

Direct Access™ Toolbox

For use with MATLAB® and the PI SDK™

INTUITIVE

Function names and syntax are straight forward for MATLAB users and familiar for PI System users.

OPTIMIZED

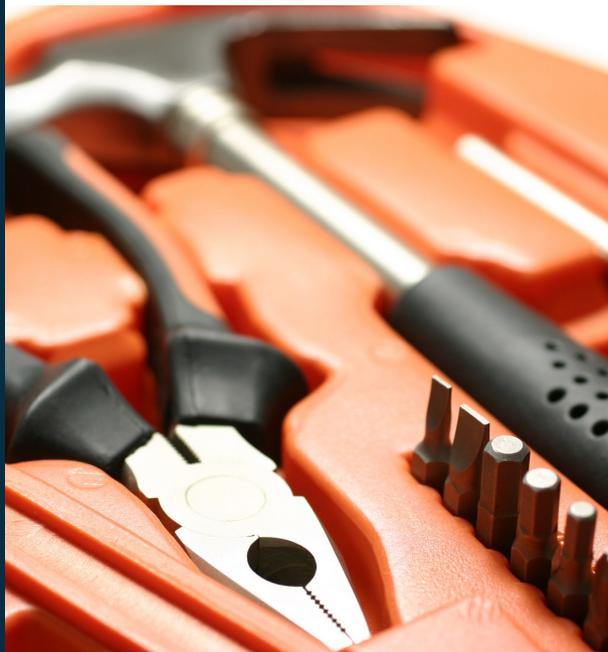
Direct Access is designed to minimize over-the-wire calls and data transformation operations in order to maximize function throughput.

SECURE

Standard PI System security mechanisms, such as identities and mappings, enable Active Directory integrated security based upon the MATLAB users' Windows credentials.

INTEGRATED

Deployed as a Toolbox for MATLAB, Direct Access installs quickly and provides help and documentation using standard MATLAB conventions.



- MATLAB script functions for importing data from your PI System™ into numeric vectors and matrices
- Supports reading, writing, editing, and deleting of PI point data for properly authenticated and authorized users
- Includes sampled, compressed, summary, snapshot, and archived data queries
- Easily choose from value, timestamp, and status return vector variables
- All values are numerically typed according to tag type, all statuses are strings, and timestamps can be UTC seconds or user defined string formatted local time

Are you tired of writing SQL queries to try and get your PI System data into MATLAB for analysis? Is the performance of importing that data less than you had hoped? Wait no longer, Direct Access is here!

```
>> cdt = getpoints('cdt158')
>> temp = sampled(cdt, '*-7d', '*', '1m');
```

It's just that easy! Now you have a vector named *temp* with 1 minute samples of the temperature over the past seven days. It is just as simple to get data from a group of points into a matrix of values.

```
>> pts = getpoints('u1*pressure')
>> temp = sampled(pts, 'y', 't', '10s');
```

Spend more time working with your data and less time trying to import it. The Direct Access Toolbox simplifies the integration of MATLAB with data in your PI System, and provides the best performance available today.

The Direct Access Toolbox boils the data integration down to three key items: point, query, and parameters. The first is the point reference to be brought into MATLAB, with several functions included to assist with this process: *point*, *getpoints*, *tagsearch*, and *attsearch*.

The second item is the Direct Access function that will execute the data transaction, with *snapshot*, *archived*, *compressed*, *sampled*, *summary*, *update*, and *remove* functions included in the toolbox.

The last item involves the query parameters, which can include timestamps or time ranges, intervals, and other query specific settings.

ABOUT US

Founded in 1998, DLL Solutions is focused on providing services and products to users of the OSIssoft PI System.

For more information on any of our products or services please visit us on the Web at:

www.dllsolutions.com

or email us at:

info@dllsolutions.com

Direct Access Toolbox Features and Benefits



- Fast. Over 150k floating point events per second¹ imported from LAN-based PI Systems, which will reduce the execution time of your data intensive algorithms.
- Native. Your data is imported as numeric vectors, not as cells, so it is immediately usable with existing MATLAB functions. Works with both 32 and 64-bit installations².
- Natural. Functions and parameters use a syntax that is common amongst PI-based applications.

¹ Performance may vary based upon many factors including network latency, server specifications, and data density.

² The Direct Access *tagsearch* function, which provides the common interactive dialog used within PI SDK applications for searching tags, is not available in 64-bit instances of the MATLAB application. It is available only within 32-bit instances of MATLAB, even when executing on a 64-bit operating system. The *attsearch* function, which provides the common interactive dialog used within AF SDK applications for searching element attributes, will only import attributes with an underlying PI point.

System Requirements

- MATLAB 7.5 (R2007b or later)
- OSIssoft PI SDK 1.3.8 or later and appropriate PI System Access (PSA) license(s)
- Microsoft Windows® operating system
- The *attsearch* function requires the OSIssoft AF SDK to also be installed

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