

CIMScan Monitoring System

System Administrator's Guide

For CIMScan Version 6

by

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CIMScan Overview

CIMScan is an incredibly easy to configure and use real-time monitoring system. It is typically used to alert users to abnormal conditions that have been detected where critical materials are stored or processed. While the system is normally used to monitor temperatures, it can be used for anything for which a sensor is available.

This manual contains information specifically for System Administrators and should be used in conjunction with the CIMScan User's Manual and the Group Administrator's Guide.

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Editing the System Settings

The system-wide settings can be accessed by clicking on “System Settings” in the “Admin/System Admin” menu. This will display the page shown below.

Add/Edit System Settings	
System Name	Test Site
Password Expiration (Days)	120
Session Timeout (Min.)	20
Alarm Processing Enabled	<input checked="" type="checkbox"/>
Require Alarm Acknowledgement	<input checked="" type="checkbox"/>
Require Assignable Causes	<input checked="" type="checkbox"/>
Send Alarms Enabled	<input checked="" type="checkbox"/>
Audit Trail Enabled	<input checked="" type="checkbox"/>
Remote Comm. Loss Timeout Ind. (Min.)	15
Group Status Refresh Rate (Sec.)	60
Trend Chart Default Period (Hrs.)	24
<input type="button" value="Submit"/> <input type="button" value="Cancel"/>	

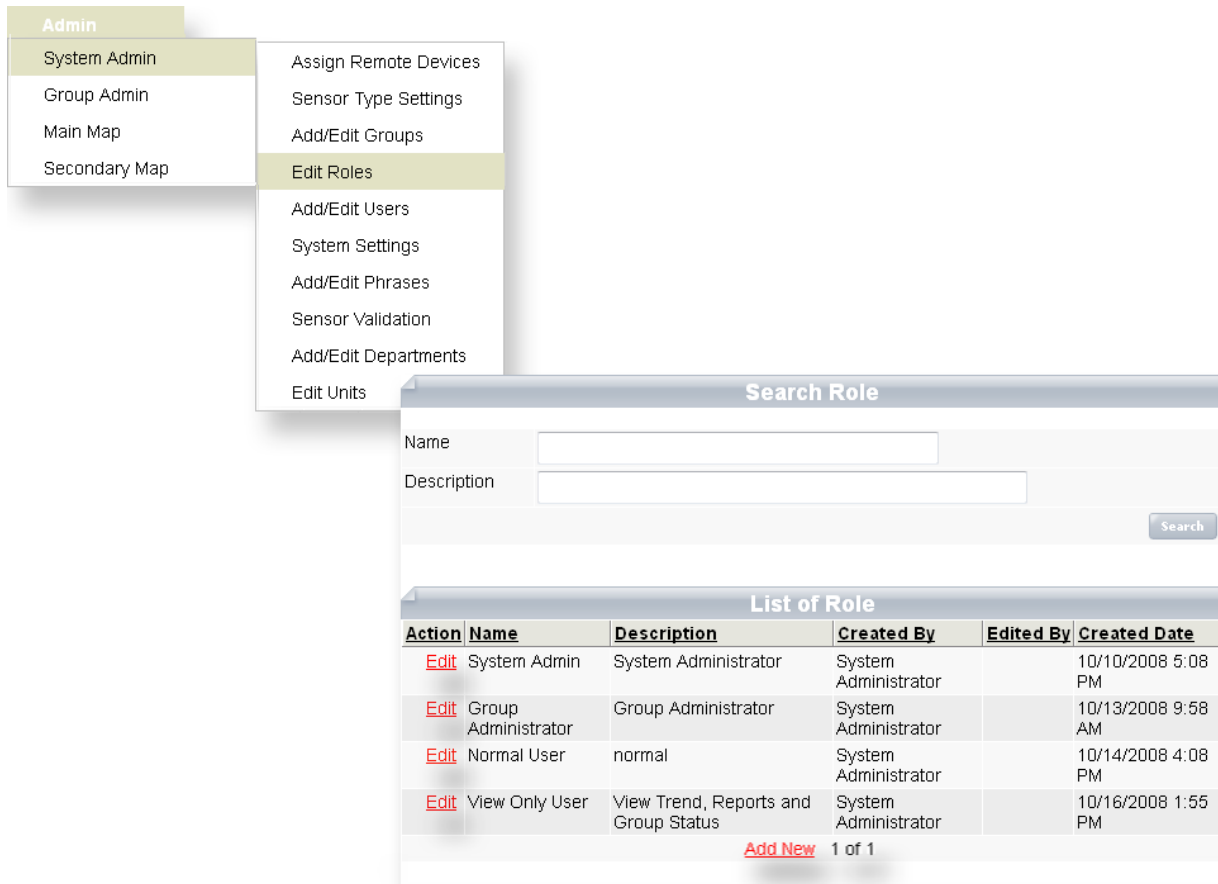
These settings apply to the entire system. The following section describes each setting in detail.

- System Name.....This is the name that appears in the heading of the reports.
- Password Expiration.....Passwords automatically expire in this number of days.
- Session Timeout.....Users are automatically logged off after this number of minutes of inactivity.
- Alarm Processing Enabled.....This should be checked if incoming measurement values are to be compared with alarm or warning limits and the appropriate action taken.
- Require Alarm Ack'ment.....This should be checked if users are required to acknowledge alarms or errors.
- Require Assignable Cause.....This should be checked if users are required to supply an assignable cause during an alarm acknowledgement,
- Send Alarms Enabled.....The system will send alerts to the designated users when an alarm or warning condition is detected if this box is checked.
- Audit Trail Enabled.....All user settings changes will be recorded in the audit trail log if this box is checked.
- Remote Comm.Loss Timeout. This timeout is sent to remote station for their local communication loss processing (Min.)
- Group Status Refresh Rate.....The group status pages will be automatically refreshed in this amount of time. Users can manually refresh the page at any time by using the browser controls (Sec).

Trend Chart Default Period.....Trend charts displayed from the group status page contain measurement data for the amount of time contained in this field from the time of selection (Hrs).

Configuring the User Roles

Each user is assigned a “Role.” Roles control what a user has access to. Any number of Roles can be created in a CIMScan system. Four default roles are provided. These can be easily modified by selecting the “Roles” page from the main menu as shown below.



The screenshot shows the 'Admin' menu with 'Edit Roles' selected. Below it is the 'Search Role' page with search fields for Name and Description, and a Search button. Below the search fields is a table titled 'List of Role' with columns: Action, Name, Description, Created By, Edited By, and Created Date. The table lists four roles: System Admin, Group Administrator, Normal User, and View Only User. At the bottom of the table is an 'Add New' hyperlink and '1 of 1'.

Action	Name	Description	Created By	Edited By	Created Date
Edit	System Admin	System Administrator	System Administrator		10/10/2008 5:08 PM
Edit	Group Administrator	Group Administrator	System Administrator		10/13/2008 9:58 AM
Edit	Normal User	normal	System Administrator		10/14/2008 4:08 PM
Edit	View Only User	View Trend, Reports and Group Status	System Administrator		10/16/2008 1:55 PM

New roles can be created by clicking the “Add New” hyperlink. Existing roles can be modified by clicking “Edit” in the row containing the desired Role information.

Care should be taken when editing the roles not to inhibit access to the role page by the system administrator.

Roles are configured by checking the appropriate checkboxes to allow access to a specific page or function. The annotated screenshot on the following page shows what checkboxes control various access capabilities and functions.

		System Admin	Group Admin	Normal User	Viewer
Home	Group Status Page	✓	✓	✓	✓
	Add Acknowledgement	✓	✓	✓	
	Add Notes	✓	✓	✓	
	Show Map	✓	✓	✓	✓
	Sensor Info	✓			
	Trend Chart	✓	✓	✓	✓
Administrator	System Administrator	✓	✓		
	Assign Remote Devices	✓			
	Sensor Type Settings	✓	✓		
	Add/Edit Groups	✓	✓		
	Edit Roles	✓			
	Add/Edit Users	✓	✓		
	System Settings	✓			
	My Profile	✓	✓	✓	✓
	Add/Edit Phrases	✓	✓		
	Sensor Validation	✓	✓		
	Edit Departments	✓			
	Edit Units	✓			
	Group Administrator	✓	✓	✓	
	Assign Alerts	✓	✓		
	Assign Sensors	✓	✓		
	Assign Users	✓	✓		
	Maintain Group	✓	✓		
	Maintain Sensor	✓	✓		
	Replace Sensor	✓	✓		
	Main Map	✓	✓	✓	✓
	Secondary Map	✓	✓	✓	✓
	Help	User Manual	✓	✓	✓
Group Admin Guide		✓	✓		
System Admin Guide		✓			
Reports	Status Report	✓	✓	✓	
	Alarm History	✓	✓	✓	
	Sensor Measurement Log	✓	✓	✓	
	User Notes	✓	✓	✓	
	Trend Chart	✓	✓	✓	
	Sensor Report	✓			
	Audit Trail	✓			
	Limits Changes	✓			
	Statistics by Hour	✓	✓	✓	
	Statistics by Day	✓	✓	✓	
	Statistics by Week	✓	✓	✓	
	Statistics by Month	✓	✓	✓	
Login	Security	✓	✓	✓	✓
	Password Protected	✓	✓	✓	✓
Alerts	Email	✓	✓	✓	✓
	Phone	✓	✓	✓	✓
	Stack Light	✓	✓	✓	✓

Adding New Groups

New Groups can be added to the system or existing ones can be edited by clicking on “Add/Edit Groups” in the “Admin/System Admin” menu. This will display the page shown below.

Groups							
Department	Group Name	Short Name	Users	Sensors	Escalation	Resend	Map Page
GLOBAL	Cleanroom	CR	10	4	15	5	cleanroom
GLOBAL	Curing Area	CA	1	0	10	30	curing
GLOBAL	Microbiology Lab	Microbiology Lab	3	0	10	30	
GLOBAL	Composit Curing Area Q	Q	1	0	15	20	composite
GLOBAL	Hospital	Hospital	5	4	20	15	Hospital
GLOBAL	Energy	Energy	6	4	20	15	energy
World	Remote Site	Remote1	9	6	5	30	Remote Site
GLOBAL	Facilities	FAC	2	7	7	5	facilities
GLOBAL	Warehouse	Warehouse	5	2	15	20	warehouse2

Group Name	<input type="text"/>	Resend Timeout (Min.)	<input type="text"/>
Short Group Name	<input type="text"/>	Escalation Timeout (Min.)	<input type="text"/>
Dept Name	GLOBAL ▾	Uncorrected Message Template	The %A condition remains for %N in %L. The current %P is %V %U. Detected at %T.
Map Page	<input type="text"/>	Normal Message Template	A %A has been detected at %N in %L. The current %P is %V %U. Detected at %T.
Calculated Value Heading	<input type="text"/>	Statistics Report Heading	<input type="text"/>
		<input type="button" value="Add"/> <input type="button" value="Delete"/> <input type="button" value="Update"/>	

Group Name

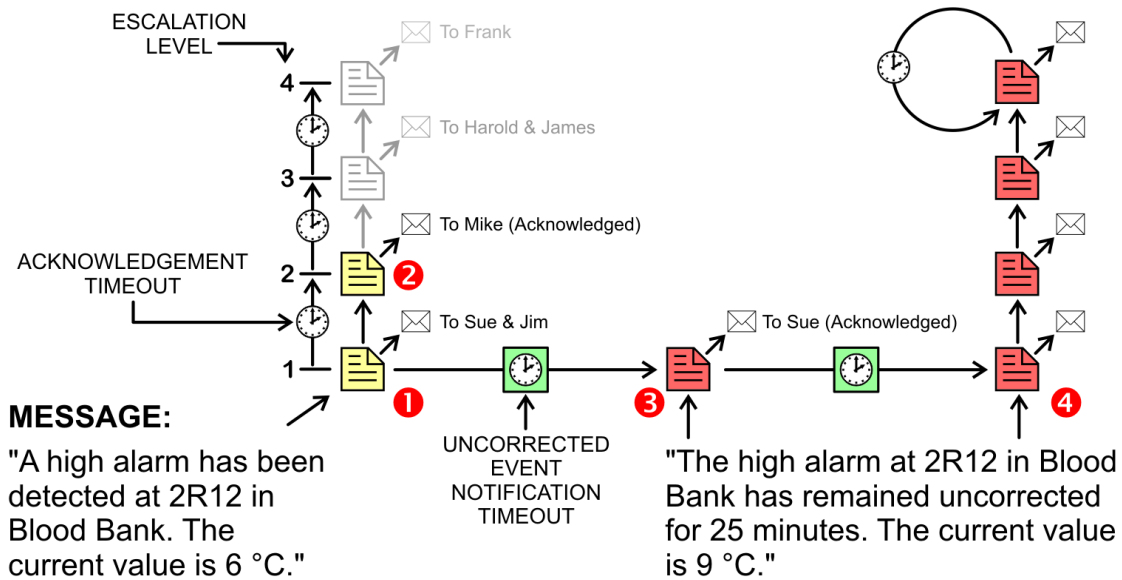
The Group Name and a short name can be edited. The Group Name appears in page and report headings. Short Group Name is limited to 16 characters and is used for identifying groups when utilizing specialized features of CIMScan such as the Service Tool.

Message Delivery Timeouts

Alert messages are generated whenever an alarm or a warning condition is detected or if a system error, such as a sensor failure, occurs. The system will continue to send alert messages on a user-specified interval until the alert is acknowledged. The interval is called the “Acknowledgement Timeout.”

Each user is assigned an “escalation level” beginning with 1. Users with an escalation level of “1” will receive the initial message. A user with a level of “2” will receive the second message. This process repeats until all escalation levels have been covered. The system can be configured so that users will only receive messages generated at their escalation level, or it can be set up to send messages to all users at or below the current escalation level.

The following diagram shows how the escalation process works.



Consider a situation where an alarm is detected in refrigerator 2R12 in the blood bank. The system generates an alert message as shown above (#1) and sends it to Sue and Jim because they have been assigned *Escalation Level #1*. Assume that neither Sue nor Jim acknowledges the alarm. After the *Escalation Timeout* period, the system advances the escalation level and sends the alert message to Mike (#2). Mike acknowledges the alert and further notification ceases for the moment

Assume that the alarm condition persists. After the *Message Resend Timeout* has expired (#3), the system will generate a new message informing the users that the alarm has not been corrected. The message will be initially sent to Sue because she is at *Escalation Level #1*. If Sue acknowledges the message, and escalation ceases, again, for the moment.

The system will react again if the alarm remains uncorrected after a second *Message Resend Timeout* has occurred (#4). The example above shows what will happen if no one acknowledges the third set of messages. The system will go through all four defined escalation levels, sending the message to the appropriate people. Once it reaches the top escalation level, the system will repeatedly send the message at the *Escalation Timeout* interval until the message is acknowledged by someone.

Message Templates

The message templates are shown at the bottom of the page and are simple text strings containing any information desired. "Escapes" can be embedded in the string to allow the insertion of real-time data whenever the message is created. The list on the following page shows the escapes that are currently available.

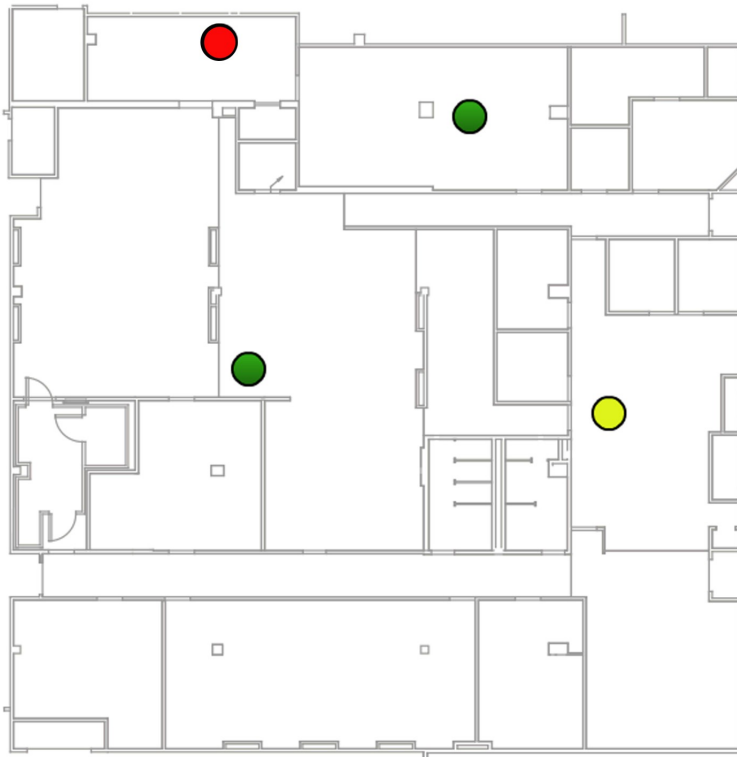
- %N = name of the sensor point (typically unit being monitored)
- %V = current measurement value

- %U = units of measure
- %G = group name
- %L = location of the sensor
- %S = sensor type string (from sensor type table)
- %P = sensor parameter string (from sensor type table)
- %A = alert type (alarm, warning, or error)
- %T = the time that the alarm or alert was detected
- %E = error string (alerts)

Messages can be sent to users via email, pager, or cellular telephone text messaging. They can also be sent via voice telephone if the CIMAlert message delivery package is installed on the server.

Map Page

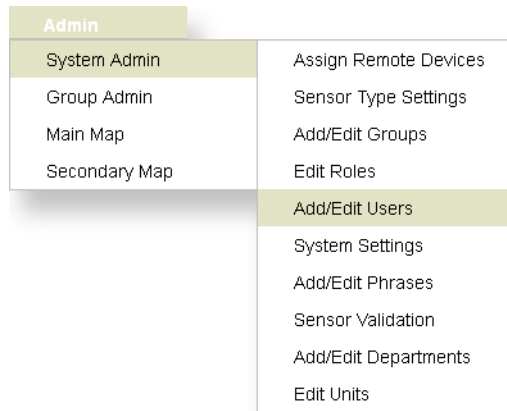
Maps that show the real time sensor and/or group status can be installed by using the Map Editor Program.



5th Floor Feinberg
Surgical Services
Tissue Store

Creating New Group Administrators

New Group Administrators can be easily created by clicking on “Add/Edit Users” in the “Admin/System Admin” menu as shown below.



New users can be created by clicking on the “Add New” hyperlink (highlighted in red) at the bottom of the page. The profile for existing users can be edited by clicking on “Add/Edit User Info” in the dropdown list on the row with the user’s general information.

List of User			
Action	First Name	Last Name	Active
Select Value	System	Administrator	A
Select Value	Group	Admin	A
Select Value	Normal	User1234	A
Select Value	View Only	User	A
Select Value	Dave	S	A
Select Value	Kevin	Demo	A
Select Value	Pharmacy	Tech	A
Add / Edit User Info	Validation	Test1	A
Add / Edit User groups	Demo	Tester	A
Select Value	Hospital	User	A
Select Value	Cleanroom	User	A
Select Value	Warehouse	User	A
Select Value	Energy	User	A
Select Value	Remote	User	A
Select Value	Demo	RTI	A

[Add New](#) 1 of 1

The following page contains an annotated screenshot of the Add/Edit User page.

Add User

First Name

Last Name

Title

Escalation Level **No Message Sent** ▼

Login

Password

Verify Password

Password Strength:

Start Work 7 : 00 AM ▲▼

End Work 3 : 00 PM ▲▼

Active **InActive** ▼

Work Contact

Non-Work Contact

Dept Name **GLOBAL** ▼

Add

Roles - Groups

Normal User ▼

- Cleanroom
- Curing Area
- Microbiology Lab
- Composit Curing Area Q
- Hospital
- Energy

Edit User's Name and Title

A user's public name appears in alarm acknowledgment, user notes, and in the audit trail. This information can be easily edited by selecting the appropriate field and making the required modifications using the computer's keyboard.

First Name

Last Name

Title

Select the User's Position in the Call List

In the previous section in this user's guide the message delivery process was discussed. Each user can be assigned an escalation level. This determines when in the notification process a message will be sent to the user. The escalation level can be easily changed using the dropdown list displayed on the following page.

Escalation Level **First Called** ▼

- No Message Sent
- First Called**
- Second Called
- Third Called
- Fourth Called

Add or Change the User's Password

A user's password can be changed by entering it in the two fields provided. Passwords are case-sensitive and both passwords entered must be identical.

Login

Password

Change Password [X]

New Password

Confirm Password

Password Strength:

Make the User Active

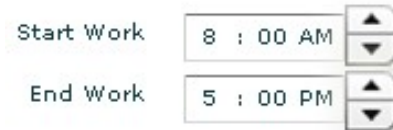
Only Active users can log onto the system.

Active **Active** ▼

- Active**
- InActive

Setup Specific Contact Time/Method

Messages can be delivered by one means during working hours and by a different means outside this time. The starting and ending times for the workday can be entered into the appropriate fields using a keyboard. A mouse can be used to select the times from the time entry helper (▲, ▼) as shown in the screenshot below.



The screenshot shows two input fields. The first is labeled 'Start Work' and contains the text '8 : 00 AM'. To its right is a small vertical button with an upward-pointing triangle (▲) above and a downward-pointing triangle (▼) below. The second field is labeled 'End Work' and contains the text '5 : 00 PM'. It also has a similar vertical button with ▲ above and ▼ below.

Simply click on the appropriate buttons to select the time to be entered into the field containing the cursor.

Edit the User's Contact Information

A user's contact information can be entered into these fields.



The screenshot shows two input fields. The first is labeled 'Work Contact' and contains the text 'jon.smith@cimtechniques; 894.639.8521'. The second is labeled 'Non-Work Contact' and contains the text '888.321.6543'.

The delivery method to be used while at or away from work will be determined by the information entered here. User can enter either an email address and/or a telephone number. Multiple entries can be separated using a semicolon or colon.

Department

The Department Selection function on this page appears when editing a user's profile and when creating a new Group Administrator.

Please Note: The System Administrator is required to create the very first Group Administrator and the first Group for each Department and place that Group Administrator in a Group before users created from the Group Administrator can belong to the same group.



The screenshot shows a dropdown menu. The label 'Dept Name' is to the left of the dropdown. The dropdown is currently open, showing a list of options: 'GLOBAL' (highlighted in blue), 'World', and 'Hospital'. The 'GLOBAL' option is selected.

Select the User's Role

The user's role (access privilege) can be selected at the bottom of the page (only one role can be chosen). *Please Note:* Group selection only appears when creating new users and it is located beside the Role function.



The screenshot shows a web interface titled "Roles - Groups". On the left, there is a dropdown menu currently displaying "Normal User". To the right of this menu is a list of six roles, each with a checkbox:

- Cleanroom
- Curing Area
- Microbiology Lab
- Composit Curing Area Q
- Hospital
- Energy

Selecting User's Groups

New Group Administrators can be assigned to a specific group or groups by clicking on "Admin/System Admin/Users" to display the user selection page as shown below.

The screenshot displays a web application interface for user management. On the left, a navigation menu is visible with the following items: Admin, System Admin, Group Admin, Main Map, and Secondary Map. The 'System Admin' menu is expanded, showing options: Assign Remote Devices, Sensor Type Settings, Add/Edit Groups, Add/Edit Users (highlighted), System Settings, Add/Edit Phrases, Sensor Validation, Add/Edit Departments, and Edit Units.

In the center, a 'List of User' table is shown with the following data:

Action	First Name	Last Name	Active
Select Value	System	Administrator	A
Select Value	Group	Admin	A
Select Value	Normal	User1234	A
Add / Edit User Info	View Only	User	A
Add / Edit User groups			

Below the table, the 'Add/Edit User Groups' form is displayed. The 'User Name' field is set to 'Group Admin'. The 'Groups' section contains a list of groups with checkboxes:

- Cleanroom
- Curing Area
- Microbiology Lab
- Composit Curing Area Q
- Hospital
- Energy
- Remote Site
- Facilities
- Warehouse

A 'Submit' button is located at the bottom right of the form.

Click on "Add/Edit User Groups" to display the Group Selection page. Make the appropriate selections and then click on "Submit" to complete the transaction.