



ATIS-0300106

ATIS Standard on -

INTERCARRIER CALL COMPLETION/CALL TERMINATION HANDBOOK



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ATIS-0300106, *Intercarrier Call Completion/Call Termination Handbook*

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Intercarrier Call Completion/Call Termination Handbook

Alliance for Telecommunications Industry Solutions

Approved October 2015

Abstract

This handbook describes some of the problems being encountered by rural telephone company customers in receiving long distance calls. It discusses some of the industry standards and practices relevant to ensuring call completion, particularly signaling, routing, and trouble handling. This handbook attempts to relate these standards and practices to the call completion problems reported, and offers some best practices for ensuring call completion. This handbook provides a resource to carriers to address issues as they are encountered related to long distance call completion/call termination.

Foreword

The Alliance for Telecommunication Industry Solutions (ATIS) serves the public through improved understanding between carriers, customers, and manufacturers. The Next Generation Interconnection Interoperability Forum (NGIIF) addresses next-generation network interconnection and interoperability issues associated with emerging technologies. Specifically, it develops operational procedures that involve the network aspects of architecture, disaster preparedness, installation, maintenance, management, reliability, routing, security, and testing between network operators. In addition, the NGIIF addresses issues that impact the interconnection of existing and next generation networks and facilitate the transition to emerging technologies.

The mandatory requirements are designated by the word *shall* and recommendations by the word *should*. Where both a mandatory requirement and a recommendation are specified for the same criterion, the recommendation represents a goal currently identifiable as having distinct compatibility or performance advantages. The word *may* denotes an optional capability that could augment the standard. The standard is fully functional without the incorporation of this optional capability.

Suggestions for improvement of this document are welcome. They should be sent to the Alliance for Telecommunications Industry Solutions, Next Generation Interconnection Interoperability Forum (NGIIF), 1200 G Street NW, Suite 500, Washington, DC 20005.

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1 Scope, Purpose, & Application

1.1 Scope

Call completion/call termination in today's Public Switched Telephone Network (PSTN)¹ depends on coordination between different service provider (SP) entities, each playing their part in setting up a workable connection between calling and called parties. As the PSTN has evolved through the Bell System divestiture, the Telecom Act of 1996, and the introduction of Internet Protocol (IP)-based technologies, the number and diversity of these entities has grown. In this context, problems with call completion may arise. The NGIIF was originally made aware of serious problems encountered by some rural telephone company customers in receiving long distance (LD) calls in particular, through an industry survey by rural associations in March 2011 and the FCC's Rural Call Completion (RCC) Task Force meeting held in October 2011.

This handbook:

- Is a living document, which will be updated as applicable;
- Describes some of the problems being encountered;
- Discusses some of the industry standards and practices relevant to ensuring call completion, particularly signaling, routing, and trouble handling;
- Attempts to relate these standards and practices to the call completion problems reported; and
- Offers some best practices for ensuring call completion, especially in the management of intermediate providers.

1.2 Purpose

This handbook provides a resource to carriers to address issues as they are encountered related to intercarrier LD call completion/call termination.

1.3 Application

1.3.1 Problems Reported

Customers of some telecommunications SPs (particularly those in rural areas) have experienced difficulties with the receipt of LD calls via their phone service, including problems that generally fall into the following categories:

- *Call completion failure*: failure scenarios reported included:
 - The Calling Party hears ringing but the Called Party hears nothing (no ringing);
 - The Called Party's phone rings, but the Called Party hears nothing when the call is answered, i.e., "dead air";
 - The Calling Party hears local busy tone (when the line was not busy); and
 - The Calling Party hears fast or network busy, or hears a network failure announcement including inappropriate "number not in service".

¹ PSTN is used here to refer to the set of networks used to complete calls using E.164 number addressing.