ISSI Gateway

The Inter-RF Subsystem Interface (ISSI) Gateway

- *Provides TIA-standardized network-level communication between P25 radio systems, regardless of system manufacturer*
- *Allows authorized radios to roam between P25 systems*
- *Prevents ID overlaps by assigning temporary unit and group IDs to roaming users*

The Inter-RF Subsystem Interface (ISSI) Gateway provides network-level interoperability between Project 25 Voice, Interoperability, Data, and Access (VIDA®) systems and other ISSI-compatible systems. The ISSI Gateway not only allows for inter-system communication, but also provides the interface that enables radios to roam between systems.

ISSI Gateway Overview

The ISSI Gateway is based on the Inter-RF Subsystem Interface standard, issued by the Telecommunications Industry Association (TIA) responsible for publishing the Project 25 Land Mobile Radio standards. TIA document TIA-102.BACA defines the interface that provides for interoperability between RF Subsystems (RFSS) regardless of the system manufacturer.

Harris' ISSI Gateway is a software application that resides on standard off-the-shelf hardware and can be added to any VIDA network though a simple Ethernet connection into the IP-based VIDA infrastructure.

Inter-System Communication

In most scenarios, systems which need to interoperate are not managed by a common administrator nor installed at the same time. This means there is no coordination of the system databases and most likely, there are overlaps between User and Group IDs. The ISSI Gateway solves this issue. When a group call is made on System 1 and the ISSI passes it to System 2, System 2 can assign a temporary working group identifier used for all subsequent calls made on that group. If desired, the group calls from System 1 can instead be directly affiliated with any existing group within System 2 such that a dispatcher patch is not required to initiate interoperable communications.

Unit Roaming Using ISSI

The ISSI Gateway allows P25 compliant radios to roam between systems, provided they are within the same frequency band and there is some coordination between the system administrators. When a radio from System 1 roams into the coverage area of System 2, the ISSI provides communication of the radio's ability to roam and other user attributes such as user call priority, I-Call capability, etc. System 2 will register the group and unit, assign them temporary IDs, and allow the radio to communicate on the system. System 2 passes all of the radio's transmissions back to System 1 via the ISSI Gateway. As mentioned, the roaming user's group calls can be directly affiliated with a permanent group on System 2 if desired.

Console Subsystem Interface

The Console Subsystem Interface (CSSI) allows third-party consoles to provide dispatch services for a P25 system. Harris' ISSI Gateway supports CSSI messaging, giving customers more choices for dispatch solutions.

ISSI Specification Features

The interface of the ISSI provides for many features including:

- Group Calls
- Emergency Calls
- Unit and Group Registration when roaming
- Unit and Group IDs sent to home system when roaming
- Third-party Console Support via CSSI

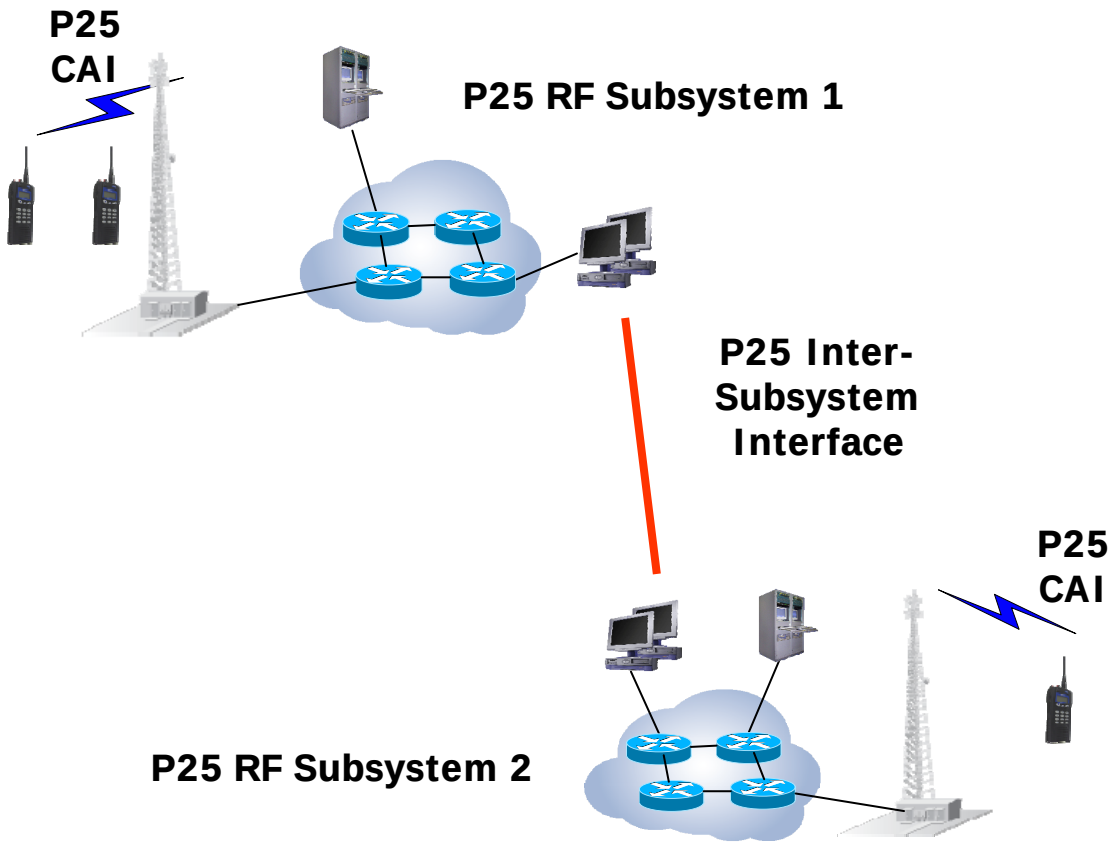
ISSI Gateway

Hardware Components

- Linux SUSE operating system
- 1 Rack Unit 19-inch chassis
- Dual E5-2640 processors
- Two 146-GB hard drives
- 16 GB RAM
- Gigabit Ethernet cards
- Redundant Power Supplies

Design Features

- Unconfirmed Group Calls
- Caller IDs across the ISSI Gateway
- Unit Roaming
- Group Affiliation
- Emergency Calls
- Group and Unit registration
- Supports up to 200 concurrent group calls
- Call Arbitration
- Fault reporting to the Regional Network Manager
- Dynamic Database information from the Unified Administration Server (UAS)
- Provides Call Activity to the Activity Warehouse
- Static Configuration via VIDA Device Manager
- Support for OpenSky® systems using the VIDA Transcoder
- Confirmed Calls
- Support for Pre-empt scenarios
- Support for the CSSI



Printed in U.S.A. 09/12 ECR-8035