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Wireless Intelligent Network (WIN) Procedures

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PART 660

1 WIN PROCEDURES

Several of the following signaling procedures support Wireless Intelligent Network (WIN) capabilities. WIN capabilities are unlike many other wireless network capabilities in that specific service logic processing procedures for WIN are not defined in this Standard.

Basic Call Processing procedures (Part 630) support WIN capabilities related to registration, call origination, call termination, call disconnection and call recovery.

Intersystem Signaling procedures (Part 640) support WIN capabilities related to:

- trigger detection
- service logic invocation
- specialized resource connection, disconnection, and usage
- service data search and modification

There are no feature procedures (Part 651) described for WIN because WIN capabilities are service feature independent (i.e., they may be used by the service creator to implement any end user service feature).

In addition to the specific procedures described in this part of the Standard, the functional entity call and service logic processing models provide a tool used by WIN architects to model a call and to understand and describe the distribution of functions between functional entities and functional entity relationships. WIN call and service logic processing encompasses call and connection processing in the Service Switching Function (SSF)/Call Control Function (CCF), service logic execution in the Service Control Function (SCF) which may include SCF-to-SCF interactions for distributed service logic, and the use of supporting resources in the Specialized Resource Function (SRF) and supporting data in the Service Data Function (SDF).

1.1 Call Modeling for WIN

Mobile Switching Center (MSC) call modeling for WIN is described by Parts in the 7XX Series, “Wireless Radiotelecommunications Intersystem Operations: Distributed Functional Plane.” Call modeling provides a high-level service, vendor, and implementation independent abstraction of WIN call and connection processing in the SSF and CCF. This abstraction provides an observable view of SSF/CCF activities and resources to the SCF, enabling the SCF to interact with the SSF in the course of executing service logic.

To provide an observable view of the SSF/CCF to the SCF, and to enable the SCF to interact with the SSF, call modeling for WIN provides the following:

- a foundation based on the existing base of evolvable network technology;
- single-ended view of SSF/CCF call processing in terms of both Originating and Terminating Basic Call State Models (BCSMs);
- a framework for defining trigger requirements in the BCSMs to invoke WIN service logic and to report call processing events to WIN service logic in terms of Detection Points (DPs), which can be used in combinations by the implementor to provide network services;
- a framework for ensuring correct sequencing of functions within an SSF/CCF in terms of BCSM Points in Call (PICs) and transitions;
- rules of representing and handling service logic instance interactions; and
- a framework for defining the information flows (relationships) between an SSF and an SCF.

Examples of call and connection processing functions accessible to the SCF from the SSF/CCF as reflected in the WIN information flows (intersystem signaling operations) include functions to:

- influence the flow of call processing (e.g., rerouting a call, clearing a call or providing serial calling);
- access and change information related to call processing (e.g., address translation, routing information);
- manipulate the connectivity of the call (e.g., forwarding and other capabilities for further study);
- monitor for events related to call processing and connectivity manipulation (e.g., no answer, busy, disconnect).

1.2 Modeling of Service Logic Processing for WIN

The modeling of service logic processing for WIN provides an abstraction of SCF activities and resources needed to support this service logic execution, as well as an abstraction of SRF and SDF activities and resources accessible to the SCF.

To provide an abstraction of SCF activities and resources, as well as SRF and SDF activities and resources accessible to the SCF, modeling of service logic processing for WIN provides the following:

- a high-level service, vendor and implementation independent abstraction of service logic processing in the SCF, specialized resources in the SRF and service data in the SDF;
- a characterization of the capabilities of an SRF and SDF made available to an SCF;
- a framework for defining the information flows (relationships) between an SRF and an SCF and between an SDF and an SCF.

Note that the SRF, SCF, and SDF modeling only provides high-level modeling of necessary functionality, but makes no recommendations on specific mechanisms to implement this functionality (e.g., no recommendations on service logic invocation, management of service logic instance interactions, reservation and allocation of specialized resources, data architecture and access to data). Also, note that the modeling primarily addresses the functionality for normal call processing scenarios.

Examples of specialized resource functions accessible to the SCF from the SRF as reflected in the related WIN information flows include functions to:

- send information to users participating in a call (e.g., prompts for information, announcements);
- receive information from users participating in a call (e.g., authorization codes);
- modify user information (e.g., text to speech synthesis, protocol conversion); and
- provide specialized connection resources (e.g., audio conference bridge, information distribution bridge).

Examples of service data processing functions accessible to the SCF from the SDF as reflected in the related WIN information flows include functions to:

- access service information (e.g., subscription data parameters); and
- update service information (e.g., sum of charging).