ExtremeWare 6.x Task Descriptions

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>>> Introduction

The TOP command is a utility that displays the CPU utilization by process. ExtremeWare is a collection of processes/tasks that are executed within a real-time embedded operating system. The various tasks are executed as a result of incoming packets, timer events, or physical events.

The TOP command shows the utilization of CPU processing time for each task, based on a 30 second sample time. Typically, the BGTask shows the most CPU utilization at 90% and above. This indicates a healthy system since the BGTask is the back ground task and reflects the system looping constantly, looking for packets to be sent up from the hardware layer. In a healthy ExtremeWare system, do not expect to see any task, other than the BGTask, taking up significant CPU processing power. Tasks showing consistent or periodic high spikes in CPU utilization need to be investigated. The task descriptions here provide a basic understanding of each task function.

>>> Task Descriptions

httpd
The HTTP daemon task manages the HTTP web management interface on the system.

Logpoll
In an active dual CPU system, the master CPU will initiate the log polling task (Logpoll) to periodically poll the secondary or slave CPU(s). This process clears the individual syslogs and consolidates them onto the master CPU switch log.

mportTask
The management port task.

pifstate
The port interface state task (pifstate) processes port link state changes. It is watchdog timer poll driven as opposed to interrupt driven by hardware events.

tAsyncSave
The tAsyncSave tasks the NVRAM asynchronous save/write processing task. This process manages the save or writes to the NVRAM.

tbgpTask
The border gateway protocol task (tbgpTask) implements and processes BGP on the switch.

tbgpTimerTask
The BGP internal process timer task (tbgpTimerTask) manages the internal BGP timer delays for checking BGP networks and next hops.

tBgQosMon
The background Quality of Service monitor task (tBgQosMon) is a background version of the QoS monitoring task. monitors transmit count and kill count of ports and cycles as long as the monitor is enabled.

tBGTask
The background task (tBGTask) is the core task switching process. It receives packets from the hardware ASICs and switches them to the appropriate functional task to process that packet type or group.

The tBGTask typically runs with a high CPU utilization > 90%. It is constantly checking for packets to be sent up by the hardware ASICs. It only releases control of the CPU if packets are sent to the switch or if timer functions signal another task to become active.

tCardTask
The I/O card event task tCardTask) manages the event signaling hardware and state machine for the I/O cards in a chassis-based system.

tChecksumPoll
The "i" series chipset checksum polling task (tChecksumPoll) periodically polls the "i" series chipset boards for fabric checksum errors.

tConsole
The console task.

tdiagTask
The diagnostic task (tdiagTask) executes the diagnostic routines for the particular hardware platform.

tDvmrpTask
The distance vector multicast routing protocol task (tDvmrpTask) implements and processes DVMRP on the switch.

tEapsTask
The Ethernet automatic protection switching task implements and processes EAPS on the switch.

tEdpTask
The Extreme Discovery Protocol task (tEdpTask) implements and processes the EDP neighbor discovery process.

tEsrpTask
The Extreme Standby Router Protocol (tEsrpTask) implements and processes ESRP on the switch.

tExcTask
If the operating system recognizes an exception condition, it will invoke the exception handling task (tExcTask).

tFastTimer
The fast timer task (tFastTimer) is used to maintain a queue of timer events triggering periodic or single event functions. These events have a small delay in time between re-occurrences. The tFastTimer has a higher priority than the slow timer task (tSlowTimer). Therefore, tFastTimer events are processed prior to iSlowTimer events occuring at the same time.

tfdbAgeTask
The forwarding database aging task (tfdbAgeTask) performs the aging of MAC FDB entries in the hardware and software tables.

tIpxTask
The IPX input task (tIpxTask) handles inbound IPX control packets (e.g. RIP, SAP, Xping).

tIpxTx
The IPX transmit task (tIpxTx) handles the IPX transmission of control packets (e.g. RIP, SAP).

tIquery
The iQuery support task for 3DNS (tIquery) processes iQuery requests.

TIRDP
The ICMP router discovery protocol task (tIRDP) implements and processes IRDP on the switch.

tISRtask
The interrupt service routine task (tISRtask) manages the interrupt driven port link state changes.

tLinkEvent
The link event task (tLinkEvent) is the interrupt driven link event processing task. It handles hardware interrupts for link events.

tMACPoll
The media access controller poll task (tMACPoll) polls the various MAC PHY chips on the switch to pull up MAC Layer control messages for the CPU to process.

tmt32LinkPoll
F32F card link poll task.

tmuTelnetd
The telnet daemon task.

tNetTask
The network stack task (tNetTask) handles all the software-based processing of packets including:

- Packets that cannot be handled by the switch's ASIC because the forwarding tables do not have entries built in
- Packets destined to the CPU for one of the router interfaces
- Packets that must be examined or snooped by the CPU
- Packets detected for copying to the CPU

tNMCEvent
The network management controller event task (tNMCEvent) manages event signaling hardware and state machine on BlackDiamond switches two redundant MSM CPU cards.

tOpenPort
The server load balancing (SLB) Layer 4/Layer 7 health check sub-task.

tospfMsgTask
The OSPF message processing task (tospfMsgTask) implements and manages the processing of OSPF messages.

tospfSpfTask
The OSPF shortest path forward task (tospfSpfTask) executes the SPF algorithm run processing for OSPF.

tospfTimer
The OSPF timer task (tospfTimer) manages the internal timer trigger functions and delays for OSPF.

tPCSPoll
The tPCSPoll task services the Gigabit Ethernet PCS poll messages.

tPhyPoll
The PHY layer poll task (tPhyPoll) polls the Road Runner PHY layer every 2 seconds to verify the proper operation.

tPimTask
The protocol independent multicast task (tPimTask) implements and processes PIM on the switch.

tPingServer
The server load balancing (SLB) Layer 3 ping health check sub-task.

tPortProbe
The server load balancing (SLB) Layer 4/Layer 7health check sub-task.

tPortUtilization
The port utilization data collection task (tPortUtilization) is a 30 second task that pulls physical port data statistics from the hardware and updates the software database tables.

tRip
The Routing Information Protocol task (tRip) implements and processes RIP on the switch.

tRipTimer
The RIP timer task (tRipTimer) manages the internal timer trigger functions and delays for RIP.

TRmonTask
The remote monitoring task

tRRPoll
The Road Runner poll task (tRRPoll) pulls the MAC and PHY layer statistics from the store in the software based tables.

tRxMsgTask
The receive message task (tRxMsgTask) is located on the secondary system. ExtremeWare 6.2 commences use of the secondary CPU in BlackDiamond switches. This is the secondary slave CPU inter-CPU receive task.

tServAlive
The server load balancing (SLB) health check server task.

tShell
The core operating system internal shell process (tShell) is spawned whenever the internal shell is accessed.

tSlbFailover
The server load balancing failover task.

tSlowTimer
The slow timer task (tSlowTimer) maintains a queue of timer events triggering periodic or single event functions. Typically these events have a large period gap in terms of time between re-occurrences.

tsmartTrap
Extreme smart trap task.

tSnmpd
The SNMP daemon task manages all SNMP processing on the system.

tSntpc
The simple network time protocol client task (tSntpc) implements the SNTP client function and processing.

tsshshell
The secure shell (SSH) task.

tStatsPoll
The port interface statistics poll task (tStatsPoll) polls the port interfaces for statistic counters.

tstpTask
The Spanning Tree protocol task (tstpTask) implements the STP algorithm and processing.

tSwFault
The software fault handler task (tSwFault) will perform a stack dump for any task that has crashed.

tsyslogTask
The system log task (tsyslogTask) receives messages/text from other tasks and asynchronously logs these to the switch NVRAM log area.

tTimeout
The Timeout task (tTimeout) is used to manage and execute various functions on timeouts.

tTRRecv
The trace route receiver task (tTrRecv) is spawned dynamically when the trace route utility is used.

tvrrpTask
The virtual router redundancy protocol task (tvrrpTask) implements and processes VRRP on the switch.

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