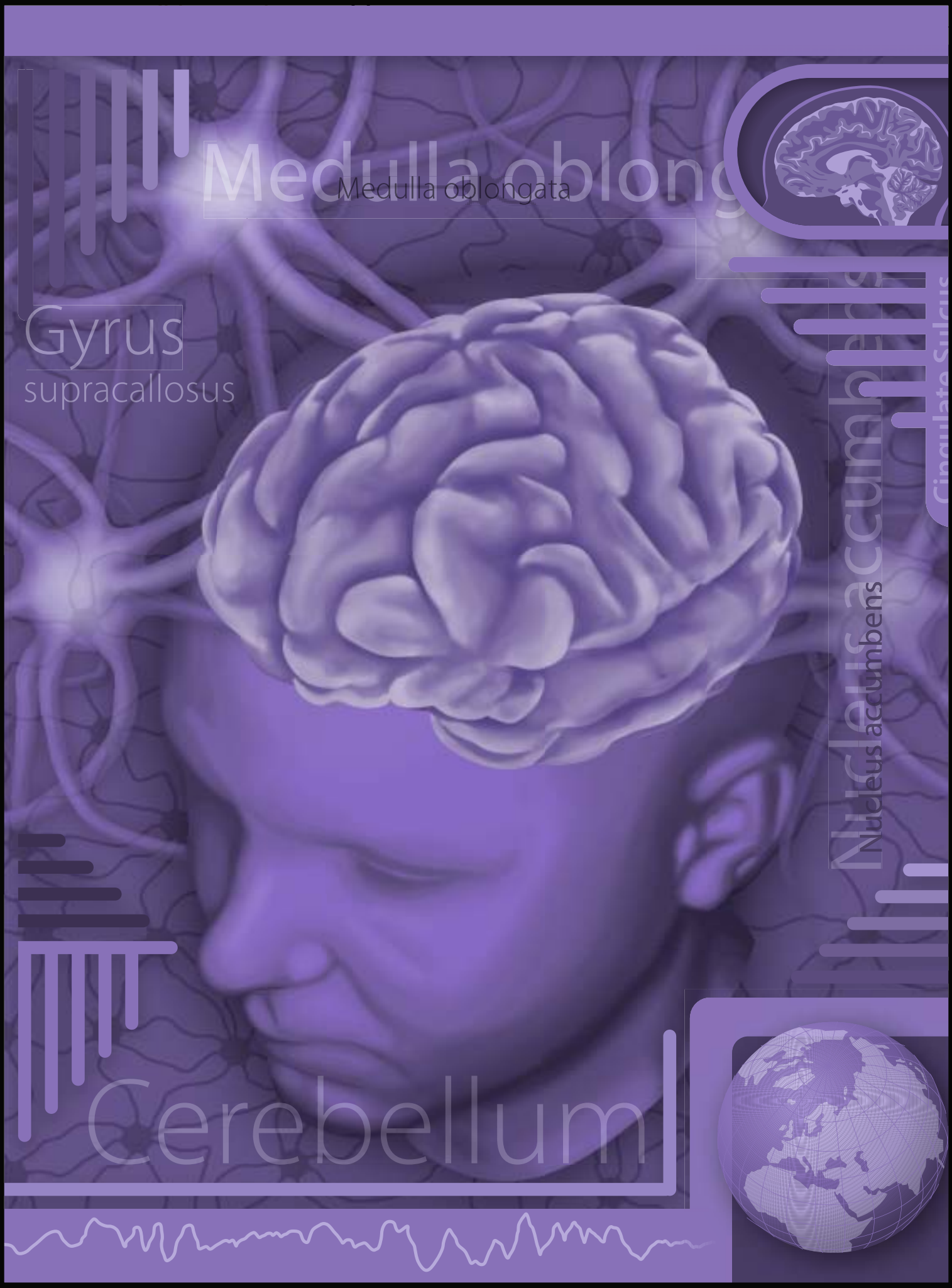

Medulla oblong
Medulla oblongata
Gyrus
supracallosus
Nucleus accumbens
Cingulate Sulcus
Cerebellum

Solution searching

Carrying voice into the future

Few operators see **future voice services** limited to basic phone calls. The question of how to deliver **rich voice services** over an all-IP network is a difficult one, and a multitude of choices may not be a good thing.

THERE IS NO DENYING that telecom voice services, as we currently know them, are in a state of evolution.

These changes have been going on for years as operators grapple with the popularity of internet telephony and the emergence of new technologies like unified communications. Some developments have been a direct result of operator success at promoting data services in the mass market. An example is the substitution of mobile messaging for mobile voice, or the availability of the bandwidth necessary to make high-quality, embedded internet-based voice services a reality.

Some developments have only come to fruition over the past year as operators plan for new technology launches that may or may not need to support voice. Perhaps the best example is the current debate surrounding voice over Long-Term Evolution, better known as LTE.

From its inception, LTE has been the subject of near-constant exaggeration, derided as too far behind mobile WiMAX to be successful. At the same time LTE has been praised as the first hope for a truly universal mobile broadband standard endorsed by operators worldwide and painted as a painless evolution from today's 2G and 3G networks…one capable of supporting operator profits and fixed-like services just in time for the Christmas shopping season. So it is no surprise that the question of how to best deliver voice services over an all-IP network has inspired much hyperbole; some suggest LTE will be doomed if it fails to embrace voice while others say the issues around voice – treated as just another IP service – will sort themselves out.

With the commercial launch of the first LTE networks still in the future, it's far too early to know how voice will be rolled out and supported. But conversations with operators and vendors make clear some points we can make with a sense of certainty.

▶ **THE EXAGGERATION OF TIMING.** The urgency with which Voice over LTE is being debated is somewhat of a fallacy. Operators will want to roll out voice services over their shiny new LTE networks. Voice, however, isn't the driving force for LTE deployments – an overload of voice traffic isn't at the heart of operator thinking around 4G upgrades. LTE is all about data. Initial device launches will include dongles and netbooks – not voice-oriented clients. Those devices won't be broadly launched until 2010. As long as SMS can be supported for device-management needs sometime ►

in the next 12 months, there is no pressing need for agreement on a near-term solution for voice over LTE.

THE PAIN OF MULTIPLE NETWORKS. Verizon's discussions about running multiple networks – 2G, 3G, LTE – were reminiscent of its push for EV-DO Rev. A several years ago. Specifically, when EV-DO Rev. A upgrades were first deployed, voice over IP services were the major driver. The hope was that operators (Verizon included) could converge voice and data on a single network and reap some operational efficiencies. In its current form, the hopes for voice over LTE are no different – they are about driving multiple services over one network to avoid the costs of running multiple networks. Where cost trimming (efficient service delivery) is a major driver of LTE deployments, it's no surprise that so many vendors and operators have gotten caught up in voice over LTE strategizing. It also explains that whether or not they need a voice over LTE solution in the near-term, the search for one will remain a priority.

SIMPLICITY TRUMPS ELEGANCE. The demand for one mobile broadband network converging is understandable; it's cheaper than running separate networks for voice and data or multiple networks that support voice and data independently. But is it really cheaper? In the long term, certainly. In the near term, there could be revenue loss if attempts to deliver bread-and-butter voice services over an LTE network result in questionable quality. And, if current 2G/3G network investments (radio access and voice core) can be used to deliver voice over LTE – the so-called circuit switched fall-back option – then the added cost is minimal, especially since most LTE devices will support 2G and 3G for coverage purposes. After building out a state-of-the-art LTE network, directing legacy voice services to a legacy network may seem like a failure. But if this can cost-effectively protect an important revenue stream, its value cannot be denied.

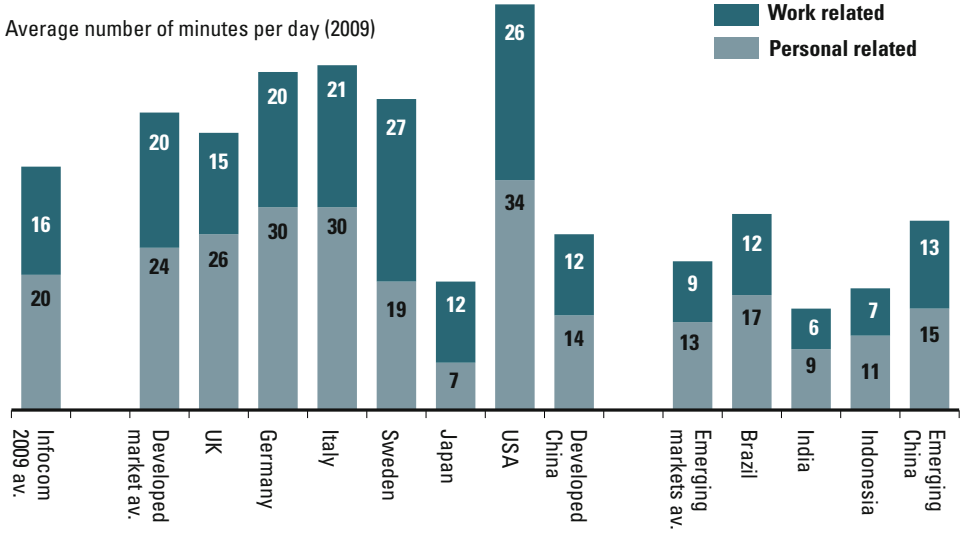
IMS AND RCS – BETTER LATE THAN NEVER. The notion of "legacy" voice services is difficult. Basic voice services generate most of the revenue for mobile operators. Few operators, however, see the future of voice services limited to basic phone calls. In other words, we're not talking about LTE supporting legacy voice services. We're talking about "rich voice" services with all the bells and whistles the internet generation has come to love: presence, Web 2.0 integrated contact management, web-based call initiation, and so on. This is why nearly every operator will tell you that long-term plans for voice over LTE include IMS and Rich Communications Suite, or RCS, standards. The true value of voice over IP (with LTE being an all-IP network) isn't about cost savings – particularly in a world where circuit voice investments have been paid off. It's about the applications IP enables. And while it's taken operators much longer than once expected to roll out IMS (a prerequisite for RCS), it's becoming clear that RCS offers the greatest hope for operators to compete with over-the-top internet players who already deliver those applications though not necessarily with the service or billing integration users would like.

GETTING THERE FROM HERE. We know that, in the long-run, operators have a real reason for embracing a voice over LTE strategy based on IMS

Fixed-line phone usage by country

Estimated usage for both incoming and outgoing calls

How much time do you spend on your fixed line phone for personal and work related reasons?



Source: Global Infocom study 2009, Ericsson ConsumerLab

Base: All

The true value of voice over IP (with LTE being an all-IP network) isn't about cost savings – particularly in a world where circuit voice investments have been paid off. ***It's about the applications IP enables.***

and RCS. We also know that in the near-term, circuit switched fall-back is a logical stopgap. Where does this leave operators who aren't ready to pull the trigger on IMS but don't want to keep investing in their circuit voice core? Technically, this leaves them with several options to leverage their current voice core with SIP interworking or the VoLGA version of GAN. All of these solutions have been positioned as a stepping stone to IMS, and all are geared toward maintaining current voice investments. But if circuit switched fall-back works in the near-term, and RCS alone delivers the applications operators want, it's unclear where these solutions will fit into an operator's priorities.

Based on differing business demands, the multitude of solutions for delivering voice over LTE will likely coexist for some time. The end goal may be an integration of voice and data applications, and the delivery of rich voice services. But every operator will have different priorities in terms of protecting current voice investments, differentiating themselves in the market and focusing on little more than vanilla data in the near-term.

While it's nice to have "choices," the existence of too many options isn't a good thing. A plethora of solutions is bad for engineering interoperability or developing solution scale. It's even worse for any vendor hoping to keep divergent R&D efforts in check or to see substantial revenue from any one solution. What can be done to keep this potential divergence in check? Vendors should fight the urge to hype the need for voice over LTE in the near-term. At the same time, the value of long-term solutions – such as IMS-based RCS – need to be proven with real-world examples, such as leveraging 3G networks. The developers of competing solutions will be more than ready with their own demos and trials. ●

AUTHOR

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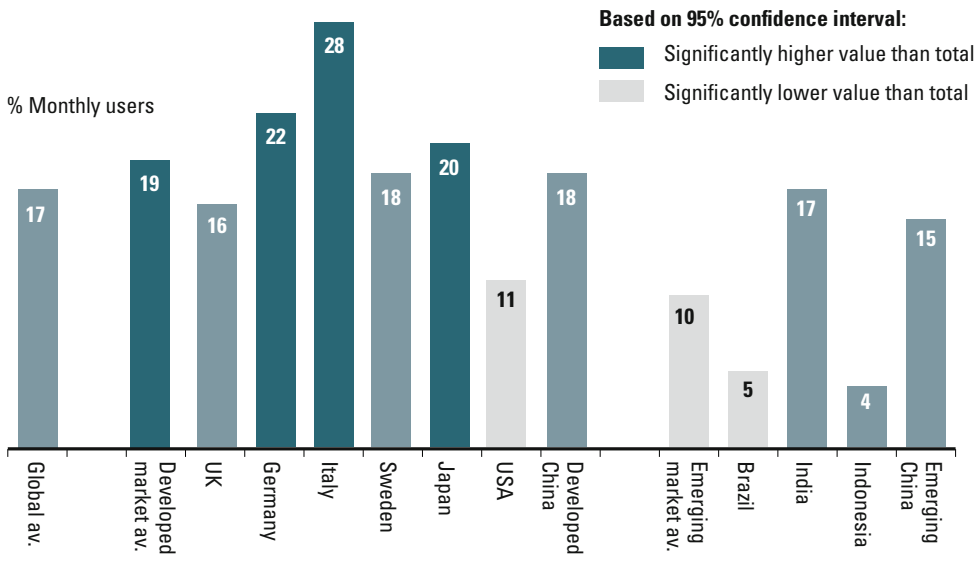
VoIP still rather an infant

Making phone calls over the internet using IP telephony



Source: Global Infocom Study 2009, Ericsson ConsumerLab

Base: internet users