

## **HMP IP Interoperability Test Result with Cisco 2611XM, Cisco AS5400, Cisco CallManager 3.3(2) and Cisco CallManager 4.0**

***Spreadsheet for Intel® NetStructure™ Host Media Processing Software:  
Interoperability Test with Cisco 2611XM Router, Cisco AS5400, Cisco  
CallManager 3.3(2), and Cisco 79xxG IP Phones***

HMP IP Interoperability Test Result with Cisco 2611XM, Cisco AS5400, Cisco CallManager 3.3(2) and Cisco CallManager 4.0(2)

3-Feb-05

All the test cases are implemented based on HMP IP Media Server Building Blocks PRD (SYS-PR-195). For the detail of the test descriptions and setups, please reference Intel® NetStructure™ HMP Interoperability Test with Cisco 2611XM Router, Cisco AS5400 Media Gateway, Cisco CallManager 3.3(2), Cisco CallManager 4.0(2) and Cisco 79XXG IP Phones Test Design Specification (TDS).

HMP Version: HMP r1.1 SU#10,  
SU#13(for testing SIP blind/supervised transfer)  
SU#16(for CCM 4.0 test cases)

Cisco 2611XM IOS Version: 12.3(8)T5  
Cisco AS5400 IOS Version: 12.3(8)T5  
Cisco CallManager 3.3 Version: 3.3(2)jes63  
Cisco CallManager 4.0 Version: 4.0(2)a

Legend	
Configuration isn't specified in PRD or suitable for the test scenario or doesn't contain the testing equipment specified in the test case.	
P	Test Pass
F	Test Failed or test failed in some setup.
P	Test Pass in the HMP supported features
D	Test defer due to some features are not supported in the HMP
-	Test is invalid or some features are not supported in the 3rd party equipment
	Test is not yet executed

**Configurations with WAN (currently do not have resource to setup)**  
 Cisco 7905G H.323 Phones ↔ WAN ↔ Cisco 2611XM ↔ LAN ↔ HMP  
 Cisco 7905G H.323 Phones ↔ WAN ↔ Cisco 2611XM ↔ Legacy PBX ↔ PIMG ↔ LAN ↔ HMP  
 Cisco 7960G SIP Phones ↔ WAN ↔ Cisco 2611XM ↔ Legacy PBX ↔ PIMG ↔ LAN ↔ HMP  
 HMP ↔ LAN ↔ Cisco 2611XM ↔ WAN ↔ Cisco 7905G H.323 Phones  
 HMP ↔ LAN ↔ PIMG ↔ Legacy PBX ↔ Cisco 2611XM ↔ WAN ↔ Cisco 7905G H.323 Phones  
 HMP ↔ LAN ↔ Cisco CallManager 4.0(2) ↔ WAN ↔ Cisco 7960G SCCP IP Phones

**Configurations currently can be setup and tested**  
 1. Cisco 79xxG IP Phones ↔ LAN ↔ Cisco 2611XM ↔ PSTN ↔ Cisco 2611XM ↔ LAN ↔ HMP  
 2. Cisco 7912G SIP Phones ↔ LAN ↔ Cisco 2611XM ↔ LAN ↔ HMP  
 3. Analog phones ↔ PSTN ↔ Cisco 2611XM ↔ LAN ↔ Cisco CallManager 3.3(2) ↔ LAN ↔ HMP  
 4. Analog phones ↔ PSTN ↔ Cisco 2611XM ↔ LAN ↔ Cisco CallManager 4.0(2) ↔ LAN ↔ HMP  
 5. Analog Phone ↔ PSTN ↔ Cisco 2611XM ↔ LAN ↔ HMP MS  
 6. HMP ↔ LAN ↔ Cisco 2611XM ↔ PSTN ↔ Cisco 2611XM ↔ Cisco 79xxG IP phones  
 7. HMP ↔ LAN ↔ Cisco 2611XM ↔ LAN ↔ Cisco 7912G SIP Phones  
 8. HMP ↔ LAN ↔ CallManager 3.3(2) ↔ LAN ↔ Cisco 2611XM ↔ PSTN ↔ Analog phones  
 9. HMP ↔ LAN ↔ CallManager 4.0(2) ↔ LAN ↔ Cisco 2611XM ↔ PSTN ↔ Analog phones  
 10. HMP ↔ LAN ↔ Cisco 2611XM ↔ PSTN ↔ Analog Phone  
 11. HMP ↔ LAN ↔ Cisco 2611XM ↔ PSTN ↔ Analog FAX  
 12. Analog Phone ↔ Legacy PBX ↔ Cisco AS5400 ↔ LAN ↔ HMP  
 13. HMP ↔ LAN ↔ Cisco AS5400 ↔ Legacy PBX ↔ Analog phone  
 14. HMP ↔ LAN ↔ Cisco AS5400 ↔ Legacy PBX ↔ Analog FAX  
 15. Cisco 7960G SCCP IP Phones ↔ LAN ↔ Cisco CallManager 3.3(2) ↔ LAN ↔ HMP  
 16. Cisco 7905G H.323 Phones ↔ LAN ↔ Cisco CallManager 3.3(2) ↔ LAN ↔ HMP  
 17. Cisco 7960G SCCP IP Phones ↔ LAN ↔ Cisco CallManager 4.0(2) ↔ LAN ↔ HMP  
 18. Cisco 7960G SIP Phones ↔ LAN ↔ Cisco CallManager 4.0(2) ↔ LAN ↔ HMP  
 19. Cisco 2611XM ↔ LAN ↔ HMP

**H.323 on Cisco 2611XM, Cisco AS5400, Cisco CallManager 3.3(2) and Cisco CallManager 4.0(2)**

Use Case Category	Scenarios	Test Case ID
Initialization/ Shutdown	Perform Gatekeeper discovery on Cisco 2611XM IOS Gatekeeper	TC1
	Perform registration with Cisco 2611XM IOS Gatekeeper using E.164 prefix.	TC2
	Change registration information with Cisco 2611XM IOS Gatekeeper	TC3
	Cancel Registration with Cisco 2611XM IOS Gatekeeper	TC4
	Connect multiple simultaneous incoming H.323 calls from Cisco 79xxG IP Phones using symmetric coders.	TC5
	Connect multiple simultaneous incoming H.323 call from Cisco 79xxG IP Phones using asymmetric coders.	TC6
	Connect multiple simultaneous incoming H.323 call from Cisco 79xxG IP Phones using slow start procedure, H.245 tunneling disabled.	TC7
	Connect multiple simultaneous incoming H.323 call from Cisco 79xxG IP Phones using slow start procedure, H.245 tunneling enabled.	TC8
	Connect multiple simultaneous incoming H.323 call from Cisco 79xxG IP Phones using fast connect procedure, H.245 tunneling disabled.	TC9
	Connect multiple simultaneous incoming H.323 call from Cisco 79xxG IP Phones using fast connect procedure, H.245 tunneling enabled.	TC10
Handle incoming call from Cisco 79xxG IP Phones	Connect multiple simultaneous incoming calls from Cisco 7960G SCCP IP Phones via Cisco CallManager x.x(x) session controller using symmetric coders using symmetric coders.	TC63
	Connect multiple simultaneous incoming calls from Cisco 7960G SCCP IP Phones via Cisco CallManager x.x(x) session controller using symmetric coders using asymmetric coders.	TC64
	Place multiple, simultaneous calls from Cisco 7960G SCCP IP Phones via Cisco CallManager x.x(x) session controller using slow start procedure, H.245 tunneling disabled.	TC65
	Connect multiple simultaneous incoming calls from Cisco 7960G SCCP IP Phones via Cisco CallManager x.x(x) session controller using slow start procedure, H.245 tunneling enabled.	TC66
	Connect multiple simultaneous incoming calls from Cisco 7960G SCCP IP Phones via Cisco CallManager x.x(x) session controller using fast connect procedure, H.245 tunneling disabled.	TC67
	Connect multiple simultaneous incoming calls from Cisco 7960G SCCP IP Phones via Cisco CallManager x.x(x) session controller using fast connect procedure, H.245 tunneling enabled.	TC68
	Connect multiple simultaneous incoming calls from Cisco 7905G H.323 Phones via Cisco CallManager 3.3(2) session controller	TC69
	Retrieve the call party information from the SETUP message for an incoming call arriving from a Cisco 7960G SCCP IP Phone and Cisco 7905G H.323 Phone via a Cisco Call Manager x.x(x) session controller.	TC70
	Connect multiple simultaneous incoming calls from analog phone connected to Cisco 2611XM.	TC11
	Process DTMF input	Perform in-band DTMF detection
Perform H.245 UII DTMF detection		TC13
Perform RFC2833 DTMF detection		TC58
Perform in-band DTMF detection with Cisco CallManager x.x(x)		TC71
Perform H.245 UII DTMF detection with Cisco CallManager x.x(x)		TC72
Perform RFC2833 DTMF detection with Cisco CallManager x.x(x)		TC73
Place multiple simultaneous H.323 calls to Cisco 79xxG IP Phones using symmetric coders.		TC14
Make an outgoing call to an Cisco 29xxG IP Phones	Place multiple simultaneous H.323 calls to Cisco 79xxG IP Phones using asymmetric coders	TC15
	Place multiple, simultaneous H.323 calls to Cisco 79xxG IP Phones using slow start procedure, H.245 tunneling disabled.	TC16
	Place multiple, simultaneous H.323 calls to Cisco 79xxG IP Phones using slow start procedure, H.245 tunneling enabled.	TC17
	Place multiple, simultaneous H.323 calls to Cisco 79xxG IP Phones using fast start procedure, H.245 tunneling disabled.	TC18
	Place multiple, simultaneous H.323 calls to Cisco 79xxG IP Phones using fast start procedure, H.245 tunneling enabled.	TC19
	Process call failure: called party does not answer.	TC21
	Process call failure: called party is busy.	TC22
	Process call failure: capability not supported by Cisco 79xxG IP Phone	TC23
	Make an outgoing call to an analog Phone connected to Cisco 2611XM and perform call progress analysis.	TC20
	Make an outgoing call to an analog Phone connected to Cisco AS5400	TC56
Handle incoming call from an analog phone connected to Cisco AS5400	Connect multiple simultaneous incoming H.323 calls from analog phone connected to Cisco AS5400 via a Legacy PBX.	TC54
	Send T.38 fax in an established voice call.	TC29
	Receive T.38 fax in an established audio session.	TC30
	Receive T.38 fax without an established audio session.	TC31
Send/Receive T.38 fax over IP using H.323 to setup the call.	Send T.38 fax without an established voice call.	TC32
	Verify a connected H.323 call between HMP-based IP Media Server and a Cisco 79xxG IP phones can be put on hold and retrieved using Cisco 79xxG IP phones' Hold/Retrieve keys.	TC24
	Bridge two H.323 calls that use different coders	TC33
Transfer	Perform a blind transfer to another H.323 phone via a gatekeeper-model or direct-called model. HMP is the transferring endpoint.	TC25
	Perform a supervised transfer to another H.323 phone via a gatekeeper-model or direct-called model. HMP is the transferring endpoint.	TC26
	Participate a blind transfer to another H.323 phone via a gatekeeper-model or direct-called model. HMP is the transferred endpoint.	TC27
	Participate a supervised transfer to another H.323 phone via a gatekeeper-model or direct-called model. HMP is the transferred endpoint.	TC28
	Perform a blind transfer to another analog phone. HMP is the transferring endpoint via Cisco AS5400.	TC59
	Perform a supervised transfer to another analog phone. HMP is the transferring endpoint via Cisco AS5400.	TC60

Test Case ID	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
TC1	P																		
TC2	P																		
TC3	P																		
TC4	P																		
TC5																			P
TC6																			F
TC7																			P
TC8																			P
TC9																			P
TC10																			P
TC63				P	P														
TC64				F	F														
TC65				P	P														
TC66				-	-														
TC67				-	-														
TC68				-	-														
TC69					P														
TC70					P	P													
TC11															P	P			
TC12									P						P	P			P
TC13															P	P			P
TC58															P	P			P
TC71															P	P			P
TC72															P	P			P
TC73															P	P			P
TC14																			P
TC15																			F
TC16																			P
TC17																			P
TC18																			P
TC19																			P
TC21																			-
TC22																			-
TC23																			-
TC20																			P
TC56																			P
TC54																			P
TC29																			F
TC30																			F
TC31																			F
TC32																			F
TC24																			D
TC33																			-
TC25																			P
TC26																			F
TC27																			-
TC28																			-
TC59																			P
TC60																			F

Cisco TAC support #	Issue description	Status	Comments
600773920	Cisco 2611XM was unable to accept asymmetric codec setup.	Closed	Cisco 2611XM, AS5400, CM3.3 do not support asymmetric codec based on the Cisco TAC answer
600761051	Cisco AS5400 & 2611XM was unable to send/receive T.38 fax without an established voice session.	Closed	Cisco 2611XM, AS5400 do not support send/receive T.38 without an established voice session based on the Cisco TAC answer
600773920	Cisco 2611XM and AS5400 is unable to use g.729a/ab. When attempting to establish a call using g.729a, these products select g.729 as the codec match instead	Closed	Cisco 2611XM and AS5400 does follow the G.729 standard and the standard allows G.729a/ab talks to G.729. The issue has been taking a look in HMP.

PTR #	Issue description	Status	Comments
-------	-------------------	--------	----------

HMP IP Interoperability Test Result with Cisco 2611XM, Cisco AS5400, Cisco CallManager 3.3(2) and Cisco CallManager 4.0(2)

3-Feb-05

All the test cases are implemented based on HMP IP Media Server Building Blocks PRD (SYS-PR-195). For the detail of the test descriptions and setups, please reference Intel® NetStructure™ HMP Interoperability Test with Cisco 2611XM Router, Cisco AS5400 Media Gateway, Cisco CallManager 3.3(2), Cisco CallManager 4.0(2) and Cisco 79XXG IP Phones Test Design Specification (TDS).

HMP Version: HMP r1.1 SU#10  
 SU#13(for testing SIP blind/supervised transfer)  
 SU#16(for CCM 4.0 test cases)

Cisco 2611XM IOS Version: 12.3(8)T5  
 Cisco AS5400 IOS Version: 12.3(8)T5  
 Cisco CallManager 3.3 Version: 3.3(2)es63  
 Cisco CallManager 4.0 Version: 4.0(2)a

**Legend**

- Configuration isn't specified in PRD or suitable for the test scenario or doesn't contain the testing equipment specified in the test case.
- P Test Pass
- F Test Failed or test failed in some setup.
- P Test Pass in the HMP supported features
- D Test defer due to some features are not supported in the HMP
- Test is invalid or some features are not supported in the 3rd party equipment
- Test is not yet executed

**Configurations with WAN (currently do not have resource to setup)**

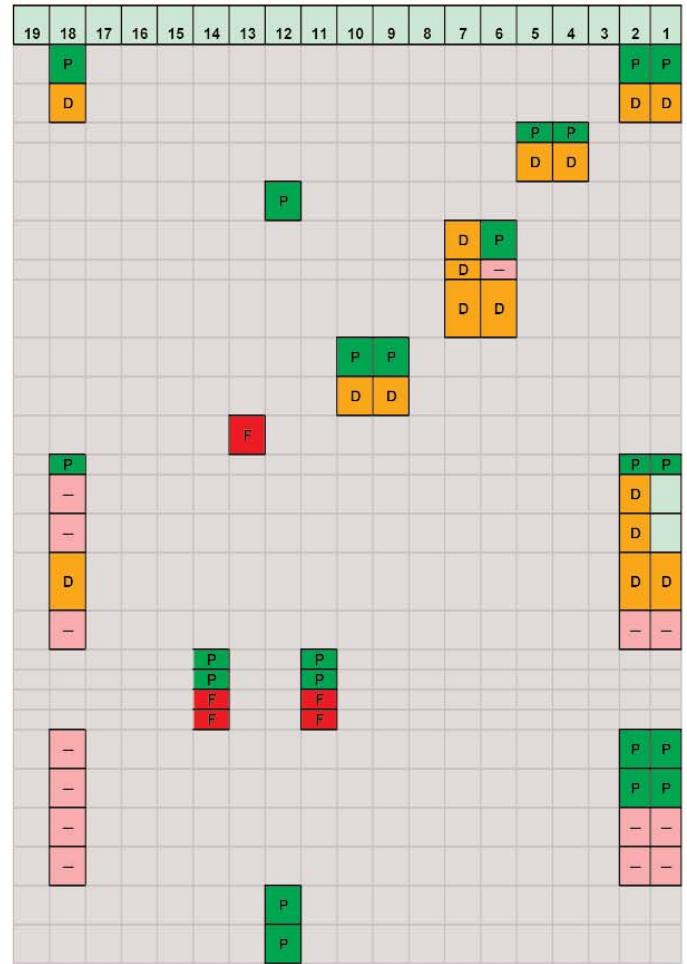
- Cisco 7905G H.323 Phones → WAN → Cisco 2611XM → LAN → HMP
- Cisco 7905G H.323 Phones → WAN → Cisco 2611XM → Legacy PBX → PIMG → LAN → HMP
- Cisco 7960G SIP Phones → WAN → Cisco 2611XM → Legacy PBX → PIMG → LAN → HMP
- HMP → LAN → Cisco 2611XM → WAN → Cisco 7905G H.323 Phones
- HMP → LAN → PIMG → Legacy PBX → Cisco 2611XM → WAN → Cisco 7905G H.323 Phones
- HMP → LAN → Cisco CallManager 4.0(2) → WAN → Cisco 7960G SCCP IP Phones

**Configurations currently can be setup and tested**

- 1. Cisco 79xxG IP Phones → LAN → Cisco 2611XM → PSTN → Cisco 2611XM → LAN → HMP
- 2. Cisco 7912G SIP Phones → LAN → Cisco 2611XM → LAN → HMP
- 3. Analog phones → PSTN → Cisco 2611XM → LAN → Cisco CallManager 3.3(2) → LAN → HMP
- 4. Analog phones → PSTN → Cisco 2611XM → LAN → Cisco CallManager 4.0(2) → LAN → HMP
- 5. Analog Phone → PSTN → Cisco 2611XM → LAN → HMP MS
- 6. HMP → LAN → Cisco 2611XM → PSTN → Cisco 2611XM → Cisco 79xxG IP phones
- 7. HMP → LAN → Cisco 2611XM → LAN → Cisco 7912G SIP Phones
- 8. HMP → LAN → CallManager 3.3(2) → LAN → Cisco 2611XM → PSTN → Analog phones
- 9. HMP → LAN → CallManager 4.0(2) → LAN → Cisco 2611XM → PSTN → Analog phones
- 10. HMP → LAN → Cisco 2611XM → PSTN → Analog Phone
- 11. HMP → LAN → Cisco 2611XM → PSTN → Analog FAX
- 12. Analog Phone → Legacy PBX → Cisco AS5400 → LAN → HMP
- 13. HMP → LAN → Cisco AS5400 → Legacy PBX → Analog phone
- 14. HMP → LAN → Cisco AS5400 → Legacy PBX → Analog FAX
- 15. Cisco 7960G SCCP IP Phones → LAN → Cisco CallManager 3.3(2) → LAN → HMP
- 16. Cisco 7905G H.323 Phones → LAN → Cisco CallManager 3.3(2) → LAN → HMP
- 17. Cisco 7960G SCCP IP Phones → LAN → Cisco CallManager 4.0(2) → LAN → HMP
- 18. Cisco 7960G SIP Phones → LAN → Cisco CallManager 4.0(2) → LAN → HMP
- 19. Cisco 2611XM → LAN → HMP

**SIP on Cisco 2611XM, Cisco AS5400 and Cisco CallManager 4.0(2)**

Use Case Category	Scenarios	Test Case ID
Handle incoming call from Cisco 79xxG SIP Phone	Connect multiple simultaneous incoming calls from Cisco 79xxG IP Phones using SIP.	TC34
	Switch coders using re-INVITE after call connected with Cisco 79xxG IP Phone.	TC35
Handle incoming SIP call from analog Phone connected to Cisco 2611XM	Connect multiple incoming calls from analog phones using SIP.	TC36
	Switch coders using re-INVITE after call connected with analog phone.	TC37
Handle incoming SIP call from analog phone connected to Cisco AS5400	Connect multiple incoming SIP calls from analog phones connected to Cisco AS5400.	TC55
Make an outgoing call to an Cisco 79xxG SIP Phone	Place a SIP call to Cisco 79xxG IP Phone connected to Cisco 2611XM	TC38
	Handle unsuccessful call to Cisco 79xxG IP Phones.	TC40
Make an outgoing call to an Cisco 79xxG SIP Phone and perform call progress analysis	Place a call to Cisco 79xxG IP phone and perform call progress analysis on the in-band tones.	TC44
Make an outgoing SIP call to an analog phone connected to Cisco 2611XM	Place a call to an analog phone connected to Cisco 2611XM	TC39
Place a SIP call to an analog phone connected and perform call progress analysis	Place a call to an analog phone and perform call progress analysis on the in-band tones.	TC45
Make an outgoing SIP call to an analog phone connected to Cisco AS5400	Place a SIP call to an analog phone connected to Cisco AS5400	TC57
Process DTMF input	Perform In-band DTMF detection during SIP call	TC51
MWI	Activate message waiting indicator light of an Cisco 79xxG SIP Phone	TC42
	Deactivate message waiting indicator light of an Cisco 79xxG SIP Phone	TC43
Hold/Retrieve	Verify a connected SIP call between HMP-based IP Media Server and a Cisco 79xxG SIP Phone can be put on hold and retrieved using Cisco 79xxG Hold/Retrieve keys.	TC41
Bridge calls	Bridge and outgoing call with an incoming call using different coders (IP drop-and-insert)	TC50
	Send T.38 fax with an established voice session	TC74
Send/Receive T.38 fax over IP using SIP to setup the call.	Receive T.38 fax with an established voice session	TC75
	Send T.38 fax without an established voice session	TC52
	Receive T.38 fax without an established voice session	TC53
	Perform a REFER-based SIP blind transfer to another Cisco SIP phone	TC46
Transfer	Perform a REFER-based SIP supervised transfer to another Cisco SIP phone.	TC47
	Participate in a REFER-based SIP blind transfer as a transferred endpoint.	TC48
	Participate in a REFER-based SIP supervised transfer as a transferred endpoint.	TC49
	Perform a REFER-based SIP blind transfer to another analog phone via Cisco AS5400	TC61
	Perform a REFER-based SIP supervised transfer to another phone via Cisco AS5400	TC62



Cisco TAC supprot #	Issue description	Status	Comments
600773920	Cisco 2611XM was unable to accept asymmetric codec setup.	Closed	Cisco 2611XM, AS5400, CM3 3 do not support asymmetric codc based on the Cisco TAC answer
600761051	Cisco AS5400 & 2611XM was unable to send/receive T.38 fax without an established voice session.	Closed	Cisco 2611XM, AS5400 do not support send/receive T.38 without an established voice session based on the Cisco TAC answer
600773920	Cisco 2611XM and AS5400 is unable to use g.729a/ab. When attempting to establish a call using g.729a, these products select g.729 as the codec match instead	Closed	Cisco 2611XM and AS5400 does follow the G.729 standard and the standard allows G.729a/ab talks to G.729. The issue has been taking a look in HMP.

PTR #	Issue description	Status	Comments
-------	-------------------	--------	----------

THIS TEST REPORT IS PROVIDED "AS IS" WITH NO WARRANTIES WHATSOEVER, INCLUDING ANY WARRANTY OF MERCHANTABILITY, NONINFRINGEMENT FITNESS FOR ANY PARTICULAR PURPOSE, OR ANY WARRANTY OTHERWISE ARISING OUT OF ANY PROPOSAL, SPECIFICATION OR SAMPLE.

INFORMATION IN THIS DOCUMENT IS PROVIDED IN CONNECTION WITH INTEL® PRODUCTS. NO LICENSE, EXPRESS OR IMPLIED, BY ESTOPPEL OR OTHERWISE, TO ANY INTELLECTUAL PROPERTY RIGHTS IS GRANTED BY THIS DOCUMENT. EXCEPT AS PROVIDED IN INTEL'S TERMS AND CONDITIONS OF SALE FOR SUCH PRODUCTS, INTEL ASSUMES NO LIABILITY WHATSOEVER, AND INTEL DISCLAIMS ANY EXPRESS OR IMPLIED WARRANTY, RELATING TO SALE AND/OR USE OF INTEL PRODUCTS INCLUDING LIABILITY OR WARRANTIES RELATING TO FITNESS FOR A PARTICULAR PURPOSE, MERCHANTABILITY, OR INFRINGEMENT OF ANY PATENT, COPYRIGHT OR OTHER INTELLECTUAL PROPERTY RIGHT.

Intel products are not intended for use in medical, life saving, or life sustaining applications, in critical control or safety systems, or in nuclear facility applications.

Intel retains the right to make changes to its test specifications at any time, without notice.

The hardware vendor remains solely responsible for the design, sale and functionality of its product, including any liability arising from product infringement or product warranty.

No part of this document may be reproduced, stored in a retrieval system, or transmitted in any form or by any means without express written consent of Intel Corporation.

Copyright © 2004-2005, Intel Corporation. All rights reserved.

Intel, Intel NetStructure, Intel Xeon, and Pentium are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.

\* Other names and brands may be claimed as the property of others.

Intel  
1515 Route 10  
Parsippany, NJ 07054

Printed in the USA

 Printed on recycled paper.

02/05 00-9474-002

