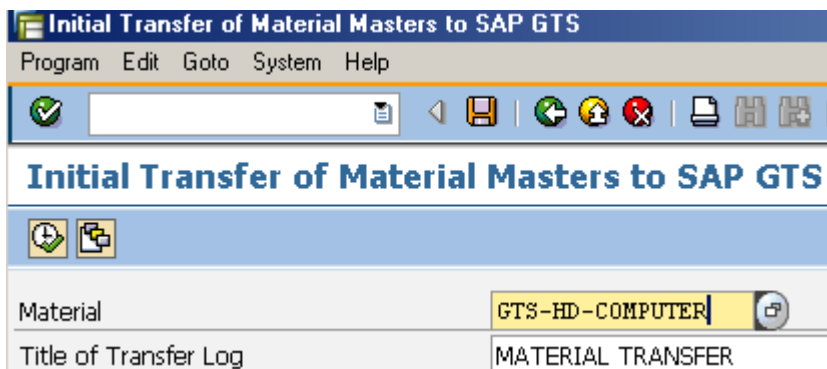
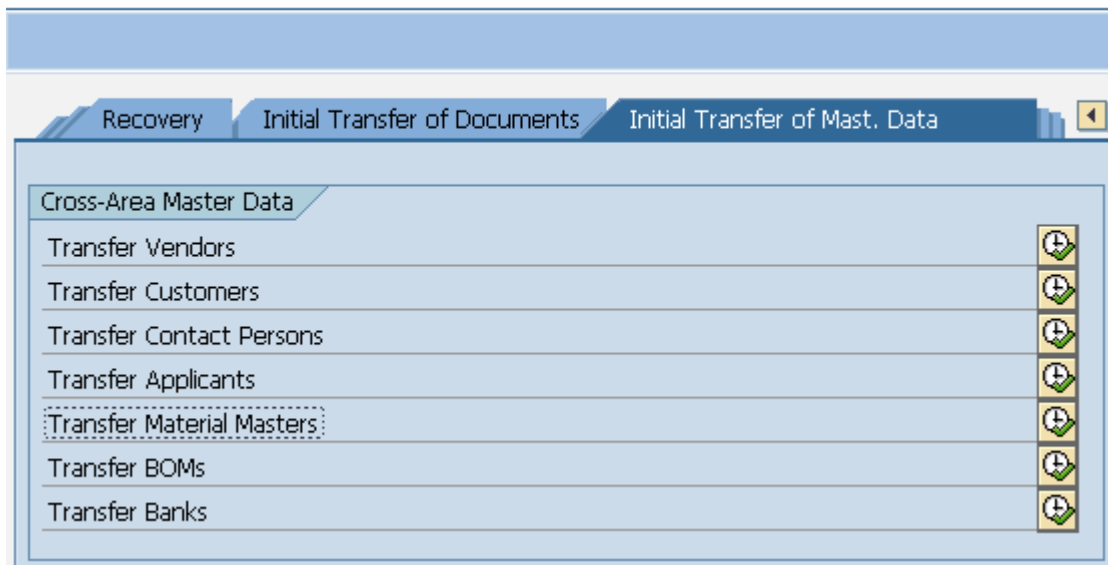
Material Document General

Item	ICt	Component	Component description	Quanti...	Un	Asm	Sis	Valid From	Valid to
0010	L	GTS-HD-PROCESSOR	CPU	1	EA	<input type="checkbox"/>	<input type="checkbox"/>	12/11/2009	12/31/9999
0020	L	GTS-HD-RAM	Computer memory	3	EA	<input type="checkbox"/>	<input type="checkbox"/>	12/11/2009	12/31/9999
0030	L	GTS-HD-DRIVE	Hard drive	2	EA	<input type="checkbox"/>	<input type="checkbox"/>	12/11/2009	12/31/9999
0040	L	GTS-HD-GRAPHICS	Graphics system	1	EA	<input checked="" type="checkbox"/>	<input type="checkbox"/>	12/11/2009	12/31/9999
0050	L	GTS-HD-POWERSUPPLY	Power Supply	1	EA	<input type="checkbox"/>	<input type="checkbox"/>	12/11/2009	12/31/9999

Similarly, define the BOM structure for the subcomponent GTS-HD-GRAPHICS.

2. Transfer the material masters from SAP ERP system to GTS system.

## SAP Global Trade Services



Similarly, transfer all the BOM components of the product to the GTS system.

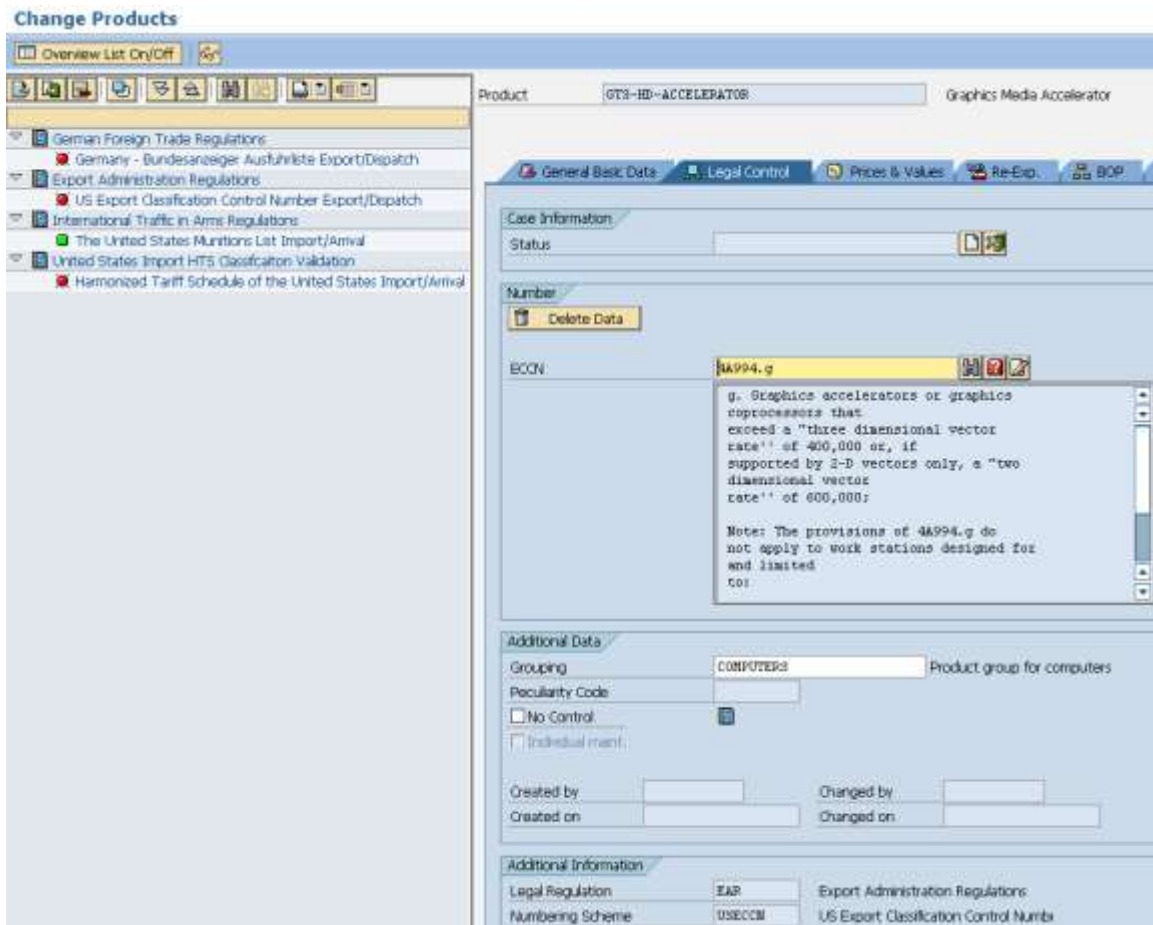
### 4.3 Classification of the BOM components in GTS

1. In GTS product master, classify the legal control relevant BOM component GTS-HD-ACCELERATOR.

SAP GTS Area Menu -> SAP Compliance Management -> Classification/Master Data -> Export View for Customs Product -> Maintain Products

Enter the values for the logical system group and product name, in Legal Control tab, chose the right ECCN number for Export Administration Regulations to classify the BOM component GTS-HD-ACCELERATOR.



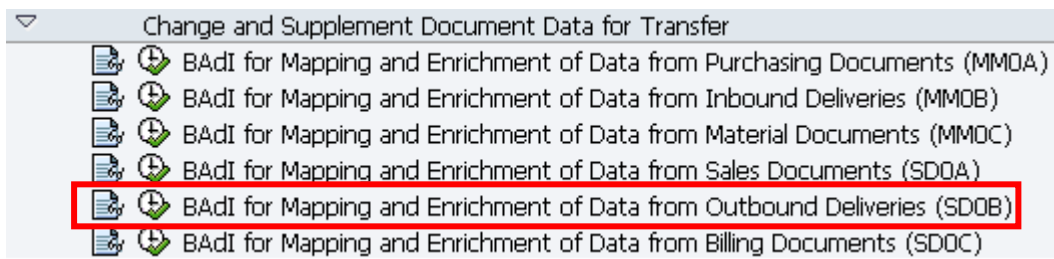


2. For the product GTS-HD-COMPUTER and the other components, classify them as “No Control” for EAR legal regulation.

## 4.4 BAdI implementations

1. Implement the BAdI in SAP ERP to generate the BOM ID for the customs document in GTS.

From IMG- > Sales and Distribution -> Foreign Trade/Customs -> SAP Global Trade Services - Plug-In -> Business Add-Ins for SAP Global Trade Services -> Change and Supplement Document Data for Transfer



In this BAdI, we mainly create a BOM ID for the product “GTS-HD-COMPUTER” in the customs document in GTS. The BAdI is called when the outbound delivery is transferred from SAP ERP to GTS system.

Here is a sample code of the BAdI implementation.

### CAUTION

Please note that the actual implementation of this BAdI is project-dependent. This sample code is intended for example purpose only.

```
METHOD /SAPSL/IF_EX_IFEX_SDOB_R3~IF_EXTEND_CON_CDOC.

  DATA: ls_item_gen TYPE /sapsll/api6800_itm_r3_s,
        lv_tabix     TYPE sy-tabix.

  * Go through all the line items in the outbound delivery document.
  * If an item has legal control relevant BOM component, generate a BOM ID

  LOOP AT cs_itm_cdoc-gen INTO ls_item_gen.
    lv_tabix = sy-tabix.
    CASE ls_item_gen-product_id.
      WHEN 'GTS-HD-COMPUTER' or 'GTS-HD-GRAPHICS'.
        CONCATENATE is_likp-vbeln
                   ls_item_gen-product_id
                   ls_item_gen-item_number
                   INTO ls_item_gen-bom_ident SEPARATED BY '/'.
      ENDCASE.
    MODIFY cs_itm_cdoc-gen INDEX lv_tabix FROM ls_item_gen
           TRANSPORTING bom_ident.
  ENDLOOP.

ENDMETHOD.
```

2. Implement the BAdI in ERP system to explode the BOM components.

We need to implement the method API\_BOM\_EXPLODE of the BAdI /SAPSL/IF\_EX\_BOM\_SDOB\_R3. In this method, we identify the control relevant BOM components from the BOM structure of the product. We also create the sub-items for all the BOM components as the result of the explosion in the customs document. The BAdI is called during the BOM explosion.

### Note

How to implement this BAdI depends on the business process in your SAP ERP system. For example, you need to know where and how you get the information of the item and BOM components from the logistic document, such as outbound delivery.

## 4.5 BOM Transfer with the outbound delivery

1. Create the outbound delivery document in SAP ERP system.

Once the document is saved, a window pops up indicating that the corresponding customs document is blocked in GTS.

Reference Number of a Document from Back Error		
Item Service		Status
80015924	Blocked / Checked	
Customs Document		Blocked / Checked
10 Embargo Check		Released / Checked
10 Sanctioned Party List Screening		Released / Checked
10 Legal Control		Blocked / Not Checked

2. Check the license determination log of the customs document in GTS.

SAP GTS Area Menu -> SAP Compliance Management -> Legal Control – Export -> Display Blocked Documents

There is a message “Document item has a bill of product and will be checked later” in the log. GTS recognizes there is a BOM structure for the product GTS-HD-COMPUTER in the line item. This BOM structure needs to be exploded before the license determination can proceed.

Overview	
<input checked="" type="checkbox"/>	Time of Check: 12/11/2009, 17:11:32
<input checked="" type="checkbox"/>	Check document 200000163 2009 (logical system ER6CLNT800, document 80015924)
<input checked="" type="checkbox"/>	Check item 10
<input checked="" type="checkbox"/>	Relevant check date for item: 12/15/2009 (time 12:00:00)
<input type="checkbox"/>	Performance of Service: Embargo Check
<input type="checkbox"/>	Performance of Service: Sanctioned Party List Screening
<input checked="" type="checkbox"/>	Performance of service: legal control
<input checked="" type="checkbox"/>	<b>Document item has a bill of product and will be checked later:</b>
<input checked="" type="checkbox"/>	The hazardous substance check is not active for item category EXDLV1
<input checked="" type="checkbox"/>	Restitution is not active for item EXDLV1
<input checked="" type="checkbox"/>	Letter of credit processing is not active for item category EXDLV1
<input checked="" type="checkbox"/>	Preference processing is not active for item category EXDLV1

3. Display the item GTS-HD-COMPUTER from the customs document in GTS.

Notice that the BOP ID has been generated by the first BA dI.

## Display Customs Document for Outbound Delivery 80015924

Document Number	200000163	Year	2009	Doc.Type	Customs Document (Export)
-----------------	-----------	------	------	----------	---------------------------

Header

Items    Item 10 Computer

Gen. Data    Vals.    Partner    Cstms Tariff Nos    Geography    Addnl Data    Administr

**Legal Unit**

Legal Unit    LU\_US3000    Legal Unit US

**Customs Product**

Product    GTS-HD-COMPUTER

Label    Computer

BOP ID    0080015924/GTS-HD-COMPUTER/00000

**Quantities and Weights**

Quantity	1	EA
Gross Weight	3	
Net Weight	3	KG

**Delivery and Payment Terms**

Incoterm   

Term of Payment   

**Project Assignment**

Project Number    PROJ-HD-001    A Test Project for GTS 8.0

**Note**

Bill of material (BOM) is normally used in ERP system. Bill of product (BOP) is the term used in GTS system. They are interchangeable in this context.

4. Display the BOM information of the item by clicking on the eyeglasses button next to the BOP ID.

## Display Multilevel Bill of Material Structure

<b>Product/Logical Feeder System</b>		GTS-HD-COMPUTER / ER6CLNT800							
<b>Description</b>		Computer							
<b>Bill of Material Number</b>		00003089							
<b>Usage/Alternative</b>		1 / 01							
<b>Plant / Plant Group</b>		3000 / PG_US_3000							
<b>Key Date</b>		12/11/2009 17:29:46							

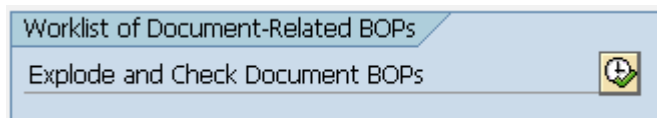
Level	Product Number	Product Master Short Text	Plant Group	Plant	Quantity	UoM	FS Price	Crcy	/	UoM
0	GTS-HD-COMPUTER	Computer	PG_US_3000	3000	1	EA	0.00	USD	1	EA
.1	GTS-HD-PROCESSOR	CPU	PG_US_3000	3000	1	EA	200.00	USD	1	EA
.1	GTS-HD-RAM	Computer memory	PG_US_3000	3000	3	EA	450.00	USD	1	EA
.1	GTS-HD-DRIVE	Hard drive	PG_US_3000	3000	2	EA	200.00	USD	1	EA
.1	GTS-HD-GRAPHICS	Graphics system	PG_US_3000	3000	1	EA	300.00	USD	1	EA
..2	GTS-HD-ACCELERATOR	Graphics Media Accelerator	PG_US_3000	3000	1	EA	80.00	USD	1	EA
..2	GTS-HD-DISPLAY	Display of computers	PG_US_3000	3000	1	EA	60.00	USD	1	EA
.1	GTS-HD-POWERSUPPLY	Power Supply	PG_US_3000	3000	1	EA	25.00	USD	1	EA

After the BOM is transferred to GTS, it is stored as a workload temporarily in GTS. It will be deleted after it is exploded.

## 4.6 BOM Explosion

1. Explode the bill of product in GTS by the following menu path.

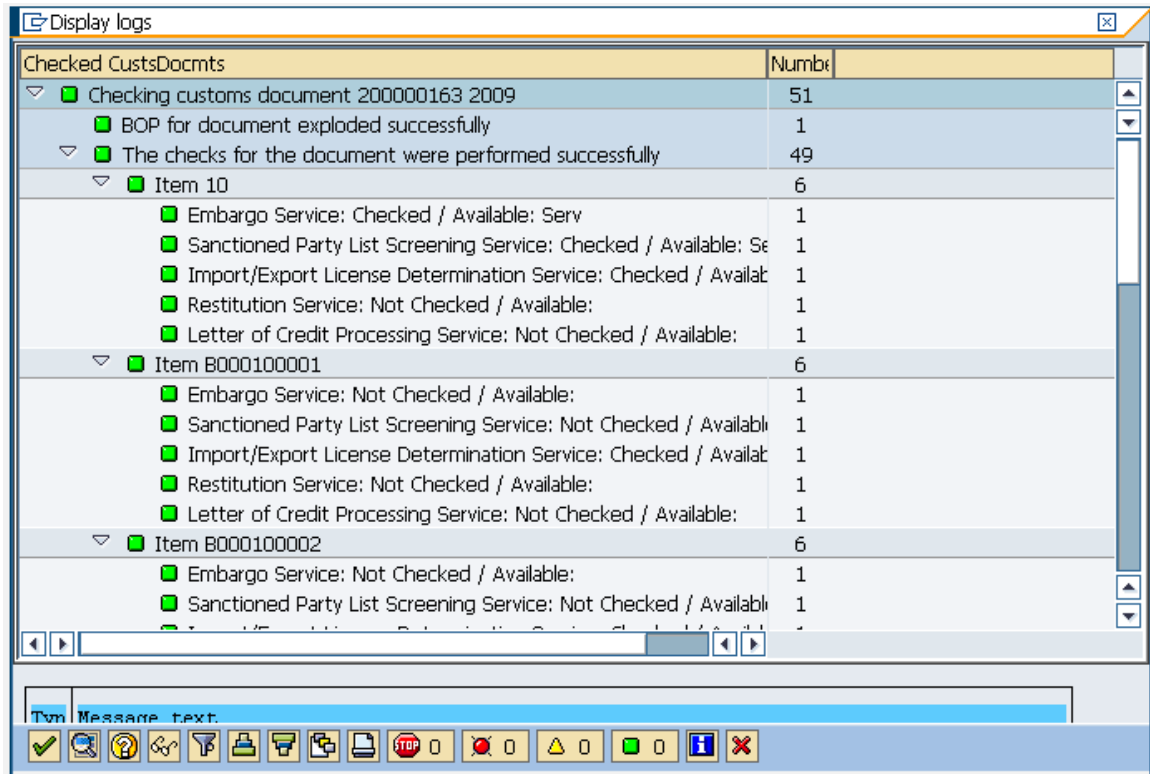
SAP GTS Area Menu -> SAP Compliance Management -> Legal Control – Export -> Worklist of Document-Related BOPs -> Explode and Check Document BOPs



### Note

The BOP in this scenario is so called document related BOP. In many cases, the BOP is changed on the delivery product to customer. GTS is designed to check on what is actually delivered, not what might be delivered. This is why the BOP is not a master data in this scenario.

2. Enter the document number. Select the checkboxes of “Display Log”, “Save Log” and “Delete BOM”.
3. Once the transaction is executed, the license determination log is shown in a popup window.



The second BAdI is called to explode the BOM. This log shows the BOM explosion is successful.

## 4.7 BOM Dependent License Determination

Assume the license master has been created and the license determination strategy has been defined correctly in GTS system.

1. Display the customs document after the BOM explosion in GTS.

### Display Existing Export Documents

Ref. No.	Log.System	Obj.Type	CmsDoc.No.	Year	Doc. Type	Created		
Item	Product Number	Net Value	Currency	Quantity	Unit	Item Cat.		
80015924	ER6CLNT800	LIKP	200000163	2009	EXPDLV	I002668	12/11/2009	
10	GTS-HD-COMPUTER					1	EA	EXDLV1
B000100001	GTS-HD-PROCESSOR	200.00	USD	1	EA	1	EA	EXDLV1
B000100002	GTS-HD-RAM	450.00	USD	3	EA	3	EA	EXDLV1
B000100003	GTS-HD-DRIVE	200.00	USD	2	EA	2	EA	EXDLV1
B000100004	GTS-HD-GRAPHICS	300.00	USD	1	EA	1	EA	EXDLV1
B000100005	GTS-HD-POWERSUPPLY	25.00	USD	1	EA	1	EA	EXDLV1
B000100006	GTS-HD-ACCELERATOR	80.00	USD	1	EA	1	EA	EXDLV1
B000100007	GTS-HD-DISPLAY	60.00	USD	1	EA	1	EA	EXDLV1

2. Verify the license assignment in the determination log.

Once the BOM explosion is executed successfully, the normal license determination process proceeds automatically in GTS.

Here is the license determination log of our customs document:

Overview	
■	Time of Check: 12/11/2009, 17:31:43
■	Check document 200000163 2009 (logical system ER6CLNT800, document 80015924)
▷	Check item 10
▷	Check of BOP item B000100001 (main item 10)
▷	Check of BOP item B000100002 (main item 10)
▷	Check of BOP item B000100003 (main item 10)
▷	Check of BOP item B000100004 (main item 10)
▷	Check of BOP item B000100005 (main item 10)
▽	Check of BOP item B000100006 (main item 10)
■	Relevant check date for item: 12/15/2009 (time 12:00:00)
▽	Performance of service: legal control
■	Active legal regulations found for determination procedure "LELDT"
▽	Check legal regulation "EAR"
■	Country "DE" determined as relevant partner country
▽	Run Import/Export License Type Determination
■	Check objects for determination procedure ZCTRY found
▽	Determine import/export approval type at ctry/ctrl class/ctrl group level
▽	Possible import/export license types have been determined
▽	Check import/export license type ZIVL
■	The item value to be depreciated is 80.00 USD
■	The item quantity to be depreciated is 1 EA
▷	Selection criteria for import/export license
■	Number of import/export licenses that could be affected: 1
▽	Check import/export license 20000000000000000002, external number ZIVL-001
■	Quantity was written off completely
■	Value was written off completely
■	Import/export license has been checked
■	Values and quantities were written off completely
▷	Check legal regulation "ITAR"
▷	Check legal regulation "USREX"
▽	Check of BOP item B000100007 (main item 10)
■	Relevant check date for item: 12/15/2009 (time 12:00:00)
▽	Performance of service: legal control
■	Active legal regulations found for determination procedure "LELDT"
▽	Check legal regulation "EAR"
■	Country "DE" determined as relevant partner country
▽	Run Import/Export License Type Determination
■	Product "GTS-HD-DISPLAY" not relevant for control with legal regulation "EAR"
▷	Check legal regulation "ITAR"
▷	Check legal regulation "USREX"

Note that an export license has been successfully assigned to the legal control relevant BOM component GTS-HD-ACCELERATOR (BOP item B000100006).

3. Meanwhile, at the item level, the eyeglasses button next to the BOP ID disappears as the temporary workload of the BOM information is deleted after the explosion.

### Display Customs Document for Outbound Delivery 80015924

Document Number: 200000163    Year: 2009    Doc.Type: Customs Document

Header  
Items: Item 10 Computer

Gen. Data    Vals.    Partner    Cstms Tariff Nos    Leg. Ctrl Dta    Geography

**Legal Unit**  
Legal Unit: LU\_US3000    Legal Unit US

**Customs Product**  
Product: GTS-HD-COMPUTER  
Label: Computer  
BOP ID: 0080015924/GTS-HD-COMPUTER/00000

**Quantities and Weights**  
Quantity: 1    EA  
Gross Weight: 3  
Net Weight: 3    KG

**Delivery and Payment Terms**  
Incoterm:      
Term of Payment:   

**Project Assignment**  
Project Number: PROJ-HD-001    A Test Project for GTS 8.0

Now, we have shown the major steps of how to use the BOM dependent license determination in GTS 8.0.



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## 5. Comments and Feedback

Your feedback is very valuable and will enable us to improve our documents. Please take a few moments to complete our feedback form. Any information you submit will be kept confidential.

You can access the feedback form at:

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## 6. Appendix

### Appendix A - Links to related information

<b>Title</b>	<b>Link</b>
GTS 8.0 Configuration Guide for Compliance Management	<a href="http://service.sap.com/instguides">http://service.sap.com/instguides</a>
GTS 8.0 Master Guide	<a href="http://service.sap.com/instguides">http://service.sap.com/instguides</a>
GTS 8.0 Release Notes	<a href="http://service.sap.com/instguides">http://service.sap.com/instguides</a>

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