1.0 OVERVIEW

The following information will detail the new features and modifications that have been made to the TDS32OPC version 6.23.2 application.
2.0 INSTALLATION

2.1 System Requirements

The following table shows the minimum software and hardware requirements for installing and running the TDS32OPC version 6.23.2 application.

| Operating System  | EFM/RTU – Windows® XP (SP2 or later), Windows Vista
<table>
<thead>
<tr>
<th></th>
<th>NGC – Windows XP (SP2 or later)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microprocessor</td>
<td>Pentium IV or equivalent</td>
</tr>
<tr>
<td>Memory</td>
<td>2 GB</td>
</tr>
<tr>
<td>Hard Disk Space</td>
<td>50 MB (data storage excluded)</td>
</tr>
<tr>
<td>Disk Drive</td>
<td>CD/DVD ROM drive</td>
</tr>
<tr>
<td>Video Adapter</td>
<td>SVGA or higher resolution</td>
</tr>
<tr>
<td>Pointing Device</td>
<td>Microsoft Mouse or compatible pointing device</td>
</tr>
</tbody>
</table>

2.2 Database Requirements

The following table summarizes the database size limits for different SQL versions and contrasts those with Access, the default database used by TDS32OPC. TDS32OPC supports SQL as well. If the customer anticipates their database size to exceed 1 GB, then the customer must consider switching to SQL as their database. The appropriate SQL version will depend on the expected database sizes which will be determined by the frequency of data collection, the type of data and the number of devices deployed.

<table>
<thead>
<tr>
<th>Database</th>
<th>Database Size Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access</td>
<td>1G</td>
</tr>
<tr>
<td>SQL 2005 Express</td>
<td>4GB</td>
</tr>
<tr>
<td>SQL 2008 R1 Express</td>
<td>7GB</td>
</tr>
<tr>
<td>SQL 2008 R2 Express</td>
<td>10GB</td>
</tr>
<tr>
<td>*MS SQL Only Compatible</td>
<td>*Depends on Application</td>
</tr>
</tbody>
</table>

NOTE: TDS32OPC is not compatible with any other database products other than Microsoft Access and SQL. For example MySQL, Oracle, and other products are not supported.
2.3 Installing TDS32OPC Version 6.23.2

*Important*: Close all programs except for Windows when installing the software.

1) Load the Totalflow application disk in the CD/DVD drive. The InstallShield Wizard will initialize.

2) A Welcome dialog box displays. Click the Next button.

3) A Customer Information dialog box displays. The user will need to enter in a user name, company name and the serial number that was provided with the disk. Upon completion, click the Next button.

4) The Choose Destination Location dialog box displays. If needed, the user can change the location of the destination folder by clicking the Browse button; otherwise, click the Next button.

5) The Setup Type dialog box displays. The user can the make a selection based on what their specific needs are. If there are multiple users and/or computers that need to have the application, place a check in the Install for All Users checkbox. If this is an update to a pre-existing TDS32OPC application, DO NOT place a check in the Override Existing Registry Settings checkbox. The Integrate with WinCCU checkbox enables the user to adopt the directory paths that were established in WinCCU for use with the TDS32OPC. If this is something that the customer prefers to do, place a check in the corresponding checkbox. Once the preferred selections have been made, click the Next button.

6) The Select Program Folder dialog box displays. This establishes a program icon within the user’s Program folder. The default name is set to Totalflow TDS32. If the user wants to allow this as the default, click the Next button; otherwise, rename the folder, and click the Next button.

7) The program will begin loading. After it finishes the installation, click the Finish button to complete the process.

3.0 NEW ADDITIONS

The following information represents the new features that have been added into TDS 6.23.2:

3.1 New Features

The scope of the debugging feature (Register Based Logging) has been expanded.
4.0 MODIFICATIONS

The following information will detail the modifications that have been made to the TDS32OPC 6.23.2 software.

- 4323 – TDS unable to create a long term database in SQL. This problem has been resolved.

5.0 PREVIOUS ITERATIONS

The following information represents the modifications that have been made to past iterations of TDS32OPC.

5.1 TDS32OPC 6.23.1

- 4323 - TDS does not create a new SQL LTDB and may crash. This issue has been corrected.
- 5564 - SQL Server with network glitch could cause LTDB to stop updating unless TDS is restarted. This issue has been resolved.

5.2 TDS32OPC 6.23

- 5028 – Fixed issue where running multiple poll groups that were overlapped in time caused TDS to crash.
- 5039 – Fixed random occurrence of garbage characters within the System Setup Directory paths.
- 5458 – A TDS crash was taking place and was caused by insufficient data for certain meters in the taisvr.dat file. This was found to be caused by the data persistent feature being enabled. This has been corrected.
- 5476 – Multiple occurrences of TDS crashing were reported and were found to be related to network connections. Those that were able to be duplicated have been addressed and corrected within the latest version of TDS.
- 5477 – It was discovered that the length of GroupName = 10 was causing Pollgroup errors. This has been resolved.
- 5480 – Random TDS crashes were reported within normal meters. This was caused by non-existing extra characteristic data. This issue has since been corrected.
- 5482 – When a DDE Statistic Device Poll was taking place on a device with insufficient Access privileges, caused TDS to crash. This has been resolved.
- 5502 – Tags with "_TM" were causing TDS to crash. This has been corrected.
- 5506 – DDE poke command for certain tags that were initiated before Device Setup command caused TDS to crash. This issue was addressed.
- 5524 – Performed Sanity check on floating point extra data items for Daily, LogPeriod And Characteristic records, to avoid WinCCU crash, related to TDS LTDB updates
5.3 TDS32OPC 6.22

- Various changes were added to WinCPC that will enhance the software. The revision was updated 7.0.6.

5.4 TDS32OPC 6.21

- TFVscan was modified to check for the correct version number. All TDS related DLLs will now show the correct version.

- 4517 – In the latest iteration of TDS32OPC, the conversion of old templates to XML that did not contain any template areas has been corrected.

- 4856 – In the last version of TDS32OPC, if the user attempted a Demand Scan for the register array, the Entry value for the data type INT32 was displayed improperly. This has since been corrected. The Entry format must be set to %10d, %9d, etc., for integers and %10.3f, %8.3f for decimals.

- 4865 – In the prior version of TDS32OPC, if the user elected to perform a Demand Scan for the register array, the Entry value for data type Date/Time was displaying improperly. It was deduced that when the user was in the template, the Entry format must be set to Julian70 for dates.

- 4878 – In the previous iteration of TDS32OPC, there was a display conflict for the Demand Scan selection that was between the Device Setup and Current Measurements. This issue has since been resolved.

- 4880 – An issue was discovered within TDS32OPC when the software was running on Windows 7 and writing to an Access database. These actions caused the system to crash randomly. This has been corrected in the latest iteration of the software.

- 4904 – In the last version of TDS32OPC, the software was crashing in relation to the NGC device type and if the user was attempting to poll for data that was not available from an NGC. This has been corrected within the latest version of the software.

- 4917 – During template conversion, there was an issue with Alarm slot assignments. This has been corrected within the latest iteration of the software.

- 4908 – When a poll group was scheduled to get current measurement data, TDS would display erroneous dates on data associated with device setup. This issue has been corrected.

- 4922 – Corrected issue where TDS was not storing unsigned integer 16 and unsigned integer 32 to the Long Term database correctly. Corrected same issue with Persistent Data Base feature.

- 4948 – Corrected TDS display issue with a very large, unsigned integer 16 and unsigned integer 32 parameters.

- 4955 – Corrected issue where if a meter does not support valve control, yet is part of the group which is being polled, then after the polling is complete, VCB-Poll data for any meter would not work.
5.5 TDS32OPC 6.20

- 69 – In the previous iteration of TDS32OPC, the CAP_XX values were not being stored in the Persistent file. This alarm persistent issue has been corrected in the latest version of TDS32OPC 6.20.

- 71 and 1688 – In the last version of TDS32OPC, when the Create Temporary Poll Groups feature is turned on, not only is the meter that is not in a scheduled poll group added to the temporary poll group, but all meters that have a point requested by the client are added to the poll group. This was causing the software to crash by overloading the temporary poll groups. This has been corrected in the latest iteration of the software.

- 1074, 4392 and 4425 – There were multiple errors that were encountered within the context-sensitive help files. These have been corrected in the latest version of TDS32OPC.

- 3218 – In previous versions of TDS32OPC, when the program was installed under the Program Files, the software would respond with an error message: “Unable to Load Shared TAI Comm Object.” However, the software will install properly and run correctly when installed in the default TDS32OPC folder. The problem revolved around TDS32OPC not recognizing the character space between the Program and Files folder name. This has been corrected in the current version of the software.

- 3357 – In the last iteration of TDS32OPC, when the user performed a demand scan for a LMC, they would have to select FCU as the device type in order to get data back. If the user selected LevelMaster as the device type, they would not receive errors, but they would also not receive any data. As such, the LevelMaster device type has been removed in the ID Manager to reduce confusion.

- 3490 – Prior versions of TDS32OPC allowed status data to be stored in the Long Term database on a demand scan or scheduled poll. This feature was missing from the last version of the software. This has since been added into the current version of TDS32OPC.

- 3490 and 4444 – With the prior version of TDS32OPC, there was no data output to the SQL Long Term database, while the Access Long Term database was operating correctly. This has since been corrected in the latest version of the software.

- 3699 – An issue was corrected within TDS32OPC wherein the user would have to shut down and then restart TDS32OPC after editing com ports or com types.

- 4291 – In the prior version of TDS32OPC, it was discovered that some tags in the software do not return the correct time stamp and instead return the date of Dec 31, 1969. This has been corrected in the latest version of the software.

- .4391 – In prior version of TDS32OPC, when the user elected to perform a demand scan to return the Valve Control parameters on a G4 XFC, the user would receive an “Invalid Argument” error message. It was discovered that the software was reading the app table to see what application Valve Control was, and it was only reading 100 apps from the device. As Totalflow recommends setting the first instance of the Valve Control in slot 101 of the application table, this was what was causing the error. This has since been corrected in the latest version of TDS32OPC.

- 4412 – In the last iteration of TDS32OPC, when the time was set in a G4 device, the clock on the device was off by one (1) hour. This issue has been corrected with the latest version of the software.

11/30/2012
• 4420 – In the previous iteration of TDS32OPC, the Database Persistent option did not work when the software was loaded onto a Windows 7 machine. This issue has since been corrected in the latest version of TDS32OPC.

5.6 TDS32OPC 6.01
This is a maintenance release of TDS32OPC.
• 3172 – Fixed the formatting of the parameter FCU_SW_REV.

5.7 TDS32OPC 6.0
This is a maintenance release of TDS32OPC.
• TDS32 (Wonderware Toolkit) is no longer supported or included.
• Compatibility issues have been resolved with WinCCU 6.x.
• Fixed issue with large (G4) templates.

5.8 TDS32OPC 5.22 and TDS32 5.22
This is a maintenance release of TDS32 and TDS32OPC. The following issues are addressed.
• Issue resolved which results in TDS generating a message that indicates a failure to connect to the ID database. This is the result of TDS being overloaded with requests to schedule polls.
• Issue resolved which results in bad values being displayed for registers being requested by the TDS user interface.

5.9 TDS32OPC 5.21 and TDS32 5.21
This is a maintenance release of TDS32 and TDS32OPC. The following issues are addressed:
• This release corrects the issue that results from requests for bad or nonexistent IDs.
• This release corrects the reporting of device statistics.
• This release corrects the issues with Alarm Cryout and Alarm Exception.
• This release corrects the issue with CPC logging Cryout Alarms.

5.10 TDS32OPC 5.2 and TDS32 5.2
This is a release of TDS32 and TDS32OPC and provides compatibility with XSeries flow computers and WinCCU 5.1. The support required for this compatibility is the ability to handle template files from WinCCU 5.1 (for XSeries) which support large register numbers and IDs which access tubes other than tube 1. The new list group format in the ID database from WinCCU 5.0 and 5.1 is also supported.

5.11 TDS32OPC 4.13 and TDS32 4.13
This is a maintenance release for the 4.1 version of TDS and TDSOPC that includes the following:
• Corrected the issue which would prevent a group poll from finishing (due to multiple groups running) or lock up a poll (due to register downloads).
• Added a log file directory and created log files which roll on a daily basis for a week, creating log files with the extensions .sun, .mon, .tue, .wed, .thu, .fri, .sat.

5.12 TDS32OPC 4.11 and TDS32 4.11

This is a maintenance release for the 4.1 version of TDS and TDSOPC that includes the following:
• New version of the Rockwell Toolkit which adds full OPC rev 2 compliance.
• Corrects the issue on the rolling averages for the communication statistics.

5.13 TDS32OPC 4.1 and TDS32 4.1

This revision of TDS32 implements the following enhancements:
• Concurrent group processing in which communication ports are kept busy as opposed to the old system in which groups were processed one at a time.
• Cryout and Exception Alarm processing in which the TDS32 replaces the WinCCU alarm processing and makes tags available for configurable alarms, processed either by cryout or exception.
• Poking a mixture of register data and tag data now operates correctly.
• For Wonderware users, TDS32.exe is the Wonderware toolkit version of the server. This version of the toolkit requires the installation of the Wonderware common components. This is accomplished by running setup under FS2KCOMM/IOSERVER/Common/Win32 on the CD.