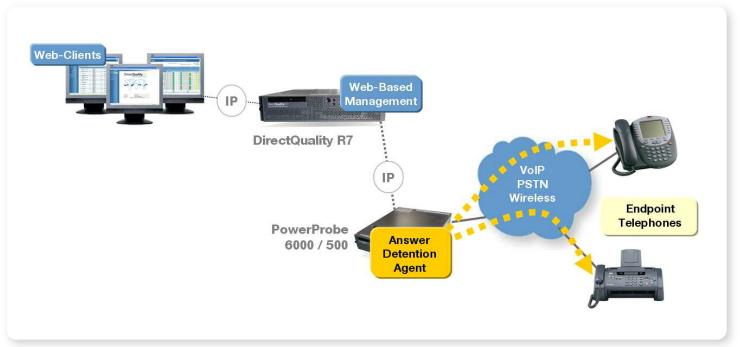
Answer Detection Agent

Active Service Assurance



Test Layout

Overview

Tektronix' Answer Detection Test Agent provides high performance connectivity testing by measuring call connection setup using ISDN PRI signaling.

The Answer Detection test agent uses Minacom's VQM24/30 measurement module, which provides a T1/E1 interface and PRI call progress analysis (as per ITU-T Q.931).

The test consists of measuring call connection setup delays, using the PRI messages exchanged over the network for call control, then hanging up when the call is answered by end-users and termination devices.

Using this method you can ensure minimal billing fees, perform hundreds of test calls within minutes, and troubleshoot service problems quickly.

Key Features/Benefits:

T1 ISDN PRI Options Signaling

- ▶ 4ESS, 5ESS
- ► DMS250, DMS100
- National ISDN-2
- ▶ NTT INS1500

Line Coding

- ► SF (D3, D4)
- ▶ ESF

Framing

- ► AMI
- ► AMI with B7 stuffing
- ▶ B8ZS

E1 ISDN PRI Options Signaling

- ▶ 1TR6
- ▶ DASS2
- ▶ DPNSS
- ► CTR4 (Euro-ISDN)
- ▶ QSIG
- ► TPH
- ► VN3

Line Coding

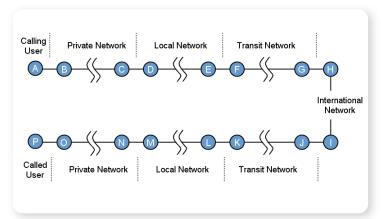
► HDB3



Measurements

Cause Code

The Cause Code generated after an ISDN Answer Detection test call indicates the result of the call connection based on the PRI messages exchanged over the network. When a test call does not complete execution, the Cause Code indicates why the call failed.



The Cause Location generated after an ISDN Answer Detection test call indicates where, in the routing of the call, the cause code was generated.

WEB Reports

ile Edit View Favorites Ioo	is <u>H</u> elp													Vorton Ani	Wrus 🔚 🕶
Ainecom Direct Quality				Call (Connection Answer Detect			nan	ce						
				Sum	mary View Detailed Vi	ew T	est Call	View						Shor	w report specs
Test calls: 176												Service Level Cla	ss: Global QOS Repo	ort	Apply
Origin: Canada															
	Call Identification					Call Connection									
				Off Hook	CDC	Cause No.	Cause Loc.	PDD	Ring Dur.	Call Dur.				Return Code	
		City	Number Dialed		yyyy-mm-dd HH:mm:ss				sec	sec	sec				
Montreal, Minacom Engineering Lab	Canada		1234567		2005-04-07 16:53:54	COM	51	250	0.3	19.1	34.3	2005-04-07 16:55:35	_TS2 VQM4_1:1	4	200: Ok.
					CCR			Avg.	Aug.	Avg.					
Canada ·	122					100.0			0.3	19.1	34.3				
Montreal, QC	Canada		5143980973	DIRECT	2005-01-06 19:31:26	COM	*	3.8	1.1	9.1	28.6	2005-01-06 19:40:48		66136	200: Ok.
Montreal QC	Canada		5148758066	DIRECT	2005-01-20 15:41:06	COM	- 55	1121	1.0	10.6	24.7	2005-01-20 15:41:01		66263	200: Ok.
Montreal, QC	Canada	Montreal, QC	256	DIRECT	2005-02-10 12:02:23	COM		1.00	0.2	0.0	12.2	2005-02-10 17:03:07	IkeDemo VQM4 1-2_0:2	282	200: Ok.
Canada - DIRECT					100.0			Avg.	Aug. 6.6	Avg. 21.8					
Canada - DIRECT						100.0			0.7	9.7	24.9				
Ottawa, ON	Japan	Shimonoseki	555101253	CARRIER_QA101 (555101)	2005-01-27 11:57:38	BUS	-		0.8		35.8	2005-01-27 11:58:00	OA1 VOM4 (1) 1:9	1722	177: Busy.
	profess.	1				CCR			Avq.	Aug.	Aug.		V V V	100.000	
Japan - CARRIER_QA101 (555101)						-			0.8		35.8				
Ottawa, ON	Japan	Shimonoseki	555102253	CARRIER_QA101 (555102)	2005-01-27 11:58:52	BUS	*	*	0.7		35.7	2005-01-27 11:59:16	QA1 VQM4 (1)_1:9	1723	177: Busy.
						CCR			Avg.	Avg.	Avg.				
Japan - CARRIER_QA101 (555102)		unut p							0.7	10.5	35.7				
Ottawa, ON	Japan	Shimonoseki	555103253	CARRIER_QA101 (555103)	2005-01-27 12:00:08	BUS	- 27	100	0.8	343	35.8	2005-01-27 12:00:31	QA1 VQM4 (1)_1:9	1724	177: Busy.
						CCR			Avg.	Aug.	Avg.				
Japan - CARRIER_QA101 (555103)	I.	1	555104253	T					8.0	100	35.8			1725	177: Busy.
Ottawa, ON	Japan	Shimonoseki	555104253	CARRIER_QA101 (555104)	2005-01-27 12:01:23	CCR	-	1,5%	0.8	(5)	35.8	2005-01-27 12:01:46	QA1 VQM4 (1)_1:9	1725	1 77: Busy.
Japan - CARRIER (DA101 (555104)						CER			Avg.	Aug.	Aug. 35.8				
Ottawa, ON	Japan	Shimonoseki	555105253	CARRIER_QA101 (555105)	2005-01-27 12:02:38	BUS		-	0.8		35.8	2005-01-27 12:03:01	OA1 VOM4 (1) 1/9	1726	177: Busy.
	1	1	,	1		CCR			Avg.	Avg.	Avg.				1
Japan - CARRIER_QA101 (555105)									0.8		35.8				
Ottawa, ON	Japan	Shimonoseki	555106253	CARRIER_QA101 (555106)	2005-01-27 12:03:53	BUS	2	-	0.8	-	35.8	2005-01-27 12:04:16	QA1 VQM4 (1)_1:9	1727	177: Busy.
						CCR			Avg.	Aug.	Aug.				
Japan - CARRIER_QA101 (555106)									8.0		35.8				
Ottawa, ON	Japan	Shimonoseki	555107253	CARRIER_QA101 (555107)	2005-01-27 12:05:08	BUS		323	0.8	929	35.8	2005-01-27 12:05:31	QA1 VQM4 (1)_1:9	1728	177: Busy.
						CCR			Avg.	Avg.	Aug.				
Japan - CARRIER QA101 (555107)						-			8.9	1,01	35.8				

Compares Network PRI Signalling with Subscriber Audio Perception

For Further Information

Tektronix maintains a comprehensive, constantly expanding collection of application notes, technical briefs and other resources to help engineers working on the cutting edge of technology.

Please visit www.tektronix.com

Contact Tektronix:

Please visit www.tektronix.com/ communcations

Phone:

1-800-833-9200 option 1 +1-469-330-4000 Active Test Office: (514) 380-5530

Locate your nearest Tektronix representative www.tektronix.com/contactus



Copyright © 2007, Tektronix, Inc. All rights reserved. Tektronix products are covered by U.S. and foreign patents, issued and pending. Information in this publication supersedes that in all previously published material. Specification and price change privileges reserved. TEKTRONIX and TEK are registered trademarks of Tektronix, Inc. All other trade names referenced are the service marks, trademarks or registered trademarks of their respective companies.

05/07 GD CCW-20853-0