

I n t e r n a t i o n a l   T e l e c o m m u n i c a t i o n   U n i o n

**ITU-T**

# **Rec V.152 Implementors' Guide**

TELECOMMUNICATION  
STANDARDIZATION SECTOR  
OF ITU

(25 March 2011)

SERIES V: DATA COMMUNICATION OVER THE  
TELEPHONE NETWORK  
Interworking with other networks

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**Implementors Guide for ITU-T V.152  
(Procedures for supporting voice-band data  
over IP networks)**

## **Summary**

This document contains clarifications on the procedures, definitions and intentions pertaining to Recommendation ITU-T V.152.

This new Implementors' Guide contains all updates submitted up to and including those at Study Group 16 meeting in Geneva, 14–25 March, 2011.

This new Implementors' Guide was approved by ITU-T Study Group 16 on 25 March 2011 (TD 338/Plen).

## **Change Log**

Initial version:      March 2011

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# **Implementors' Guide for Recommendation V.152**

## **1 Scope**

This guide resolves defects in the following categories:

- technical errors, such as omissions and inconsistencies
- ambiguities

In addition, the Implementors' Guide may include explanatory text found necessary as a result of interpretation difficulties apparent from the defect reports.

This Guide will not address proposed additions, deletions, or modifications to the Recommendations that are not strictly related to implementation difficulties in the above categories. Proposals for new features should be made through contributions to the ITU-T.

## **2 Introduction**

This Implementors' Guide is a compilation of reported defects for all versions of the Rec. ITU-T V.152 of Recommendations. In this edition of the Guide, reported defects identified as of 2011-03 are given for ITU-T V.152 (2010).

The Guide must be read in conjunction with the Recommendation ITU-T V.152 to serve as an additional source of information for implementers. The changes, clarifications and corrections defined herein are expected to be included in future versions of the affected Recommendations.

## **3 Defect Resolution Procedure**

Upon discovering technical defects with any components of the texts covered by this Implementers Guide, please provide a written description directly to the editors of the affected Recommendation(s) with a copy to the respective Rapporteur (See contacts above on page i). The template for a defect report is located at the end of this Guide. Return contact information should also be supplied so a dialogue can be established to resolve the matter and an appropriate reply to the defect report can be conveyed. This defect resolution process is open to any interested party. Formal membership in the ITU is not required to participate in this process.

## **4 References**

- Recommendation ITU-T T.38 (2010) *Procedures for real-time Group 3 facsimile communication over IP network*

## 5 Nomenclature

In addition to traditional revision marks, the following marks and symbols are used to indicate to the reader how changes to the text of a Recommendation should be applied:

Symbol	Description
<u><i>[Begin Correction]</i></u>	Identifies the start of revision marked text based on extractions from the published Recommendations affected by the correction being described.
<u><i>[End Correction]</i></u>	Identifies the end of revision marked text based on extractions from the published Recommendations affected by the correction being described.
...	Indicates that the portion of the Recommendation between the text appearing before and after this symbol has remained unaffected by the correction being described and has been omitted for brevity.
--- <i>SPECIAL INSTRUCTIONS</i> --- {instructions}	Indicates a set of special editing instructions to be followed.

## 6 Technical and Editorial Corrections

### 6.1 Corrections to the Summary

*[Begin Proposal]*

#### Summary

[Copied from Rec. ITU-T V.152 (09/2010) – Prepublished version]

#### Summary

Voice-band data traffic has traditionally been transported by circuit switched systems and equipment. With the advent of the networks optimized for the transport of Internet Protocol (IP), and as a result of its considerable growth and pervasive nature, more and more voice-band data traffic is expected to be carried over IP networks.

Given that voice and voice-band data services remain a significant part of telecommunications, there is a need to ensure a high quality of service for voice and voice-band data carried in part, or wholly, via IP. This Recommendation defines procedures for equipment that interconnect GSTN networks with IP networks to provide satisfactory, transparent delivery of modulated voice-band data (VBD) as encoded audio content over IP (data modems, facsimile terminals and text telephones).

Annex B to Recommendation ITU-T V.152 defines a method that uses data signal detection and silence insertion in voiceband data that adds a means of providing bandwidth savings during transmission.

Annex C to Recommendation ITU-T V.152 addresses a problem discovered during the implementation of V.152 gateways with the transmission of facsimile terminals. While this issue

has been resolved by an amendment to Recommendation ITU-T T.30, due to the extremely large numbers of terminals deployed in the field and the low probability that they would be corrected retroactively, it was considered pre-emptive to include a solution in a V.152 media gateway.

This Recommendation is complementary to the modem relay and voice-band data ITU-T Recs V.150.0 and V.150.1 and Fax relay ITU-T Rec T.38.

This revision includes the updating of references, general editing improvements for clarity and many additional examples of call control. It also integrates changes introduced by Cor.1 (2005) for clarification to clauses 7.1 and 7.1.1; by Cor.2 (2006) for clarifications on the use and control of echo cancellers and the application of RFC 2833 with VBD; and by Amendment 1 (2009) for new Annexes B and C.

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***[End Proposed Correction]***

## **6.2 Corrections to clause 9 "VBD stimuli"**

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***[Begin Proposal]***

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### **9 VBD stimuli**

This clause lists the stimuli that should be detected, per type of application, by a VBD gateway to initiate a transition to the VBD mode of operation, as described in clause 10.

The list of stimuli below is not exhaustive and there may be other tones that can be used to initiate a transition to VBD for the listed applications:

- *For Facsimile applications*
  - CED as per ITU-T Rec. T.30;
  - CI with facsimile with call function indicating facsimile as per ITU-T Rec. V.8;
  - ANSam as per ITU-T Rec. V.8;
  - CM signal (or JM signal) with call function indicating facsimile as per ITU-T Rec. V.8
  - Preamble as per 5.3.1/T.30;
  - CNG as per ITU-T Rec. T.30.
- *For Modem applications*
  - ANS as per ITU-T Rec. V.8;
  - ANSam as per ITU-T Rec. V.8;
  - 2225 Hz answer tone as per Appendix VI/V.150.1;
  - Unscrambled binary ones signal as per ITU-T Rec. V.22;
  - Calling Tone (CT) signals that precede ANS, as per ITU-T Rec. V.25;
  - CI signals with call function indicating Data that precede ANSam, as per ITU-T Rec. V.8;
  - Initiating Segment 1 dual tones (1375 Hz and 2002 Hz) as per ITU-T Rec. V.8 *bis*.
- *For Text Telephony applications*
  - ANS as per ITU-T Rec. V.8;
  - ANSam as per ITU-T Rec. V.8;
  - Text telephone signals as defined by 5.1.1/V.18 and 5.2.1/V.18;

- DTMF signals only if RFC 4733 telephone-events are not supported;
- CI signals with call function indicating *Textphone* that precede ANSam, as per ITU-T Rec. V.8;
- Calling Tone (CT) signals that precede ANS, as per ITU-T Rec. V.25;
- – Initiating Segment 1 dual tones (1375 Hz and 2002 Hz) as per ITU-T Rec. V.8 *bis*.
- Bell 103 carrier, either the high or the low frequency channel (as defined in ITU-T Rec. V.18)
- Baudot initial tone and character (as defined in ITU-T Rec. V.18)
- EDT initial tone and character (as defined in ITU-T Rec. V.18)
- CTM signal was detected (as defined in ETSI TS 126 226)

In addition to the above list, if any other unrecognized tonal non-voice signal is detected this may be used to transition into VBD mode.

VBD gateways should keep signal leakage to a minimum to prevent erroneous behaviour of end terminals.

NOTE: The choice of stimuli to be detected is dependent upon the application and operational VBD environment. However, a robust implementation of V.152 with the expectation of a high call success rate will require the appropriate consideration of all potential and/or possible VBD stimuli.

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***[End Proposed Correction]***

<b>Annex: Rec V.152 Defect Report Form</b>
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<b>DATE:</b>	
<b>CONTACT INFORMATION</b>  <b>NAME:</b> <b>COMPANY:</b> <b>ADDRESS:</b> <b>TEL:</b> <b>FAX:</b> <b>EMAIL:</b>	
<b>AFFECTED RECOMMENDATIONS:</b>	
<b>DESCRIPTION OF PROBLEM:</b>	
<b>SUGGESTIONS FOR RESOLUTION:</b>	

NOTE - Attach additional pages if more space is required than is provided above.

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