

NavView User Guide – 21 Alerts

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4D NAV

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21. ALERTS

The Alerts feature enables a user to create multiple Alerts Groups, each consisting of cascading conditional tests of data against tolerances and if any of the tests fail an alert is generated. This is a very flexible tool and can be used to monitor any published observation. For example, an alert can be setup to warn if a vehicle heading deviates from a required heading.

Alerts configured and triggered on one instance of NavView are published to other NavView clients, licensed and unlicensed, connected to the same network services.

If Roles and Privileges are enabled, the user must be logged in as Online, Supervisor or Administrator to manage the Alerts.

21.1 MANAGING ALERTS

Alerts are managed from the Alert Service Configuration window, see Figure 21-2. This is accessed from the Setup ribbon by clicking on Alerts in the Configure section, see Figure 21-1-.

Home	View Setup							
Manage Remote Workspace1 *	Horizontal CRS	La Guidance Calculations		▲ Alerts	Time Sync Devices system alerts	Connections	 Tiles 3D Color Maps Network Services 	ROST (
Workspaces	Project		• •••		onfigure			

FIGURE 21-1- SETUP RIBBON - ALERTS

21.1.1 ADD/REMOVE AN ALERT GROUP

An Alert Group is added from the Alert service configuration window, see Figure 21-2.

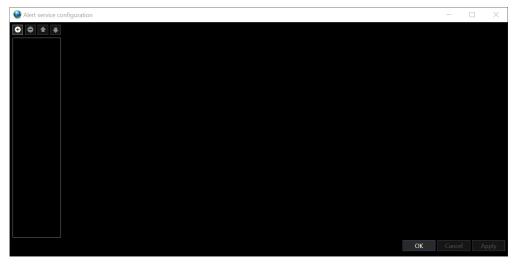


FIGURE 21-2 ALERT SERVICE CONFIGURATION WINDOW

- 1. Access the Alert service configuration window.
- 2. Click 2 to create an Alert Group. This is where individual alerts are grouped together, see FIGURE 21-3.



Alert service con	figuration	_	\times
	Name Alert Group		
Alert Group	Alerts		
	OK	Cance	

FIGURE 21-3 ALERT CONFIGURATION - GROUP ADDED

- Name: Assign a name to the group
- 3. Click 🖸 to remove the selected Alert Group.

21.1.2 CONFIGURE ALERTS IN A GROUP

Each Alert is comprised of one or more Conditions in a list. The Conditions are tested in the order they are listed and as soon as one fails, testing stops and an alert is triggered. The test logic is as follows.

Condition 1: WHEN [Observation] [Threshold] [Threshold Logic] Condition 2: [Logic] [Observation] [Threshold] [Threshold Logic] Condition n: [Logic] [Observation] [Threshold] [Threshold Logic]

Where:

- Logic options are AND and OR
- **Observation** is configured by selecting a data source and then one of the properties of that source and the units to use
- Threshold options are IS ABOVE, IS BELOW, IS BETWEEN RANGE and IS OUTSIDE RANGE
- **Threshold** Logic are the values to test the observation/threshold against
- 1. To add an alert to the group, click 🖸 under Alerts, see Figure 21-4.





FIGURE 21-4 ADD INDIVIDUAL ALERT

- 2. Assign a name to the alert.
- 3. Configure the alert conditions, see Figure 21-5.
- **Note:** When an Alert is added, the initial Condition is automatically added with the Logic selection set to WHEN. The first Condition Logic is always WHEN. If the order of Conditions is changed, the Logic is also changed such that the first Condition is set to WHEN and the one that was moved down is changed to AND.

Alert 1	lert 1						
Condition	ns 📕						
Logic	Data Source	Property	Units	Threshold	Threshold Logic	Trigger	Hysteresis
WHEN	None			IS ABOVE	0	3	1

FIGURE 21-5 ALERT - CONDITIONS CONFIGURATION

- **Logic:** WHEN is the only option available for the first Condition in a list. Subsequent Condition Logic options are AND and OR
- Data Source: Click in the cell to open the available data sources from the dropdown, see Figure 21-6



Alerts Alerts										
Alert 1	Nert 1 Name Al Condition			Property	Units	Threshold	Threshold Logic	Trigger	Hysteresis	
	WHEN	None Beacons Calculations Guidance Simulation Devices Vehicles Archive DvlCalibration	~	riopery	UIIIS	IS ABOVE	0	3	1	

FIGURE 21-6 ALERT - DATA SOURCE SELECTION

 Property: Depending on what data source was selected, the available properties can be found by clicking in the property box, see Figure 21-7

	5		U	1 2		<u> </u>			
Alert service co	onfiguration							-	
	Name Alerts								
Alerts	Alerts	Alert 1 —							
			ert 1						
	Alert	Condition							
		÷	+ +						
		Logic	Data Source	Property	Units	Threshold	Threshold Logic	Trigger	Hysteresis
		WHEN	Vehicles/Vessel/Heading	Heading Heading	Degrees	IS ABOVE	0	3	1
				SigmaHeading					
				SystemTime Age					
								_	
							ОК	Cance	el Apply

FIGURE 21-7 ALERT – PROPERTY SELECTION

• **Units:** From the drop-down, select the units associated with the selected data source property, see Figure 21-8



Alert service co	onfiguration									_	×
 Alerts Alert 1 	Condition	ns 🗣									
	Logic	Data Source	Property	Units	Threshold	Threshold Logic	Trigger	Hysteresis			
	WHEN	Vehicles/Vessel/Heading	Heading	Degrees	IS ABOVE	0	3				
				Degrees Radians Minutes Seconds Gradians							
								С	0K		

FIGURE 21-8 ALERT - UNITS SELECTION

- **Threshold:** From the drop-down, select one of the following as a condition for the alert, see Figure 21-9
- **Note:** The option IS INSIDE RANGE tests for the value being greater than or equal to the lower threshold and less than or equal to the upper threshold. The option IS OUTSIDE RANGE tests for the value being less than or equal to the lower threshold and greater than or equal to the upper threshold.

Alert service con	figuration						-	×
00 + =	Name Alert 1							
 Alert Group Alert 1 	Conditions							
	Logic Data Source	Property	Units	Threshold	Threshold Logic	Trigger	Hysteresis	
	WHEN Vehicles/AV/Heading	Heading	degree	IS BELOW	0	3	1	
				IS BELOW IS INSIDE RANG IS OUTSIDE RAN				

FIGURE 21-9 ALERT – THRESHOLD SELECTION

- Threshold Logic: Enter value for Threshold condition(s) to trigger alarm
- **Trigger:** The number of times the condition needs to evaluate to true before triggering an alert. The lower the number the quicker the alert will respond, the higher the number the less responsive. The condition is evaluated every 5 seconds. The default is 3
- **Hysteresis:** The required change from the threshold limit(s) before resetting alert, clearing alert. For example, if the condition if the heading IS ABOVE 45 and an alert has been triggered by the heading going to 47, the alert will not reset and clear until the heading has gone below 44, the default is 1



- If another Condition is to be added, click the Sutton in the Condition panel and repeat steps until all Conditions for this Alert have been added
- 4. Repeat steps 1 to 3 until all Alerts to be added to the Group are added and configured.

Alert service configu	ration								- 🗆	>
Alert Group Gyro 1 Alert	Name Alert Group Alerts	Gyro 1 Alert -	o 1 Alert							
		Conditions	Data Source	Property	Units	Threshold	Threshold Logic	Trigger	Hysteresis	
		WHEN	Simulation/Gyro 1 Simulation/Gyro 1	Heading Heading	degree degree	IS ABOVE IS BELOW	45 40	3	1	
									1	

FIGURE 21-10 CONFIGURED ALERTS SERVICE

- 5. To remove an Alert or a Condition, select the Alert or Condition to remove and click the respective D button.
- 6. To reorder Conditions, select the Condition and click the 🚺 or 🛂 button.
- **Note:** Alerts in a group can be reordered, as can Alert Groups, the order of these does not impact application.

21.2 MONITORING ALERTS

Alerts can be monitored on the NavView instance where they are configured and triggered (locally) and on any other NavView instance connected to the same network services (remotely).

21.2.1 MONITORING ALERTS LOCALLY

21.2.1.1 ALERTS SERVICE WINDOW

Local Alerts are monitored from the Alerts Service window. This is accessed from the View ribbon by clicking on Alerts in the Windows section, see Figure 21-11.

	Home	View	Setup	Anchor Ha	ndling						
ш Т (and a second second		💐 Map 🛵 3D Map			Alert Panel Time Sync		🗼 Explorer 😼 Logbook	Network Services	;
Τı	labular Text	🔰 Off Lin	e	🏂 Map3Dx	Alerts	View syste	em alerts	VS	💾 Web	Chat	

FIGURE 21-11 ALERTS SERVICE WINDOW - VIEW RIBBON



t Service							-
Alert Group 1	Conditons						
⊘ Primary Gyro Alert	Logic Data source		Threshold Triggered				
Secondary Gyro Alert	WHEN Simulation/R	ig Heading:Heading	(°) IS ABOVE 45				
Alert Group 2	OR Simulation/R	ig Heading:Heading	(°) IS BELOW 40 📃				
Main Rotary Position Alert							
	History (UTC)						
	Time	Event	Data source	Value	Threshold	Cleared	Time cleared
	17/11/2021 18:34:41.8	Below threshold	Simulation/Rig Heading:Heading(°)		Theshold=40.00	~	17/11/2021 18:34:46.8
	17/11/2021 18:34:56.8	Above threshold	Simulation/Rig Heading:Heading(°)	47	Theshold=45.00	V	17/11/2021 18:35:23.1
	17/11/2021 18:35:31.9	Above threshold	Simulation/Rig Heading:Heading(°)	47	Theshold=45.00	\checkmark	17/11/2021 18:35:36.9
	17/11/2021 18:35:51.9	Above threshold	Simulation/Rig Heading:Heading(°)	48	Theshold=45.00	✓	17/11/2021 18:51:07.7
	17/11/2021 18:51:12 2	Below threshold	Simulation/Rig Heading:Heading(°)	38	Theshold=40.00	\checkmark	17/11/2021 19:08:58.9

FIGURE 21-12 ALERT SERVICE VIEW WINDOW - ALL ALERTS CLEARED

🗙 Alert Group 1	Conditons												
(X) Primary Gyro Alert	Logic Data source		Threshold Triggered										
🗙 Secondary Gyro Alert	WHEN Simulation/R	ig Heading:Heading(°)) IS ABOVE 45										
× Alert Group 2	OR Simulation/R	ig Heading:Heading(°)) IS BELOW 40 🗸										
Main Rotary Position Alert													
L History (UTC)													
	Time	Event	Data source	Value	Threshold	Cleared	Time cleared						
	17/11/2021 18:34:41.8	Below threshold	Simulation/Rig Heading:Heading(°)		Theshold=40.00	~	17/11/2021 18:34:46.8						
	17/11/2021 18:34:56.8	Above threshold	Simulation/Rig Heading:Heading(°)		Theshold=45.00	<	17/11/2021 18:35:23.1						
	17/11/2021 18:35:31.9	Above threshold	Simulation/Rig Heading:Heading(°)	47	Theshold=45.00	~	17/11/2021 18:35:36.9						
	17/11/2021 18:35:51.9	Above threshold	Simulation/Rig Heading:Heading(°)	48	Theshold=45.00	<	17/11/2021 18:51:07.7						
	17/11/2021 18:51:12 7	Below threshold	Simulation/Rig Heading:Heading(°)	38	Theshold=40.00								

FIGURE 21-13 ALERT SERVICE VIEW WINDOW - CONDITION TRIGGERED

The Alert Service View window lists all configured alerts and the individual alert condition status. There is also a panel with a rolling history of alert conditions. Figure 21-12 shows an alert not triggered, Figure 21-13 shows an alert triggered.

Note: When an Alert is triggered, it is published to all stations on the network. It is not exclusive to a specific station.

Note: Alerts cannot be acknowledged from the Alert Service view.

21.2.1.2 ALERTS LIST WINDOW

Local Alerts can also be monitored from the Alerts List window. This is accessed from the View ribbon by clicking on Alerts in the Windows section, see Figure 21-14.

Home	View Setup	Anchor Ha	ndling				
Eog	‡ : Calculations	💐 Мар	Archive Monitoring	Alert Panel	🛥 Vehicles	📕 Explorer	Y Network Services
T Custom Tex	t 🤰 Guidance Tracking	🛵 3D Map	Alerts	() Time Sync	O Alerts	🦆 Logbook	ISON
T Tabular Text	: 🔰 Off Line	🛵 Map3Dx	Alerts (remote)	🛏 AIS	View Alert list	🗂 Web	Chat
				Window	VS		

FIGURE 21-14 ALERTS LIST WINDOW - VIEW RIBBON



The Alerts List window displays alerts in the data grid as they occur with the following information:

- **Type:** Alerts are by default always a Warning
- **Time:** Date and time alert was triggered
- **Event:** The event (alert threshold) that was triggered
- **Time Cleared:** Date and time the alert was cleared, i.e., the threshold was no longer exceeded
- **Time Acknowledged:** Date and time the alert was acknowledged
- State: The current state of the alert, possibilities are:
 - Triggered
 - Cleared
 - Acknowledged
 - Cleared, Acknowledged
- Module: What data source triggered the alert

The Alert types and state to display are controlled by clicking the respective tool bar button. The number of alerts of any one type is shown in the brackets of that button.

- **Errors():** Display alerts triggered as Errors (option to trigger alerts as Errors is not currently implemented)
- Warnings(): Display alerts triggered as Warnings
- Info(): Display alerts triggered as Information (option to trigger alerts as Information is not currently implemented)
- Acknowledged: Displays alerts that have been cleared and acknowledged

Alerts											- џ
					😢 Errors	5 (0)	🛕 Warnings (1)	(i) Info (0)	Acknov	vledged	ß
Туре	Time	Event	Time cleared	Time Acknowledged	State	Mod	ule				
	7/9/2024 20:30:57.9	Below threshold			Triggered	Alerts	Simulation/Simulat	ed Heading:Headin	g(°)		

FIGURE 21-15 ALERTS LIST WINDOW - ACTIVE ALERT

,	lerts									• ‡
					🛛 🛞 Errors	(0)	👠 Warnings (1)	(i) Info (0)	Acknowledge	d 🌮
	Туре	Time	Event	Time cleared	Time Acknowledged	State	Module			
		7/9/2024 20:30:57.9	Below threshold	7/9/2024 20:37:38.5		Cleared	Alerts Simula	tion/Simulated Hea	ding:Heading(°)	\oslash

FIGURE 21-16 ALERTS LIST WINDOW - CLEARED ALERT



lerts									•
					🔀 Errors (0)	<u> (</u> 2) Warnings	(Î) Info (0)	Acknowled	ged
Туре	Time	Event	Time cleared	Time Acknowledged	State	Module			
	7/9/2024 20:40:18.7	Below threshold		7/9/2024 20:40:25.3	Acknowledged	Alerts Simulation	/Simulated Heading	g:Heading(°)	\oslash
<u> </u>	7/9/2024 20:30:57.9	Below threshold	7/9/2024 20:37:38.5	7/9/2024 20:39:39.3	Cleared, Acknowledged	Alerts Simulation	/Simulated Heading	g:Heading(°)	\oslash

FIGURE 21-17 ALERTS LIST WINDOW - ACKNOWLEDGED ALERT

21.2.1.2.1 ALERT AUDIO AND POPUP MESSAGES

The sound to play and the popup message to display when an alert is triggered are configured from the Alerts List window. Clicking the button in this window's tool bar displays the dialog shown in Figure 21-18.

Selecting an option from the Play sound dropdown list results in that sound playing when an alert is triggered. Alternatively, None can be selected in which case no sound is played when an alert is triggered.



FIGURE 21-18 ALERTS ALERT OPTIONS

Checking the box associated with the alert type results in a popup message displaying when that alert type is triggered.

21.2.1.3 ALERT PANEL

Alert Panel can be used to display a single Alert that has been added to the Alerts Service. This displays the Alert name and it's status by color. Green, Alert not triggered. Red, Alert triggered.

Note: Multiple Alert Panels can be opened.

Alert Panel is accessed from the View Ribbon as shown in Figure 21-19.

	Home	View	Setup	Data				
	og	‡ ∓ Calcula	ations	💐 Мар	Archive Monitoring	🔺 Alert Panel 🛥 Vehicles	🤟 Logbook	SON (
Т	Custom Text	🚡 Guidar	nce Tracking	🛵 3D Map	Alerts	Time Alert Panel	🗂 Web	Chat
Τī	Tabular Text	🕹 Off Lin	e	🛵 Map3Dx	Alerts (remote)		💱 Network Services	
					Windows			



1. Select Alert Panel from the View Ribbon. This opens a blank panel see Figure 21-20.





FIGURE 21-20 BLANK ALERT PANEL

2. To select Alert to display, click on the configuration button 2. This will open the Alert Panel Config dialog.



FIGURE 21-21 ALERT PANEL CONFIG

3. From the Alert drop-down select the Alert to display.



FIGURE 21-22 ALERT SELECTION

4. The selected Alert will now be displayed in the panel and the Alert status.



FIGURE 21-23 ALERT DISPLAYED IN PANEL

5. Repeat Steps 1 to 3 for additional Alerts to be displayed.



21.2.2 MONITORING ALERTS – REMOTELY

Remote Alerts are monitored from the Remote Alerts window. This is accessed from the View ribbon by clicking on Alerts (remote) in the Windows section, (see Figure 21-24).



FIGURE 21-24 ALERTS (REMOTE) - VIEW RIBBON

The Remote Alerts window displays the source of the alerts in a tab at the top level of the window with the overall status of the alerts. In Figure 21-25, the source is the station Blackford Dolphin and the alert status is active as indicated by the icon. In Figure 21-26 the alert status is all cleared as indicated by the icon.

In the Active tab, all currently triggered and active alerts are listed. If any alerts are active, this is shown in the tab by the sicon, see Figure 21-25. If there are no active alerts, i.e. all alerts have cleared, this is indicated by the cleared icon, see Figure 21-26.

In the Cleared tab, all alerts that have triggered since this instance of NavView was launched and susequently cleared are listed.

Remote Alerts					▼ □
Blackford Do	olphin				
Active	Cleared				
Time		Event	Data source	Value	Threshold
18-11-2021 19:2	20:10.3	Above threshold	Simulation/Rig Heading:Heading(°)	47	Theshold=45.00
18-11-2021 19:2	20:10.3	Above threshold	Simulation/Rig Heading:Heading(°)	47	Theshold=45.00



emote Alerts						
O Blackford Dolphin						
Active Cleared						
Time	Event	Data source	Value	Threshold	Time cleared	
18-11-2021 19:20:10.3	Above threshold	Simulation/Rig Heading:Heading(*)	47	Theshold=45.00	18-11-2021 19:26:30.9	
18-11-2021 19:20:10.3	Above threshold	Simulation/Rig Heading:Heading(°)	47	Theshold=45.00	18-11-2021 19:26:30.9	
18-11-2021 19:16:34.9	Above threshold	Simulation/Rig Heading:Heading(°)	50	Theshold=45.00	18-11-2021 19:16:54.9	
18-11-2021 19:16:34.9	Above threshold	Simulation/Rig Heading:Heading(°)	50	Theshold=45.00	18-11-2021 19:16:54.9	
18-11-2021 19:13:39.6	Below threshold	Simulation/Rig Heading:Heading(°)	37	Theshold=40.00	18-11-2021 19:14:04.6	
18-11-2021 19:13:39.6	Below threshold	Simulation/Rig Heading:Heading(°)	37	Theshold=40.00	18-11-2021 19:14:04.6	

FIGURE 21-26 REMOTE ALERTS SERVICE WINDOW - CLEARED TAB

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21.3 ACKNOWLEDGING ALERTS

Alerts can only be acknowledged from the Alerts List window. In this window, right mouse click on the alert to be acknowledged and click Acknowledge.