Watchdog Subsystem

Introduction

Purpose

This document is intended to familiarize the new user with the operation and usage of the watchdog subsystem. It provides a system overview and guides the user through the initial startup and configuration where it is required.

References

Please refer to the following sources of additional information as appropriate:

1. The Reference Manual provides a thorough discussion of each Nanometrics program, describing all options, input parameters, etc.

Description

The Watchdog subsystem is installed and used on both the NAQS Server computer(s) and the Data Processing computer(s). The Watchdog subsystem ensures that the controlled mission critical programs started at the system start and are restarted following a crash.

The components of the Watchdog sub-system for Windows include:

1. **Watchdog service** and
2. **Watchdog program**.

WatchdogService should be registered in the Windows registries, it should be configured to start automatically at system startup and to interact with the desktop. Please consult the Installation Guide section of the present set of manuals for further information about setting up Watchdog for proper operation. WatchdogService start the Watchdog program which in turn starts each task listed in the watchdog.ini file as a child process and then monitors its run-state. An optional flag in the watchdog.ini file indicates that a task will ping Watchdog at regular intervals to demonstrate that it is still functioning properly. If a controlled program fails to ping the Watchdog program, the Watchdog program will restart the task. If a task dies, Watchdog can either restart the task or ignore the task, depending on the inifile configuration.

The Watchdog program also monitors the disk space of the current drive. If the number of megabytes of free space falls below a user configured level, Watchdog will shut down. The user should clear sufficient disk space and then restart the Watchdog. This feature of the watchdog program ensures that a severe corruption of the hard disk is avoided when the system runs out of disk space.

The Watchdog operation can be monitored reading the log messages listed on the Watchdog program window. These messages are also logged in a watchdog.yyyymmdd.log format log file, where yyyymmdd is the current date. During normal operation Watchdog does not require any user intervention and it is recommended to not do any change to the watchdog.ini file if the program is performing normally. Watchdog should not be stopped and another session of Watchdog cannot be started. During system testing, if a one of the controlled programs is required to be started manually from a command prompt the Watchdog program must be stopped by typing in x in the watchdog program window. Note, that sometime a few second will pass from entering x and Watchdog exiting. Watchdog can be restarted by either typing in a command prompt:

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or starting the WatchdogService from the Services folder of the Control Panel. When one of the controlled program should be restarted to validate a configuration change, it is enough to stop only the control program and allow Watchdog to restart it. This is a very efficient method of validating configuration changes. However, if the controlled program does not start, watchdog should be stopped (with x) and the program should be started from a separate command prompt, allowing it to display its error messages at the command prompt.

Useful hint: the Watchdog program can be configured to start any application, however only those applications which can ping the Watchdog program will be restarted after a program crash.

For further information please refer to the General Utilities section of the Reference Manual.