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### REGULATION

## Ofcom review may threaten 'free' international-call operators

MAGNUS FRANKLIN

Regulator Ofcom's review of the UK's numbering system could pave the way for a clampdown on the growing use of mobile prefixes by resellers to offer "free" international calls.

An increasing number of international-call providers are making use of an anomaly in the numbering system in the UK to allow postpaid subscribers on inclusive-minute packages to use their "free" minutes to call international destinations at no extra charge.

Ofcom says that its review, which is expected to be concluded later this year, is looking at how mobile services are defined and whether mobile numbers are being used appropriately.

Although the regulator would not confirm that it was specifically focusing on international operators of this type, its comments suggest that they are firmly in its sights.

Orange, for one, already treats the resellers' mobile services as calling-card operations. If the regulator agrees with this definition, it could well decide to take action against them.

"We're in the middle of a consultation on numbering,

which is a big, big review, and one of the things we [are examining] is how services are defined currently," an Ofcom spokesman says.

"If we received a complaint and investigated it, we would need to be comfortable that that service was being used in the way the number was designated for."

Many traditional mobile operators oppose the practice of using their inclusive minutes to offer "free" international calls. Some have already begun charging users separately for such calls.

Earlier this year, Vodafone said that it always charges such calls on connection as out-of-bundle mobile-to-mobile calls at a cost of 35p (€0.27) to 40p a minute (*MC*, 17 Jan, 2006), while 3G operator 3 blocks calls to the resellers' prefixes.

Such resellers have traditionally relied on fixed-line premium-rate and local numbers to offer low-cost calls to international destinations.

Using the mobile version of their service is straightforward

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### FIXED-MOBILE SUBSTITUTION

## Many European homes now mobile-only, says Commission

MAGNUS FRANKLIN

A vast proportion of households in the European Union's 25 member states are now mobile-only, according to a European Commission report.

Data collected by the Commission between December 2005 and January 2006 reveal four EU countries in which 40% or more households use mobiles but no fixed-line phone.

The *E-Communications Household Survey*, which was published last month, shows that 48% of households in Lithuania, 47% in Finland, 42% in the Czech Republic and 40% in Latvia were mobile-only.

The figures illustrate the tendency for new member states to have a higher proportion of mobile-only homes than the more established ones in western Europe.

Across all 10 new member states, the average number of households with only mobiles was 28%, nearly double the average of old EU states.

Sweden, the Netherlands, Germany, the UK, France, Ireland and Denmark all registered figures of less than 15%.

Curiously, neighbours Finland and Sweden featured at opposite ends of the spectrum. While both of these countries topped the EU list for mobile penetration (at 93%), nearly half of all Finnish households had mobiles but no fixed line.

By contrast, almost all Swedish households with mobiles also had fixed lines.

Erik Hallberg, senior vice-president and head of marketing for Baltic countries at TeliaSonera, attributes this difference to the fact that Finland has a large number of local players that have prioritised the development of mobile networks.

Sweden, on the other hand, has a very large incumbent that has given priority to the expansion of its fixed-line network.

how interested are they going to be in paying for something like this?" he asks. "People might try it out once or twice for novelty value, but it's unlikely they'll want to pay for it on a regular basis."

Strand also points out that mobile operators could face a dilemma in pricing the Visual Radio service. "The [O2] service seems quite expensive, but if you lower prices, you can come to a point where usage increases and you then start to encounter network-capacity issues."

According to Strand, one of O2's primary aims in launching Visual Radio may, indeed, have been to enhance its own profile as a technology leader in the UK market.

"Is this more than hype?" he asks. "It might simply be a case of O2 wanting to put out a press release to say that they're different from the rest and involved in a sexy new service with a well-known broadcaster like Virgin Radio."

So far, Visual Radio worldwide works only on Nokia FM-radio-enabled handsets.

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### 3G SERVICES

## 3G video calling set to pick up momentum in 2007

SHANI RAJA

The 3G video-calling market could receive a much-needed boost next year as handsets with faster call-set-up times start to be rolled out across Europe.

The relatively long time it takes to set up a 3G video call compared with a normal voice call has contributed to slow take-up of the service in the region.

The set-up period of a video call is typically defined as the time taken for users answering an incoming video call to see the image of the caller on their handset screen.

Some users are put off by the wait, typically five-to-eight seconds, before a 3G video-call session is established.

Efforts to accelerate video-call set-up speeds have been spearheaded by Study Group 16 of the Telecommunications Standardisation Sector (ITU-T), one of the three divisions of the International Telecommunication Union (ITU).

Study Group 16's special focus is on multimedia terminals, systems and applications (see "Issues under review" box).

Last month, the group completed work on Annex K of Recommendation H.324, the specification governing 3G video-call set-up. Annex K contains a raft of techniques aimed at improving set-up times so that they match the speed of a traditional voice-call connection.

Annex K, also known as Media Oriented Negotiation

Acceleration (MONA), is the result of more than 18 months of industry discussion and collaboration geared towards achieving a standardised technique for accelerating the set-up of call sessions.

Dilithium Networks and PacketVideo, providers of multimedia platforms, are the co-editors of Annex K; other key players in the initiative include 3GPP and the International Multimedia Teleconferencing Consortium (IMTC).

The finalisation of Annex K means that manufacturers can now produce 3G terminals that enable video-call sessions to be established in an instant. MONA-based 3G handsets are expected to be released commercially in 1Q07.

### No more waiting

The completion of ITU-T's work was welcomed by Dilithium Networks, which claims that lengthy set-up times have soured the consumer experience of video-call services.

"Long session-set-up times are recognised as one of the limiting factors for consumer acceptance of video-telephony services," says Marwan Jabri, the company's chief technology officer.

He says that Dilithium Networks' technologies "form the foundation and substrate of Annex K".

Jabri adds that mobile operators and other players in the industry value chain have worked hard to ensure that the new techniques meet deployment and service requirements.

Annex K of H.324 describes an algorithm that, when embedded in video-telephony-enabled 3G handsets, can reduce the set-up time to less than one second – which is on a par with that for a normal voice call.

"MONA enables video-telephony terminals to exchange their preferred mode of operations as soon as the channel bearer is available, and to exchange voice and video immediately after the rapid exchange of preferences," says Jabri.

"The operation of MONA takes place prior to the conventional operation of the terminals, which normally relies on multiple exchanges of messages and incurs multiple round-trip delays before voice and video can be exchanged."

ITU-T says that the revised H.324 recommendation helps speed up connections between handsets and media servers, as well as between handsets.

"Previously, setting up a typical video session required each end to send up to 10 messages to the other terminal, each time waiting for a message to be received and acknowledged before sending the next one," the organisation points out.

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'Lengthy set-up times have soured the consumer experience of video-call services'

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If a message was not received, the sending device had to wait and would often time out before transmitting.

“The delay introduced in this process led to long video-call set-up times,” says ITU-T, adding that the new method eliminates these message-queuing and time-out problems.

“Now, all signalling is sent as a single batch to be processed by the receiving device,” it says. “Missed messages, due for example to network errors, are immediately detected by the receiving device and retransmission requests are spontaneously generated.”

Dilithium Networks’s Jabri, meanwhile, says that the development work on Annex K has now been completed. “Annex K, which describes the algorithm and how it can be implemented, contains the complete algorithm for video-session acceleration,” he says.

The standardisation process for 3G call sessions dates back to November 2004, when Dilithium Networks presented a White Paper to the ITU-T describing three techniques for accelerating video-session set-up times.

“Each of the three techniques had some attractive aspects in terms of flexibility, efficiency and implementation complexity,” says Jabri.

The White Paper kicked off an intense debate that drew in mobile operators, handset vendors and multimedia-platform vendors from around the world. The first round of debate ended with an agreement to eliminate one approach that would have required operators to modify their network infrastructure.

The remaining two approaches were debated in subsequent rounds of talks. “Some ITU-T participants suggested various implementations of these two techniques, illustrating trade-offs between flexibility, complexity of implementations and performance,” Jabri says.

In the end, the participants agreed to adopt a combined solution based on the two Dilithium technologies.

According to the ITU-T, operators in particular were keen to ensure that any video-call-acceleration solution would not require 3G handsets to be recalled. In other words, it would have to be backward-compatible with 3G terminals already on the market.

“Other advantages of the new approach include the fact that it is protocol- and network-independent, enabling connectivity with any other device, even if it is IP-based ... and meaning that it does not interact with underlying network protocols or codecs, enabling devices using the standard to operate even when roaming in other mobile networks,” says the ITU-T.

### Calling hang-ups

Mobile operators hope that terminals based on the MONA standard will give a boost to a market that, al-

though much hyped prior to commercial 3G network rollouts, has been slow to take off in Europe.

Most 3G operators in the region have tended to promote access to video content more than video calling specifically. However, slow session-set-up times may also have contributed to low consumer take-up.

The up to eight seconds it takes to establish a video-call link, for instance, may lead callers to think that their call has not got through. They might then hang up and call again, and eventually give up.

“Some users are also concerned that they are being billed for time they are not using the services,” says Jabri. “With MONA, users will get what they expect, an almost instantaneous video-session establishment. This is what they are used to with voice calls, and that’s what they will get when videophones embed MONA.”

Dilithium Networks says it has already made its MONA-based video-telephony protocol stack for handsets available for licensing.

Study Group 16 sources say that the standard has already been successfully tested in products and that it is being deployed by many mobile manufacturers and operators worldwide.

Days after Annex K was finalised, Radvision, a US-based provider of visual-communications solutions, announced that its new 3G-324M toolkit would offer fast call-set-up support based on the new standard.

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#### Other areas under review by Study Group 16

- Real-time audio, video and data communication over packet-switched networks
- Multimedia-gateway-control architectures and protocols
- Advanced multimedia-communication-service features on top of the ITU-T-defined multimedia-system platforms
- Video coding
- Variable bit-rate coding of speech signals
- Facsimile terminals: specification and performance evaluation
- Circuit-multiplication equipment and systems
- Speech enhancement in signal-processing-network equipment
- Voice-gateway equipment
- Interaction aspects of signal-processing-network equipment
- Multimedia architecture
- Multimedia applications and services
- Media coding
- Quality of service and end-to-end performance in multimedia systems
- Multimedia security in next-generation networks
- Accessibility to multimedia systems and services
- Multimedia framework for e-health applications
- Mobility for multimedia systems and services

**‘Most 3G operators in the region have tended to promote access to video content more than video calling’**