

Features

- Capture and logging of all Ethernet network traffic
- Display of network statistics in real-time in clear graphic format
- Breakdown of network traffic by:
 - Protocol/DIS PDU type
 - Network host
 - Protocol/DIS PDU type for individual hosts
- Replay of traffic for after action reviews
- After action analysis tool for examining captured data
- General filter mechanism to ignore unwanted packets
- Ability to add new PDU types
- Full support for analyzing all DIS 2.0.4 PDUs

DIS Network Analysis Toolkit (DISNAT)



Overview

Concurrent Computer Corporation's DIS Network Analysis Toolkit allows users on Concurrent iHawk™ multiprocessor systems running RedHawk™ Linux® to monitor and analyze network traffic within a Distributed Interactive Simulation environment. DISNAT includes a number of fully integrated components for the capture, storage, analysis and replay of network frame data.

Frame Data Logging

DISNAT's Data Logger uses Ethernet promiscuous mode access to capture raw frames and log them to disk. Each frame is given a millisecond timestamp before being written to permanent storage. In parallel, statistics are gathered on each captured frame, and a real-time GUI display is maintained showing the network traffic rates using dynamic histograms. This functionality facilitates the on-line analysis of network traffic patterns and provides a very clear representation of network traffic rates on a DIS network. DISNAT enables decisions to be made on how to best optimize the use of the

available network bandwidth.

PDU Analysis

DISNAT's Analysis Tool is available for examining captured data and interpreting the contents of individual DIS packets. The Analysis Tool may be tailored to include new as well as existing Protocol Data Unit (PDU) types. Frames containing PDUs are displayed via a Motif user interface showing the PDU field names and their contents. Log file contents can be filtered to show only specific PDUs or PDUs from specific systems.

The Analysis Tool allows DIS application developers to examine PDUs on the network to assist in verifying the application and determining possible implementation problems. All DIS 2.0.4 PDUs are supported. Non-DIS packets may also be examined in detail.

Frame Replay

DISNAT includes a replay facility that allows previously captured log files containing network traffic to be replayed over the network for After Action Review (AAR) by other DIS



Integrated Solutions... Real Benefits

tools such as Plan View Displays (PVD) and Stealth applications. The logged Ethernet frames are replayed over the network with the same timing as they were received.

iHawk Series 860 Multiprocessors

The iHawk Series 860 is Concurrent's high-performance PCI-based computer platform for real-time data acquisition, simulation, imaging and industrial systems applications. The iHawk 860 features from one to eight Intel® Pentium® Xeon™ processors and up to 4 GB of memory in a single rackmount or tower enclosure.

iHawk 860 systems offer leading-edge integrated circuit and packaging technology. iHawk 860s are true symmetric multiprocessors (SMP) that run a single copy of Concurrent's RedHawk Linux real-time operating system. All CPUs in a system are linked by a high-speed front-side processor bus and have direct, cache-coherent access to all of main memory.

RedHawk Linux Operating System

Concurrent's RedHawk Linux is an industry-standard, POSIX-compliant, real-time version of the open source Linux operating system. RedHawk Linux, which includes the popular Red Hat® Linux distribution, provides high I/O throughput, guaranteed fast response to external events, and optimized interprocess communication. RedHawk is the ideal Linux environment for complex real-time simulation and data acquisition applications.

RedHawk Linux user-level commands, utilities and system administration are standard Red Hat. RedHawk achieves real-time performance by replacing the Red Hat kernel with a multithreaded, fully-preemptible kernel with low-latency enhancements. RedHawk's true symmetric multiprocessing support includes load-balancing and CPU shielding to maximize determinism and real-time performance in mission-critical solutions.

Professional Services

Concurrent Professional Services personnel are available to assist your organization in the utilization of the DISNAT, including traffic analysis, network design analysis and restructure, and application implementation.

Prerequisites

- iHawk multiprocessor system
- RedHawk Linux operating system
- Graphics display



2881 Gateway Drive
Pompano Beach, Florida 33069
Phone: 1-800-666-4544 or 954-974-1700,
Sales or Marketing Support
FAX: 954-973-5398
E-mail: isd.info@ccur.com
www.ccur.com

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