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USB memory sticks

CYBER WARFARE AND IRAN

On October 2, a government official in Iran announced that several “nuclear spies” have been arrested in his country. The official did not mention how many spies had been caught. Yet he did say that their arrest was connected with a computer virus, or worm, called Stuxnet.

The Stuxnet virus was first discovered about four months ago. Computer experts say that the virus is very complex. It seems to have been specifically designed to find and then disrupt a certain type of software made by Siemens, a large German engineering company. Siemens makes many parts and computer applications used in hospitals, large factories, and power stations throughout the world.

The name Stuxnet comes from some of the keywords discovered within the virus’s code. The whole code has not been worked out yet. It’s not known why it was made or who created it.

Experts believe that the virus searches for a certain type of Siemens software. When it finds what it is looking for it disrupts whatever the software is controlling by making it malfunction. The worm is difficult to delete. It is also self-replicating. This means that it can quickly reproduce itself as it spreads through a computer network.

Some people believe that the Stuxnet virus is the first real example of “cyber warfare”. This is an expression that describes how one country could attack another, not with weapons, but rather by using specially designed viruses or computer worms.

Worms and viruses can be created for specific purposes. For example, they could be made to shut down electricity or water systems, to stop trains and planes, to prevent banks from supplying money or from completing payments, or to disrupt cell telephone connections and

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email traffic. Military computers could also be targeted.

Many countries, such as the U.S., now take the threat of cyber warfare very seriously. They spend large amounts on security software to detect and stop possible cyber attacks. Large companies that run important services, such as electricity grids, protect their computer networks from becoming infected by viruses. The computers controlling important processes are not connected to the internet, as this would make them less secure.

Over the last few years, Iran has had many disagreements with the U.S. and with several European countries such as France, Germany, and Britain. These arguments have been about Iran's nuclear activities. The U.S. and European countries accuse Iran of developing nuclear weapons. Yet Iran insists that this is not true.

Iran's president, Mahmoud Ahmadinejad, claims that his country's nuclear programs have been set up to generate electricity and for medical research. However, Iran has refused to let outside inspectors check all its nuclear facilities. This has made the U.S. and the European countries

suspicious. They believe that if Iran were to make nuclear weapons, it could be a threat to Israel and many other countries. In the past, President Ahmadinejad has declared that he wants to destroy Israel. Israel is thought to have built its own nuclear weapons a long time ago. Yet it refuses to say whether this is true.

Iran has been one of the countries worst affected by the Stuxnet virus. Officials have admitted that computers in the country's Bushehr nuclear power station have been infected. This power station uses the Siemens programs that the Stuxnet virus seems to search for. The officials claim that the virus has not caused any problems in the power station, which was built with help from Russia.

However, Iran has not said much about its Natanz nuclear facility. Iran only recently admitted this nuclear site existed. So some people believe that Natanz is the place where work is being done to secretly create nuclear weapons. It's thought that the Stuxnet virus may have seriously affected the Natanz nuclear facility.

Computer experts say that the virus is very complex and seems to have been cleverly designed to

spread and attack systems used in certain nuclear facilities. Some experts therefore suspect that Stuxnet is a cyber warfare virus that has been created by a country that wants to deliberately damage Iran's nuclear activities. They believe that the only countries with the technology to do this are the U.S., Britain, and Israel.

The experts think that USB memory sticks were first used to get the virus into Iran's nuclear facilities. Several memory sticks carrying the virus were purposely left by spies in places where people working at nuclear sites in Iran might find them. Eventually, a few were picked up. Later the people who found them plugged the sticks into work laptops or computers at Bushehr and Natanz. As soon as they did this the virus quickly spread throughout the nuclear sites' computer systems.

Iranian officials are angry about what has happened. They are sure that the Stuxnet worm is a deliberate attack by other countries on their nuclear program. The officials claim that the virus will be completely removed from all Iran's nuclear sites within the next two months. ■

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