

Technical Brief

Infortrend[®]

Introduction to SANWatch – Configuration Manager

Abstract

This document introduces how SANWatch – Configuration Manager enables centralized configuration, time synchronization and firmware upgrade for multiple subsystems.

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Networked Storage Solution Provider

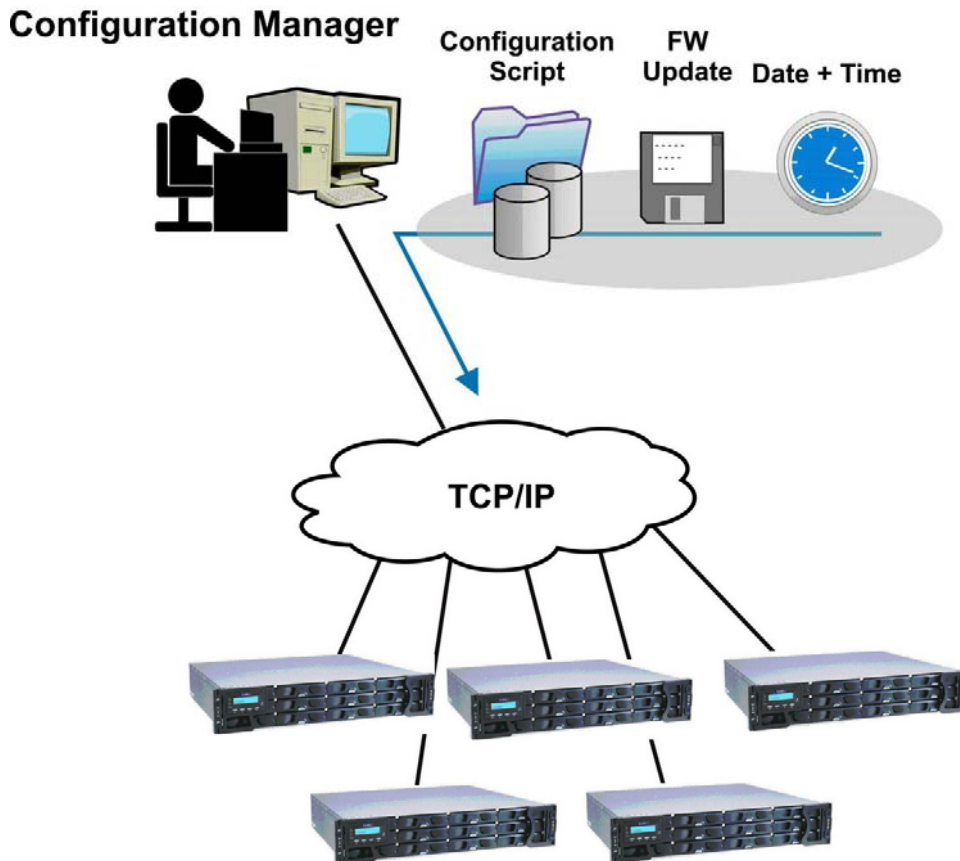
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When there are multiple storage systems in IT environment, a tool enabling centralized administration is a great help to IT managers. SANWatch – Configuration Manager is such a tool. The three main functions of Configuration Manager are: centralized configuration, time synchronization, and firmware upgrade.



Centralized Configuration

It is a common practice for system integrators (SI) to perform centralized configuration on multiple storage systems through CLI (Command Line Interface) scripting. By entering the text-based commands, users can have systems automatically perform the desired tasks, whether numerous or complicated. However, for end-customer users unfamiliar with the large command vocabulary, CLI scripting is not an effective way for centralized configuration because composing a script can take them much time. The centralized configuration feature of Configuration Manager is script -based, leveraging CLI benefits and amending its defects. The comprehensive script commands it provides allow users to freely compose configuration scripts and apply them to multiple arrays. To aid the users strange to script editing, Configuration Manager comes with pre-configured templates for common tasks, such as system information retrieval, firmware parameter customization and logical drive configuration for video applications, and etc. Users can conveniently apply these templates or modify them to meet their

specific application needs. After composing or modifying a script, users can make use of the debug function to verify its congruity. The frequently-used scripts can be saved as new templates for easy and quick execution in the future. When users need help for command syntax, they can just highlight the command and then press F1 to view the detailed explanations of the command. With included templates, debug function and online help, users can enjoy CLI-like benefits without suffering so much in the process of familiarizing themselves with the interface.

Time Synchronization

In the system activities where timestamp plays an important role, such as event notifications, event logs and snapshot scheduling, inaccurate time can cause great problems. Synchronizing the time on storage systems is therefore a necessary IT operation. Configuration Manager provides users with three ways to do storage system synchronization: synchronizing with NTP server, manual time setting and synchronizing with local host. The first method allows storage systems to be constantly synchronized with NTP server through their in-band hosts¹. Referring to universal time (UTC), NTP service provides accurate time over LANs and WANs. Users can also manually set the time or synchronize the subsystems with the computer currently running the Configuration Manager.

Firmware Upgrade

Without a centralized method, doing firmware upgrade for multiple subsystems is a time-consuming, repetitive task. Through Configuration Manager, all upgrade tasks can be completed only with a single click regardless of the number of arrays. Some of the firmware updates require users to restore firmware defaults before firmware upgrade really take place. To avoid the trouble of re-setting firmware parameters and remapping logical drives after firmware upgrade, Configuration Manager allows users to extract subsystem's configuration information as a file. The information stored in individual subsystems' NVRAM can be extracted at a time. After the firmware is upgraded, users can use the extracted configuration file to restore the firmware parameter settings and logical drive mappings on each subsystem.

¹ In-band hosts refer to the hosts communicating with RAID arrays over the Fibre, SAS, or iSCSI data paths.