

EXECUTIVE SUMMARY

Barriers to competition in the supply of electronic communications networks and services

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I Introduction

This study prepared by Ovum¹ looks at barriers to competition in the supply of electronic communications networks and services (ECNS) in the EU. Main market areas covered are fixed network services, mobile services, television services, and Internet based services (e-services). The study also looks at the supply of software for 3G mobile services.

II Fixed network services

No barriers to competition in the corporate market

Rivals to the fixed incumbent in the corporate market have won very substantial shares in providing services based on alternative infrastructure in city centres. Compared with other segments of the fixed network services markets there are relatively few barriers to competition.

We recommend that the European Commission should take no further action in relation to the corporate sector until it is clear that current measures are failing.

Competition in narrowband fixed services

Fixed incumbents continue to dominate in the supply of narrowband access and local calls in most member states. This reflects the very substantial barriers to competition which exist in this market². In contrast incumbents face strong and growing service based competition in the long distance calls market.

The lack of competition in the narrowband access market has led several NRAs to mandate that the fixed incumbent supply wholesale line rental (WLR) services. For WLR the incumbent rents the narrowband access lines and associated features at the local switch to a rival at a regulated wholesale price. Our analysis indicates that the balance of arguments in favour of mandating WLR service is far from overwhelming. One major objection is that it removes incentives for infrastructure based competition.

We recommend that Member States investigate further whether WLR is effective in removing barriers to competition or whether it acts to deter infrastructure competition.

¹ A team lead by David Lewin and David Rogerson from Ovum and Peter Alexiadis and Miranda Cole, then of Squire, Sanders & Dempsey LLP and now of Gibson, Dunn & Crutcher LLP.

² In terms of the economies of scope and scale, sunk cost investment and advantages of incumbency enjoyed by the old monopoly operator.

Infrastructure based competition in broadband services

Demand for mass broadband service is growing rapidly. By the end of 2007 we expect 90 million of the 200 million fixed connections in the current EU to operate at broadband speeds³. The level of competition in this sector varies considerably between member states and the EU lags far behind trading rivals like the USA, Japan or Korea in the level of infrastructure based competition⁴.

Given the financial difficulties which major European CATV operators have faced over the past few years we do not expect many of them to expand their geographic footprint substantially from their current coverage. But these operators still offer a powerful source of infrastructure based competition to the fixed incumbent in the broadband markets. A major barrier to competition is the fact that, in five member states, the fixed incumbent still owns a substantial proportion of CATV network facilities.

We recommend that the EU and the Member States consider the steps that they can take to ensure that fixed incumbents divest themselves of their CATV businesses

At the same time the prospects of infrastructure based competition from new technology networks are mixed. Our research suggests that:

- prospects for competition based on fixed wireless access is very limited; but that
- there are new prospects for powerline communications (PLC) in which telecommunication signals are carried over the electricity distribution network.

Given PLC's potential as a source of infrastructure based competition we believe it is important to resolve the interference problems which PLC equipment currently faces.

State funding of broadband rollout could also affect infrastructure based competition. Virtually all respondents to our study are convinced that guidelines on the application of state funding are being ignored and that this is leading to a distortion of competition.

We recommend that the European Commission should investigate these complaints and take appropriate action.

Service based competition in mass broadband services

Incumbents currently offer three broad types of wholesale products - IP level wholesale DSL service, bitstream DSL service, and unbundled local loops.

We recommend that:

- SMP operators should be required to offer all three services.

³ Speeds in excess of 128kbit/s.

⁴ If we count unbundled local loop operators as infrastructure competitors then less than 50% of broadband services are supplied by incumbents in these countries. In the EU the proportion is around 75%.

- *SMP operators should be required to offer practical and effective migration paths between the products.* This allows service providers to use the three products to build their customer base, reduce risks and so provide “stepping stones” from service based to infrastructure based competition.
- *SMP operators should be required to provide co-mingling of equipment and cost-oriented backhaul at an appropriate level of disaggregation to local loop unbundlers.* Such measures will help lower the main barrier to local loop unbundling – the large upfront investment required to reach the incumbent’s local loops – and so maintain the rapidly growing proportion of broadband services provided using unbundled local loops⁵.
- *Where national regulatory authorities (NRAs) take decisions about prices for these services, incentives for the incumbent and its rivals to rollout broadband infrastructure need to be preserved.* If a cost oriented price for a bitstream service is imposed, NRAs will need to take account of investments in other new products which have failed, the asymmetric risks which incumbents face when making sunk investments in new technology products in competitive market places, and the rate of price/performance improvements of new technology components.

Detailed analysis can be found in the main report.

III The mobile network services markets

Industry structure

The mobile industry structure is very different from that in the fixed services industry. While the fixed incumbents still provides well over 95% of fixed connections in most Member States, the largest mobile operator typically has a market share of between 40% and 60%. There are three to five 2G operators offering service in all member states with an additional greenfield 3G licensee in many. In 13 of the 15 members states the leading mobile operator (MNO) is a subsidiary of the fixed incumbent. There are in addition a number of independent service providers reselling MNO services and a growing number of aggregators, content providers and applications developers involved in the supply chain for data services.

There is a general, but not universal, support for the thesis that we will see **consolidation** in the EU mobile industry over the next few years as a result of economy of scale effects. However, there is also a general view that the level of infrastructure competition in the supply of mobile network services will remain satisfactory in most EU Member States after consolidation and that competition law provides a satisfactory mechanism for dealing with any competition issues which may arise from consolidation in these Member States.

We conclude that:

⁵ In October 2002, this proportion was at 2.5%. By June 2003, it had reached 4.7%.

- *there is no need for the European Commission to institute ex ante EU-wide measures to deal with competition problems arising from consolidation of the mobile industry; and*
- *it is important that NRAs do not intervene to preserve non-viable mobile operators who come to them seeking regulatory relief.*

Access for MVNOs and value added service providers

There are a growing number of calls from independent service providers, MVNOs and value added service providers to gain access to the customers and services of the MNOs on regulated terms. But there are also arguments against introducing such regulation. In particular:

- it is important to preserve the current level of infrastructure based competition within the mobile industry, especially given the prospects for consolidation discussed above. Mandatory access for service providers would reduce future investment incentives for mobile operators;
- there are strong market incentives for mobile operators to reach satisfactory commercial arrangements with service providers, especially now that spare capacity on 3G networks is becoming available;
- it is clear that many mobile operators, especially the smaller operators, are following an open approach to data and Internet services, rather than a walled garden approach; and
- a walled garden approach can have value in helping to build user confidence in new data services and in offering consumer protection. Mobile operators can make sure that walled gardens services are easy to use, offer predictable prices and minimise the risk of fraud⁶.

3G Roll Out

There are serious problems of site acquisitions and site sharing, especially for greenfield 3G operators in 3G roll out. However the problems are complex and vary across member states.

We can see little merit in preserving restrictions on network sharing. So we recommend that the European Commission should examine whether it is practical for the restrictions on network sharing which exist in many Member States to be removed.

Should 3G roll out conditions be relaxed? According to mobile operators roll out conditions are not especially onerous, except in Sweden. Even here it should be possible, given that W-CDMA cell sizes depend on levels of use, to interpret licence conditions flexibly so as to align them with current projections of market demand.

Assuming that such a flexible approach is possible, we conclude that there is no case for EU-wide action to modify existing 3G roll-out conditions.

⁶ A mobile operator which offers only a walled garden approach could reduce the level of competition and will reduce consumer choice.

Regulating the prices of mobile call termination

Should mobile operators be subject to requirements for cost orientation and non-discrimination when charging for their call termination services? The issue of cost orientation is currently the subject of administrative and judicial review in a number of member states. Accordingly, we do not believe that it is appropriate to take a position in relation to this issue.

However, we do recommend that the European Commission should:

- *consider whether it should issue guidance requiring NRAs to ensure that mobile operators charge regulated call termination prices in a non-discriminatory fashion and, in particular, do not discriminate between charges to rivals and charges to their own retail business.*
- *consider what price differences between mobile operators should be allowed when setting a regulated call termination price. For example, should differences in call volumes, which lead to higher unit costs for smaller operators, be reflected in the price differences?*
- *consider to what extent the arguments which lead to regulated prices for 2G mobile voice termination should apply to other services such as SMS call termination, 3G voice call termination and MMS call termination.*

IV Broadcasting services

Potential barriers to competition from rights acquisition and exercise

Control of rights to premium content may have a foreclosing effect, particularly where such rights relating to a wide variety of content are held by individual platform operators. The same effect may occur in relation to the licensing of rights to TV programme content with embedded enhanced functionality.

We therefore recommend that the European Commission should:

- *use competition law and its attendant procedures (where appropriate) to limit exclusive rights to TV programme content, particularly where such rights are of broad scope (both in terms of platforms and number and variety of rights) and are of long duration.*
- *consider developing guidelines relating to content rights, based on case law to date.*
- *study further the issues associated with embedded enhanced content to see whether broadcast content and embedded enhanced content should be considered as separate markets.*

Relationship between channel supply and access to platforms

Such relationships are the interface between content and the regulatory regime applying to electronic communication services (ECS). Within the regulatory framework, there is variation in the treatment of substitutability between transmission on cable and satellite platforms. There appears to be more consistency in the treatment of analogue terrestrial

broadcasting transmission services as complements to these other transmission services. It is not clear how the remedies that might be imposed on a provider of broadcasting transmission services with SMP under the ECNS regulatory framework will operate in practice. For example, it is not clear whether an “access” obligation would effectively confer on content providers a right to access to transmission services, even though they are not otherwise within the scope of the ECNS regime.

We recommend that the Commission and the Member States consider carefully the variation between Member States when identifying relevant broadcasting transmission markets and consider the appropriate form of obligations to be imposed on entities found to have SMP in the relevant market(s).

Consistent Regulatory Treatment of Competing Services

The nature and scope of must carry obligations currently vary widely across Member States. The regulatory framework is unlikely to lead to a review of channel bouquet line-ups and pricing decisions currently applied in a number of Member States.

The Commission should further investigate the related legal issues to ensure that ‘must carry’ obligations remain appropriate and proportionate.

The regulatory framework does not apply to services providing or exercising editorial control over content transmitted over the networks. The *Television Without Frontiers* regime uses the ‘television broadcasting’ concept.⁷ The gaps and overlaps between these concepts and the different impact of each regime is already beginning to open up potential regulatory lacunae. These differences can be seen in relation to the scope of each regime, the underlying jurisdictional basis and the powers conferred on regulators in relation to the different services.

The Commission should undertake a comprehensive review of the overlaps of, gaps between, and boundaries of, these regulatory distinctions to ensure that the application of different regulation to different services does not defeat the Community's digital economy aims.

Conditional Access Systems

Limited regulatory attention has been focussed on interpreting the “fair, reasonable and non-discriminatory” access obligation under the regulatory framework. Any review of the remedy should entail consideration of:

- whether an obligation on conditional access systems might provide the most appropriate means to address the regulatory mischief;

⁷ Defined as the initial transmission of television programmes intended for reception by the public, including communication of programmes between undertakings with a view to their being relayed to the public. It does not include communication services providing items of information or other messages on individual demand such as telecopying, electronic data banks and other similar activities.

- the extent to which other aspects of service provision (e.g., access to transmission services and/ or platforms and the impact of 'must carry' obligations) impact on the appropriateness and proportionality of remedies; and
- whether only 'broadcasters' should be the beneficiaries of any access obligations.

NRAs and the Commission should consider carefully the likely impact of lifting the existing fair, reasonable and non-discriminatory access obligations from providers without SMP and the appropriateness and proportionality of the current and other potential access obligations.

Interoperable iTV services

The regulatory framework legislation contemplates the possibility of mandating standards for middleware to ensure the interoperability of iTV services (e.g., the ability of interactive content to be ported between platforms with the minimum amount of reauthoring). We have found that authoring tools facilitate the porting of content. However the following factors reduce the portability of content and applications: transmission bandwidth (particularly the return channel), network integration, processing resources (in the set-top-box), different APIs, transaction processing and linguistic and cultural issues.

Platform-independent content interchange formats provide enhanced portability through a mechanism for describing applications in a platform-neutral manner (also called "authoring at a high level"). Such an approach separates content and templates, allowing the generation of platform-specific versions on services. Industry estimates that approximately 80% of current iTV applications could be authored using platform-independent languages.

The Commission should identify, before July 2004, the relevant market failures, with a view to focussing on whether they relate to standardisation or interoperability. It should also explore the extent to which authoring tools could address such failures.

V e-services

Competition between e-service suppliers

There are no barriers to competition in the supply of global Internet connectivity by backbone Internet Service Providers (ISPs) or in the supply of corporate e-services which warrant regulatory intervention. However, there are problems in the supply of consumer oriented e-services. Independent consumer oriented ISPs are seeking lower, cost oriented, prices for bitstream access and complain about discrimination by fixed incumbents. These ISPs claim that they will exit the market if there is no regulatory intervention. If true, this leads to a difficult choice for NRAs. If they attempt to preserve service competition from such ISPs by setting cost-based prices on a low level, they could significantly reduce further infrastructure investment.

The European Commission should investigate claims of discrimination and take appropriate action. The issue of access pricing is dealt with in Section I of this executive summary.

The role of e-payment mechanisms and regulation

The primary barrier to the introduction of e-payment services arises from the potential for pre-paid micropayment systems to fall under the onerous and expensive regulations applicable to e-money. The key factor that is accepted in some, but not all, Member States as distinguishing such micropayment mechanisms and e-money is the requirement that the latter be accepted by undertakings other than the issuer of the value. There is currently wide variation in the interpretation of when value is 'accepted' by a body other than the issuer.

The European Commission and national authorities should consider issuing guidance as to the scope of the application of e-money regulation to pre-paid micropayment systems. In the meantime the relevant authorities should also consider guidance relating to:

- *the appropriate and proportionate mechanisms to separate pre-paid value from issuer funds*
- *the need for redeemability requirements in relation to small value pre-payments*
- *the proportionality and appropriateness of the money laundering requirements.*

VI Software supply for ECNS

Software suppliers will play an increasingly important part in the value chain of the ECNS industry and in particular in the development of 3G mobile services through the supply of:

- operating systems and web browsers for mobile terminals;
- wireless middleware for mobile network services and, more generally;
- web services to enable different software systems to interoperate.

There are currently neither competition problems nor requirements for regulatory intervention in these areas.

VII Policy issues: Separation of the incumbent

Market power within the telecommunications service industry in the EU remains firmly concentrated in the hands of those organisations which formerly provided service on a monopoly basis. However, the incumbent's various businesses could be established as legally separate entities (legal separation) or as separately owned businesses (divestiture). We have analysed where the costs of separation may be exceeded by the benefits it brings. We find that:

- the case for divesting the incumbent's fixed access network from the rest of its fixed network business and running it as a separate entity is weak.
- the case for divesting the fixed network business of the incumbent from its retail business is stronger, but still weak.
- there is a strong case for incumbents to divest themselves of their CATV operations .
- there is, as yet, no case to require incumbents to divest themselves of their mobile subsidiaries.

VIII Policy issues: Measures for effective competition

In trying to enable the growth in public welfare benefits which competition in the ECNS markets can bring, NRAs are constantly faced with the problem of trying to determine the proper relationship between measures designed to promote **infrastructure-based competition** and measures designed to promote **service-based competition**:

- where it is viable, **infrastructure-based competition is better** than service based competition. It requires less regulatory intervention and so reduces the scope for regulatory error and the economic costs which such errors generate. It also generates more competitive pressure. Pure service-based competition puts pressure on the incumbent in terms of retail efficiency, customer service innovation and price levels. Infrastructure competition does the same, but creates additional pressures on the incumbent to innovate in network services, to differentiate in terms of products and pricing structures and to improve overall cost efficiency and quality of service. In other words, infrastructure based competition generates **dynamic benefits**.
- unfortunately, infrastructure based competition is not always viable – especially in the supply of fixed network services where there are substantial economies of scale and scope and where the scale of the sunk investment required makes investment risks for new entrants too high.
- in these circumstances, it makes sense for NRAs to introduce *ex ante* measures⁸ which enable service based competition at the retail level. Measures designed to promote service-based competition tend to have a rapid and visible effect on retail competition in telecommunications. When priced appropriately, they can also provide a stepping stone to infrastructure-based competition. By competing at the service level, entrants can build a customer base and revenues with little investment risk and then migrate the customers to their own facilities.
- however, where wholesale prices are set too low measures to promote service based competition can have unintended and damaging consequences. For example, they can undermine infrastructure based competition or, more importantly, they can undermine infrastructure investment in new technology services.

Based on this analysis we recommend that NRAs should take account of the following factors in determining the right balance between measures designed to promote infrastructure and service based competition:

- the relatively poor prospects for investment in further infrastructure-based competition in fixed services.
- the fact that a significant proportion of this competition is currently based on price averaging by the incumbent, both in terms of geography and customer groups.
- the need to set regulated prices for new technology services which do not remove the incentives for infrastructure investment by the incumbent and new entrants.

⁸ Such as mandatory carrier pre-selection and call origination services; requiring wholesale line rental offerings or; supplying DSL access services at regulated prices

- the need to pursue a consistent long term regulatory policy towards infrastructure-based operators.

Given its superiority over service based competition we recommend for implementation 11 measures which are designed to maximise infrastructure based competition without encouraging inefficient investment.

We propose two measures to **increase infrastructure investment**:

- *regulatory authorities should ensure that they pursue a consistent long term regulatory policy towards infrastructure-based operators.*
- *NRAs should set the prices of inputs which promote service-based competition at levels which preserve incentives for infrastructure investment by incumbents and their infrastructure based rivals, as discussed in Section I.*

We propose four measures to **increase cross platform competition**:

- *the EU and individual Member States should take what steps they can to require fixed incumbents to divest themselves of any remaining interests in CATV network operators.*
- *NRAs and national competition authorities in Member States where the fixed incumbent owns the leading mobile operator, should monitor the possibility of leverage between these two parts of the incumbent's business closely. Where anti-competitive conduct occurs, they should consider requiring structural separation or divestiture.*
- *NRAs should ensure that the call termination charges of fixed and mobile operators are regulated on a consistent basis .*
- *NRAs or national competition authorities should investigate whether mobile operators are acting in an anti-competitive manner in the pricing of the services which they offer to large corporate customers for the termination of their voice traffic on public networks.*

Finally we propose five measures to **increase cross platform competition**:

- *NRAs should allow the infrastructure-based rivals to the incumbent – whether fixed or mobile – to set call termination charges which allow them to recover the efficiently incurred costs of an operator of their size and topology.*
- *NRAs should make an explicit, but not necessarily quantitative, assessment of the costs and benefits of any regulatory measure which is designed to enable service-based competition.*
- *NRAs should make their current policy on geographical averaging of the fixed incumbent's retail prices explicit. Then, before allowing the incumbent to geographically de-average prices further, they should consider the likely impact on infrastructure-based competition.*
- *given the relatively low level of infrastructure-based competition in fixed network services in many member states, each NRA should consider whether it should provide explicit entry assistance to infrastructure-based rivals to the fixed incumbent.*

- *the relevant authorities should ensure that the EU rules on the use of state aid to fund telecommunications investments are implemented rigorously.*