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## Electronic Plumbing – Building the Telecom Infrastructure

### 1 Introduction

Like any other human activity, computing and networks of computers need access to space on the ground, in this particular case for wires, optical fibres or even radio masts and transmitters. Whenever such need is to be satisfied, the IT-world has to face the old problems of access to land by contract or by various forms of expropriation – IT law meets real estate law. This paper will discuss some of the problems that have transpired in this junction of legal structures. Due to the particularities of different legal systems, the problems may concern different aspects in various countries, although the basic issues remain the same. In this paper, however, Swedish law will be the main subject of discussion.

The basic requirements of operators of electronic services and owners of such networks are the same as for all commercial activities, i.e. the property concerned must be the subject of clear ownership and be made subject to normal commercial transactions – the rights to land should be secured, the property should be eligible as collateral for loans, it should be possible to lease it, etc., and such transactions should of course be protected under property law.

Unfortunately, this is easier said than done under real estate law as far as the physical components of such networks are concerned. First, Swedish law has not even considered many of the issues, e.g. leasing a pair of optical fibres in an optical fibre cable, until now. Secondly, much of the applicable legislation has been created with the needs of public utilities companies in mind. Therefore it is adapted to the needs of publicly owned, *de facto* monopoly enterprises, having little regard for the more commercial aspects referred to above. Therefore, the fundamental problem concerns the adaptation and reshaping of old legal structures to new needs created by new applications in combination also with privatisation and deregulation of the old monopolies.

### 2 A note on legal development of access to land for electric and telephone cables and wires

Like many other European jurisdictions, Swedish real estate law operates under the *numerus clausus* principle as far as property rights to land are concerned. Only certain contracts with regard to right to land are awarded property law effects. Since personal easements are not recognised under property law in Sweden, the contract by which electrical companies have secured the right to land has traditionally been easements in which the power station was the

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dominant real estate unit. The Swedish National Telecommunications Agency (Televerket) was not able, however, to use such a method, since it was considered that no proper dominant real estate units were to be found. Consequently the Televerket was left forced to use the contract form of (partial) right of use. This contract, however, was much less suitable than the easement, primarily because it could only be made for a limited period of time – 25 years in areas subject to detailed planning, i.e. densely populated areas, and 50 years in other areas. In fact, the privatised Swedish telecom company Telia now faces severe problems because thousands of contracts for base stations are on the verge of running out or have already done so, not to mention hundreds of thousands of contracts for telephone cables and wires.

In order to remedy the situation new legislation was enacted in 1973 – the Act on cables, wires and conduits (*Ledningsrättslagen*, hereinafter referred to as the Utility Easements Act)<sup>1</sup>. This Act is a simplified version of the Expropriation Act, and it has a narrow area of application. It applies only to certain kinds of cables, wires and conduits, which are used for certain purposes. Moreover, it must be construed narrowly, because it has an expropriative character. It devises a particular land-surveying procedure whereby land can be taken for the establishment of such property. The landowner is given compensation for the infringement according to the principles of the Expropriation Act. As a result, a certain right is awarded to the owner of the cables, etc., *ledningsrätt* (which accordingly may be referred to as a utility easement). It can properly be regarded as a personal easement created by expropriation-like proceedings. Hence, it is not limited in time and, moreover, it cannot be touched by any private law actions, short of an agreement between the holder of such a right and the owner of the land that the right shall cease to exist. In fact the protection is stronger than any protection given by property law rules. – To be sure, land can also be expropriated for the same purposes as the Utility Easements Act, but the expropriation procedure is much more expensive and time-consuming.

However, the Utility Easements Act, as already indicated was created with a view to the needs of public utility companies. Even recent amendments have been made in accordance with this inclination of the Act. This, coupled with the narrow field of application of the Act creates problems for the IT infrastructure and that is the subject of the following discussion. Much of what will be said is subject to litigation and heated discussion in Sweden, mainly for three reasons. First, the landowners request more compensation than is given under the Utility Easements Act. When a new IT infrastructure is built it is no longer a matter of public utilities, they claim, but of profit-making business. Secondly, the building of the 3-G mobile telephone network is under way and must be finished before the end of 2003. The shortcomings of the Utility Easements Act must not stand in the way. Thirdly, it is not unlikely that one or more of the owners of computer networks will go bankrupt sooner or later, and by then a number of property law issues should have been straightened out.

### 3 The coverage of the Utility Easements Act

The Utility Easements Act is purposely restricted to cables, etc., of a certain kind, used for a particular purpose. In this context the relevant statutory text (sec. 2, para. 1) indicates that the Act applies to “a telephone line included in a telecommunications system for public use and [also] a public low voltage line for signalling, remote control, data communication or some similar purpose.”

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<sup>1</sup> The terminology is problematic here. The Swedish word “ledning” means “conductor” or “conduit” in the general sense of the word, i.e. anything that leads electricity, air, liquids, etc.

From this definition it is immediately clear that it is doubtful whether optical fibres are at all covered by the Act, since they certainly are not “electrical” in the normal sense of the word – they are indeed conductors, but of light, not electricity. Curiously enough, this particular angle of the problem has never been tested. And the reforms of 2001 certainly put a stop to the discussion. Those reforms made it possible for electrical power companies to hang fibre optical cables in their existing power line pylons and distributing poles without obtaining a new or extended permit.

Recently, however, a more serious problem has surfaced. It concerns the radio masts for the 3G cellular phone system. These masts are not interconnected by way of electrical cables or even fibre optical cables at all – they communicate with the various base stations by way of radio signals. However, the operators insist that the rights to such masts be protected by way of utility easement. In order to solve the problem, the land surveying authority has come up with a perhaps too ingenious solution: the masts themselves and the receiver-transmitter equipment are to be regarded as “cables” under the Act, since they are part of an integrated communications network.

The matter is now a subject of litigation, but it is not unlikely that the Swedish Parliament will have to intervene by way of new legislation so that the building of the 3G networks is not bogged down in the courts.

The present author’s main observation is only that the discussion serves to illustrate the difficulties involved in adapting old legislation to new technical development. The main mistake of the framers of the Utility Easements Act was to restrict it to certain kinds of cables, wires and conduits.

## 4 Using existing infrastructure for fibre optical cables

The Swedish legislator has wisely assumed that the most efficient way to propagate fibre optical cables is to use existing infrastructure, i.e. mainly roads and power pylons. As far as public roads are concerned, the technique is quite simple, since the Roads Act allows the road owner (the Swedish National Road Administration, a government agency) to sublet space in the road bank for various purposes. Unfortunately, the landowners are not very happy about this. The right of road is formally a right of use, similar to the utility easement, and the landowners naturally want part of the compensation the road owner stipulates for granting such a subletting of space.

As far as power pylons are concerned, new legislation has been introduced. As already indicated, a new section (3 a) of the Utility Easements Act prescribes that holders of utility easements for electric power lines are entitled to use the space also for telephone wires and other electric wires for signalling, etc., according to sec. 2 (1) of the Act (cf. above). This solution is problematic for several reasons.

First, it becomes impossible for the electrical power company to transfer the optical fibre cable without at the same time transferring the power cable and the utility easement. The Act expressly prescribes that the cable cannot be transferred without the utility easement.

Secondly it becomes impossible to use the fibre optical cable alone as security for credit. The security must, for reasons just indicated, consist of the utility easement plus the power cable and fibre optical cable.

Thirdly, the new legislation presupposes that the whole power line is secured by way of utility easement, but this is not always the case. More commonly, the power line is only partially secured in this way, whereas the remainder may be secured by an ordinary contract of easement. If the latter is the case, the power company cannot transfer the power line or the fibre optical cable at all without transferring the dominant real estate unit.

Fourthly, it is certainly possible to lease the fibre optical cable to an external party, but it is difficult to say what kind of a lease it is. A power line may partly be regarded as real property – this is the case when it is protected by means of a contract of easement or when the utility easement has been declared a fixture to real estate (sec. 1 of the Act). In such a case a lease of an optical fibre cable is to be regarded as lease of real property (Ch. 2 sec. 1 of the Land Code). If this is not the case, the utility easement as well as the cables is to be regarded as a movable. The rules, particularly as regards property law, are entirely different depending on how the property is classified.

In the opinion of the current author this complicated situation requires a better solution. One possibility is to create a new legal figure for the lease of fibre optical cables, for instance a by giving the owner of the utility easement a possibility to create a personal easement in that right. Another possibility is to provide regulation of such leases along the same lines as leases of real property, regardless of its character of fixture or movable. The details will not be elaborated here. The same solution could apply also as far as lease of space in roads is concerned. However, the situation is clearer here, since the right of road is technically a movable.

## 5 Lease of dark fibre

A fibre optical cable may consist of hundreds of pairs of fibre optical wires. Many enterprises are interested in leasing one or several of such pairs for their own particular use, thus excluding any one else from using them. It is, however, difficult to conceive of a situation where such pairs are transferred with property law effects – the pairs of fibre optical wires cannot be separated from the cable without being destroyed. They can, however, be effectively individualised and marked.

The question is what kind of protection one wishes to bestow upon such a lease. If the cable is to be regarded as a movable, legal protection in the event of transfer of the cable is non-existent, short of a claim for damages against the transferor for not reserving the right of use, as is the safeguard in the event of the cable operator going bankrupt. On the other hand, if the cable is to be regarded as a fixture, extensive protection is given in such a situation. In the present writer's opinion, the interests of enterprises that have leased dark fibre deserve extensive protection, regardless of whether the property should be regarded as fixture or movable. These interests primarily consist in the right to use the property on a continuing basis, so as to guarantee computer communications in a safe way. For many enterprises this interest is as essential as the leasehold of office space in a building.

## 6 Co-ordinating the interests of several users

The so-called Service Directive (96/19 EEC) requires that new actors in the telephone market in certain cases be given access to existing canalisation or telephone poles created by existing telephone organisations on reasonable terms. The directive concerns only existing infrastructure created by means of utility easement or similar legal measures, which appears somewhat questionable from a rational point of view, but perhaps inevitable from a legal point of view. It is well known that the co-ordination of the activities of the various actors poses severe practical problems, and also some legal problems.

As the present author sees it, there are two main solutions to the problems of co-ordinating the activities of several operators using the same infrastructure (although using different cables and wires). One solution is to consistently regard the first installation of fibre optical cables, power lines, etc., as primary in regard to the subsequent installations. This is a metaphor derived from real estate law, where the rights of subtenants always are dependent on the rights of the primary tenant. Should the primary tenant's right of use cease to exist, the rights of subtenants are also extinguished. Their only sanction is a claim for damages against the primary tenant. The main argument is that the right of the primary utility easement holder is a right in relation to the landowner. He has no relationship to the holders of secondary rights. This is also a practical point of view – if the canalisation, power pylons or telephone poles are abandoned by their owner, it becomes practically difficult to create a procedure whereby such property is taken over by the holders of secondary rights. Admittedly, it is possible to conceive of a situation when the secondary tenant takes over the lease of the primary tenant, even against the will of the landlord. However, the property involved is that of the landlord and not of the primary tenant.

A second solution is perhaps more imaginative. It is based on the principles of partnership (or even co-operatives, such as co-operative housing, a useful metaphor in this context). The ownership of the infrastructure is transferred to a partnership or co-operative, which will act in relation to the landowner (and the authorities). The matters of rights to use the various cables (or pairs of dark fibre or contracts for transmitting capacity, etc.) will be administered by the partnership. This seems to be a more rational solution than granting the various users separate utility easements and certainly more rational than granting 96 different utility easements in one fibre optical cable, as has been done by the Swedish Land Surveying Authority. Such a solution does not solve the problem of who is in authority when technical problems appear, when the cable requires repairs, etc.

## 7 Conclusion

The problems discussed in the foregoing are real and of great concern for all parties involved. This has prompted the Swedish government to give terms of reference for a government investigation (dir 2002:17, dated February 8, 2002), which is to propose solutions to all the problems indicated above (and some more). What is unfortunate, however, when IT-technology meets real estate law, is the fact that the making of new real estate legislation takes time. It could well be that the creation of the 3-G system will be finished before the new legislation is in place, something which will only benefit the landowners.