Fact sheet on independent power supplies

April 2017

With the migration to IP telephony and ultra-broadband Internet, more and more devices that are connected to the power grid are used in the network as well as in households and businesses. Although Switzerland has a very high availability of electricity, customers with critical, grid-connected applications have to assess their requirements regarding independent power supply every now and again. To ensure high availability, Swisscom recommends a dual connection to the landline and mobile networks. Business customers can secure network availability through a service level agreement (SLA). System providers, installation experts, contractors and Swisscom support our customers in the transition from traditional to landline-based IP technology.

From 2018, complete switch of landline-based telephony to IP region by region

With All IP, Swisscom is providing the technical basis for the digitisation of Switzerland as a business location and thus for our customers to remain competitive. Thanks to All IP, they are always connected to all their services and data on all their devices. Almost three-quarters of all customers have already switched to IP and benefit from the advantages. Until the end of 2017, practically all residential customers and most business customers will communicate via All IP. From the start of 2018, all customer connections across Switzerland will be switched completely to IP region by region so that the decommissioning of the old network infrastructure can proceed. The affected regions benefit from the latest communication options.

Calls go through the router in the case of IP telephony. This router requires a power supply. This is why customers, when switching to All IP, should assess the importance of consistent availability and take any necessary precautionary measures to handle potential power outages. A fail-safe option will be available for the Swisscom Line Basic product as of June 2017. An Uninterruptible Power Supply (UPS) system with battery backup is provided with the router. For more details see: www.swisscom.ch/fail-safe

Switzerland's network availability is very high. Swisscom invests a lot in the availability and failure safety of its networks (best effort). However, Swisscom cannot provide any general guarantees regarding the service availability (maintenance, power outage, network failure due to line damage as a result of storms or construction works) of mass-market products without an SLA.

Business customers can now secure network availability through an SLA. Single connections are the exception, because they do not allow for an additional SLA.

Availability of telephone services in the event of a power outage

Swisscom stands for top networks and keeps this promise also where IP telephony is concerned. Critical networks and network elements are built with redundancy and are power-supply independent (generators/batteries). In a local power outage it may happen that landline-based IP telephone services may no longer be available – for example, because the router does not have any power supply. Given that there is an average of around 20 minutes of power outages in Switzerland per year and customer, this problem is relatively minor, because the landline network is separate from the mobile network, and because most mobile base stations are equipped with emergency power batteries. This way it is still possible to make mobile phone calls during a power outage. The mobile network is expanded steadily and is available virtually everywhere in Switzerland.

In addition, Swisscom customers of landline-based IP telephone services can forward incoming calls to a number of their choice (e.g. mobile phone).

What must IP telephony customers do who have very high availability requirements?

Customers with critical systems, such as alarm systems, connected to the landline network must check with their ICT or power utility partner whether their systems and their network connections are secured against power outages. System providers, ICT partners and contractors will gladly advise you. Swisscom recommends

- equipping all active, power-supplied elements that are part of a chain of critical systems with a UPS system (system, switch, router, etc.);
- a two-way solution via landline and mobile networks. This ensures genuine redundancy, and the mobile network can thus continue to operate for an hour in case of a power outage.

Independent power supply on the mobile network

For safety-relevant systems, Swisscom recommends a mobile-network-based solution or a redundant two-way solution via the landline network. Connections can thus still be made if the landline network is disrupted or fails. Anyone who wants to ensure reliable connections in the case of major power outages must establish a connection to a mobile antenna with emergency power supply. The main antennas of Swisscom's mobile network continue operating for an hour in the case of a power outage.

In-house supply connections, however, do not have emergency power supply. In this case, the second option is only guaranteed if it is possible to connect to an external mobile antenna with emergency power supply. Swisscom is about to launch a service that will show whether a mobile cell has emergency power supply or not.

Swisscom will gradually expand emergency power supply on the mobile network in the coming years. It aims to increase the supply from today's 93 per cent to 98 per cent of the population.

It should be noted that the 2G technology (GSM, GPRS, EDGE, CSD) will be supported only until the end of 2020. Swisscom recommends that 4G/LTE technology should be used whenever possible.

www.swisscom.ch/ip