

## CONTENTS

1	BLADED LICENCE TYPES .....	3
1.1	Dongle types	3
1.1.1	Local dongle	3
1.1.2	Network dongle	3
1.1.3	Windows Remote Desktop Protocol (RDP)	3
1.2	Licence types	3
1.2.1	Standard licence (local dongle)	3
1.2.2	Standard licence (network dongle)	3
1.2.3	Processor-only network licence	3
1.2.4	Hybrid network licence	4
1.3	Parallel calculation limit	5
1.3.1	Standard licences (local and network)	5
1.3.2	Hybrid and processor-only licences (network only)	5
1.4	Summary	6
1.5	Illustration	7
1.6	Linux	10
1.7	Cloud	10
1.8	Further information	10
2	CONFIGURATION .....	11
2.1	Remote network licence server setup	11
2.1.1	Remote licence server installation – Windows	11
2.1.2	Remote licence server installation – Linux	12
2.1.3	Remote licence server configuration – all platforms	12
2.2	Remote client setup	12
2.2.1	Remote client installation – Windows	12
2.2.2	Remote client installation – Linux	13
2.2.3	Remote client configuration – all platforms	13
2.3	Local (non-network) dongles	13
2.3.1	Windows	13
2.3.2	Linux	13
2.4	Run-time discovery of licences	13
2.4.1	Bladed GUI licence search order – Windows only	13
2.4.2	Bladed calculation licence search scope	14
2.4.3	Running Bladed on a licence server	14
2.4.4	Cross-platform accessibility of network licences	14
2.4.5	Network licence accessibility over a Virtual Private Network (VPN)	14
2.4.6	Limitations	14
2.5	Dtbladed for Linux Ubuntu 18.04	14
2.5.1	Supported licence types	14
2.6	Licence remote update	15
2.6.1	Remote update via licence manager	15
2.6.2	Legacy remote update via the Bladed GUI	15
3	TROUBLESHOOTING.....	16
3.1	Log files	16
3.1.1	Bladed calculation message log	16
3.1.2	Licence Manager log	16
3.2	Antivirus	16
3.3	Network Licence	16
3.3.1	Antivirus	16
3.3.2	Firewall exceptions - Windows	16
3.3.3	Firewall exceptions – Linux	17

3.3.4	Network licence not visible in remote client licence manager	17
3.3.4.1	Aggressive search	17
3.3.5	Run-time error 42 ("License Manager too old")	17
3.4	Remote licence update errors	17
3.4.1	Update code error 54 ("HASP Update too old")	17
3.4.2	Update code error 55 ("HASP Update too new")	18
3.5	Bladed user interface errors	18
3.5.1	Security device not found on start-up	18
3.5.2	Valid licence visible in licence manager but licence not found on start-up	19
3.5.3	Run-time error `13`: Type mismatch	20
3.5.4	Run-time error `91`: Object variable or With block variable not set	20
3.6	Bladed calculation errors	21
3.6.1	HASP error: Unable to establish session count	21
3.6.2	HASP error: Failed to run ACC query (Admin API)	21
3.6.3	Licence login is lost during simulation	21
3.6.4	Run-time error 33/error 40 ("Communication error/Unable to access Sentinel HASP Run-time Environment") – Windows	21
3.6.5	Run-time error 33/error 40 ("Communication error/Unable to access Sentinel HASP Run-time Environment") – Linux	22
3.7	Licence Manager & drivers upgrade	22
3.7.1	Windows	22
3.7.2	Linux	23
3.8	Further support	23
3.8.1	Local licence manager screen shots:	23
3.8.2	Remote licence manager screen shots (only applicable when using a network licence):	23
3.8.3	Bladed user interface HASP log file (only required if Bladed user interface licence is not functioning correctly):	24
3.8.4	Bladed calculation HASP log file (only required if calculation licence is not functioning correctly):	24

# 1 BLADED LICENCE TYPES

## 1.1 Dongle types

Bladed requires a licence to run. The licence is provided on a USB dongle, which may either be a local or a network dongle depending on the customer's requirement.

The licence determines which features of the Bladed software are accessible, which Bladed versions are permitted, and how many calculations may be run in parallel. In the case of a network licence, it also determines how many network "seats" (simultaneous users) are allowed. The available licence types are described in 1.2.

### 1.1.1 Local dongle

A **local dongle** provides a licence for use only on the computer where it is plugged in. It is not locked to a specific computer.

### 1.1.2 Network dongle

A **network dongle** provides a pool of one or more floating licences available over a network. Floating licences are not locked to specific computers; they may be acquired by any network user when there are available licences in the pool.

### 1.1.3 Windows Remote Desktop Protocol (RDP)

Bladed is not accessible over Windows Remote Desktop (RDP) when using a local dongle. However, RDP is permitted when using a network dongle.

## 1.2 Licence types

### 1.2.1 Standard licence (local dongle)

A **standard local licence** provides a licence on the computer it is plugged into. It provides access to the Bladed user interface and allows running a specified number of parallel calculations on the same computer.

### 1.2.2 Standard licence (network dongle)

A **standard network licence** is hosted on a licence server and allows one or more users to run Bladed at the same time, including on the licence server itself. The number of simultaneous users is determined by the number of network "seats" provided by the licence.

A network seat provides a licence for a single computer on the network. The number of network seats determines how many users can access a specific feature of the software simultaneously.


Each network seat may access the user interface and run a specified number of parallel calculations on the same computer.

When Bladed is closed, the network seat is freed and becomes available to another user on the network.

### 1.2.3 Processor-only network licence

A **processor-only network licence** is hosted on a licence server and allows Bladed calculations to be run on the network. The number of calculations that may be run in parallel is limited by a global pool of "cores" provided by the licence.

Each Bladed calculation consumes one licence core from the pool when it is running. At the end of the calculation, the core is released back into the pool for another computer to use.



There is no concept of network seats with a processor-only licence – the sole limit is on the total number of calculations running in parallel. The number of computers able to run calculations is not constrained.

Processor-only licenses allow the simulation code, the wind generation code, and the post-processing code to be run from a batch list, but do not allow the use of the user interface or any other part of the Bladed package.

**A processor-only licence is recommended for users who wish to run a total of more than 50 calculations in parallel, across one or more computers, and who do not need to access the Bladed user interface from the same licence.**

#### 1.2.4 Hybrid network licence

A **hybrid network licence** combines the functionality offered by a standard network licence and a processor only network licence. It is hosted on a licence server and offers the same GUI support as a standard network licence, but in addition provides a global pool of calculation cores, similar to a processor-only licence.

The GUI licences enable a limited number of network seats to access the user interface simultaneously whereas the pool of calculation cores allow Bladed calculations to be run on any number of computers, limited only by the availability of cores in the licence pool. This type of licence removes the limitation of standard network licences which only allow calculations to be run on a limited number of network seats.

**A hybrid licence is recommended for users who wish to run the Bladed user interface and up to any number of calculations in parallel, across one or more computers, from the same licence.**

## 1.3 Parallel calculation limit

Bladed can run several calculations in parallel, for example using Batch, to fully utilise a multi-core computer. Each Bladed calculation utilises one logical core on a processor for the full duration of its run.

A Bladed licence permits use of up to 6 cores in parallel by default. Assuming two logical cores are reserved for the operating system, a standard Bladed licence allows full use of an 8-core computer. Additional processing capacity can be purchased on request, either:

- added to existing local or network dongles
- as separate processor-only licenses on a dedicated local or network dongle
- or split across a combination of both.

Additional processing capacity is supplied as lease only and available only to customers who have a valid Software Support & Maintenance Agreement.

### 1.3.1 Standard licences (local and network)

Increasing the parallel calculation capacity of an existing licence is recommended for users who wish to run more than six calculations in parallel and run the Bladed user interface on the same computer.

If a **local dongle** is used, calculations are limited to running only on the computer where the dongle is plugged in.

If a **standard network dongle** is used, the maximum number of parallel calculations is the same for all licensed seats on the network.

### 1.3.2 Hybrid and processor-only licences (network only)

**Hybrid** and **processor-only** network licences allow calculations to be distributed across any number of computers on the network, limited only by the availability of cores in the licence pool. Additional cores may be purchased on request.

## 1.4 Summary

Licence model	Dongle type	GUI support?	No. of cores (parallel calculations)	Bladed version
<b>Standard</b>	Local	Yes – local user’s PC only	Up to 512 on local user’s PC only	All
	Network (Net/NetTime 10)	Yes – up to 10 network seats*	Up to 512 on each network seat	All
	Network (Net/NetTime 50)	Yes – up to 50 network seats	Up to 512 on each network seat	All
	Network (Net/NetTime 250+)	Yes – up to unlimited network seats	Up to 512 on each network seat	4.3.0.80 and later
<b>Hybrid</b>	Network (Net/NetTime 10)	Yes – up to 10 network seats*	Up to 10 anywhere on network	All
	Network (Net/NetTime 50)	Yes – up to 50 network seats	Up to 50 anywhere on network	All
	Network (Net/NetTime 250+)	Yes – up to unlimited network seats	Up to 4080, or unlimited anywhere on network	4.3.0.80 and later
<b>Processor-only</b>	Network (Net/NetTime 10)	No, except for viewing and running batch lists	Up to 10 anywhere on network	4.3.0.88 and later 4.4.0.133 and later 4.5.0.109 and later
	Network (Net/NetTime 50)	No, except for viewing and running batch lists	Up to 50 anywhere on network	4.6.0.99 and later 4.7 and later – all releases
	Network (Net/NetTime 250+)	No, except for viewing and running batch lists	Up to 4080, or unlimited anywhere on network	Linux dtbladed – all releases from 4.10

**Note:** The maximum number of network seats and/or processes that a network dongle is capable of supporting is limited by the hardware and cannot be overridden. A dongle may be programmed with any number of seats/processes up to and including the maximum based on the user’s requirement. If the user requires more network seats or parallel calculations than the dongle type supports, we will send a replacement dongle with a higher limit.

## 1.5 Illustration

The following diagrams show several possible licence configurations. The numbers of seats and calculation cores have been chosen for illustrative purposes, but in practice may be any number up to the limits described in the summary table in 1.4.

- A **standard local dongle** with the default calculation limit of 6.
- A **standard network dongle** with one seat and the default calculation limit of 6.
- A **standard network dongle** with four seats and the default calculation limit of 6 (24 cores total).
- A **standard network dongle** with four seats and additional cores taking the calculation limit to 12 calculations per seat (48 cores total).
- Two possible **processor-only network dongle** configurations for a dongle limited to 24 cores. The user is free to allocate the available cores across as many computers as they wish.
- Two possible **hybrid network dongle** configurations for a dongle limited to four seats and 24 cores. The user is free to allocate the available cores across as many computers as they wish. The user interface is simultaneously accessible on up to four seats.

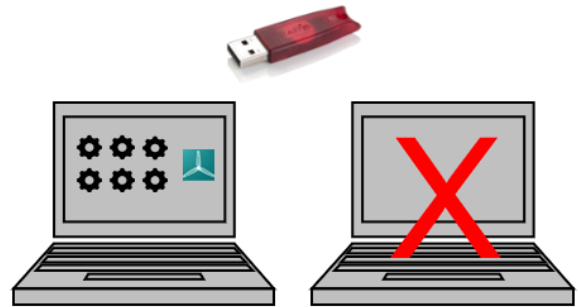
**Standard local dongle**



**1 GUI seat; 6 calculation cores**

Only accessible on the computer the dongle is plugged into

**Standard network dongle**



**1 GUI network seat; 6 calculation cores:**

Up to 6 parallel calculations (unused cores not accessible from other computers)

1 seat allows GUI use on 1 computer

Licence is "floating" therefore available to a different user after current user closes Bladed

**Standard network dongle**



**4 GUI network seats; 6 calculation cores per seat (24 cores total):**

Up to 6 parallel calculations on 4 seats (unused cores not accessible from other computers)

4 seats allows GUI use on up to 4 computers simultaneously

Licences are "floating" therefore available to different user(s) after current user(s) closes Bladed

**Standard network dongle with additional cores**




**4 GUI network seats; 12 calculation cores per seat (48 cores total):**


Up to 12 parallel calculations on 4 seats (unused cores not accessible from other computers)

4 seats allows GUI use on up to 4 computers simultaneously

Licences are "floating" therefore available to different user(s) after current user(s) closes Bladed

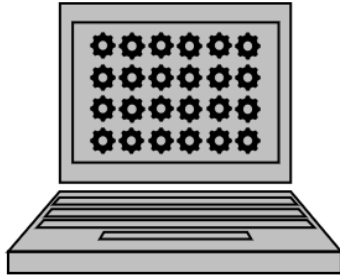
**Legend**

 GUI seat

 Calculation core



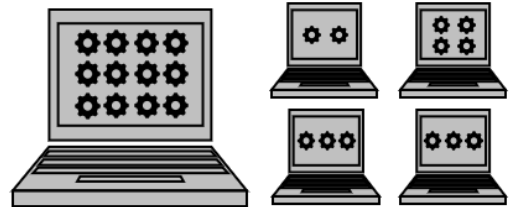
### Processor-only network dongle



#### 24 calculation cores:

24 parallel calculations on 1 computer  
No GUI support

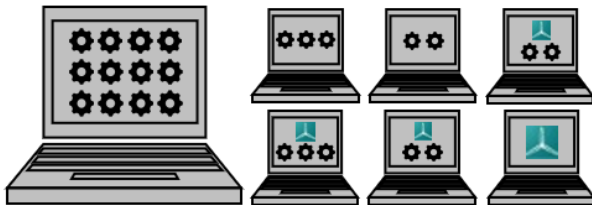
### Processor-only network dongle



#### 24 calculation cores:

12 parallel calculations on 1 computer  
4 parallel calculations on 1 computer  
3 parallel calculations on 2 computers  
2 parallel calculations on 1 computer  
No GUI support

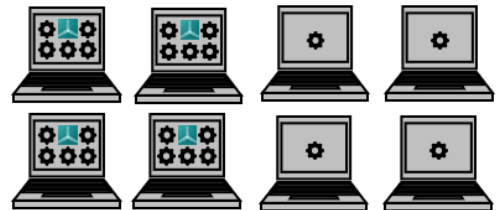
### Hybrid network dongle



#### 4 GUI seats; 24 calculation cores:

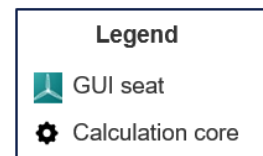
12 parallel calculations on 1 computer  
3 parallel calculations on 2 computers  
2 parallel calculations on 3 computers  
0 parallel calculations on 1 computer  
4 seats allows GUI use on up to 4 computers simultaneously  
Calculations may be run anywhere – not limited by GUI seats, only limited by global pool of cores

### Hybrid network dongle



#### 4 GUI seats; 24 calculation cores:

1 parallel calculation on 4 computers  
5 parallel calculations on 4 computers  
4 seats allows GUI use on up to 4 computers simultaneously  
Calculations may be run anywhere – not limited by GUI seats, only limited by global pool of cores





## 1.6 Linux

Linux versions of dtbladed only work with network processor-only licences and are unable to use standard or hybrid licences as at Q1 2022. See 2.5.1.

## 1.7 Cloud

DNV offers cloud hosting of Bladed licences in AWS. For more information, please contact [renewables.support@dnv.com](mailto:renewables.support@dnv.com).

## 1.8 Further information

For information about pricing and the full range of modules available in Bladed, please contact [renewables.support@dnv.com](mailto:renewables.support@dnv.com).

## 2 CONFIGURATION

This section describes how to install and configure a remote licence server, remote clients, and steps to update licences.

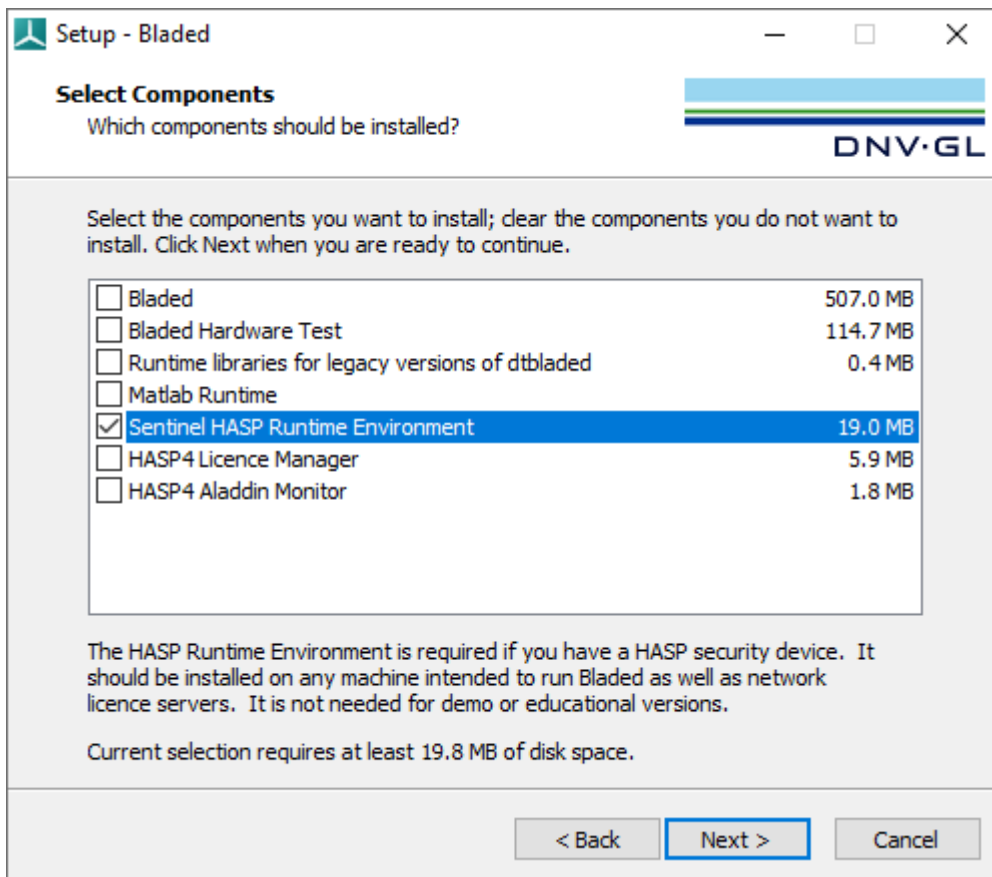
### 2.1 Remote network licence server setup

The Bladed USB network dongle should be connected to a licence server which is accessible from all clients on the network intending to run Bladed. It may be directly plugged into a USB port on the licence server or mapped through to the server from a USB hub device, e.g. Anywhere USB.

The following instructions describe the steps to set up a Bladed licence server on both Windows and Linux.

#### 2.1.1 Remote licence server installation – Windows

1. Run the latest Bladed installer. On the *Select Destination Location* screen, retain the default installation directory. Click *Next*.
2. On the *Select Components* screen, untick every option except for *Sentinel HASP RunTime Environment* (this option installs both the HASP run-time environment and the licence manager):



- a. If you wish to run Bladed on the licence server, also tick the *Bladed* option.
- b. If the network licence should support Bladed v3.82 and earlier, also tick the option *HASP4 Licence Manager*. An additional update to the dongle may be required to allow use of Bladed v3.82 and earlier.

**Note:** The earliest Bladed release that allows use of processor-only licences is **4.3.0.88** (see 1.4).

3. Click *Next* and retain the default settings on all subsequent installer screens.

## 2.1.2 Remote licence server installation – Linux

See 3.7.2.

## 2.1.3 Remote licence server configuration – all platforms

Before configuring the licence server, follow the installation instructions in 2.1.1 (Windows) or 2.1.2 (Linux).

1. Plug a network-enabled Bladed licence dongle into the machine you intend to use as a licence server. The red LED on the dongle should light up.
2. Open a web browser on the licence server and navigate to <http://localhost:1947/int/devices.html>. Ensure the dongle is visible in the device list.
3. In the main Options menu, click *Configuration* (<http://localhost:1947/int/config.html>).
4. Enable the options *Allow Remote Access to ACC* and *Allow Remote Access to Admin API*.

Newer versions of the licence manager allow the protocol to be selected: the recommended (default) option is HTTP.

The HTTPS option allows secure connections to a licence manager on an untrusted network, and requires a public certificate and private key be specified. Further details are available on the Network page: [http://localhost:1947/int/config\\_network.html](http://localhost:1947/int/config_network.html).

**Note:** Older versions of the licence manager have just one option: *Allow Remote Access to ACC and Admin API*. Tick this option.

5. Click *Submit*.
6. Click the *Access from Remote Clients* configuration tab ([http://localhost:1947/int/config\\_from.html](http://localhost:1947/int/config_from.html)).
7. Tick the option *Allow Access from Remote Clients*.
8. Click *Submit*.

The remote licence server is now ready to provide licences to Bladed clients on the network.

**Important: A remote licence server is capable of hosting a maximum of one Bladed licence dongle at any time. If more than one network dongle is hosted, remote Bladed clients may not run correctly.**

## 2.2 Remote client setup

This section describes how to configure remote clients to use Bladed network licences provided by a licence server.

### 2.2.1 Remote client installation – Windows

Install Bladed on the client. By default, this automatically installs the Sentinel HASP LDK run-time Environment and licence manager.

## 2.2.2 Remote client installation – Linux

See 3.7.2.

## 2.2.3 Remote client configuration – all platforms

Before configuring the client, follow the installation instructions in 2.2.1 (Windows) or 2.2.2 (Linux).

1. Open a web browser on the client and navigate to [http://localhost:1947/int\\_/config\\_to.html](http://localhost:1947/int_/config_to.html).
2. Tick the option *Allow Access to Remote Licences*.
3. Untick the options *Broadcast Search for Remote Licences* and *Aggressive Search for Remote Licences*.
4. Enter the IP address or hostname of the licence server in the *Remote License Search Parameters* box.
5. Click *Submit*.
6. Click *Sentinel Keys* in the left-hand menu ([http://localhost:1947/int\\_/devices.html](http://localhost:1947/int_/devices.html)). After a short delay, the dongle hosting the network licence should be displayed in the device list.

**Important: A client running Bladed supports a maximum of one configured network licence server at any time. If more than one network licence is discovered, Bladed may not run correctly.**

## 2.3 Local (non-network) dongles

### 2.3.1 Windows

Use of a local dongle requires no special configuration beyond installing Bladed on the target machine. By default, installing Bladed also installs the Sentinel HASP run-time environment and licence manager.

After installing Bladed, plug the local dongle into the machine and check it is visible in the licence manager device list ([http://localhost:1947/int\\_/devices.html](http://localhost:1947/int_/devices.html)).

**Important: A client running Bladed supports a maximum of one local Bladed licence dongle plugged in at any time. If more than one local dongle is discovered, Bladed may not run correctly.**

### 2.3.2 Linux

Dtbladed on Linux does not support the use of non-network dongles. However, use of a processor-only network dongle plugged directly into the machine running dtbladed is supported.

## 2.4 Run-time discovery of licences

### 2.4.1 Bladed GUI licence search order – Windows only

The user may configure the Bladed GUI to seek a licence from:

- only the local computer
- only a network licence server
- or favour a local licence over a network licence if both are available.

Please refer to the Bladed user manual for more information.

In **Bladed 4.5 and later** the licence search order specified in the user interface applies to the user interface only. It does not influence the order in which the calculation searches for a licence. See 2.4.2.

## 2.4.2 Bladed calculation licence search scope

In **Bladed 4.5 and later**, during initialisation the calculation seeks a valid licence on the local machine, and if unsuccessful, seeks a network licence. If a valid licence is not found after several consecutive local and network searches the calculation terminates. The licence search scope used by the calculation cannot be changed by the user.

In **Bladed 4.4 and earlier**, the licence search scope used by the calculation matches the search scope set in the GUI. The SDSTAT value in the calculation input (.IN) file inherits the search scope setting when the calculation is launched/added to batch from the GUI. It has the following values:

SDSTAT value	Licence search scope
1	Seek local licence only
2	Seek local licence; if unsuccessful, seek a network licence
4	Seek network licence only

## 2.4.3 Running Bladed on a licence server

Bladed may be run on the server hosting the network licence. Bladed instances running on the licence server consume licences in the same way as if running on a remote client.

## 2.4.4 Cross-platform accessibility of network licences

A network licence hosted on a Windows licence server may be accessed by Bladed running on Linux clients and vice-versa.

## 2.4.5 Network licence accessibility over a Virtual Private Network (VPN)

Bladed network licences may be accessed from remote clients connecting over a VPN. If access restrictions have been defined on the licence server in the *Access From Remote Clients* page ([http://localhost:1947/int/config\\_from.html](http://localhost:1947/int/config_from.html)), ensure client IP addresses are added to the whitelist.

See [http://localhost:1947/int/ACC\\_help\\_config\\_remote\\_clients.html](http://localhost:1947/int/ACC_help_config_remote_clients.html) for more information about access restrictions, including support for blocking/allowing IP ranges.

## 2.4.6 Limitations


Bladed supports a maximum of one local and one network licence at any time. If additional local or network licences are discovered, Bladed may not run correctly.

Bladed is not accessible over Windows Remote Desktop (RDP) when using a local dongle. However, RDP is permitted is when using a network dongle.

## 2.5 Dtbladed for Linux Ubuntu 18.04

### 2.5.1 Supported licence types

Dtbladed for Linux Ubuntu will only run with a **processor-only network licence**. The software cannot be run using any other type of Bladed licence, such as a standard Bladed network licence or a local licence.



A processor-only licence may be shared by instances of dtbladed running on both Windows and on Linux. The licence's process limit is shared globally across both platforms. For example, a 30-calculation core limit would allow 20 parallel calculations to be run on Linux and 10 on Windows.

## 2.6 Licence remote update

Remote updates are distributed in the form of files with the .V2C extension, and should be applied in the licence manager. The one exception is when a .V2C filename contains the suffix "Apply\_In\_Bladed", indicating the presence of legacy update codes in support of Bladed 3.82 and earlier. These legacy .V2C updates need to be applied in the Bladed GUI – see 2.6.2.

### 2.6.1 Remote update via licence manager

A remote update may be applied either directly on the machine hosting the licence, or (for network licences only) on a remote client with access to the network licence.

1. Copy the attached V2C file to an accessible location (local machine or a network drive).
2. In a web browser navigate to [http://localhost:1947/int\\_/devices.html](http://localhost:1947/int_/devices.html). This shows the available licences.
  - a. If the licence is hosted on the local machine, its location in the device list will be *Local*. Go to step 3.
  - b. If the licence is hosted on a remote server, its location in the device list will be the name of the server. Click the *Browse* link in the Actions column for the network device hosting the licence. This opens a new browser tab showing the configuration pages for the licence server. Perform the remaining steps in the new tab.
3. Click *Update/Attach* in the main Options menu on the left.
4. Select *Choose File*, choose the V2C and click *Open*.
5. Click *Apply File*.
6. If the update was successful, a confirmation message will be shown with a hyperlink to the updated licence. Click the licence ID hyperlink to view the features provided by the updated licence.

### 2.6.2 Legacy remote update via the Bladed GUI

Updates to legacy licences in support of Bladed v3.82 and earlier must be applied in the Bladed GUI (we recommend applying the update in the most recent GUI version available). The presence of legacy update codes in a .V2C file is denoted by the filename suffix "Apply\_in\_Bladed". Unlike standard V2C update codes, legacy update codes cannot be applied in the licence manager.

Apply the update choosing *Help > Security device upgrade* from the main Bladed toolbar.

## 3 TROUBLESHOOTING

### 3.1 Log files

#### 3.1.1 Bladed calculation message log

In the event that a Bladed calculation fails due to a licence error, start by inspecting the content of the .\$.ME file which is typically found in the calculation output folder. This will list specific errors encountered when attempting to discover or validate licences, and in some cases lists possible suggestions to fix the error. For more advanced logging options, see 3.8.

#### 3.1.2 Licence Manager log

The licence manager has options to write access and error log files. When using a network licence, repeat the steps below on both client and server.

1. Open [http://localhost:1947/int\\_/config.html](http://localhost:1947/int_/config.html)
2. Set logging options as shown:

Write an Access Log File	<input checked="" type="checkbox"/>	Size Limit (KB):	<input type="text" value="0"/>	(0: No limit)
Include Local Requests	<input checked="" type="checkbox"/>			
Include Remote Requests	<input checked="" type="checkbox"/>			
Include Administration Requests	<input checked="" type="checkbox"/>			
Write an Error Log File	<input checked="" type="checkbox"/>	Size Limit (KB):	<input type="text" value="0"/>	(0: No limit)
Write Log Files Daily	<input checked="" type="checkbox"/>			

3. Reproduce the problem.
4. Inspect log file(s) with the most recent datetime stamp in C:\Program Files (x86)\Common Files\Aladdin Shared\HASP\log.

### 3.2 Antivirus

Antivirus is a common cause of problems acquiring licences.

Whitelist the following processes to avoid antivirus interfering with licence acquisition:

- C:\Program Files (x86)\Common Files\Aladdin Shared\HASP\hasplms.exe
- <Bladed installation folder>\hasp\_rt.exe
- <Bladed installation folder>\dtbladed.exe
- <Bladed installation folder>\Bladed\_m72.exe

### 3.3 Network Licence


#### 3.3.1 Antivirus

Apply antivirus whitelisting described in 3.2 on the remote licence server.

#### 3.3.2 Firewall exceptions - Windows

Check that the hasplms service permits inbound traffic with any protocol and port on the remote licence server. Check that inbound traffic on port 1947 is not blocked.





The default path to the hasplms service executable on Windows is C:\Program Files (x86)\Common Files\Aladdin Shared\HASP\hasplms.exe.

### 3.3.3 Firewall exceptions – Linux

If using a network licence, check that the aksusbd daemon permits inbound traffic with any protocol and port on the remote licence server. Port 1947 must be open for inbound communication on the server.

### 3.3.4 Network licence not visible in remote client licence manager

Check that both the licence manager and remote client(s) are configured as described in section 2.

#### 3.3.4.1 Aggressive search

This option can improve the chances of a remote client finding a network licence when traversing multiple subnets or firewalls.

1. Open a web browser on the remote client and navigate to [http://localhost:1947/int/config\\_to.html](http://localhost:1947/int/config_to.html)
2. Enable the option *Aggressive Search for Remote Licenses*. Click *Submit*.
3. Go to <http://localhost:1947/int/devices.html> and wait for up to 60 seconds for licence discovery.

### 3.3.5 Run-time error 42 (“License Manager too old”)

If a remote Bladed client reports error 42 (“HASP License Manager version too old”), it indicates the client is using version 7.90 or later of the licence manager and the licence server is using a version lower than 7.90.

To fix this error, install the latest version of the licence manager on the licence server. See 3.7.

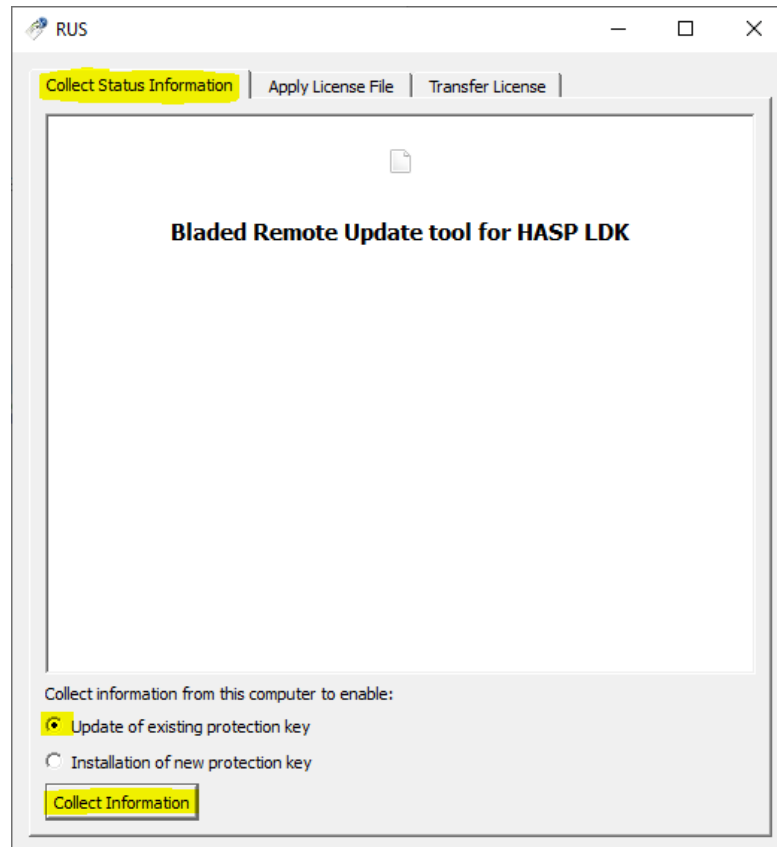
## 3.4 Remote licence update errors

### 3.4.1 Update code error 54 (“HASP Update too old”)

If applying a .V2C update code returns an error that the code is too old or too new, DNV will require a .C2V file to synchronise the licence with our database and create a new update code.

**Important: Whilst it is possible to create .C2V updates using the licence manager, these updates are not compatible with the licensing system used by DNV. Therefore, it is necessary to generate a .C2V file using the BladedRUS utility:**

1. Plug the dongle into a Windows PC with a Bladed installation.
2. Open File Explorer and browse to the Sentinel subfolder of a recent Bladed installation, e.g. C:\DNV\Bladed 4.12\Sentinel
3. Run BladedRUS.exe.
4. Choose the *Collect Status Information* tab and pick the option *Update of existing protection key*.
5. Click *Collect Information* and save the .C2V file:



6. Send the generated file to [renewables.support@dnv.com](mailto:renewables.support@dnv.com) and request a fresh .V2C file.

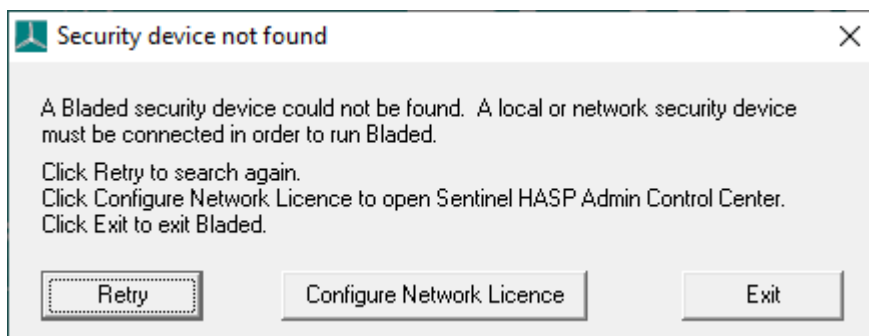
### 3.4.2 Update code error 55 (“HASP Update too new”)

See 3.4.

## 3.5 Bladed user interface errors

### 3.5.1 Security device not found on start-up

Bladed displays the following dialog if no licence device (hardware dongle or software key) is discovered on start-up:



This error suggests that no devices compatible with Bladed were discovered by the licence manager (<http://localhost:1947/int/devices.html>). Devices Bladed recognises are shown in the device list with a *Vendor Code* value of 55600.

#### **If using a local licence:**

1. Check antivirus configuration described in 3.2.
2. Verify that the red LED on the physical device is lit up. If the LED is not lit, it suggests a problem with the physical device or drivers. Install the latest drivers as described in 3.7.
3. If the dongle has been plugged directly into a USB port on the client, verify that the port has not been disabled.
  - a. On Windows, open Device Manager as administrator and ensure USB controllers are enabled.
4. If the dongle has been mapped to the client, e.g. from a USB hub, or from a host to a virtualised client, check the device mappings.

**If using a network licence:**

1. Check the configuration steps for remote servers described in 2.1.
2. Check the configuration steps for remote clients described in 2.2.
3. Check antivirus & firewall configuration described in 3.3.
4. Verify that the red LED on the physical device is lit up. If the LED is not lit, it suggests a problem with the physical device or drivers. Install the latest drivers as described in 3.7.

### 3.5.2 Valid licence visible in licence manager but licence not found on start-up

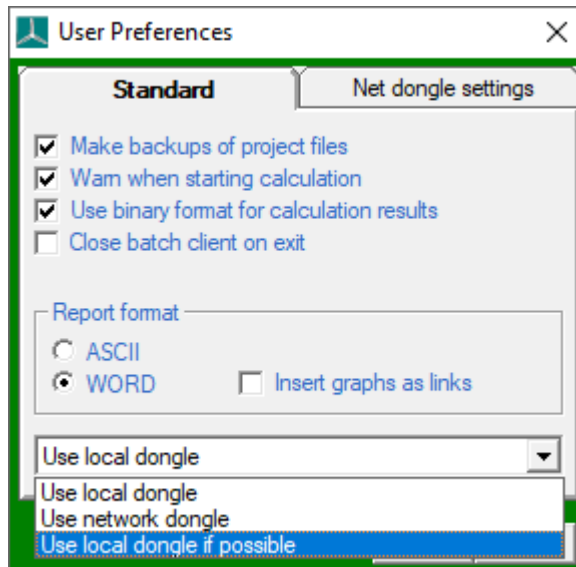
This assumes a valid local or network Bladed licence is already visible in the licence manager. See 2.1.3 for guidance on configuring a network licence.

On start-up the user may be presented with a dialog describing either a local licence error or a network licence error, for example:



If there is no error pertaining to the licence type (local or network) that was intended, it suggests the search scope is too restrictive. To correct this problem, widen the search scope as follows:

1. Click *Cancel* to dismiss the error dialog above.
2. Select *Tools > Preferences...* from the Bladed main menu.
3. Select the option *Use local dongle if possible* from the search scope dropdown at the foot of the dialog:



4. Click OK. A new licence search will be initiated; if a valid local or network licence is found it will be used. The new search scope will be used the next time Bladed is run.

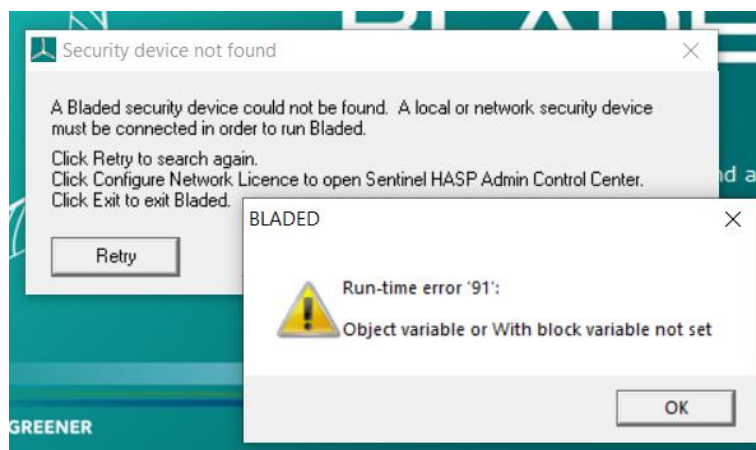
### 3.5.3 Run-time error '13': Type mismatch

This error occurs when Bladed 4.3.0.79 (and all earlier versions) request a licence from a network 250+ dongle. There are two possible workarounds:

1. Upgrade to Bladed 4.3.0.80 or later.
2. Use a different licence type such as a Net 50/NetTime 50, or a local dongle.

### 3.5.4 Run-time error '91': Object variable or With block variable not set

This error occurs when the user chooses the Retry option after the initial licence check fails on start-up:



The issue affects Bladed 4.9 to 4.11, and has been fixed in the following versions:

- 4.9.0.34
- 4.10.0.26
- 4.11.0.16

## 3.6 Bladed calculation errors

### 3.6.1 HASP error: Unable to establish session count

Check the following settings in the licence manager:

1. If the licence manager on either the client or the licence server is password protected, remove the password. Bladed does not currently support password-protected ACC instances.

#### If using a network licence:

2. On the licence server, navigate to [http://localhost:1947/int\\_/config.html](http://localhost:1947/int_/config.html). Check that the setting *Allow Remote Access to Admin API* has the value *HTTP*.
3. Check that the licence server and all remote clients are running the same licence manager version:
  - a. Navigate to [http://localhost:1947/int\\_/devices.html](http://localhost:1947/int_/devices.html). In more recent releases of the licence manager (8.x), the version is indicated in the bottom right corner of each screen.
  - b. If there is no version number in the bottom right corner of the screen, navigate to [http://localhost:1947/int\\_/about.html](http://localhost:1947/int_/about.html). The version is the value of *Run-time Installer*.
  - c. If there is a mismatch, align the installed licence manager versions across server and remote clients as described in 3.7.

### 3.6.2 HASP error: Failed to run ACC query (Admin API)

On the licence server, navigate to [http://localhost:1947/int\\_/config.html](http://localhost:1947/int_/config.html). Check that the setting *Allow Remote Access to Admin API* has the value *HTTP*.

### 3.6.3 Licence login is lost during simulation

If a licence login is unexpectedly lost during a simulation, check the timeout value in the licence manager. This should be checked on clients and licence server if using a network licence.

1. Open [http://localhost:1947/int\\_/config.html](http://localhost:1947/int_/config.html)
2. Set the value *Idle Timeout of Session* to 720.
3. Click *Submit*.

Antivirus and firewall software may intercept requests to the licence manager. See 3.2 and 3.3.

### 3.6.4 Run-time error 33/error 40 ("Communication error/Unable to access Sentinel HASP Run-time Environment") – Windows

1. On the client navigate to [http://localhost:1947/int\\_/devices.html](http://localhost:1947/int_/devices.html).
  - a. If the page does not load, go to step 2.
  - b. If the page loads but no devices are listed, check that devices are plugged in/mapped as intended. If using a remote licence manager, check the settings for the remote server (see 2.1) and the client (see 2.2).
2. On the client, and on the licence server if using a network licence, check the licence manager service is running:
  - a. Type **services.msc** into the start menu, right-click the app and choose *Run as administrator*.

- b. Find *Sentinel LDK License Manager* service in the list (earlier releases may be listed as *Sentinel HASP License Manager*). Start the service if it is not running.
3. If using a network licence, check the firewall settings on the remote licence server as described in 3.3 and 3.3.3.
4. If running Bladed 3.82 and earlier using a network licence, on the licence server check the service *HASP Loader* is running. Also check the firewall settings allow inbound connections for both TCP and UDP on port 475.

### 3.6.5 Run-time error 33/error 40 ("Communication error/Unable to access Sentinel HASP Run-time Environment") – Linux

1. On the client navigate to <http://localhost:1947/int/devices.html>.
  - o If the page does not load, go to step 2.
  - o If the page loads but no devices are listed, check that devices are plugged in/mapped as intended. If using a remote licence manager, check the settings for the remote server (see 2.1) and the remote client (see 2.2).
2. On the client, and on the licence server if using a network licence, check the aksusbd daemon is running.
3. In firewall settings, ensure aksusbd is enabled for any protocol and port, and that port 1947 is not otherwise blocked for inbound communication.

## 3.7 Licence Manager & drivers upgrade

### 3.7.1 Windows

1. Download the command line run-time environment installer from the Thales support site: [https://supportportal.thalesgroup.com/csm?id=kb\\_search&u\\_related\\_product\\_names=50303b92db852e00d298728dae96199d&query=kbcats\\_runtime\\_packages](https://supportportal.thalesgroup.com/csm?id=kb_search&u_related_product_names=50303b92db852e00d298728dae96199d&query=kbcats_runtime_packages). Search for *Sentinel HASP/LDK Windows Command Line Run-time Installer*.
2. Extract the installer executable (haspdinst.exe).
3. Copy haspdinst.exe to each client machine running Bladed, and to the licence server.
4. On each machine (all clients + licence server) perform the following steps:
  - a. Close all running Bladed instances.
  - b. Open an administrator command prompt (type **cmd.exe** into the start menu, right-click the app and choose *Run as administrator*).
  - c. Run the following command (including quotes): **sc stop "hasp loader"**  
**Note:** It doesn't matter if the previous command reports an invalid service name.
  - d. Run the command: **haspdinst.exe -i**  
**Note:** If the above command fails because it reports hasplms.exe is in use, open Task Manager and kill any haspdinst.exe processes. Next, open File Explorer and (if they exist) rename the files **C:\windows\system32\hasplms.exe** and **C:\Program Files (x86)\Common Files\Aladdin Shared\HASP\hasplms.exe**. Then re-run **haspdinst.exe -i**

- e. If the HASP Loader service mentioned above was successfully stopped, AND the licence manager needs to support use of Bladed v3.82 and earlier going forwards, run the following command to restart the service (including quotes): **sc start "hasp loader"**. If the licence manager does not need to support Bladed v3.82 and earlier, do not run the **sc start** command. Instead, run the following command to prevent HASP Loader from auto-running when the server is next rebooted: **sc config "hasp loader" start=disabled**
- f. Restart the machine.
- g. Check all settings are consistent with the configuration section of this document:
  - For a licence server, follow the steps in 2.1.3.
  - For client machines, follow the steps in 2.2.3.

### 3.7.2 Linux

The Sentinel HASP LDK run-time environment for Linux Ubuntu is available to download from the Thales support site:

[https://supportportal.thalesgroup.com/csm?id=kb\\_search&u\\_related\\_product\\_names=50303b92db852e00d298728dae96199d&query=kbcats\\_runtime\\_packages](https://supportportal.thalesgroup.com/csm?id=kb_search&u_related_product_names=50303b92db852e00d298728dae96199d&query=kbcats_runtime_packages)

Installation instructions are included with the download.

## 3.8 Further support

If the problem persists after following the troubleshooting suggestions in this section, please send the files described below to [renewables.support@dnv.com](mailto:renewables.support@dnv.com), in addition to any other log files from the calculation or licence manager that may be relevant to the investigation – see 3.1.

### 3.8.1 Local licence manager screen shots:

1. Screen shot showing outbound configuration from [http://localhost:1947/\\_int\\_/config\\_to.html](http://localhost:1947/_int_/config_to.html).
2. Screen shot showing device list from [http://localhost:1947/\\_int\\_/devices.html](http://localhost:1947/_int_/devices.html).
3. Screen shot showing feature list from [http://localhost:1947/\\_int\\_/features.html](http://localhost:1947/_int_/features.html).

### 3.8.2 Remote licence manager screen shots (only applicable when using a network licence):

On a Bladed client, navigate to [http://localhost:1947/\\_int\\_/devices.html](http://localhost:1947/_int_/devices.html). Click the *Browse* link in the Actions column for the network device hosting the licence. This opens a new browser tab showing the licence manager on the licence server. Perform the following actions in this new tab:

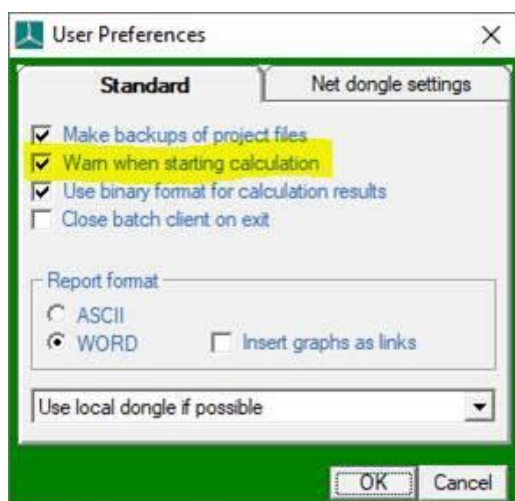
1. Click *Configuration* in the main menu on the left. On the configuration screen choose the tab *Access from Remote Clients*. Take a screen shot (this describes the inbound config).
2. Click *Sentinel Keys* in the main menu on the left and take a screen shot (this shows the hosted licence keys).
3. Click *Features* in the main menu on the left and take a screen shot (this shows the hosted features).

### 3.8.3 Bladed user interface HASP log file (only required if Bladed user interface licence is not functioning correctly):

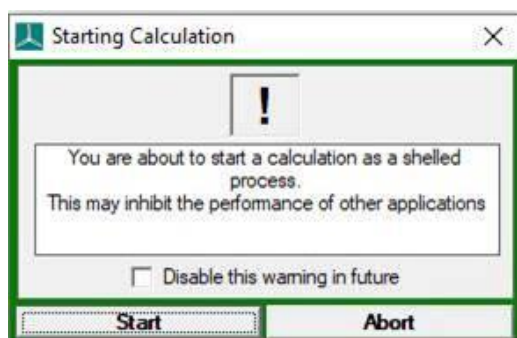
1. Open an administrator command prompt (type **cmd.exe** into the start menu, right-click the app and choose *Run as administrator*).
2. Change directory to the Bladed installation folder, e.g. **cd /d "C:\DNV\Bladed 4.12"**
3. Run the command: **Bladed\_m72.exe -log**
4. Reproduce the issue, and close Bladed.
5. A log with filename **HASPUI.LOG** will have been written to the Bladed installation folder.

### 3.8.4 Bladed calculation HASP log file (only required if calculation licence is not functioning correctly):

1. Run the Bladed GUI. Open Tools > Preferences, and ensure the option *Warn when starting calculation* is ticked:




2. Open a project that reproduces the issue and hit *Run Now*. The following *Starting Calculation* prompt should be shown (leave the prompt open without choosing any option):



3. Open File Explorer and navigate to the Bladed installation folder (e.g. C:\DNV\Bladed 4.12). There should be a subfolder with name starting \$\$\$\$ followed by a number, e.g. \$\$\$\$12345.0. This is the working folder.
4. Navigate to the working folder and find the file dtbladed.in. Open dtbladed.in in a text editor.
5. Search for the key DONGLOG (near the top of the file). Change its value from 0 to 1. Save this change over the existing dtbladed.in file.



- 
6. Open an administrator command prompt (type **cmd.exe** into the start menu, right-click the app and choose Run as administrator).
  7. In the administrator command prompt, change directory to the \$\$\$ folder above, e.g. **cd /d "C:\DNV\Bladed 4.12\\$\$\$12345.0"**
  8. From the same command prompt, launch dtbladed using the relative path: **..\dtbladed.exe**
  9. Wait for the simulation to complete and find log file GH.Common.HASP.C.log in the working folder identified in step 3. Copy this file to a safe location.
  10. Close the command prompt and click *Abort* on the *Starting Calculation* prompt in the Bladed GUI.