SYSTEM DATA PROCESSING RELIABILITY ANALYSIS OF ROUTINE PROBLEMS IN THE APM WIN MACHINE SYSTEM IN WINDOWS VISTA

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The computer aids data processing reliability should be considered as a quality spread out in the course of time. With the new Windows Vista operating system début on the 30th of January, 2007, there appeared an opportunity to use all the might of modern hardware electronic equipment (quad-core processors, powerful high-speed on-board buses, display cards with four-way subsystems, 1 T-byte Winchester disk). The new Vista technologies enable to level up the output and reliability of the system radically. The SuperFetch technology accelerates the computer work by means of data preload. The SuperFetch service is constantly working in the background, analyses programs' work objective laws and fulfils the data preload which can be needed in the earliest possible timeframe. With the help of the ReadyBoot technology the system work is accelerated on account of USB flash-drive mapping and using it for temporary files storage. The Windows Ready Drive reduces the energy consumption and speeds up the notebook computers' work hybrid hard disks. These Winchester disks have additional flash-memory modules which are used by the system for temporary file storage and sleep schedule work. In the event of a refusal the stuffing and renewal center reliably customizes automatic file stuffing and creates the archived image of all the hard disk, and the shadow copying technology effectively restores documents' previous versions and the data within the APM Windows WinMachine system. The new technology of Windows Vista installation is performed of prearranged images accelerating by this the installation process itself and reduces errors occurrence probability, and all the recovery facilities can be activated from the setup DVD.

The Windows Vista operating system is more secure than the Windows XP SP2 one regarding safe problems as it contains a range of new security facilities. The UAC (User Account Control) facility prevents illegal application preferences, system variables changes and other interferences into the system work. The security service center controls all the computer security main variables: auto update, fire wall, antivirus and antispy programs, user account and Internet Explorer 7 monitoring service. The Windows protector utility grants the protection from various hostile programs. There is a facility to restrict the access of naïve users to the computer. A built-in fire wall Windows Vista guarantees an efficient protection of the computer from an unauthorized entry through the local network or Internet. The bidirectionality of the fire wall protects from an outside intrusion and allows prohibiting unauthorized data transmission from the computer to the Internet. A new system work watch facility is the reliability and productivity monitor consisting of three components: assets monitor, system monitor and system stability monitor, provides the system reliability monitoring at data processing by WinMachine. The assets monitor controls the four subsystems reliability: the CP (central processor), disk, net and memory. In the CP line chart one can watch the processor loading and clock speed change. At little loading the monitor automatically reduces the clock speed, that can be visually estimated as the reliability of this technology. The disk status line chart demonstrates the acting speed of the data interchange with the hard disk. In the net chart the data interchange speed in the net and every command characteristics are reflected. In the memory chart the process of the RW memory using and the amount of errors when addressing to page frames. A great amount of errors testifies to an insufficient RW memory capacity to perform complex computations (for example, the computation of a camshaft mechanism with translation roller lifter in the APM Cam assembly unit) and that the necessary information has been read from the swap files. The system monitor watches the computer's fail-safe operation displaying its numerical values, various charts and diagrams. The system stability monitor controls the system stability options and records various events influencing the stability. On the ground of this data the system stability index, which is displayed in the chart in the form of common errors, load errors, hard disk and RQW memory failure, failures, starvations and forced close-downs of APM WinMachine, is calculated. The Windows Vista operating system for the first time has got an opportunity to encrypt files and folders in the level of file manager. For the encryption provision the file manager EFS is used. At that the best way of encryption is the folder encryption. With the help of the new technology BitLocker one can encrypt a whole disk partition. This guarantees a higher security and reliability level.

Thus, the computer high information processing reliability is provided by the new technologies Vista for the system survival, automatic repair after various failure kinds in PC devices, reliable security from hostile programs' effect and desired protection from unauthorized intrusions with getting high performance of computations when solving different problems.

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