The Link Newsletter

Hectic Times at Link Data

During the past year or so, despite the financial crisis that has gripped the world, Link has been going through an extremely creative and busy period.

We've taken on a new employee, Frank Jelstrup, fresh out of Denmark's Technical University and have really plunged into - among other things - protections delivered on memory sticks. This new USB-Cops protection is designed for both Windows and Mac.

USB-Protections

With memory sticks now cheaply available in sizes that exceed the capacity of DVD-ROMs, it's become an obvious way to deliver large multi-media products. Besides the handy physical size, there's the additional advantage that you can have the entire product on the stick. No need for storage on the hard disk to save test results and data. Yep, self contained. Also great for sailors. In fact, our very first USB protection was for navigation charts.

These guys wanted to be able to plot their trips and put them on the stick - the idea being they could plan their routes at home, save everything on one USB and then go sailing.

The first USB protection went out the door in early 2010 and was for Windows only. Nowadays, most sticks are hybrid (Mac and Windows).

Mac OS-X USB Protections

We have delivered about 50 hybrid Windows/OS-X educational titles to France in 2011. Mainly distributed by Nathan, Bordas, Editions Retz and similar companies that deliver to the French school system.

Windows still seems to dominate the market, but Macs are also getting their market share. OS-X protection is important to avoid sending out unencrypted data files that could find their way to the Windows environment.

Mac OSX Online Protections

Our Mac protection isn't brand new anymore. Our first Mac protection - using online authorization - was delivered in 2005, OS-X support came in 2010. Then a series of Mac OS-X protections for Macmillan's educational applications was launched in February, 2011. A few months later the prestigious Oxford English Dictionary was protected by WebCops for Mac.

We also helped with the OS-X installation.

The Old Timer: CD-Cops

Well, with all of these new on-line and USB protections coming on so strong, you might think that distribution on optical discs was dead or dying. Yes, you might think so, but you'd be wrong. Optical discs are still very much alive and not really showing any signs of disappearing.

The first 16-bit CD-Cops was released in 1996. Its children: CDR-Cops, DVD-Cops and DVDR-Cops followed shortly thereafter. CD-Cops has been able to survive from Win95 through Win98, Me, NT, XP and Vista to the present Win7, including 32-bit and 64-bit.

On Win7 we were lucky enough to get some help and cooperation from Microsoft itself who actually changed their operating system to accomodate Cops protection. And, yes, we have already begun testing our various systems on Windows 8.

30 Years in the Security Business.

This year, Link is celebrating its 30th anniversary. If anyone out there remembers 8-inch floppy discs, you know why they were called "floppy". 128 KILOBYTES on each one. Our first protection, Cops Copylock, used these discs and ran under MS-DOS.

Computers were 8-bit machines with a maximum of 64 kilobytes of memory. There was no hard disk. You booted up on the floppy disc which contained the operating system. And, hey, it booted up in about 1 second flat. Something no modern computer can boast. Well, OK, there are tablets and smart phones. They're pretty much instant.

Cops Crypto

Up to now, we've talked about the physical protection, the actual physical thing that acts as proof of ownership. For the optical disc, it's the original CD. For the stick, it's the original USB. Copies won't work. For the online protection, the machine itself becomes the proof of ownership. Once online authentication has been carried out, the software is locked to the computer.

But there's more to it than that. One security principle runs through all of the physical protections and that is encryption. Earlier our customers

developed executable programs that had to be protected from piracy.

Nowadays, most applications are developed using tools like Shockwave. So it's the data that has value.

Our Cops Crypto encrypts the valuable data and then decrypts it on the fly so that the reader, browser or whatever never knows the difference. The decryption process is - naturally - protected so that it can't be debugged or reverse engineered.

Data protection by encryption is an incredibly demanding discipline. You cannot imagine how many different multi-media configurations our customers can come up with. Often it's a straight PDF document, but just as often, it's a PDF that calls a Shockwave that in turn loads a video. And then the whole shebang has to be initiated from an html script which (of course !) has to run on Internet Explorer, Firefox, Opera, Chrome and what have you.

Well, it's challenging, frustrating and yes, also fascinating and even fun.

Digital Signing on the Mac

Windows has, of course, supported digital signing for many years. Now with the advent of Mountain Lion, Apple is starting to get serious about digital signing with a default "GateKeeper" that complans if applications are not signed in Apple-manner.

Since this is new, it's a bit of a jungle, but we found our way through and are now able to sign our applications so that Mountain Lion (and Lion when updated to 10.7.3 and correctly

configured) displays a comforting message of authorization instead of the warning that we've seen for many years.

Do call us if you run into problems signing your own Mac applications.

The Next 30 Years

Well, we've begun to play around with Android. And an old acquaintance UNIX, aka Linux, can still become important. From time to time customers have asked for - and gotten - protections that ran under Linux. It's never been big for us, but now there's renewed interest, maybe inspired by Suse and Ubuntu which -to us- seem to be "real" operating systems in contrast to some of the early GUIs for Linux.

Also, with the advent of the Intel powered Mac, the Mac has become - we hope no one will be insulted - a highly sophisticated Linux. We know that there are many of you out there who hate monopolies, but in this case the dominance of Intel processors is good for sharing low-level code between Macs and Windows PCs.

Part-time employee Thomas Hindberg scouting out the foreseeable future.