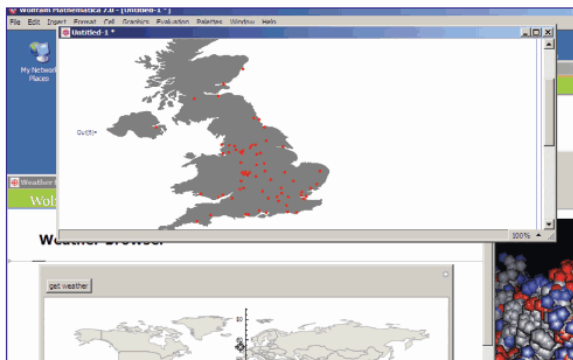


reviews from vnunet.com

Wolfram Research Mathematica 7.0



Software to shortcut application programming development

Version 7.0 lets users develop, model, simulate and visualise algorithms in a single integrated package, provided they can learn how to program in the rather idiosyncratic language syntax.

We installed the package on XP Professional and Red Hat's Workstation 4.0, after downloading .exe and .sh files from Wolfram's servers. Licensing for Mathematica 7.0 is either standalone or using a network licence server for specific user groups.

It can now operate in parallel high performance computing environments, so 'kernel' now processes complex computations and distributes them over multiple cores.

As chip manufacturers bring out core-packed processors, this ability is a must-have, as is the ability to compute on multi-core systems clustered together.

To enable the parallel and clustered system integration, users first have to discover the available kernels on their local network, then interface to the cluster management package and enable the remote kernels.

There are 500 new functions and support for 12 new application

areas. Operating system support is diverse, while image processing is built in and comprehensive.

Where Mathematica scores is in allowing users to create dynamic image processing tools on-the-fly, and its capacity for image processing algorithm development.

More computable data sources are available. Wolfram offers a 'curated' service for this data, which users can download and process with their own algorithms, or use in their own applications.

The Mathematica package is useful for home users or academics doing advanced technical research. It suits almost any area of technical computing.

Developing algorithms using other packages like Visual Studio 2008 may be slower. Mathematica does some things supremely well, but other tasks require a dedicated programming suite.

Rating ★★★★★

Addresses multi-core processors and parallel process for firms with networked hardware, but is expensive.

Web site: www.wolfram.com

Software

MiniFrame SoftXpand Business



SoftXpand installs onto a desktop PC system with six monitors, six mice and six keyboards. Six users can log on simultaneously.

The desktop is to all intents standard, albeit with subtle modifications – such as to the power supply – to improve performance.

All users get limited privileges. They can see system properties, but cannot change them.

Running six Word sessions and browsing web pages did not pose problems. The main bottleneck would be the network connection.

SoftXpand reduces IT management and maintenance costs; reduces power utilisation to only one desktop PC system.

However, this new single point of failure requires a back-up PC

system. There is also no internal network load balancing, meaning users have to deal with operating system and application licensing issues.

Rating ★★★★★
Multiple keyboards, mice and flat screens connect to one PC, saving resources.
Web site: www.miniframe.com



Hardware

Traxdata SLC SSD Ultra-S Plus

Traxdata's Ultra-S Plus single-level cell (SLC) 64GB solid state drive (SSD) bumps up data transfer speeds giving better read-and-write performance than its multi-level cell (MLC) brethren.

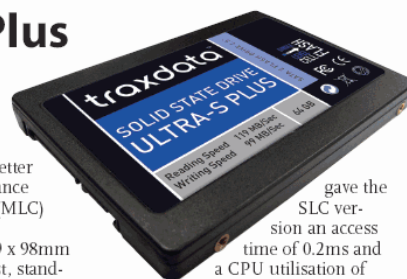
The 2.5in, 56g, 9 x 69 x 98mm SATA drive is a neat, fast, stand-alone SSD without the disadvantages of some.

The device has an onboard static wear-leveling algorithm, which Traxdata claims prolongs the life of the SSD by a factor of 100.

The Ultra-S Plus also has built-in error correction functions.

SSDs promise faster transfer speeds, lower power consumption and the reliability that comes with having no moving parts.

Simplisoft's HD Tune benchmark program (version 2.53)



gave the SLC version an access time of 0.2ms and a CPU utilisation of 5.5 per cent.

The ATTO version 2.34 benchmark gave 80Mbit/s read and 107MB/s write time – within 10 per cent of the vendor's quoted rates of 99Mbit/s and 119Mbit/s respectively.

Rating ★★★★★

Gives better data transfer performance over its multi-level cell counterparts.

Web site: www.traxdata.com