CELLWATCH
POWERING CONFIDENCE™

Tech20140818-1-2

Network Integration

This application note is intended for anyone planning to install the Cellwatch iBMU onto a corporate network. It should be read by installers and network administrators. Cellwatch has been designed to integrate into your network easily and securely. There are several options that allow remote computers to see data from the Cellwatch IBMU and these options are covered in more detail in the "Cellwatch System Installation and User Manual". The main topic of this application note is to describe the means by which a user would use Windows remote functionality to control and view the system.

Basics

There are two network ports available on the IBMU. A service port for certified technicians and engineers, configured as a static IP and one network port configured as a dynamic IP. The default service static IP address is as follows: 192.168.0.128. Subnet: 255.255.255.0

For the dynamic port, the system is configured for the IBMU to obtain an IP address as soon a valid network is plugged into that port. The dynamic port can be set to a static address using the Network Connections settings under Control Panel.

Putting the iBMU on a Domain may change operating system settings and prevent Cellwatch from performing normally. System level changes and domain settings limit Technical Support's ability to help troubleshoot issues on the system and may void the warranty.

User Account

Cellwatch 5 or later

Starting with Cellwatch 5.0, the Cellwatch software runs as a Windows service on the iBMU and no longer requires user login to start up. The service starts at boot and will run as long as the iBMU is powered on. This means that:

- It is safe to log out of the Windows user account as the service will continue to run
- It is safe to enable Windows user account control (user is prompted for elevated access)
- An admin account is not required to run the Cellwatch service

This differs from previous versions of the software in that it allows the end user more flexibility and access control without interfering with the functionality of Cellwatch.

Note: The Cellwatch user account is still on the iBMU. The default password is the serial number of the iBMU. This password can be changed but be sure to document this change. A recovery account is available to change the passwords of both accounts.

Cellwatch 4 or earlier

The IBMU is designed to boot from a total power fail right through to running Cellwatch automatically. NDSL ships all IBMUs with the Cellwatch software installed under an Administrator account with an automated log in process. Remote access requires a username and password.

The Cellwatch software, hardware, and the operating system have been configured to allow Cellwatch IBMUs to boot into Cellwatch on AC power application in the event that the power fails, caused by catastrophic failure of the UPS or full discharge of the Battery. Hence, if the power to the IBMU fails and is then restored, Windows returns without a log in and Cellwatch starts automatically. In fact, the IBMU does log-in to an Administrator account (cellwatch) with a password (cellwatch). But this is done automatically and silently. **Power should never be cut from the IBMU without shutting down Windows properly first.**

Note: You cannot have multiple logon names and passwords for the IBMU. Interactive logons will close the Cellwatch application. Creating a new password increases the risk of losing the password, and along it, with access to the software and data.

The addition of another user with or without a password to your IBMU will stop Windows Embedded at a login screen and will require human intervention to get Cellwatch running unless further steps are taken. It will also invalidate any warranty for the system.

Remote Desktop

The iBMU can be connected to remotely over Windows Remote Desktop. To remote into the iBMU, place it on a local network using the dynamic LAN port or connect directly with a network cable to the Service LAN port. The dynamic port will take the address given to it by the network while the service port will stay at the default service static IP address (192.168.0.128). With the Subnet mask of (255.255.255.0)

The service port will always be accessible at the 128 address above. When using the service port, place the laptop's IP address on the same address range of 192.168.0.xxx, and the same subnet mask to remote into the iBMU.

Remote Desktop can be found on any Windows machine at Start > Programs > Accessories > Remote Desktop Connection. Input the IP address in the "Computer:" field and connect.

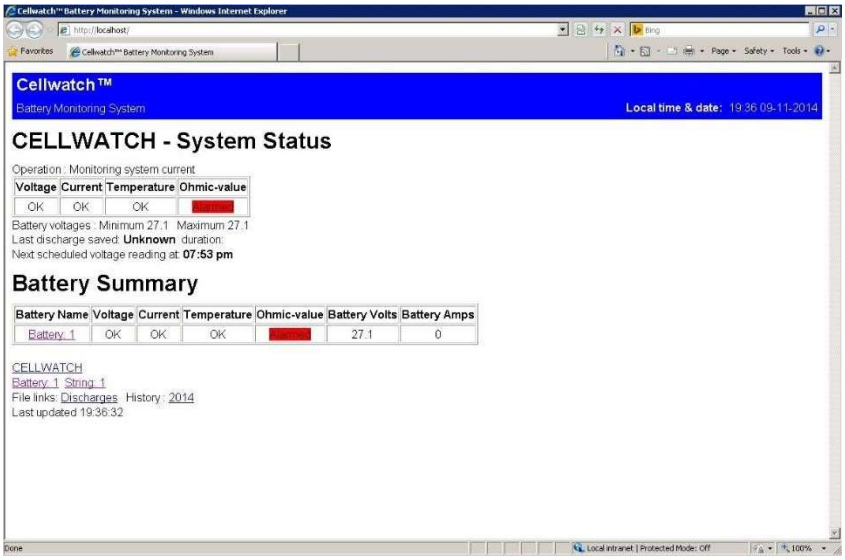
Cellwatch 5 or later:
Username: cellwatch **Password:** iBMU serial number

Cellwatch 4 or earlier:
Username: cellwatch **Password:** cellwatch

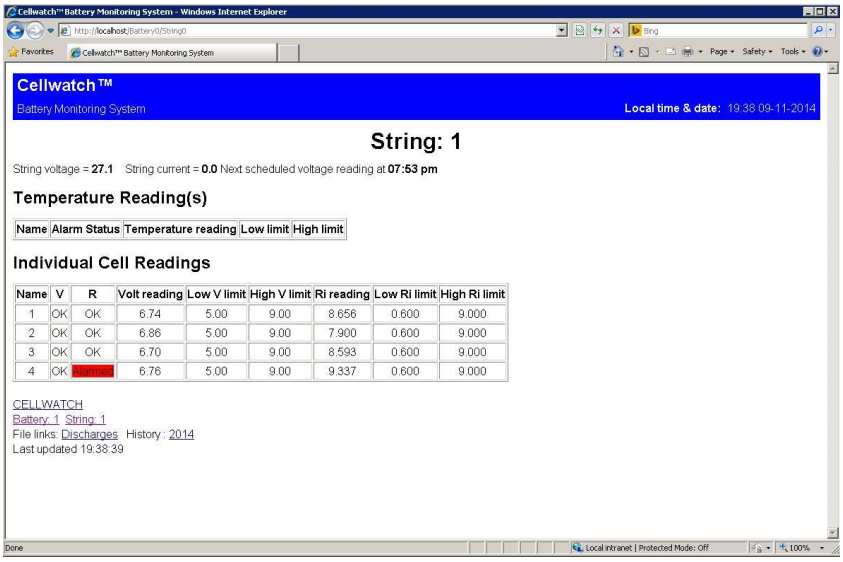
Every Windows Professional machine comes with Remote Desktop and the versions are backwards compatible across Windows versions. Do not log off the user account when ending a session. Close the session using the X on the window. *For Cellwatch 4 users: Never use the log off feature as this will close the Cellwatch user account and stop Cellwatch from scanning.*

Web Server View (HTTP)

The web server view is an option to see a summary of the alarm states and latest readings through a web browser. Allowing access to port 80 (HTTP) on the Cellwatch IBMU will allow any other web browser on the network to review the data posted by the Cellwatch system. This is done by typing in the IP address of the IBMU into the browser address bar in the format "http://IP address" (e.g. http://192.168.0.11). The web view is also available on the IBMU. The IE homepage defaults to the Cellwatch web view output (localhost). Every page is defaulted to update once every 10 seconds.



System summary page – Alarm status on the Battery level. Discharge and History files are available for download directly from the web view. The battery summary page will include the constantly updating current and temperature readings for each string.



String summary page – Alarm status for individual jars with the latest voltage and ohmic readings including the corresponding alarm limits.

BMS Integration

Modbus - TCP/IP port 502

Built into the software. Must be toggled on under “BMS Interface” in Cellwatch. The Modbus register map and detailed instructions for using the available registers can be found in the “Cellwatch MODBUS Gateway Protocol Guide” application note on the appnotes page.

SNMP – Port 161, 162 (Traps)

Standalone application (integrated into Cellwatch software starting with Cellwatch 5) that will run in the background to output SNMP and traps. Additional information can be found in the “Cellwatch SNMP Agent User Guide” appnote on the appnotes page.

Email Alert Client– SMTP ports selectable

The Email Alert Client sends out e-mails to user defined recipients in the event of alarms. This software is free to users for Cellwatch versions 4 and higher and requires separate installation. More details are available in the “Installing Cellwatch Email Alert Client” application note on the appnotes page.

Security

Security options for placing the IBMU on a network are available in the “Security options for Cellwatch iBMU” application note on the appnotes page.

Password summary

Feature	User	Password
Windows Remote Desktop (Cellwatch 5 or later)	cellwatch	iBMU serial number
Windows Remote Desktop (Cellwatch 4 or earlier)	cellwatch	cellwatch
PCAnywhere (legacy, no longer used)	cellwatch	cellwatch
BMS Interface changes		deafcat
Web server secure page	cellwatch	deafcat

Every subject discussed in this application note is expanded in detail in the Installation and User Manual. The most up to date manual is always available at www.cellwatch.com/appnotes.

NDSL

This application note is subject to change without notice.

Visit www.cellwatch.com for the latest contact information for NDSL and Cellwatch Technical Support.