

Operators' plans for a flash changeover to all-IP networks proved over-optimistic. As a result, specialist companies are helping them keep ageing TDM kit going for just a little longer

# As the IP transformation is delayed, specialists arise to keep TDM going



A forty-foot container — one of eight — full of Nortel kit arrives at Comtek's new training centre after the journey from Munich

Anyone outside Nortel's training centre in Munich not long ago would have got a sobering view of the pace at which the telecoms industry is transforming to all-IP operation.

There, about six or seven kilometres north of the middle of the city, eight large trucks turned in from the main road, Ingolstädter Strasse, 20 people got out and entered the building.

After an interval they loaded 200 tonnes of Nortel telecoms equipment into the trucks, got back in and drove off 1,500 kilometres through Germany and France, across the English Channel to an industrial park in north Wales.

"The equipment was going to be crushed," says Askar Sheibani, CEO of Comtek, who employs the 20 technical experts and hired the eight trucks. "It was going to be destroyed. We saved it so we could create a state-of-the-art lab."

His aim was to rescue it — because his business, like that of a number of other companies, recognises that the world is still full of telecoms operators that rely on TDM equipment. As the all-IP revolution moves more slowly than once forecast, many of the vendors have moved out of the sector. Or, like Nortel, gone bankrupt.

Sheibani took away the equipment with the approval of the administrators of Nortel, the Canadian equipment maker which went into administration in January 2009. "We sent the 20 people to decommission the whole building." The administrators wanted to sell the site "and they were going to throw everything away".

After Nortel went bust, five companies acquired parts of the business of what once was a hugely successful telecoms vendor. Nortel was not alone. Marconi had collapsed in 2005, and much of it was taken over by Ericsson.

In both cases the new owners understandably wanted to focus on what areas they could retrieve from the old

companies, having rationalised the product lines to fit with their own. "Vendors are consolidating and they want to focus on new products," says Richard Kendall, CEO of Nova Incepta, which, like Comtek, specialises in maintaining, repairing and keeping going telecoms equipment that pre-dates the all-IP transformation.

Marconi's final blow fell because earlier in 2005 it had failed to be included on the roster of vendors to BT's 21st Century Network project, under which the UK incumbent planned to convert to an all-IP network. It would be wrong to blame Marconi or Nortel's fate on BT's decision: executives in the company were known to be worried about both.

## 21CN 'by 2009'

But 21CN did not happen at the pace BT was confidently predicting in 2005. Al Noor Ramji, its CIO at the time, said in a conference that year: "We plan to have completed it by 2009."

Paul Reynolds, CEO of BT Wholesale in 2005, said that the reason for the transformation was that the company was running so many networks side by side.

"We have 16 networks — PSTN, broadband, ATM, and you can actually make it more than 16 — and all these are data, multimedia and voice platforms that can be run on one single network," he told Global Telecoms Business in an interview at the time. "So the one single network is an NGN. When you start to build it you've not simplified or cut costs, you've begun to add costs — because you're on network number 17."

So the logic was that BT — like other operators transforming to all-IP — needed to close down those 16 networks as quickly as possible once the 21CN was up and running.

Actually, no one was ever sure that it was 16. The number was conjured up more or less out of the air by a consultant from PA Consulting helping BT draw up the original 21CN proposal.

And 21CN wasn't completed by 2009. Nearly six years later those dreams of a flash changeover from TDM to IP have died, and much of the old TDM equipment is still running. "The TDM network has to stay in place," says Kendall. "It's become an evolution rather than a revolution. BT is keeping its networks and migrating."

And operators have a different problem, he says. "The challenge is to keep the network going." The vendors have moved on, but the equipment lives on. Just about.

The developed world's telecoms networks changed over from analogue switching gear to digital TDM equipment in the 1980s — BT announced its digital transformation, along with the companies that later became Marconi, at the ITU's Telecom exhibition in Geneva in 1979.



Askar Sheibani, Comtek: The Nortel equipment was going to be crushed. We saved it so we could create a state-of-the-art lab

### Natural wastage

That means much of the kit is 30 years old. And those young, dynamic, late-20s, early-30s engineers who designed it and were trained to maintain it are now in their late 50s and early 60s. "There's a natural wastage that's happening," says Kendall delicately.

Why hasn't the change to all-IP happened as fast as the industry confidently predicted back in 2005? There's the economy, which has made operators want to slow down capital expenditure. There's the switch from fixed voice to mobile voice, while the function of fixed networks has moved to the delivery of internet access via an overlay. Meanwhile most of the world's mobile networks are still TDM, and still will be until LTE takes over.

And, to be frank, it's been hard to switch some of those 16, to use Reynolds's number from 2005, to all-IP technology: ISDN, for example. "They have a solution to most of these things, but I don't think the economics are there," says Kendall.

Operators which planned to do a "forklift" transition of their TDM networks to all-IP service are now being more selective. "That goes for all operators we're talking to. Their TDM networks have got life in them."

But where are the skills? That's why Kendall's Nova Incepta and Sheibani's Comtek see a business opportunity, collecting engineers familiar with Marconi, Nortel and other TDM kit to work with operators still using it. Comtek has engineers who have worked with Nortel for more than 20 years, says Sheibani. Kendall notes: "We have a flexible working model, a pool of associates who have left vendors and operators, people with in-depth experience. We have access to the original designers."

And demand appears to be widespread. "We have customers in Guatemala in central America," says Sheibani, "and in North America, in Hong Kong, in New Zealand, in Singapore and the Middle East." Nova Incepta's customers are in "the UK, Germany, the Middle East and Australasia", says Kendall, "and we're starting to do work in China. We see this as a global phenomenon."

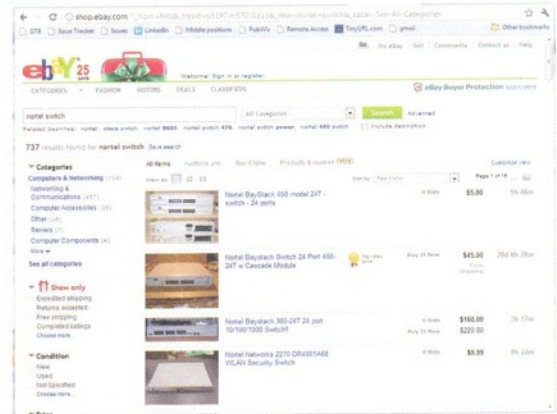
Sheibani agrees: "China bought loads of Nortel kit, but they were so expensive at the time that they cannot afford to throw them away." Comtek, with centres in Frankfurt, Amsterdam and elsewhere, has people with skills in Nortel's GSM, optical and other gear, as well as the Meridian system that was used extensively in enterprises to switch calls.

"Our customers are carriers and systems integrators. We've created a skill centre and we are providing the whole Nortel portfolio," he says.

### Secondhand market

One of the attractions of Nortel equipment is that much of it is available on the secondhand market — even on eBay. "You can buy products that used to be worth \$30,000 for a couple of hundred," says Sheibani. "We are acquiring more and more inventory so our customers can have spares. We are also buying in the secondhand market so we can refurbish the equipment — and we sell it with a one-year warranty."

Kendall agrees: "Operators are keeping their TDM networks so we need to make sure the equipment will continue to operate. We can get parts repaired." Faults, when they occur, are not always in the main electronics: "The rubber and plastic perishes," he says.



Secondhand Nortel equipment is available on eBay and elsewhere for a fraction of the original price

But sometimes old equipment will work only with old peripherals, and they have to be sourced and kept working too. Winchester discs, for example: a storage technology invented by IBM in 1973 with capacity of 35 or 70 megabytes. "That technology is still in networks today."

Nova Incepta — the Latin term means "new beginning" — specialises in a wider range of equipment than just Marconi. "Take the market leaders in 1998-99," says Kendall: "We cover Alcatel, Marconi, Siemens and Nortel." Kendall himself worked at Nortel before switching to GPT, which became Marconi and then staying on with Ericsson until 2007. His colleague Brian Down was at BT for 37 years, where he led its switch modernisation programme, before moving to Marconi.

How long will the market last? Hard to say, but Kendall has noticed a rise in prices for TDM equipment. "There is a market tightness in certain technologies." If it becomes harder to keep TDM kit going, the economics may shift back in favour of moving to IP. But that's some way off: "We haven't seen any shortages that will bring a network down."

Indeed, many TDM operators are now setting out strategies to keep their systems going for years. "We're working with one operator in Thailand that wants to keep its network until 2017," says Kendall. "That's an arbitrary number. We're doing an audit so they can understand the risks."

One of the factors helping to keep TDM going is that capacity demands have fallen as customers have taken out second lines, fax lines and sometimes even their main voice lines because of the shift to mobile and broadband.

"A lot of operators have surplus capacity but they haven't rationalised everything," he says. "There are ways of solving the problem."

But TDM users are probably living on borrowed time. Equipment that was designed in the 1970s and 1980s have undeniably gone past its design life. The people familiar with it are retiring.

And Moore's law means that IP equipment is getting cheaper and cheaper by the year: there is an inevitable logic by which operators will transform to all-IP eventually. But there is an economic life to be squeezed out of some of that old Nortel and Marconi kit for a bit longer. ■



Richard Kendall, Nova Incepta: Operators are keeping their TDM networks so we need to make sure they will continue to operate