DeltaV™ Mobile

- Make faster and better decisions with secure, read-only access to your critical operational data, whenever and wherever you need it
- Stay connected to your operations by monitoring real-time data, trends, and alarms
- Improve situational awareness by receiving proactive alarm notifications
- Streamline workflows by easily combining data from multiple sources into consolidated views
- Facilitate information sharing and leverage subject matter experts, wherever they may be located

Introduction

Would you like to monitor the performance and health of your operations in real time by securely accessing your critical data, on-demand? Do you want to be aware of relevant alarms and events, even when you don’t have easy access to a PC? Would you like to improve productivity and decision making by having an easy way to securely and efficiently share data and collaborate with experts across your enterprise?

Imagine always knowing the status of your operations with secure access to your most important process data, whenever and wherever you need it. With DeltaV™ Mobile, you can have your operations at your fingertips, whenever and wherever you need it. You can also improve situational awareness by being instantly notified about critical alarms on your mobile device or via email, even if you are offsite.

DeltaV Mobile uniquely leverages your existing DeltaV configurations to provide the same richness of data shown on an operator station (alarms, real-time data, historical trends, and more) in mobile screens that are built-for-purpose. You can also remotely view the same graphics your operator is viewing from a web browser. The DeltaV Mobile platform allows you to combine data from multiple historians and systems into consolidated views. All with no additional DeltaV configuration required.

DeltaV Mobile is comprised of the DeltaV Communicator, the DeltaV Portal, the DeltaV Mobile Server, a native app for iOS and Android mobile devices, Web View clients for viewing operator displays and dashboards in a web browser, as well as graphics and mobile configuration applications. Operator displays cannot be viewed from mobile phones.

DeltaV Mobile builds on, extends, and replaces the DeltaV Executive Portal platform by bringing process data to mobile devices in addition to web-based displays. It provides one platform for securely viewing operational data through a variety of delivery mechanisms:

- Monitor real-time process values, diagnostics, alarms, and trends from iOS or Android mobile devices with the DeltaV Mobile app.
- Receive native push or SMS notifications on mobile devices. Email notifications are also available.
- View operator displays and dashboards in a web browser using a PC or Windows tablet with Web View.
**Benefits**

**Have Your Operations at Your Fingertips, Whenever and Wherever You Need it**

DeltaV Mobile provides secure, read-only access to your critical operational data, delivered to the right people, whenever and wherever they need it. It sends real-time data, historical data, and alarms to your mobile device, ensuring you always have the most accurate and current information on hand.

The tight integration with DeltaV systems allows you to leverage your existing DeltaV configurations and easily create customized watch lists that are specific to your needs. Watch lists can also include data from other systems and historians.

With DeltaV Mobile, you can view the process information you need, regardless if it is in a single DeltaV system, multiple DeltaV systems, a separate historian, or even other control systems. It allows you easily combine data from multiple sources into consolidated displays or mobile watch lists.

DeltaV Mobile can access the following data sources:

- OPC.NET DA or OPC Classic DA – access real-time data from control systems and PLCs.
- OPC.NET HDA or OPC Classic HDA – access historical data from control systems and PLCs.
- DeltaV Real-time – directly access real-time DeltaV data.
- DeltaV OPC Alarms and Events – access DeltaV alarms.
- DeltaV Event Chronicle – access DeltaV Event Chronicle information (for Web View only).

**Raise Situational Awareness by Monitoring Alarms in Context with Process Information**

Unlike other notifications products that require extra engineering work only to display limited alarm details, DeltaV Mobile allows you to leverage what you have already configured by securely bringing the rich alarm information from your DeltaV systems to mobile devices. It also provides important process context with alarms, such as trends of relevant process values and recommended actions with DeltaV Alarm Help*.

You can monitor DeltaV alarms in intuitive list views that update in real time as they would on an operator workstation. Advanced filtering capabilities ensure that you only receive the alarms that are relevant to you.

- Create customized alarm lists based on filters such as area, equipment, module, category, priority, or functional classification.
- Be instantly aware of alarm state, priority, and acknowledgement status with intuitive alarm icons.
- Toggle between annunciated and suppressed alarms.
- View alarms in context with relevant trends and DeltaV Alarm Help.*

* DeltaV Alarm Help is an option available with the DeltaV Distributed Control System.
Stay Up-to-Date with Smart, Proactive Notifications

DeltaV Mobile proactively notifies you about DeltaV alarms, even if you’re offsite, so you can stay current with real-time information. Unlike other notifications solutions that only send a vague message about an alarm, DeltaV Mobile provides the same detailed alarm message that an operator would receive.

DeltaV Mobile allows you to respond faster to abnormal situations by quickly connecting you to the mobile screen in context for that notification. Deep links redirect users to a specific view in a mobile app rather than simply launching the app. Using deep links, DeltaV Mobile notifications connect you directly to the relevant, real-time alarm details for that alert.

Mobile push notifications are sent through the Microsoft Azure Notification Hub and require the DeltaV Mobile Server to have internet access. You do not need to have a Microsoft Azure account, and none of your data is stored in Azure. It is simply a routing mechanism for notifications to reach your mobile device, wherever you may be located.

Email and SMS notifications are also supported. Recipients can include users that do not have the DeltaV Mobile app on their mobile devices. These notifications are routed through an SMTP email server and do not require internet access. Unlike mobile push notifications, they do not link directly to alarm details.

With DeltaV Mobile, you can:

- Tap or swipe on a notification and automatically view the real-time alarm details and DeltaV Alarm Help*.
- Throttling settings ensure that you are not flooded with alarm notifications.
- Select the frequency of notifications or disable them altogether.
- Select the level of alarm detail displayed in notification messages.

Gain Insights by Analyzing Historical Trends

DeltaV Mobile delivers a premium usability experience by optimizing views of historical data for mobile screens and leveraging your mobile device’s native touch screen functionalities, allowing you to manipulate trends for further analysis.

DeltaV Mobile also features responsive views. When the mobile device is turned from portrait to landscape view, it expands the entire chart to landscape mode, where touch gestures can be used to analyze and explore the data.

- Optimized layout for viewing trends on mobile screens.
- Versatile, responsive viewing options that support portrait and landscape modes.
- Use touch gestures to zoom in on areas of interest or pan side-to-side for detailed views.
- Easily select or toggle between time spans, depending on how much history you need to see.
- Select which data to display on trends and customize Y-axis scaling as you see fit.

* DeltaV Alarm Help is an option available with the DeltaV Distributed Control System.
Easily Create and Assign Lists and Notifications from a Web Browser

DeltaV Mobile includes an HTML5 browser-based application called DeltaV Mobile Studio that allows you to configure watch lists, alarm lists and notifications. Simply browse your DeltaV hierarchy and select the critical data and alarms that you want to monitor and receive as notifications. It has intuitive interfaces and filters that are easily applied to create customized lists, assign users to lists, set notification preferences, and register devices.

Streamline Operations by Enabling Collaborative Workflows

DeltaV Mobile facilitates information sharing with in-app collaboration, allowing you to better leverage your team and subject matter experts, wherever they may be located. You can easily share process data and alarm information directly from the DeltaV Mobile app, enabling secure collaboration across the enterprise.

- Sharing a link with other DeltaV Mobile users directs recipients to the same live mobile view that you sent, so you can look at the same synchronized information that is updating simultaneously in real time.
- Links can be shared via email or text message.
- Screenshots of alarms, process data, and trends can also be easily shared via email or text, even if the recipient doesn’t have the DeltaV Mobile app.

View Operator Displays and Customized KPI Dashboards from a Web Browser

With the DeltaV Mobile platform, you can use Web View to view DeltaV displays and create your own customized dashboards from an Internet Explorer browser.

The DeltaV Operate display conversion tool allows you to easily select the existing displays that you wish to convert and import them. Because imported displays are built with DeltaV graphics components (i.e., rectangles and lines), you can simply augment the displays in the Graphics Studio application with no need to change them.

Easily monitor your process from an Internet Explorer browser with Web View. View existing DeltaV displays or create your own displays with dashboard gadgets.
Choose from one to multiple Web View users to concurrently view displays and dashboards from their PCs and/or Windows tablets. Once a user logs off, the license becomes available for another user.

- Easily convert, modify, and view operator displays and customized dashboards in a web browser.
- View DeltaV alarm status, display static shapes, real-time data, common display animations, and trends.
- Create your own dashboards using the library of pre-built display gadgets, or design your own gadgets in the Web Studio application.

**The DeltaV Mobile Platform has Built-in Security**

The DeltaV Mobile platform is designed with security in mind. Transferring your critical data to mobile devices utilizes several key aspects of secure connectivity: a multi-level segmented architecture, user authentication and authorization, and encryption.

**Read-Only Access and Multi-Level, Segmented Networks**

Whether viewing lists on your mobile phone or graphics in a web browser, DeltaV Mobile is strictly read-only, preventing users from inadvertently affecting operations. DeltaV Mobile topologies accommodate access at each level in the architecture to be isolated by firewalls, necessary Authentication and Authorization-Audit (AAA), and layered security.

As shown in Figure 1, the DeltaV Portal connects to the Application Station on the DeltaV network via the DeltaV Communicator. A single DeltaV Portal can connect to up to 5 DeltaV systems, provided that a DeltaV Communicator is installed on the Application Station of each DeltaV system. When only connecting to one DeltaV system, the DeltaV Portal can also be installed on the Application Station.

The DeltaV Communicator transfers alarms, real-time data, and historical data to the DeltaV Portal across a firewall between Levels 2 and 3. These levels may vary depending on your existing network structure. Data is then transferred from the DeltaV Portal to the DeltaV Mobile Server, where it is arranged into lists and sent to mobile devices. Both the DeltaV Portal and the DeltaV Mobile Server can be installed on virtual machines.

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*Figure 1. Example of 3-Tier DeltaV Mobile Architecture.*
Mobile devices can connect via local Wi-Fi or with secure VPN to Wi-Fi connectivity. DeltaV real-time process data, historical data, and alarm lists are not sent through the internet. Only mobile push notifications connect through the internet, and users have an option to disable them. Notifications may still be received via email and SMS text messages.

**Built-in Flexibility to Accommodate Various Deployment Scenarios**

Deployment can vary depending on your existing network architecture and how you plan to use DeltaV Mobile.

If you would like to access DeltaV Mobile and receive mobile notifications while onsite from a Level 4 Wi-Fi connection or while off-premise with secure VPN connectivity, you may prefer the 3-tier architecture shown in Figure 1. This involves installing the DeltaV Portal on Level 3, and the DeltaV Mobile Server on Level 4.

The DeltaV Portal and the DeltaV Mobile Server can also be installed on the same computer at Level 3, as shown in Figure 2. There are various reasons that you may wish to utilize this 2-tier architecture:

- You are primarily interested in using Web View to view browser-based displays and dashboards.
- You only want to use DeltaV Mobile on-site with Wi-Fi, or you do not want to have access to the internet. In this case, you would not receive mobile push notifications. You would still be able to receive email and SMS notifications.
- You only want to maintain one server machine on Level 3.

![Figure 2. Example of 2-Tier DeltaV Mobile Architecture.](#)
User Authentication and Data Encryption

With DeltaV Mobile, you decide which users are allowed access.

For usage of the DeltaV Mobile app, users are authenticated by registering their mobile devices using a Device ID and supplying valid login credentials. This process ensures that only a registered phone with an authenticated user can access the DeltaV Mobile Server. Built-in security features include:

- Two-factor authentication: whitelisting by device in combination with user credentials, validated against Active Directory or Windows Workgroup credentials.
- The DeltaV Mobile Server and DeltaV Portal require server certificates for server identity-based validation.
- DeltaV Mobile transfers data via encrypted secure communication channels. All data sent to mobile devices is encrypted using a certificate that is provided by the DeltaV Mobile Server and transmitted over HTTPS.

PC Specifications

For best performance, the following PC specifications are recommended for the DeltaV Mobile Server and the DeltaV Portal. Note that both servers may reside on virtual machines.

- Hard Drive – configured as RAID 1 Arrays (size depending on computer model).
  - 128 GB or greater
- Memory – 16 GB
- Processor – (depending on computer model):
  - 2.00 GHz, minimum of 4 cores
- One network interface card is needed for both the DeltaV Portal and the DeltaV Mobile Server.

If you are deploying DeltaV Mobile with a 2-tier architecture as shown in Figure 2, the PC memory specification is increased to 20 GB as both the DeltaV Portal and DeltaV Mobile Server will reside on this machine.

Other Specifications

- For e-mail and SMS notifications, a connection to an e-mail server that supports SMTP based e-mail delivery is required. SMS notifications require a cellular modem if no internet connection is available.
- Mobile devices that are to receive SMS notifications must support text messaging.
- The DeltaV Communicator must be installed on the same DeltaV Workstation (either the Application Station or the Professional Plus) as the DeltaV Continuous Historian. No additional OPC Alarms and Events Server license is required.
- DeltaV Mobile performance may vary depending on network performance, PC hardware, internet connectivity, and complexity of data.

Compatibility and Sizing

DeltaV Mobile is compatible with DeltaV v11.3.1, v12.3.1, and v13.3.1.

### DeltaV Portal can be installed on the following DeltaV workstations

- DeltaV v13.3.1 Application Stations when using Microsoft Windows 10 (64-bit) or Microsoft Windows Server 2016 (64-bit)

### DeltaV Portal and DeltaV Mobile Server can be installed on the following operating systems

- Microsoft Windows Server 2016 (64-bit)
- Microsoft Windows Server 2012 SP2 or greater (64-bit)
- Microsoft Windows Server 2012 R2 SP1 or greater (64-bit)
- Microsoft Windows 10 Professional (64-bit)
- Microsoft Windows 10 IoT Enterprise 2016 LTSB (64-bit)
DeltaV Mobile Studio for configuring mobile lists and registering devices can be viewed using the following browsers

- Microsoft Edge
- Google Chrome
- Mozilla Firefox

Web View clients for web-based graphics can be viewed using the following browser

- Microsoft Internet Explorer v11

DeltaV Mobile is supported with the following mobile devices and operating systems

- iOS mobile devices: iPhone 5s, 6, 6s, 6s Plus, 7, and 7 Plus
- iOS operating systems: iOS 9 and newer
- Android mobile devices: Samsung Galaxy S5, S6, S7, S7 Edge, S8, S8 Edge, Note 5, LG G5, LG G6, Google Pixel XL, and Sonim/ecom Mobile Safety Phone (Smart-Ex 01)
- Android operating systems: Lollipop and newer

Ordering Information

DeltaV Mobile can be purchased either as a perpetual license or an annual subscription. DeltaV Mobile users are counted on a named user basis. Each named user can register up to 3 mobile devices that can access the DeltaV Mobile app. Web View sessions are counted on a concurrent basis.

Perpetual Licenses

<table>
<thead>
<tr>
<th>Description</th>
<th>Model Number</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DeltaV Mobile Platform - Base Package for 5 users</strong></td>
<td>VFDVMPSYS005</td>
</tr>
<tr>
<td>Required DeltaV Mobile base components, including five (5) DeltaV Mobile named users, one (1) Web View session, and a connection for one (1) DeltaV system. Select add-on licenses below.</td>
<td></td>
</tr>
<tr>
<td><strong>DeltaV Mobile Platform - Base Package for 25 users</strong></td>
<td>VFDVMPSYS025</td>
</tr>
<tr>
<td>Required DeltaV Mobile base components, including twenty-five (25) DeltaV Mobile named users, one (1) Web View session, and connections for up to three (3) DeltaV systems. Select add-on licenses below.</td>
<td></td>
</tr>
<tr>
<td><strong>Additional DeltaV Mobile Users (1, 5, 10, 25, or 50 users)</strong></td>
<td>VFDVMPAPP0XX*</td>
</tr>
<tr>
<td>Web View for web-based graphics and dashboards</td>
<td></td>
</tr>
<tr>
<td>Consumed when a Web View client is open in Internet Explorer. Multiple windows from the same user require multiple sessions. Counted on a concurrent basis.</td>
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<tr>
<td><strong>Web View Sessions (1, 5, 10, 25, and 50 sessions)</strong></td>
<td>VFDVMPWVXX</td>
</tr>
<tr>
<td>Additional Data Connections</td>
<td></td>
</tr>
<tr>
<td>Consumed by each data connection to another data source, such as an OPC server.</td>
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</tr>
<tr>
<td>1 DeltaV Mobile Data Connection for 1 additional DeltaV system</td>
<td>VFDVMPDVUPSO1</td>
</tr>
<tr>
<td>1 OPC Real-time Data Connection</td>
<td>VFDVMPISDA</td>
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<tr>
<td>1 OPC Historical Data Connection</td>
<td>VFDVMPISHD</td>
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*XX represents the number of additional users or sessions.
Annual Support for Perpetual Licenses

<table>
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<tr>
<td>If you do not currently have Guardian support for your DeltaV system, you can keep DeltaV Mobile up to date with the latest changes by purchasing support for DeltaV Mobile on an annual basis. Support prices are based on the total number of DeltaV Mobile named users.</td>
<td></td>
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<tr>
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<tr>
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<td>VFDVMPGS25</td>
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<tr>
<td>Annual support for up to 50 users</td>
<td>VFDVMPGS50</td>
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Subscriptions

Subscription licenses can be renewed on an annual basis and include any product enhancements included with the subscription license model number and support.

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**These model numbers are for customers that have active Guardian Support for DeltaV. Subscriptions that include support for DeltaV Mobile are also available for customers without active Guardian Support for DeltaV.

* XX represents the number of additional users or sessions. These model numbers are for initial subscriptions only; model numbers for annual subscription renewals are listed separately in the price book.

Annual Support for Subscriptions

Support for DeltaV Mobile is already included with all subscription purchases.

Other Notes

DeltaV Mobile is a read-only application for viewing data and receiving notifications. It is not designed for 24/7 continuous use or as a replacement for operator workstations, and it should not be relied upon for control.