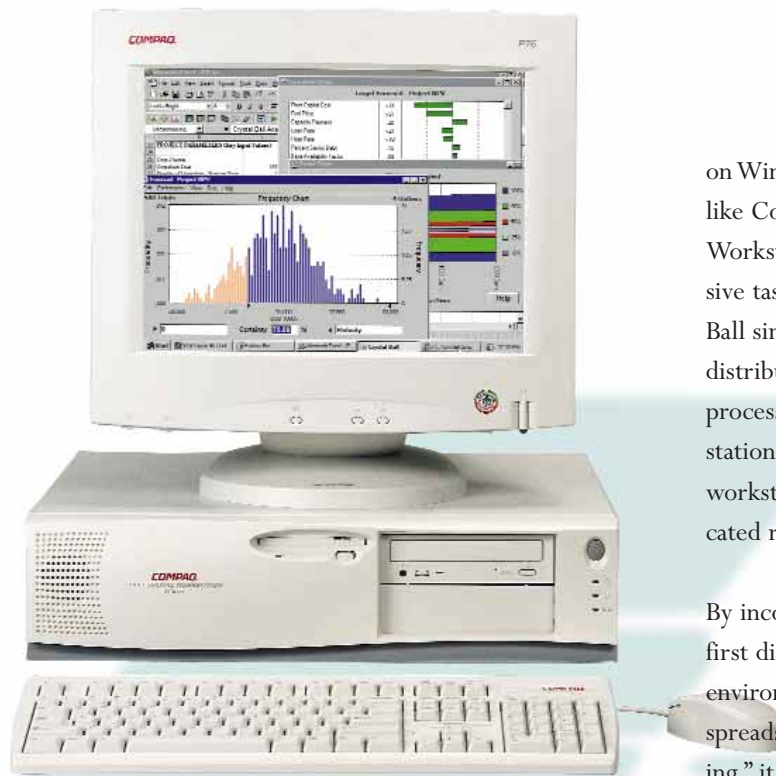# Paradise-Powered Crystal Ball Turbo on Compaq Professional Workstation Clusters – A Competitive Advantage for Excel-based Risk Analysis Simulation

If you're a decision-maker who relies on complex spreadsheet simulations in your business process, you know that your confidence increases when you can run more simulations (i.e., "what-if" scenarios). Unfortunately, running all the individual simulations on a single CPU often takes several hours or more, limiting the number of simulations you can run. Now, with Crystal Ball Turbo™, running on Compaq Professional Workstation Clusters, you'll be able to run more simulations in a fraction of the time.
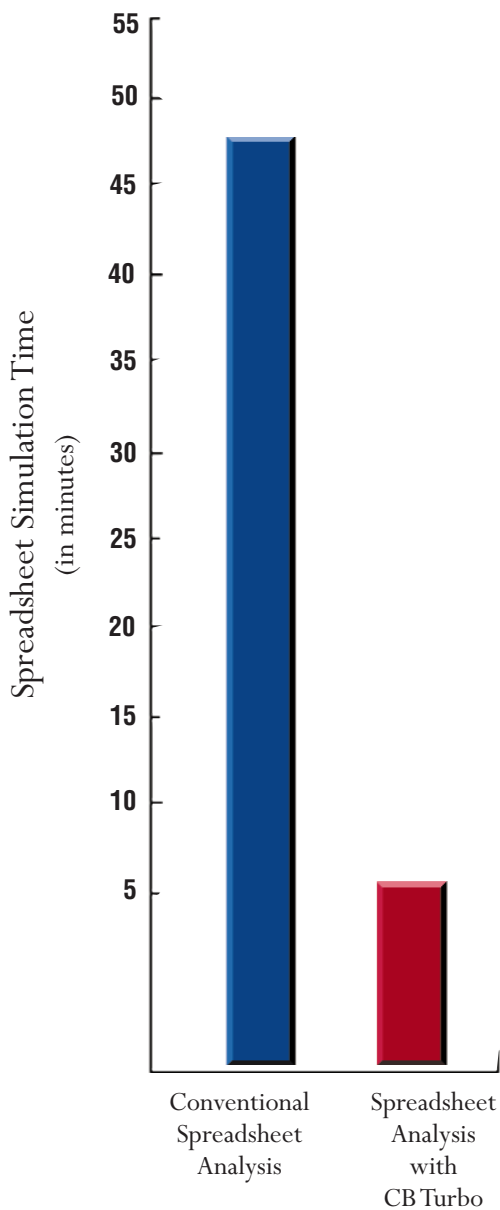
Crystal Ball Turbo is a multi-processor version of Decisioneering's Crystal Ball®, powered by the Paradise® and Piranha® technologies from SCIENTIFIC Computing Associates. First developed for supercomputers and high-end UNIX workstations, SCIENTIFIC's Paradise and Piranha technologies now run on Windows NT-based systems, like Compaq Professional Workstations. Compute-intensive tasks inherent in Crystal Ball simulations can be easily distributed across the multiple processors of individual workstations, LAN or WAN-based workstation clusters, or dedicated rack-mounted clusters.

By incorporating the industry's first distributed computing environment for large, complex spreadsheet "number crunching," it dramatically boosts the speed of your Crystal Ball spreadsheet models built in Microsoft® Excel. You get more accurate, reliable results in just a fraction of the time! Simulation time is compressed to just minutes by exploiting the power of multiple CPUs to perform risk and what-if analysis at levels unattainable on your individual desktop. Using Crystal Ball Turbo, you'll know more, sooner. As always in business, this translates into com-

- **Crystal Ball Turbo from Decisioneering uses Paradise and Piranha technologies from SCIENTIFIC Computing Associates**

- **Crystal Ball Turbo enables you to run more simulations in a fraction of the time**

- **Compaq's multi-processor Professional Workstations can be configured into clusters, providing excellent price/performance**

Spreadsheet Simulation Time
(in minutes)

55
50
45
40
35
30
25
20
15
10
5

Conventional
Spreadsheet
Analysis

Spreadsheet
Analysis
with
CB Turbo

petitive advantage, since you'll be able to make critical business decisions more rapidly, with greater confidence, and earlier in the lifecycle of a project or investment.

Paradise Power — Not Just for Spreadsheets

Crystal Ball Turbo is an excellent example of the power of parallel and distributed computing. With the extensibility of the Paradise and Piranha technologies, you can do even more! Paradise and Piranha can speed up custom in-house applications as well as third party products. SCIENTIFIC's tools can also enable seamless and transparent integration into heterogeneous computing environments, so that users can get the most from existing UNIX-workstation-based computing environments, even as they migrate to the lower cost and increased performance available from Compaq's Professional Workstation and Cluster solutions.

SCIENTIFIC's customers in the financial sector, including leading providers of risk analytics and investment banks like Merrill Lynch and Smith Barney, learned the advantages of parallel simulation long ago. Now you, too, can take advantage of the Paradise Power of Crystal Ball Turbo!

Compaq Professional Workstations

Compaq Professional Workstations are high-performance Windows NT-based workstations that use the latest Intel processor technology. They are available in several different models, configurable with up to 4 processors and 3 GB of main memory. Several of Compaq's workstation models use an innovative Highly Parallel System Architecture that utilizes dual memory and PCI I/O buses. This architecture delivers performance levels that are often found only on more expensive and proprietary RISC-based systems. With support for up to four processors, this architecture is designed to deliver application performance through multi-threading and other parallel processing approaches.

In addition to running traditionally UNIX-based financial applications, such as risk analysis simulations, Compaq Professional Workstations also run popular business applications such as MS Project, MS Excel and others, so you can integrate them seamlessly into your growing distributed enterprise, where mission-critical

information is shared among servers, mainframes, workstations, and PCs. Compaq also has relationships with all of the leading UNIX interoperability software vendors, so Compaq's Windows NT-based workstations can be easily integrated into a heterogeneous environment.

Compaq Professional Workstation Clusters

Customers needing to expand their high-performance computing resources will typically experience dramatic price/performance improvements by deploying an industry-standard workstation cluster, as opposed to increasing their investment in RISC-based servers or supercomputers. Compaq Professional Workstations can be configured into clusters in several ways. A common approach is to pool individual desktop and mini-tower workstations distributed across LANs and/or WANs. Users requiring a burst of power with Crystal Ball Turbo or another Paradise-powered application gets what they need from idle CPUs on the network. Since all of Compaq's Professional Workstations support multiple processors, this type of cluster

is implemented easily by dedicating the first processor to the user's interactive applications and then purchasing a second processor to dedicate to the cluster.

Professional Workstation Clusters can also be deployed in rack-mounted configurations supporting from 8 to 32 processors per rack. This approach often is selected for a combination of reasons including: the processing to be done is too resource intensive for the typical desktop workstation, company policy requires "server class" equipment to be in the data center, or the interactive applications run on individual workstations are too mission critical to share with high-performance computing

applications. Customers using the rack approach will configure each workstation with multiple processors, large memory capacities, and several disks. The network within the rack also might be higher performance than that on the LAN (possibly due to parallel processing requirements), and it may be used to interconnect several racks into a large cluster.

Compaq Computer Corporation

Compaq Computer Corporation, a Fortune 100 company, is now the largest computer company in the world and the largest global supplier of personal computers and monitors. Compaq delivers

useful innovation through products that connect people with people and people with information. Compaq products are sold and supported in more than 100 countries through a network of authorized Compaq marketing partners. Information about Compaq can be found at www.compaq.com and information on Compaq workstations can be found at www.compaq.com/workstations.html. Product information and reseller locations can be obtained by calling 1-800-345-1518.

Decisioneering, Inc.

Denver-based Decisioneering Inc. provides software tools that simplify risk analysis and improve decision-making. Their products include Crystal Ball, Crystal Ball Pro, Crystal Ball Turbo, and Analytica, a visual environment for creating, analyzing and communicating probabilistic models for business, risk and decision analysis. Further information on the company can be accessed on the Internet at http://www.decisioneering.com

Scientific Computing Associates, Inc.

Founded in 1980, SCIENTIFIC Computing Associates, Inc. is a leader in the field of software technologies for parallel and distributed computing. Applications based on SCIENTIFIC's Linda®, Piranha® and Paradise® software products are used for production computing in many fields, including finance, pharmaceuticals, electronic design and petroleum. Based in New Haven, Conn., SCIENTIFIC sells and supports its products on a direct basis and through ISVs, OEMs, VARs, and independent distributors in the United States and abroad. For more information on SCIENTIFIC, visit the company's website http://www.sca.com or contact the company at 203-777-7442 or mail to:sales@sca.com