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Summary

The key to success or failure of VoIP is numbering. It is imperative to find a solution that allows easy access to geographic numbers for VoIP. The consultation document claims that RTR's approach is "technology neutral". This may or may not be true from a technocratic point of view. **From the user perspective, "technology neutral" means that the corded telephone standing at home in the living room has a normal geographic number.**

The consultation paper gives three main reasons for being cautious with the use of geographic numbers for VoIP:

 - The wording of Art. 36 and 37 KEM-V
 - Issues relating to location information for emergency services
 - The potential scarcity of geographical numbers.

All three issues can be easily solved, the first two almost immediately. The last one may take a little longer, but there are possibilities for temporary solutions.

Giving access to geographic numbers implicitly assures that calls to VoIP subscribers are charged at the same rate as calls to POTS subscribers. However, it should additionally be ascertained by regulation that calls to number ranges 0720 and 0780 cannot be charged at a higher rate. Only then can they be seen as a viable alternative to geographic numbers.

Finally, regulations on mandatory interconnection between all network operators have to be tightened. Currently, such universal interconnection is mandatory in theory, but practice has shown that operators can drag on the process for months. The introduction of harsh penalties would end this behavior.

The wording of Art. 36 and 37 KEM-V

If that is a problem, the solution is to change the wording to allow for more flexibility. When reading TKG, I see no reason why RTR had to issue such a restrictive rule. It would be sufficient to define an IP access point at a registered address as fulfilling the allocation requirement for a geographic number. That way, a normal fixed line telephone can have a normal geographic number, regardless of technology (technology neutral approach!).

The possibility of nomadic use is being over-emphasized. Most IP phones will be used at a static location. Of course, the technology can be used to extend the phone worldwide. But even before the advent of VoIP, such an extension was possible, and is also practiced:

Most modern ISDN PBXs support call forwarding via the second B channel, and some also offer call-through using this technology. If the owner of such a device calls from anywhere in the country or in the world using this feature, the called party (including emergency operators) gets the geographic number of the ISDN line as CLI. So if RTR wants to restrict the use of geographic numbers for VoIP because of the possibility that the CLI does not correspond to the physical location of the caller, it would consequently also have to relegate all ISDN lines with customer equipment allowing call-trough via the second B-channel to the 0720 number range.

Anyway, the consultation paper suggests sort of a circumvention of the rule involving the issuance of both a 0720 and a geographic number, mainly to satisfy the needs of emergency

operators. There is a less number wasting solution for that, which I will show in the next section.

Issues relating to location information for emergency services

I agree that emergency service operators should be able to see whether the caller uses a potentially nomadic service. The consultation paper proposes a mandatory (additional) 0720 number to be allocated to each potentially nomadic VoIP line which would be transmitted to the emergency service provider instead of the geographical number.

This goes farther than necessary. Why not add the information to the address record? If it is VoIP, then the address record could be something like "VOIP Mustergasse 5" instead of "Mustergasse 5". If the emergency operator has access to the address record, he would see "VOIP" and ask for a confirmation of the location. If he has no access to the address information in his center, he will have to ask anyway, whether VoIP or not.

In practical life it is rather rare that an emergency team has to be sent "blindly" to a location. Usually the operator can talk to the caller, and will routinely ask for the location or for a confirmation of it. After all, even a POTS caller can use a cordless phone in a range of 100m or more from his home. And if the caller is not able to speak or to give a location, what will be the implications? If the emergency operator sees a 0720 number, will he just hang up and forget the incident? Or would he still send a team to the registered location of the 0720 number? I would rather hope for the latter, but then, why is it so important to know whether a number is potentially nomadic?

The potential scarcity of geographical numbers

This is a real issue. Currently, number allocation is organized with a few big providers in mind. Therefore, block sizes are large. With the advent of VoIP, very small entities are able to provide services that require PSTN numbers. Giving each of them a large block of 10000 or even only 1000 numbers could quickly let a city run out of numbers.

But this development is not necessarily restricted to VoIP. Also traditional line-based telephony services will be increasingly offered by smaller firms. This makes a drastic reduction of the number block size necessary anyway. Of course, the existing big providers will not like this, as it exposes them to more difficult routing. But a strong regulator should brush away their "technical" arguments and reduce block sizes to 100.

Because such a change in block sizes cannot be implemented from one day to the next, an intermediary solution is necessary to provide VoIP operators and other small operators with numbers. Maybe a solution would be to allocate one or more current big blocks in each calling area to the Universal Service Provider for the sole purpose of porting them to VoIP providers. That way, no existing numbering resources would be taken away from the Universal Service Provider while VoIP providers can be allocated just the quantity of numbers they need. The number block holder should be allowed to charge a moderate and reasonable one time fee for each such ported number. Independently, a VoIP customer should be allowed to port his existing geographic number.

Calling Charges to 0720 and 0780 (and 05)

As of now, most if not all providers charge calls to 0720 and 0780 at a rate not higher than a long distance call to a geographic number. However, there is no guarantee that this may stay so.

Currently, there is an intense price pressure on the Austrian telephone market, especially for mobile operators. This has already lead to price increases on services that are less watched by the market. For example, Mobilkom Austria (A1) now charges calls to private networks (05 prefix) at a considerably higher rate than calls to geographic numbers in many of its tariff schemes.

By now, there are only a few 0720 and 0780 numbers. But as they become more, I fear that these two number ranges might be the next target for selective price increases. First, that would give PSTN operators additional revenues, and second, traditional PSTN operators would have a certain advantage should those two number ranges get into the headlines as being expensive to call.

Therefore its is imperative to change KEM-V so that calls to 0720 and 0780 numbers are to be treated exactly the same as calls to geographic numbers in all respects of tariffing. This includes the per-minute charges as well as other aspects such as billing increments, inclusion in "free" minutes packages or earning of bonus points. Now would be the best time for it, because few if not none of the operators would have to change existing tariffs. And while being at it, 05 should be included in that rule, since there is no technical or cost reason for higher charges to such numbers.

I would like to point out that Swiss regulations include such a tariffing clause for number ranges comparable to 0720 and 05, so there is a precedent of such a rule.

Interconnectivity issues

Already, all PATS providers are required to route calls to each number. With the advent of more and more providers, it has turned out in practice that this interconnectivity is often not realized, or only implemented with months of delay. It is my impression that incumbent operators are often only too happy to drag on interconnection of new (and especially VoIP) operators. For example, as of this writing there is still no interconnectivity from any Austrian mobile phone to 0780, even though Telekom Austria operates a gateway, and every mobile provider is of course able to route to Telekom Austria.

From the user's point of view this is an unacceptable situation. It turned out that the current regulatory regime is not sufficient to achieve universal end-to-end interconnection, **making the Austrian telephone network unreliable.** Therefore regulations should be changed so that swift and universal connectivity is achieved in practice, not only on the paper. Probably the only way to do this are harsh penalties for operators who do not positively fulfill an interconnection request from a new operator within a very short time frame. It cannot be that operators simply get away with the current practice, leaving consumers stranded.