Tracer Summit™ WebOPS Version 1.2

Web-based access for the Tracer Summit building automation system

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Introduction

Tracer Summit WebOPS provides the ability to access the Tracer Summit building automation system (BAS) from any PC using a Web browser, such as Internet Explorer. WebOPS accesses real-time system data from the Tracer Summit system and uses Web pages that allow you to perform daily operations with your Tracer Summit system. This allows daily operator functionality and access to system information from within a facility or from a remote location anywhere in the world using any Web browser.

Tracer Summit WebOPS:

- Eliminates the need for multiple Tracer Summit PC Workstations
- Increases accessibility and convenience

With WebOPS installed on a Tracer Summit system, any PC with a Web browser can be used to:

- View the graphics for a facility, change setpoints, and perform overrides
- View and change schedules
- View and acknowledge alarms
- View, print, save, and e-mail trend information

WebOPS is compatible with Tracer Summit Version 13 and higher. It has full SSL encryption capablity and can easily be added to new or existing Tracer Summit installations on Ethernet or Ethernet IP networks.

WebOPS also provides single-seat operation to help solve your system integration needs (see "System integration", page 8).

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Contents

Features and benefits

WebOPS is designed for easy installation and operation. It is an embedded device, which means that it has no mechanical hardware, such as a fan or a disk drive, that can fail over time. Minimal effort is required from your IT staff to install WebOPS.
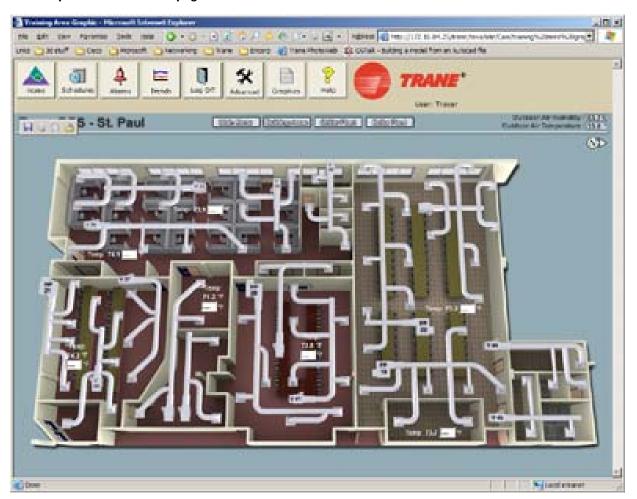
Daily operators (or other building occupants) can use their Web browser to access their facility by entering the Internet address for WebOPS. After logging on, the user's home page displays. Figure 1 shows an example of a home page.

Users can access system graphics, schedules, event logs, and trends from their Tracer Summit system. The extent of their access depends on their security privileges.

The following functions are supported by WebOPS:

- Graphical operation/navigation
- Setpoint monitor and control
- Time-of-day scheduling
- Alarm monitoring and acknowledgement
- Historical trend viewing
- WebOPS security and setup

Figure 1. Example of a user's home page on WebOPS

Graphical operation

With WebOPS, remote users can view all graphics created at a Tracer Summit PC Workstation.

The following graphical elements of Tracer Summit software are accessible using WebOPS:
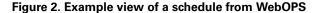
- Any data available in the system as a numerical or text value
- Analog values that can change colors based on deviation from a desired value for quick recognition of operational issues
- User-defined static text in a wide choice of fonts and colors
- Animation using binary images or animated GIFs
- Linked text and images that can be added to move between graphics
- Links to other Web sites
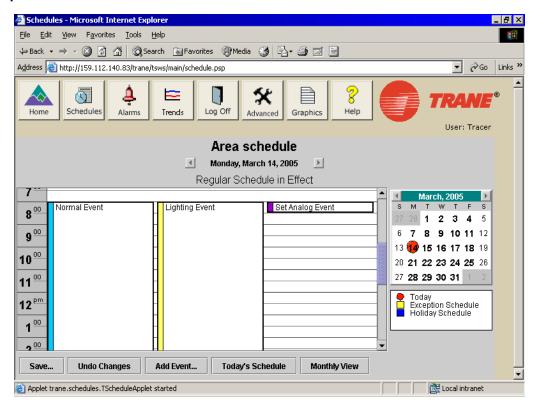- Multiple graphic images that conform to standard JPEG, GIF, or BMP formats, in addition to the library of HVAC equipment images included with the Tracer Summit software package
- User controls including push buttons and entry fields

Real-time values are automatically updated every 10 seconds without having to refresh the page. Users can easily move between graphics by clicking links or using the browser Forward and Back buttons. They can also change system setpoints and perform overrides if they have appropriate security privileges.

Time-of-day scheduling

All schedules created at Tracer Summit PC Workstations are available through WebOPS (Figure 2). Depending on security privileges, users can also change start and stop times, add new events, and create exception days. Editing schedules is as easy as dragging start and stop times to make the desired changes. Schedule changes can be implemented down to 1-minute increments.

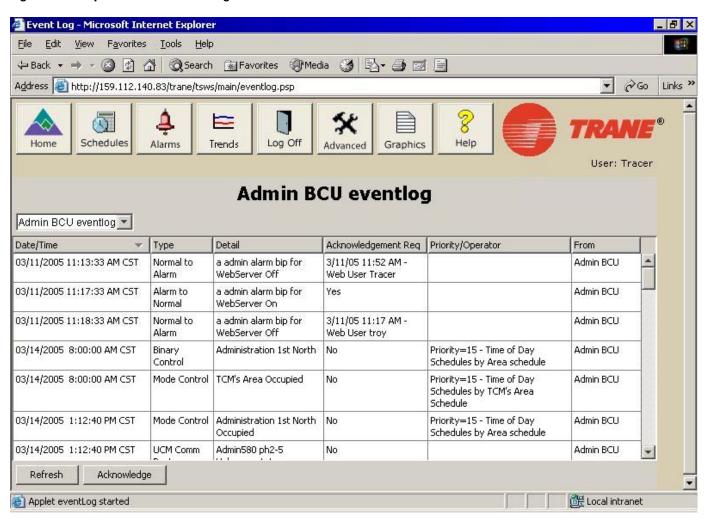**Figure 2. Example view of a schedule from WebOPS**

Event and alarm management

Users with a BCU (Version 13 or higher) can display the event log and system alarms (Figure 3). The events and alarms can be sorted according to properties, such as date, type, unacknowledged or acknowledged, and who performed the acknowledgement.

Users with the appropriate security privileges can acknowledge alarms from this screen.

Figure 3. Example view of an event log from WebOPS

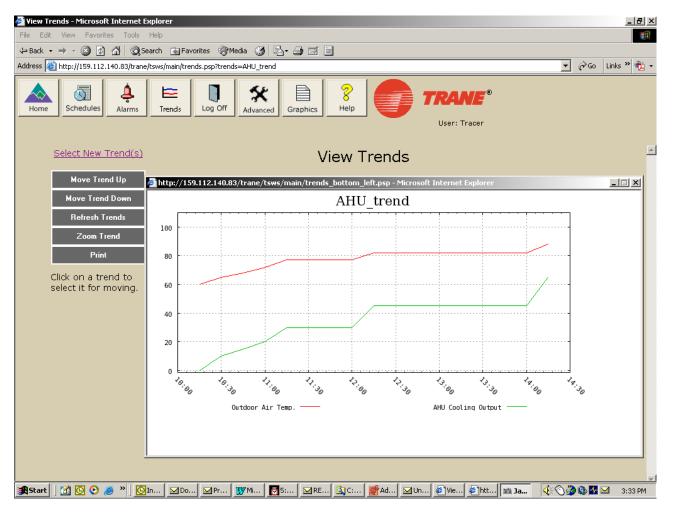## Viewing and printing trends with dynamic charts

In addition to the daily operator activities of WebOPS, users can perform troubleshooting activities and gain a deeper understanding of their facility operations by viewing and printing trend information (Figure 4). All trends created with Tracer Summit software can be viewed through WebOPS. WebOPS will chart the entire trend data set contained in the BCU and will update the chart with new information every 10 minutes or can be refreshed manually.

The trend chart has the ability to chart multiple properties (up to 10) and includes a legend to identify each data line. For example, multiple space temperature trend lines can be plotted together on the same chart so that users can compare information between trends.

Multiple charts can be displayed on the same Web page. The charts can be enlarged so that the trend line can be seen in greater detail.

All current data displayed in the charts can be printed, saved, and e-mailed.

Figure 4. Example view of a trend from WebOPS, with the selected trend zoomed

Setup

Setting up WebOPS is quick and easy. After the hardware has power and is connected to the network, the installer assigns it an IP address (provided by the customer's IT staff). WebOPS then automatically locates the schedules, trends, and BCU event logs in the Tracer Summit system and makes them accessible with a browser.

Publishing graphics to WebOPS

An extensive library of standard graphics representing all Trane equipment and applications is included in the Tracer Summit PC Workstation software. Workstation operators can modify these or create new custom graphics.

By using the new Customize Graphics Templates tool in Tracer Summit software, any graphic, either standard or custom, can be quickly converted for publishing to WebOPS. These converted graphics can then be easily imported into WebOPS for immediate viewing by using the WebOPS publishing tool.

Administrator setup

Users with administrative privileges have access to a series of setup pages after logging in. These setup pages allow administrators to add, delete, or modify user names, passwords, home page selection, and security privileges for each user.

Security

WebOPS supports both user security and data security.

User

User security privileges are set up by the Administrator and depend on a combination of the user's home page and security level. The three security levels offer a mix of functionality and security.

Data

Data security prevents unauthorized users from gaining access to the building automation system through WebOPS. Customers have the option of securing the Logon and Administration pages only or securing all pages. WebOPS is encrypted using Secure Sockets Layer (SSL) technology. This 128-bit encryption is the same used to protect credit card transactions on the Internet.

Security updates

WebOPS is equipped with functionality that can be used to update its security at any time with new patches or updates as they are provided by industry.

System integration

Standard communication technology (for example, BACnet) is essential for enabling system integration. It promotes single-seat operation, which means that only one front-end system, or tool, is used to operate all of a facility's equipment, regardless of manufacturer. WebOPS uses open BACnet protocol so that data can be freely communicated between WebOPS, the PC Workstations, BCUs, and any other facility equipment or building automation systems.

Network architecture

WebOPS is an extension of the Tracer Summit building automation system (BAS) network architecture. Tracer Summit building control units (BCUs) control the BAS. Tracer Summit PC Workstation software is used for setting up, programming, and monitoring the BAS.

WebOPS has two Ethernet ports for greater flexibility in connecting to networks. WebOPS uses a dual-port connection when the Tracer Summit BAS network and the building local area network (LAN) are separate networks (see Figure 5). One port connects WebOPS to the dedicated BAS network, and the other port connects to the building LAN.

WebOPS uses a single port connection when the Tracer Summit BAS network is shared with the building LAN (see Figure 6 on page 10).

WebOPS can connect to both Ethernet and ARCNET networks. For ARCNET networks, a BACnet router is required, as shown in Figure 7 on page 10.

Each Tracer Summit site can have one or more WebOPS installed. Each WebOPS works with a single Tracer Summit site. For multi-site operations, use one WebOPS for each Tracer Summit site. Users will have access to only the graphics, schedules, trends, and alarms that pertain to their site.

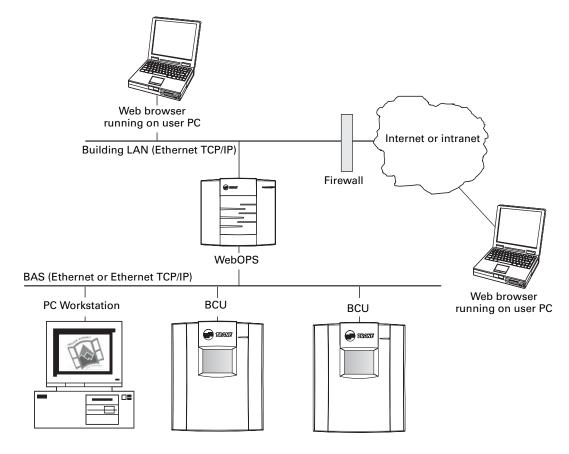**Figure 5. Dual-port connection to a Tracer Summit Ethernet network**

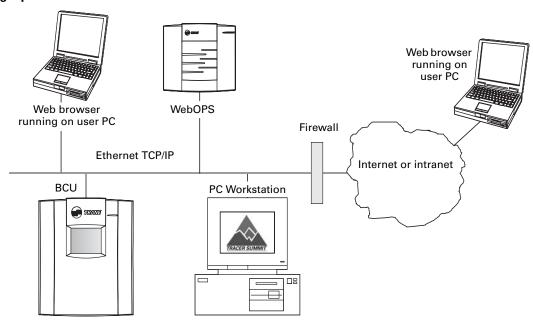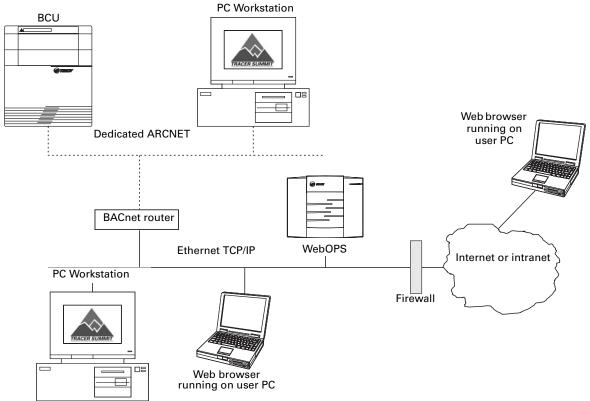**Figure 6. Single-port connection to a shared Tracer Summit Ethernet network**

Web browser
running on user PC

WebOPS

Web browser
running on
user PC

Firewall

Ethernet TCP/IP

Internet or intranet

BCU

PC Workstation

Figure 7. Connection to a Tracer Summit ARCNET network (through a BACnet router)

PC Workstation

BCU

Web browser
running on
user PC

Dedicated ARCNET

BACnet router

Ethernet TCP/IP

WebOPS

Internet or intranet

PC Workstation

Firewall

Web browser
running on user PC

Specifications and dimensions

Power requirements

24 Vac nominal (19–30 Vac)
50/60 Hz, 1 phase 40 VA minimum
Class 2 transformer required

2 removable time-lag hik-break 2 A 250 V
TR5 fuses

Operating environment

Temperature:
    From 32°F to 122°F (0°C to 50°C)

Relative humidity:
    From 10% to 90%, noncondensing

Storage environment

Temperature:
    From –40°F to 185°F (–40°C to 85°C)

Relative humidity:
    From 10% to 90%, noncondensing

Cabinet

NEMA 1 resin enclosure
Plenum rated

Memory

256 MB of SDRAM
512 MB capacity on compact flash card

Processor

Geode SC100 32-bit x86, 266 MHz

Network

Two RJ-45 Ethernet 10/100 BaseT ports
with auto-detection rate

1 RS-232 port galvanically isolated
(up to 50 V)

Security

Secure Sockets Layer (SSL) protocol

Software requirements

Java 2 plug in 1.4.2 or higher

Web browser:
    Internet Explorer 6 or higher, or
    Mozilla 1.3 or higher

Dimensions

(See Figure 9)

(Height: 8.75 in. (22.38 cm)
Width: 10.25 in. (26.04 cm)
Depth: 2.75 in. (6.99 cm)

Weight

2.5 lb (1.13 kg)

Agency listings/compliance

CE compliance:

    EN61326:1998, Industrial environment
    EN55022 (Emission): Class A
    EN61000-4-2 (ESD): ±4 kV direct,
    ±8 kV air
    EN61000-4-3 (Radiated RF): 10 V/m
    EN61000-4-4 (EFT): AC port ±1 kV
    I/O & comm port ±1 kV
    EN61000-4-5 (Surge): AC port ±2 kV
    I/O & comm port ±1 kV
    EN61000-4-6 (Conducted RF): 10 V
    EN61000-4-8 (Magnetic): 30 A/m
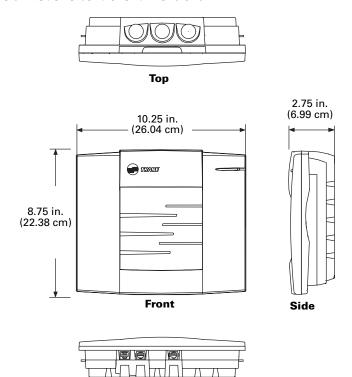   EN61000-4-11 (Power interruption):
    Passed

UL and C-UL listed:

    1950, Information technology
    equipment
    60950, Information technology
    equipment
    UL 94-5V, UL flammability rating for
    plenum use

FCC Part 15, Class A

Figure 9. WebOPS controller dimensions

Top

Front

Side

Bottom

TRANE ®