

# Technical Note

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## Vertex Software Package 1.25.5 Release Notes

1998-0883 Rev 1  
November 2014

Consistent with our commitment to continuously evaluating and improving our products, **Honeywell Analytics** is proud to announce the release of **Vertex software version 1.25.5**, which is a **recommended update for Vertex and Vertex M** units. This revision is fully backward compatible.

Building on improvements created in **1.25.4** for Vertex and Vertex M, software version **1.25.5** further enhances the ability to detect and identify non-gas events via a new feature called "Virtual Reference." "Virtual Reference" is configurable by Rack in the Configuration setup utility. When triggered due to a possible detected gas concentration, this feature makes readings on several new windows (a virtual reference) to confirm the validity of the concentration. The virtual reference algorithm reduces the possibility that a non-gas event will result in a false concentration or alarm.

### Software Change Summary:

1. Add Virtual Reference check to the monitoring process.
2. Modify ALDE detection algorithm to improve detection of LED events.
3. Improve Chemcassette® Tape days remaining calculation.
4. Modify manual to reflect changes in 1.25.5.

### Detail Description:

1. A new feature called Virtual Reference has been added. This feature is intended to confirm an event is a real gas event.
  - a. The new Virtual Reference test compares multiple Window Zero values to determine if the current concentration is due to real gas or something else. The key features are:
    - i. The Virtual Reference test is triggered when the concentration reading passes  $\frac{1}{4}$  TLV.
    - ii. When a Virtual Reference test is initiated, several windows are pulled (see table) to determine a virtual reference value.
    - iii. Once the Virtual Reference test allows a concentration over  $\frac{1}{4}$  TLV to be reported on a point, the Virtual Reference test is disabled on that point until the point reports a concentration of zero at the end of a window. Also, the Virtual Reference test is disabled on all points for one window.
    - iv. The Virtual Reference test can impose up to a 40 second delay in reporting the concentration when the test is performed (see table)

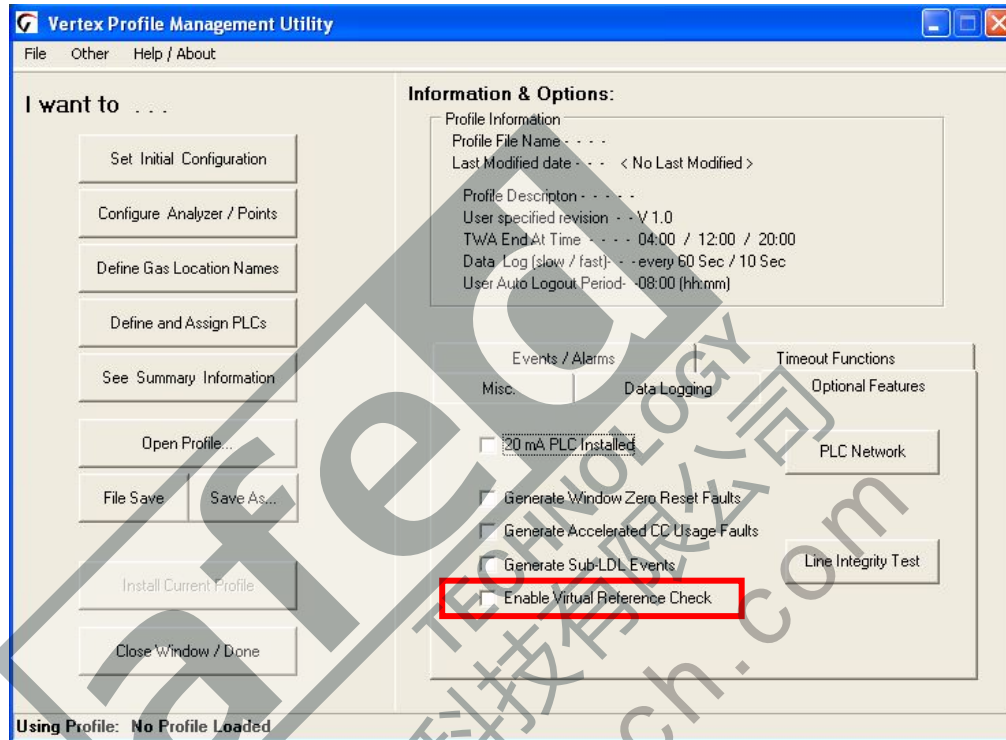
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- b. A checkbox for enabling/disabling the Virtual Reference has been added to the configuration utility. The default is disabled. See Figure 1 for the new option.

Chemcassette	# Of Windows Pulled	Time to confirm
Hydrides	3	15-25 sec
XP Hydrides	3	15-25 sec
Mineral Acids	6	30-40 sec
Cl2/Oxidizers (NO2)	6	30-40 sec
Mineral Acids (Pyro)	6	30-40 sec
Phosgene	6	30-40 sec
XP Phosgene	6	30-40 sec
Aliphatic Amines	3	15-25 sec
Cl2/Oxidizers-III	6	30-40 sec
Hydrogen Cyanide	3	15-25 sec
Hydrogen Sulfide	3	15-25 sec
XPVChlorine	6	30-40 sec
Fluorine/Oxidizers	3	15-25 sec
XP Ammonia	3	15-25 sec
XP Mineral Acids	6	30-40 sec
XPVMineral Acids (Pyro)	6	30-40 sec
LL Sulfur Dioxide	3	15-25 sec
XP4 Hydrides	3	15-25 sec
XP4 Mineral Acids	6	30-40 sec
XP4 Mineral Acids (Pyro)	6	30-40 sec
XP4 Chlorine	6	30-40 sec
XP4 Ammonia	3	15-25 sec
XP4 Phosgene	6	30-40 sec

*Table 1: Virtual Reference Settings by Gas Family*

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**Figure 1: Configuration Utility Options**

2. Two changes were made to the ALDE detection and handling algorithm to improve performance and capture more non-gas events.
3. In previous software, the software could initially report the wrong days remaining for a Chemcassette® tape after changing Chemcassette tape type. In 1.25.5, this is corrected. When out of monitor, the software will properly report the days remaining as the maximum days of tape left. When in monitor, the days remaining value will be based on the actual rate of tape usage.
4. The manual has been updated to reflect changes made in 1.25.5.

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