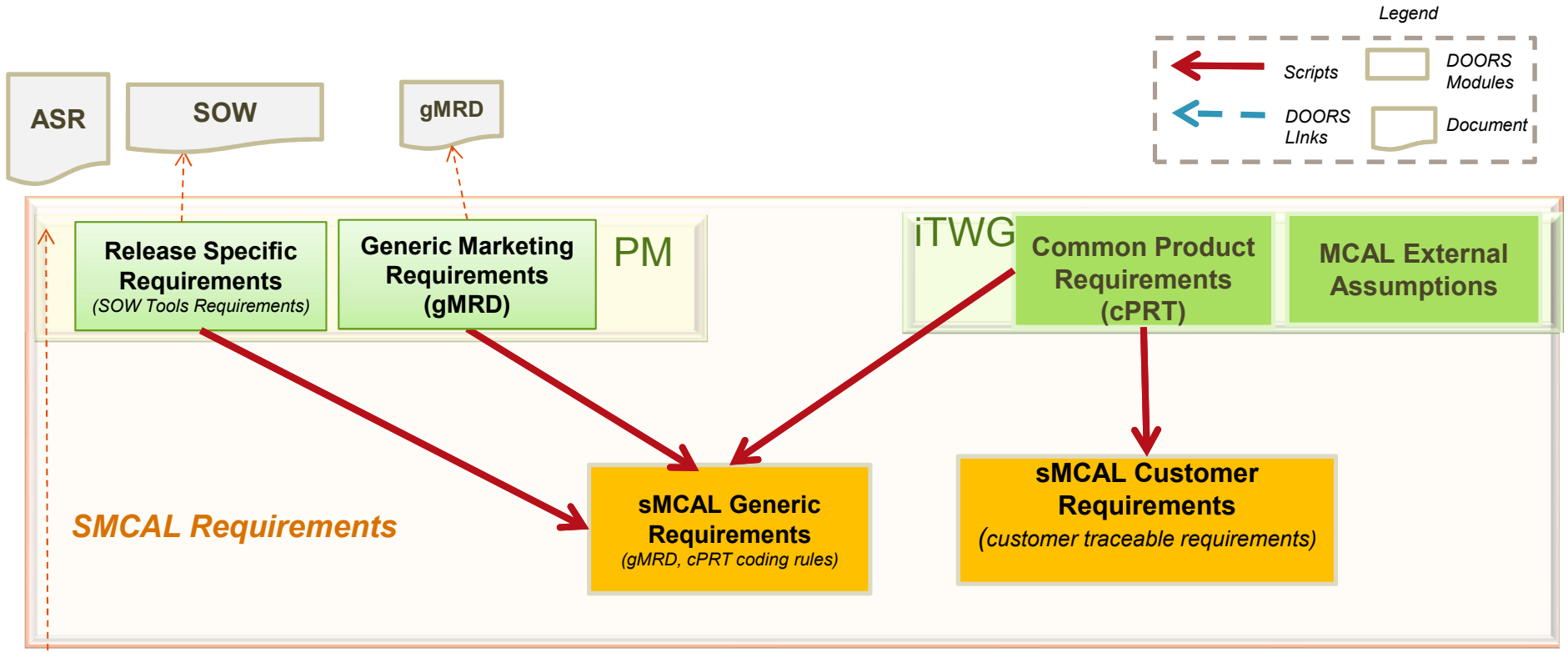
Requirement analysis – for developers

FEB.21.2014

Steps for requirements analysis

1. The technical leader runs some scripts to propagate requirements from upper level(in green in the picture bellow) to middle level(in orange in the picture bellow).

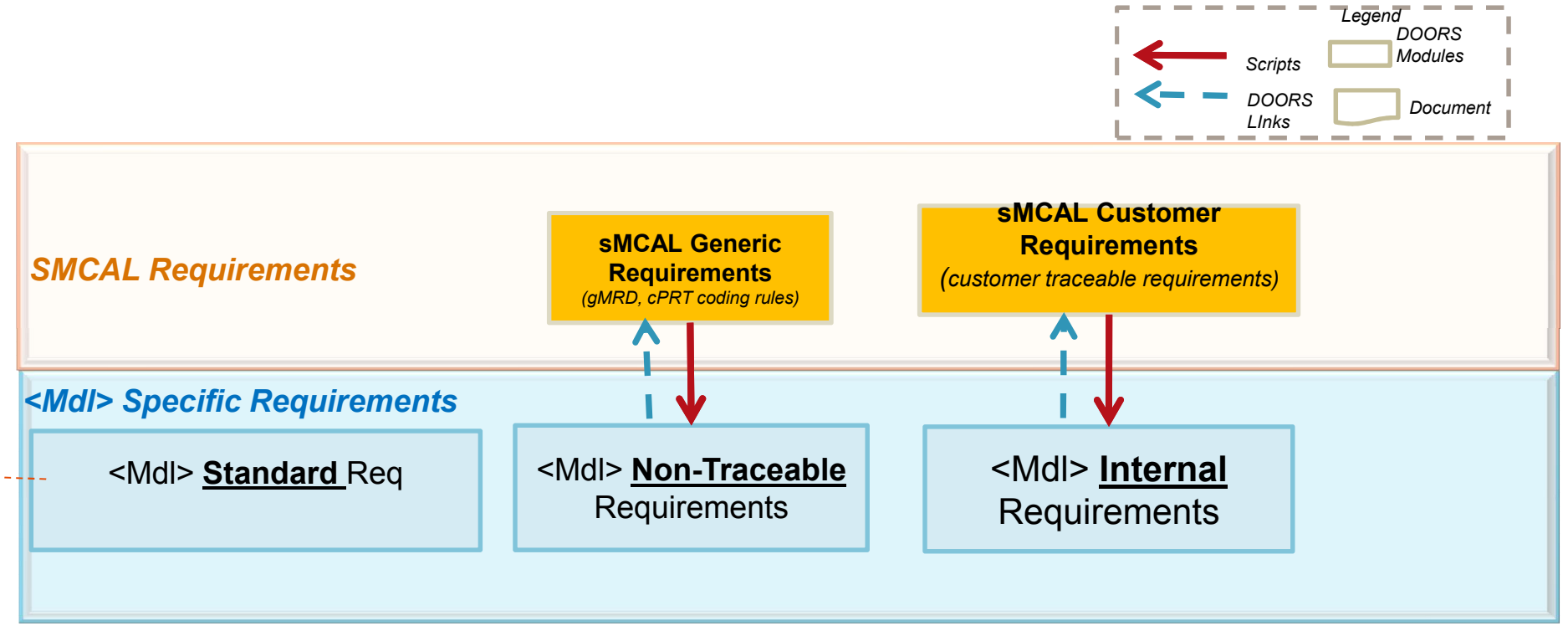
   This action is done by the **technical leader** at the beginning of each release. **The developer** must wait for this action to be completed by the technical leader.



Steps for requirements analysis

2. Run DXL script to propagate from sMCAL level to module requirements

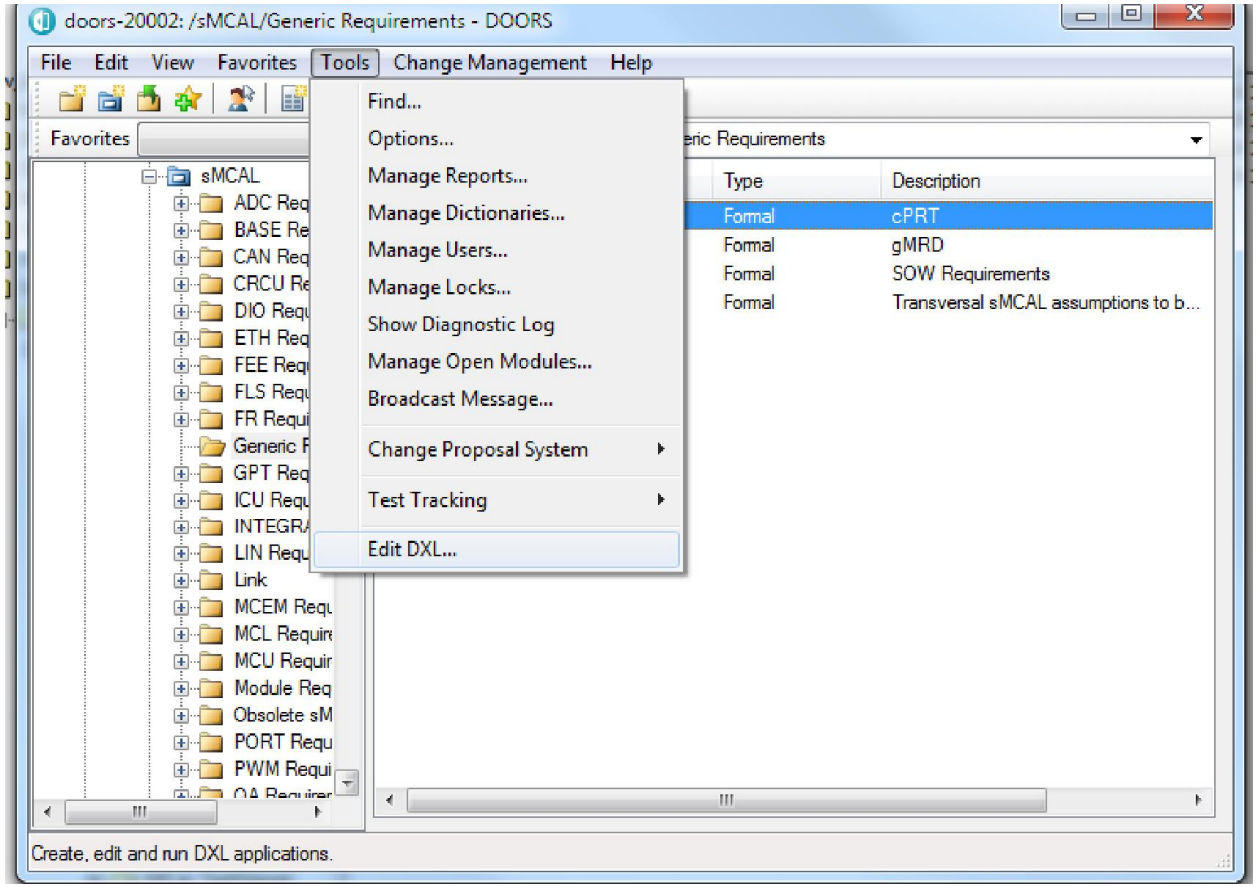
*<**MDL**>**Non Traceable** Requirements and <**MDL**>**Internal** Requirements*



Steps for requirements analysis

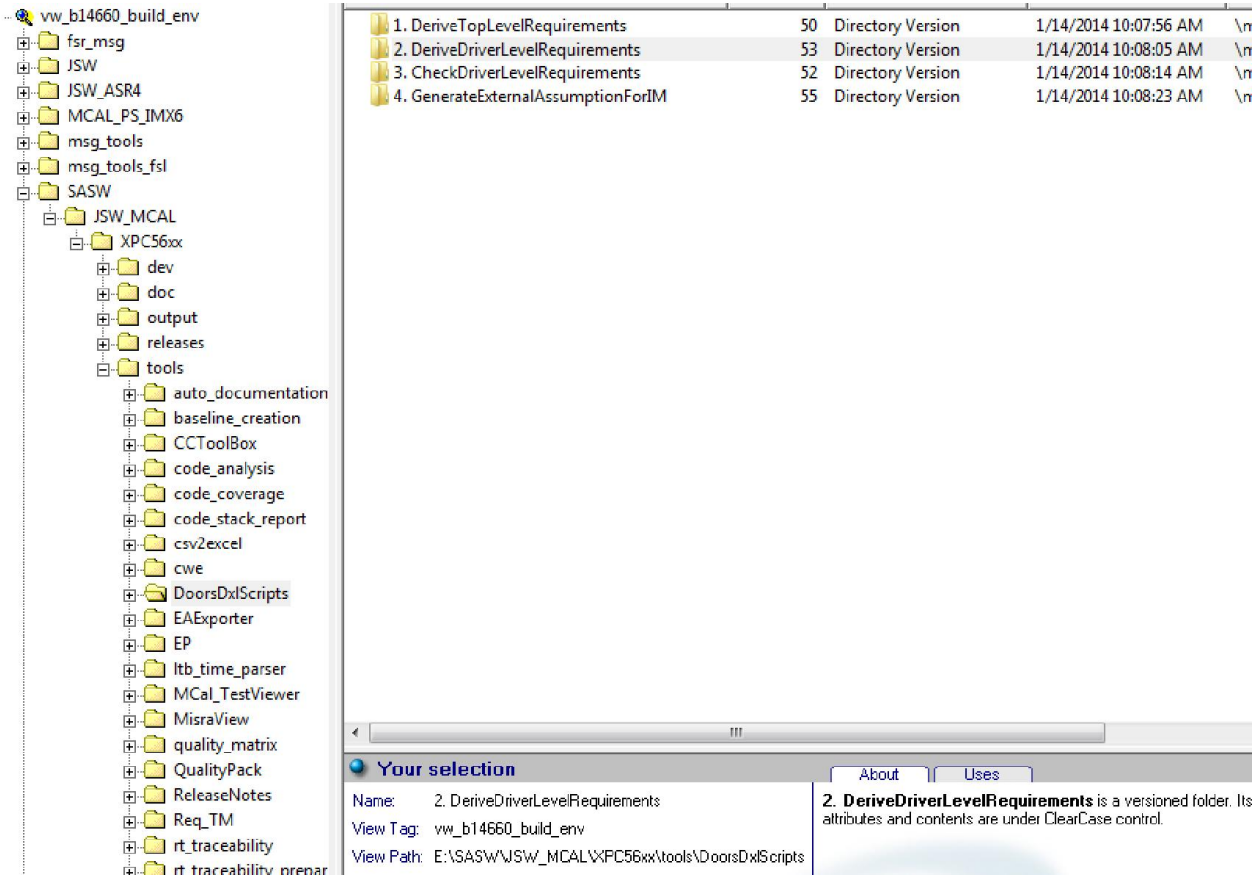
In order to run the script you should perform following steps

2.1 Go to :



Steps for requirements analysis

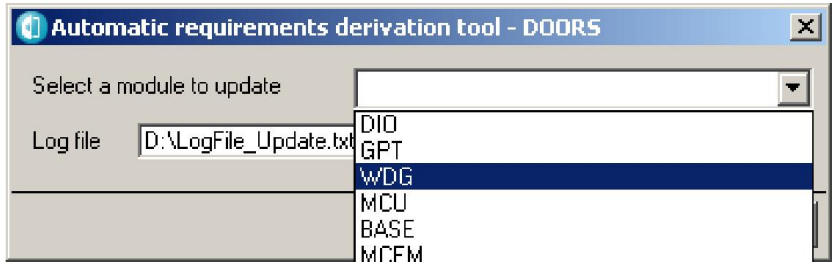
2.2.In the DOORS window “Edit DXL” paste the content of the DXL script **DeriveDriverLevelRequirements.dxl** found in folder *DeriveDriverLevelRequirement*s (see bellow).



Steps for requirements analysis

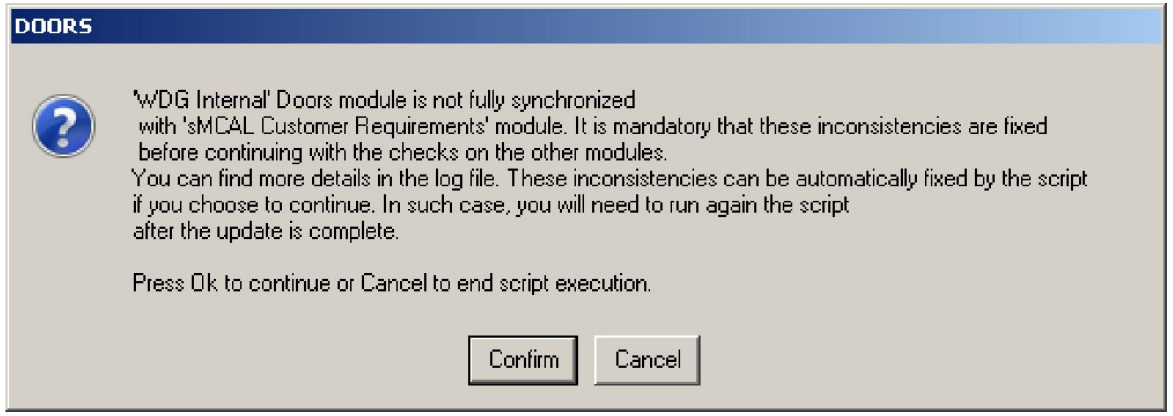
2.3 Run the script

2.4 The following window should appear:



2.5 Choose the module for which you need the script run and a log file

2.6 At the first run, the message box below will appear: the window informs you that there are some changes need to be done to the Internal module and asks you to **Confirm** that these changes should be done



Steps for requirements analysis

2.7 First see the log file and analyze the changes that the script wants to perform

The log file contains the summary of all operations that will be performed by the script in order to propagate requirements.

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Summary of the operations to be performed for deriving requirements:
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WDG Internal Requirements
  16 already existing requirements not needing updates will be left untouched. Search log for 'MODULE_INTERNAL - REQ NOT TOUC
  0 already existing requirements needing updates will be updated. Search log for 'MODULE_INTERNAL - REQ UPDATE' to find them
  0 new requirements will be added. Search log for 'MODULE_INTERNAL - REQ ADD' to find them.
  0 automatic requirements in WDG Internal Requirements which do not have outgoing links will be deleted. Search log for 'MOI
  0 requirements which were linked to requirements in 'WDG Internal Requirements' module although they shouldn't will be dele
  0 outgoing links from Manual requirements from 'WDG Internal Requirements' module will be deleted. Search log for MODULE_IN
  0 unexpected outgoing links from 'WDG Internal Requirements' to sMCAL Internal module will be deleted. Search log for MODUL

WDG Collected Requirements
  0 already existing requirements not needing updates will be left untouched. Search log for 'MODULE_COLLECTED - REQ NOT TOUC
  0 already existing requirements needing updates will be updated. Search log for 'MODULE_COLLECTED - REQ UPDATE' to find the
  100 new requirements will be added. Search log for 'MODULE_COLLECTED - REQ ADD' to find them.
  0 automatic requirements in WDG Collected Requirements which do not have outgoing links will be deleted. Search log for 'MC
  0 requirements which were linked to requirements in 'WDG Collected Requirements' module although they shouldn't will be del
  0 outgoing links from Manual requirements from 'WDG Collected Requirements' module will be deleted. Search log for MODULE_C
  0 unexpected outgoing links from 'WDG Collected Requirements' to sMCAL Internal module will be deleted. Search log for MODU

WDG Non-Traceable Requirements
  0 already existing requirements not needing updates will be left untouched. Search log for 'MODULE_NOT_TRACEABLE - REQ NOT
  0 already existing requirements needing updates will be updated. Search log for 'MODULE_NOT_TRACEABLE - REQ UPDATE' to find
  135 new requirements will be added. Search log for 'MODULE_NOT_TRACEABLE - REQ ADD' to find them.
  0 automatic requirements in WDG Non-Traceable Requirements which do not have outgoing links will be deleted.
  0 requirements which were linked to requirements in 'WDG Non-Traceable Requirements' module although they sh
  0 outgoing links from Manual requirements from 'WDG Non-Traceable Requirements' module will be deleted. Sear
  0 unexpected outgoing links from 'WDG Non-Traceable Requirements' to sMCAL Internal module will be deleted.

  2 outgoing links will be created in 'WDG Collected Requirements' for requirements having non empty 'Master R
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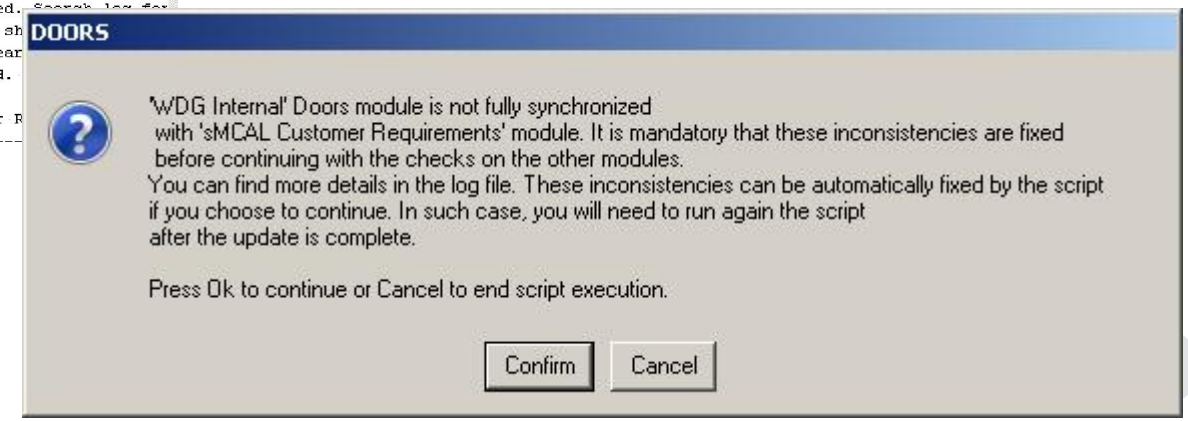
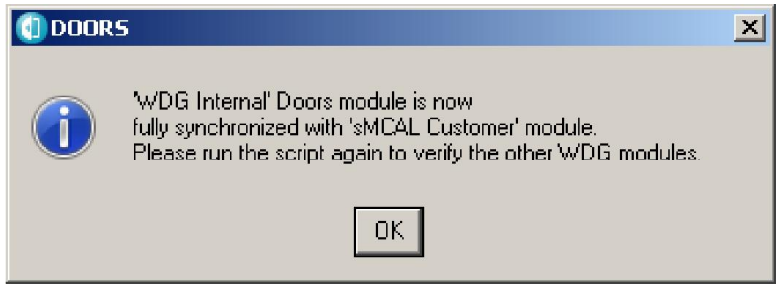
2.8 If you agree to the changes, press “Confirm”



Steps for requirements analysis

2.9 After the confirm button is selected, the **Internal Requirements Module** is updated and following message appears



2.10 Save the module that was changed by the script.

2.11 Run DXL script again to propagate also changes to the module “**Non Traceable**” (repeat steps 2.1 ->2.10)

Steps for requirements analysis

3. Analyze the requirements from **Standard**, **Non Traceable** and **Internal** modules

At this stage, the developer should fill in **ONLY** the Doors columns:

- **Remarks**
- **Functionality/Item**
- **Fulfilled In**
- **Verification Criteria**
- **Product** - only for ***Standard Requirements*** you also need to manually change this column. For Internal and Non Traceable the developer is not allowed to change the “Product” column!

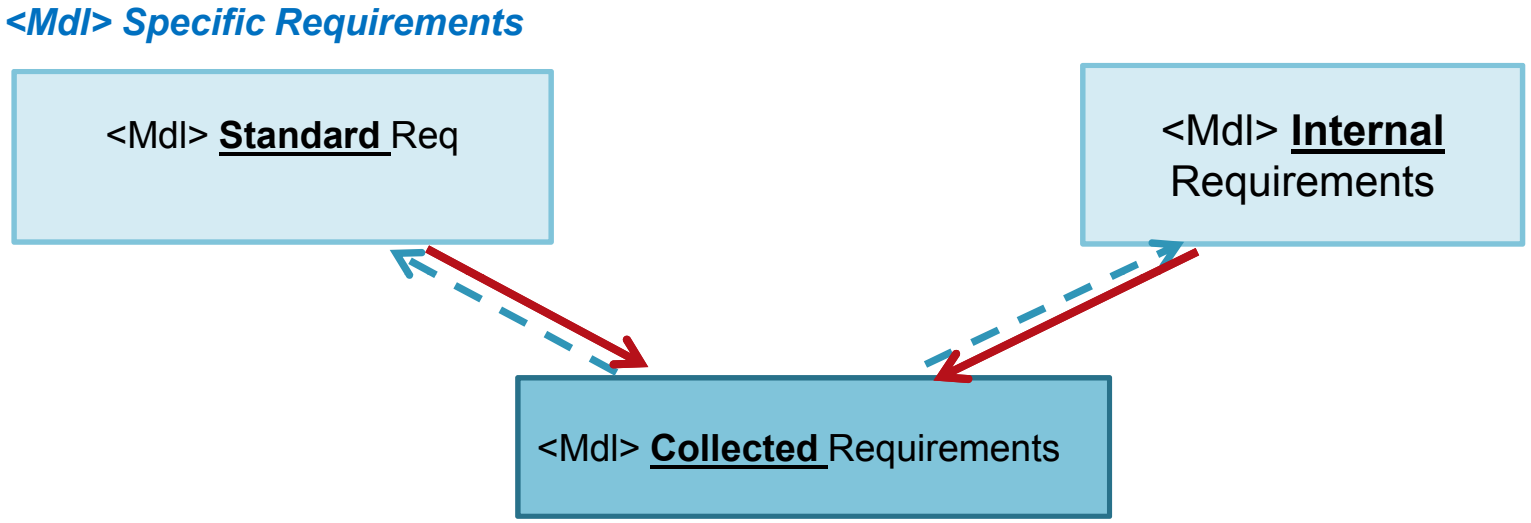
!! It is NOT allowed:

- To change other columns than the ones mentioned above
- To add other requirements manually directly in the modules: **Standard**, **Non Traceable** and **Internal**.

Steps for requirements analysis

4. Run DXL script to propagate the changes you made to “Standard” and “Internal” to “Collected” requirements (see steps 2.1->2.10).

!! It is NOT allowed to change anything manually in the “Collected” module.The changes to this module will be done only by running the DXL script.



Steps for requirements analysis

5. Run script which checks requirements consistency(CheckDriverLevelRequirements.dxl) which can be found here:

- If inconsistencies issues are reported(see the log file for reported issues), then they should be solved (typically by running again the propagation DXL script)

- CheckDriverLevelRequirements.dxl should be run again

- The log file resulted after running this script (in which no inconsistency appears) should be attached to the peer review (as a proof for the reviewer that the requirements analysis was performed properly).

6. You should apply a **DOORS baseline** on all 4 Requirements Modules: **Internal**, **Standard**, **Non Traceable**, **Collected**.

In order to do this:

- right click on module name in DOORS->Properties->Baseline Sets
- Create new baseline set
- Add the baseline set to the 4 requirements documents
- Press ok, ok.

Steps for requirements analysis

7. Requirements should be reviewed by another developer and a tester .The tester should only review the “Verification Criteria”. The other fields should be reviewed by the other developer assigned as a reviewer.

8. After solving review findings, apply another baseline. At this step the requirements analysis is complete.

9. After the code is finished(code freeze), if new requirements were implemented for a platform, the developer should make another requirement analysis step:

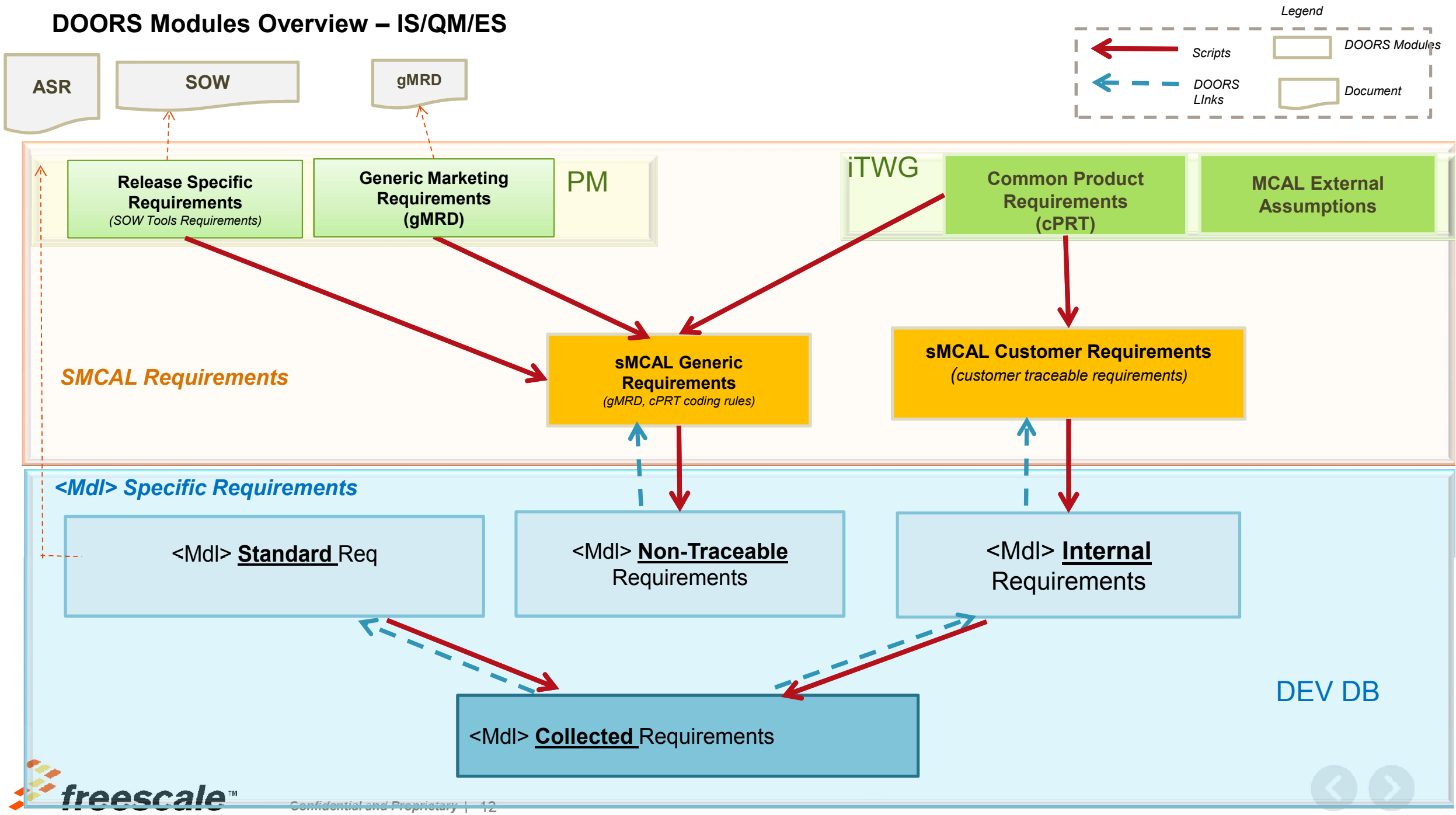
   - In “**Internal Requirements**” , “**Standard Requirements**”, or “**Non Traceable Requirements**”, for each requirements that was implemented in the current code iteration, mark that the requirement was fulfilled by setting the “Fulfilled In” attribute equal to the platforms in which the requirement was implemented in the code.

   -Run again DXL script to propagate changes to “Collected” module

   -Run again scripts which checks the requirements consistency

   -Apply a new DOORS baseline

DOORS Modules Overview – IS/QM/ES



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