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**Bill of Materials**

Modules

**BOM Attributes BOM Errors BOM Tokens BOM OVE Errors BOM Writer**

Data Structures

struct **BOM\_duplicate\_default\_name\_s** struct **BOM\_duplicate\_item\_map\_s** struct **BOM\_duplicate\_project\_info\_s** struct **BOM\_error\_item\_revision\_s**

Typedefs

typedef struct **BOM\_duplicate\_default\_name\_s BOM\_duplicate\_default\_name\_t**

typedef enum **BOM\_duplicate\_dependent\_type\_e BOM\_duplicate\_dependent\_type\_t**

typedef struct **BOM\_duplicate\_item\_map\_s BOM\_duplicate\_item\_map\_t**

typedef struct **BOM\_duplicate\_project\_info\_s BOM\_duplicate\_project\_info\_t**

typedef struct **BOM\_error\_item\_revision\_s BOM\_error\_item\_revision\_t**

Enumerations

enum **BOM\_duplicate\_dependent\_type\_e** {

**NoDep**, **Drawing**, **PartFamilyMaster**, **PartFamilyMember**,

https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 1/223

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**Required**, **AllDep**, **ExcludeFromBom** }

Functions

BOM\_API int **BOM\_add\_option\_rev\_value** (**tag\_t** option\_rev, const char \*value, int \*an\_index) BOM\_API int **BOM\_ask\_index\_of\_opt\_rev\_value** (**tag\_t** option\_rev, const char \*value, int \*an\_index) BOM\_API int **BOM\_ask\_option\_data** (**tag\_t** option, **tag\_t** \*owning\_item, char \*\*name, char \*\*description) BOM\_API int **BOM\_ask\_option\_of\_rev** (**tag\_t** option\_rev, **tag\_t** \*option) BOM\_API int **BOM\_ask\_option\_rev\_mode** (**tag\_t** option\_rev, int \*mode) BOM\_API int **BOM\_ask\_option\_rev\_value** (**tag\_t** option\_rev, int an\_index, char \*\*value) BOM\_API int **BOM\_create\_bomsetlines\_for\_input\_lines** (**BOM\_bomset\_create\_criteria\_t** bomset\_create\_criteria, **tag\_t** \*input\_lines, int

input\_lines\_count, int \*bomset\_count, **BOM\_bomset\_input\_info\_t** \*\*bomset\_input\_info) BOM\_API int **BOM\_create\_option** (**tag\_t** owning\_item, const char \*name, const char \*description, int mode, **tag\_t** \*option, **tag\_t** \*option\_rev) BOM\_API int **BOM\_create\_window\_from\_snapshot** (**tag\_t** snapshot\_folder, **tag\_t** \*bom\_window) BOM\_API int **BOM\_declare\_option** (**tag\_t** itemrev, **tag\_t** optionrev, **tag\_t** \*ve, **tag\_t** \*veb) BOM\_API int **BOM\_duplicate\_structure** (**tag\_t** bom\_line, **logical** rename\_datasets, **BOM\_duplicate\_default\_name\_t** default\_name,

**BOM\_duplicate\_project\_info\_t** project, **logical** expandAllLevels, int n\_map, const **BOM\_duplicate\_item\_map\_t** \*map, int n\_dep\_types, const **BOM\_duplicate\_dependent\_type\_t** \*dep\_types, **tag\_t** \*new\_item\_rev, int \*n\_error\_irs, **BOM\_error\_item\_revision\_t** \*\*error\_irs) BOM\_API int **BOM\_exit\_module** (void) BOM\_API int **BOM\_expand\_bomset\_lines** (**BOM\_bomset\_input\_info\_t** bomset\_input\_info, **BOM\_bomset\_output\_info\_t** \*bomset\_output\_info) BOM\_API int **BOM\_export\_configured\_nx\_assembly** (**tag\_t** bomLine, const char \*namingFormat, int noOfValidExcludes, const **tag\_t** \*excludedTags,

char \*\*zipFileTicket, char \*\*logFileTicket) BOM\_API int **BOM\_find\_variant\_rule\_and\_or\_sos** (**tag\_t** item\_revision, const char \*rule\_name, **tag\_t** relation\_type, **logical**

consider\_PSEVariantsMode\_pref, int \*n\_objects\_found, **tag\_t** \*\*objects) BOM\_API int **BOM\_item\_ask\_option\_handle** (**tag\_t** window, const **tag\_t** item, const char \*name, int \*option)

Returns the Option id for the given item and Option name. More...

BOM\_API int **BOM\_item\_module\_list\_options** (**tag\_t** window, **tag\_t** item, int \*count, int \*\*options)

Gets the list of option names on the item corresponding to the bom line. More...

BOM\_API int **BOM\_line\_add\_absocc\_relation** (**tag\_t** lineTag, **tag\_t** relType, **tag\_t** secObject, **tag\_t** \*newRelation) BOM\_API int **BOM\_line\_add\_optional\_item** (**tag\_t** bom\_line, **tag\_t** item, **tag\_t** rev, **tag\_t** bomview) BOM\_API int **BOM\_line\_ask\_absocc\_relation** (**tag\_t** lineTag, **tag\_t** sourceApn, char \*relName, **logical** configuredOnly, int \*relCount, **tag\_t** \*\*relations) BOM\_API int **BOM\_line\_ask\_attribute\_external** (int attribute, **logical** \*attribute\_is\_external) BOM\_API int **BOM\_line\_ask\_can\_search\_for\_vi\_from\_parent** (**tag\_t** line, **logical** \*reuseIdIsPossible)

https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 2/223

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BOM\_API int **BOM\_line\_ask\_load\_state** (**tag\_t** bom\_line, int \*load\_state) BOM\_API int **BOM\_line\_ask\_optional\_items** (**tag\_t** bom\_line, int \*count, **tag\_t** \*\*opt\_items, **tag\_t** \*\*opt\_views) BOM\_API int **BOM\_line\_ask\_packed\_lines** (**tag\_t** bom\_line, int \*count, **tag\_t** \*\*packed) BOM\_API int **BOM\_line\_ask\_unit\_occurrence\_effectivity** (**tag\_t** bomline, **logical** intersectWithConfigurationEff, **logical** \*occEffExists, **logical**

\*isAlwaysEffective, int \*effyInfoCount, **WSOM\_effectivity\_info\_t** \*\*\*effectivityInfo) BOM\_API int **BOM\_line\_ask\_window** (**tag\_t** bom\_line, **tag\_t** \*window) BOM\_API int **BOM\_line\_assign\_child\_line** (**tag\_t** line, **tag\_t** sourceLine, char \*occType, **tag\_t** \*newChildLine) BOM\_API int **BOM\_line\_clear\_all\_stops** (**tag\_t** line) BOM\_API int **BOM\_line\_clear\_stop** (**tag\_t** line) BOM\_API int **BOM\_line\_configure\_in\_vi** (**tag\_t** line, **tag\_t** variant\_item) BOM\_API int **BOM\_line\_create\_add\_ice** (**tag\_t** line, **tag\_t** \*new\_ice) BOM\_API int **BOM\_line\_create\_remove\_ice** (**tag\_t** line, **tag\_t** \*new\_ice) BOM\_API int **BOM\_line\_create\_rollup\_report** (**tag\_t** bomline, **tag\_t** rollup\_template, **tag\_t** folder, const char \*name, const char \*description, **tag\_t**

\*report\_dataset) BOM\_API int **BOM\_line\_create\_vi** (**tag\_t** line, **logical** is\_linked\_to\_generic\_component, const char \*item\_id, const char \*item\_name, const char

\*type\_name, const char \*rev\_id, **tag\_t** \*new\_item, **tag\_t** \*new\_rev) BOM\_API int **BOM\_line\_create\_vi\_structures** (**tag\_t** line, **logical** is\_linked\_to\_generic\_component, **tag\_t** \*new\_item, **tag\_t** \*new\_rev) BOM\_API int **BOM\_line\_find\_candidates\_with\_fix\_option** (int n\_broken\_links, **tag\_t** \*broken\_links, int n\_scope, **tag\_t** \*scope, int n\_properties, char

\*\*properties, int n\_operators, char \*\*operators, **tag\_t** revision\_rule, **logical** quick\_search, **logical** auto\_fix, int \*\*n\_candidates, **tag\_t** \*\*candidates) BOM\_API int **BOM\_line\_find\_preferred\_JT\_refset** (**tag\_t** bom\_line, **tag\_t** item\_revision, **logical** ignore\_overrides, **tag\_t** \*jtfile, char \*\*refset\_name,

**logical** \*jt\_override) BOM\_API int **BOM\_line\_get\_child\_bomlines\_from\_clone\_stable\_uid** (**tag\_t** bom\_line, int countin, char \*\*clone\_stable\_uids, int \*count, **tag\_t**

\*\*children) BOM\_API int **BOM\_line\_get\_clone\_stable\_id\_chain** (**tag\_t** bomline, const char \*root\_str, char \*\*cli\_chain) BOM\_API int **BOM\_line\_is\_stopped** (**tag\_t** line, **logical** \*is\_stopped) BOM\_API int **BOM\_line\_list\_predecessors** (**tag\_t** bom\_line, int \*count, **tag\_t** \*\*pred) BOM\_API int **BOM\_line\_list\_related\_substitutes** (**tag\_t** bom\_line, int \*n\_items, **tag\_t** \*\*related\_occs, **tag\_t** \*\*related\_items) BOM\_API int **BOM\_line\_map\_vi\_requirements\_from\_parent** (**tag\_t** line, int n, **tag\_t** \*items, char \*\*options, int \*ops, int \*valueTypes, char

\*\*lowValues, char \*\*highValues, int \*n\_out, **tag\_t** \*\*items\_out, char \*\*\*options\_out, int \*\*ops\_out, int \*\*valueTypes\_out, char \*\*\*lowValues\_out, char \*\*\*highValues\_out) BOM\_API int **BOM\_line\_occ\_validate** (int count, **tag\_t** \*lines, **logical** recurse, int \*err\_count, int \*\*ifails, **tag\_t** \*\*err\_lines) BOM\_API int **BOM\_line\_relate\_substitutes** (int num\_of\_lines, **tag\_t** \*bom\_lines, **tag\_t** \*substitute\_set) BOM\_API int **BOM\_line\_remove\_absocc\_property** (**tag\_t** bomLine, char \*propertyName, **tag\_t** contextBomLine)

https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 3/223

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BOM\_API int **BOM\_line\_remove\_absocc\_relation** (**tag\_t** lineTag, **tag\_t** sourceApn, **tag\_t** relation) BOM\_API int **BOM\_line\_remove\_incremental\_changes** (**tag\_t** line, int n, **tag\_t** \*ices) BOM\_API int **BOM\_line\_remove\_optional\_item** (**tag\_t** bom\_line, **tag\_t** item, **tag\_t** rev, **tag\_t** bomview) BOM\_API int **BOM\_line\_remove\_related\_substitutes** (int n\_lines, **tag\_t** \*lines) BOM\_API int **BOM\_line\_replace\_absocc\_relation** (**tag\_t** lineTag, **tag\_t** sourceApn, **tag\_t** relation, **tag\_t** newSecondary, **tag\_t** \*newRelation) BOM\_API int **BOM\_line\_set\_stop** (**tag\_t** line) BOM\_API int **BOM\_line\_suppress\_lines** (int count, const **tag\_t** \*lines, const **logical** \*suppression\_flags, int \*err\_count, int \*\*ifails, **tag\_t** \*\*err\_lines) BOM\_API int **BOM\_list\_option\_rev\_values** (**tag\_t** option\_rev, int \*n\_values, int \*\*indexes) BOM\_API int **BOM\_modified\_bvr** (**tag\_t** line) BOM\_API int **BOM\_new\_option** (**tag\_t** itemrev, const char \*optname, const char \*optdesc, int mode, **tag\_t** \*option, **tag\_t** \*optionrev, **tag\_t** \*ve, **tag\_t**

\*veb) BOM\_API int **BOM\_ok\_to\_modify\_obj\_in\_ic** (**tag\_t** window\_tag, **tag\_t** object\_tag, **logical** \*modifiable) BOM\_API int **BOM\_option\_describe2** (int option, **tag\_t** \*item, char \*\*option\_name, char \*\*desc, int \*visibility, int \*option\_type, int \*value\_type, int

\*based\_on, **logical** \*has\_default) Returns the details for an Option defined on item. More...

BOM\_API int **BOM\_option\_where\_declared** (const char \*item, const char \*option, int \*count, **tag\_t** \*\*item\_revs) BOM\_API int **BOM\_option\_where\_declared2** (const **tag\_t** item, const char \*option, int \*count, **tag\_t** \*\*item\_revs)

For the given Item returns the item revision on which Option is declared. More...

BOM\_API int **BOM\_option\_where\_used** (const char \*item, const char \*option, int \*count, **tag\_t** \*\*objs) BOM\_API int **BOM\_option\_where\_used2** (const **tag\_t** item, const char \*option, int \*count, **tag\_t** \*\*objs) For the given Item returns the item revision on which Option is Used. More...

BOM\_API int **BOM\_remove\_option\_rev\_value** (**tag\_t** option\_rev, int an\_index) BOM\_API int **BOM\_revise\_option** (**tag\_t** revision\_in, **tag\_t** \*new\_revision) BOM\_API int **BOM\_set\_option\_data** (**tag\_t** option, const char \*name, const char \*description) BOM\_API int **BOM\_set\_option\_rev\_value** (**tag\_t** option\_rev, int an\_index, const char \*value) BOM\_API int **BOM\_set\_pack\_compare** (void \*function) BOM\_API int **BOM\_set\_window\_config\_context** (**tag\_t** window, **tag\_t** config\_context) BOM\_API int **BOM\_update\_for\_variants\_on\_bomline** (**tag\_t** bomline) BOM\_API int **BOM\_update\_for\_variants\_on\_itemrev** (**tag\_t** item\_rev) BOM\_API int **BOM\_update\_for\_variants\_on\_occ** (**tag\_t** parent\_bvr, **tag\_t** occurrence) BOM\_API int **BOM\_update\_pse** (**tag\_t** bvr) BOM\_API int **BOM\_validate\_structure** (**tag\_t** bom\_line, **BOM\_duplicate\_default\_name\_t** default\_name, **BOM\_duplicate\_project\_info\_t** project,

**logical** expandAllLevels, int n\_map, const **BOM\_duplicate\_item\_map\_t** \*input\_map, int n\_dep\_types, const

https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 4/223

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**BOM\_duplicate\_dependent\_type\_t** \*dep\_types, int \*n\_duplicate\_map, **BOM\_duplicate\_item\_map\_t** \*\*duplicate\_map, int \*n\_error\_irs, **BOM\_error\_item\_revision\_t** \*\*error\_irs) BOM\_API int **BOM\_variant\_expr\_default** (**tag\_t** option, int value, **tag\_t** \*default\_ve) BOM\_API int **BOM\_variant\_expr\_error\_if** (**tag\_t** cond\_ve, const char \*warning\_text, **tag\_t** \*error\_if\_ve) BOM\_API int **BOM\_variant\_expr\_load\_if** (**tag\_t** cond\_ve, **tag\_t** \*load\_if\_ve) BOM\_API int **BOM\_variant\_expr\_set\_if** (**tag\_t** cond\_ve, **tag\_t** option, int value, **tag\_t** \*set\_if\_ve, **tag\_t** \*assign\_ve) BOM\_API int **BOM\_variant\_expr\_split\_default** (**tag\_t** default\_ve, **tag\_t** \*option, int \*value) BOM\_API int **BOM\_variant\_expr\_split\_error\_if** (**tag\_t** error\_if\_ve, char \*\*warning\_text, **tag\_t** \*cond\_ve) BOM\_API int **BOM\_variant\_expr\_split\_load\_if** (**tag\_t** load\_if\_ve, **tag\_t** \*cond\_ve) BOM\_API int **BOM\_variant\_expr\_split\_set\_if** (**tag\_t** set\_if\_ve, **tag\_t** \*option, int \*value, **tag\_t** \*cond\_ve) BOM\_API int **BOM\_verify\_part\_structure** (**tag\_t** line, int \*cntCompleteLines, **tag\_t** \*\*completeLinesTags, int \*cntIncompleteLines, **tag\_t**

\*\*incompleteLinesTags, int \*cntSkippedLines, **tag\_t** \*\*skippedLinesTags) BOM\_API int **BOM\_window\_ask\_absocc\_context** (**tag\_t** window, **tag\_t** \*rootLine) BOM\_API int **BOM\_window\_ask\_absocc\_edit\_mode** (**tag\_t** window, **logical** \*absOccEditMode) BOM\_API int **BOM\_window\_ask\_generic\_components** (**tag\_t** window, int \*generic\_component\_count, **tag\_t** \*\*generic\_component\_lines) BOM\_API int **BOM\_window\_ask\_option\_value** (**tag\_t** window, **tag\_t** option, **tag\_t** \*option\_rev, int \*value, int \*how\_set, char \*\*where\_set) BOM\_API int **BOM\_window\_ask\_option\_values** (**tag\_t** window, **tag\_t** option, **tag\_t** \*option\_rev, int \*count, int \*\*values, int \*\*how\_sets, char

\*\*\*where\_sets) BOM\_API int **BOM\_window\_ask\_options** (**tag\_t** window, int \*n\_options, **tag\_t** \*\*options, **tag\_t** \*\*option\_revisions) BOM\_API int **BOM\_window\_filter\_unconfigured\_classic\_variants** (**tag\_t** window) BOM\_API int **BOM\_window\_filters\_unconfigured\_classic\_variants** (**tag\_t** window, **logical** \*filter\_unconfigured) BOM\_API int **BOM\_window\_find\_option** (**tag\_t** window, **tag\_t** item, const char \*option\_name, **tag\_t** \*option, **tag\_t** \*option\_rev) BOM\_API int **BOM\_window\_get\_bomline\_from\_apprPathNode** (**tag\_t** window, **tag\_t** pathNode, **tag\_t** intermediateParentLine, **tag\_t**

\*pathNodeBomLine) BOM\_API int **BOM\_window\_get\_line\_from\_clone\_stable\_id\_chain** (**tag\_t** window, const char \*cs\_chain, **tag\_t** \*line) BOM\_API int **BOM\_window\_get\_occ\_type\_filter** (**tag\_t** window\_tag, int \*count, char \*\*\*typeList) BOM\_API int **BOM\_window\_hide\_gcs\_cps** (**tag\_t** window) BOM\_API int **BOM\_window\_hide\_incremental\_changes** (**tag\_t** bom\_window) BOM\_API int **BOM\_window\_hide\_occ\_type\_filter** (**tag\_t** window\_tag) BOM\_API int **BOM\_window\_hide\_suppressed** (**tag\_t** window) BOM\_API int **BOM\_window\_hide\_unconfigured** (**tag\_t** window) BOM\_API int **BOM\_window\_set\_absocc\_context** (**tag\_t** window, **tag\_t** rootLine) BOM\_API int **BOM\_window\_set\_absocc\_edit\_mode** (**tag\_t** window, **logical** absOccEditMode)

https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 5/223

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BOM\_API int **BOM\_window\_set\_closure\_rule** (**tag\_t** window, **tag\_t** closure\_rule, int n\_variables, char \*\*variable\_names, char \*\*variable\_values) BOM\_API int **BOM\_window\_set\_occ\_type\_filter** (**tag\_t** window\_tag, int count, char \*\*typeList) BOM\_API int **BOM\_window\_set\_option\_value** (**tag\_t** window, **tag\_t** option, int value) BOM\_API int **BOM\_window\_set\_option\_values** (**tag\_t** window, **tag\_t** option, int value\_count, int \*values) BOM\_API int **BOM\_window\_show\_gcs\_cps** (**tag\_t** window) BOM\_API int **BOM\_window\_show\_incremental\_changes** (**tag\_t** bom\_window) BOM\_API int **BOM\_window\_show\_occ\_type\_filter** (**tag\_t** window\_tag) BOM\_API int **BOM\_window\_show\_suppressed** (**tag\_t** window) BOM\_API int **BOM\_window\_show\_unconfigured** (**tag\_t** window) BOM\_API int **BOM\_window\_shows\_gcs\_cps** (**tag\_t** window, **logical** \*shows\_gcs\_cp) BOM\_API int **BOM\_window\_shows\_suppressed** (**tag\_t** window, **logical** \*shows\_suppressed) BOM\_API int **BOM\_window\_shows\_unconfigured** (**tag\_t** window, **logical** \*shows\_unconfigured) BOM\_API int **BOM\_window\_unset\_option\_value** (**tag\_t** window, **tag\_t** option) BOM\_API int **BOM\_world\_newIrfWhereConfigured** (**tag\_t** rev) BOM\_API int **BOM\_writer\_delete** (void \*block) BOM\_API int **BOM\_writer\_get\_plmxml\_builders** (int \*count, char \*\*\*names, char \*\*\*descriptions) BOM\_API int **BOM\_writer\_new\_format\_ajt** (**BOM\_writer\_format** \*\*p) BOM\_API int **BOM\_writer\_new\_format\_empty** (**BOM\_writer\_format** \*\*p) BOM\_API int **BOM\_writer\_new\_format\_flatten** (**BOM\_writer\_format** \*\*p) BOM\_API int **BOM\_writer\_new\_format\_plmxml** (**BOM\_writer\_format** \*\*p) BOM\_API int **BOM\_writer\_new\_output\_file** (**BOM\_writer\_output** \*\*p) BOM\_API int **BOM\_writer\_new\_output\_smstring** (**BOM\_writer\_output** \*\*p) BOM\_API int **BOM\_writer\_new\_traversal** (**BOM\_writer\_traversal** \*\*p) BOM\_API int **BOM\_writer\_write\_bomwindow** (**tag\_t** bom\_window, **BOM\_writer\_output** \*output\_p, **BOM\_writer\_format** \*format\_p,

**BOM\_writer\_traversal** \*traversal\_p)

BOM Setup Functions

BOM\_API int **BOM\_init\_module** (void)

BOM Window Functions

BOM\_API int **BOM\_create\_window** (**tag\_t** \*window) BOM\_API int **BOM\_close\_window** (**tag\_t** window)

https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 6/223

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BOM\_API int **BOM\_refresh\_window** (**tag\_t** window) BOM\_API int **BOM\_ask\_window\_config\_rule** (**tag\_t** window, **tag\_t** \*config\_rule) BOM\_API int **BOM\_set\_window\_config\_rule** (**tag\_t** window, **tag\_t** config\_rule) BOM\_API int **BOM\_set\_window\_pack\_all** (**tag\_t** window, **logical** pack\_all) BOM\_API int **BOM\_window\_ask\_state\_logical** (**tag\_t** window, int state, **logical** \*answer) BOM\_API int **BOM\_set\_window\_top\_line** (**tag\_t** window, **tag\_t** item, **tag\_t** item\_revision, **tag\_t** bv, **tag\_t** \*top\_bom\_line) BOM\_API int **BOM\_set\_window\_top\_line\_using\_occgrp** (**tag\_t** window, **tag\_t** occGrp, **tag\_t** \*top\_bom\_line) BOM\_API int **BOM\_set\_window\_top\_line\_using\_proxy** (**tag\_t** window, **tag\_t** proxy, **tag\_t** \*top\_bom\_line) BOM\_API int **BOM\_set\_window\_top\_line\_bvr** (**tag\_t** window, **tag\_t** bvr, **tag\_t** \*top\_bom\_line) BOM\_API int **BOM\_ask\_window\_top\_line** (**tag\_t** window, **tag\_t** \*top\_bom\_line) BOM\_API int **BOM\_ask\_window\_ignore\_ove\_errors\_on\_expand** (**tag\_t** bom\_window, **logical** \*ignore) BOM\_API int **BOM\_set\_window\_ignore\_ove\_errors\_on\_expand** (**tag\_t** bom\_window, **logical** ignore) BOM\_API int **BOM\_ask\_window\_ove\_message\_error\_level** (**tag\_t** bom\_window, int \*level) BOM\_API int **BOM\_set\_window\_ove\_message\_error\_level** (**tag\_t** bom\_window, int level) BOM\_API int **BOM\_ask\_window\_active\_arrangement** (**tag\_t** bom\_window, **tag\_t** \*arrangement) BOM\_API int **BOM\_set\_window\_active\_arrangement** (**tag\_t** bom\_window, **tag\_t** arrangement) BOM\_API int **BOM\_set\_window\_ignore\_arrangements** (**tag\_t** bom\_window, **logical** ignore) BOM\_API int **BOM\_line\_ask\_used\_arrangement** (**tag\_t** bomline, **tag\_t** \*arrangement) BOM\_API int **BOM\_window\_ask\_effectivity\_grprevs** (**tag\_t** window, int \*count, **tag\_t** \*\*effGrpRevList) BOM\_API int **BOM\_window\_set\_effectivity\_grprevs** (**tag\_t** window, int n\_effrevs, **tag\_t** \*effGrpRevList) BOM\_API int **BOM\_window\_ask\_is\_modified** (**tag\_t** window, **logical** \*is\_modified) BOM\_API int **BOM\_save\_window** (**tag\_t** window) BOM\_API int **BOM\_window\_revert\_all\_pending\_edits** (**tag\_t** window) BOM\_API int **BOM\_line\_revert\_pending\_edits** (int bom\_line\_count, **tag\_t** \*bom\_lines) BOM\_API int **BOM\_set\_window\_sort\_compare\_fn** (**tag\_t** window, void \*function, void \*client\_data)

BOM Line Functions

BOM\_API int **BOM\_line\_ask\_child\_lines** (**tag\_t** bom\_line, int \*count, **tag\_t** \*\*children) BOM\_API int **BOM\_line\_ask\_all\_child\_lines** (**tag\_t** bom\_line, int \*count, **tag\_t** \*\*children) BOM\_API int **BOM\_line\_subset\_child\_lines\_occs** (**tag\_t** bom\_line, int n\_occs, const **tag\_t** \*occs, int \*n\_child\_lines, **tag\_t** \*\*children) BOM\_API int **BOM\_line\_subset\_child\_lines\_occ\_notes** (**tag\_t** bom\_line, **tag\_t** occ\_note\_type, int n\_note\_patterns, const char \*\*notes\_patterns, int

\*n\_child\_lines, **tag\_t** \*\*children) BOM\_API int **BOM\_line\_ask\_remote\_object** (**tag\_t** bom\_line, **tag\_t** \*remote\_object)

https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 7/223

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BOM\_API int **BOM\_line\_get\_remote\_children** (**tag\_t** bom\_line, int \*n\_remote, **tag\_t** \*\*remote\_children) BOM\_API int **BOM\_line\_cut** (**tag\_t** bom\_line) BOM\_API int **BOM\_line\_move\_to** (**tag\_t** new\_parent, int count, **tag\_t** \*bom\_lines) BOM\_API int **BOM\_line\_remove\_level** (int count, **tag\_t** \*bom\_lines) BOM\_API int **BOM\_line\_split\_occurrence** (const char \*quantity, **tag\_t** bom\_line) BOM\_API int **BOM\_line\_replace\_in\_context** (**tag\_t** bom\_line, **tag\_t** item\_rev) BOM\_API int **BOM\_line\_insert\_level** (int count, **tag\_t** \*bom\_lines, **tag\_t** item, **tag\_t** view\_type) BOM\_API int **BOM\_line\_copy** (**tag\_t** new\_parent, **tag\_t** to\_be\_copied, **tag\_t** view\_type, **tag\_t** \*new\_line) BOM\_API int **BOM\_line\_fix\_broken\_links** (int count, const **tag\_t** \*broken\_links, const **tag\_t** \*candidate\_lines) BOM\_API int **BOM\_line\_find\_broken\_links** (**tag\_t** bom\_line, **logical** quick\_search, int \*count, **tag\_t** \*\*broken\_links) BOM\_API int **BOM\_line\_resequence** (**tag\_t** bom\_line, int start\_number, int incre\_number, **logical** recursive) BOM\_API int **BOM\_line\_unload\_below** (**tag\_t** line) BOM\_API int **BOM\_line\_add** (**tag\_t** bom\_line, **tag\_t** item\_folder, **tag\_t** item\_revision\_folder, **tag\_t** bv, **tag\_t** \*new\_line) BOM\_API int **BOM\_line\_add\_with\_occ\_type** (**tag\_t** bom\_line, **tag\_t** item\_folder, **tag\_t** item\_revision\_folder, **tag\_t** bv, char \*occType, **tag\_t** \*new\_line) BOM\_API int **BOM\_line\_add\_gde** (**tag\_t** bomline, **tag\_t** childGDE, char \*occType, **tag\_t** \*newLine)

BOM Occurrence Sequencing

BOM\_API int **BOM\_line\_add\_predecessor** (**tag\_t** bom\_line, **tag\_t** predline) BOM\_API int **BOM\_line\_remove\_predecessor** (**tag\_t** bom\_line, **tag\_t** predline) BOM\_API int **BOM\_line\_replace** (**tag\_t** bom\_line, **tag\_t** item\_folder, **tag\_t** item\_revision\_folder, **tag\_t** bv) BOM\_API int **BOM\_line\_change\_to\_replace** (**tag\_t** deletedBOMLine, **tag\_t** addedBOMLine) BOM\_API int **BOM\_line\_is\_replaceable** (**tag\_t** bom\_line, **logical** \*verdict) BOM\_API int **BOM\_line\_set\_precise** (**tag\_t** bom\_line, **logical** precise) BOM\_API int **BOM\_line\_pack** (**tag\_t** bom\_line) BOM\_API int **BOM\_line\_unpack** (**tag\_t** bom\_line) BOM\_API int **BOM\_line\_is\_packed** (**tag\_t** bom\_line, **logical** \*verdict) BOM\_API int **BOM\_line\_replace\_gde** (**tag\_t** gde\_line, **tag\_t** new\_gde)

BOM Attribute Functions

Used to ask about attributes of a BOM line, and update some of them. After updating the attribute, BOM\_save\_window must be called to commit the change.

https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 8/223

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BOM\_API int **BOM\_line\_list\_attributes** (int \*count, int \*\*attributes) BOM\_API int **BOM\_line\_look\_up\_attribute** (const char \*attribute\_name, int \*attribute) BOM\_API int **BOM\_line\_look\_up\_inherited\_attr** (const char \*class\_name, const char \*attribute\_name, int \*attribute) BOM\_API int **BOM\_line\_ask\_attribute\_name** (int attribute, char \*\*attribute\_name) BOM\_API int **BOM\_line\_ask\_attribute\_uname** (int attribute, char \*\*attribute\_user\_name) BOM\_API int **BOM\_line\_ask\_attribute\_mode** (int attribute, int \*attribute\_mode) BOM\_API int **BOM\_line\_ask\_attribute\_ro** (int attribute, **logical** \*attribute\_is\_read\_only) BOM\_API int **BOM\_line\_set\_attribute\_int** (**tag\_t** bom\_line, int attribute, int value) BOM\_API int **BOM\_line\_ask\_attribute\_int** (**tag\_t** bom\_line, int attribute, int \*value) BOM\_API int **BOM\_line\_set\_attribute\_logical** (**tag\_t** bom\_line, int attribute, **logical** value) BOM\_API int **BOM\_line\_ask\_attribute\_logical** (**tag\_t** bom\_line, int attribute, **logical** \*value) BOM\_API int **BOM\_line\_set\_attribute\_tag** (**tag\_t** bom\_line, int attribute, **tag\_t** value) BOM\_API int **BOM\_line\_ask\_attribute\_tag** (**tag\_t** bom\_line, int attribute, **tag\_t** \*value) BOM\_API int **BOM\_line\_set\_attribute\_string** (**tag\_t** bom\_line, int attribute, const char \*value) BOM\_API int **BOM\_line\_ask\_attribute\_string** (**tag\_t** bom\_line, int attribute, char \*\*value) BOM\_API int **BOM\_line\_set\_attribute\_double** (**tag\_t** bom\_line, int attribute, double value) BOM\_API int **BOM\_line\_ask\_attribute\_double** (**tag\_t** bom\_line, int attribute, double \*value)

BOM Substitute Functions

BOM\_API int **BOM\_line\_ask\_has\_substitutes** (**tag\_t** bom\_line, **logical** \*has\_substitutes) BOM\_API int **BOM\_line\_ask\_is\_substitute** (**tag\_t** bom\_line, **logical** \*is\_substitute) BOM\_API int **BOM\_line\_show\_substitutes** (**tag\_t** bom\_line) BOM\_API int **BOM\_line\_hide\_substitutes** (**tag\_t** bom\_line) BOM\_API int **BOM\_line\_list\_substitutes** (**tag\_t** bom\_line, int \*n\_substitutes, **tag\_t** \*\*substitute\_lines) BOM\_API int **BOM\_line\_add\_substitute** (**tag\_t** bom\_line, **tag\_t** item, **tag\_t** item\_revision, **tag\_t** bom\_view, **tag\_t** \*new\_line) BOM\_API int **BOM\_line\_prefer\_substitute** (**tag\_t** bom\_line, **logical** \*is\_temporary) BOM\_API int **BOM\_window\_show\_substitutes** (**tag\_t** bom\_window) BOM\_API int **BOM\_window\_hide\_substitutes** (**tag\_t** bom\_window)

BOM Window Variation Functions

**Common Return Values**

https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 9/223

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**BOM\_variant\_error\_condition** - The new variant data triggered a variant rule check in one (or more) of the BOM windows being updated.

BOM\_API int **BOM\_window\_ask\_vrule** (**tag\_t** bom\_window, **tag\_t** \*vrule, **logical** \*modified) BOM\_API int **BOM\_window\_ask\_vrules** (**tag\_t** window, int \*count, **tag\_t** \*\*variant\_rules, **logical** \*\*modified) BOM\_API int **BOM\_window\_apply\_full\_vrule** (**tag\_t** bom\_window, **tag\_t** vrule) BOM\_API int **BOM\_window\_apply\_partial\_vrule** (**tag\_t** bom\_window, **tag\_t** vrule) BOM\_API int **BOM\_window\_apply\_overlay\_variant\_rules** (**tag\_t** window, int svr\_count, **tag\_t** \*svr\_list, int svr\_mode, int \*count, **tag\_t**

\*\*variant\_rule\_list) BOM\_API int **BOM\_window\_show\_variants** (**tag\_t** bom\_window) BOM\_API int **BOM\_window\_hide\_variants** (**tag\_t** bom\_window)

BOM Variant Data Functions

BOM\_API int **BOM\_new\_variant\_expression** (**tag\_t** v1, int opcode, **tag\_t** v2, const char \*str, **tag\_t** \*expr) BOM\_API int **BOM\_set\_variant\_expression** (**tag\_t** expr, **tag\_t** v1, int opcode, **tag\_t** v2, const char \*str) BOM\_API int **BOM\_ask\_variant\_expression** (**tag\_t** expr, **tag\_t** \*v1, int \*opcode, **tag\_t** \*v2, char \*\*str) BOM\_API int **BOM\_variant\_expression\_as\_text** (**tag\_t** expr, char \*\*str) BOM\_API int **BOM\_new\_variant\_e\_block** (**tag\_t** \*block) BOM\_API int **BOM\_ask\_variant\_e\_block** (**tag\_t** block, int \*n, **tag\_t** \*\*exprs) BOM\_API int **BOM\_set\_variant\_e\_block** (**tag\_t** block, int n, const **tag\_t** \*exprs) BOM\_API int **BOM\_line\_ask\_variant\_e\_block** (**tag\_t** line, **tag\_t** \*block) BOM\_API int **BOM\_line\_set\_variant\_e\_block** (**tag\_t** line, **tag\_t** block) BOM\_API int **BOM\_variant\_e\_block\_add** (**tag\_t** veb, **tag\_t** ve) BOM\_API int **BOM\_variant\_e\_block\_remove** (**tag\_t** veb, **tag\_t** ve) BOM\_API int **BOM\_variant\_e\_block\_replace** (**tag\_t** veb, **tag\_t** veOut, **tag\_t** veIn)

BOM Variant Rule Functions

BOM\_API int **BOM\_window\_ask\_variant\_rule** (**tag\_t** window, **tag\_t** \*bomvariantlist) BOM\_API int **BOM\_window\_ask\_variant\_rules** (**tag\_t** window, int \*count, **tag\_t** \*\*bom\_variant\_rules) BOM\_API int **BOM\_window\_ask\_varconfig\_mode** (**tag\_t** window, int \*var\_config\_mode) BOM\_API int **BOM\_window\_set\_varconfig\_mode** (**tag\_t** window, int var\_config\_mode) BOM\_API int **BOM\_variant\_rule\_copy** (**tag\_t** src\_bomvariantlist, **tag\_t** dst\_window, **tag\_t** \*dst\_bomvariantlist) BOM\_API int **BOM\_variant\_rule\_set\_copy\_action** (int action) BOM\_API int **BOM\_variant\_rule\_ask\_copy\_action** (int \*action)

https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 10/223

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BOM\_API int **BOM\_variant\_rule\_apply** (**tag\_t** bomvariantlist) BOM\_API int **BOM\_variant\_rule\_apply\_to** (**tag\_t** src\_bomvariantlist, **tag\_t** dst\_bomvariantlist) BOM\_API int **BOM\_variant\_rule\_delete** (**tag\_t** bomvariantlist) BOM\_API int **BOM\_variant\_rule\_apply\_full\_vrule** (**tag\_t** bomvariantlist, **tag\_t** vrule, **logical** \*list\_changed) BOM\_API int **BOM\_variant\_rule\_apply\_partial\_vrule** (**tag\_t** bomvariantlist, **tag\_t** vrule, **logical** \*list\_changed) BOM\_API int **BOM\_variant\_rule\_ask\_vrule** (**tag\_t** bomvariantlist, **tag\_t** \*vrule, **logical** \*modified) BOM\_API int **BOM\_variant\_rule\_find\_option** (**tag\_t** bomvariantlist, **tag\_t** item, const char \*name, **tag\_t** \*option, **tag\_t** \*option\_rev) BOM\_API int **BOM\_variant\_rule\_find\_options** (**tag\_t** bomvariantlist, **tag\_t** item, const char \*name, int \*n\_options, **tag\_t** \*\*options) BOM\_API int **BOM\_variant\_rule\_ask\_option\_rev** (**tag\_t** bomvariantlist, **tag\_t** option, **tag\_t** \*option\_rev) BOM\_API int **BOM\_variant\_rule\_ask\_options** (**tag\_t** bomvariantlist, int \*n, **tag\_t** \*\*options, **tag\_t** \*\*option\_revs) BOM\_API int **BOM\_variant\_rule\_set\_option\_value** (**tag\_t** bomvariantlist, **tag\_t** option, int value) BOM\_API int **BOM\_variant\_rule\_set\_option\_values** (**tag\_t** bom\_variant\_list, **tag\_t** option, int value\_count, int \*values) BOM\_API int **BOM\_variant\_rule\_ask\_option\_value** (**tag\_t** bomvariantlist, **tag\_t** option, **tag\_t** \*option\_rev, int \*value, int \*how\_set, char \*\*where\_set) BOM\_API int **BOM\_variant\_rule\_ask\_option\_values** (**tag\_t** bom\_variant\_list, **tag\_t** option, **tag\_t** \*option\_rev, int \*count, int \*\*values, int \*\*how\_sets,

char \*\*\*where\_sets) BOM\_API int **BOM\_variant\_rule\_unset\_option\_value** (**tag\_t** bomvariantlist, **tag\_t** option) BOM\_API int **BOM\_variant\_rule\_unset\_option\_values** (**tag\_t** bomvariantlist, int n\_options, **tag\_t** \*options) BOM\_API int **BOM\_variant\_rule\_clear\_option\_values** (**tag\_t** bomvariantlist) BOM\_API int **BOM\_variant\_rule\_evaluate** (**tag\_t** bomvariantlist)

BOM Variant Clause List Functions

**Common Return Values**

**BOM\_variant\_invalid\_cond\_clause** - The specified clause position is not valid. **BOM\_variant\_invalid\_operation** - This operation cannot be performed on the given list of clauses.

BOM\_API int **BOM\_variant\_new\_clause\_list** (**tag\_t** bom\_window, **tag\_t** \*clause\_list) BOM\_API int **BOM\_variant\_condition\_to\_clause\_list** (**tag\_t** bom\_window, **tag\_t** condition\_ve, **tag\_t** \*clause\_list) BOM\_API int **BOM\_variant\_join\_clause\_list** (**tag\_t** clause\_list, **tag\_t** \*conditon\_ve) BOM\_API int **BOM\_variant\_delete\_clause\_list** (**tag\_t** clause\_list) BOM\_API int **BOM\_variant\_clause\_append** (**tag\_t** clause\_list, int join, **tag\_t** option, int op, const char \*value) BOM\_API int **BOM\_variant\_clause\_insert** (**tag\_t** clause\_list, int pos, int join, **tag\_t** option, int op, const char \*value) BOM\_API int **BOM\_variant\_clause\_replace** (**tag\_t** clause\_list, int pos, int join, **tag\_t** option, int op, const char \*value)

https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 11/223

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BOM\_API int **BOM\_variant\_clause\_delete** (**tag\_t** clause\_list, int n\_clauses, int pos[]) BOM\_API int **BOM\_variant\_clause\_move\_up** (**tag\_t** clause\_list, int n\_clauses, int pos[]) BOM\_API int **BOM\_variant\_clause\_move\_down** (**tag\_t** clause\_list, int n\_clauses, int pos[]) BOM\_API int **BOM\_variant\_clause\_toggle\_brackets** (**tag\_t** clause\_list, int n\_clauses, int pos[]) BOM\_API int **BOM\_variant\_clause\_list\_size** (**tag\_t** clause\_list, int \*n\_clauses) BOM\_API int **BOM\_variant\_clause\_list\_text** (**tag\_t** clause\_list, int \*n\_clauses, char \*\*\*text) BOM\_API int **BOM\_variant\_clause\_text** (**tag\_t** clause\_list, int pos, char \*\*text) BOM\_API int **BOM\_variant\_clause\_details** (**tag\_t** clause\_list, int pos, int \*join, **tag\_t** \*option, int \*op, char \*\*value) BOM\_API int **BOM\_variant\_clause\_valid\_ops** (**tag\_t** clause\_list, int n\_clauses, int pos[], int \*op\_flags) BOM\_API int **BOM\_variant\_clause\_validate\_ops** (**tag\_t** clause\_list, **logical** auto\_validate)

BOM Modular Variants Functions

**Configuration**

This is the set of ITK functions required to configure a structure.

**BOM\_line\_ask\_sos BOM\_line\_clear\_sos BOM\_sos\_apply BOM\_sos\_apply\_list BOM\_sos\_free BOM\_window\_ask\_ove\_messages BOM\_line\_ove\_validate BOM\_sos\_ask\_entries** BOM\_sos\_ask\_entry\_<type> BOM\_sos\_set\_entry\_<type> **BOM\_sos\_unset\_entry BOM\_option\_ask\_allowed\_ints BOM\_option\_ask\_allowed\_reals BOM\_option\_ask\_allowed\_strings**

**Authoring ITK**

The following ITKs deal with the creation and editing of Modular Variants. It essentially provides a way to getting and setting MVL. MVL has 2 distinct areas - the option declaration statements and the language expressions. These are dealt with via separate functions in the ITK.

https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 12/223

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**BOM\_line\_ask\_mvl\_condition BOM\_line\_set\_mvl\_condition BOM\_line\_ask\_mvl BOM\_line\_set\_mvl BOM\_module\_list\_options BOM\_module\_ask\_option\_text BOM\_line\_delete\_option BOM\_line\_define\_option**

**Additional ITK**

**BOM\_option\_where\_declared BOM\_option\_where\_used**

BOM\_API int **BOM\_line\_ask\_sos** (**tag\_t** bom\_line, **tag\_t** \*sos) BOM\_API int **BOM\_line\_clear\_sos** (**tag\_t** bom\_line, **logical** doUpdates) BOM\_API int **BOM\_sos\_apply** (**tag\_t** sos, **logical** doUpdates) BOM\_API int **BOM\_sos\_apply\_list** (int count, **tag\_t** \*sos, **logical** doUpdates) BOM\_API int **BOM\_sos\_free** (**tag\_t** sos) BOM\_API int **BOM\_window\_ask\_ove\_messages** (**tag\_t** bom\_window, int \*count, int \*\*severities, char \*\*\*messages, **tag\_t** \*\*lines) BOM\_API int **BOM\_line\_ove\_validate** (**tag\_t** line, **logical** recurse, int \*count, int \*\*error\_types, **tag\_t** \*\*lines, int \*\*options) BOM\_API int **BOM\_decompose\_ove\_path** (const char \*path, int \*count, char \*\*\*pathElements) BOM\_API int **BOM\_sos\_ask\_entries** (**tag\_t** sos, int \*count, int \*\*options, char \*\*\*paths) BOM\_API int **BOM\_sos\_ask\_entry\_int** (**tag\_t** sos, int option, const char \*path, int \*value, int \*how\_set) BOM\_API int **BOM\_sos\_ask\_entry\_double** (**tag\_t** sos, int option, const char \*path, double \*value, int \*how\_set) BOM\_API int **BOM\_sos\_ask\_entry\_logical** (**tag\_t** sos, int option, const char \*path, **logical** \*value, int \*how\_set) BOM\_API int **BOM\_sos\_ask\_entry\_display** (**tag\_t** sos, int option, const char \*path, char \*\*value, int \*how\_set) BOM\_API int **BOM\_sos\_set\_entry\_int** (**tag\_t** sos, int option, const char \*path, int value, int how\_set) BOM\_API int **BOM\_sos\_set\_entry\_double** (**tag\_t** sos, int option, const char \*path, double value, int how\_set) BOM\_API int **BOM\_sos\_set\_entry\_logical** (**tag\_t** sos, int option, const char \*path, **logical** value, int how\_set) BOM\_API int **BOM\_sos\_set\_entry\_string** (**tag\_t** sos, int option, const char \*path, const char \*value, int how\_set) BOM\_API int **BOM\_sos\_unset\_entry** (**tag\_t** sos, int option, const char \*path) BOM\_API int **BOM\_option\_describe** (int option, char \*\*item, char \*\*option\_name, char \*\*desc, int \*visibility, int \*option\_type, int \*value\_type, int

\*based\_on, **logical** \*has\_default) BOM\_API int **BOM\_ask\_option\_path** (int option, char \*\*path)

https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 13/223

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BOM\_API int **BOM\_option\_ask\_allowed\_strings** (int option, int \*count, char \*\*\*values, char \*\*default\_value) BOM\_API int **BOM\_option\_ask\_allowed\_ints** (int option, int \*count, int \*\*mins, int \*\*maxs, int \*\*range\_types, int \*default\_value) BOM\_API int **BOM\_option\_ask\_allowed\_reals** (int option, int \*count, double \*\*mins, double \*\*maxs, int \*\*range\_types, double \*default\_value) BOM\_API int **BOM\_option\_ask\_logical\_default** (int option, **logical** \*default\_value) BOM\_API int **BOM\_line\_ask\_mvl\_condition** (**tag\_t** line, char \*\*condition) BOM\_API int **BOM\_line\_set\_mvl\_condition** (**tag\_t** line, const char \*condition) BOM\_API int **BOM\_line\_ask\_mvl** (**tag\_t** line, char \*\*mvl) BOM\_API int **BOM\_line\_set\_mvl** (**tag\_t** line, const char \*mvl) BOM\_API int **BOM\_module\_list\_options** (**tag\_t** window, const char \*module\_id, int \*count, int \*\*options) BOM\_API int **BOM\_module\_ask\_option\_text** (int option, char \*\*text) BOM\_API int **BOM\_module\_ask\_option\_handle** (**tag\_t** window, const char \*module\_id, const char \*name, int \*option) BOM\_API int **BOM\_line\_define\_option** (**tag\_t** line, const char \*text) BOM\_API int **BOM\_line\_delete\_option** (**tag\_t** line, int option) BOM\_API int **BOM\_line\_modify\_option** (**tag\_t** line, int option, const char \*text)

SOS Storage and Retrieval

BOM\_API int **BOM\_sos\_db\_read** (**tag\_t** db\_sos, **tag\_t** config) BOM\_API int **BOM\_sos\_db\_create** (const char \*db\_sos\_name, **tag\_t** config, **tag\_t** \*db\_sos) BOM\_API int **BOM\_sos\_db\_set** (**tag\_t** db\_sos, **tag\_t** config) BOM\_API int **BOM\_sos\_db\_create\_partial** (const char \*db\_sos\_name, **tag\_t** config, int count, **tag\_t** \*items, char \*\*options, **logical** \*isModular, **tag\_t**

\*db\_sos) BOM\_API int **BOM\_sos\_db\_set\_partial** (**tag\_t** db\_sos, **tag\_t** config, int count, **tag\_t** \*items, char \*\*options, **logical** \*isModular) BOM\_API int **BOM\_sos\_db\_contents** (**tag\_t** db\_sos, int \*count, **tag\_t** \*\*items, char \*\*\*options, int \*\*optionTypes, int \*\*valueTypes, int \*\*howSet, char

\*\*\*values) BOM\_API int **BOM\_sos\_db\_option\_query** (int n, **tag\_t** \*items, char \*\*options, int \*n\_matches, **tag\_t** \*\*matches) BOM\_API int **BOM\_sos\_db\_query** (int n, **tag\_t** \*items, char \*\*options, int \*ops, int \*valueTypes, char \*\*lowValues, char \*\*highValues, int \*n\_matches,

**tag\_t** \*\*matches)

BOM Variant configuration functions

BOM\_API int **BOM\_create\_variant\_config** (**tag\_t** bom\_vrule, int count, **tag\_t** \*bomsoslist, **tag\_t** \*bom\_variant\_config) BOM\_API int **BOM\_create\_window\_variant\_config** (**tag\_t** bom\_window, int mode, **tag\_t** \*bom\_variant\_config) BOM\_API int **BOM\_create\_bomline\_variant\_config** (**tag\_t** bom\_line, int mode, **tag\_t** \*bom\_variant\_config) BOM\_API int **BOM\_delete\_variant\_config** (**tag\_t** bom\_variant\_config)

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BOM\_API int **BOM\_variant\_config\_apply** (**tag\_t** bom\_variant\_config) BOM\_API int **BOM\_variant\_config\_clear** (**tag\_t** bom\_variant\_config) BOM\_API int **BOM\_variant\_config\_evaluate** (**tag\_t** bom\_variant\_config) BOM\_API int **BOM\_variant\_config\_copy** (**tag\_t** source\_config, **logical** deepCopy, **tag\_t** \*new\_config) BOM\_API int **BOM\_set\_variant\_config\_bomvrule** (**tag\_t** bom\_variant\_config, **tag\_t** bom\_vrule, int mode) BOM\_API int **BOM\_set\_variant\_config\_bomsos** (**tag\_t** bom\_variant\_config, **tag\_t** bom\_line, **tag\_t** bom\_sos, int mode) BOM\_API int **BOM\_ask\_variant\_config** (**tag\_t** bom\_variant\_config, **tag\_t** \*bom\_vrule, int \*count, **tag\_t** \*\*bomsoslist) BOM\_API int **BOM\_ask\_variant\_config\_context** (**tag\_t** bom\_variant\_config, **tag\_t** \*bom\_window, **tag\_t** \*root\_bom\_line)

BOM Compare Functions

**Common Return Values**

**BOM\_no\_current\_compare** - The BOMCompare has not yet been supplied to **BOM\_compare\_execute** (or **BOM\_compare**, for the standard internal compare), or an error occurred during the last such call that invalidated the comparison. **BOM\_no\_such\_bom\_compare\_mode** - No mode by that name yet registered.

BOM\_API int **BOM\_compare\_create** (**tag\_t** \*bomcompare) BOM\_API int **BOM\_compare\_delete** (**tag\_t** bomcompare) BOM\_API int **BOM\_compare\_ask\_modes** (**logical** visible\_only, int \*n\_modes, char \*\*\*mode\_names) BOM\_API int **BOM\_compare\_visit\_engine** (**tag\_t** bomcompare, **BOM\_compare\_engine\_visitor\_t** \*enter\_engine, **BOM\_compare\_engine\_visitor\_t**

\*leave\_engine, **BOM\_compare\_set\_visitor\_t** \*visit\_set, void \*user\_data) BOM\_API int **BOM\_compare\_ask\_mode** (**tag\_t** bomcompare, char \*\*mode\_name) BOM\_API int **BOM\_compare\_ask\_output\_mode** (**tag\_t** bomcompare, int \*output\_mode) BOM\_API int **BOM\_compare\_ask\_root\_bomlines** (**tag\_t** bomcompare, **tag\_t** \*bomline1, **tag\_t** \*bomline2) BOM\_API int **BOM\_compare\_ask\_engine\_root\_bomlines** (**tag\_t** bomcompareengine, **tag\_t** \*bomline1, **tag\_t** \*bomline2) BOM\_API int **BOM\_compare\_define\_mode** (const char \*mode\_name, int traversal\_mode, **tag\_t** compare\_desc, **logical** visible, **logical** autopack,

**logical** virtualunpack) BOM\_API int **BOM\_compare\_ask\_mode\_info** (const char \*mode\_name, int \*traversal\_mode, **tag\_t** \*compare\_desc, **logical** \*visible, **logical**

\*autopack, **logical** \*virtualunpack) BOM\_API int **BOM\_compare\_set\_visibility** (const char \*mode\_name, **logical** visible) BOM\_API int **BOM\_compare\_reports\_unchanged** (const char \*mode\_name, **logical** \*reports\_unchanged) BOM\_API int **BOM\_compare\_set\_rpt\_unchanged** (const char \*mode\_name, **logical** report\_unchanged) BOM\_API int **BOM\_compare** (**tag\_t** line1, **tag\_t** line2, int mode, int output)

https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 15/223

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BOM\_API int **BOM\_compare\_execute** (**tag\_t** bomcompare, **tag\_t** bomline1, **tag\_t** bomline2, const char \*mode\_name, int output\_to) BOM\_API int **BOM\_compare\_clear** (**tag\_t** compare\_context) BOM\_API int **BOM\_compare\_suppress** (**tag\_t** compare\_context, int output) BOM\_API int **BOM\_compare\_list\_bomlines** (**tag\_t** cmp\_item, int \*count1, **tag\_t** \*\*bomline\_list1, int \*count2, **tag\_t** \*\*bomline\_list2) BOM\_API int **BOM\_compare\_ask\_difference** (**tag\_t** cmp\_item, int \*diff\_flags) BOM\_API int **BOM\_compare\_ask\_qty** (**tag\_t** cmp\_item, double \*qty1, double \*qty2) BOM\_API int **BOM\_compare\_ask\_rev** (**tag\_t** cmp\_item, char \*\*rev1, char \*\*rev2) BOM\_API int **BOM\_compare\_ask\_seqno** (**tag\_t** cmp\_item, char \*\*seqno) BOM\_API int **BOM\_compare\_list\_diffs** (**tag\_t** line, int \*diff\_count, **tag\_t** \*\*diff\_lines, int \*\*diff\_flags) BOM\_API int **BOM\_compare\_list\_diffs\_context** (**tag\_t** line, **tag\_t** context, int \*diff\_count, **tag\_t** \*\*diff\_lines, int \*\*diff\_flags) BOM\_API int **BOM\_compare\_report** (**tag\_t** compare\_context, int \*report\_length, char \*\*\*report\_lines, **tag\_t** \*\*report\_items) BOM\_API int **BOM\_compare\_report\_size** (**tag\_t** compare\_context, int \*report\_width, int \*column\_spacer, int \*column\_count, int \*\*column\_width)

BOM Snapshot Folder creation functions

BOM\_API int **BOM\_create\_snapshot** (**tag\_t** bom\_window, const char \*name, const char \*desc, **tag\_t** \*snapshot\_folder)

BOM Baseline Functions

BOM\_API int **BOM\_create\_baseline** (**tag\_t** bom\_window, const char \*name, const char \*desc, const char \*rel\_proc\_name, const char \*jobName, const

char \*jobDescription, **tag\_t** \*baseline\_rev) BOM\_API int **BOM\_create\_baseline\_with\_baseline\_label** (**tag\_t** bom\_window, const char \*name, const char \*desc, const char \*rel\_proc\_name, const

char \*jobName, const char \*baseline\_label\_name, const char \*jobDescription, **tag\_t** \*baseline\_rev) BOM\_API int **BOM\_dryrun\_baseline** (**tag\_t** bom\_window, const char \*rel\_proc\_name, char \*\*logFileName, char \*\*fullLogFileName, **logical**

\*error\_registered)

BOM Post-Configuration functions

BOM\_API int **BOM\_line\_force\_config** (**tag\_t** bomline, **logical** force\_parents\_too, int override\_status) BOM\_API int **BOM\_window\_clear\_all\_forced\_configs** (**tag\_t** bomwindow) BOM\_API int **BOM\_start\_forced\_config** (**tag\_t** \*transaction) BOM\_API int **BOM\_end\_forced\_config** (**tag\_t** transaction)

BOM Publish Functions

BOM\_API int **BOM\_create\_publish\_link** (const char \*name, const char \*type, **tag\_t** source\_line, int target\_count, const **tag\_t** \*target\_lines, **tag\_t**

https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 16/223

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\*publishLink) BOM\_API int **BOM\_publishlink\_add\_targets** (**tag\_t** source\_line, int target\_count, const **tag\_t** \*target\_lines, **tag\_t** \*publishLink) BOM\_API int **BOM\_publishlink\_delete\_targets** (**tag\_t** source\_line, int target\_count, const **tag\_t** \*target\_lines, **tag\_t** \*publishLink) BOM\_API int **BOM\_publishlink\_find\_targets\_in\_window** (**tag\_t** source\_line, **tag\_t** target\_bom\_window, int \*targets\_count, **tag\_t** \*\*target\_lines) BOM\_API int **BOM\_publish\_data** (**tag\_t** source\_line, int target\_count, const **tag\_t** \*target\_lines, const int data\_flags, const char \*publishLinkName,

const char \*publishLinkTypeName, **tag\_t** \*publishLink) BOM\_API int **BOM\_delete\_publishlink\_for\_source** (**tag\_t** source\_line) BOM\_API int **BOM\_publishlink\_find\_source\_in\_window** (**tag\_t** target\_line, **tag\_t** source\_bom\_window, **tag\_t** \*source\_line) BOM\_API int **BOM\_publishlink\_delete\_target** (**tag\_t** target\_line, **tag\_t** \*publishLink) BOM\_API int **BOM\_publishlink\_ask\_source\_context\_bv** (**tag\_t** target\_line, **tag\_t** \*source\_bom\_view) BOM\_API int **BOM\_ask\_publishlink\_for\_source** (**tag\_t** source\_line, **tag\_t** \*publish\_link) BOM\_API int **BOM\_ask\_publishlink\_for\_target** (**tag\_t** target\_line, **tag\_t** \*publish\_link)

Detailed Description

The Bill of Material (BOM) module is intended to give a consistent interface to the separate elements that make up a line in a BOM. The design assumes that you have a BOM window (this can be a printed report or a screen window) showing a BOM made up of BOM lines. Each BOM line shows attributes derived from Items, Item Revision, occurrences, and so on along with some attributes belonging to the BOM line itself and not any of the individual objects the line represents (i.e., is\_packed).

The names of these attributes give a clue as to which object they have been derived from. The programmer using them can ignore this and treat them all as BOM line attributes. Although some attributes are standard (and listed in **bom\_attr.h**) others are defined at run time (i.e., the note types on occurrences) and have to be found by inquiry.

Since the BOM module keeps all of its windows synchronized, it is possible for changes to structure in one window to cause a BOM line in some other window to disappear. Therefore, be careful about storing BOM line tags when using multiple windows onto the same structure if that structure is open to editing.

**Common Return Values**

Return Value Description

**BOM\_compare\_invalid\_dest** The output parameter is set to an illegal value.

**BOM\_compare\_invalid\_mode** The mode parameter is not set to one of the legal values.

**BOM\_compare\_nested\_roots** The specified BOM lines are nested (i.e., one is an ancestor of the other).

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**BOM\_compare\_no\_report** No report output was generated because a report was not requested by **BOM\_compare**.

**VRULE\_invalid\_rule** The supplied variant rule is not valid.

Teamcenter has implemented BOM structure duplication functionality that allows users to make cloned copies of the BOM structures in their environment.

Detailed information is supplied for the following aspects of Duplicate functions:

Define default Item ID naming patterns. Validate new Item IDs for part cloning. Identify what parts in a BOM structure will be cloned or referenced. Flag if new cloned parts should be assigned to specified projects. Flag if specified projects should be validated before assigning new cloned parts to specified projects. Flag if specified CAD dependencies should be included with BOM structure duplication.

**Note**

Duplicate functionality only supports IPEM/ProE CAD integration.

Teamcenter makes use of this mechanism itself, and it also provides ITK level functions for programmers to make use of the same Duplicate mechanism.

**Note**

Teamcenter may alter or obsolete Duplicate codes as the product evolves. These changes will be documented in the Release Notes.

The ITK Duplicate functions include:

An initialization function A function to perform a validation on a BOM structure to be duplicated. A function to execute the duplication of a BOM structure.

To use these functions, include **bomclone.h**.

Typedef Documentation

https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 18/223

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https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 19/223

**typedef struct typedef struct**

**typedef enum typedef enum**

**typedef struct typedef struct**

**typedef struct typedef struct**

**BOM\_duplicate\_default\_name\_t BOM\_duplicate\_default\_name\_t**

**BOM\_duplicate\_dependent\_type\_t BOM\_duplicate\_dependent\_type\_t**

**BOM\_duplicate\_item\_map\_t BOM\_duplicate\_item\_map\_t**

**BOM\_duplicate\_project\_info\_t BOM\_duplicate\_project\_info\_t**

**BOM\_duplicate\_dependent\_type\_e BOM\_duplicate\_dependent\_type\_e**

**BOM\_duplicate\_dependent\_type\_e BOM\_duplicate\_dependent\_type\_e**

**BOM\_duplicate\_default\_name\_s BOM\_duplicate\_default\_name\_s**

**BOM\_duplicate\_default\_name\_s BOM\_duplicate\_default\_name\_s**

**BOM\_duplicate\_item\_map\_s BOM\_duplicate\_item\_map\_s**

**BOM\_duplicate\_item\_map\_s BOM\_duplicate\_item\_map\_s**

**BOM\_duplicate\_project\_info\_s BOM\_duplicate\_project\_info\_s**

**BOM\_duplicate\_project\_info\_s BOM\_duplicate\_project\_info\_s**

The default naming options for generating new Item IDs.

**Note**

If the parameter autogen is set to "true", all other fields are ignored.

Different CAD Dependency search options that are supported by Duplicate operation.

Contains the mapping of how an Item is to be processed by Duplicate operation. This mapping is used to override the default Item ID naming **BOM\_duplicate\_default\_name\_t** and default clone action for a specific Item.

**Note**

The Duplicate operation determines if an Item will be cloned or referenced based on the OldItemTag and newItemId parameters. An old Item will be cloned during Duplicate operation if new Item ID is different then the Item ID on the old Item. An old Item will be referenced during Duplicate operation if new Item ID is the same as the Item ID on the old Item. If the old Item is not in this map then the default Item ID naming **BOM\_duplicate\_default\_name\_t** and default clone action will be applied to the Item.

Contains the project information to be used by Duplicate operation.

**Note**

This tells Duplicate operation if it needs to validate and assign cloned Items to specified projects.

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https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 20/223

**BOM\_error\_item\_revision\_t BOM\_error\_item\_revision\_t**

**typedef struct typedef struct**

**BOM\_error\_item\_revision\_s BOM\_error\_item\_revision\_s**

**BOM\_error\_item\_revision\_s BOM\_error\_item\_revision\_s**

The following structures will contain the item rev that encountered a problem and its corresponding error number. Contains the error information that occurred during a Duplicate operation.

Enumeration Type Documentation

**BOM\_duplicate\_dependent\_type\_e BOM\_duplicate\_dependent\_type\_e**

**enum enum**

Different CAD Dependency search options that are supported by Duplicate operation.

**Enumerator**

*NoDep* No CAD Dependent options selected

*Drawing* CAD Drawing option selected

*PartFamilyMaster* CAD Part Family Master part option selected

*PartFamilyMember* CAD Part Family Member part option selected

*Required* CAD Required Part option selected

*AllDep* All CAD Dependents option selected

*ExcludeFromBom* CAD Exclude Part option selected

Definition at line **60** of file **bomclone.h**.

Function Documentation

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https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 21/223

**BOM\_API int BOM\_add\_option\_rev\_value BOM\_API int BOM\_add\_option\_rev\_value**

**((**

**tag\_t tag\_t**

**tag\_t tag\_t**

**option\_rev option\_rev**

**option\_rev option\_rev**

**option\_rev option\_rev**

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**BOM\_API int BOM\_ask\_index\_of\_opt\_rev\_value BOM\_API int BOM\_ask\_index\_of\_opt\_rev\_value**

**))**

Adds a new allowed value to the option revision.

**Parameters**

**option\_rev** (I) Tag of the option revision **value** (I) New text value **an\_index** (O) Index for the new value

**))**

Converts a specified text string into an index value.

**Restrictions:**

**((**

**tag\_t tag\_t**

**tag\_t tag\_t**

**option\_rev option\_rev**

**option\_rev option\_rev**

**option\_rev option\_rev**

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If the value is not valid for the option revision, it returns an index value of -1.

**Parameters**

**option\_rev** (I) Tag of the option revision **value** (I) Text value to look up **an\_index** (O) Index for that value

**const char \* const char \***

**int \* int \***

**value value**

**an\_index an\_index**

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**const char \* const char \***

**int \* int \***

**value value**

**an\_index an\_index**

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25.8.2020 ITK Function Reference: Bill of Materials

https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 22/223

**BOM\_API int BOM\_ask\_option\_data BOM\_API int BOM\_ask\_option\_data**

**BOM\_API int BOM\_ask\_option\_of\_rev BOM\_API int BOM\_ask\_option\_of\_rev**

**))**

Returns the data stored in an option. See also **BOM\_list\_option\_rev\_values** for option\_rev data.

**Parameters**

**option** (I) Tag of the option **owning\_item** (O) Item that owns the option **name** (OF) Option name **description** (OF) Option description

**))**

Specified an option revision returns its option.

**Parameters**

**option\_rev** (I) Tag of the revision **option** (O) Tag of the corresponding option

**((**

**tag\_t tag\_t**

**tag\_t tag\_t**

**char \*\* char \*\***

**char \*\* char \*\***

**((**

**tag\_t tag\_t**

**tag\_t tag\_t**

**\* \***

**\* \***

**option option**

**owning\_item owning\_item**

**name name**

**description description**

**option\_rev option\_rev**

**option option**

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25.8.2020 ITK Function Reference: Bill of Materials

https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 23/223

**BOM\_API int BOM\_ask\_option\_path BOM\_API int BOM\_ask\_option\_path**

**((**

**int int**

**int int**

**option option**

**option option**

**option option**

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**BOM\_API int BOM\_ask\_option\_rev\_mode BOM\_API int BOM\_ask\_option\_rev\_mode**

**))**

**Parameters**

**option** (I) **path** (OF)

**))**

**((**

**tag\_t tag\_t**

**tag\_t tag\_t**

**option\_rev option\_rev**

**option\_rev option\_rev**

**option\_rev option\_rev**

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Returns the mode of the specified option revision.

**Restrictions:**

At present all options are of mode **BOM\_option\_mode\_enum**.

**Parameters**

**option\_rev** (I) Tag of the option revision **mode** (O) Its current mode

**char \*\* char \*\***

**path path**

**int \* int \***

**mode mode**

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https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 24/223

**BOM\_API int BOM\_ask\_option\_rev\_value BOM\_API int BOM\_ask\_option\_rev\_value**

**((**

**tag\_t tag\_t**

**tag\_t tag\_t**

**option\_rev option\_rev**

**option\_rev option\_rev**

**option\_rev option\_rev**

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**BOM\_API int BOM\_ask\_publishlink\_for\_source BOM\_API int BOM\_ask\_publishlink\_for\_source**

**((**

**tag\_t tag\_t**

**tag\_t tag\_t**

**source\_line source\_line**

**source\_line source\_line**

**source\_line source\_line**

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**BOM\_API int BOM\_ask\_publishlink\_for\_target BOM\_API int BOM\_ask\_publishlink\_for\_target**

**))**

**((**

**tag\_t tag\_t**

**tag\_t tag\_t**

**target\_line target\_line**

**target\_line target\_line**

**target\_line target\_line**

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Translates the specified index value into the corresponding text.

**Parameters**

**option\_rev** (I) Tag of the option revision **an\_index** (I) Index value **value** (OF) Text equivalent

**))**

Returns PublishLink where the input line is source

**Parameters**

**source\_line** (I) Tag of source BOMLine **publish\_link** (O) Tag of PublishLink

**))**

Returns PublishLink where the input line is a target

**Parameters**

**target\_line** (I) Tag of target BOMLine **publish\_link** (O) Tag of PublishLink

**int int**

**char \*\* char \*\***

**an\_index an\_index**

**value value**

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**,,**

**tag\_t tag\_t**

**\* \***

**publish\_link publish\_link**

**publish\_link publish\_link**

**tag\_t tag\_t**

**\* \***

**publish\_link publish\_link**

**publish\_link publish\_link**

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**BOM\_API int BOM\_ask\_variant\_config BOM\_API int BOM\_ask\_variant\_config**

**BOM\_API int BOM\_ask\_variant\_config\_context BOM\_API int BOM\_ask\_variant\_config\_context**

**))**

**Parameters**

**bom\_variant\_config** (I) **bom\_vrule** (O) **count** (O) **bomsoslist** (OF) count

**))**

**Parameters**

**bom\_variant\_config** (I) **bom\_window** (O) **root\_bom\_line** (O)

**((**

**tag\_t tag\_t**

**tag\_t tag\_t**

**int \* int \***

**tag\_t tag\_t**

**\* \***

**\*\* \*\***

**((**

**bom\_variant\_config bom\_variant\_config**

**bom\_vrule bom\_vrule**

**count count**

**bomsoslist bomsoslist**

**tag\_t tag\_t**

**tag\_t tag\_t**

**tag\_t tag\_t**

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**\* \***

**\* \***

**bom\_variant\_config bom\_variant\_config**

**bom\_window bom\_window**

**root\_bom\_line root\_bom\_line**

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25.8.2020 ITK Function Reference: Bill of Materials

https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 26/223

**BOM\_API int BOM\_ask\_variant\_e\_block BOM\_API int BOM\_ask\_variant\_e\_block**

**BOM\_API int BOM\_ask\_variant\_expression BOM\_API int BOM\_ask\_variant\_expression**

**))**

Reads the expressions from a variant expression block.

**Parameters**

**block** (I) Tag of the expression block **n** (O) The number of expressions **exprs** (OF) n The array of variant expressions

**))**

Returns the contents of a variant expression.

**Parameters**

**expr** (I) Tag of the expression **v1** (O) The left hand operand **opcode** (O) An operator from the BOM\_variant\_operator\_xxx values defined in **bom\_tokens.h v2** (O) The right hand operand **str** (OF) A string alternative to v2

**((**

**tag\_t tag\_t**

**int \* int \***

**tag\_t tag\_t**

**((**

**tag\_t tag\_t**

**tag\_t tag\_t**

**int \* int \***

**tag\_t tag\_t**

**char \*\* char \*\***

**\*\* \*\***

**block block**

**nn**

**exprs exprs**

**\* \***

**\* \***

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**expr expr**

**v1v1**

**opcode opcode**

**v2v2**

**str str**

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25.8.2020 ITK Function Reference: Bill of Materials

https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 27/223

**BOM\_API int BOM\_ask\_window\_active\_arrangement BOM\_API int BOM\_ask\_window\_active\_arrangement**

**((**

**tag\_t tag\_t**

**tag\_t tag\_t**

**bom\_window bom\_window**

**bom\_window bom\_window**

**bom\_window bom\_window**

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**BOM\_API int BOM\_ask\_window\_config\_rule BOM\_API int BOM\_ask\_window\_config\_rule**

**((**

**tag\_t tag\_t**

**tag\_t tag\_t**

**window window**

**window window**

**window window**

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**BOM\_API int BOM\_ask\_window\_ignore\_ove\_errors\_on\_expand BOM\_API int BOM\_ask\_window\_ignore\_ove\_errors\_on\_expand**

**))**

**Parameters**

**bom\_window** (I) **arrangement** (O)

**))**

**((**

**tag\_t tag\_t**

**tag\_t tag\_t**

**bom\_window bom\_window**

**bom\_window bom\_window**

**bom\_window bom\_window**

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Returns the tag of the Revision (configuration) Rule used by the window. To change the contents of the Revision Rule, edit it using the CFM functions.

By default, the window will have been created with the user's default Revision Rule.

**Parameters**

**window** (I) Window to be modified **config\_rule** (O) Window's configuration rule

**))**

Set or get whether OVE problems should be ignored when we expand lines. If you get errors, then ignore them, expand the lines and solve the problems

**Parameters**

**bom\_window** (I) **ignore** (O)

**tag\_t tag\_t**

**\* \***

**config\_rule config\_rule**

**config\_rule config\_rule**

**tag\_t tag\_t**

**\* \***

**arrangement arrangement**

**arrangement arrangement**

**logical logical**

**\* \***

**ignore ignore**

**ignore ignore**

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https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 28/223

**BOM\_API int BOM\_ask\_window\_ove\_message\_error\_level BOM\_API int BOM\_ask\_window\_ove\_message\_error\_level**

**((**

**tag\_t tag\_t**

**tag\_t tag\_t**

**bom\_window bom\_window**

**bom\_window bom\_window**

**bom\_window bom\_window**

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**BOM\_API int BOM\_ask\_window\_top\_line BOM\_API int BOM\_ask\_window\_top\_line**

**))**

**((**

**tag\_t tag\_t**

**tag\_t tag\_t**

**window window**

**window window**

**window window**

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Set or get the level of OVE error check that generates actual errors

level can be:

**BOM\_OVE\_INFO** - All will generate errors **BOM\_OVE\_WARN** - Warnings and above **BOM\_OVE\_ERROR** - Only errors (default) **BOM\_OVE\_IGNORE\_ALL** - Ignore all

**Parameters**

**bom\_window** (I) **level** (O)

**))**

Returns the tag of the top line of the window. This will be **NULLTAG** if no top line has been set.

**Parameters**

**window** (I) Tag of window **top\_bom\_line** (O) Returns the tag of the top line in this window

**tag\_t tag\_t**

**\* \***

**top\_bom\_line top\_bom\_line**

**top\_bom\_line top\_bom\_line**

**int \* int \***

**level level**

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https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 29/223

**)) BOM\_API BOM\_API int int BOM\_close\_window BOM\_close\_window** Close the BOM window.

**Note**

Any changes to the structure of the bill in the window will be lost unless the **BOM\_save\_window** function is called first.

**Parameters**

**window** (I) Tag of the window

**((**

**tag\_t tag\_t**

**window window**

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https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 30/223

**BOM\_API int BOM\_compare BOM\_API int BOM\_compare**

**))**

**((**

**tag\_t tag\_t**

**tag\_t tag\_t**

**line1 line1**

**line1 line1**

**line1 line1**

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Compares the specified BOM lines. Supports all three compare modes. Compare output can be directed to the BOM line compare columns, which can be accessed via the BOM line attribute functions. Report output can also be obtained. Alternatively, the BOM compare user exit functions can be used. All of these output mechanisms can be used simultaneously,

The scope of the compare can be controlled via the BOM line stop flag ITK functions. These allow a flag to be set on a BOM line which will prevent the BOM compare from comparing anything below that BOM line.

**Restrictions:**

Compare does not allow nested BOM lines to be compared.

**Parameters**

**line1** (I) Tag of the first BOM line to be compared **line2** (I) Tag of the second BOM line to be compared **mode** (I) Compare mode to be used. Can be one of the following:

**BOM\_compare\_singlelevel BOM\_compare\_lowestlevel BOM\_compare\_multilevel output** (I) Output mechanism to be used. Constructed by adding the following values as required:

**BOM\_compare\_output\_bomline BOM\_compare\_output\_userexit BOM\_compare\_output\_report**

**tag\_t tag\_t**

**int int**

**int int**

**line2 line2**

**mode mode**

**output output**

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25.8.2020 ITK Function Reference: Bill of Materials

https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 31/223

**BOM\_API int BOM\_compare\_ask\_difference BOM\_API int BOM\_compare\_ask\_difference**

**BOM\_API int BOM\_compare\_ask\_engine\_root\_bomlines BOM\_API int BOM\_compare\_ask\_engine\_root\_bomlines**

**))**

Returns a bit encoded representation of the changes which occurred in a particular compare item between the two compared BOMs. Macros are provided to extract the individual flags from the returned value.

**Note**

The compare item required as an input parameter to this function is not the same as a Teamcenter Engineering Item. The tag of the compare item is passed to the BOM compare user exit functions. It can also be obtained via **BOM\_compare\_report**.

**Parameters**

**cmp\_item** (I) Tag of a compare item **diff\_flags** (O) Differences between the two BOMs relating to the compare item

**))**

Returns the root BOMLines of the given BOM Compare engine.

**Parameters**

**bomcompareengine** (I) BOM Compare Engine object **bomline1** (O) Root BOMLine of the first BOM being compared **bomline2** (O) Root BOMLine of the second BOM being compared

**((**

**tag\_t tag\_t**

**int \* int \***

**cmp\_item cmp\_item**

**diff\_flags diff\_flags**

**((**

**tag\_t tag\_t**

**tag\_t tag\_t**

**tag\_t tag\_t**

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**\* \***

**\* \***

**bomcompareengine bomcompareengine**

**bomline1 bomline1**

**bomline2 bomline2**

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25.8.2020 ITK Function Reference: Bill of Materials

https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 32/223

**BOM\_API int BOM\_compare\_ask\_mode BOM\_API int BOM\_compare\_ask\_mode**

**((**

**tag\_t tag\_t**

**tag\_t tag\_t**

**bomcompare bomcompare**

**bomcompare bomcompare**

**bomcompare bomcompare**

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**BOM\_API int BOM\_compare\_ask\_mode\_info BOM\_API int BOM\_compare\_ask\_mode\_info**

**))**

**((**

**const char \* const char \***

**const char \* const char \***

**mode\_name mode\_name**

**mode\_name mode\_name**

**mode\_name mode\_name**

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Returns the name of the mode of the given BOM Compare.

**Parameters**

**bomcompare** (I) BOM Compare object, or **NULLTAG** for the standard internal BOMCompare. **mode\_name** (OF) Name of the BOM Compare's mode

**))**

Returns details of the named BOM Compare mode.

**Parameters**

**mode\_name** (I) Name of the new compare mode **traversal\_mode** (O) Single level, lowest level, or multi level. **compare\_desc** (O) Compare engine descriptor **visible** (O) For future expansion. Ignore this value. **autopack** (O) Autopacking flag **virtualunpack** (O) Autounpacking flag

**char \*\* char \*\***

**mode\_name mode\_name**

**int \* int \***

**tag\_t tag\_t**

**\* \***

**traversal\_mode traversal\_mode**

**compare\_desc compare\_desc**

**compare\_desc compare\_desc**

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**logical logical**

**logical logical**

**logical logical**

**\* \***

**\* \***

**\* \***

**visible visible**

**visible visible**

**autopack autopack**

**autopack autopack**

**virtualunpack virtualunpack**

**virtualunpack virtualunpack**

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https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 33/223

**BOM\_API int BOM\_compare\_ask\_modes BOM\_API int BOM\_compare\_ask\_modes**

**((**

**logical logical**

**logical logical**

**visible\_only visible\_only**

**visible\_only visible\_only**

**visible\_only visible\_only**

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**BOM\_API int BOM\_compare\_ask\_output\_mode BOM\_API int BOM\_compare\_ask\_output\_mode**

**))**

**((**

**tag\_t tag\_t**

**tag\_t tag\_t**

**bomcompare bomcompare**

**bomcompare bomcompare**

**bomcompare bomcompare**

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Returns an array of valid compare mode names. Compare modes can set a visibility flag to control whether a specific mode will show up in the user interface or not.

**Parameters**

**visible\_only** (I) This is for future expansion, and should be set false **n\_modes** (O) Number of mode names returned **mode\_names** (OF) n\_modes Array of mode names

**))**

Returns the output mode of the given BOM Compare.

**Parameters**

**bomcompare** (I) BOM Compare object, or **NULLTAG** for the standard internal BOMCompare. **output\_mode** (O) BOM Compare's output mode

**int \* int \***

**char \*\*\* char \*\*\***

**n\_modes n\_modes**

**mode\_names mode\_names**

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**int \* int \***

**output\_mode output\_mode**

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https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 34/223

**BOM\_API int BOM\_compare\_ask\_qty BOM\_API int BOM\_compare\_ask\_qty**

**))**

Returns the quantities of the specified compare item in each of the compared BOMs.

**Note**

The compare item required as an input parameter to this function is not the same as a Teamcenter Engineering Item. The tag of the compare item is passed to the BOM compare user exit functions. It can also be obtained via **BOM\_compare\_report**.

**Parameters**

**cmp\_item** (I) Tag of a compare item. **qty1** (O) Quantity of the item in the first BOM selected for compare. **qty2** (O) Quantity of the item in the first BOM selected for compare.

**Note**

In the quantity output parameters, a value less than zero indicates a special case. The exact nature of this special case can be obtained using these macros:

**BOM\_cmp\_asreq** (qty) If true, then quantity is As Required.

**BOM\_cmp\_undef** (qty) If true, then quantity is undefined.

**((**

**tag\_t tag\_t**

**double \* double \***

**double \* double \***

**cmp\_item cmp\_item**

**qty1 qty1**

**qty2 qty2**

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https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 35/223

**BOM\_API int BOM\_compare\_ask\_rev BOM\_API int BOM\_compare\_ask\_rev**

**((**

**tag\_t tag\_t**

**tag\_t tag\_t**

**cmp\_item cmp\_item**

**cmp\_item cmp\_item**

**cmp\_item cmp\_item**

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**BOM\_API int BOM\_compare\_ask\_root\_bomlines BOM\_API int BOM\_compare\_ask\_root\_bomlines**

**))**

**((**

**tag\_t tag\_t**

**tag\_t tag\_t**

**bomcompare bomcompare**

**bomcompare bomcompare**

**bomcompare bomcompare**

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Returns the revisions of the specified compare item in each of the compared BOMs.

**Note**

The compare item required as an input parameter to this function is not the same as a Teamcenter Engineering Item. The tag of the compare item is passed to the BOM compare user exit functions. It can also be obtained via **BOM\_compare\_report**.

In the revision output parameters, ??? means no revision is configured

**Parameters**

**cmp\_item** (I) Tag of a compare item **rev1** (OF) Revision of the item in the first BOM selected for compare **rev2** (OF) Revision of the item in the first BOM selected for compare

**))**

Returns the root BOMLines of the given BOM Compare.

**Parameters**

**bomcompare** (I) BOM Compare object, or **NULLTAG** for the standard internal BOMCompare **bomline1** (O) Root BOMLine of the first BOM being compared **bomline2** (O) Root BOMLine of the second BOM being compared

**char \*\* char \*\***

**char \*\* char \*\***

**rev1 rev1**

**rev2 rev2**

**tag\_t tag\_t**

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**\* \***

**bomline1 bomline1**

**bomline1 bomline1**

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**tag\_t tag\_t**

**\* \***

**bomline2 bomline2**

**bomline2 bomline2**

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https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 36/223

**BOM\_API int BOM\_compare\_ask\_seqno BOM\_API int BOM\_compare\_ask\_seqno**

**((**

**tag\_t tag\_t**

**tag\_t tag\_t**

**cmp\_item cmp\_item**

**cmp\_item cmp\_item**

**cmp\_item cmp\_item**

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**BOM\_API int BOM\_compare\_clear BOM\_API int BOM\_compare\_clear**

**))**

**((**

**((**

**tag\_t tag\_t**

**tag\_t tag\_t**

**tag\_t tag\_t**

**compare\_context compare\_context**

**compare\_context compare\_context**

**compare\_context compare\_context**

**compare\_context compare\_context**

**BOM\_API int BOM\_compare\_create BOM\_API int BOM\_compare\_create**

**))**

**))**

**((**

**((**

**tag\_t tag\_t**

**tag\_t tag\_t**

**tag\_t tag\_t**

**\* \***

**\* \***

**\* \***

**\* \***

**bomcompare bomcompare**

**bomcompare bomcompare**

**bomcompare bomcompare**

**bomcompare bomcompare**

**bomcompare bomcompare**

Returns the sequence number of the specified compare item in the compared BOMs.

**Note**

In single-level mode and multi-level mode, the sequence number will be the same in both BOMs. In lowest-level mode, items with many different sequence numbers can be bundled together, and the return value from this function could be any one of them.

The compare item required as an input parameter to this function is not the name as a Teamcenter Engineering Item. The tag of the compare item is passed to the BOM compare user exit functions. It can also be obtained via **BOM\_compare\_report**.

**Parameters**

**cmp\_item** (I) Tag of a compare item **seqno** (OF) Sequence number of the item in the both BOMs. (except in lowest-level mode).

Clears the compare columns from all BOM lines relating to the last compare.

**Parameters**

**compare\_context** (I) Tag of the compare object (when using BOM\_compare\_create/execute), or **NULLTAG** (or a relevant bomline tag) to

access the global compare object (when using BOM\_compare).

Creates a new BOM Compare object. This new compare object can then be used in preference to the internal pre-defined object used by the **BOM\_compare** call and the User Interface. This allows multiple BOM Compares to be performed simultaneously.

**Parameters**

**bomcompare** (O) New empty BOM Compare object that can be passed into **BOM\_compare\_execute**

**char \*\* char \*\***

**seqno seqno**

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https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 37/223

**BOM\_API int BOM\_compare\_define\_mode BOM\_API int BOM\_compare\_define\_mode**

**))**

Creates a new BOM Compare mode.

**((**

**const char \* const char \***

**const char \* const char \***

**mode\_name mode\_name**

**mode\_name mode\_name**

**mode\_name mode\_name**

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Use auto-pack for any multi-level compare based on the same comparison as packing (by default, item ID and sequence number). Use virtual-unpack for comparisons with primary elements that aren't closely related to the packing condition. For multi-level compares based on a comparison that is not closely related to the packing condition, you're on your own: recommendation is to fully unpack the structure before you compare it.

Six standard modes are pre-defined to support the modes offered by the old **BOM\_compare()** function.

Primary keys: item id; Aggregate keys: revision and quantity.

**BOM\_std\_compare\_single\_level\_name BOM\_std\_compare\_lowest\_level\_name BOM\_std\_compare\_var\_level\_name**

Primary keys: item id and sequence number; Aggregate keys: revision and quantity.

**BOM\_std\_compare\_single\_level\_seq\_name BOM\_std\_compare\_lowest\_level\_seq\_name BOM\_std\_compare\_var\_level\_seq\_name**

All six have special support for the old style of text report output and bomline properties, which can be enabled by setting the preferences BOM\_compare\_legacy\_report and BOM\_compare\_legacy\_properties respectively. User-defined modes cannot have this legacy support.

**Return Values:**

**BOM\_duplicate\_bom\_compare\_mode** - A mode by that name already exists.

**Parameters**

**mode\_name** (I) Name of the new compare mode

**int int**

**tag\_t tag\_t**

**logical logical**

**logical logical**

**logical logical**

**traversal\_mode traversal\_mode**

**compare\_desc compare\_desc**

**visible visible**

**autopack autopack**

**virtualunpack virtualunpack**

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**BOM\_API int BOM\_compare\_delete BOM\_API int BOM\_compare\_delete**

**))**

**((**

**((**

**tag\_t tag\_t**

**tag\_t tag\_t**

**tag\_t tag\_t**

**bomcompare bomcompare**

**bomcompare bomcompare**

**bomcompare bomcompare**

**bomcompare bomcompare**

**BOM\_API int BOM\_compare\_execute BOM\_API int BOM\_compare\_execute**

Deletes a BOM Compare object.

**Parameters**

**((**

**tag\_t tag\_t**

**tag\_t tag\_t**

**bomcompare bomcompare**

**bomcompare bomcompare**

**bomcompare bomcompare**

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**bomcompare** (I) BOM Compare object to be deleted

**))**

Compares the two BOMs defined by the given BOMLines.

**Parameters**

**bomcompare** (I) BOM Compare object to be used to perform the comparison. Set this to **NULLTAG** to use the standard internal BOMCompare. **bomline1** (I) Root BOMLine of the first BOM to be compared **bomline2** (I) Root BOMLine of the second BOM to be compared **mode\_name** (I) Name of the compare mode to be used (see **BOM\_compare\_define\_mode**) **output\_to** (I) Where to send the compare results (see **BOM\_compare** for details)

**traversal\_mode** (I) Will this compare mode be single level (**BOM\_compare\_singlelevel**), lowest (leaf) level (**BOM\_compare\_lowestlevel**), or

multi-level (**BOM\_compare\_multilevel**)? **compare\_desc** (I) Compare engine descriptor to be used **visible** (I) This is for future expansion. Set it to false. **autopack** (I) Set this to true if this mode should perform auto-packing **virtualunpack** (I) Set this to true if this mode should perform virtual-unpacking

**tag\_t tag\_t**

**tag\_t tag\_t**

**const char \* const char \***

**int int**

**bomline1 bomline1**

**bomline2 bomline2**

**mode\_name mode\_name**

**output\_to output\_to**

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https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 39/223

**BOM\_API int BOM\_compare\_list\_bomlines BOM\_API int BOM\_compare\_list\_bomlines**

**))**

**((**

**tag\_t tag\_t**

**tag\_t tag\_t**

**cmp\_item cmp\_item**

**cmp\_item cmp\_item**

**cmp\_item cmp\_item**

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Returns two lists which contain the BOM lines relating to a particular compare item.

**Note**

The compare item required as an input parameter to this function is not the same as a Teamcenter Engineering Item. The tag of the compare item is passed to the BOM compare user exit functions. It can also be obtained via **BOM\_compare\_report**.

**Parameters**

**cmp\_item** (I) Tag of a compare item **count1** (O) Number of BOM lines in first list **bomline\_list1** (OF) count1 Array of BOM line tags from the first compared BOM **count2** (O) Number of BOM lines in second list **bomline\_list2** (OF) count2 Array of BOM line tags from the second compared BOM

**int \* int \***

**tag\_t tag\_t**

**int \* int \***

**tag\_t tag\_t**

**\*\* \*\***

**\*\* \*\***

**count1 count1**

**bomline\_list1 bomline\_list1**

**bomline\_list1 bomline\_list1**

**count2 count2**

**bomline\_list2 bomline\_list2**

**bomline\_list2 bomline\_list2**

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**BOM\_API int BOM\_compare\_list\_diffs BOM\_API int BOM\_compare\_list\_diffs**

**))**

Returns a list which contains the BOM lines which have a difference related to them. Also returns a list of difference flags for those BOM Lines. Macros are provided to extract the individual flags from the returned values.

**Parameters**

**line** (I) Tag of one of the BOM lines which the compare was performed on **diff\_count** (O) Number of BOM lines in the list **diff\_lines** (OF) diff\_count Array of BOM line tags **diff\_flags** (OF) diff\_count Array of BOM line difference flags

**((**

**tag\_t tag\_t**

**int \* int \***

**tag\_t tag\_t**

**int \*\* int \*\***

**\*\* \*\***

**line line**

**diff\_count diff\_count**

**diff\_lines diff\_lines**

**diff\_flags diff\_flags**

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https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 41/223

**BOM\_API int BOM\_compare\_list\_diffs\_context BOM\_API int BOM\_compare\_list\_diffs\_context**

**))**

**((**

**tag\_t tag\_t**

**tag\_t tag\_t**

**line line**

**line line**

**line line**

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For the nominated compare context (or the default context if the compare context is **NULLTAG**), for the side of the compare on which the nominated bomline is the root, returns two arrays of length diff\_count. One lists the different bomlines, the other holds flags indicating whether each line is added or different. For the standard (legacy) modes, additional flags indicate a change in revision and/or quantity also.

Use these macros to interrogate the flags:

#include <bom/bom\_tokens.h>

BOM\_cmp\_no\_diff(diff\_flags[i]) BOM\_cmp\_added(diff\_flags[i]) BOM\_cmp\_changed(diff\_flags[i]) BOM\_cmp\_chg\_qty(diff\_flags[i]) BOM\_cmp\_chg\_rev(diff\_flags[i])

**Parameters**

**line** (I) The root line of one side of the compare performed in the compare context **context** (I) A compare context (obtained from **BOM\_compare\_create**) or **NULLTAG** for the default context **diff\_count** (O) The number of lines in the following two arrays **diff\_lines** (OF) diff\_count Array of tags of the bomlines **diff\_flags** (OF) diff\_count Array of flags indicating the disposition of the bomlines compared with the other side

**tag\_t tag\_t**

**int \* int \***

**tag\_t tag\_t**

**int \*\* int \*\***

**\*\* \*\***

**context context**

**diff\_count diff\_count**

**diff\_lines diff\_lines**

**diff\_lines diff\_lines**

**diff\_flags diff\_flags**

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**BOM\_API int BOM\_compare\_report BOM\_API int BOM\_compare\_report**

**))**

Returns a formatted text report of BOM differences. It also returns an list of the compare items which relate to each report line. These compare items can then be queried to obtain the original BOM Lines relating to that report line.

**Note**

The compare item returned by this function in the report\_items list is not the same as a Teamcenter Engineering item. A compare item can only be used in certain BOM compare functions.

**Parameters**

**compare\_context** (I) Tag of the compare object (when using BOM\_compare\_create/execute), or **NULLTAG** (or a relevant bomline tag) to

access the global compare object (when using BOM\_compare). **report\_length** (O) Number of lines in the report **report\_lines** (OF) report\_length Array of report lines. The first array entry (report\_lines[0]) contains the column headers. **report\_items** (OF) report\_length Array of compare item tags. Entries which relate to report lines, but are not compare items (e.g., the

column headers) will have their tag set to **NULLTAG**.

**((**

**tag\_t tag\_t**

**int \* int \***

**char \*\*\* char \*\*\***

**tag\_t tag\_t**

**\*\* \*\***

**compare\_context compare\_context**

**report\_length report\_length**

**report\_lines report\_lines**

**report\_items report\_items**

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25.8.2020 ITK Function Reference: Bill of Materials

https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 43/223

**BOM\_API int BOM\_compare\_report\_size BOM\_API int BOM\_compare\_report\_size**

**BOM\_API int BOM\_compare\_reports\_unchanged BOM\_API int BOM\_compare\_reports\_unchanged**

**))**

Returns details of the column layout in the compare report generated via **BOM\_compare\_report**. It returns the number of columns, the width of each column, the number of spaces between the columns, and the overall width of the report.

**Parameters**

**compare\_context** (I) Tag of the compare object (when using BOM\_compare\_create/execute), or **NULLTAG** (or a relevant bomline tag) to

access the global compare object (when using BOM\_compare). **report\_width** (O) Width of the report **column\_spacer** (O) Number of spaces between each column **column\_count** (O) Number of columns **column\_width** (OF) column\_count Array of column widths

**))**

**Parameters**

**mode\_name** (I) **reports\_unchanged** (O)

**((**

**tag\_t tag\_t**

**int \* int \***

**int \* int \***

**int \* int \***

**int \*\* int \*\***

**compare\_context compare\_context**

**report\_width report\_width**

**column\_spacer column\_spacer**

**column\_count column\_count**

**column\_width column\_width**

**((**

**const char \* const char \***

**logical logical**

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**mode\_name mode\_name**

**reports\_unchanged reports\_unchanged**

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25.8.2020 ITK Function Reference: Bill of Materials

https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 44/223

**BOM\_API int BOM\_compare\_set\_rpt\_unchanged BOM\_API int BOM\_compare\_set\_rpt\_unchanged**

**((**

**const char \* const char \***

**const char \* const char \***

**mode\_name mode\_name**

**mode\_name mode\_name**

**mode\_name mode\_name**

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**BOM\_API int BOM\_compare\_set\_visibility BOM\_API int BOM\_compare\_set\_visibility**

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**Parameters**

**mode\_name** (I) **report\_unchanged** (I)

**))**

**Parameters**

**mode\_name** (I) **visible** (I)

**((**

**const char \* const char \***

**const char \* const char \***

**mode\_name mode\_name**

**mode\_name mode\_name**

**mode\_name mode\_name**

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**logical logical**

**logical logical**

**visible visible**

**report\_unchanged report\_unchanged**

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https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 45/223

**BOM\_API int BOM\_compare\_suppress BOM\_API int BOM\_compare\_suppress**

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**((**

**tag\_t tag\_t**

**tag\_t tag\_t**

**compare\_context compare\_context**

**compare\_context compare\_context**

**compare\_context compare\_context**

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Suppresses the specified compare output for the given context. This is only useful when used in the BOM compare user exit functions. For example, it can be used to allow a user exit generated report to replace the standard internal report window. It seems unlikely you will want to use this other than with the default context.

**Restrictions:**

It cannot be used to suppress all output.

**Parameters**

**compare\_context** (I) Tag of the compare object (when using BOM\_compare\_create/execute), or **NULLTAG** (or a relevant bomline tag) to

access the global compare object (when using BOM\_compare). **output** (I) Output modes to be suppressed. Constructed by adding the following values as required:

**BOM\_compare\_output\_bomline BOM\_compare\_output\_userexit BOM\_compare\_output\_report**

**int int**

**output output**

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https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 46/223

**BOM\_API int BOM\_compare\_visit\_engine BOM\_API int BOM\_compare\_visit\_engine**

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**tag\_t tag\_t**

**tag\_t tag\_t**

**bomcompare bomcompare**

**bomcompare bomcompare**

**bomcompare bomcompare**

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Performs a recursive depth-first traversal of the root compare engine and its children, calling the enter\_engine callback for each engine before any of its children, and calling the leave\_engine callback immediately after the final child of that engine. Apart from the topmost (depth=0) engine, compare engines have an associated compare set that you may interrogate to retrieve the root lines' key values. Only compare sets with differing sides, or engines that are the ancestors of such sets, are visited.

For all the call-back functions, returning **ITK\_ok** indicates success. Any other value will abort the traversal and cause the function to fail with the same error code. Any error returned by your callbacks should be returned back to you by this call.

**Parameters**

**bomcompare** (I) BOM Compare object to be queried. Set this to **NULLTAG** to query the standard internal BOMCompare. **enter\_engine** (Ip) Engine entry callback **leave\_engine** (Ip) Engine departure callback **visit\_set** (Ip) Set visiting callback **user\_data** (I) A pointer for the user's use: passed to all callbacks.

**BOM\_compare\_engine\_visitor\_t BOM\_compare\_engine\_visitor\_t**

**BOM\_compare\_engine\_visitor\_t BOM\_compare\_engine\_visitor\_t**

**\* \***

**\* \***

**enter\_engine enter\_engine**

**enter\_engine enter\_engine**

**leave\_engine leave\_engine**

**leave\_engine leave\_engine**

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**BOM\_compare\_set\_visitor\_t BOM\_compare\_set\_visitor\_t**

**void \* void \***

**\* \***

**visit\_set visit\_set**

**visit\_set visit\_set**

**user\_data user\_data**

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https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 47/223

**BOM\_API int BOM\_create\_baseline BOM\_API int BOM\_create\_baseline**

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**tag\_t tag\_t**

**tag\_t tag\_t**

**bom\_window bom\_window**

**bom\_window bom\_window**

**bom\_window bom\_window**

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This ITK creates a Baseline Revision for the structure represented by the input configured BOM Window. The BOMWindow would be traversed recursively to create baselines for each of the child components, and creates baselines for each of the Work in Process Item Revisions. If the child component were released then, that would be reused. Precise PSBOMView Revision would be created for new structure, if the preference Baseline\_precise\_bvr is set as "1" or "2". It would create a snapshot folder that is attached to the baseline\_rev, based on the preference. The ITK would generate a Baseline Revision ID using **USER\_new\_revision\_id\_from\_alt\_rule**("PDR", , , , ,) for all the subcomponents. The description entered would be set as the description of the Baseline Revision. Once the creation of the Baseline Revision is completed, the Baseline Revision would undergo the release process as given by the rel\_proc\_name and having name and desc as jobName and jobDescription respectively.

**Parameters**

**bom\_window** (I) Item Revision that needs to be Baselined **name** (I) The Revision Id of the Baseline Item Revision **desc** (I) Description that needs to be set on the Baseline Item Revision **rel\_proc\_name** (I) Name of the Release Procedure through which the Baseline Revision should under go **jobName** (I) Name of the Job **jobDescription** (I) Description of the Job **baseline\_rev** (O) Item Revision Tag of the Baseline Revision created

**const char \* const char \***

**const char \* const char \***

**const char \* const char \***

**const char \* const char \***

**const char \* const char \***

**name name**

**desc desc**

**rel\_proc\_name rel\_proc\_name**

**jobName jobName**

**jobDescription jobDescription**

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**tag\_t tag\_t**

**\* \***

**baseline\_rev baseline\_rev**

**baseline\_rev baseline\_rev**

25.8.2020 ITK Function Reference: Bill of Materials

https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 48/223

**BOM\_API int BOM\_create\_baseline\_with\_baseline\_label BOM\_API int BOM\_create\_baseline\_with\_baseline\_label**

**))**

This ITK creates a Baseline Revision for the structure represented by the input configured BOM Window. The BOMWindow would be traversed recursively to create baselines for each of the child components, and creates baselines for each of the Work in Process Item Revisions. If the child component were released then, that would be reused. It would create a snapshot folder with baseline\_label\_name. The ITK would generate a Baseline Revision ID using **USER\_new\_revision\_id\_from\_alt\_rule**("PDR", , , , ,) for all the subcomponents. The description entered would be set as the description of the Baseline Revision. Once the creation of the Baseline Revision is completed, the Baseline Revision would undergo the release process as given by the rel\_proc\_name and having name and desc as jobName and jobDescription respectively.

**Parameters**

**bom\_window** (I) Item Revision that needs to be Baselined **name** (I) The Revision Id of the Baseline Item Revision **desc** (I) Description that needs to be set on the Baseline Item Revision **rel\_proc\_name** (I) Name of the Release Procedure through which the Baseline Revision should under go **jobName** (I) Name of the Job **baseline\_label\_name** (I) Name of the Snapshot Folder **jobDescription** (I) Description of the Job **baseline\_rev** (O) Item Revision Tag of the Baseline Revision created

**((**

**tag\_t tag\_t**

**const char \* const char \***

**const char \* const char \***

**const char \* const char \***

**const char \* const char \***

**const char \* const char \***

**const char \* const char \***

**tag\_t tag\_t**

**\* \***

**bom\_window bom\_window**

**name name**

**desc desc**

**rel\_proc\_name rel\_proc\_name**

**jobName jobName**

**baseline\_label\_name baseline\_label\_name**

**jobDescription jobDescription**

**baseline\_rev baseline\_rev**

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https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 49/223

**BOM\_API int BOM\_create\_bomline\_variant\_config BOM\_API int BOM\_create\_bomline\_variant\_config**

**BOM\_API int BOM\_create\_bomsetlines\_for\_input\_lines BOM\_API int BOM\_create\_bomsetlines\_for\_input\_lines**

**))**

**Parameters**

**bom\_line** (I) **mode** (I) **bom\_variant\_config** (O)

**))**

Returns the array of bomsets for given bomlines. A bomset is a chunk of bomlines. Dividing a BOM structure into fixed size bomsets can help in processing them such as expansion. BomSet creation can be based on given criteria such as available system memory, maximum size or maximum size as percentage of total structure size. A bomset, by default, contains number of bomlines those can be expanded within available system memory at the point of creation.

**Parameters**

**bomset\_create\_criteria** (I) Structure having BOMSet creation criteria **input\_lines** (I) Tag array of structure top lines for which bomsets to be created **input\_lines\_count** (I) Integer size of Tag array of input lines **bomset\_count** (OF) Number of bomsets created **bomset\_input\_info** (OF) Structure array of bomsets

**((**

**tag\_t tag\_t**

**int int**

**tag\_t tag\_t**

**((**

**BOM\_bomset\_create\_criteria\_t BOM\_bomset\_create\_criteria\_t**

**tag\_t tag\_t**

**int int**

**int \* int \***

**BOM\_bomset\_input\_info\_t BOM\_bomset\_input\_info\_t**

**\* \***

**bom\_line bom\_line**

**mode mode**

**bom\_variant\_config bom\_variant\_config**

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**\*\* \*\***

**bomset\_create\_criteria bomset\_create\_criteria**

**input\_lines input\_lines**

**input\_lines\_count input\_lines\_count**

**bomset\_count bomset\_count**

**bomset\_input\_info bomset\_input\_info**

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**BOM\_API int BOM\_create\_option BOM\_API int BOM\_create\_option**

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**((**

**tag\_t tag\_t**

**tag\_t tag\_t**

**owning\_item owning\_item**

**owning\_item owning\_item**

**owning\_item owning\_item**

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Creates a new option with an initial empty revision.

**Note**

For now mode should only be **BOM\_option\_mode\_enum**

**Restrictions:**

At present options are only implemented for enumerated values; in the future the mode argument might allow for integer option values.

**Parameters**

**owning\_item** (I) Item to own the new option **name** (I) Name for the new option **description** (I) Description the new option (can be NULL) **mode** (I) Declares the mode of the option, currently it can only be **BOM\_option\_mode\_enum**. **option** (O) Tag of the newly-created option **option\_rev** (O) Tag of the initially-created revision

**const char \* const char \***

**const char \* const char \***

**int int**

**name name**

**description description**

**mode mode**

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**tag\_t tag\_t**

**tag\_t tag\_t**

**\* \***

**\* \***

**option option**

**option option**

**option\_rev option\_rev**

**option\_rev option\_rev**

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25.8.2020 ITK Function Reference: Bill of Materials

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**BOM\_API int BOM\_create\_publish\_link BOM\_API int BOM\_create\_publish\_link**

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Create PublishLink between absolute occurrences of source and targets.

**Note**

If a PublishLink for the source occurrence exists, an error will be thrown

If any of the targets are already connected via PublishLink to a different source occurrence, an error will be thrown

**Parameters**

**name** (I) Name of PublishLink to be created **type** (I) Type of PublishLink to be created **source\_line** (I) source tag BOM line **target\_count** (I) no of of target tags **target\_lines** (I) target\_count **publishLink** (O) Tag of PublishLink created

**((**

**const char \* const char \***

**const char \* const char \***

**tag\_t tag\_t**

**int int**

**const const**

**tag\_t tag\_t**

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**tag\_t tag\_t**

**\* \***

**name name**

**type type**

**source\_line source\_line**

**target\_count target\_count**

**target\_lines target\_lines**

**publishLink publishLink**

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25.8.2020 ITK Function Reference: Bill of Materials

https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 52/223

**BOM\_API int BOM\_create\_snapshot BOM\_API int BOM\_create\_snapshot**

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**tag\_t tag\_t**

**tag\_t tag\_t**

**bom\_window bom\_window**

**bom\_window bom\_window**

**bom\_window bom\_window**

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**BOM\_API int BOM\_create\_variant\_config BOM\_API int BOM\_create\_variant\_config**

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**Parameters**

**bom\_window** (I) **name** (I) **desc** (I) **snapshot\_folder** (O)

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**Parameters**

**bom\_vrule** (I) **count** (I) **bomsoslist** (I) count **bom\_variant\_config** (O)

**((**

**tag\_t tag\_t**

**tag\_t tag\_t**

**bom\_vrule bom\_vrule**

**bom\_vrule bom\_vrule**

**bom\_vrule bom\_vrule**

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**const char \* const char \***

**const char \* const char \***

**name name**

**desc desc**

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**tag\_t tag\_t**

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**snapshot\_folder snapshot\_folder**

**snapshot\_folder snapshot\_folder**

**int int**

**tag\_t tag\_t**

**tag\_t tag\_t**

**\* \***

**\* \***

**count count**

**bomsoslist bomsoslist**

**bomsoslist bomsoslist**

**bom\_variant\_config bom\_variant\_config**

**bom\_variant\_config bom\_variant\_config**

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25.8.2020 ITK Function Reference: Bill of Materials

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**BOM\_API int BOM\_create\_window BOM\_API int BOM\_create\_window**

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**tag\_t tag\_t**

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**window window**

**window window**

**window window**

**window window**

**window window**

**BOM\_API int BOM\_create\_window\_from\_snapshot BOM\_API int BOM\_create\_window\_from\_snapshot**

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**tag\_t tag\_t**

**tag\_t tag\_t**

**snapshot\_folder snapshot\_folder**

**snapshot\_folder snapshot\_folder**

**snapshot\_folder snapshot\_folder**

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**BOM\_API int BOM\_create\_window\_variant\_config BOM\_API int BOM\_create\_window\_variant\_config**

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**tag\_t tag\_t**

**tag\_t tag\_t**

**bom\_window bom\_window**

**bom\_window bom\_window**

**bom\_window bom\_window**

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Creates a new BOM window and returns the tag of the newly created window.

**Parameters**

**window** (O) Tag of the newly created window

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**Parameters**

**snapshot\_folder** (I) **bom\_window** (O)

**))**

**Parameters**

**bom\_window** (I) **mode** (I) **bom\_variant\_config** (O)

**int int**

**tag\_t tag\_t**

**\* \***

**mode mode**

**bom\_variant\_config bom\_variant\_config**

**bom\_variant\_config bom\_variant\_config**

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**tag\_t tag\_t**

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**bom\_window bom\_window**

**bom\_window bom\_window**

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https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 54/223

**BOM\_API int BOM\_declare\_option BOM\_API int BOM\_declare\_option**

**BOM\_API int BOM\_decompose\_ove\_path BOM\_API int BOM\_decompose\_ove\_path**

**))**

Declares the given option revision against the given Item Revision.

**Parameters**

**itemrev** (I) The Item Revision to declare the option revision against **optionrev** (I) The option revision to declare **ve** (O) Tag of the option declaration Variant Expression **veb** (O) Tag of the Item Revision's Variant Expression Block which the option declaration is contained in

**))**

**Parameters**

**path** (I) **count** (O) **pathElements** (OF) count

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**tag\_t tag\_t**

**tag\_t tag\_t**

**tag\_t tag\_t**

**tag\_t tag\_t**

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**\* \***

**((**

**const char \* const char \***

**int \* int \***

**char \*\*\* char \*\*\***

**itemrev itemrev**

**optionrev optionrev**

**veve**

**veb veb**

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**path path**

**count count**

**pathElements pathElements**

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25.8.2020 ITK Function Reference: Bill of Materials

https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 55/223

**BOM\_API int BOM\_delete\_publishlink\_for\_source BOM\_API int BOM\_delete\_publishlink\_for\_source**

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**tag\_t tag\_t**

**tag\_t tag\_t**

**tag\_t tag\_t**

**source\_line source\_line**

**source\_line source\_line**

**source\_line source\_line**

**source\_line source\_line**

**BOM\_API int BOM\_delete\_variant\_config BOM\_API int BOM\_delete\_variant\_config**

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**tag\_t tag\_t**

**tag\_t tag\_t**

**tag\_t tag\_t**

**bom\_variant\_config bom\_variant\_config**

**bom\_variant\_config bom\_variant\_config**

**bom\_variant\_config bom\_variant\_config**

**bom\_variant\_config bom\_variant\_config**

Delets Publish Link and its targets and source for given source bom line

**Note**

If absolute occurrence of any targetLines is found being referred as target in an existing PublishLink with a different source, an error is thrown.

If a PublishLink exists for source line, the link is uppdated with absolute occurrences of targetLines

If a PublishLink doesnt exist between absolute occurrence of source and targets it will be created.

**Parameters**

**source\_line** (I) source tag of BOM line

**Parameters**

**bom\_variant\_config** (I)

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https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 56/223

**BOM\_API int BOM\_dryrun\_baseline BOM\_API int BOM\_dryrun\_baseline**

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**tag\_t tag\_t**

**tag\_t tag\_t**

**bom\_window bom\_window**

**bom\_window bom\_window**

**bom\_window bom\_window**

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This ITK creates a does a dryrun of baseline creation for the input BOMWindow. It does not create the baseline but runs through all the pre-conditions, user error checks and places the results in the filename pointed by the logFileName. FullLogFileName provides the full path to the LogFileName. If there is any error from the pre-conditions or the user checks, the error\_registed would be set to TRUE.

**Parameters**

**bom\_window** (I) Tag of the BOMWindow for which we are creating the baseline **rel\_proc\_name** (I) Name of the Release Procedure through which the Baseline Revision should under go **logFileName** (OF) Name of the LogFile Generated **fullLogFileName** (OF) FullPath of the output logfile, including the logfilename **error\_registered** (O) Flag that indicates atleast one of the bomline had errors in the validation

**const char \* const char \***

**char \*\* char \*\***

**char \*\* char \*\***

**rel\_proc\_name rel\_proc\_name**

**logFileName logFileName**

**fullLogFileName fullLogFileName**

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**logical logical**

**\* \***

**error\_registered error\_registered**

**error\_registered error\_registered**

25.8.2020 ITK Function Reference: Bill of Materials

https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 57/223

**BOM\_API int BOM\_duplicate\_structure BOM\_API int BOM\_duplicate\_structure**

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**((**

**tag\_t tag\_t**

**tag\_t tag\_t**

**bom\_line bom\_line**

**bom\_line bom\_line**

**bom\_line bom\_line**

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Duplicates the BOM structure being passed in at bom\_line. Duplicate was designed to support CAD IPEM/ProE integration and basic BOM structure cloning.

**Note**

The **BOM\_validate\_structure** ITK should be called before calling this routine, especially if default naming autogen option is set to "false". If duplication failures occur they will be return at the error\_irs parameter and the Item Revisions failing to clone will still be referenced in the new cloned BOM structure.

**Returns**

**ITK\_ok** on success. **BOM\_invalid\_tag**, bom\_line is invalid, make sure a valid BOMLine tag is being passed in. **BOM\_no\_item\_rev**, the Item Revision for bom\_line is not valid, make sure a valid Item Revision is associated with the bom\_line tag being passed in.

**Deprecated:**

This function is deprecated. It will be removed from Teamcenter 11.1.

**Parameters**

**bom\_line** (I) Top level BOMLine of the structure to duplicate **rename\_datasets** (I) Flag to CAD integration that CAD data files need to be renamed

**logical logical**

**BOM\_duplicate\_default\_name\_t BOM\_duplicate\_default\_name\_t**

**BOM\_duplicate\_project\_info\_t BOM\_duplicate\_project\_info\_t**

**logical logical**

**int int**

**rename\_datasets rename\_datasets**

**default\_name default\_name**

**project project**

**expandAllLevels expandAllLevels**

**n\_map n\_map**

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**const const**

**int int**

**const const**

**BOM\_duplicate\_item\_map\_t BOM\_duplicate\_item\_map\_t**

**BOM\_duplicate\_dependent\_type\_t BOM\_duplicate\_dependent\_type\_t**

**\* \***

**\* \***

**\* \***

**\* \***

**map map**

**map map**

**map map**

**n\_dep\_types n\_dep\_types**

**dep\_types dep\_types**

**dep\_types dep\_types**

**dep\_types dep\_types**

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**tag\_t tag\_t**

**int \* int \***

**\* \***

**new\_item\_rev new\_item\_rev**

**new\_item\_rev new\_item\_rev**

**n\_error\_irs n\_error\_irs**

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**BOM\_error\_item\_revision\_t BOM\_error\_item\_revision\_t**

**\*\* \*\***

**error\_irs error\_irs**

**error\_irs error\_irs**

25.8.2020 ITK Function Reference: Bill of Materials

https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 58/223

**BOM\_API int BOM\_end\_forced\_config BOM\_API int BOM\_end\_forced\_config**

**))**

**((**

**((**

**tag\_t tag\_t**

**tag\_t tag\_t**

**tag\_t tag\_t**

**transaction transaction**

**transaction transaction**

**transaction transaction**

**transaction transaction**

**BOM\_API int BOM\_exit\_module BOM\_API int BOM\_exit\_module**

**((**

**void void**

**void void**

**))**

**))**

**))**

**BOM\_API int BOM\_expand\_bomset\_lines BOM\_API int BOM\_expand\_bomset\_lines**

**Parameters**

**transaction** (I)

**))**

**((**

**BOM\_bomset\_input\_info\_t BOM\_bomset\_input\_info\_t**

**BOM\_bomset\_input\_info\_t BOM\_bomset\_input\_info\_t**

**bomset\_input\_info bomset\_input\_info**

**bomset\_input\_info bomset\_input\_info**

**bomset\_input\_info bomset\_input\_info**

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This API expands a bomset. Returns a structure having expanded bomlines array for input bomset and its size. A bomset is a chunk of bomlines. Dividing a BOM structure into fixed size bomsets can help in processing them such as expansion. A bomset, by default, contains number of bomlines those can be expanded within available system memory at the point of creation.

**Parameters**

**bomset\_input\_info** (I) Structure of a bomset **bomset\_output\_info** (OF) Structure array of expanded bomlines for input bomset

**default\_name** (I) Default naming pattern to use during duplicate **project** (I) User selected projects to assign cloned object to **expandAllLevels** (I) Flag to enable CAD dependent horizontal recursive traversal **n\_map** (I) Number of entries in the map **map** (I) n\_map Map of old Item Tags to new Item IDs and Names **n\_dep\_types** (I) Number of CAD dependencies to process **dep\_types** (I) n\_dep\_types List of CAD dependencies to process **new\_item\_rev** (O) New top level Item Revision of the duplicated structure **n\_error\_irs** (O) Number of entries in the error\_irs **error\_irs** (OF) n\_error\_irs List of Item Revisions that failed to be duplicated

**BOM\_bomset\_output\_info\_t BOM\_bomset\_output\_info\_t**

**\* \***

**bomset\_output\_info bomset\_output\_info**

**bomset\_output\_info bomset\_output\_info**

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https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 59/223

**BOM\_API int BOM\_export\_configured\_nx\_assembly BOM\_API int BOM\_export\_configured\_nx\_assembly**

**))**

**((**

**tag\_t tag\_t**

**tag\_t tag\_t**

**bomLine bomLine**

**bomLine bomLine**

**bomLine bomLine**

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Export the UG assembly structure to Native NX after configuring using the given saved variant rule and revision rule This function exports packed (hidden) lines as well.

**Parameters**

**bomLine** (I) bomline to export **namingFormat** (I) naming format **noOfValidExcludes** (I) number of excluded items **excludedTags** (I) noOfValidExcludes An array of excluded item tag list **zipFileTicket** (OF) Returns zipfile fms ticket **logFileTicket** (OF) Returns logfile fms ticket

**const char \* const char \***

**int int**

**namingFormat namingFormat**

**noOfValidExcludes noOfValidExcludes**

**,,**

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**,,**

**const const**

**tag\_t tag\_t**

**\* \***

**\* \***

**excludedTags excludedTags**

**excludedTags excludedTags**

**excludedTags excludedTags**

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**,,**

**char \*\* char \*\***

**char \*\* char \*\***

**zipFileTicket zipFileTicket**

**logFileTicket logFileTicket**

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25.8.2020 ITK Function Reference: Bill of Materials

https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 60/223

**BOM\_API int BOM\_find\_variant\_rule\_and\_or\_sos BOM\_API int BOM\_find\_variant\_rule\_and\_or\_sos**

**))**

Retrieves the saved Variant Rules (SVRs) or Stored Option Set (SOS) attached to an Item Revision with the specified Relation type or by Variant Rule name. Depending on the value of the preference "PSEVariantsMode" and "PSM\_Enable\_product\_configurator", different objects are retrieved: For preference "PSEVariantsMode":

"legacy": only SVRs. "modular": only SOSs. "hybrid": both SVR and SOS.

For preference "PSM\_Enable\_product\_configurator":

"true": Product Configurator Authored Variant Rules. "false": the objects as defined by the preference "PSEVariantsMode".

**Returns**

**ITK\_ok** on success. **BOM\_invalid\_input** if item\_revision is NULLTAG and relation\_type is not a NULLTAG. **GRM\_invalid\_relation\_type** if relation\_type is an invalid tag. **BOM\_no\_configured\_ir** if item\_revision is an invalid tag. Possibly other errors

**Parameters**

**item\_revision** (I) Item Revison tag (optional). If **NULLTAG**, the search of SVR/SOS will be made using the Rule name only **rule\_name** (I) Saved Variant Rule name (optional). If null or empty, the SVRs/SOSs are searched using the Item

Revision only **relation\_type** (I) The Relation type to search for (optional). If **NULLTAG**, all relation types are taken into consideration

**((**

**tag\_t tag\_t**

**const char \* const char \***

**tag\_t tag\_t**

**logical logical**

**int \* int \***

**tag\_t tag\_t**

**\*\* \*\***

**item\_revision item\_revision**

**rule\_name rule\_name**

**relation\_type relation\_type**

**consider\_PSEVariantsMode\_pref consider\_PSEVariantsMode\_pref**

**n\_objects\_found n\_objects\_found**

**objects objects**

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25.8.2020 ITK Function Reference: Bill of Materials

https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 61/223

**BOM\_API int BOM\_init\_module BOM\_API int BOM\_init\_module**

**))**

**((**

**((**

**void void**

**void void**

**void void**

**BOM\_API int BOM\_item\_ask\_option\_handle BOM\_API int BOM\_item\_ask\_option\_handle**

**((**

**tag\_t tag\_t**

**tag\_t tag\_t**

**window window**

**window window**

**window window**

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Initializes the BOM module. This function must be called before using any other BOM module functions. This function will be called by the standard ITK startup code. The ITK programmer can ignore this function.

**Note**

A second call is ignored.

**))**

Returns the Option id for the given item and Option name.

**Returns**int teamcenter error code, ITK\_ok on success.

**Parameters**

**window** (I) Tag of BOM Window **item** (I) Tag of Item from which options should be search **name** (I) Option name to find **option** (O) Option Handle

**consider\_PSEVariantsMode\_pref** (I) Consider the preference "PSEVariantsMode" condition flag **n\_objects\_found** (O) Number of objects found **objects** (OF) n\_objects\_found Array of found SVRs/SOSs

**const const**

**tag\_t tag\_t**

**item item**

**item item**

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**const char \* const char \***

**int \* int \***

**name name**

**option option**

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25.8.2020 ITK Function Reference: Bill of Materials

https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 62/223

**BOM\_API int BOM\_item\_module\_list\_options BOM\_API int BOM\_item\_module\_list\_options**

**))**

Gets the list of option names on the item corresponding to the bom line.

**Returns**int teamcenter error code, ITK\_ok on success.

**Parameters**

**window** (I) Tag of BOM Window **item** (I) Tag of Item from which options should be search **count** (O) Count of option found **options** (OF) Option Handles found

**((**

**tag\_t tag\_t**

**tag\_t tag\_t**

**int \* int \***

**int \*\* int \*\***

**window window**

**item item**

**count count**

**options options**

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25.8.2020 ITK Function Reference: Bill of Materials

https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 63/223

**BOM\_API int BOM\_line\_add BOM\_API int BOM\_line\_add**

**BOM\_API int BOM\_line\_add\_absocc\_relation BOM\_API int BOM\_line\_add\_absocc\_relation**

**))**

Adds a new component to the specified parent line. As with setting the top line on an assembly, if the Item is specified as **NULLTAG** then the Item Revision is used instead. If the bom\_view is specified as **NULLTAG** then the default view is used.

**Parameters**

**bom\_line** (I) Tag of the line to add the component to **item\_folder** (I) Item to add (can be **NULLTAG**) **item\_revision\_folder** (I) Item Revision to add (if Item is **NULLTAG**) **bv** (I) View to use (**NULLTAG** implies use default) **new\_line** (O) Returned new BOM line

**))**

Add a secondary object to a bomline using absocc GRM override with a specific relation type. Note: Before adding, the bom window needs to be in absOccEdit mode and a valid context has to be set too.

**Parameters**

**lineTag** (I) Tag of bomline. **relType** (I) Tag of GRM. **secObject** (I) Tag of new secondary object. **newRelation** (O) Tag of new relation.

**((**

**tag\_t tag\_t**

**tag\_t tag\_t**

**tag\_t tag\_t**

**tag\_t tag\_t**

**tag\_t tag\_t**

**\* \***

**bom\_line bom\_line**

**item\_folder item\_folder**

**item\_revision\_folder item\_revision\_folder**

**bvbv**

**new\_line new\_line**

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**((**

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**tag\_t tag\_t**

**tag\_t tag\_t**

**tag\_t tag\_t**

**tag\_t tag\_t**

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**\* \***

**lineTag lineTag**

**relType relType**

**secObject secObject**

**newRelation newRelation**

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25.8.2020 ITK Function Reference: Bill of Materials

https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 64/223

**BOM\_API int BOM\_line\_add\_gde BOM\_API int BOM\_line\_add\_gde**

**((**

**tag\_t tag\_t**

**tag\_t tag\_t**

**bomline bomline**

**bomline bomline**

**bomline bomline**

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**BOM\_API int BOM\_line\_add\_optional\_item BOM\_API int BOM\_line\_add\_optional\_item**

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**((**

**tag\_t tag\_t**

**tag\_t tag\_t**

**bom\_line bom\_line**

**bom\_line bom\_line**

**bom\_line bom\_line**

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Add new gde to given line. This function will return a gde line

**Parameters**

**bomline** (I) **childGDE** (I) **occType** (I) **newLine** (O)

**))**

**Parameters**

**bom\_line** (I) **item** (I) **rev** (I) **bomview** (I)

**tag\_t tag\_t**

**char \* char \***

**childGDE childGDE**

**occType occType**

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**tag\_t tag\_t**

**\* \***

**newLine newLine**

**newLine newLine**

**tag\_t tag\_t**

**item item**

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**tag\_t tag\_t**

**tag\_t tag\_t**

**rev rev**

**bomview bomview**

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25.8.2020 ITK Function Reference: Bill of Materials

https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 65/223

**BOM\_API int BOM\_line\_add\_predecessor BOM\_API int BOM\_line\_add\_predecessor**

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**((**

**tag\_t tag\_t**

**tag\_t tag\_t**

**bom\_line bom\_line**

**bom\_line bom\_line**

**bom\_line bom\_line**

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This function is used to add a predecessor to the bom line.

**Restrictions:**

Both bom\_line and predline share the same parent bvr.

**Return Values:**

**PS\_cyclic\_pred\_structure** - This relationship creates a circular sequence.

**Parameters**

**bom\_line** (I) Tag of the successor bom line **predline** (I) Tag of the predecessor bom line

**tag\_t tag\_t**

**predline predline**

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https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 66/223

**BOM\_API int BOM\_line\_add\_substitute BOM\_API int BOM\_line\_add\_substitute**

**))**

Adds a component, identified by the Item, Item Revision, or BOM View as a substitute to the BOM line. If the input BOMLine is a packed line, substitute will be added to the packed lines as well. Callers only need to provide enough information to unambiguously identify the proposed component. **NULLTAG** can be supplied instead of unnecessary input tags.

**Parameters**

**bom\_line** (I) Tag of BOM line to add substitute to **item** (I) Tag of the Item to add as substitute **item\_revision** (I) Tag of the Item Revision to add as substitute **bom\_view** (I) Tag of the BOM View to add as substitute **new\_line** (O) Tag of the new substitute BOM line

**((**

**tag\_t tag\_t**

**tag\_t tag\_t**

**tag\_t tag\_t**

**tag\_t tag\_t**

**tag\_t tag\_t**

**\* \***

**bom\_line bom\_line**

**item item**

**item\_revision item\_revision**

**bom\_view bom\_view**

**new\_line new\_line**

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25.8.2020 ITK Function Reference: Bill of Materials

https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 67/223

**BOM\_API int BOM\_line\_add\_with\_occ\_type BOM\_API int BOM\_line\_add\_with\_occ\_type**

**))**

**((**

**tag\_t tag\_t**

**tag\_t tag\_t**

**bom\_line bom\_line**

**bom\_line bom\_line**

**bom\_line bom\_line**

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Adds a new component to a given line. Only enough of item\_folder, item\_revision\_folder, bv and bvr need be given to identify the component. The window's configuration rules will be applied to determine the rest. If item\_revision\_folder is given, then a precise occurrence will be created.

**Parameters**

**bom\_line** (I) **item\_folder** (I) **item\_revision\_folder** (I) **bv** (I) **occType** (I) **new\_line** (O)

**tag\_t tag\_t**

**tag\_t tag\_t**

**tag\_t tag\_t**

**char \* char \***

**item\_folder item\_folder**

**item\_revision\_folder item\_revision\_folder**

**bvbv**

**occType occType**

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**tag\_t tag\_t**

**\* \***

**new\_line new\_line**

**new\_line new\_line**

25.8.2020 ITK Function Reference: Bill of Materials

https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 68/223

**BOM\_API int BOM\_line\_ask\_absocc\_relation BOM\_API int BOM\_line\_ask\_absocc\_relation**

**BOM\_API int BOM\_line\_ask\_all\_child\_lines BOM\_API int BOM\_line\_ask\_all\_child\_lines**

**))**

Ask relations associated to bomline

**Parameters**

**lineTag** (I) Tag of bomline. **sourceApn** (I) Tag of apn, can be NULLTAG which will try all possible apns that use relation. **relName** (I) Name of the relation. **configuredOnly** (I) Interested in configured relation only. **relCount** (O) Relation count. **relations** (OF) Array of tags of bomline relations of given type.

**))**

This function returns all child lines (including GDELine) of a BOMLine

**Parameters**

**bom\_line** (I) **count** (O) **children** (OF) count

**((**

**tag\_t tag\_t**

**int \* int \***

**tag\_t tag\_t**

**((**

**tag\_t tag\_t**

**tag\_t tag\_t**

**char \* char \***

**logical logical**

**int \* int \***

**tag\_t tag\_t**

**\*\* \*\***

**\*\* \*\***

**bom\_line bom\_line**

**count count**

**children children**

**lineTag lineTag**

**sourceApn sourceApn**

**relName relName**

**configuredOnly configuredOnly**

**relCount relCount**

**relations relations**

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25.8.2020 ITK Function Reference: Bill of Materials

https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 69/223

**BOM\_API int BOM\_line\_ask\_attribute\_double BOM\_API int BOM\_line\_ask\_attribute\_double**

**((**

**tag\_t tag\_t**

**tag\_t tag\_t**

**bom\_line bom\_line**

**bom\_line bom\_line**

**bom\_line bom\_line**

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**BOM\_API int BOM\_line\_ask\_attribute\_external BOM\_API int BOM\_line\_ask\_attribute\_external**

**))**

Returns the value of some attribute of a BOM line.

**Parameters**

**((**

**int int**

**int int**

**attribute attribute**

**attribute attribute**

**attribute attribute**

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**bom\_line** (I) Tag of the line being enquired about **attribute** (I) **value** (O) Returned result

**))**

**Deprecated:**

BOM attributes have been reimplimented to use IMAN Properties to make them more flexible and easier to extend. The concept of internal/external attributes is not meaningful in IMAN Properties. This function will therefore be removed completely in IMAN V4.0. In IMAN V3.4 and V3.5 it always returns 'true'.

**Parameters**

**attribute** (I) **attribute\_is\_external** (O)

**int int**

**double \* double \***

**logical logical**

**\* \***

**attribute attribute**

**value value**

**attribute\_is\_external attribute\_is\_external**

**attribute\_is\_external attribute\_is\_external**

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25.8.2020 ITK Function Reference: Bill of Materials

https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 70/223

**BOM\_API int BOM\_line\_ask\_attribute\_int BOM\_API int BOM\_line\_ask\_attribute\_int**

**((**

**tag\_t tag\_t**

**tag\_t tag\_t**

**bom\_line bom\_line**

**bom\_line bom\_line**

**bom\_line bom\_line**

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**BOM\_API int BOM\_line\_ask\_attribute\_logical BOM\_API int BOM\_line\_ask\_attribute\_logical**

**))**

**((**

**tag\_t tag\_t**

**tag\_t tag\_t**

**bom\_line bom\_line**

**bom\_line bom\_line**

**bom\_line bom\_line**

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Returns the value of some attribute of a BOM line.

**Parameters**

**bom\_line** (I) Tag of the line being enquired about **attribute** (I) **value** (O) Returned result

**))**

Returns the value of some attribute of a BOM line.

**Parameters**

**bom\_line** (I) Tag of the line being enquired about **attribute** (I) **value** (O) Returned result

**int int**

**int \* int \***

**attribute attribute**

**value value**

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**int int**

**logical logical**

**\* \***

**attribute attribute**

**value value**

**value value**

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25.8.2020 ITK Function Reference: Bill of Materials

https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 71/223

**BOM\_API int BOM\_line\_ask\_attribute\_mode BOM\_API int BOM\_line\_ask\_attribute\_mode**

**BOM\_API int BOM\_line\_ask\_attribute\_name BOM\_API int BOM\_line\_ask\_attribute\_name**

**))**

**((**

**((**

**int int**

**int int**

**int int**

**int int**

**attribute attribute**

**attribute attribute**

**attribute attribute**

**attribute attribute**

**attribute attribute**

**attribute attribute**

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Returns the mode of a specified attribute. The mode is one of BOM\_attribute\_mode\_<mode>, where <mode> is either string, string\_intl, logical, int, tag or double. A string should not be subject to internationalization (i.e., it is a person's name). A string\_intl should be translated before being presented to a user.

**Parameters**

**attribute** (I) **attribute\_mode** (O) A value from the **BOM\_attribute\_mode\_t** enumerated type

**))**

Returns the name of the specified attribute.

**Note**

This is a unique name that identifies the attribute. For a name that should be presented to the user see **BOM\_line\_ask\_attribute\_uname**.

**Parameters**

**attribute** (I) **attribute\_name** (OF)

**char \*\* char \*\***

**attribute\_name attribute\_name**

**int \* int \***

**attribute\_mode attribute\_mode**

25.8.2020 ITK Function Reference: Bill of Materials

https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 72/223

**BOM\_API int BOM\_line\_ask\_attribute\_ro BOM\_API int BOM\_line\_ask\_attribute\_ro**

**((**

**int int**

**int int**

**attribute attribute**

**attribute attribute**

**attribute attribute**

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**BOM\_API int BOM\_line\_ask\_attribute\_string BOM\_API int BOM\_line\_ask\_attribute\_string**

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**((**

**tag\_t tag\_t**

**tag\_t tag\_t**

**bom\_line bom\_line**

**bom\_line bom\_line**

**bom\_line bom\_line**

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Returns whether the attribute is a read-only attribute. You can never set a read-only attribute. The fact that it is not read-only does not necessarily mean you can set it on some particular BOM line: that line might contain released data that is protected against you.

**Parameters**

**attribute** (I) **attribute\_is\_read\_only** (O) True if you can never set this attribute

**))**

Returns the display value of BOM line attribute.

**Parameters**

**bom\_line** (I) Tag of the line being enquired about **attribute** (I) **value** (OF) Returned result

**logical logical**

**int int**

**\* \***

**attribute\_is\_read\_only attribute\_is\_read\_only**

**attribute\_is\_read\_only attribute\_is\_read\_only**

**attribute attribute**

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**char \*\* char \*\***

**value value**

25.8.2020 ITK Function Reference: Bill of Materials

https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 73/223

**BOM\_API int BOM\_line\_ask\_attribute\_tag BOM\_API int BOM\_line\_ask\_attribute\_tag**

**((**

**tag\_t tag\_t**

**tag\_t tag\_t**

**bom\_line bom\_line**

**bom\_line bom\_line**

**bom\_line bom\_line**

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**BOM\_API int BOM\_line\_ask\_attribute\_uname BOM\_API int BOM\_line\_ask\_attribute\_uname**

**))**

**((**

**int int**

**int int**

**attribute attribute**

**attribute attribute**

**attribute attribute**

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Returns the value of some attribute of a BOM line.

**Parameters**

**bom\_line** (I) Tag of the line being enquired about **attribute** (I) **value** (O) Returned result

**))**

Returns the user-name of the specified attribute.

**Note**

This is a name to be presented to the user, it is not necessarily unique. In PSE these names are used as keys for the internationalization lookup in iman\_text.uil.

**Parameters**

**attribute** (I) **attribute\_user\_name** (OF)

**int int**

**tag\_t tag\_t**

**\* \***

**attribute attribute**

**value value**

**value value**

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**char \*\* char \*\***

**attribute\_user\_name attribute\_user\_name**

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https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 74/223

**BOM\_API int BOM\_line\_ask\_can\_search\_for\_vi\_from\_parent BOM\_API int BOM\_line\_ask\_can\_search\_for\_vi\_from\_parent**

**((**

**tag\_t tag\_t**

**tag\_t tag\_t**

**line line**

**line line**

**line line**

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**BOM\_API int BOM\_line\_ask\_child\_lines BOM\_API int BOM\_line\_ask\_child\_lines**

**))**

**((**

**tag\_t tag\_t**

**tag\_t tag\_t**

**bom\_line bom\_line**

**bom\_line bom\_line**

**bom\_line bom\_line**

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Determines if it is possible to identify variant item reuse of the given BOM line using the parent search criteria. Reuse identification of variant items of a BOM line is only possible if all the options in the BOM line have been presented to the parent.

**Parameters**

**line** (I) The BOM line being queried **reuseIdIsPossible** (O) True if reuse identification is possible, otherwise false

**))**

Lists the visible ImanItemLines below the specified parent line. The first time this function is called it will load the components from the database.

**Note**

Use the ITK **BOM\_line\_ask\_all\_child\_lines** to retrieve all children including GDELines.

**Parameters**

**bom\_line** (I) Parent BOM line whose children are wanted **count** (O) Number of child lines returned **children** (OF) count Returned lines

**int \* int \***

**tag\_t tag\_t**

**\*\* \*\***

**count count**

**children children**

**children children**

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**,,**

**logical logical**

**\* \***

**reuseIdIsPossible reuseIdIsPossible**

**reuseIdIsPossible reuseIdIsPossible**

25.8.2020 ITK Function Reference: Bill of Materials

https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 75/223

**BOM\_API int BOM\_line\_ask\_has\_substitutes BOM\_API int BOM\_line\_ask\_has\_substitutes**

**((**

**tag\_t tag\_t**

**tag\_t tag\_t**

**bom\_line bom\_line**

**bom\_line bom\_line**

**bom\_line bom\_line**

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**BOM\_API int BOM\_line\_ask\_is\_substitute BOM\_API int BOM\_line\_ask\_is\_substitute**

**))**

**((**

**tag\_t tag\_t**

**tag\_t tag\_t**

**bom\_line bom\_line**

**bom\_line bom\_line**

**bom\_line bom\_line**

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This function returns 'true' for the 'preferred' line of a group of substitutes that represent an occurrence.

If the line is packed, this function will return 'true' if any one of the packed lines has substitutes. Note however that in order to access these substitutes you will first need to unpack this line.

**Parameters**

**bom\_line** (I) Tag of the BOM line **has\_substitutes** (O) True if the BOM line is a preferred substitute

**))**

Asks if the BOM line is a non-preferred substitute.

**Parameters**

**bom\_line** (I) Tag of the BOM line **is\_substitute** (O) True if the BOM line is a non-preferred substitute

**logical logical**

**\* \***

**is\_substitute is\_substitute**

**is\_substitute is\_substitute**

**logical logical**

**\* \***

**has\_substitutes has\_substitutes**

**has\_substitutes has\_substitutes**

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https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 76/223

**BOM\_API int BOM\_line\_ask\_load\_state BOM\_API int BOM\_line\_ask\_load\_state**

**((**

**tag\_t tag\_t**

**tag\_t tag\_t**

**bom\_line bom\_line**

**bom\_line bom\_line**

**bom\_line bom\_line**

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**BOM\_API int BOM\_line\_ask\_mvl BOM\_API int BOM\_line\_ask\_mvl**

**))**

**((**

**tag\_t tag\_t**

**tag\_t tag\_t**

**line line**

**line line**

**line line**

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Flags a BOMLine representing a remote child item/rev, or one for which the user does not have read access. load\_state = **BOM\_line\_loaded** | **BOM\_line\_remote** | **BOM\_line\_no\_read\_access**

defined in **bom\_tokens.h**.

**Parameters**

**bom\_line** (I) **load\_state** (O)

**))**

Gets the MVL from the item (revision) that is configured by this line

**Parameters**

**line** (I) **mvl** (OF)

**char \*\* char \*\***

**int \* int \***

**mvl mvl**

**load\_state load\_state**

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https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 77/223

**BOM\_API int BOM\_line\_ask\_mvl\_condition BOM\_API int BOM\_line\_ask\_mvl\_condition**

**BOM\_API int BOM\_line\_ask\_optional\_items BOM\_API int BOM\_line\_ask\_optional\_items**

**))**

Returns the condition string.

**Parameters**

**line** (I) **condition** (OF)

**((**

**((**

**tag\_t tag\_t**

**tag\_t tag\_t**

**tag\_t tag\_t**

**tag\_t tag\_t**

**line line**

**line line**

**line line**

**bom\_line bom\_line**

**bom\_line bom\_line**

**bom\_line bom\_line**

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**))**

**Parameters**

**bom\_line** (I) **count** (O) **opt\_items** (OF) count **opt\_views** (OF) count

**char \*\* char \*\***

**int \* int \***

**condition condition**

**count count**

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**,,**

**tag\_t tag\_t**

**tag\_t tag\_t**

**\*\* \*\***

**\*\* \*\***

**opt\_items opt\_items**

**opt\_items opt\_items**

**opt\_views opt\_views**

**opt\_views opt\_views**

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25.8.2020 ITK Function Reference: Bill of Materials

https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 78/223

**BOM\_API int BOM\_line\_ask\_packed\_lines BOM\_API int BOM\_line\_ask\_packed\_lines**

**((**

**tag\_t tag\_t**

**tag\_t tag\_t**

**bom\_line bom\_line**

**bom\_line bom\_line**

**bom\_line bom\_line**

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**BOM\_API int BOM\_line\_ask\_remote\_object BOM\_API int BOM\_line\_ask\_remote\_object**

**))**

**((**

**tag\_t tag\_t**

**tag\_t tag\_t**

**bom\_line bom\_line**

**bom\_line bom\_line**

**bom\_line bom\_line**

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Lists any lines packed into this one. It is not an error to call this for a line that has no lines packed into it.

**Note**

This function does not return the original line; it returns the 'invisible' lines.

Be aware that this function does not affect the packing of the lines, and that for example setting the sequence number of a packed line will not cause re-packing; it merely makes the existing packing inconsistent. There are side-effects of packing on the 'visible' line. Setting its sequence number updates all the packed lines, attempts to read some of its attributes (i.e., notes that can vary among the packed lines) will return NULL.

In general it is safer to unpack the lines before operating on them, but this can have unwanted side-effects such as updating a PSE display.

**Parameters**

**bom\_line** (I) Tag of the line to ask pack lines of **count** (O) Number of `hidden' packed lines **packed** (OF) count Returned lines

**))**

For a line in load state **BOM\_line\_remote** this function returns the tag of the remote object (item, or for precise occurrence, item rev) represented by this line. For all other lines a **NULLTAG** value is given.

**Parameters**

**bom\_line** (I) **remote\_object** (O)

**int \* int \***

**tag\_t tag\_t**

**\*\* \*\***

**count count**

**packed packed**

**packed packed**

**,,**

**,,**

**tag\_t tag\_t**

**\* \***

**remote\_object remote\_object**

**remote\_object remote\_object**

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https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 79/223

**BOM\_API int BOM\_line\_ask\_sos BOM\_API int BOM\_line\_ask\_sos**

**))**

**((**

**tag\_t tag\_t**

**tag\_t tag\_t**

**bom\_line bom\_line**

**bom\_line bom\_line**

**bom\_line bom\_line**

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Ask the BOM line for it's current SOS - or selected option set. The SOS objects that are created are owned by a particular BOMLine. When the bomline becomes invalid this will invalidate all the SOS objects it owns. An SOS can be deleted earlier by calling **BOM\_sos\_free**.

**Parameters**

**bom\_line** (I) **sos** (O)

**tag\_t tag\_t**

**\* \***

**sos sos**

**sos sos**

25.8.2020 ITK Function Reference: Bill of Materials

https://docs.plm.automation.siemens.com/data\_services/resources/tc/10.1.6/tcrefs/en\_US/custom/ITKFunction/group\_\_\_b\_o\_m.html#ga1b1bfe04657d47dbc98d7b84c799881e 80/223

**BOM\_API int BOM\_line\_ask\_unit\_occurrence\_effectivity BOM\_API int BOM\_line\_ask\_unit\_occurrence\_effectivity**

**BOM\_API int BOM\_line\_ask\_used\_arrangement BOM\_API int BOM\_line\_ask\_used\_arrangement**

**))**

Returns the unit occurrence effectivity of a bomline. If intersectWithConfigurationEff is true, the unit occurrence effectivity is intersected with the effectivity on the BOMWindow and the intersected effectivity will be returned. The ouput flag occEffExists indicates if unit occurrence effectivity is defined or not.

The following will be the output configuration for special cases of infinite and zero effectivity : Infinite Effectivity Case ( i.e No Effectivity defined ): \*alwaysEffective = true; \*netEffyInfoCount = 0; Zero Effectivity Case ( Same as Line Not Configured ): \*alwaysEffective = false; \*netEffyInfoCount = 0;

**Parameters**

**bomline** (I) Tag of BOM line whose Unit Occurrence Effectivity is being asked for **intersectWithConfigurationEff** (I) if true the Occurrence Effectivity will be intersected with Effectivity on BOM Window Configuration **occEffExists** (O) True indicates the occurrence has effectivity defined on it **isAlwaysEffective** (O) true if the occurrence is effective for any End Item/Unit. **effyInfoCount** (O) Occurrence Effectivity Count **effectivityInfo** (OF) Occurrence Effectivity of the Given BOMLine

**))**

**Parameters**

**bomline** (I) **arrangement** (O)

**((**

**tag\_t tag\_t**

**tag\_t tag\_t**

**\* \***

**((**

**bomline bomline**

**arrangement arrangement**

**tag\_t tag\_t**

**logical logical**

**logical logical**

**logical logical**

**int \* int \***

**WSOM\_effectivity\_info\_t WSOM\_effectivity\_info\_t**

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**\* \***

**\* \***

**\*\*\* \*\*\***

**bomline bomline**

**intersectWithConfigurationEff intersectWithConfigurationEff**

**occEffExists occEffExists**

**isAlwaysEffective isAlwaysEffective**

**effyInfoCount effyInfoCount**

**effectivityInfo effectivityInfo**

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