SAS/CPE® Software for OpenVMS an Enterprise-Wide Solution

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Abstract

SAS/CPE software for OpenVMS provides a variety of analysis and data management tools for OpenVMS performance data. It supports the OpenVMS Monitor utility, SPM, DECps and the OpenVMS Accounting facility. In addition, SAS/CPE software can be used to analyze disk usage and Ethernet traffic.

This demonstration focuses on new features available in the next release of SAS/CPE software for OpenVMS including a new Menu interface, reporting interface, Performance Data Base (PDB) Management and dynamic facility definition.

Introduction

SAS Institute Inc. has established a worldwide reputation for its computer performance evaluation tools. There are a number of reasons for our success, including the SAS System's ability to read data from complex sources, and the capacity for statistical analyses and graphic presentations. We supply a large array of computer performance evaluation tools available within the SAS System. SAS/CPE software for OpenVMS is currently in production on the VAX platform, Release 6.08, and the AXP platform, Release 6.09. This demonstration focuses enhancements to the product that will be distributed with the next release of SAS/CPE software for OpenVMS.

What is SAS/CPE software for OpenVMS?

SAS/CPE software for OpenVMS is an interactive application that uses both a full-screen menu system or a linemode interface to accept user directives. SAS/CPE software provides a reasonable starting point for users who wish to use the SAS System for evaluation of computer performance data. The system is directed at the user who understands what indicators may be important for the system in question and allows for the production of a variety of reports without having to get involved in coding SAS statements.

Data Sources

SAS/CPE software for OpenVMS is designed to analyze and manage data from various data collection utilities including:

- OpenVMS Monitor facility
- OpenVMS Accounting utility
- VAX Software Performance Monitor (SPM)
- Polycenter Performance Solution (PPS) Software

In addition, SAS/CPE software for OpenVMS includes facilities to:

- Collect and analyze disk usage information (DISKUSAGE)
- Collect and analyze Ethernet activity (ETHERNET)

The SAS/CPE Diskusage facility records information based on usage by directory, file, volume, and UIC. Files can be selected for reporting based on attributes such as file size. The Diskusage facility can correctly process multiple spindle drives, such as bound volume sets or "stripe-sets." Diskusage data may also be collected by the SAS/CPE Accounting facility when a class of Disk is specified. This allows a site to easily charge users for disk consumption.

The SAS/CPE Ethernet facility provides a software Ethernet monitor that gathers data on basic traffic load, protocol use, node activity levels, and network partner information in a local area Ethernet network. It runs on any VAX/OpenVMS system that supports a Digital Ethernet 802 controller and can be used under the OpenVMS operating system, Release 5.0 and later.

SAS/CPE Software Components

SAS/CPE software for OpenVMS has four major components:

- Data Collection
• Data Analysis
• Data Management
• Resource Chargeback

The data collection component is responsible for gathering performance and capacity data, as well as handles converting the raw data from the data gathering facilities into SAS data sets. The second component is the data analysis component, which displays the gathered data using SAS System procedures such as PLOT and GCHART. The data management component includes several different tools to perform such data management tasks. The resource chargeback component enables sites to produce billing reports for such resources as CPU time, connect time, direct I/O, disk usage consumption and pages printed.

Data Collection

The data collection component in the current release of SAS/CPE software for OpenVMS consists of two phases. The collect phase provides tools for describing the data collection needs and arranging for the actual data collection. A single user interface connects you with all utilities. In the process phase, you convert usage of performance data into convenient SAS data sets, making the data readily accessible to the SAS System's integrated procedures for statistical design and analysis, forecasting, and decision support.

The release of SAS/CPE currently under development includes the introduction of a Quick Path button, that enables new users to quickly collect data and generate reports using reasonable defaults. This new feature includes the introduction of a Task Scheduler, that can be used not only by the new users, but by experienced analysts and capacity planners, as well.

Another new feature to be demonstrated is the Dynamic Facility Definition capability. This feature enables you to add site-specific facilities to be supported by SAS/CPE. This support can range from data collection to processing.

Data Analysis

Once data have been processed into SAS data sets, you can select from hundreds of graphical and tabular reports covering CPU usage, I/O activity, memory usage, network traffic, disk space consumption and more. Additionally, you can easily define and store your own reports. SAS/CPE for OpenVMS software offers you a wide array of reporting and graphics capabilities: lists, line-printer charts, high-resolution graphs, and more on over 100 graphics devices.

This demonstration will introduce the new reporting interface that will be included in the next release. The new interface is designed to be easier to use for both supplied and customized reports.

Data Management

SAS/CPE for OpenVMS software offers tools for easily managing existing data. For example, multiple SAS/CPE collections can be combined into groups. Data can also be collapsed into larger sample time intervals to conserve resources for data storage and to make long-term trend analysis quicker and easier.

A major enhancement due in the next release is the Performance Data Base (PDB) for data management. The PDB is a collection of performance data consisting of 5 levels:

- Detail Level
- Day Level
- Week Level
- Month Level
- Year Level

Data that has been collected by the Data Collector component of SAS/CPE can be easily processed into detail-level SAS data sets. This data can then be reduced into day-, week-, month-, and year-level SAS data sets. These summary data sets replace multiple data values at the detail level with computed statistics such as mean, range, and standard deviation. While SAS/CPE software provides reasonable default values for what data to keep in the detail level and summarize in other levels, this demonstration will show that you can easily change these values to customize your performance data base to meet your specific needs.

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