

Wednesday, 5 February, 2003, 01:40 GMT

## **Computers enlisted for bioterror fight**

The spare capacity of millions of computers is to be used in the fight against smallpox.

The deadly disease was eradicated in 1980 but there are fears it could re-emerge through bioterrorism.

Scientists hope to develop the first treatment for smallpox by harnessing the "downtime" of two million PCs around the world.

It is the latest example of so-called "distributed computing", or the grid, in which each volunteer machine is given a chunk of data to compute.

The Smallpox Protection Project is the brainchild of scientists at Oxford University in the UK.

A number of companies are providing the software and infrastructure - including computer giant IBM and software company United Devices Inc in the US.

### **Number crunching**

The aim is to use lots of computers to screen known chemical compounds for their ability to block the smallpox virus. The substance can then be tested as a potential drug.

Dr Karl Harrison of the department of computational chemistry at Oxford University said there was a tremendous need for an anti-smallpox drug.

He told BBC News Online: "We know the shape of the proteins that are present in the virus.

"We're testing 35 million small molecules to see if they can block or fit into the protein and therefore stop the protein from working."

The focus is a key enzyme used by the virus to replicate. By attacking this "Achilles heel", it might be possible to halt the spread of the virus through the body.

## **Extraterrestrial life**

Problems suitable for "distributed computing" are those which would take years of processor time if carried out on just one, or a small group, of computers.

The downloaded software swings into use when the computer has been idle for a set period.

The principle has been used for everything from the design of new drugs to the search for extraterrestrial life.

The smallpox screensaver follows on from a similar anti-cancer initiative at Oxford University.

The first such project of its kind, run by the Search for Extra-Terrestrial Intelligence (Seti), analyses radio telescope data.

---

### **Related to this story:**

[Screensavers crack medical puzzle](#) (22 Oct 02 | Science/Nature) [Analysis: Disease as a weapon](#) (07 Jan 03 | Americas) [Screensavers could save lives](#) (08 Aug 00 | Science/Nature)

---

**Internet links:** [Seti@home](#) | [Oxford University Distributed Computing project](#) | [United Devices](#)

*The BBC is not responsible for the content of external internet sites*

---

[News Front Page](#) | [Africa](#) | [Americas](#) | [Asia-Pacific](#) | [Europe](#) | [Middle East](#) | [South Asia](#) | [UK](#) | [Business](#) | [Entertainment](#) | [Science/Nature](#) | [Technology](#) | [Health](#) | [Talking Point](#)

---

**Health Contents:** [Medical notes](#)

---

 

[^^ Back to top](#) | [BBC News Home](#) | [BBC Homepage](#) | [Feedback](#) | [©](#)