# VERTIV™

## Albér™ Battery Xplorer Enterprise (BXE) Software
Release Notes

### VERSION 4.7 (RELEASE NOTES VERSION 13), OCTOBER 29, 2018

**Release Notes Section Outline**

## 1  Updates for This Release (Version 4.7)

**New Features**

- Alarm support added for Samsung Liion batteries in the BXE software
- DIM now creates default thresholds for Samsung Lithium devices
- Service user can now tag ID and site ID for Samsung Lithium devices
- BXE software database can now be restored from web page

**Enhancements**

- Service user can now view tag ID and site ID for all applicable devices
- Reports now have time stamp, along with date created
- User can now configure and generate scheduled reports
- Scaling improvements were made on the Y-axis on the Intercell resistance graphs to display the thresholds correctly
- Individual location address change is now supported

- WAM connection string improvements were made
- String View Details page now optimized to handle large number of alarms
- All the fields that don't apply for Samsung devices are now grayed out on the Site Manager - Cell and String configuration screens

## 2  Version 4.6 Update Information (8/6/18)

### New Features

- ELSi2 monitoring is now supported when integrated with UXIMe
  - o  Electrolyte level indication added
  - o  Cell temperature readings added
  - o  Alarm notifications added
- ELSi2 controller monitoring state is now available on the String View page
- Hardware manager now provides all the hardware information related to the ELSi2 controller and sensors along with bootloader and firmware versions
- 1-2 string licensing support added
- Last resistance test time now displays in system status screen
- Report scheduler added to tools menu
- Rebranded BXE to Vertiv style

### Enhancements

- Performance improvements made
- Hardware manager is now added to the Advanced Users menu
- Service user now has access to Advanced Users menu
- MSM now shows current monitoring state
- BDS 40 resistance data retrieval improvements made
- Last Resistance Time and Last Discharge Time is now stored in Strings table
- Samsung discharge reports improvements made
- Intertier baseline threshold setup enhancements made
- DIM and WAM connection menu improvements made

## 3  Version 4.5 Update Information (4/6/18)

### New Features

- Extended support added for a large number of Samsung battery racks
- With MSM, users can change the port number in addition to the IP address
- String View now shows last resistance date/time from the historical database
- New Vertiv favicon added to the BXE software
- New tabs open when accessing Report and Site Manager buttons on the String View pages
- New Reports button on the String View page pre-configures the Reports options
- Baseline cell data is now shown on the String Configuration page
- New Hardware Manager page is available in the Administration Access tab

**Enhancements**

- Status and Report page now supports international date/time format
- Added support for status updates and information related to the individual thresholds setting
- MSM updates added to notify users to optimize database
- In Site Manager, added battery and location setting enhancements
- Battery Diagnostic System Universal (BDSU) driver updated to fix missing resistance and missing Intertier tab
- IIS installer fixes added for Local System and Windows Authentication only
- Cell temperature readings on the graphs for the Samsung device are now displayed without spaces
- DIM history imports enhanced to detect pre-existing history
- Session timeout value is now stored in the database rather than in web config file
- Cell individual threshold baseline data is now retrieved from the BXE database even if there are pending changes in the Transaction Manager
- String View Details tab now shows scroll bar when there are more than two graphs
- Battery Diagnostic System (BDS) driver enhancements:
  - Location name change function is revised to no longer occasionally get extraneous letters
  - Changing the installation date is now supported
  - Implemented commands to set individual and intertier threshold of an entire string, and then mark pass or fail on polling
- Discharge temperature bars will now be displayed in red if temperature readings are above the high cell temperature threshold and displayed in green if the readings are below the threshold

## 4  Version 4.4 Update Information (11/28/17)

**New Features**

- Samsung Liion and Liion, LLC:
  - String Detail and Trend SOH added to reports
  - State of Charge Detail and Trend reports added for lithium strings
  - Discharge Low State of Charge and Discharge High Cell Temperature added to Site Manager to view-only scaling on the graph
  - Site Manager - String Alarms has fields to set alarms/thresholds for Low State of Charge and Low State of Health
- String View page:
  - Discharge details tab - confirmation added when deleting discharges

**Enhancements**

- Web:
  - String View – Intertier charts display x-axis numbers only where there are values
  - Resistance Test Manager String View has 75 and 100 added to the strings per page select box
  - Discharge tab - Discharge graph is now twice the height, like the graphs on the other tabs
- BDS/MPM (battery monitoring systems):
  - Introduced Periodic Memory Clear Command to clear the memory full condition
  - BDS/MPM driver now detects when system loses commissioning and reports via string status
  - String Name now allows 20 characters
  - BDS driver updates intertier and inter-cell reading date times with value from Modbus

- o Historical log period and resistance test period command enhancements added to allow a device to store data in persistent storage
- BDSU 50:
  - o Thermal runaway for (cell to cell) alarm is now available
  - o Nightly snapshots enhanced
- Administration Access:
  - o Permission Manager user view now shows all users
  - o In the System Manager, session timeout issues are resolved
  - o Within User Management, any Active Directory user search error messages are now displayed in a pop-up window
- Site Manager:
  - o Cell Alarms - Individual Thresholds page for High Intertier Resistance only shows intertier cells
  - o Critical and Maintenance checkboxes toggle on the String and Cell Alarm Setup page
- Reports:
  - o String Trend Reports improved
  - o Discharge Report start time at top-left of summary now displays the offset from the beginning of the discharge, instead of 00:00
  - o Cell Voltage Details Report data is now in sync with historic data

## 5  Version 4.3.14 Update Information (6/20/17)

### New Features

Samsung Lithium Ion discharge support:

- System Status and Navigation:
  - o User will be able to see all battery systems with string status showing discharge/charging status with links to navigate to battery (system) or string (rack) level
- String View Discharge details:
  - o Discharge Summary with:
    - Start date
    - Duration
    - State of Charge (SOC) Lowest
    - Overall Voltage (OV) Lowest
    - String Current (SI) Highest
    - Cell Voltage (CV) Lowest
    - Cell Temperature (CT) Highest
- Discharge playback with trending of graphs for Cell Voltage and Cell Temperature
- String Summary with trending on the following fields:
  - o Overall Voltage
  - o Current
  - o SOC
- String View Trending Real Time View:
  - o Cell Voltage and Cell Temperature bar graphs with trending

**Enhancements**

- BDS monitor improvements for Memory and Performance enhancements
- Universal Xplorer Cell Temperature (UXCT) support for BDSU 50/ BDSUi-50:
  - Cell Temperature
  - UXCT status
- "Historical data view" improved for Active Directory users
- DIM enhancements added for string removal from a device
- MSM enhancements added to shut down BXE processes

# 6  Version 4.2.0 Update Information (2/17/17)

**New Features**

Lithium ion battery monitoring support:

- System Navigation/Status:
  - User will be able to see all battery systems at top level with links to navigate to battery (system) or string (rack) level
- Battery View:
  - System Status:
    - Battery Status
    - Monitor Status
    - Hardware Status
  - Battery Summary:
    - String Overall Voltage
    - String Current (actual)
    - Cell Voltage Average
    - Cell Temperature Average
    - SOC
    - SOH
  - String Summary:
    - Overall voltage
    - Current (Actual)
    - Current (Average)
    - SOC
    - SOH
    - Cell Summary(Average, lowest and highest)
  - Cell Voltages
  - Cell Temperatures
- String View:
  - String Summary:
    - Overall voltage
    - Current (Actual)
    - Current (Average)

- SOC
- SOH
- Cell Summary (Average, lowest and highest)
  - Cell Voltages
  - Cell Voltage Balancing
  - Cell Temperatures
  - System Parameter Trends
  - String and Cell Level Trends:
    - SOH
    - SOC
    - Cell Voltage
    - Cell Temperature

**Enhancements**

- Resistance warning alarm added for BDS/MPM
- BXE Password Reset option added for Admin account
- Added Database Backup Now button and Refresh button to see the new backup files
- Additional configuration parameters added for Active Directory
- Additional details were added to the error message on the Email Server Configuration page
- Battery View High/Low/Avg corrected
- Last reading value now displays correctly on the String View
- BDS/MPM polling revised to reduce the communication overhead

## 7  Version 4.1.5 Update Information (11/15/16)

**New Features**

- Administration-Permission Manager:
  - Admin can now configure user permissions/ access rights
  - Admin can now assign the batteries/strings to the users
  - Users will now have access only to the assigned systems
  - Regular users will now only have access to battery systems, battery alarms and portable devices
  - Advanced users now have access to Site Manager in addition to the regular user access
- Site Manager-String Configuration:
  - Delete History now available for cell or for strings
  - Base line functionality is introduced
  - Units to the corresponding measurement fields were added
- Site Manager- Cell Alarms:
  - Baseline resistance values are now configurable on the Individual Thresholds page at the cell level and string level
- DIM / MSM:
  - Added ability to import memos, location and baselines
  - Device IP address can now be changed from MSM

**Enhancements**

- Resistance:
    - BXE BDS/MPM Driver Resistance Snapshot now uses time of last resistance test reported from the device
    - Multiple snapshots of resistance for MPM systems are resolved
    - BDS/MPM intertier resistance is now stored in historical data
    - Location information added to the Resistance Test Manager
- Site Management:
    - Location information being sent directly to the database rather than to the device for MPM systems
    - Only single battery/string selection available for Site Manager parameters
- Performance/Display:
    - Access to Battery Historical View has been restored
    - Left side String Readings on String View Details tabs now change when a bar is clicked in the chart
    - Intertier trending on string live view resolved
    - BDSU driver nightly snapshots timer enhanced to prevent multiple snapshots
    - String name is now truncated to show seven characters in Battery View
    - String summary now has a date range selection
- Report:
    - Report now shows a gap in case of missing cells in the String View detail/graph
    - Scaling on trend graphs is enhanced to better display measurement data
- DIM imports:
    - Installation date, manufacturer, model and capacity information is retrieved from imported database
    - Location data information is retrieved from imported database
    - Memos information is retrieved from imported database
- Alarm:
    - Alarm history data is available for the next page selection
    - Alarm count on the system status page shows correctly for all MPM strings

# 8 Version 4.0.4 Update Information (8/24/16)

**New Features**

- Memos for string and cells now available on String View page and Site Manager
- Historical event capture added for BDS, MPM, UXTM and the Alber Universal Xplorer Industrial Monitor (UXIM)
- Site Manager is added with limited device update capabilities
- Graphical analysis added for alarms and reports
- Memos for string and cells added to reports

**Enhancements**

- Changing the cell alarms and string alarms on the first string will now be reflected on the other strings for MPMs (with multiple strings)
- String Capacity is now shown on the String View Page
- Memos navigation and count has been enabled

- Author name is pre-populated on memos and is also editable
- Individual alarms setup is enabled for MPM systems on the Site Manager String Alarms screen
- Site Manager Log and Test Schedules are now supported for the Alber Universal Xplorer Telcom Monitor (UXTM), UXTMs, UXIM, UXIMs, UXBM/5, UXBM/50, UXDM/62, BDS-40, BDSi, BDS-256 and MPM-100
- Auto scaling of Y-axis values added for String View Trending Graphs
- Event Times column header on the Alarm details page now has date format "(MM/DD/YYYY)"
- BXE DB and BDS driver enhancements added for enable/disable commands for historical log and resistance test scheduling
- DIM import enhanced for MPM system with multiple string data
- Duplicate string cell voltages on battery view issue resolved
- WAM configurations file support added for installation on non-standard default folder
- Reports X-axis now displayed correctly on more than ten cells
- Removed string and cell ID information from Alarms Details page
- Active Directory server setting now available on System Manager page
- Active Directory groups now displayed on User Management page
- BDS Trending graphs corrected for zero offset
- Administration and advanced access checked against current user privileges
- Site Manager now handles special characters to prevent site summary report issue
- Arrows added on String Historical View to step through charts
- String View historical pull-down menu now displays the correct reading
- System Status page now allows selection of location pull-down independent of customer selection
- Actual installation date now shown in String View
- Historical bar chart colors are applied according to current threshold values
- Ambient temperature will now display N/A when measurement not available
- Session timeout is now user-configurable
- Display value on system status page now has an "all" option
- Sorting and column resizing now available on System Status page
- Optimized loading of String View historical charts
- DIM deletion of a single device now allowed in a multiple device configuration
- Discharge playback enhanced to view relative to start point and duration
- Resistance test command operation restored
- Detail Overall Voltage Report X-axis now displays correct string number
- Standardized on US format regardless of region set on local operating system
- Resistance test chart now displays scaling enhancements
- DIM fixes for deleting all strings in the system added
- Alarm active bad dates will now be displayed as 1/1/2016
- String Trend Reports now display all graphs per report
- Watermark and date range added for historical charts

## 9  Version 3.2 Update Information

**Enhancements**

- DIM imports for UXTMs now display actual string names
- Missing help files added for discharge alarm links in alarm details page
- Spinner added when importing CRT files
- Displaying of large cell count graphs enhanced to avoid overlays of other graphs
- Battery model data imported when doing a CRT import
- Temperature graph can now display in C˚ or F˚ on String View after CRT import
- User deleted from contact list when user is deleted from BXE
- Contact user list sorted alphabetically
- BDS driver stores individual thresholds correctly to avoid system to incorrectly stay offline
- Battery view temperature now displays in Celsius
- Conversion of C/F only calculated on temperature tabs to avoid wrong values on all other tabs
- Swapping of hardware device enhancement added to the DIM
- Reset and acknowledge alarm feature now successfully sends commands
- DIM now imports string history data that is only associated with existing strings
- User can now selectively import history for each string configuration imported
- Duplicate MPM string names supported
- MPM history import enhanced when referencing strings that no longer exist
- Active Directory user email can now be modified after user creation
- State field increased to 50 characters on customer address form
- BDSU 50 low cell voltage alarms can now be reset and acknowledged
- String deletion enhanced in the DIM to remove commands previously sent
- Notifications are sent when string status changes from normal to critical or maintenance alarm
- Cell trend and power graphs added to Discharge Reports
- Report page loading performance improved
- String View and Battery View loading performance improved

## 10 Version 3.01 Update Information

**Enhancements**

- Added:
  - Active Directory users and groups authentication
  - HTTPS over SSL support
  - BDS discharge data capture
  - From field and ability to clear password on the Email Setup web page
  - Temperature unit selected reflected on all web pages
- Improved:
  - Portable devices import
  - Discharge details web page display

- o String View page refresh (prevents resetting to top of page, string selector)
- o Graphs for trending of data scaling and date
- o Online restored email notifications
- o MSM device signature and HAL device instance assignment
- o UXIM temperature display corrected when not present
- BDS resistance test data now stored in historical database
- Normal operation alarms emails now sent when condition is cleared
- Active and Normalization notification email delay removed
- DIM import of Battery Monitor Data Manager (BMDM) SQL data no longer requires an INI file
- Page size selection now remembered for current web session

## 11 Version 3.00 Update Information

**Enhancements**

- Historical View now only available on String View
- FIPS encryption support integration added
- Now automatically update UXTM/UXIM time on driver start, driver connect and every 24 hours
- DIM Historical alarm import enhanced
- Notifications now show correct temperature unit selected on web page
- Custom UPS link option now available on String and Battery Views

## 12 Version 2.05 (Controlled Release) Update Information

**Enhancements**

- Support for SMTP server authentication added
- Notification temperature now corresponds to what is set on web page
- Historical data now displayed correctly on Historical View based on date selection
- Cell temperature option added to Discharge Reports
- Offline watermark is now shown when a device is offline
- Individual resistance thresholds now shown correctly in String View summary
- Discharge cell temperature data displayed properly in Discharge Playback View
- Historical data button removed from Battery View

## 13 Version 2.04 (Controlled Release) Update Information

**Enhancements**

- Discharge now updates time on status screen for multiple strings for UXTM/UXIM
- *Alarm auto-disabled* now shown on UXTM/UXIM status screen
- Cell temperature displayed on Discharge Reports
- Email server settings now stored properly on the database using the web site, preventing a crash in Configuration Manager
- MSM is now properly saving the Historical DB connection string
- Cell temperature units and values for discharge summary playback and report are now shown properly

## 14 Version 2.03 (Controlled Release) Update Information

**Enhancements**

- Resistance data is now stored in the historical database for Modbus drivers
- Improved WAM/DIM connection to database when not default password and username settings
- Added machine names under help/about for all modules
- No longer stays in "historical mode" after importing CRT data if device is currently being monitored
- Discharge summary now shows discharges greater than 25 minutes
- Added scroll bar for historical date selection
- Fixed issue where importing CRT data to an existing BDS monitored system would cause a crash
- Notification rules checkboxes now save correctly instead of clearing after save
- No longer duplicating the same date/times on discharge details for UXTM/UXIM
- Enhanced discharge data collection for short discharges that last less than one minute
- Added notifications for system online and device online
- Nightly scheduled resistance data snapshots for UXTM/UXIM and BDSU are now being captured
- Added Home link on Discharge Reports web page
- Alarm times on BDS and BDSU systems are shown on local time now (it was originally off by six hours)
- Added Help/About link to login screen
- Reduced alarm notifications of alarms that are changing state frequently
- Overall voltage and string current are displayed in the Discharge Report summary
- "Report created by" option on report now allows user to enter a custom name
- Time, in addition to date, is now displayed on resistance test pull-down list on Resistance tab
- Resistance test snapshot capture improved to prevent UXTM/UXIM driver crashes
- Discharge playback no longer loops at the end of the discharge playback
- Discharge details are sorted by date/time and discharge ID has been removed
- Multiple drivers running on different computers will not cause multiple instances in Task Manager
- Temperature units (Celsius or Fahrenheit) selection option now provided under tools menu
- String analysis option now available for reports
- Discharge Reports format and performance enhanced
- Foreign language Windows systems installation support added

## 15 Version 2.02 Update Information

**Enhancements**

- Improved resistance test button state information and feedback
- Fixed refresh issue when switching between batteries
- Added support for Lithium Ion batteries
- Added capability to generate Discharge Reports
- Enhanced Executive Reports by adding status graphics
- Discharges are now cleared from a device after successful download of discharge data from UXTM/UXIM

- UXTM/UXIM resistance test data now captured to historical database to support trending
- Added enhancements to discharge playback for cell voltages on BDSU

## 16 Version 2.01 Update Information

**Enhancements**

- Added ability to create and customize reports (currently supporting Executive Reports)
- All temperatures now display in Fahrenheit
- Improved on notification overall functionality and quality
- Discharge data collection support added for UXTM/UXIM devices
- Database connection enhanced
- Fixed issued of not displaying all historical data
- Improved support security on newer version of Windows
- Corrected display of string current during discharges
- Enhanced logging of the monitor engine
- Added ability to reset user password
- Correction of measurement values on discharge summary

## 17 Version 2.00 Update Information

**New Features**

- Added discharge capture with playback and trending capabilities
- Added cell parameter trending

**Enhancements**

- Fixes and improvements to notification messages such as improved format and content, added local server time of alarm and improved status information (latch, acknowledged and so on)
- Driver enhancements added to support discharge and resistance test data collection
- Support added for grouping BDSU devices into multiple drivers (new Velocity client support for multiple clients), which allows faster system recovery and less customer impact
- BDSU driver enhancements to recover from interrupted database communication (for instance, Ethernet connection loss)
- Capability to support installation/database migration to a new server
- Improved database connectivity (pooling connections and so on)
- Overall page response and performance improvements

## 18 Version 1.02 Update Information

**Enhancements**

- Resistance test improvements for BDSU [046]
- Cellcorder import improvements [080]
- Corrected alarm event times to show local time [122]

- Battery View enhancements [253]

- Modbus drivers communication improvements [274]

- Historical View updates [284]

- Fixed issue with multiple notification emails [287]

- Added support for Windows Authentication and SQL "sa" account for SQL connections [290]

- 30 day trial activated by default on install [292]

- Fixed problem when importing certain BMDM SQL databases [334]

- Various other internal fixes