

## ***Unbundling - is it really necessary?***

*Some argue that unbundling is just a complex minefield of regulation. Others think it is a necessary measure to keep a check on dominant local access telephony operators. In this paper we review the issues and explain why unbundling may become an important tool to facilitate the introduction of new technologies.*

### **Introduction**

The European Commission recently dropped its plans to force BT to unbundle its local loop. But the UK regulator OFTEL is now expected to link its proposals on unbundling to the pricing flexibility it will permit BT in the introduction of digital subscriber lines.

In Ireland the competition authority has accused Telecom Eireann of “abusing a dominant position” and it is bringing a prosecution against Telecom Eireann to unbundle its local loop.

In the Netherlands, the regulator Opta has also said it will be introducing cost-based local loop unbundling to encourage investment in the market.

So what’s really happening, and how effective is unbundling? And what do the future prospects look like?

### **Encouraging Competition**

The simple answer is that unbundling *can* be effective. However, it could also increase market risk, and ultimately discourage sustainable infrastructure build.

Unbundling is essentially a mechanism to give competition the ability to resell a dominant operator’s local loop. Given that it relies upon potential competitors’ co-operation, it

needs a helping hand from the regulator to even get off the ground.

Unbundling has many similar facets to interconnection, which has been one of the most hotly contested issues in the industry, and it is likely to prove just as contentious. The unbundled charge rates are the key point of contention, and need to be finely pitched.

Interconnection charges are actually the biggest costs that new operators have to face. They affect the range of discounts that can be offered and determine how quickly a new telecoms operator can reach profitability. Interconnection charges also occur at bulk interfaces and are susceptible to economies of scale, which is much less true of the local loop. Things are different for incumbents. For them, revenue flow is all-important, and interconnection charges allow the recouping of some of the income lost to upstart new entrants.

### **Unbundling Rates**

If the rates are set too low there is no incentive to build alternative local networks. Thus the reliance upon the incumbent, which is unhealthy for competition, will remain.

Conversely, if the rates are set too high then there is very little scope for competition to take advantage of unbundling.

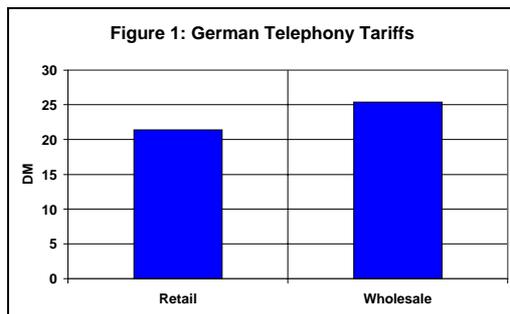


Unbundling is therefore a difficult balancing act for regulators to get right.

## Why Unbundle?

Generally speaking, many investors prefer alternative infrastructure build to resale, unless the intention is to remain as an intermediate service provider. Infrastructure build allows new operators to control more of the call connection and routing, by using a principle known as 'far end hand-off'. This helps the new operators to generate the critical mass of traffic that leads to utilisation of assets that eventually allows cost recovery.

So does that mean that unbundling is unnecessary? If the wholesale rates are above retail rates, then the future looks bleak for future start-ups. (See figure 1).



Given that some incumbents appear to be offering retail access at near or below cost, there seems little scope for new operators to enter the market and capture a margin. However, the key point is that new entrants are seeking control of the customer relationship. They can't, generally speaking, expect incumbents to welcome them into the market place and can therefore use unbundling as an opening move or part of a more complete market entry strategy.

It is also a complex business, as the demarcation of billing, customer service, provision, and maintenance all need to be clearly defined and run smoothly for the unbundled service to succeed.

## Creating an Environment for Unbundling

So how do you encourage unbundling? A starting point is the creation of sufficient margin (potentially up to 30%) for a service offered over unbundled loops to be attractive as a standalone service. However, this will obviously vary depending on the functions carried out by each operator, and how efficiently a retail customer base can be established. See panel for key factors influencing the decision to invest in a service over unbundled infrastructure.

### Offering a service over unbundled loops – investment factors: -

1. The margin between retail and wholesale charges.
2. The absolute level of charges that a new operator can levy for local access for basic and higher bandwidth circuits (e.g. ISDN, leased lines, frame relay).
3. An operator's existing infrastructure, overlap with incumbent and access to POPs (Points of presence).
4. Characteristics of its longer term plans for infrastructure development and rollout.
5. Whether other telephony services are being concurrently operated and marketed by the new entrant.
6. The strength of the regulatory regime controlling the incumbent.

The charging levels ultimately determine the envelope within which both the incumbent's own retail marketing has to operate and the margin with which competitors can operate. The level of the wholesale charges in relation to the retail charges is therefore the most important factor in determining how attractive it will be for competition to enter the market using unbundling. It can also be virtually guaranteed that if the wholesale charges are set well below retail rates, they will be hotly contested by any incumbent, or any operator forced to unbundle their local network.

Another key issue here is access to the local exchange. If the incumbent manages to retain its monopoly over the exchange building, then even if the tariff playing field is artificially levelled in favour of the new entrant, it will be at a technical disadvantage. This arises from the relatively



short range over copper of much of the new, high-speed technology reaching the market today. Having to contend with two local ends, rather than one, will limit the flexibility of the new entrant.

The rise of carrier hotels such as the London Teleport will only partly ameliorate this situation. Although carrier hotels will be needed for the location of equipment that is likely to overflow any capacity in the exchange building, true access to the local loop can only take place in the exchange, so true unbundling can only take place if open access to exchanges is included.

Relying solely upon unbundling to stimulate competition is a risky strategy, as it encourages monopolistic provision of services. This means that regulators will have to carry on playing a central role in ensuring that monopoly power is not abused.

So how do the world's markets compare, who has unbundled to date and what have been its effects?

## Performance

The Netherlands and the US are examples of two countries that have actively encouraged unbundling. The situation in each country is revealing.

### The Netherlands

Opta, the Dutch regulator, has stated that competition will gain access to KPN's local access at cost, but that the unbundling of local access at cost will be phased out over a period of 5 years in favour of, potentially, a more commercial wholesale rate.

The programme is due to be implemented in 2000, so by 2005 the discounts will be phased out. Who will be attracted to this window of opportunity? Because of the short timeframe, it is likely that only operators that are intending to build local access infrastructure will be attracted to such a proposition.

It is the Dutch cable TV industry that is the obvious intended target, as it contains the

operators that are most likely to be seeking to develop local access networks.

So, in the Netherlands, the intention of unbundling is to act as a stepping stone to speed up the availability of competitive services, and aid the viability of infrastructure investment.

## US

Even though access to unbundled network elements at cost was one of the key elements introduced in the US's 1996 communications regulatory package, few operators have, in practice, taken advantage of unbundled networks.

In the US the state and federal regulators are charged with interpreting the 1996 Telecom Act. Because pricing of unbundled network elements generally is more favourable for CLECs (Competitive Local Exchange Carriers), the industry has engaged in an ongoing debate over what constitutes a single element and which elements must be unbundled. Meanwhile policy-makers have started looking for a way to ignite competition in the residential market, which few CLECs have targeted. CLECs can enter a local market using either a resale, or a facilities-based, approach, i.e. constructing their own access network.

In the resale approach, the CLEC buys existing services from the incumbent at *retail price-minus marketing and administrative, or "avoided" costs* and then resells those services to end users. Because retail discounts typically average only 20 per cent, few CLECs rely solely on that strategy, although it is being used on an interim basis to service customers until they've built their access networks.

There are wide disparities in pricing from state to state, as well as a wide disparity between pricing for unbundled network elements and resale pricing. It means that the opportunity to unbundle varies widely between states.

## Costs and Return-on-Investment

Infrastructure build-out in the telecommunications industry is typically a long term investment – while resellers can obviously exploit the current



window of opportunity of unbalanced charges. Ultimately, however it is more attractive if the customer base is accessed using own-infrastructure because end-to-end call quality can be managed, and costs controlled better.

The attractiveness of own-build versus unbundling (leasing) strategy ultimately depends upon the regulation in place, the terms and conditions for accessing the incumbent's network, and how balanced an incumbent's charges are.

Whatever the circumstances, for unbundling to be fairly implemented regulators still need to be relied upon to ensure that the costing methodology that is used to determine the charging base is fair. Determining the costs ultimately relies upon accounting separation, and the ability to make a sound determination of costs.

If the goal of the regulator is to encourage sustainable long-term competition, and not to compromise the investments made by an incumbent operator, then forward looking long run incremental costs plus a mark-up to recover the cost of capital is generally seen as the most theoretically sound basis upon which charges should be set.

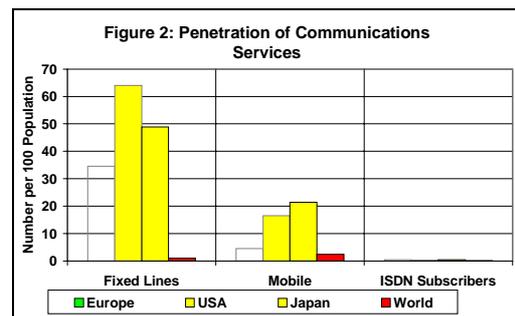
What is often not immediately obvious to new entrants is that if unbundling is enforced symmetrically then their networks could be subject to the same unbundling. This could potentially damage the longer-term investment in their own networks.

It is easy to see some of the potential inefficiencies that unbundling can create, such as an incumbent setting up a wholly separate subsidiary that is a marketing organisation to compete with its own parent, and the additional overhead of operating many organisations.

In its current format, unbundling does not appear to be the big force that people were predicting a couple of years ago, although the threat of unbundling has forced some prices down, e.g. BT's recent Megastream tariff reductions. Unbundling could, however, still provide an effective platform for newer technologies to be delivered.

## The Role of New Technology

Advances in new technology, such as DSL (digital subscriber lines), have the power to increase dramatically the capacity of twisted copper pairs through which most of the world's local loop communications are still accessed, see figure 2.



ADSL (a form of DSL, known as asymmetric digital subscriber line) currently delivers data downstream at up to 6 Mbit/s and upstream at 400 kbit/s. At the moment there are no standards governing the equipment, which means carriers have to install equipment from the same vendor at their POPs and at customer sites. There are also significant electromagnetic compatibility issues to be overcome.

It currently costs carriers about \$2,000 to install an ADSL connection: \$1,000 for equipment at the POP and customer site, and another \$1,000 for the circuit installation. But those costs could come down to \$850 per connection by late next year, with the introduction of ADSL-lite built on the G.992.2 standard set down by the International Telecoms Union (ITU).

When the costs of equipment, network build, marketing and administration are combined, it means that the barriers to entry still appear significant, which means that mass market adoption may take some time.



## **The Future for Unbundling**

In the short term, the cost of DSL equipment and the high cost of installation is often blamed as the barrier for the slow roll-out of DSL services. However, in the longer term DSL is likely to be one of the first new services to be offered over unbundled access lines. Indeed, it is arguable that the threat of unbundling can spur an incumbent operator to begin deploying more advanced technologies in the local loop.

The European Commission is currently undertaking a study to investigate the consequences of unbundling, and to determine its own policy.

One thing is for sure, unbundling is likely to remain a prickly subject, to which regulators, new entrants and incumbents alike need to keep their antennas tuned, both now and in the future.

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