

# **VStdLib**

S Q

U R Ka

U 0-5-1

|   | 0 | L | S | U |  |
|---|---|---|---|---|--|
| R | O |   |   |   |  |



# 1 Document Information

# 1.1 History

| Aut | hor | Date           | Version | Remarks         |
|-----|-----|----------------|---------|-----------------|
| 0   | L   | 1//7-/1-/5     | 0-/     | B M             |
| 0   | L   | 1//7-0/-20     | 0-2     | E               |
| 0   | L   | 1//7-00-/6     | 0-3     | a UR Ka         |
| 0   | L   | 1//8-/6-/1     | 0-4     | T<br>a PMWNR    |
| 0   | L   | 1 / / 8-0/ -05 | 0-5     | C a NRD NR      |
| S   | U   | 1/ 02-/ 4-0/   | 0-5-1   | DRB M///56/1/9S |

S a 0-0 G C

| $\triangle$ | Please note<br>V<br>-V | U |  |
|-------------|------------------------|---|--|
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|             |                   |                     |         | ······································ |

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### 2 Introduction



# 3 Functional Description

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> E

> E

H B M

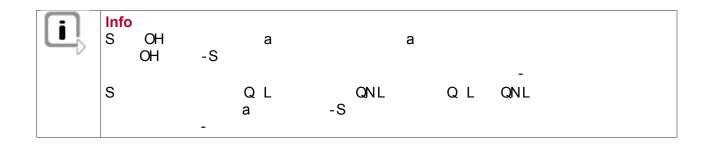
0-4 LHBQNR Q - E

a a OH UR Ka -

| API Function     | Description             |
|------------------|-------------------------|
| UR L R           | H Q L                   |
| UR L M R         | H QL -                  |
| UR L E R         | H Q L -                 |
| UR L B           | B Q L -                 |
| UR L M B         | B Q L -                 |
| UR L E B         | B Q L -                 |
| UR L B Q S Q     | B QL QL-                |
| UR L B Q S Q     | B QNL QL-               |
| UR L B Q S M Q   | B Q L Q L-              |
| UR L B Q S M Q   | B QNL QL-               |
| UR L B Q S E Q   | B Q L Q L-              |
| UR L B Q S E Q   | B QNL QL-               |
| UR L B 05Q S Q   | B Q L Q L - S<br>05 a - |
| UR L B 05Q SE Q  | B Q L Q L - S<br>05 a - |
| UR L B 05E Q S Q | B Q L Q L - S<br>05 a - |
| UR L B 21Q SQ    | B Q L Q L - S<br>21 a - |
| UR L B 21Q SE Q  | B Q L Q L - S<br>21 a - |
| UR L B 21E Q S Q | B Q L Q L - S<br>21 a - |

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### 4 Integration

```
S
                  UR Ka
                                                  U
UR Ka
                                                   - S
           a
                       а
                      - B
    а
                              5
                                    а
                                               а
а
            а
Н
                  UR Ka
                                            a-
```

#### 4.1 CANbedded Particularities

```
H UR Ka B Ma UR Ka a B M KHM -
```

#### 4.2 MICROSAR Particularities

```
H LHBQNR Q UR Ka a -S UR Ka a LHBQNR Q OH -S UR Ka-
```

```
void InitRoutine(void)
{
    ...
    /* Initialize the VstLib */
    VStdInitPowerOn();
    /* Perform initialization of the other software components */
    ...
}
```

#### 4.3 Mixing VStdLib Versions

```
H UR Ka - UR Ka
BM -H a
U -
```

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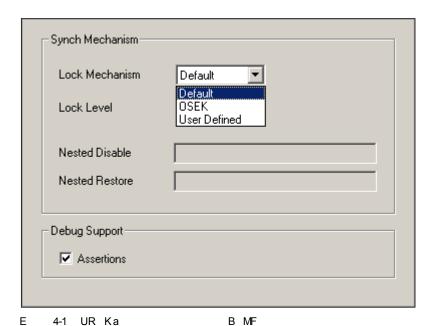
# 5 Configuration

| Н |       |       |    | UR       | Ka   | а   |  |
|---|-------|-------|----|----------|------|-----|--|
| S |       |       |    | UR Ka    |      | a ( |  |
|   | ВМ    | QЮ-4  |    | LHBQNRQ  | -    | •   |  |
| S | UR Ka | а     |    |          | -BMF |     |  |
|   |       | UR Ka |    | - H F DN | Л    |     |  |
|   |       |       |    | - S      |      |     |  |
|   |       | а     | -S |          | F DI | M - |  |

| _ VStdLib<br>Synch Mechanism |         |          |
|------------------------------|---------|----------|
| Lock Mechanism               | Default | <b>T</b> |
| Lock Level                   | Global  | 7        |
| Nested Disable               | ×       |          |
| Nested Restore               | ×       |          |
| _ Debug Support              |         |          |
| Assertions                   | □ *     |          |

E 4-0 UR Ka FDM

S UR Ka B MF -



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S a a

UR Ka

| Configuration Item | Description   |
|--------------------|---|
| K L                | N a UR Ka-S UR Ka 9C K K NRD T - S NRD NRD NR TSNR QNR- |
| КК                 | HK K K L  B Ma -S UR Ka -G                              |
| M C a              | HT K L  |
| M Q                | HT K L  |
|                    | H a a UR Ka<br>-  |

| Н |   | K | L | Т | а |  |
|---|---|---|---|---|---|--|
| S | а |   | 9 |   |   |  |

### void UserFunction(void)

| $\triangle$ | <b>Caution</b><br>S |   |        | a.a | а |  |
|-------------|---------------------|---|--------|-----|---|--|
|             | a .<br>O            | N | N<br>- |     |   |  |

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S T a

ВМ

### 5.1 Usage with OSEK OS

HNRD NR UR Ka NRD NR-R NRD NR

NR UR Ka -S a --H NRD NR

a N

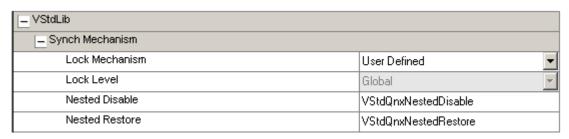
N -NRD NR -

H UR Ka . a NRD NR NRD 9

> R H > Q H

#### 5.2 Usage with QNX OS

H UR Ka PMWNR a - C B M IRQ H S (



E 4-2 K B M

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S Q UR Ka



H B M a B M UR Ka a. a -L -H UR Ka a C E 4-3-

| _ VStdLib                           |         |   |
|-------------------------------------|---------|---|
| <ul> <li>Synch Mechanism</li> </ul> |         |   |
| Lock Mechanism                      | Default | , |
| Lock Level                          | Global  |   |
| Nested Disable                      |         |   |
| Nested Restore                      |         |   |

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# 6 API Description

S a OH UR Ka-

### 6.1 Initialization

VStdInitPowerOn

| Prototype                 |                        |          |                |
|---------------------------|------------------------|----------|----------------|
| void VStdInitPowerO       | n (void)               |          |                |
| Parameter                 |                        |          |                |
| М                         | -                      |          |                |
| Return code               |                        |          |                |
| М                         | -                      |          |                |
| Functional Description    |                        |          |                |
| H UR Ka                   | -                      |          |                |
| Particularities and Limit | ations                 |          |                |
| > S a                     | O N                    | -S       | a -            |
| S<br>-S<br>UR H O N       | U<br>UR Ka<br>a U<br>a | - H<br>a | a<br>9S<br>- C |
|                           | NR                     | U        | (-             |
| > H B Ma                  |                        |          | а ВМ КНМ -     |
| > H LIBONR Q              |                        |          | a a            |
| a                         | LHBQNRQ OH             | -        |                |
| В                         |                        |          |                |
| > S                       |                        |          |                |

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# 6.2 Interrupt Control

#### **VStdSuspendAllInterrupts**

| Prototype                 |                    |         |     |   |
|---------------------------|--------------------|---------|-----|---|
| void VStdSuspendAll       | .Interrupts (void) |         |     |   |
| Parameter                 |                    |         |     |   |
| M                         | -                  |         |     |   |
| Return code               |                    |         |     |   |
| M                         | -                  |         |     |   |
| Functional Description    |                    |         |     |   |
| C a<br>S                  | a                  | -S<br>- |     | - |
| Particularities and Limit | ations             |         |     |   |
| > S (-                    | а                  | T       | Н В |   |
| D UR R<br>UR Q H          | H -                |         |     |   |
| > HT H B                  | - M<br>a -         |         | -S  | а |
| > C                       | NR                 | а       | -   |   |
| > C (-                    |                    | а       |     |   |
| В                         |                    |         |     |   |
| > M                       |                    |         |     |   |

### VStdResumeAllInterrupts

| Prototype              |                                    |    |      |   |   |  |
|------------------------|------------------------------------|----|------|---|---|--|
| void VStdResumeAll     | void VStdResumeAllInterrupts(void) |    |      |   |   |  |
| Parameter              |                                    |    |      |   |   |  |
| M                      | -                                  |    |      |   |   |  |
| Return code            |                                    |    |      |   |   |  |
| М                      | -                                  |    |      |   |   |  |
| Functional Description |                                    |    |      |   |   |  |
| Q                      |                                    | OH | UR R | Н | - |  |

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S Q UR Ka



| Particularities and Limitations |    |   |    |           |  |      |   |   |
|---------------------------------|----|---|----|-----------|--|------|---|---|
| > S                             |    |   | а  |           |  | UR R | Н | _ |
| > HT                            | Н  | В |    | -M<br>a - |  | -S   |   | а |
| > C                             |    |   | NR |           |  | а    | - |   |
| > C                             | (- |   |    |           |  | а    |   |   |
| В                               |    |   |    |           |  |      |   |   |
| > M                             |    |   |    |           |  |      |   |   |

#### 6.3 **Memory Functions**

S а

**VStdMemSet** 

| Prototype                     |         |       |      |        |      |     |           |      |     |
|-------------------------------|---------|-------|------|--------|------|-----|-----------|------|-----|
| void <b>VStdMemSet</b> (vo    | oid *p  | Dest, | vuin | t8 nPa | itte | rn, | vuint16 n | Cnt) |     |
| Parameter                     |         |       |      |        |      |     |           |      |     |
| С                             | S       | -     |      |        |      |     | а         |      |     |
| 0                             | S       |       | а    |        | В    | Α   |           |      | C - |
| В                             | S       | а     | Α    | а      |      |     |           | -    |     |
| Return code                   |         |       |      |        |      |     |           |      |     |
| М                             | -       |       |      |        |      |     |           |      |     |
| <b>Functional Description</b> |         |       |      |        |      |     |           |      |     |
| S B A                         |         |       | С    |        |      |     |           | 0    | -   |
| Particularities and Limi      | tations |       |      |        |      |     |           |      |     |
| > S                           |         |       |      |        |      |     | (- C      |      |     |
|                               | а       |       |      |        |      |     |           |      |     |
| В                             |         |       |      |        |      |     |           |      |     |
| > M                           |         |       |      |        |      |     |           |      |     |

VStdMemSet

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S Q UR Ka



| Prototype             |      |         |       |     |            |   |     |   |  |
|-----------------------|------|---------|-------|-----|------------|---|-----|---|--|
| void VStdMemClr       | (vc  | oid *p  | Dest, | vui | nt16 nCnt) |   |     |   |  |
| Parameter             |      |         |       |     |            |   |     |   |  |
| С                     |      | S       |       |     |            | а |     | - |  |
| В                     |      | S       | а     | Α   | а          | - |     |   |  |
| Return code           |      |         |       |     |            |   |     |   |  |
| M                     |      | -       |       |     |            |   |     |   |  |
| Functional Descript   | ion  |         |       |     |            |   |     |   |  |
| S                     | В    | Α       |       |     | С          |   | -   |   |  |
| Particularities and I | _imi | tations |       |     |            |   |     |   |  |
| > S                   |      |         |       |     |            |   | (-C |   |  |
|                       |      | а       |       |     |            |   |     |   |  |
| В                     |      |         |       |     |            |   |     |   |  |
| > M                   |      |         |       |     |            |   |     |   |  |

#### **VStdMemSet**

| Prototype             |           |         |        |        |         |       |   |  |
|-----------------------|-----------|---------|--------|--------|---------|-------|---|--|
| void VStdMemCpy       | (void     | *pDest, | void   | *pSrc, | vuint16 | nCnt) |   |  |
| Parameter             |           |         |        |        |         |       |   |  |
| С                     | S         |         |        |        |         | -     |   |  |
| R                     | S         |         |        |        |         | -     |   |  |
| В                     | S         | a<br>C  | A<br>- | а      |         |       | R |  |
| Return code           |           |         |        |        |         |       |   |  |
| М                     | -         |         |        |        |         |       |   |  |
| Functional Descript   | ion       |         |        |        |         |       |   |  |
| S c                   | i<br>-    | ВА      |        |        | R       |       |   |  |
| Particularities and L | .imitatio | ons     |        |        |         |       |   |  |
| > S                   | -         |         | -S     |        |         |       |   |  |
| > S                   |           |         |        |        |         |       |   |  |
| > S a                 |           | R       | С      |        | -       |       |   |  |
| В                     |           |         |        |        |         |       |   |  |
| > M                   |           |         |        |        |         |       |   |  |

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S Q UR Ka



### 6.4 Callback Functions

ApplVStdFatalError

| Pr | Prototype  |      |       |        |      |        |    |   |   |  |   |   |  |
|----|--|------|-------|--------|------|--------|----|---|---|--|---|---|--|
| VC | <pre>void ApplVStdFatalError (vuint8 nErrorNumber)</pre> |      |       |        |      |        |    |   |   |  |   |   |  |
| Pa | Parameter  |      |       |        |      |        |    |   |   |  |   |   |  |
| D  | )  | М    | а     |        |      | S      |    | а |   |  |   | - |  |
| Re | etur   | n c  | ode   |        |      |        |    |   |   |  |   |   |  |
| М  |  |      |       |        |      | -      |    |   |   |  |   |   |  |
| Fu | ınct   | tion | al D  | escrip | tion |        |    |   |   |  |   |   |  |
| S  |  |      |       |        | а    | UR     | Ka |   | - |  |   |   |  |
| Pa | rtic   | cula | ritie | s and  | Limi | itatio | ns |   |   |  |   |   |  |
| >  | S  |      |       |        | а    |        | а  |   | - |  |   |   |  |
| >  | Н  |      |       |        |      |        |    |   |   |  |   |   |  |
|    |  |      |       | - H    |      | а      |    |   |   |  | - |   |  |
| В  |  |      |       |        |      |        |    |   |   |  |   |   |  |
| >  | M  |      |       |        |      |        |    |   |   |  |   |   |  |

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# 7 Assertions

| Errorcode     | Description     |
|---------------|-----------------|
| UR D HC a S N | S UR Ka<br>016- |
| UR D HQ S N   | S a UR Ka<br>a  |
| UR D L B H O  | UR Ka           |
| UR D L B H O  | UR Ka           |
| UR D L R H O  | UR Ka           |
| UR D T K R    | UR Ka<br>a -S   |

| $\triangle$ | Caution<br>M |         |   | UR Ka |
|-------------|--------------|---------|---|-------|
| V           | a<br>UR Ka   | -H<br>- | а |       |

| $\bigcirc$ | Note<br>M - |
|------------|-------------|

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# 8 Limitations

8.1 Interrupt control does not work correctly in user mode

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# 9 Glossary and Abbreviations

### 9.1 Glossary

| Term | Description |   |
|------|-------------|---|
| Т    |             | a |
|      | - H         |   |
|      | а           | - |

### 9.2 Abbreviations

| Abbreviation | Description |                     |          |
|--------------|-------------|---------------------|----------|
| QH           | Q           | B Ma B M<br>B M     | -S<br>-E |
|              | Q H<br>B M  | 0-4 QH0-4(<br>UR Ka | -        |
| UR Ka        | U R Ka      |                     |          |

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# 10 Contact

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