

Interoperability Test Profile

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1. Abstract

This document describes a profile for use in interoperability testing of the Megaco/H.248 protocol and a set of scenarios to try increasingly difficult mechanisms in the protocol. To support early phase testing, it is useful to define a simple, easy to implement set of characteristics that allow initial implementations to get very basic functions working. By implementing this profile, testing a variety of MGs against a variety of MGCs is possible. The test scenarios describe high-level behavior expected by the MGs and MGCs, but not explicit message sequences.

Also included is a set of test messages that may be used to verify early stage MG/MGC functionality. They could be used to test parsers, and they can be used to assure that implementations have base functionality prior to testing with devices that may not produce the same messages.

2. Profile

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The test profile is described as one profile, but is actually a set of increasing functionality profiles. The levels are assigned a numeric identifier, from Level 1 to Level 4. The scenarios specify which level of the profile is required. It is possible to define 4 separate profiles, but many devices will implement several of the levels, and it was not considered appropriate to have to reconfigure the device for a specific level for each scenario.

Level 1 corresponds to the simplest possible gateway that can detect off hook, and create a media stream, but little else

Level 2 corresponds to a low functionality gateway that can detect DTMF and generate simple call progress tones so that basic call is possible

Level 3 corresponds to a full functionality residential gateway with local signalling/DTMF detection

Level 4 corresponds to a fully functional trunk gateway that is similar to level 3 but supports DS0s

2.1 Identification

This profile shall be entitled "Interoperability Test Profile".

The version number shall be 1.0. This name shall be returned from a conforming gateway when sending the ServiceChange message as part of initial registration of the MG in the Profile section of the ServiceChange Descriptor.

2.2 Packages Implemented

A conforming gateway shall implement at least the following packages:

Package Name	ID	Ver	Level	Defined In
Network	nt	1	1	Annex E
Analog Line Supv	al	1	1	Annex E*
RTP	rtp	1	1	Annex E*
Generic	g	1	2	Annex E
Base Root	root	1	2	Annex E
Tone Detect	tonedet	1	2	Annex E
DTMF Detect	dt	1	2	Annex E
Tone Generator	tonegen	1	3	Annex E
DTMF Generate	dg	1	3	Annex E
Continuity	ct	1	4	Annex E
DS0	ds0	1	4	Annex E*

*Note: In general, increasing levels incorporate all lower level requirements. Level 4 gateways however do not necessarily implement analog line (they may only implement DS0).

Gateways not supporting RTP (for example, an MG supporting ATM AAL1) need not support the RTP package, but instead would support the appropriate media transport package.

2.3 Naming Conventions

2.3.1 Gateway Naming Conventions

The MG name, used in Registration and in the header of commands, shall be the string "GATEWAY" followed by one decimal digit. The

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digit shall be provisionable. In single MG test environments, the digit will normally be zero. In multiple gateway scenarios, the gateways are numbered from 0 to 9.

2.3.2 Controller Naming Conventions

The MGC name, used in Registration and in the header of commands, shall be the string "CONTROLLER" followed by one decimal digit. The digit shall be provisionable. In single MGC test environments, the digit will normally be zero. In multiple MGC scenarios, the gateways are numbered from 0 - 9.

2.3.3 Termination Names

2.3.3.1 Physical Terminations

There shall be two terminations _ "termA" and _termB"

2.3.3.2 Ephemeral Terminations

RTP flows shall be named "rtpA", "rtpB", _

2.4 Topology Descriptor

A gateway conforming to this profile is not required to implement Topology and MGCs expecting to control gateways meeting this specification shall not assume Topology is implemented, for Levels 1-4.

NOTE: As this document evolves, Topology will be introduced.

2.5 Service Change Descriptor

For Level 1, only a Primary MGC should be provisioned (normally, "GATEWAY0"). For Level 2-4, the Gateway shall allow one primary and at least two secondary MGCs to be provisioned for registration.

2.6 Transport

Gateways SHALL implement TCP transport of Megaco for Levels 1-4. Future scenarios will test other transports.

2.7 Security

No security mechanisms are required, but full IPSEC AH is encouraged for Level 3 and 4 scenarios.

2.8 Encoding

Conforming Gateways SHALL support text encoding.

2.9 Media

IP connected gateways shall implement RTP flows with G.711 encoding. ATM connected gateways shall _.

3. Scenarios

3.1 Hotel Phone

Requires Level 1

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Registration should have no options, and should always succeed. No Audit should be performed. When off hook is detected on termA, send ring to termB. When off hook is detected on termB, stop ring, and create media flow between termA and termB. When on hook is detected on termA, tear down the media flow.

3.2 Basic Call

Requires Level 2

Registration should have no options, and should always succeed. No Audit should be performed. When off hook is detected on termA, establish a North American Dialing Plan digitmap. If 555-1212 is called, send ring to termB. Proceed as above.

3.3 Normal Operation of Simple Gateway

Requires Level 3.

Use your normal registration procedures. Registration should always succeed. Audit as normal. When offhook is detected on termA, return dialtone to termA and establish a North American Dialing Plan. If any number except 555-1212 is dialed, return error tone. If 555-1212 is dialed, send ring to termB and ringback to termA. When termB goes off-hook, stop ring and ringback and establish media flow. When either termA or termB goes on hook, tear down media flow.

3.4 Two Gateway Basic Call

Requires Level 3

Use your normal registration procedures for two MGs. Audit as

normal. Follow the same procedure as in Scenario 3.4, but construct the call from MG0 termA to MG1 termB.

3.5 Trunk Gateway Hotel Call

Requires Level 4

Use your normal registration procedures. Registration should always succeed. Audit as normal. When offhook is detected on termA continuity between termA and termB. Upon completion, establish ringing on termB. When termB goes off hook, establish media flow between termA and termB.

3.6 Two Trunk Gateway Basic Call

Requires Level 4

As with Scenario 3.5, but between MG0 termA and MG1 termB.

3.7 Secondary Registration

Requires Level 1

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Provision MG for MGC0 as primary and MGC1 as secondary. Attempt to register to MGC0. MGC0 should refuse and not offer a ServiceChangeMgcId. MGC1 should accept registration. Repeat with provisioning MG for MGC0 as primary and no secondary. Attempt to register to MGC0. MGC0 should refuse and offer MGC1 as ServiceChangeMgcId. Registration to MGC1 should succeed.

4. Test Messages

<this section will have test messages as described in the posting by Thorson and Mattsson (Ericsson) >

4. References

1. Cuervo, et. al., _Megaco Protocol_, [draft-ietf-megaco-merged-01.txt](#), June, 2000.

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