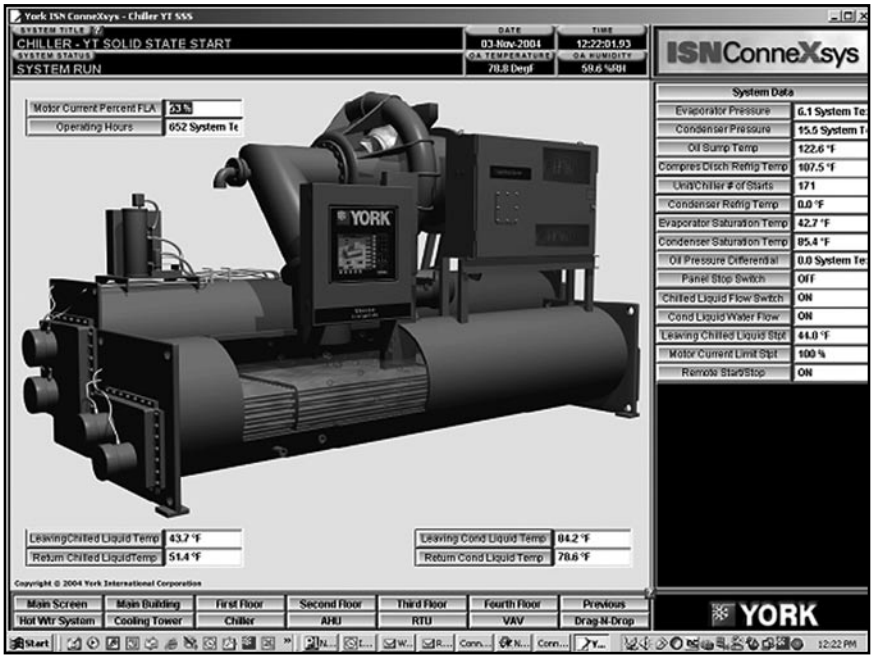
YORK®	ISN ConneXsys Web Server	
USER GUIDE	New Release	Form 450.24-NOM11 (1104)



This document is intended for use by owner-authorized operating/service personnel. It is expected that this individual possesses independent training that will enable them to perform their assigned tasks properly and safely. It is essential that, prior to performing any task on this equipment, this individual shall have read and understood this document and any referenced materials. This individual shall also be familiar with and comply with all applicable governmental standards and regulations pertaining to the task in question.

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SUMMARY OF CHANGES

1104 Original Release

REFERENCE INSTRUCTIONS

DESCRIPTION	FORM NO.
ISN ConneXsys Web Server Specifications	450.24-S10
ISN ConneXsys Operator Work Station User Guide	450.24-NOM10
ISN ConneXsys Web Server	450.24-TD5

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SECTION 1
General

USING THIS ADMINISTRATOR GUIDE

This Administrator Guide discusses the installation and maintenance of the ISN ConneXsys Web system. It deals specifically with creating and managing user groups, system security, energy management, creating pages and graphics, andsetting user access.

Purpose

The main purpose of this guide is to provide facility managers and network administrators with a simple, concise treatment of how to set up, use, and adjust the ISN ConneXsys Web system.

Audience

The intended audience of this guide are the facility managers and network administrators who will be installing, programming, and maintaining the ISN ConneXsys Web system.

Conventions

The ISN ConneXsys Web documentation often refers to ‘clicking’ on a word or object that is acting as a hyperlink to a new web page. This term always refers to using the left-mouse button (for a right-handed person). To access the online documentation press the Help button that is visible in the Navigator, Tenant Portal, and Administrator pages. The conventional use of F1 to access help is not available in this release of ISN ConneXsys Web.

Assumptions

We have made some assumptions about the Windows and web knowledge that a person using this software & documentation already has.

Windows Knowledge and Terms

This guide assumes that you are familiar with a Windows environment. See the information included with Windows that describes the basics of selecting, clicking, and navigating through Windows.

Web Knowledge and Terms

This guide assumes that you are familiar with either the Netscape Navigator, or Microsoft Internet Explorer web browser. The ISN ConneXsys Web Navigator page uses and Explorer style interface similar to the ISN ConneXsys Navigator.

ISN ConneXsys Knowledge and Terms

This guide also assumes that the user has a basic understanding of York’s ISN ConneXsys system and its functionality.

Getting Help

There are three separate online help documents for the ISN ConneXsys Web system: the ISN ConneXsys Web Administrator Help, ISN ConneXsys Web Operator Help, and ISN ConneXsys Web Tenant Help. Each of these documents can be accessed through the Help button.

In addition, the ISN ConneXsys Web Administrator Guide is available in PDF format on the ISN ConneXsys Web installation CD, and print copies of the ISN ConneXsys Web Administrator Help should accompany the installation package.

WHAT IS ISN CONNEXSYS WEB?

ISN ConneXsys Web is a web-based front-end for use by both facility staff and building tenants. The application was developed with the needs of both groups in mind. It is a PC-based web server which connects to both the building automation network and the facility LAN. ISN ConneXsys Web is based on a client-server architecture and the software has no limits on the number of simultaneous users. Based upon your access level you may view graphics, device architecture, object properties,Tenant Portals, and/or Virtual Stat.

ISN ConneXsys Web has several functions that make it ideally suited for use in a large facility with many tenants that are connected to the facility LAN or the Internet. The system consists of several major components: the Administration pages, Navigator, Tenant Portals, Virtual Stat, and Personal Digital Assistant (PDA) Access.

Administration Pages

Administration pages allow the Administrator to add, create, and modify users, areas, or user groups, as well as configure ISN ConneXsys Web and generate reports.

Navigator

The Navigator pages will mainly be used by Operators. It allows them to view and modify control system objects through a browser. This eliminates the need for ISN ConneXsys on multiple PC's.

ISN ConneXsys now only needs to be installed on the server PC.

Tenant Portal

The Tenant Portal is a source of information about the area(s) that the tenants/users can access. Using the Tenant Portal, users can control specific equipment within their designated area/s.

Based on the way the areas are setup by the Administrator, a Tenant can view inside temperatures, outside temperatures, occupancy status, and trend logs. The Tenant can also view or modify the setpoint temperature, set point occupancy, schedule, and calendar.

Users can customize their portal page by adding, reordering, or removing an area, or by choosing which parameters will be visible within a specific area. Tenant users can also use Virtual Stat to adjust temperatures and setpoints.

Virtual Stat

Virtual Stat is a stand-alone program used by Tenants. Virtual Stat allows the Tenant to view outdoor and indoor temperatures, change the temperature setpoint, and turn occupancy status on/off from their PC. Users can download this program through their Tenant Portal.

PDA (Personal Digital Assistants) Access

ISN ConneXsys Web Navigator, and Tenant Portals can also be accessed through a PDA such as a Palm Pilot. The pages are arranged to work within the PDA screen size while still providing the same functionality as if a user is accessing ISN ConneXsys Web through their PC based web browser.

ISN ConneXsys Web Users

There are 3 types of users in the ISN ConneXsys Web system:

Administrators

Administrators have access to the Administration pages where they can add, delete, and modify users, user groups, and areas. Administrators can also configure ISN ConneXsys Web and generate reports.

Operators

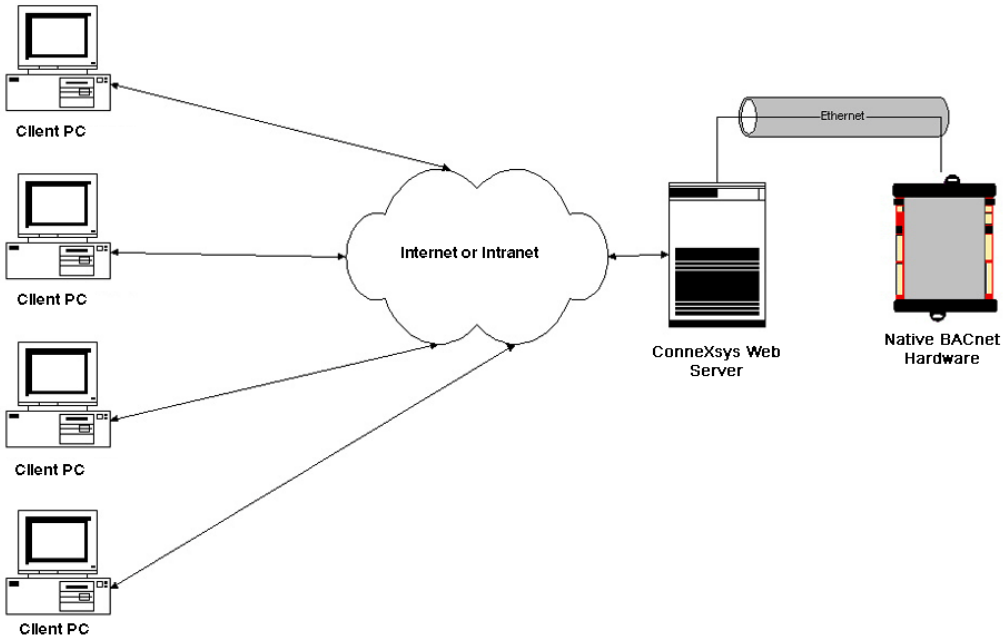
Operators have access to Navigator, where they can modify ISN ConneXsys system objects.

Tenants

Tenants have access to their personalized Tenant Portal and Virtual Stat, where they can modify values such as the Temperature Setpoint, Calendar, and Schedule for their specific area.

System Architecture

The following diagram is an example of what the ISN ConneXsys Web system might look like:



System Requirements

For a Server PC

- Windows NT4.0 (SP6), Windows 2000 (server edition is needed for more than 10 concurrent users), Windows XP Professional (SP1) or Windows Server 2003.
- Microsoft Internet Information Server 4.0 (for NT4.0) or 5.0 (for Windows 2000) or 5.1 (for Windows XP).
- ISN ConneXsys 3.31 software.
- ISN ConneXsys Web 3.31 software.
- Software Key with ISN ConneXsys Web feature enabled.

For a Client PC

- Any Windows based computer that will run the supported browsers.
- Recommended: 1024 x 768 or higher screen resolution.

Supported Browsers

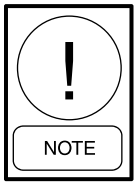
- Internet Explorer 5.01 and higher.
- Netscape 6.0 and higher.

INSTALLING ISN CONNEXSYS WEB

Installing Internet Information Services (IIS)

IIS is the Windows 2000 web service that simplifies publishing information on your intranet or on the Internet. It turns a desktop into a web server that is accessible over the internet.

For ISN ConneXsys Web to work, IIS must be installed. There are two versions of IIS. IIS 4.0 is for Windows NT, and IIS 5.0 is for Windows 2000.



NOTE: Internet Information Services is installed on Windows 2000 Server by default. You can remove IIS or select additional components by using the Add/Remove Programs application in Control Panel.

To install IIS 4.0: (for Windows NT 4.0)

1. Install Windows NT 4.0.
2. Install Windows NT 4.0 Service Pack 3 (SP3). Windows NT 4.0 SP3 is required.
3. Install Internet Explorer 4.01 Service Pack 2 (SP2) (without Active Desktop). Note: Internet Explorer 4.01 SP1 is included with the Windows NT 4.0 Option Pack; however, it is recommended that you install Internet Explorer 4.01 SP2. There is no need to install Internet Explorer 5.0 on a computer running IIS 4.0 at this time.
4. Install Windows NT 4.0 Option Pack. Windows NT 4.0 Option Pack includes IIS 4.0.
5. Re-apply the latest Windows NT 4.0 service pack. Even if you install the latest Windows NT 4.0 service pack in step 2, you need to re-apply the latest service pack because the Windows NT 4.0 Option Pack Setup program overwrites DLL files installed by the service pack.
6. Install MDAC 2.1 SP2.

To install IIS 5.0, 5.1 or 6.0: (For Windows 2000 Pro, Windows XP and Windows Server 2003)

1. Install Windows 2000, Windows XP or Windows Server 2003.
2. For Windows XP, Install Service Pack 1 (SP1). Windows XP SP1 is required.
3. Click Start, point to Settings, click Control Panel and start the Add/Remove Programs application.
4. Click the Add/Remove Windows Components button.
5. For Windows Server 2003, Check the “Application Server” and click the Details button.
6. Check the “Internet Information Services (IIS)” option and click the Next button.
7. Then follow the on-screen instruction to install components to IIS.

Procedures to configure Windows 2003 Server to run ISN ConneXsys Web

To configure IIS for an application isolation mode by using IIS Manager:

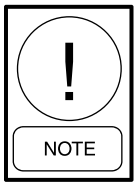
1. In IIS Manager, expand the local computer from the left panel. Right-click on Web Sites, and then click Properties.
2. On the “Service” tab, specify the appropriate application isolation mode by selecting or clearing the “Run WWW service in IIS 5.0 isolation mode” check box. Checking this check box configures IIS to run in worker process isolation mode.
3. Click OK. Click Yes to restart IIS.

To enable ASP Web Service Extension:

1. In IIS Manager, double-click the local computer, and then click “Web Service Extensions”.
2. In the details pane, click “Active Server Pages”, and then click Allow button.

To install ISN ConneXsys Web on the server machine:

1. Insert the ISN ConneXsys Web CD. Run setup.exe in the ISN ConneXsys Web folder on the CD.
2. Select the destination folder where you would like ISN ConneXsys Web installed.
3. Select the optional components you would also like installed.



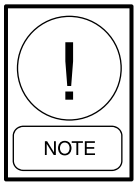
NOTE: The installation is fully automated. It will install ISN ConneXsys Web and apply all the configuration changes. However, you must have ISN ConneXsys installed prior to running the ISN ConneXsys Web installation. ISN ConneXsys Web will prompt the user if ISN ConneXsys is not detected

4. When installation is complete, ISN ConneXsys Web prompts you to restart your computer.

After the installation, the Administrator can log on to ISN ConneXsys Web through a shortcut under Start Menu > Program Files > York International > Logon to ISN ConneXsys Web on the server machine using the following username and password:

Username: Admin

Password: Password



NOTE: It is recommended that the password be changed the first time you login in order to ensure system security.

Finding the IP Address

For other users to access ISN ConneXsys Web the Administrator must provide them with the IP address of the server machine. To locate the IP address:

1. On the server, open the Command Prompt. Start > Programs > Accessories > Command Prompt.
2. Run ‘ipconfig’ in the Command Prompt window.
3. Write down the IP address.
4. Once you have the address, other users will be able to access the server by entering the following:

   http://IPaddress /connexsysweb/login.asp

   where, IP address would be replaced by the actual address. e.g. 192.143.2.132

Allowing Operators and Tenants Access to ISN ConneXsys Web

Users can access ISN ConneXsys Web on any PC that connects to the server machine. Since ISN ConneXsys Web is web-based, all a user needs is an internet or intranet connection and a supported browser. To see if a browser is supported by ISN ConneXsys Web see the 'Supported Browsers' section on the previous page. The system Administrator provides the Operators and Tenants with the IP Address or Domain Name to enter ISN ConneXsys Web.

For Example:

IP Address

http://192.143.2.132/ISN ConneXsysWeb/login.asp

Domain Name

http://www.YorkControls.net

Logging onto ISN ConneXsys Web

To log onto ISN ConneXsys Web, the user must enter their Username and Password on the Login page. The user will remain logged onto ISN ConneXsys Web until they close their browser or stop using ISN ConneXsys Web for more than 20 minutes.

If the user clicks the Remember my Username and Password checkbox before logging on, the Username and Password will be stored in a cookie in the user's browser. The user will now be able to access the ISN ConneXsys Web pages without first visiting the Login page. The user will have to Logon again, if they click the Logout button on any of the ISN ConneXsys Web pages, or if they do not access the system for over 7 days.

NOTE

NOTE: In order to ensure system security, it is recommended that Administrators and Operators do NOT choose the 'Remember my Username and Password' option.

SECTION 2
Using ISN ConneXsys Web Software

OVERVIEW

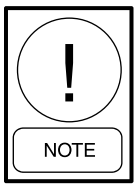
ISN ConneXsys Web Administrators use the Administration pages to configure and control user access. From the Administration home page, 'Adminpage', they can also access reports on database and tenant activity, as well as, executing commands such as resetting the server. The settings made through the Administration pages are stored in a database.

When administering the site, it is important to be aware of the three major categories used to organize the system: Areas, User Groups, and Users.

Users

Users are the people who log in and use ISN ConneXsys Web. Users can include Tenants, Operators, and Administrators. An Administrator should issue a username and password to each person who will be using the system.

The areas of the system that a user can access are determined by the groups a user belongs to, and by user settings. By default, after logging into the system, a user will be greeted with their Tenant Portal. This page displays data about all the areas the user can access, as well as links to the Navigator and Administration pages (if they have access).



NOTE: By default, there is a special user called 'Admin' in the database. This account should be used the first time the site Administrator logs into the system.

User Groups

User Groups store settings that are common among a number of users. These settings include: a group's access rights to Navigator, specific areas the group can access, and alarms the group is notified about through email.

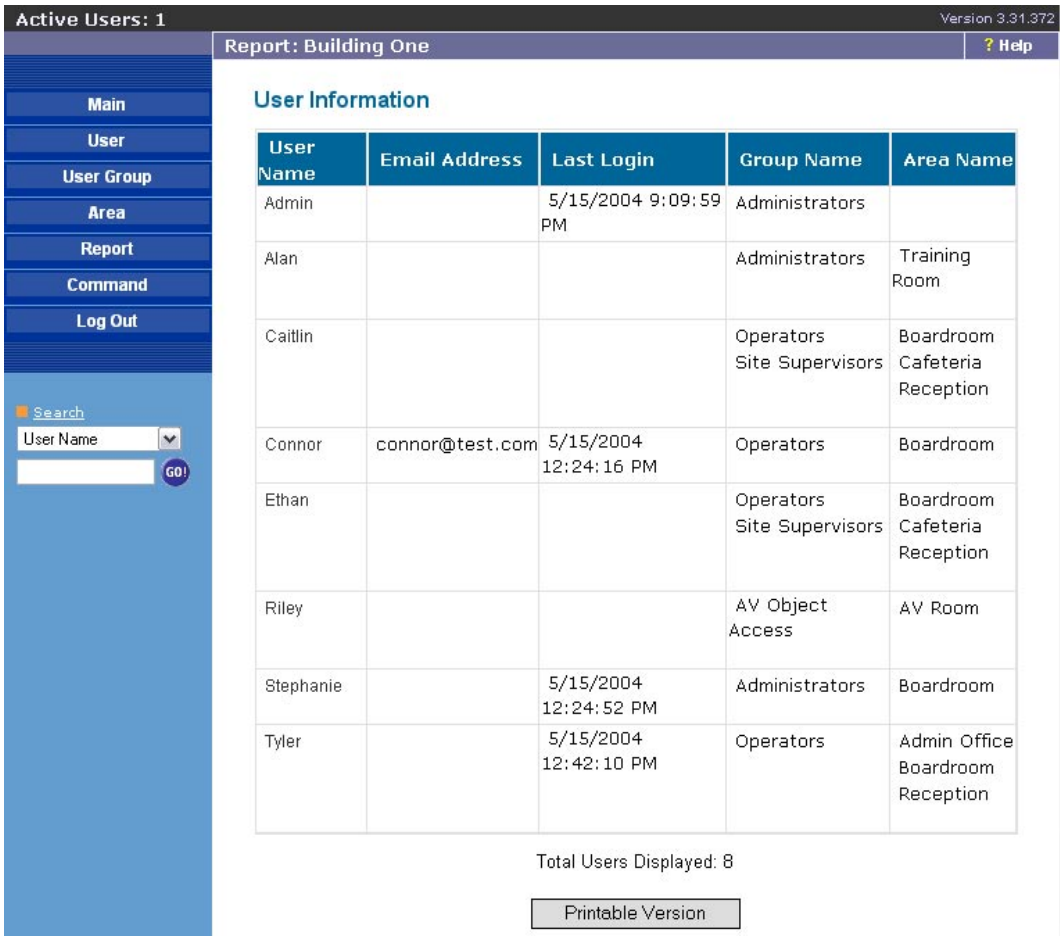
By default there is a special user group called Administrators in the database. In order to access the Administration pages, a user must log into the system and be a member of the Administrators' group.

Areas

An area corresponds to a section of a building. These areas have equipment associated with them that include the temperature of the area, setpoint for the temperature, outside temperature, and occupancy status. As well, a Trend Log, Schedule, and Calender may also be associated with an area. If an area has more equipment that need to be included, the Administrator can add them. This could be another set of lights, the area's humidity, control for a fan in the area, etc.

Users and user groups are given access to areas. If a user has access to an area, either directly or through group membership, the area appears on the user's Tenant Portal page.

Example



Alan and Stephanie are members of the ‘Admin’ user group. Being members of this user group gives them administration access to the system.

Connor is a member of ‘Operators’ which gives him access to the ‘Boardroom’. Riley is a member of ‘AV Object Access’ which gives him access to the ‘AV Room’.

ADMINPAGE

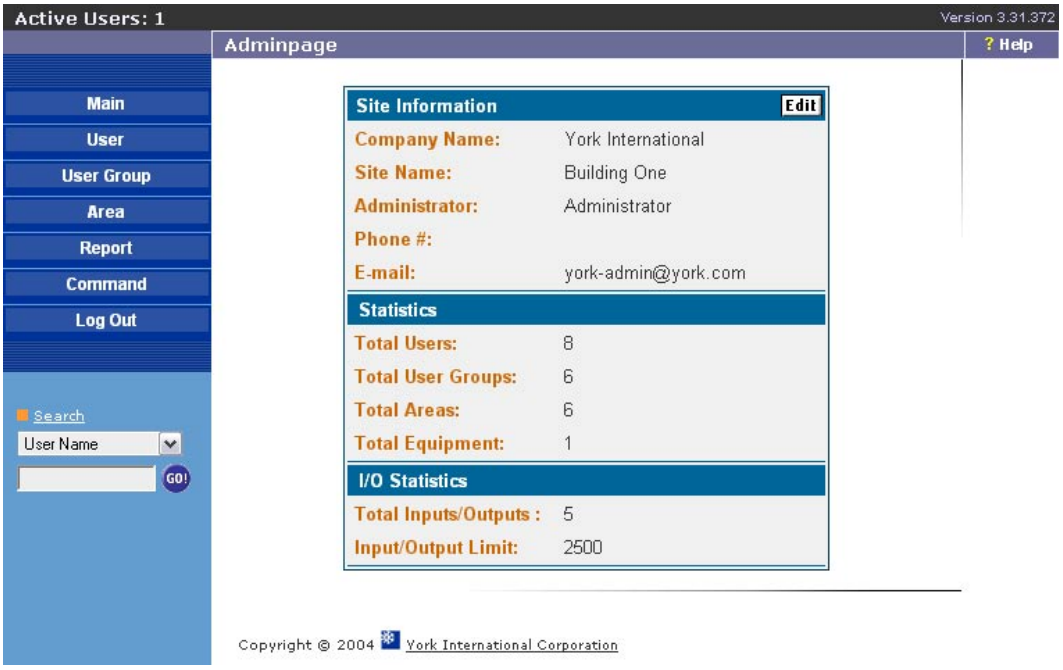
When an Administrator logs into the system for the first time, they will start at the Administration home page, ‘Adminpage’. This page displays various site settings and can be accessed from any Administration page by clicking the Main button.

To change any of the Site Information settings, click the Edit button.

The Statistics section displays the Total Users, Total User Groups, Total Areas, and Total Equipment available in the database.

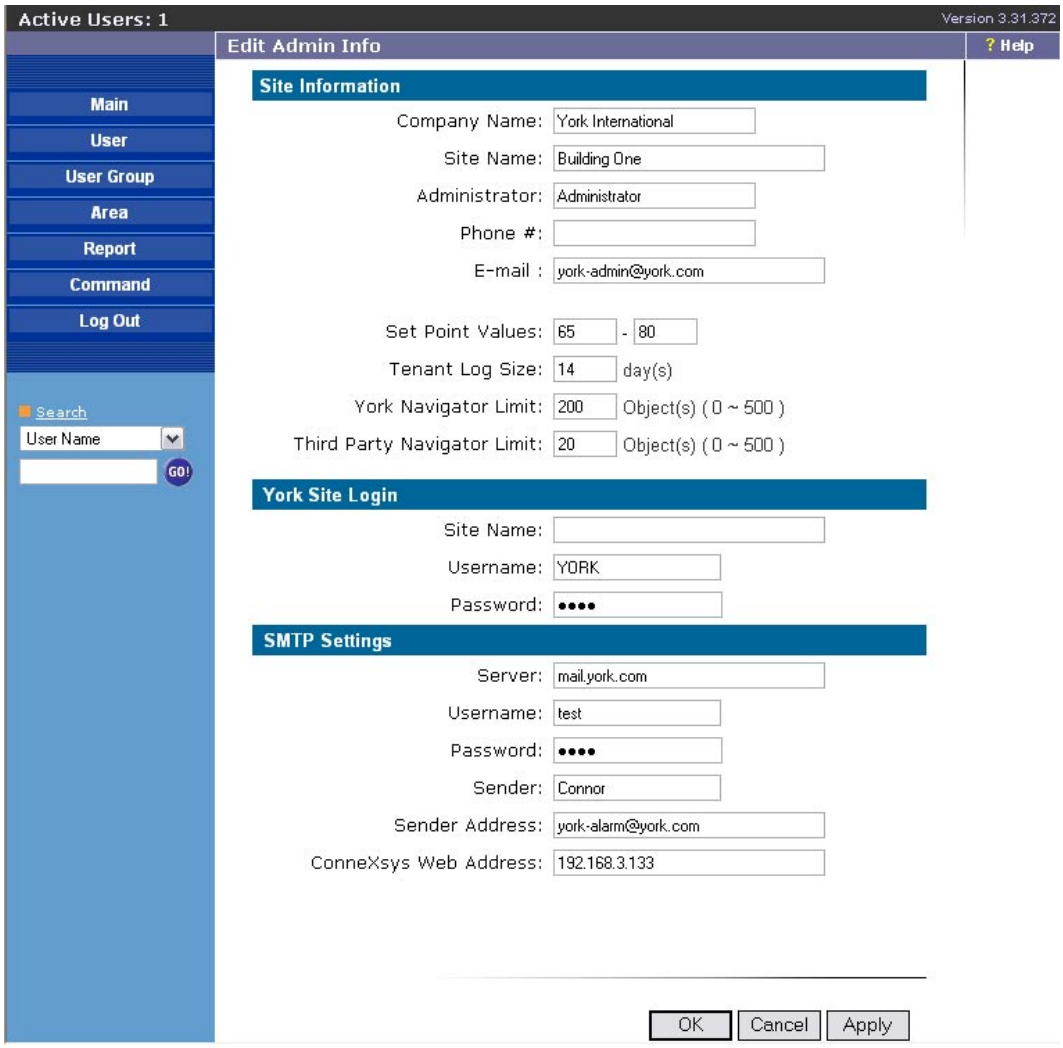
‘Total Inputs/Outputs’ in the I/O Statistics defines the total number of Input/Output objects currently in the system. The ‘Input/Output Limit’ displays the maximum allowable Input/Output objects depending on the version of ISN ConneXsys Web.

Once the ‘Total Inputs/Outputs’ exceeds the ‘Input/Output Limit’, ISN ConneXsys Web will disable access to controllers in the network. The Administrator will still be able to access all of the admin pages to make information changes. Contact the vendor if you require an ISN ConneXsys Web version with a higher I/O Limit.



Editing Administration Settings

The Edit Admin Info page allows the user to change settings specific to the site such as: the 'Site Information', 'York Site Login' settings, and 'SMTP Settings'. To access the Edit Admin Info page press the Edit button found in the top right corner of the 'Site Information' section on the 'Adminpage'.



Site Information

Under the Site Information section the user will be able to change:

- Company Name: The name of the company using ISN ConneXsys Web.
- Site Name: The title seen on the Tenant Portal pages. (The Administrator can choose any title. It is not tied to the site name used during ISN ConneXsys installation.)
- Administrator: The name of the Administrator for the site.
- Phone number: Administrator's phone number.
- Email address: Administrator's email address.
- Set Point Values: Set Point Values define the range of acceptable temperature set points on the Tenant Portal pages and Virtual Stat. (These are the default values for all areas. Each user can specify their own set point values for an area.)
- Tenant Log Size: Tenant Log Size defines how many days entries are stored in the Tenant log before being deleted. Old entries are automatically purged by the server at midnight.

- York Navigator Limit: York Navigator Limit defines how many objects will display detailed information in the object list page. Any object beyond the limit will display the name and abbreviation. This applies to York Devices.
- Third Party Navigator Limit: Third Party Navigator Limit defines how many objects will display detailed information on the object list page. Any object beyond the limit will display the name and abbreviation only. This applies to Third Party Devices. (If the network consists of slow Third Party Devices, try to reduce the limit to achieve fast responses on the object list page.)

York Site Login

Under the 'York Site Login' section are the settings ISN ConneXsys Web uses when logging onto the

York ISN ConneXsys software. These should be set to the same settings used to log on to ISN ConneXsys. If

the Site Name is left blank, ISN ConneXsys Web will use the default ISN ConneXsys site.

SMTP Settings

Under the 'SMTP Settings' section, the user can set up the SMTP server for sending email alarm notifications. ISN ConneXsys Web will send alarms through the server indicated in these settings to the appropriate alarm recipients. If this feature is not needed, these fields can be left blank.

- Server: IP address or DNS name of the SMTP Server.
- Username: Username to logon to the SMTP server. (Leave blank if not required)
- Password: Password to logon to the SMTP server. (Leave blank if not required)
- Sender: The name that will appear in the email header.
- Sender Address: The sender email address that will appear in the email header.
- ISN ConneXsys Web Address: The desired ISN ConneXsys Web address that will be used for constructing the hyperlinks in the alarm notification email. The default is blank (ISN ConneXsys Web auto detects the address).

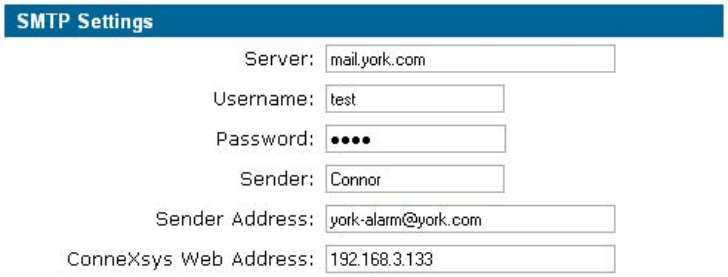
Changes made to the settings can be applied by clicking OK or Apply or canceled by clicking the Cancel in the top right corner.

Set Up Email Alarm Notification

Configure the SMTP Setting (Necessary):

1. If not already there, click on Administration, bringing you to the Administration home page,'Adminpage'. If you are already within Administration, click Main to take you to 'Adminpage'.
2. Click the Edit button. This will take you to the 'Edit Admin Info' page.

3. Enter the necessary SMTP Settings information.

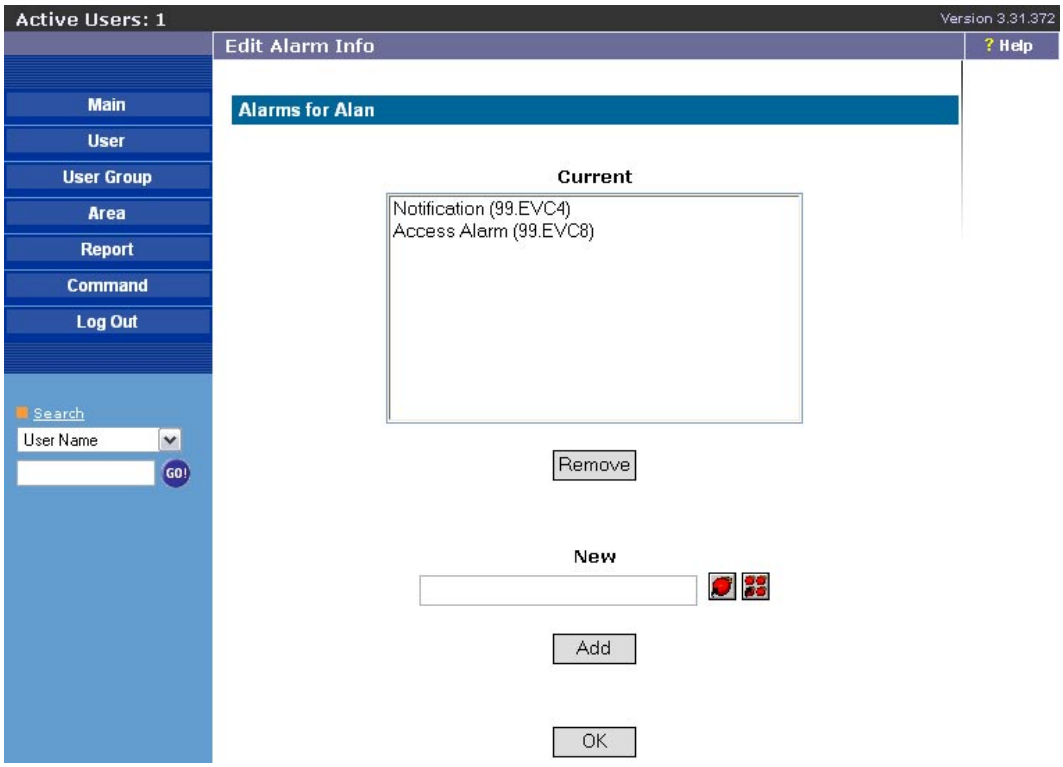


4. Click OK or Apply to accept the changes.

Add an Alarm Subscription to a User and/or a User Group

1. Find the User or User Group you would like to add an alarm subscription to.
2. Load the corresponding “Edit User Info” or “Edit User Group Info” page, by clicking on the appropriate User or User Group.
3. Click the Edit button to open the ‘Subscribed Alarms’ field. This will take you to the ‘Edit Alarm Info’ page.

4. Add or remove the alarms subscription you desire.



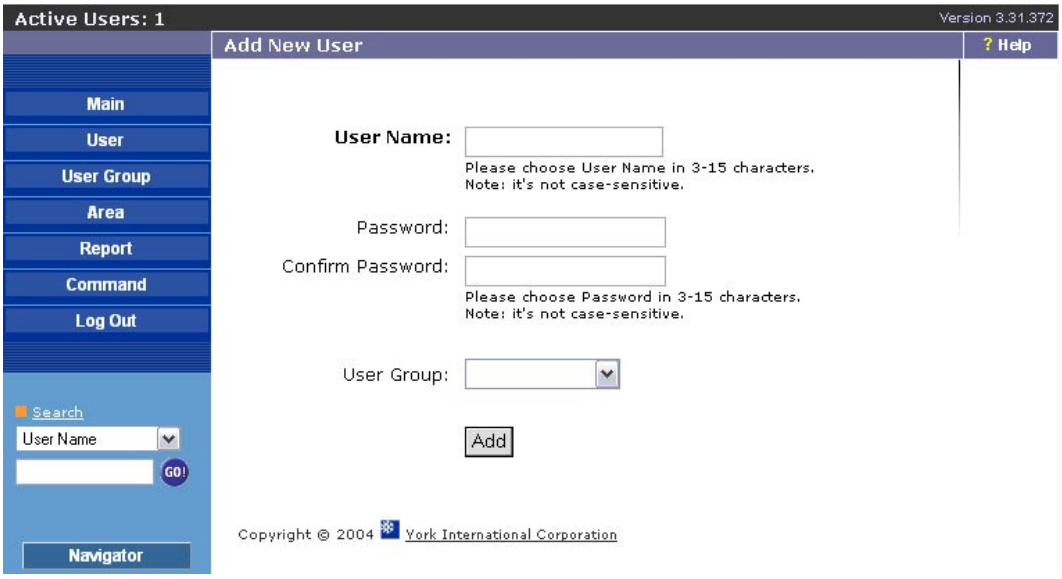
5. Click OK or Apply to accept the changes.

USERS

Adding Users

To add a new user:

1. Go to the Administration home page, ‘Adminpage’.
2. Hover your mouse over the User button in the menu on the left side of the screen. Two options should appear, the All Users and Add New User buttons.
3. Click the Add New User button. This will take you to the Add New User page.



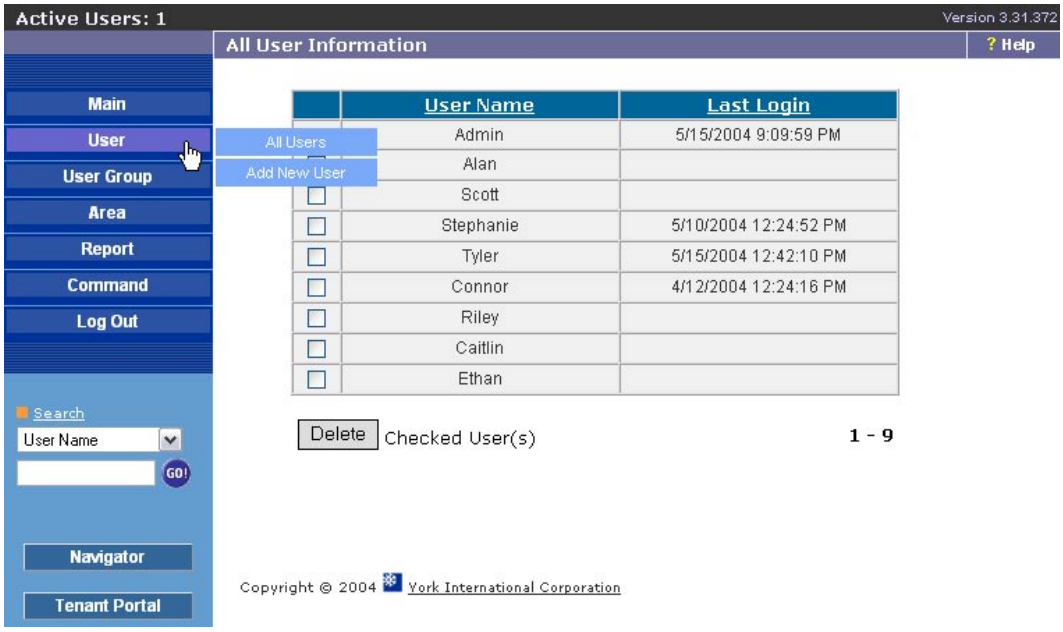
On this page, you can add a new user by entering their username, password and, optionally, a user group. The username:

- is not case-sensitive.
- must not be the same as any other user in the system.
- must be 3-15 characters in length.

The password must be entered twice to ensure accuracy. If the username is not unique or the two passwords do not match, the user will not be created and an error message will be displayed.

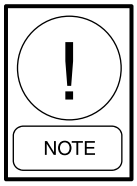
MAINTAINING CURRENT USERS

Click the User or All Users buttons to access a list of all the users in the system.



If there are more than 25 users in the system, the list will appear on multiple pages. You can access additional pages by clicking the arrow button on the bottom right of the page.

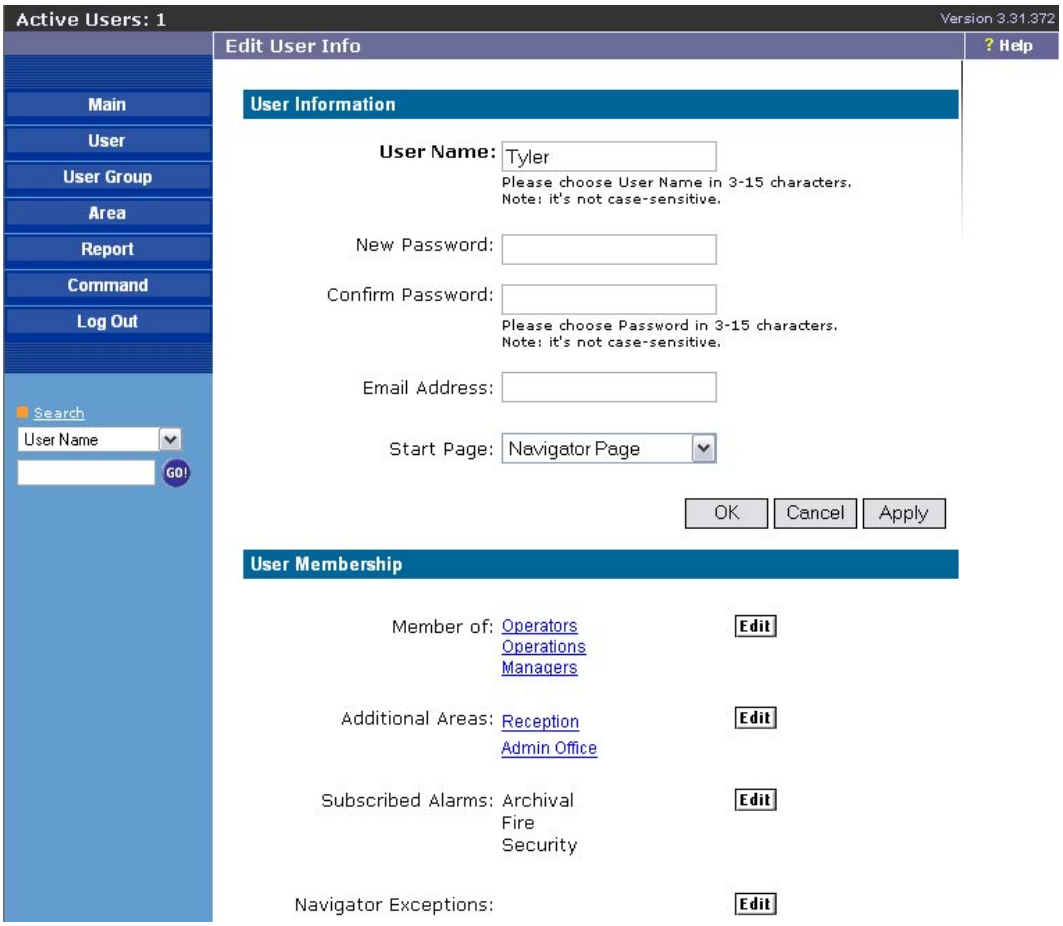
To access detailed information about a user, click on the user's name. This page also allows you to delete users. Click the box next to a user's name so that a check-mark appears, then choose the Delete button to remove the selected user.



NOTE: Clicking on the column title will re-sort the user list. If you click on User Name, the users will be sorted into alphabetical order (A to Z, or Z to A). If you click Last Login, the users will be sorted starting with the most recent login.

ACCESSING DETAILED USER INFORMATION

When a user's name is selected from the user list, the detailed information for the user is displayed on the Edit User Info page. On this page you can change the user's name, password, email address, and start page. Click the OK or Apply button to apply any changes made to the user's information.



Also displayed on this page are: the lists of user groups the user belongs to, Additional Areas, Subscribed Alarms, and Navigator Exceptions.

Additional Areas

The Additional Areas list gives the user access to areas other than those they can access through group membership.

Subscribed Alarms

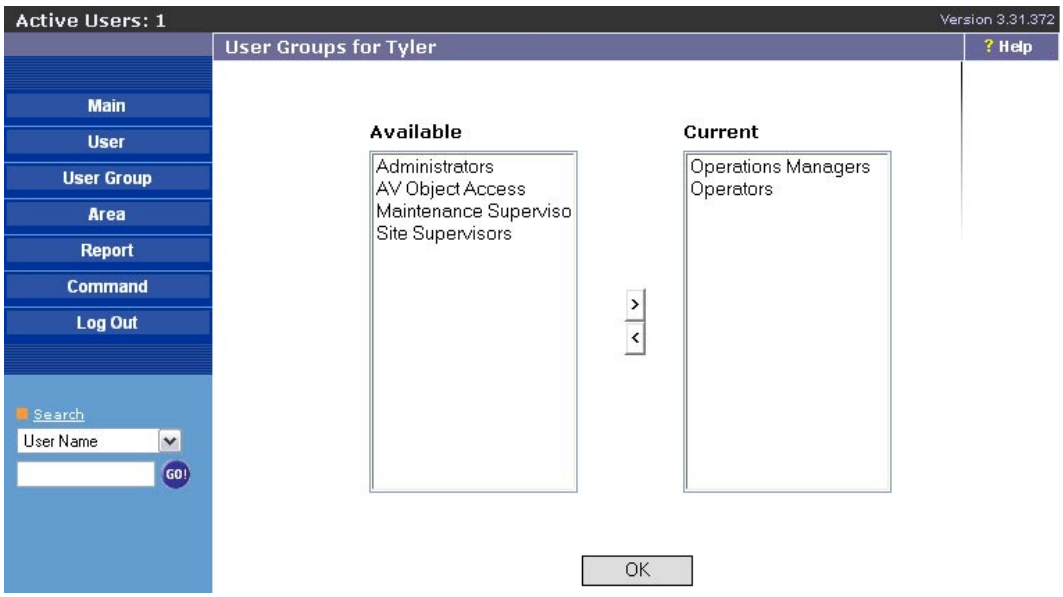
The Subscribed Alarms list shows the alarms that the user will be notified about through email. These alarms are in addition to those already assigned through group membership.

Navigator Exceptions

The 'Navigator Exceptions' list is a list of objects that the user can access apart from the access already provided by their user groups. Users will have full access rights to the objects that are in the list. To get to this page, click the Edit button on the 'Edit User Info' page.

Area/User Group Membership Editing

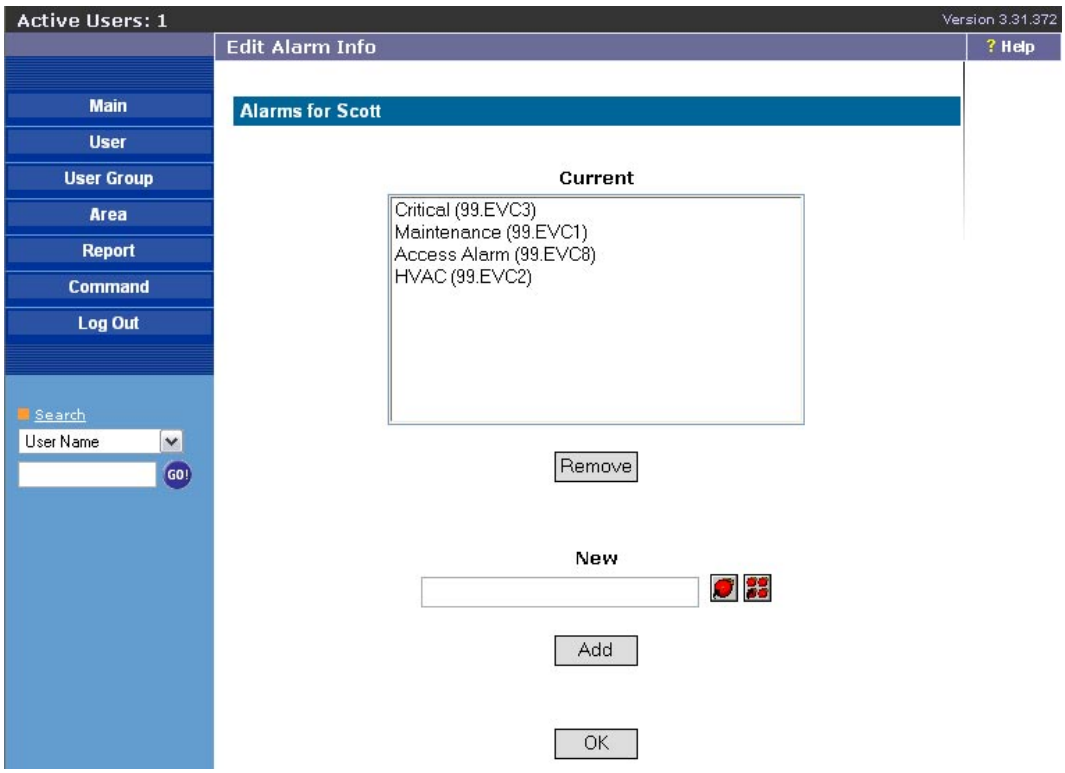
When the Edit button beside the Area or User Group list is clicked in the Edit User Info page, the area or group's membership editing page (e.g. User Groups for Tyler page) is displayed.



On this page the areas or user groups can be changed. Items can be moved between the lists by selecting the item and clicking the Right or Left arrow buttons. To return to the Edit User Info page, click the OK button.

Editing Alarm Notification

When you press the Edit button beside the Subscribed Alarms list on the Edit User Info page, the Edit Alarm Info page is displayed.



On this page you can add or remove the alarms a user is notified about through email. To add an alarm (EV) or alarm class (EVC), reference it in the 'New' box and click the Add button. To remove an alarm from the current list, select the alarm you want to remove and click the Remove button. To return to the Edit User Info page, click OK.

Users can set up the event class (EVC) to have all the alarms of a certain type emailed to them. For example, a security group may want all 'security' type alarms emailed, but none of the 'maintenance' EVC types.

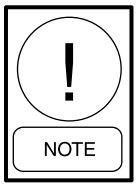
Users can also specify all alarms from a certain device. E.g. 100.EV* means all alarms from Device 100.

Navigator Exceptions

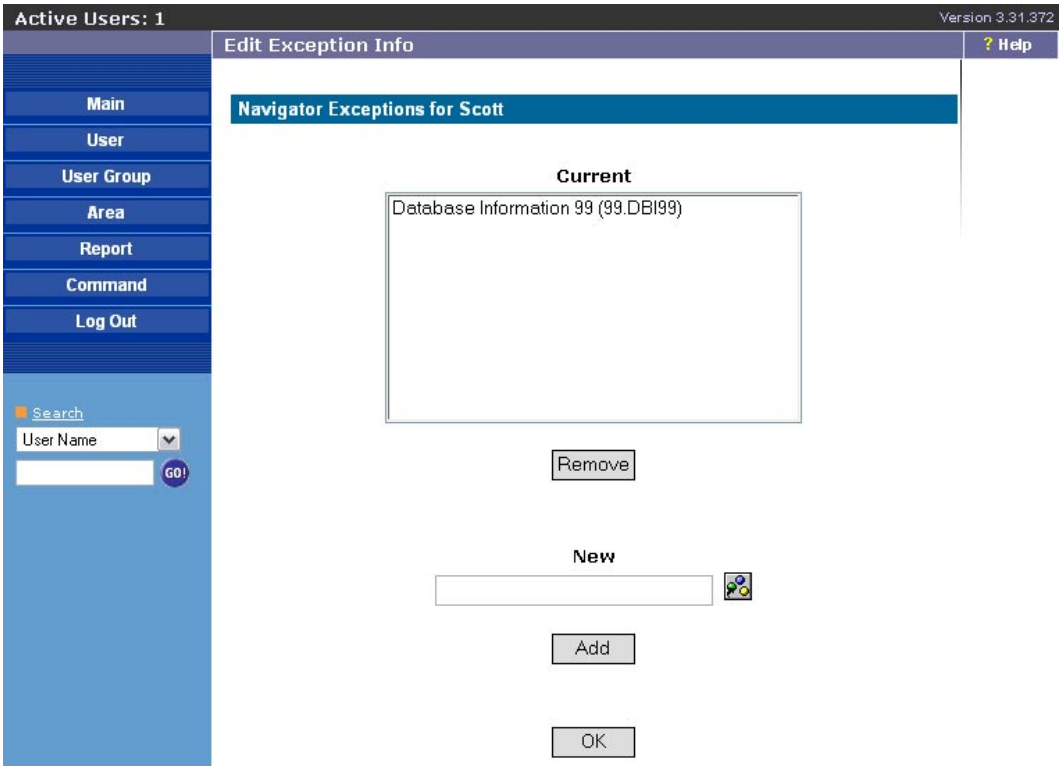
The Navigator Exceptions list shows the objects that the user can access through Navigator. This list overrides the object access level from a group membership.

Detailed information can be accessed directly from here by clicking on the group or area name. The Edit button beside the user groups, areas, alarms, and Navigator exceptions can be clicked to add or remove items from each list.

If DEV/CP object is entered in the navigator exception, the user will have access to all objects in the given devices (includes both navigator and graphics). For example, if you type in 8200.DEV8200, you should have access to all objects in device 8200.



NOTE: User access to Navigator and Navigator objects is given based on the highest level of access the user has, either through group membership or Navigator Exceptions. That is, if a user belongs to two user groups, one of which can access Navigator and the other that cannot, the user WILL have access to Navigator.



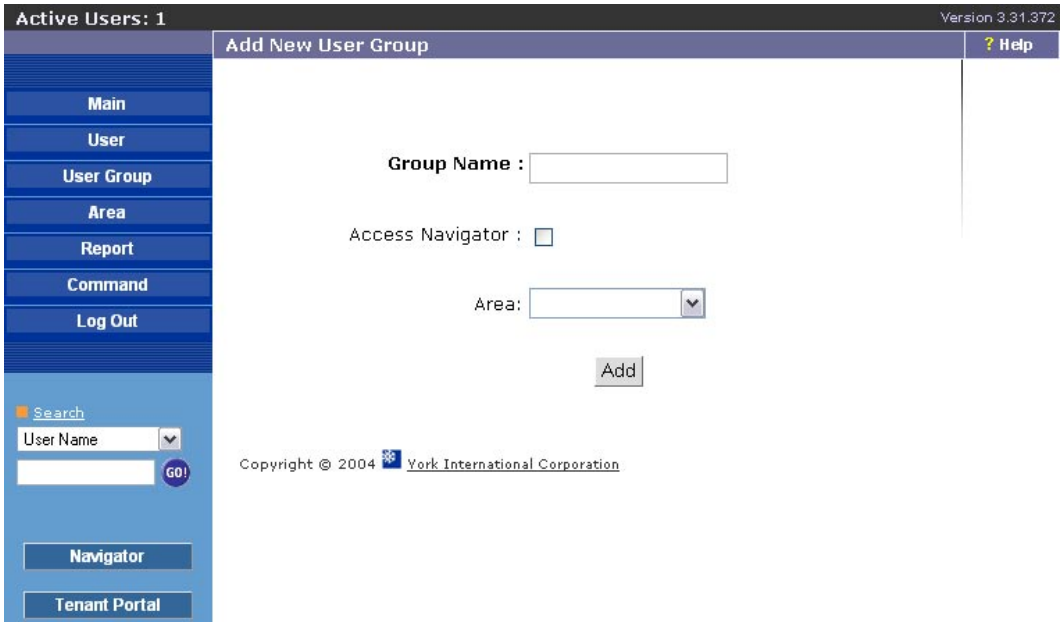
USER GROUPS

USER GROUPS

Adding User Groups

To add a new user group:

1. Go to the Administration home page, ‘Adminpage’.
2. Hover your mouse over the User Group button in the menu on the left side of the screen. Two options should appear, the All User Groups and Add New User Group buttons.
3. Click the Add New User Group button. This will take you to the Add New User Group page.

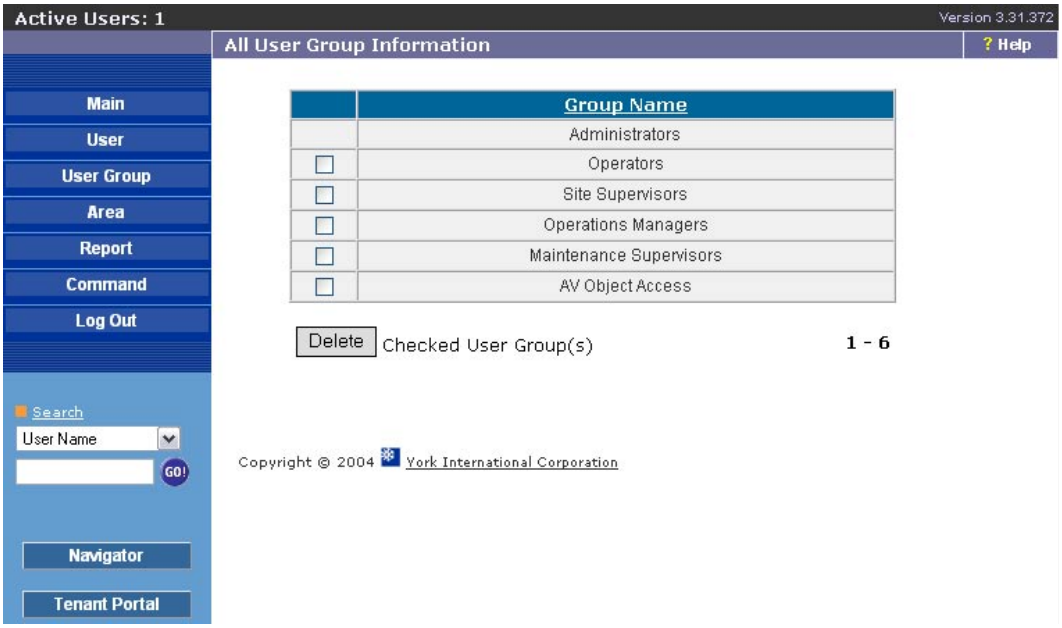


4. On this page you can enter the user group name, choose if the user group will have access to Navigator (by checking the box beside Access Navigator), and choose the area the group can access from the Tenant Portal page. Note that the area can be left blank in the case that you are not creating a Tenant group.

   The user group name must not be the same as any other group in the system. If the name is not unique the user group will not be created and an error will be displayed instead.

Maintaining Current User Groups

A list of all user groups in the system can be reached by clicking the User Group or All User Groups buttons. If there are more than 25 user groups in the system, the list will appear on multiple pages, which can be accessed using the arrows at the bottom of the list.



To access detailed information about a user group, click on the user group's name. You can also delete user groups from this page. Selecting the box next to a user group and then clicking Delete will remove the selected group from the list.

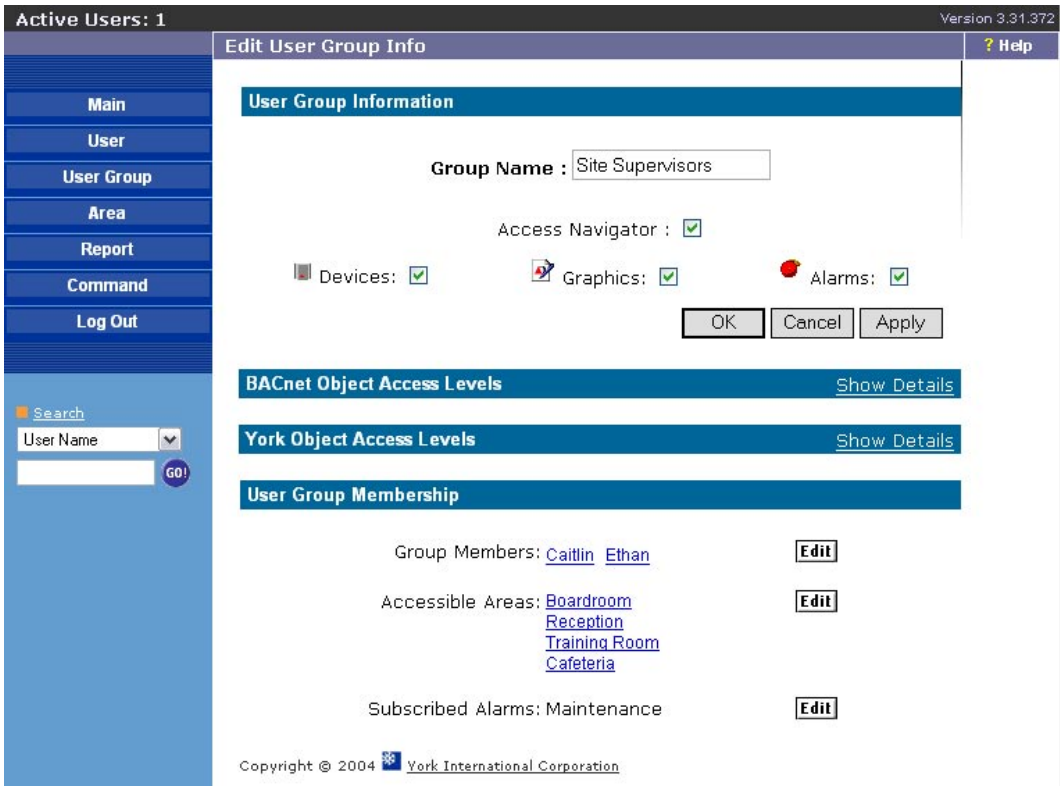
NOTE

NOTE: Clicking on the Group Name will resort the list alphabetically. If you click on it again, the list will be reversed (z - a).

Accessing Detailed User Group Information

When a user group's name is selected from the user group list, the detailed information for the user group is displayed on the Edit User Group Info page. The user group's name, Navigator access, and Navigator security rights can be changed on this page.

Also displayed on this page are the lists of users belonging to that particular user group, the areas the group can access, and the alarms the group will be informed of through email. Detailed user and area information can be accessed directly from this page by clicking on the user or area name. The Edit button beside the users, areas, and alarms can be selected to add or remove items from each list.



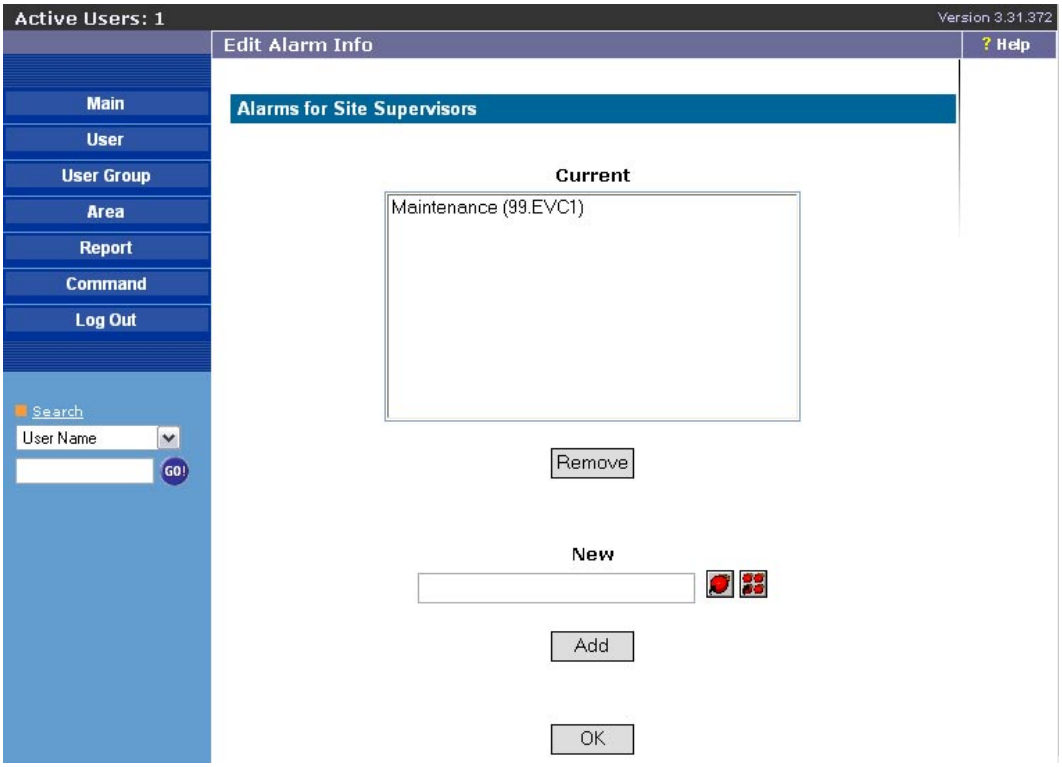
NOTE

NOTE: By default there is a special user group called 'Administrators' in the database. Any user who is a member of this group has access to the Administration pages and has links to the Administration pages on their Tenant Portal and Navigator pages.

Access to objects in Navigator and in graphics pages depends on a user's security level. Security levels are determined by the user groups that the user belongs to and the object access exception (Navigator Exceptions) list for that user. Users have access based upon the maximum access level available from all groups to which they belong.

Editing Alarm Notification

When you press the Edit button beside the Subscribed Alarms list on the Edit User Group Info page, the Edit Alarm Info page is displayed.



On this page you can add or remove the alarms a user is notified about through email. To add an alarm (EV) or alarm class (EVC), reference it in the 'New' box and click the Add button. To remove an alarm from the current list, select the alarm you want to remove and click the Remove button. To return to the Edit User Group Info page, click OK.

Users can set up the event class (EVC) to have all the alarms of a certain type emailed to them. For example, a security group may want all 'security' type alarms emailed, but none of the 'maintenance' EVC types.

Users can also specify all alarms from a certain device. E.g. 100.EV* means all alarms from Device 100.

Navigator Access

If a user has Navigator access they are able to view the Navigator pages. To give a user group access to Navigator, click the Access Navigator checkbox on the User Group Editing page.

When a user group has Navigator access, the options that are visible in the Navigator can also be controlled. Access can be granted or denied to controllers, graphics pages, and the Active Alarms list.

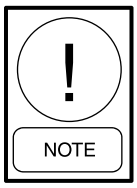
Changing Object Access Levels

When a user group has access to Navigator, the objects that can be accessed through Navigator and through graphics are selected in the 'BACnet Object Access Levels' and 'York Object Access Levels' sections on the Edit User Group Info page. To modify the access levels for each object type, click Show Details.

Using these settings you can give a group different levels of access to the various object types. Access levels can be set to 'None', 'Read', or 'Edit'.

- None: If a user has 'None' access, then they can neither view nor edit objects of that type.
- Read: If a user has 'Read' access, then they can view values for the given object type.
- Edit: If the user has 'Edit' access, they can view and edit values for the given object type.

There are shortcut buttons for quickly setting all of the access levels to ‘All No Access’, ‘All Read Access’, or ‘All Edit Access.’ ‘All Edit Access’ is the highest level of access.



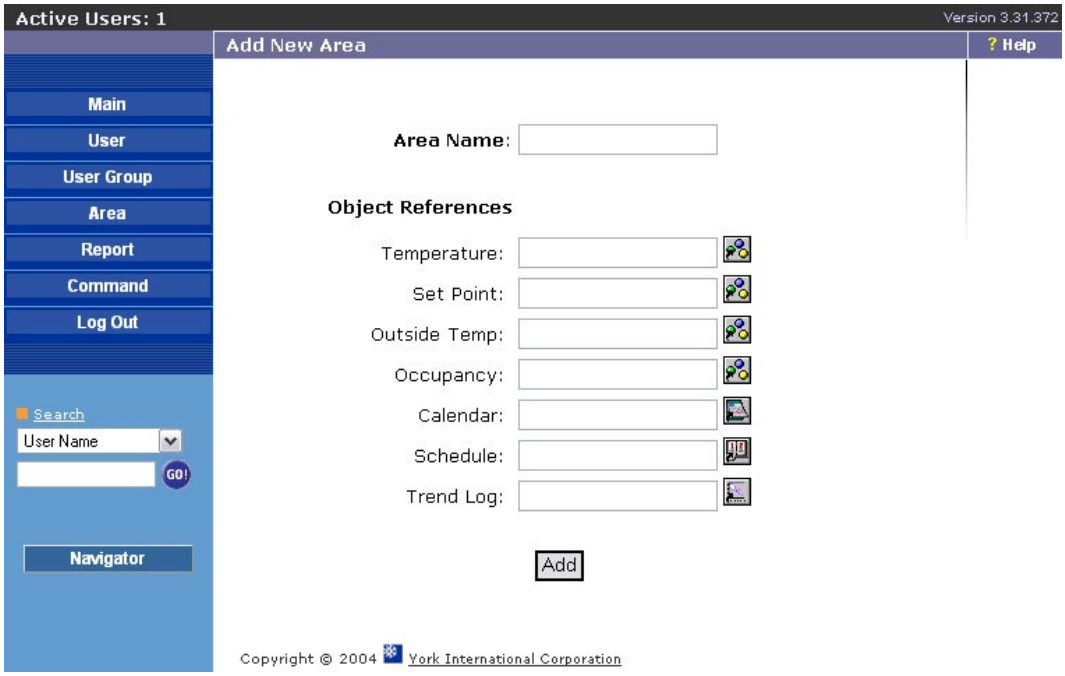
NOTE: Access levels are based upon the maximum user group membership access levels. For example, if a user belongs to two groups and one group has an access level of ‘None’ for Analog Variables while the other group has ‘Edit’ access, the user will be able to view and edit Analog Variables.

AREAS

Adding Areas

To add a new area:

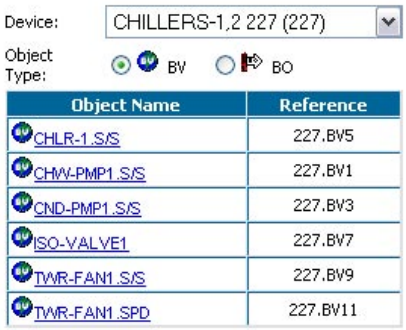
1. Go to the Administration home page, ‘Adminpage’.
2. Hover your mouse over the Area button in the menu on the left side of the screen. Two options should appear, the All Areas and Add New Area buttons.
3. Click the Add New Area button. This will take you to the Add New Area page.



4. Enter the Area Name and Object References. The buttons on the right side of the Temperature, Set Point, Outside Temp, Light, Calendar, Schedule, and Trend Log sections will open the ‘Object Selection’ window.

Selecting an Object Reference

In order to make choosing an object reference easier, there is an Object Selector button to the right of each place a reference is needed. When you click the Object Selector button, the ‘Object Selection’ window appears and the appropriate objects for the reference selected are displayed.



For example, if you click the Object Selector button for an Occupancy reference, only BV (Binary Variable) and BO (Binary Output) objects will be displayed in the 'Object Selection' window. When you select and click on an object, the reference immediately appears on the 'occupancy' line of the 'Add New Area' page.

NOTE

NOTE: The Object Selector buttons beside the Calendar, Schedule, and Trend Log will allow the user to chose the corresponding objects. However, these buttons still open the 'Object Selection' window.

In some situations the Object Selector may not provide a selection for the object type desired for a reference. In this situation, the reference can be typed directly into the field. The references should be entered in the form:

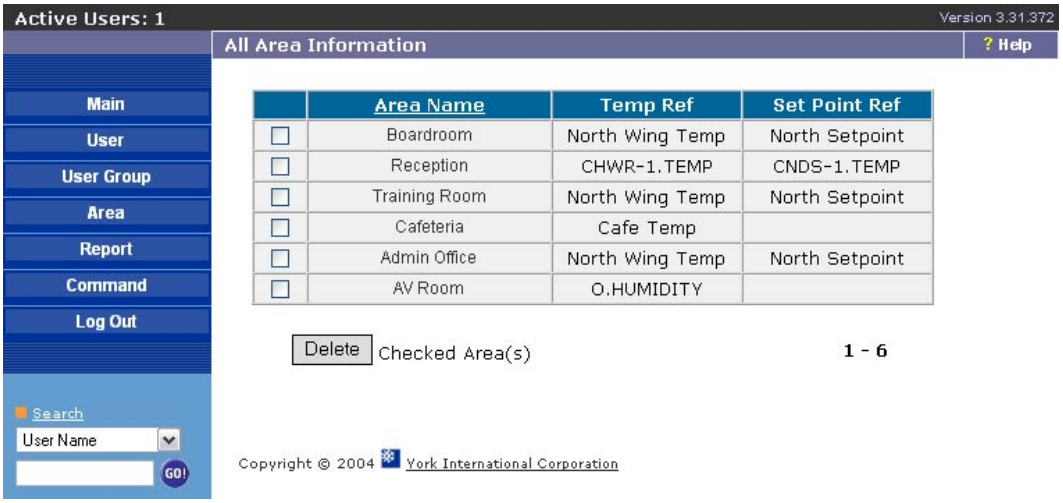
500.AV1 for BACnet objects

Any reference left blank will not be displayed on the Tenant Portal page.

If the area name is not unique, the area will not be created and an error will be displayed instead.

Maintaining Current Areas

A list of all the areas in the system can be reached by clicking the Area button or the All Areas button. If there are more than 25 areas in the system, the list will appear on multiple pages, which can be accessed using the arrows at the bottom of the list.



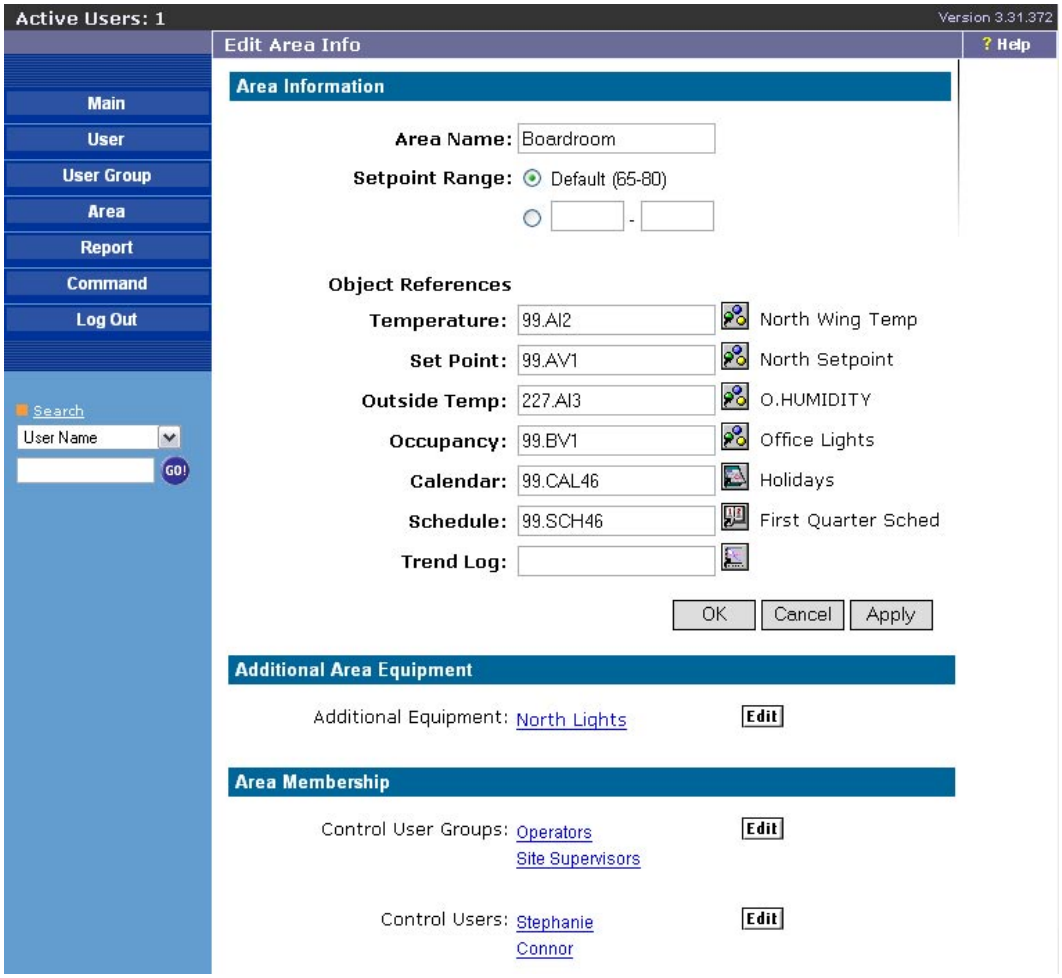
To access detailed information about an area, click on the area's name. You can also delete areas from this page. Select the box next to an area and then click Delete to remove the area.

Note: Clicking on the Area Name will re-sort the list alphabetically. If you click on it again, the list will be reversed (z - a).

ACCESSING DETAILED AREA INFORMATION

When an area's name is selected from the list, the Edit Area Info page appears. The area's name and the references for the area can be changed from this page.

An area may need to have more values displayed or changed by Tenants than those that are available in the standard area settings. In this case, extra equipment can be added to the area. To add or remove equipment from an area, click the Edit button under the 'Additional Area Equipment' section.

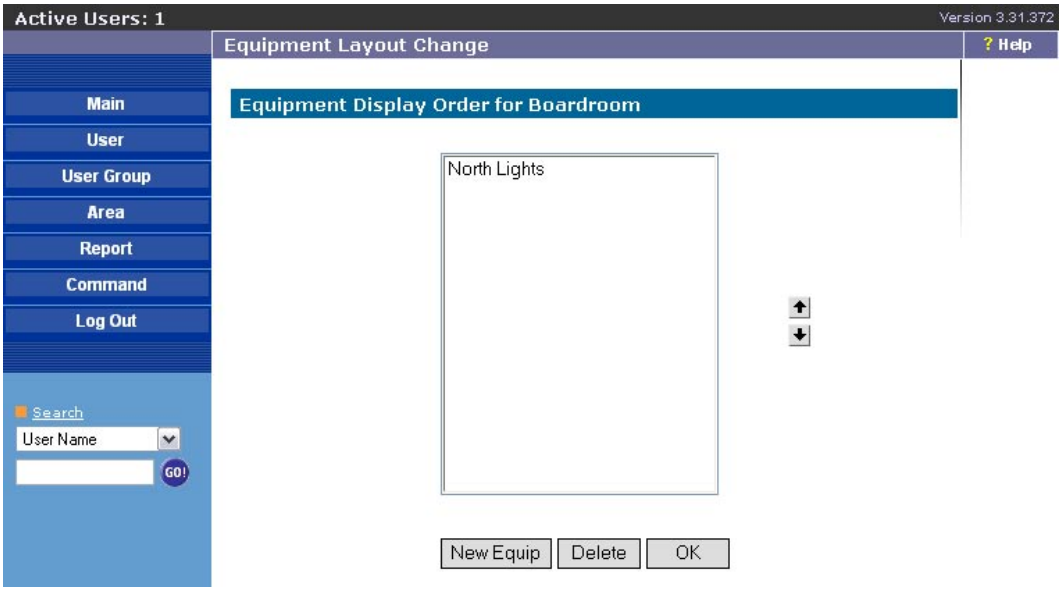


The Tenant Portal set points will be restricted to values within the given range for this area. These fields override the values set in the Admin Settings.

Also displayed on this page are the lists of user groups and users that have access to this area. The detailed user group and user information can be accessed directly from here by clicking on the group or user name. Click the Edit button beside the user groups and users to add or remove items from each list.

ADDITIONAL AREA EQUIPMENT

Clicking the Edit button under the Additional Area Equipment list on the Edit Area Info page, will open the Equipment Layout Change page.



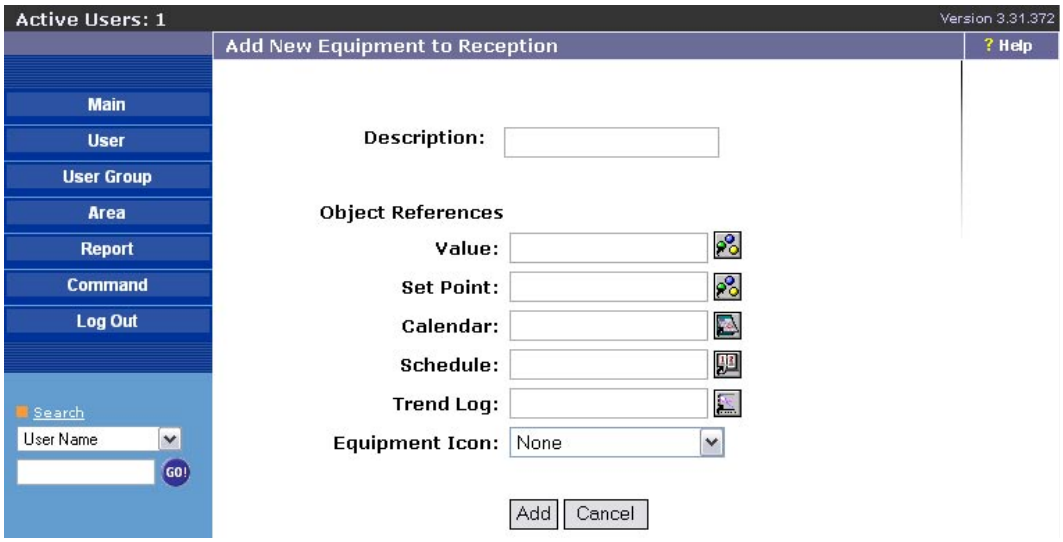
On this page, additional equipment can be added, rearranged, or deleted. To add new equipment, click the New Equip button, this will open up the Add New Equipment page for that area. To change the order that equipment is displayed on the Tenant Portal page, select a piece of equipment and click the Up and Down arrows. The order of the equipment in the list is mirrored on the Tenant Portal page.

To delete a piece of equipment, select the equipment and click the Delete button. To return to the 'Edit Area Info' page, click OK.

Adding Additional Equipment

To add additional equipment:

1. Click the Add button on the Equipment Layout Change page. This will display the Add New Equipment page.
2. Enter the description and references for the new piece of equipment. Any references left blank will not be displayed on the Tenant Portal page.
3. When you are finished adding information, click the Add button to return to the Equipment Layout Change page. If you press Cancel, the equipment will not be added to the area and you will return to the Equipment Layout Change page.

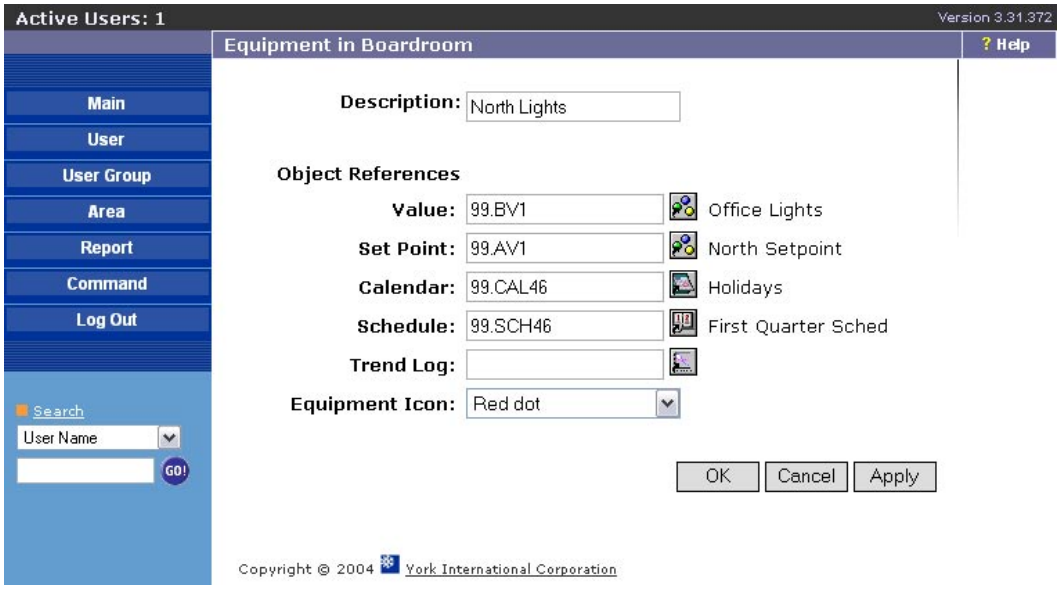


NOTE

NOTE: If a piece of equipment with the same description already exists for the current area, the equipment will not be added and the page will display an error message.

Editing Extra Equipment

When an equipment description is selected from the Edit Area Info page, the Equipment Information page will be displayed.



The equipment description and the references for the equipment can be changed from this page.

Press OK or Apply to apply any changes made to the information.

REPORTS

The Report button on the Adminpage allows users with administrator access to view ISN ConneXsys Web site reports. When the user hovers their mouse over the Report button, two options will appear to the right of the button: Database Report, and Tenant Action Log.

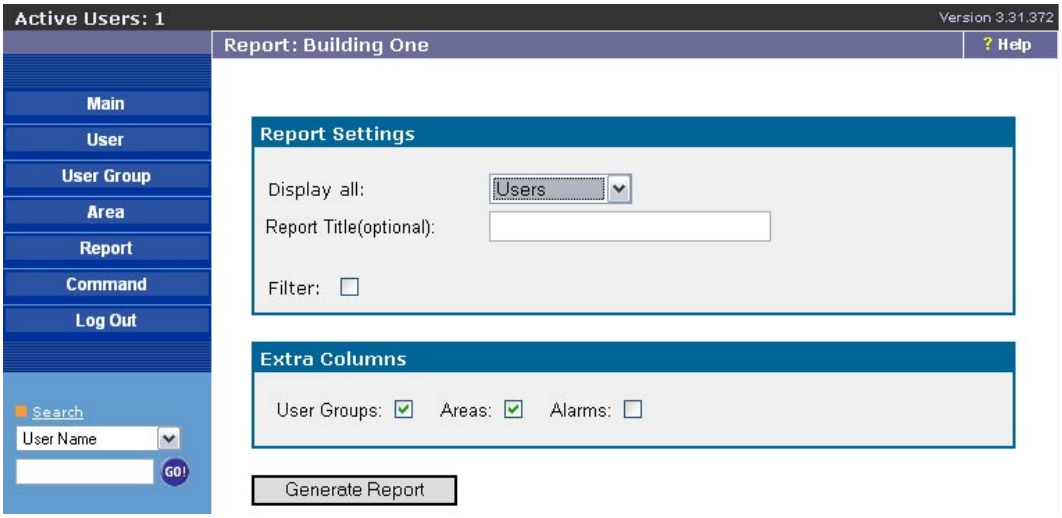
Reports can be used to gather information about users, user groups, or areas in the system. They can also be used to find out if users have made any changes to the system.

Checking Database Reports

Administrators can generate a report containing information about the Users, User Groups, or Areas in the system using the Database Report page.

To generate a Database Report:

1. Access the Database Report page by clicking on the Report button or Database Report button on the Adminpage.
2. In the 'Report Settings' section of the report generation page the user can select the type of report they want (Users, User Groups or Areas), an optional title for the report and choose filtering options for the report.

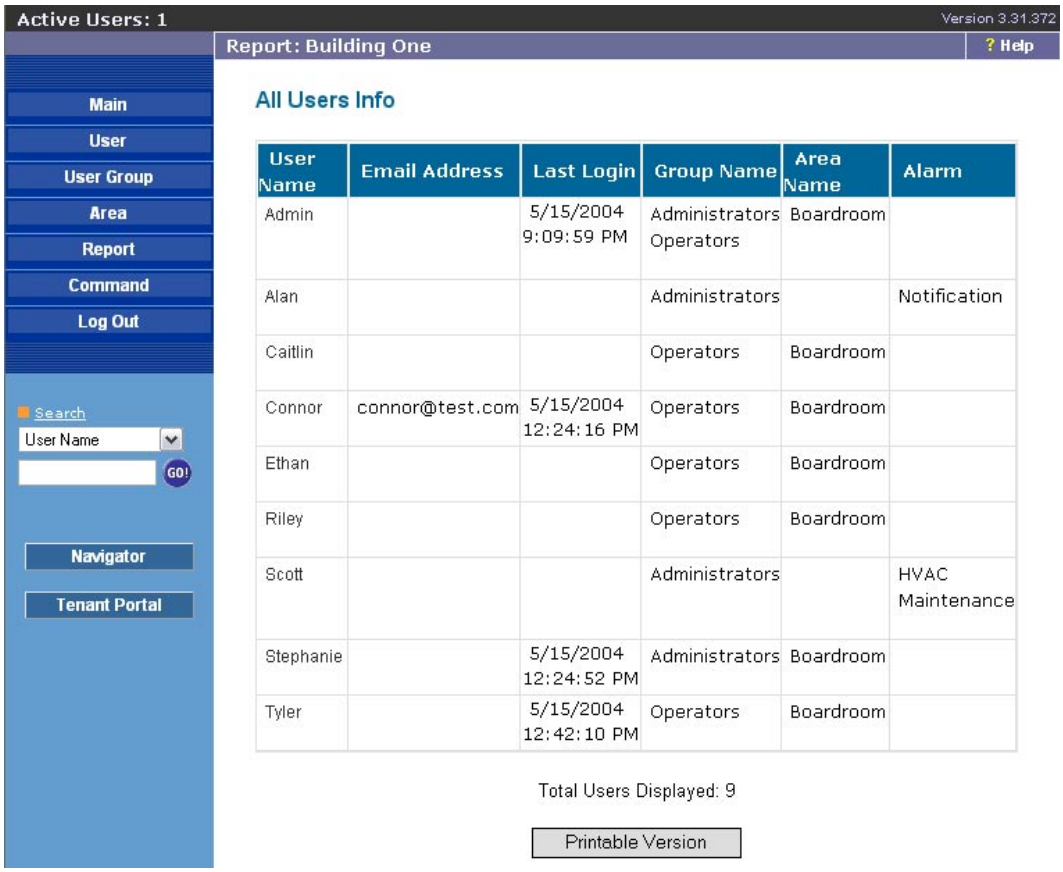


NOTE

NOTE: If you do not add a title, it will be generated automatically based upon the report type.

3. For more specific details the user can also check the box beside 'Filter' in the 'Report Settings' section. Several options will appear that will allow the user to customize their results.
4. On the 'Extra Columns' section of the page the user can select columns to be included in the report that would not be included by default such as: References, Extra Equipment, User Groups, and Users. To include any of these in the report, click the checkbox to the right of the name of the option.

5. When you are finished click the Generate Report button. The results page will look similar to the figure below.

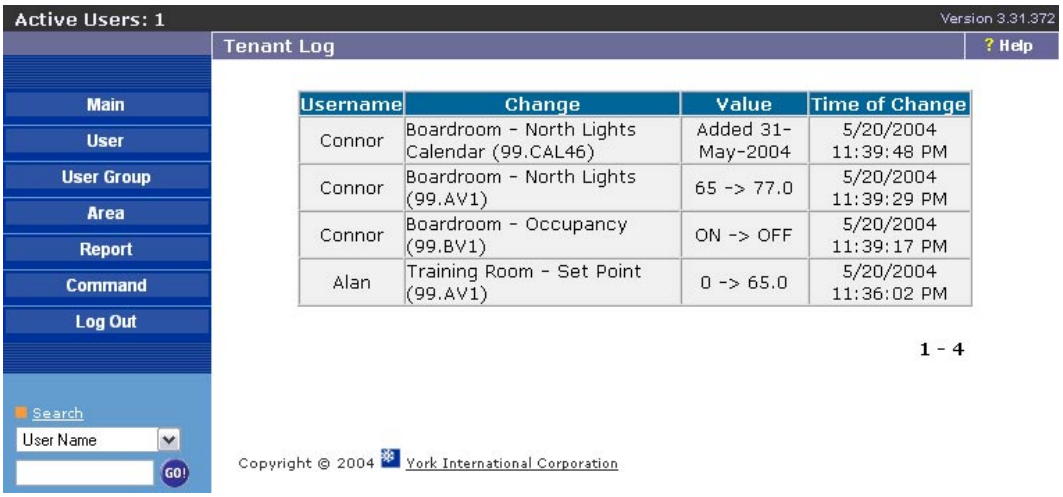


NOTE

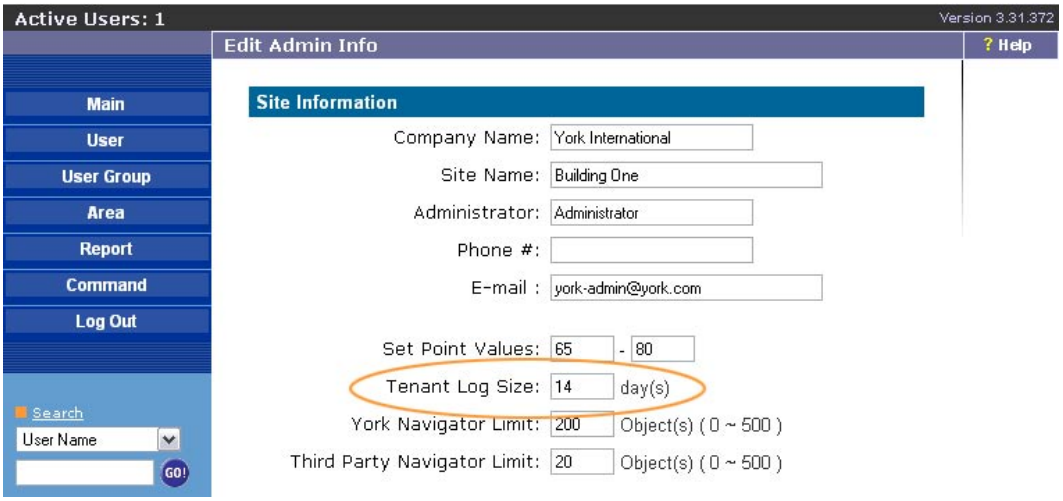
NOTE: Clicking the 'Printable Version' button opens a printable .html page containing only the report.

Checking Tenant Action Log Reports

The Tenant Action Log shows all the changes made by tenants through the Tenant Portal pages and Virtual Stat. The Tenant Action Log shows the details of the changes made and is sorted by the time of the change. If there are more than 50 entries in the log, the log displays on multiple pages that can be accessed using the arrows at the bottom of the log.



The log shows the changes made over the past few days. The number of days recorded in the Tenant Action Log can be changed on the Edit Admin Info page by adjusting the Tenant Log Size.



NOTE

NOTE: The Tenant Log will be automatically cleared out everyday at midnight. In this example, only the logs of the last 7 days will be shown.

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SECTION 3
System Security

This section lists recommendations and best practices to secure a web server against outside intruders. It is recommended to review your corporate/site security policy and apply the appropriate measures.

These are general recommendations for a web server running Microsoft IIS and are not specific to ISN ConneXsys Web. Installing ISN ConneXsys Web does not affect the security of the web server.

SECURE SOCKETS LAYER (SSL)

SSL works by using a public key to encrypt data that is transferred over the SSL connection. Both Netscape Navigator and Internet Explorer support SSL.

ISN ConneXsys Web and all its components are fully compatible with an SSL server. Users can obtain a server certificate from one of the web security companies (e.g. VeriSign - http://www.verisign.com). The web security company will provide instructions for installing their certificate on your server. After enabling SSL secure communication on the server, clients will have to use 'https' instead of 'http' when specifying the server (ISN ConneXsys Web) address in the web browser.

UPDATING SECURITY PATCHES

ISN ConneXsys Web runs on Microsoft IIS. It is important to apply updated security patches on both the operating system and IIS in order to eliminate any newly discovered vulnerability. For the latest update on service packs and security patches, refer to the following links:

TechNet Resources for Security

http://www.microsoft.com/technet/security

Service Packs (Win2000)

http://www.microsoft.com/windows2000/downloads/servicepacks/default.asp

Service Packs (NT4.0)

http://www.microsoft.com/ntserver/nts/downloads/default.asp

Windows Update

http://windowsupdate.microsoft.com

SETTING UP THE IP ADDRESS (DNS ADDRESS RESTRICTIONS)

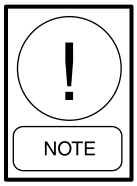
IIS on Windows 2000 Server Edition allow the user to set up restrictions such that only a specific set of clients can communicate with the server.

To set up the restrictions:

1. Start Internet Services Manager in Control Panel -> Administrative Tools.
2. Right click on the YorkWeb under "Default Web Site" and select Properties.
3. Select Directory Security tab.
4. Edit the IP Address and domain name restrictions.

FIREWALL

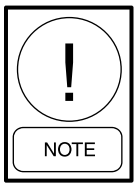
A firewall in a network is a node set up as a barrier to prevent traffic crossing from one segment to another. Firewalls are used to improve network traffic as well as for security purposes, and may serve as a barrier between connected public and private networks. A firewall may be implemented in a router or it may be a network device specialized for this purpose.



NOTE: If you are using a Firewall, ensure that it is set up properly in order for people from outside of the firewall to access ISN ConneXsys Web.

LIMITING ACCESS TO THE SERVER

It is recommended that you limit both physical access to the server machine, as well as, the number of users that can log on to the operating system. This will prevent unnecessary user actions, setting changes and installation of software, which could compromise the security of the server.



NOTE: ISN ConneXsys Web runs under the IIS service, it does not require a user to log on to activate the service.

USING SAVEASWEBPAGE

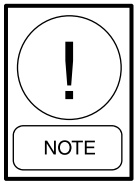
ISN ConneXsys 3.31 allows the user to save Illustrator site graphics into web pages. These web pages can be used in ISN ConneXsys Web to display real-time data.

Saving Graphics as Web Pages

The command, Save as Web Page, will generate a '.asp' file, a '.svg' file and a folder containing supplementary images. However, if there are no separate images within the site graphic, only the .asp and .svg files will be generated. For example, AHU1.gpc will generate AHU1.asp, AHU1.svg, and AHU1_Images folder.

To save a graphic as a web page:

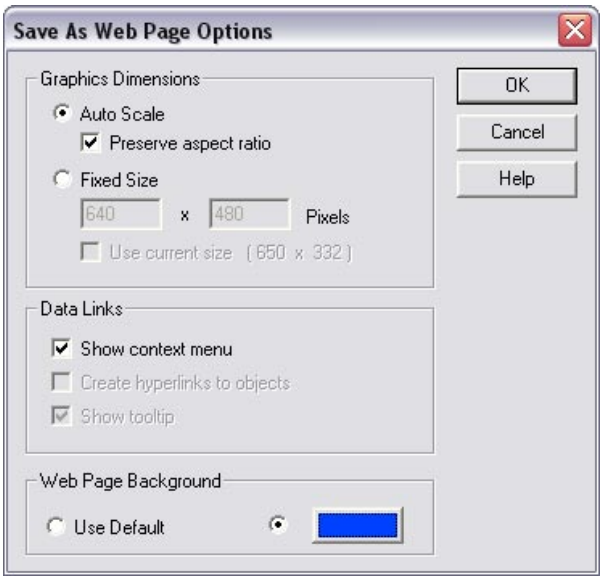
1. Open and run ISN ConneXsys.
2. Open an existing site graphics in Editing Mode or create a new graphic.
3. Select File->Save as Web Page.
4. Choose the appropriate folder and save your graphic.



NOTE: Xxxxxx.asp & xxxxxx.svg will be saved along with xxxxxx_image folder which is used to hold other necessary image files. ISN ConneXsys Web needs both the file and the folder.

5. Copy the created files and folder to C:\wwwroot\Inetpub\connexsysweb\Graphics on the ISN ConneXsys Web server machine.

While saving the web page, you have the following options page to select specific options that pertain to the specific page.



Dialog Descriptions

This dialog allows the user to change the options when saving the Illustrator graphics as ISN ConneXsys Web web pages.

Auto Scale

The output graphics will resize accordingly when the user resizes the browser window.

Preserve aspect ratio

The aspect ratio of the graphics will be preserved when resizing the browser window.

Fixed Size

Allows the user to specify a fixed size of the output graphics (in pixels).

Use current size

The output graphics will be of the same size as the current Illustrator graphics.

Show context menu

This pops up a context menu when the user hovers the mouse over any data links. The user can go to or command the linked object using the context menu.

Create hyperlinks to objects

Create hyperlinks on the graphics elements to go to the linked objects. (Hyperlinks are created only when the context menu is disabled.)

Show tooltip

Shows a tooltip when the user hovers the mouse over any data links. (Tooltips are only shown when the context menu is disabled.)

Web Page Background Color

Allows the user to select the background color of the output graphics.

ISN CONNEXSYS WEB SUPPORTED OBJECTS

Save As Web Page is able to convert most of the commonly used graphical elements from Illustrator graphics. The following is a table listing all the supported elements:

	Size, Position, Visibility	Fill	Line	Font	Other Properties
Group	X	X	X		FillColor can be inherited by child Shape, Line and Arc.
Shape (Rect, RoundRect, Circle)	X	X	X		ShapeType CornerSize WallPaper (Only stretch mode is supported)
Text	X			X	Text Suffix (fixed style 1 space) Font: Name, Size, Italic, Weight, Color, Underline, Strikeout. Alignment. (Text does not wrap to next line if too long)
Line/Polygon	X	X	X		
Arc	X	X	X		StartArcAngle EndArcAngle ArcType: Pie, Arc
PushButton	X			X	Caption WallPaper (Only stretch mode is supported)
EditBox (Converted to Text)	X			X	Text Suffix (fixed style 1 space) Font: Name, Size, Italic, Weight, Color, Underline, StrikeOut. Alignment. (Text does not wrap to next line if too long) Formatting. Specify decimal places to match the Formatting property. (Text does not wrap to next line if too long)
Digital Animation Object	X				FrameRate StopItem ItemList AnimationMode
Analog Animation Object	X				RangeValue ItemList ItemValueSource (Only Support Auto

ISN CONNEXSYS WEB SUPPORTED DATALINKS

Save As Web Page is able to convert most of the commonly used datalinks from Illustrator graphics. The following is a table of all the supported datalinks:

Translation	Properties
Analog Color	FillColor, FontColor, LineColor
Analog Number	Animation Object Value
Analog String Also support link between “Unit” and “Suffix”	Text, EditBox
BACnet Digital	Text, EditBox
Digital String	Text, EditBox
Digital Color	FillColor, FontColor, LineColor
DirectFlag	Visibility
ReverseFlag	Visibility
MultiVariable	Text, EditBox

ISN CONNEXSYS WEB SUPPORTED EVENTS AND METHODS

Save As Web Page converts several events and methods from Illustrator graphics to web graphics. The following is a table listing all the supported events and methods:

Event	Method
Left Click, Left Down, Left Up (all will be converted to Left Click)	Close ISN ConneXsys (Exit Browser) Goto Graphics (Goto object - when Object Reference is specified instead of graphic file path) Replace Graphics Goto Previous Graphics Open (Open the target file in the browser, supported file type depends on the configuration of the client machine.)

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SECTION 4
Function List for Graphics

FUNCTION LIST FOR CREATING ISN CONNEXSYS WEB GRAPHICS

ISN ConneXsys Web uses standard web pages for graphics. Users can choose their own web page editing application for creating new graphics pages. If you choose to create your own graphics you may wish to contract this project out to a web designer.

Using the support functions provided by ISN ConneXsys Web, users can create 2 types of graphics: Real-Time Graphics, and Dynamic Graphics. Real-Time Graphics show real-time values of the system at the time the graphics (i.e. 'one time' updates) are requested. Dynamic Graphics will constantly update the values in the graphics.

Required Knowledge

A user will need to have basic knowledge of HTML and ASP (Active Server pages) in order to create graphics for ISN ConneXsys Web. ISN ConneXsys Web support functions use VBScript and JavaScript technology to retrieve real-time value. Although not required, it is an asset if the user has knowledge of these languages.

Real-time Graphics

Objects and Functions

ISN ConneXsys Web provides several COM objects for accessing real-time values. The objects need to be created before calling the interface functions. To create a COM object (in ASP using VBScript) use Server.CreateObject as follows:

```
Set PropertySrv = Server.CreateObject("DeltaWebServe.PropertyAccess")
```

PropertyAccess

Eleven property access functions use ASP code. The following examples use VBScript.

BatchGet

Retrieves the properties specified by BatchProperty.

Syntax

```
BatchGet()
```

Description – Call BatchGet to retrieve all the properties that are specified by BatchProperty. Using BatchProperty and BatchGet is a more efficient way of retrieving multiple properties.

Example

```
Set PropertySrv = Server.CreateObject("DeltaWebServe.PropertyAccess")
PropertySrv.BatchProperty("BAC.100.AI1.Value")
PropertySrv.BatchProperty("BAC.100.AI1.Units")
PropertySrv.BatchGet()
```

BatchProperty

Adds a property to a batch.

Syntax

BatchProperty(PropertyRef as String)

Description – Call BatchProperty to add a property to the batch. When BatchGet is called, all the properties that are added to the batch will be retrieved. The data is then returned when GetProperty is called.

Using BatchProperty and BatchGet is a more efficient way of retrieving multiple properties.

Example:

```
Set PropertySrv = Server.CreateObject("DeltaWebServe.PropertyAccess")
PropertySrv.BatchProperty("BAC.100.AI1.Value")
PropertySrv.BatchProperty("BAC.100.AI1.Units")
PropertySrv.BatchGet()
```

CommandObject

Issues a command to the specified object.

Syntax

CommandObject(ObjectRef as String, Command as String, CommandValue as String)

Description – Call CommandObject to command the specified object to the Auto/Manual state and/or specify the manual value.

The valid commands are as follows: Auto, Manual, ManualOn, ManualOff, ManualValue. CommandValue is optional. It is only required when Command is ManualValue.

Example: Command an AO object to manual value 20.5.

```
Set PropertySrv = Server.CreateObject("DeltaWebServe.PropertyAccess")
PropertySrv.CommandObject("BAC.100.A01.Value", "ManualValue", "20.5")
```

GetArrayProperty

Retrieves an array property.

Syntax

GetArrayProperty (PropertyRef as String) as Array

Description – Call GetArrayProperty to retrieve all elements of an array property. The functions will return an array of string. If the user only wants to retrieve an individual element, use GetProperty with the array index specified in a square bracket. i.e. GetProperty("BAC.100.MV1.StateText[1]")

Example:

```
Set PropertySrv = Server.CreateObject("DeltaWebServe.PropertyAccess")
StateTextArray = "PropertySrv.GetArrayProperty("BAC.100.MV1.StateText")
```

GetDescriptor

Retrieves the descriptor (object name) of a specified object.

Syntax

GetDescriptor(ObjectRef as String) as String

Description – Call GetDescriptor to retrieve the object name of a specified object.

Example:

```
Set DeltSrv = Server.CreateObject("DeltaWebServe.PropertyAccess")
Name = PropertySrv.GetDescriptor("BAC.100.AI1")
```

GetDeviceModelName

Retrieves the model name of a specified device.

Syntax

GetDeviceModelName(DeviceRef as String) as String

Description – Call GetDeviceModelName to retrieve the model name of a specified device.

Example:

```
Set PropertySrv = Server.CreateObject("DeltaWebServe.PropertyAccess")
ModelName = PropertySrv.GetDeviceModelName("BAC.100.DEV100")
```

GetDeviceStatus

Retrieves the online status of a specified device.

Syntax

GetDeviceStatus(DeviceRef as String) as String

Description – Call GetDeviceStatus to retrieve the online status of a specified device. The function will return 'OK' if the device is online and communicating, otherwise the function will return 'Error'.

Example:

```
Set PropertySrv = Server.CreateObject("DeltaWebServe.PropertyAccess")
Status = PropertySrv.GetDeviceStatus("BAC.100.DEV100")
```

GetProperty

Retrieves the value of a specific property.

Syntax

```
GetProperty( PropertyRef as String ) as String
```

Description – Call GetProperty to retrieve the value of a specific property. The Property Reference should be in a form of “BAC.100.AI1.Value” where:

- BAC = Object System
- 100 = Device Number
- AI1 = Object Instance
- Value = Property

If the property is not specified, the default ‘value’ property will be used. When getting multiple properties, it is recommended to call BatchProperty and BatchGet before calling GetProperty.

BatchGet will combine all requests and use a more efficient way to retrieve the data from the network.

Examples:

Using GetProperty

```
Set PropertySrv = Server.CreateObject(“DeltaWebServe.PropertyAccess”)
Value = PropertySrv.GetProperty(“BAC.100.AI1.Value”)
Units = PropertySrv.GetProperty(“BAC.100.AI1.Units”)
```

Using GetProperty with BatchProperty and BatchGet

```
Set PropertySrv = Server.CreateObject(“DeltaWebServe.PropertyAccess”)
PropertySrv.BatchProperty(“BAC.100.AI1.Value”)
PropertySrv.BatchProperty(“BAC.100.AI1.Units”)
PropertySrv.BatchGet()
Value = PropertySrv.GetProperty(“BAC.100.AI1.Value”)
Units = PropertySrv.GetProperty(“BAC.100.AI1.Units”)
```

GetRangeByDate

Retrieves Trend Log data by specifying the starting date and number samples.

Syntax

GetRangeByDate(ObjectRef as String, StartDate as Date, Count as Long) as Array

Description – Call GetRangeByDate to retrieve an array of Trend Log data. If Count is positive, the function returns data after the Startdate. If Count is negative, the function returns data ending at the StartDate.

The returned data will be in the following format:

2.00 2001/7/20 10:33:00

with the value followed by the sampling date and time.

Example:

Get last 200 samples

```
Set PropertySrv = Server.CreateObject("DeltaWebServe.PropertyAccess")
TrendData = PropertySrv.GetRangeByDate("BAC.100.TL1", Now, -200)
```

GetRangeByIndex

Retrieves Trend Log data by specifying the starting index and number of samples.

Syntax

GetRangeByIndex(ObjectRef as String, StartIndex as Long, Count as Long) as Array

Description – Call GetRangeByIndex to retrieve an array of Trend Log data. The StartIndex starts from 1 up to the total number of samples. If the Count is positive, the function will retrieve samples following the StartIndex. If the Count is negative, the function will retrieve samples ending at the StartIndex.

The returned data will be in the following format:

2.00 2001/7/20 10:33:00

with the value followed by the sampling date and time.

Examples:

Get first 200 samples

```
Set PropertySrv = Server.CreateObject("DeltaWebServe.PropertyAccess")
TrendData = PropertySrv.GetRangeByIndex("BAC.100.TL1", 1, 200)
```

Get last 200 samples

```
Set PropertySrv = Server.CreateObject("DeltaWebServe.PropertyAccess")
SampleSize = int(PropertySrv.GetProperty("BAC.100.TL1.RecordCount"))
TrendData = PropertySrv.GetRangeByIndex("BAC.100.TL1", SampleSize, -200)
```

GetV2Trend

Get the trend data from a Version 2 trend log object.

Syntax

GetV2Trend(ObjectRef as String) as Array

Description – Call GetV2Trend to retrieve all trend data from a trend log object on a Version 2 device. The output is an array of strings with each entry formatted as follows:

Date Time, Value, Value, Value, Value.

Example:

Display the trend data for TL1 on device 10.

```
Set PropertySrv = Server.CreateObject("DeltaWebServe.PropertyAccess")
TrendArray = DetlaSrv.GetV2Trent("V2.10.TL1")
For Index = 0 to UBound(TrendDataArray)
Response.Write TrendDataArray(Index) & "<br>"
next
```

The output will be a list of trend data, one entry per line, like this:

```
2002/1/24 19:27:01, 86.0, 26.0, 0.0, 5.7
2002/1/24 19:27:06, 87.0, 26.0, 1.2, 5.7
```

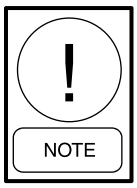
PutArrayProperty

Writes the supplied data to the array property.

Syntax

PutArrayProperty(PropertyRef as String, Arraydata as Array)

Description – Call PutArrayProperty to write an array of data to the specified array property. Users should use PutProperty when writing an individual element in the array. Use square brackets to indicate the array index. i.e. PropertySrv.PutProperty("BAC.100.MV1.StateText[1]", "Option1").



NOTE: Array index in the object property starts from 1, whereas, array index in VBScript starts from 0.

Example:

```
Dim StateText[3]
StateText[0] = "Option1"
StateText[1] = "Option2"
StateText[2] = "Option3"
Set PropertySrv = Server.CreateObject("DeltaWebServe.PropertyAccess")
PropertySrv.PutArrayProperty("BAC.100.MV1.StateText", StateText)
```

PutProperty

Writes the supplied data to the property.

Syntax

PutProperty(PropertyRef as String, Data as String)

Description – Call PutProperty to write data to a specified array property.

Example:

```
Set PropertySrv = Server.CreateObject("DeltaWebServe.PropertyAccess")
PropertySrv.PutProperty("BAC.100.AV1.Value", "3.0")
```

Examples

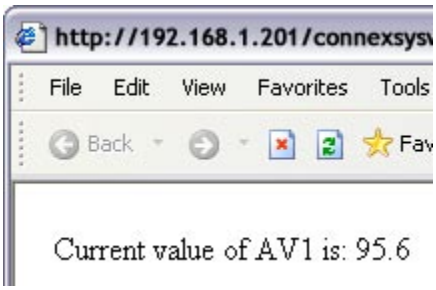
Getting a Value

Sample ASP page for getting a value.

```
<HTML>
<HEAD>
</HEAD>
<BODY>
<%
Dim PropertySrv, ObjRef, Value
Set PropertySrv = Server.CreateObject("DeltaWebServe.PropertyAccess")
ObjRef = "BAC.100.AV1"
Value = PropertySrv.GetProperty(ObjRef & ".Value")
%>
Current value of AV1 is: <%=Value%>
</BODY>
</HTML>
```

Scripts between <% . . . %> will be executed and the resulting source code will look like this:

```
<HTML>
<HEAD>
</HEAD>
<BODY>
Current value of AV1 is: 95.6
</BODY>
</HTML>
```



4

Getting Multiple Values

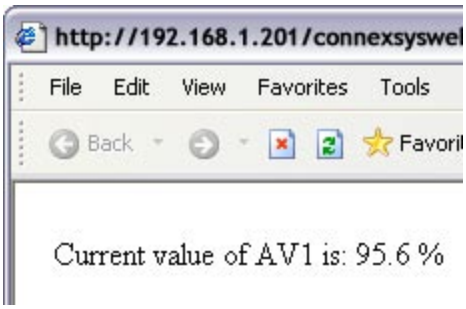
Sample ASP page for getting several property values.

```
<HTML>
<HEAD>
</HEAD>
<BODY>
<%
Dim PropertySrv, ObjRef, Value, Units
Set PropertySvr = Server.CreateObject("DeltaWebServe.PropertyAccess")
ObjRef = "BAC.100.AV1"
Value = PropertySvr.GetProperty(ObjRef & ".Value")
Units = PropertySvr.GetProperty(ObjRef & ".Units")
%>
Current value of AV1 is: <%=Value & " " & Units%>
</BODY>
</HTML>
```

Or, a more efficient way.

```
<HTML>
<HEAD>
</HEAD>
<BODY>
<%
Dim PropertySrv, ObjRef, Value, Units
Set PropertySvr = Server.CreateObject("DeltaWebServe.PropertyAccess")
ObjRef = "BAC.100.AV1"
PropertySvr.BatchProperty(ObjRef & ".Value")
PropertySvr.BatchProperty(ObjRef & ".Units")
PropertySvr.BatchGet()
Value = PropertySvr.GetProperty(ObjRef & ".Value")
Units = PropertySvr.GetProperty(ObjRef & ".Units")
%>
Current Value of AV1 is: <%=Value & " " & Units %>
</BODY>
</HTML>
```

Both pages give the same result:



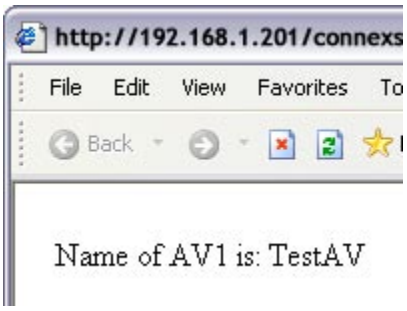

```
<HTML>
<HEAD>
</HEAD>
<BODY>
Current value of AV1 is: 95.6%
</BODY>
</HTML>
```

Getting a Descriptor

Sample ASP page for getting a descriptor (object name).

```
<HTML>
<HEAD>
</HEAD>
<BODY>
<%
Dim PropertySrv, ObjRef, Name
Set PropertySvr = Server.CreateObject("DeltaWebServe.PropertyAccess")
ObjRef = "BAC.100.AV1"
Name = PropertySvr.GetDescriptor(ObjRef)
%>
Name of AV1 is: <%=Name %>
</BODY>
</HTML>
```

The resulting page becomes:




```
<HTML>
<HEAD>
</HEAD>
<BODY>
Name of AV1 is: TestAV
</BODY>
</HTML>
```

Getting an Array Property

This sample ASP page is for getting an array property.

```
<HTML>
<HEAD>
</HEAD>
<BODY>
<%
Dim PropertySrv, ObjRef, StateText, Index
Set PropertySvr = Server.CreateObject(“DeltaWebServe.PropertyAccess”)
ObjRef = “BAC.100.MV1”
StateText = PropertySvr.GetArraypropety(ObjRef & “.StateText”)
for Index = 0 to Ubound(StateText)
%>
<li><%=StateText(Index) %></li>
<% Next %>
</BODY>
</HTML>
```

The resulting page becomes:


```
<HTML>
<HEAD>
</HEAD>
<BODY>
<li>State1</li>
<li>State2</li>
<li>State3</li>
<li>State4</li>
</BODY>
</HTML>
```

Writing a Value

A sample ASP page for writing a value.

```
<HTML>
<HEAD>
</HEAD>
<BODY>
<%
Dim PropertySrv, ObjRef, StateText, Index
Set PropertySvr = Server.CreateObject("DeltaWebServe.PropertyAccess")
ObjRef = "BAC.8200.AV1"
Call PropertySvr.PutPropety(ObjRef & ".Value", "33.3")
Value = PropertySvr.GetProperty(ObjRef & ".Value")
%>
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Current value of AV1 is: <%=Value %>
</BODY>
</HTML>
```
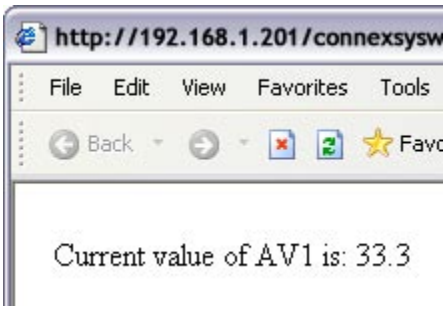

The resulting page becomes:

```
HTML>
<HEAD>
</HEAD>
<BODY>
Current value of AV1 is: 33.3
</BODY>
</HTML>
```



4

DYNAMIC GRAPHICS

Objects and Functions

ISN ConneXsys Web provides functionality for creating Dynamic Graphics through a JavaScript LinkManager object. Elements in the graphics are continuously updated according to the real-time values that they are linked to. The LinkManager supports text link, animation, and stepping images.

In order to use the LinkManager object, users have to include a file in the web pages and make some minor changes to the code.

Example:

```
<HTML>
<HEAD>
<!--#include virtual="/connexsysweb/Graphics/include/LinkManager.inc"-->
<script language="javascript">
//-----Options
DefaultDecimal =1;
EnableLinkTobject = false;
EnableContextMenu = true;
EnableTooltip = true; // Only effective when ContextMenu is disabled.
function InitLinks() {
LinkManager.AddLink("AVValue","BAC.400.AV1");
}
</script>
</HEAD>
<BODY onload=Init() onunload=Exit()>
<a id=AVVvalue> . . .</a>
</BODY>
</HTML>
```

Summary

- LinkManager.inc contains all the support for creating the Dynamic Graphics
- Script function InitLinks to create all data links.
- Under the <BODY> tag, add "onload=Init() onunload=Exit()" to ensure proper initialization and cleanup.
- Assign a unique Id to each HTML element that requires Dynamic data. For example, id=AVValue.

Default Settings Defined:

- DefaultDecimal: Default decimal places for analog value in graphics.
- EnableLinkToObject: Turn the linked values in the graphics into hyper links that open the object.
- EnableContextMenu: Enable context menu when hovering mouse over linked values.
- EnableTooltip: Enable the tooltip to popup showing the name of the linked object. (The tooltip is only enabled when the context menu is disabled.)

Context Menu

A context menu will pop up when the user hovers the mouse over a linked element. Depending on the linked object's type, the menu can allow users to open the object, command it to Auto, Manual Value, Manual On and Manual Off.

Function List For Creating An Array Of Image Files

CreateImageArray

Creates an array of image files that can be used in animation or stepping images.

Syntax

CreateImageArray(filename, filename, . . .)

Description – Call CreateImageArray to create an array of image files which can be used for setting up animation or stepping image links.

Example:

```
<script>
var TopFanImage=CreateImageArray( “image/fan1.gif”, “images/fan2.gif”, “images/fan3.gif”, “images/fan4.gif”);
:
```

Function List For Adding Data Links To Graphics

LinkManager.AddLink

Adds a data link to the graphics.

Syntax

LinkManager.AddLink(Element, ObjRef, Property, Type)

Description – Call LinkManager.AddLink to add a data link to the graphics. This function will establish a data link between the HTML elements and the device object. Depending on the link type, the graphics will get the real-time value and change the text or other attribute of the element.

Element – Id of the HTML element to be linked. The Id is assigned by user. Apply to all element types that allow specifying Ids. E.g. <a>, , <p>, , <td>, <img>, etc.

ObjRef – Object reference to retrieve value from.

Property – (Optional) Property of the object. If not specified, the value property will be used by default.

Type – (Optional) Data link types:

- WithUnits - Resulting text will be a value followed by units.
- Binary - Resulting text will show the Active and Inactive Text depending on the present value of the binary object.
- DirectVisibility - Shows the element if the specified object property value is true/active, otherwise hide the element.
- ReverseVisibility - Hide the element if the specified object property value is true/active, otherwise show the element.

Decimal – (Optional) Decimal places for the link. Applicable for numeric value only. This value overrides the global DecimalPlace graphic option.

If **Property** and **Type** are not specified. WithUnits will be used for analog objects, and Binary will be used for binary objects.

Example:

```
<script>
function InitLinks() {
LinkManager.AddLink(“AVValue”, “BAC.400.AV1”);
}
</script>
</HEAD>
<BODY onload=Init() onunload=Exit()>
AV Value = <span id=AVValue> . . .</span>
```

Function List For Adding Animation Links To Graphics

LinkManager.AddAnimation

Adds an animation link to the graphics.

Syntax

LinkManager.AddAnimation(Element, ObjRef, Property, ImageArray, ImageStop)

Description – Call LinkManager.AddAnimation to add an animation link to the graphics. This function will establish an animation link between an image element <img> and the device object. If the object value is ON, the image will be animated using the supplied Image Array. If the object value is OFF, the animation will stop and the Image Stop will be shown.

Element – Id of the <img> element to be linked. The Id is assigned by user.

ObjRef – Object reference to retrieve value from.

Property – (Optional) Property of the object. If not specified, the value property will be used by default.

ImageArray – Array of image file names. Created by CreateImageArray.

ImageStop – Image to show when animation stop.

FramePeriod – (Optional) Time delay between each frame (in milliseconds). The default value is 100.

Direct – Determine if the animation should be active when the object value is ON or OFF. If Direct is set to true, the animation will be active when the object value is ON. If Direct is set to false, animation will be active when the object value is off. The default is true.

Example

```
:
var TopFanImage = CreateImageArray (“images/fanimage1.jpg”,”images/fanimage2.jpg,...)
function InitLinks() {
LinkManager.AddAnimation(“FanImage”, BIReference, null, TopFanImage, “image/fanoff.gif”);
}
</script>
</HEAD>
<BODY onload=Init() onunload=Exit()>
<img id=FanImage>
:
```

Function List For Adding A Stepping Image Link To Graphics

LinkManager.AddSteppingImage

Adds a stepping image link to the graphics.

Syntax

LinkManager.AddSteppingImage(Element, ObjRef, Property, ImageArray, LowerBound, UpperBound)

Description – Call LinkManager.AddSteppingImage to add a stepping image to the graphics. This function will establish a stepping image link between an image element <img> and the device object.

Stepping Image links work for analog objects or numeric properties. Depending on the current value, the corresponding image will be shown in the graphics. It could be used to show damper position, color-coded temperature, water level, etc.

Element – Id of the <img> element to be linked. The Id is assigned by user.

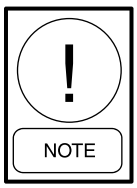
ObjRef – Object reference to retrieve value from.

Property – (Optional) Property of the object. If not specified, the value property will be used by default.

ImageArray – Array of image file names. Created by CreateImageArray.

LowerBound – (Optional) Lower bound of the value range. The default is 0 if not specified.

UpperBound – (Optional) Upper bound of the value range. The default is 100 if no specified.



NOTE: The first and last image will be used when the object value is at the LowerBound and UpperBound, respectively. Other images will be distributed evenly in the value range.

Example:

```
:
var AOReference = “BAC.400.AO1”
var DamperImage=CreateImageArray(“images/topdamper6.jpg”, “images/
topdamper4.jpg”, “images/topdamper3.jpg”, “images/topdamper2.jpg”,
“images/topdamper2.jpg”, “images/topdamper.jpg”);
function InitLinks() {
LinkManager.AddSteppingImage(“DamperImage”, AOReference, null,
DamperImage);
}
</script>
</HEAD>
<BODY onload=Init() onunload=Exit()>
<img id=DamperImage>
</BODY>
:
```

Function List For Creating Hyperlinks

LinkManager.SetAnchor

Creates an anchor (hyperlink) to the linked elements.

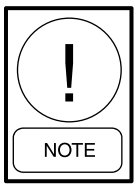
Syntax

LinkManager.SetAnchor()

Description – Call LinkManager.SetAnchor to create a hyperlink the linked elements. When the user clicks on the hyperlink, the browser will jump to the object page where the user can modify the settings.

LinkManager.SetAnchor should be called after all links have been added. Usually call it at the end of InitLinks().

In order to create the hyperlink, the linked elements must be anchored elements with the <a> tag. Other tags such as , , etc. will not be affected.



NOTE: This function is obsolete. The user can use the Graphics option EnableLinkToOpject to achieve the same behavior.

Example

```
:
function InitLinks() {
LinkManager.AddLink(“AVValue”, “BAC.100.AV1”);
LinkManager.SetAnchor();
}
</script>
</HEAD>
<BODY onload=Init() onunload=Exit()>
Value = <a id=AVValue></a>
</BODY>
:
```

Function List For Creating A Hyperlink To A Specified Device Object

LinkManager.SetAnchorToObject

Creates an anchor (hyperlink) to the specified device object.

Syntax

LinkManager.SetAnchorToObject(Element, ObjRef, EnableHyperLink, EnableMenu)

Description – Call LinkManager.SetAnchorObject to create a hyperlink to the specified device object. When the user clicks on the hyperlink, the browser will jump to the object page where the user can modify the settings.

Element – Id of the HTML element to be linked. The Id is assigned by user. Apply to all element types that allow specifying the color. For example, , <img>, <a> etc.

ObjRef – Object reference to link to.

EnableHyperLink – (Optional) set up a hyperlink to the specified object. Default is true.

EnableMenu – (Optional) set up the context menu. Default is false. LinkManager. SetAnchorToObject is intended to be called for any HTML element that does not have a datalink setup. For the linked elements, user can use the global option:

EnableLinkToObject – Enables the link for all linked elements.

EnableContextMenu – Enables the context menu for all linked elements.

Example

```
:
function InitLinks() {
LinkManager.AddLink(“AVValue”, “BAC.100.AV1”);
LinkManager.SetAnchorToObject(“fan”, “BAC.100.BO1”);
}
</script>
</HEAD>
<BODY onload=Init() onunload=Exit()>Value = <a id=AVValue></a>
<img id=”fan” src=”fan.jpg”>
</BODY>
:
```

Function List For Adding A Digital Color Link To Graphics

LinkManager.AdddigitalColorLink

Adds a digital color link to the graphics.

Syntax

LinkManager.AddDigitalColorLink(Element, ObjRef, Property, OnColor, OffColor, Attribute)

Description – Call LinkManager.AddDigitalColorLink to add a digital color link to the graphics. This function will establish a digital color link between the HTML element and the device object.If the object value is ON, the OnColor will be applied to the HTML element. If the object value is OFF, the OffColor will be applied to the element.

Element – Id of the HTML element to be linked. The Id is assigned by user. Apply to all element types that allow specifying the color. E.g. <a>, <p>, , , etc.

ObjRef – Object reference to retrieve value from.

Property – Property of the object. If not specified, the value property will be used by default.

OnColor – Color to be used when the object value is ON.

OffColor - Color to be used when the object value is OFF.

Attribute – (Optional) The attribute to apply the color to. Either “color” or “backgroundColor”.

The default value is “color”.

Color could be specified in named terms e.g. red, green or RGB value in hex format e.g. #ff000 or #00ff00

Example

```
:
<script>
function InitLinks() {
LinkManager.AddDigitalColorLink(“FanValue”, “BAC.400.BV1”, “Auto”, “green”, “red”);
LinkManager.AddLink(“FanValue”, “BAC.400.BV1”);
}
}
</script>
</HEAD>
<BODY onload=Init() onunload=Exit()>
Fan Value = <span id=FanValue> . . .</span>
:
```

Function List For Viewing The Online Status Of Graphics

StatusText

This command is used to show the online status of the graphics.

Syntax

```
<div id = StatusText>Loading . . . </div>
```

Description – If users add a text element (or) in the graphics and give the Id 'StatusText', the LinkManager object will update its text to show the current status of the graphics.

If there is no StatusText element in the graphics, the status will appear in the status bar of the browser.

If the graphics are getting their real-time data successfully, the status text will show the last update time. If the graphics failed to retrieve the read-time data from the server, the status text will show an error.

Example

```
<HTML>
<HEAD>
<!--#include File="../include.LinkManager.inc"-->
</HEAD>
<BODY onload=Init() onunload=Exit()>
Value = <a id=AAValue></a>
<div id = StatusText>Loading . . . </div>
</BODY>
</HTML>
```

EXAMPLES OF THE FUNCTION LISTS DESCRIBED IN PREVIOUS PAGES

Examples

Text Link

Sample graphics for a text link.


```
<HTML>
<HEAD>
<!--#include File="../include.LinkManager.inc"-->
<script>
var AVReference = "BAC.400.AV1";
var BOReference = "BAC.400.BO1";
function InitLinks() {
LinkManager.AddLink("AVName", AVReference);
LInkManager.AddLink("BOValueLink", BOReference);
}
</script>
</HEAD>
<BODY onload=Init() onunload=Exit()>
<div>AV Value = <span id=AVValue>...</span></div>
<div>BO Value = <span id=BOValue>...</span></div>
</BODY>
</HTML>
```

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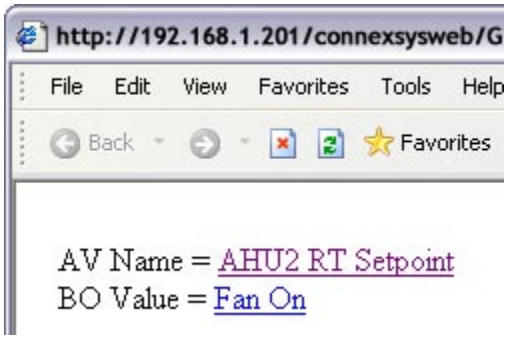
Text Link (Anchor)

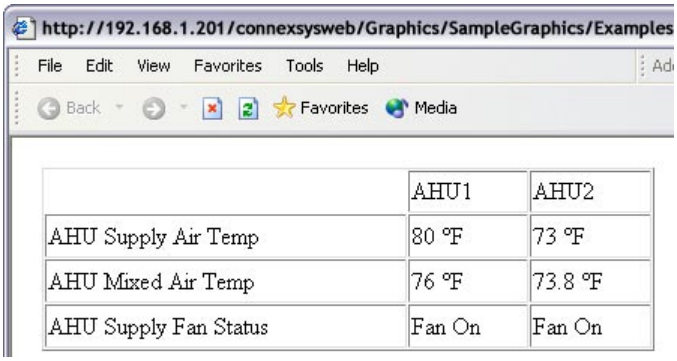
Sample graphics for a text link with an anchor.




```
<HTML>
<HEAD>
<!--#include File="../include.LinkManager.inc"-->
<script>
var AVReference = "BAC.400.AV1";
var BOReference = "BAC.400.BO1";
function InitLinks() {
LinkManager.AddLink("AVValue", AVReference, "Name");
LinkManager.AddLink("BOValue", BOReference);
LinkManager.SetAnchor();
}
</script>
</HEAD>
<BODY onload=Init() onunload=Exit()>
<div>AV Name = <a id=AVName>...</a></div>
<dive>BO Value = <a id=BOValueLink>...</a></div>
</BODY>
</HTML>
```

Table

Sample graphics uses a table to show the status of multiple pieces of equipment.



	AHU1	AHU2
AHU Supply Air Temp	80 °F	73 °F
AHU Mixed Air Temp	76 °F	73.8 °F
AHU Supply Fan Status	Fan On	Fan On

```
<HTML>
<HEAD>
<!--#include File="../include.LinkManager.inc"-->
<script>
function InitLinks() {
LinkManager.AddLink("SATValue1", "BAC.400.AI3");
LinkManager.AddLink("SATValue2", "BAC.400.AI9");
LinkManager.AddLink("MATValue1", "BAC.400.AI4");
LinkManager.AddLink("MATValue2", "BAC.400.AI10");
LinkManager.AddLink("SFValue1", "BAC.400.BO1");
LinkManager.AddLink("SFValue2", "BAC.400.BO2");
LinkManager.SetAnchor();
}
</script>
</HEAD>
<BODY onload=Init() onunload=Exit()>
<table cellspacing=1 cellpadding=1 width=408 border=1 height=122>
<tr>
<td></td>
<td>AHU1</td>
<td>AHU2</td></tr>
<tr>
<td>AHU Supply Air Temp</td>
<td id=SATValue1></td>
<td id=SATValue2></td></tr>
<tr>
<td>AHU Mixed Air Temp</td>
<td id=MATValue1></td>
<td id=MATValue2></td></tr>
<tr>
```

```
<td>AHU Supply Fan Status</td>
<td id=SFValue1></td>
<td id=SFValue2></td></tr></table>
</BODY>
</HTML>
```

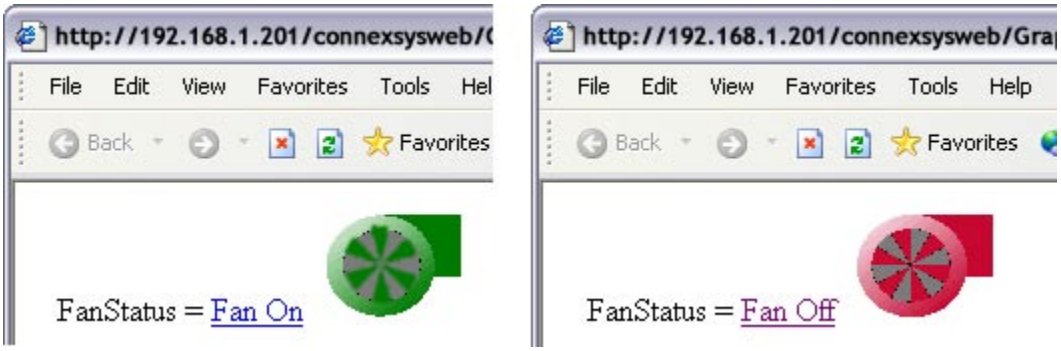
Visibility

This sample graphic toggles the visibility of an image depending on the value of a binary input.


```
<HTML>
<HEAD>
<!--#include File="../include.LinkManager.inc"-->
<script>
var BIReference = "BAC.400.BI7";
function InitLinks() {
LinkManager.AddLink("BIText", BIReference);
LInkManager.AddLink("BIImage", BIReference, null, "DirectVisibility");
}
</script>
</HEAD>
<BODY onload=Init() onunload=Exit()>
BO Value = <span id=BIText>...</span>
<img id=BIImage src="Images/Alarm.gif">
</BODY>
</HTML>
```

Animation

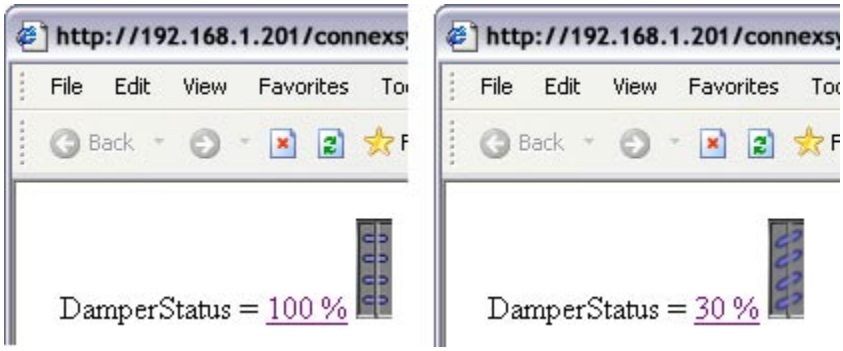
These sample graphics show animation. The fan will rotate if the binary output is active, otherwise, the fan will stop.




```
<HTML>
<HEAD>
<!--#include File="../include.LinkManager.inc"-->
<script>
var BIReference = "BAC.400.BI1";
var TopFanImage=CreateImageArray( "images/fan4.gif", "images/fan3.gif",
"images/fan2.gif", images/
fan1.gif");
function InitLinks() {
LinkManager.AddLink("FanText", BIReference);
LInkManager.AddAnimation("FanImage", BIReference, null, TopFanImage,
"images/fanoff.gif:);
LinkManager.SetAnchor();
}
</script>
</HEAD>
<BODY onload=Init() onunload=Exit()>
FanStatus = <a id=FanText>...</a>
<img id=FanImage>
</BODY>
</HTML>
```

Stepping Image

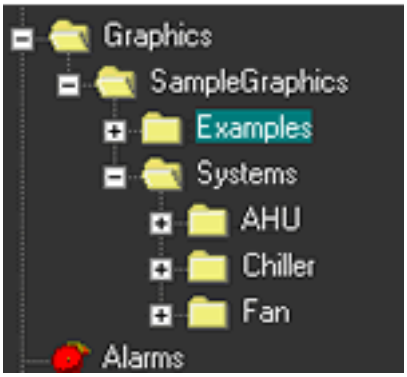
This sample graphic shows the use of a stepping image. The damper position will change depending on the analog output value.




```
<HTML>
<HEAD>
<!--#include File="../include.LinkManager.inc"-->
<script language="javascript1.2">
var AOReference = "BAC.400.AO1";
var DamperImage=CreateImageArray( "images/topdamper6.jpg", "images/
topdamper4.jpg", "images/
topdamper3.jpg", "images/topdamper2.jpg", "images/topdamper1.jpg",
images/topdamper.jpg");
function InitLinks() {
LinkManager.AddLink("DamperText", AOReference);
LinkManager.AddSteppingImage("DamperImage", AOReference, null,
DamperImage);
LinkManager.SetAnchor();
}
</script>
</HEAD>
<BODY onload=Init() onunload=Exit()>
Damper Status = <a id=DamperText>...</a>
<img id=DamperImage>
</BODY>
</HTML>
```

USING THE GRAPHICS FOLDER

The Graphics Folder in ISN ConneXsys Web provides a way for the user to organize the site graphics in a tree hierarchy. The user can create sub folders and graphics files in the graphics folder that will show up in the ISN ConneXsys Web Navigator automatically.



Folder Location

By default the Graphics Folder is located on the server in:

C:\Inetpub\wwwroot\connexsysweb\Graphics

File Types

In order to prevent any image file or other unwanted files from showing up in the tree, only files with the following extensions are listed:

.html, .asp, .htm, .aspx

Hidden Folder

Users can prevent a folder from appearing in the tree by changing the folder's status to 'hidden' using Windows Explorer.

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Form 450.24-NOM11 (1104)
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