



## GUIDELINE ISI-FISE TECHNICAL FUNCTIONALITIES

### 1. INTRODUCTION

This document describes the technical part of the ISI project between Finland and Sweden and the specific functionalities, which are included.

### 2. TRANSMISSION

Between the two networks there is a redundant transmission. This consists of two geographically separated E1's over IP. That gives a total capacity of 60 timeslots to be used for communication between Rakel and Virve. If one fails or is deactivated for maintenance, still 30 timeslots remain available. The project considers that 30 timeslots is sufficient capacity in a redundant state.

### 3. AUTHENTICATION

In both Tetra networks, terminals are authenticated using an encryption key called K. This key is the guarantee that no "rouge" terminals can access networks. Authentication key K is used to generate air interface encryption between terminal and base station. To ensure the integrity of networks K-values will not be share with others.

We always authenticate terminals in the home network and the visited network have no knowledge of the K of visiting terminals.

### 4. ISI FUNCTIONALITIES

In this section the functionalities available over the ISI interconnection between Rakel and Virve are described. This is a generic description of the functionalities and the exact usage may vary depending on organisation specific prerequisites.

#### 4.1 Migration

Terminals with the right configuration and license, if required, that are correctly configured in both networks will be able to migrate between Rakel and Virve.

You can choose if terminals are allowed to migrate automatically or if manual interaction is required.

#### 4.2 Group call

Between our networks (Rakel and Virve) there are a talk group structure implemented that has been agreed upon by the project. It consists of both linked and local talk groups. Normal rules of entry rights apply also to ISI talk groups. Combination of ISI-linked talk groups is possible as long as they are the base group in the combination.

### 4.3 Individual call

Individual calls are available to all terminals and dispatchers in both networks. The method of calling may vary depending on the terminal brand.

It is possible to set up a dispatcher call to a non-linked talk group in your home network.

### 4.4 SDS

SDS is available to both individuals and groups in both networks. ISI support both Flash and concatenated SDS. Combinations of groups will distribute SDS as they normally do in our networks.

### 4.5 Status

Status is available to both individuals and groups in both networks. Combinations of groups will distribute Status as they normally do in our networks.

### 4.6 Emergency call

Emergency call setup on a local ISI-linked talk group will change the state of the talk groups in both networks to emergency state. If you, when you are not in your home network, address the emergency call to a non-linked talk group in your home network, the call will go through with emergency priority dispatcher call only after network upgrade has been completed in Rakel and in VIRVE currently estimated to take place during second half of 2019. Before the upgrade, all dispatcher call addressed emergency priority calls will fail.

Emergency status works to both ISI-linked talk groups and non-linked talk groups in your home network.