

Piracy questions unanswered

The News organisation's attempt to rebut our hacking revelations is littered with inaccuracies.

Neil Chenoweth

In late 2007 a group of hackers, lawyers and senior media executives told *The Australian Financial Review* different parts of a remarkable story – one that many of them had at first struggled to accept.

The Financial Review had covered the often controversial history of News Corporation's technology arm NDS Group since 1996, but these new claims were in a different league – that NDS had promoted pay TV piracy of News competitors across the board. If true, the story required extensive substantiation – and not from a single source.

The first step was to look at lengthy legal pleadings against NDS by French media group Canal Plus in 2002 and US satellite broadcaster DirecTV in 2000 and 2002.

US broadcaster EchoStar's 2008 trial brought key players in the saga into the public gaze with thousands more pages of exhibits, filings and a 3000-page transcript in which NDS executives made remarkable revelations about earlier court cases.

The documents had to be analysed in direct interviews with the people in the story, which opened new leads and provided other document troves, including the hard drives of former Scotland Yard commander Ray Adams and also Lee Gibling, who ran NDS's pirate website, The House of Ill Compute (Thoic).

That meant going back to primary sources, and much more travel. It took four years before the *Financial Review* went to print with the story, with overwhelming substantiation.

In the six weeks since then, Rupert Murdoch's *The Australian* has run a determined campaign to discredit the investigation, culminating on May 5 when *The Weekend Australian* devoted the top of its front page and two pages inside to report that the *Financial Review* had painted a "blatantly incorrect conspiracy theory of a global piracy scam orchestrated by News Corporation".

The Weekend Australian claimed to have read 4500 of the 14,000 emails from Adams's hard drive – but without the lengthy engagement with sources needed to build a consistent picture.

The confusion began with the most basic facts. The names were mixed up – Sydney hacker David Cottle became Andrew Cottle (*The Weekend Australian* quoted an email about him but cut Adams's plan to illegally obtain his phone records).

The people were mixed up – an elaborate graphic showed an email from Avigail Gutman on February 25, 2001. But the email was actually from Ray Adams on February 22.

The dates were confused: "Chenoweth turns a blind eye to this email three months earlier showing the hack was already common knowledge." *The Weekend Australian* mounted a key argument based on mistakenly reading the American form of the date in the email, 6/4/2000, as April 6, 2000. The actual date was June 4 – which undermines the newspaper's conclusion.

In another mix-up, it reported that "this email, showing Sky cards were being pirated as well as OnDigital cards, is also ignored by Chenoweth". But no BSkyB cards were pirated, only those of UK pay-tv broadcaster OnDigital, which carried some BSkyB channels.

From here the errors became more serious. *The Weekend Australian* reported on emails it said ran in the *Financial Review* that didn't and other emails it claimed didn't appear in the *Financial Review*, which did.

The Weekend Australian cited a July 13, 2000 email from an NDS staffer containing OnDigital codes to claim: "The AFR's Chenoweth cherrypicks these lines to claim NDS has leaked its rival's codes."

This is quite wrong. The *Financial Review* stories made no reference to the email referred to, which appeared in the BBC Panorama program. But it's hardly disputed NDS's website, Thoic, ran pirate codes. Thoic produced a free e-zine describing how to hack OnDigital, while records from Lee Gibling's hard drive show that Thoic moderators posted monthly codes for OnDigital from June to September, 2000.

What's more troubling is that the News publication does not appear to understand how pay-tv piracy works – for example, why some pirate cards required monthly codes – or even to keep track of the main characters.

NDS tried to get Foxtel to stop using the rival Irdeto encryption as well as NDS, a protocol called simulcrypt, but this was for sound commercial reasons, the newspaper says, quoting an Adams email: "An independent assessment of the issues with Irdeto security failings can be professionally and independently put in by ADSR. This will be totally convincing. We do not want simulcrypt in our lives."

The Weekend Australian does not seem to realise that ADSR, the "totally convincing" independent party providing Foxtel with "sound commercial reasons", is the company of Oliver Kömmerling, a master hacker who worked for NDS.

The Financial Review has quoted Kömmerling's revelations about NDS piracy at length, but in these cases *The Weekend Australian* calls him an unreliable hacker.

News Limited chief Kim Williams has pointed out that Foxtel swapped its Irdeto cards to new-generation Irdeto 2 cards in 2003, rather than NDS. But conditional access providers like Irdeto and NDS operate on long-term contracts. Telstra decided not to replace the Irdeto set-top box shortly before moving to a fully digital platform with a new NDS set-top box in 2004.

Austar chief John Porter told the *Financial Review* that Foxtel instead had a soft switch-over, with new clients getting NDS cards, before the full digital switch-over.

The Weekend Australian highlighted NDS's work with the anti-piracy bodies like Federation Against Copyright Theft, but this has been controversial. Davide Rossi, former head of Europe's leading anti-piracy group AEPOC, is currently facing criminal charges of fostering piracy that Italian prosecutors say was "in the express interest of NDS".

Many questions remain. Why did NDS allow competitors' codes to be posted on its own websites? Why were source codes that NDS itself hacked from competitors' cards released to other pirate websites?

How were NDS executives able to obtain telephone records and other confidential details of third parties? Why did they repeatedly describe an NDS budget line item as a fund for police informants?

Perhaps most surprising, NDS senior operatives repeatedly warned that NDS had released competitors' codes. Why did senior management decide not to investigate?

▶ America Inc, page 52

Cut and paste

Where *The Australian* went wrong

THE CHENOWETH FILES

AFR March 28
THE AUSTRALIAN FINANCIAL REVIEW
"Pay TV pirates cracked the codes of smartcards issued to customers paying for the service. The hackers would then sell black-market smartcards giving viewers free access and costing the broadcasters millions... The emails bolster claims by the BBC Panorama program that News sought to derail OnDigital, which collapsed with losses of more than \$2 billion in 2002."

The AFR's Chenoweth cherrypicks these lines to claim NDS has leaked its rival's code:

I'm sure you must have had the July key as it was posted ages ago on Usenet but just in case you don't it is:
OnDigital ID: 001B
Key index: 0D
Key: AD B6 89 FB 07 E4 26 AF
Been working since June 30th.

But taken in context, the email shows pirated cards are already on the black market:

From: Coulthurst, Andy
To: Adams, Ray; Shiloh, Yehonatan
Date: 7/17/2000 6:48:32 PM
Subject: OnDigital Stuff
> Subject: nearly free ondigital
> Date: Thu, 13 Jul 2000 23:43:00 GMT
> From: smartchipmy-deja.com
> Organization: Deja.com - Before you buy.
> Newsgroups: uk.tech.digital-tv
> on digital cards for sale on a gold card
> 1=E45
> 2=E40
> and ring if you want more. also code for sale ring ste on
> 07719 609248
> you can have every chanel inc ppv and adult
I'm sure you must have had the July key as it was posted ages ago on Usenet but just in case you don't it is:
OnDigital ID: 001B
Key index: 0D
Key: AD B6 89 FB 07 E4 26 AF
Been working since June 30th.

And Chenoweth turns a blind eye to this email three months earlier showing the hack was already common knowledge:

From: Shiloh, Yehonatan
To: Sofer, Heli; Adams, Ray; Rose, Ted
Date: 6/4/2000 6:45:00 AM
Subject: OnDigital Hack

Enclosed is an interesting article from 'Europe' stating that the delay in the hack of OnDigital compared with the other SECA-utilizing broadcasters is due to the fear which pirates have of BSkyB's prosecution of pirates - including pirates that hack BSkyB broadcasting on other providers (such as cable and OnDigital).
OnDigital targeted by pirates

Rumours circulating internet newsgroups and forums suggest OnDigital, the UK digital terrestrial broadcaster, has been hacked.
Insiders predicted that it would be only a matter of time before someone offered unofficial OnDigital cards or upgrades. The fear has been because BSkyB supply programming to OnDigital, it would take a brave man to incur the wrath of Murdoch and offer any pirate card either for sale or on an unofficial basis. BSkyB are known to have no prisoners - inside - any EC directive outlawing a sale of any illegal pirate cards, any hack would, of course, be of great concern to both BSkyB and OnDigital themselves.

This email, showing Sky cards were being pirated as well as OnDigital cards, is also ignored by Chenoweth:

From: Adams, Ray
Sent: Tuesday, July 18, 2000 11:00 AM
To: Hasak, Reuven; Peled, Abe
Subject: FW: On Digital
I've attempted to knock out one of the types of On Digital cards - the gold wafers card. The cards auto update and are not easy to control this piracy. I have to say now that to get control would take a lot of effort. The trouble for SKY is that coming on top of the Cable piracy situation this will mean yet another way of accessing SKY programmes without having to take out a SKY subscription. The problem is that the Cable technology and that of SECA are weak and vulnerable.
From: Adams, Ray
Sent: 18 July 2000 18:00
To: 'geof@alters'; 'martin.stewart'; 'sharon.Southwell@ray'
Subject: On Digital
The On Digital hack has now broken out in the commercial pirate world - I have sent messages to SECA (Paris) and want to bring them into the fight. I have also communicated, through FACT, with On Digital. We will have some arrest operations running to discourage those involved in the sales. However, if the experience with SECA elsewhere in Europe is anything to go by then On Digital are in for a very rough ride. The reason that we are able to arrest operations is that SKY are a victim inasmuch the platform carries our programming. I do not believe On Digital are sufficiently organised to deal with this situation and it will take them too long to get organised.

What's more, NDS and OnDigital are cooperating to fight the pirates:

From: Adams, Ray
Sent: 26 July 2000 16:51
To: 'martin.stewart'
Subject: On Digital
I would like to sit down with On Digital and SECA and see what we can do together to control the hack and thus protect SKY as the eventual revenue loser. The total number of devices that could soon be on the market is approximately 250,000. This is a total and comprehensive hack. If OnDigital do not act soon the pirates will take full control of the market. The only thing that can save them in the short term are ECM's and or a card swap. They are not organised to do either.

AFR March 29
THE AUSTRALIAN FINANCIAL REVIEW
"... for Operational Security, the answer was to drop Irdeto completely."

The AFR claims NDS tried to get Foxtel to stop linking its signal to its rival using the SimulCrypt protocol. It lifted this line from an email as proof:

We do not want simulcrypt in our lives.

But the rest of the email makes clear there were sound commercial reasons for de-linking the signals since Irdeto could be hacked:

From: Gutman, Avigail
To: Adams, Ray
Date: 2/25/2001 1:12:16 AM
Subject: RE: ...
An independent assessment of the issues with Irdeto, security failings and independently put in by ADSR, this will be totally convincing. We do not want simulcrypt in our lives. Firstly it means that the services that Foxtel are providing are compromised and it adversely affects their revenue. Secondly the whole time that there is piracy the pirates have an income and that gives them money to hack NDS. So get rid of Irdeto and you get rid of piracy and the future threat."

PHANTOM EMAIL

"The AFR's Chenoweth cherrypicks these lines"

... But this email has never been quoted in the *Financial Review*

TIME FLIES

"Three months earlier"

... But *The Australian* has misread the date

CARD SHUFFLE

"Sky cards were being pirated"

... But it's OnDigital cards and platform being pirated

TOTALLY CONVINCING

"Sound commercial reasons" for Foxtel to drop Irdeto

... But *The Australian* shows wrong date, wrong sender and doesn't realise "totally convincing" independent adviser ADSR is really NDS hacker