



MSF RELEASE 3 GUIDELINES

Abstract

The *MSF Release 3 Implementation Guidelines* are intended to assist Service Providers and their Vendors as they evolve their networks with MSF compliant solutions. MSF Members who are able to demonstrate equipment that is compliant with the Release 3 Architecture and the supporting Implementation Agreements can claim MSF R3 “Compliance” and use the MSF R3 Logo on that equipment.

Introduction

The MultiService Forum (MSF) is a global association of service providers and system suppliers committed to developing and promoting open-architecture, multi-service Next Generation Network. The MSF activities include developing MSF Implementation Agreements, and promoting worldwide interoperability events. In so doing we aim to accelerate the deployment of open architectures that enable interoperability and innovation in a rapidly evolving environment.

The MSF Architecture provides the framework of a multi-service network, describes how the components of the architecture work together, and identifies key open interfaces. MSF Implementation Agreements (IA's) select the protocols for these interfaces, and specify options and required functionality to ensure interoperability between components from different vendors.

The Global MSF Interoperability (GMI) Program provides an opportunity to put the components together in a multi-vendor, end-to-end network deployment scenario, and validates the current release of the architecture.

1 Purpose

This document provides the guidelines that service providers and their suppliers should use to claim “Compliance” to the MSF Release 3 Architecture and supporting IA's. An overview of the MSF Release 3 Architecture is shown in Figure 1. This document is consistent with the MSF Release 3 Architecture and describes the criteria each product must meet in order to claim compliance with MSF Release 3.

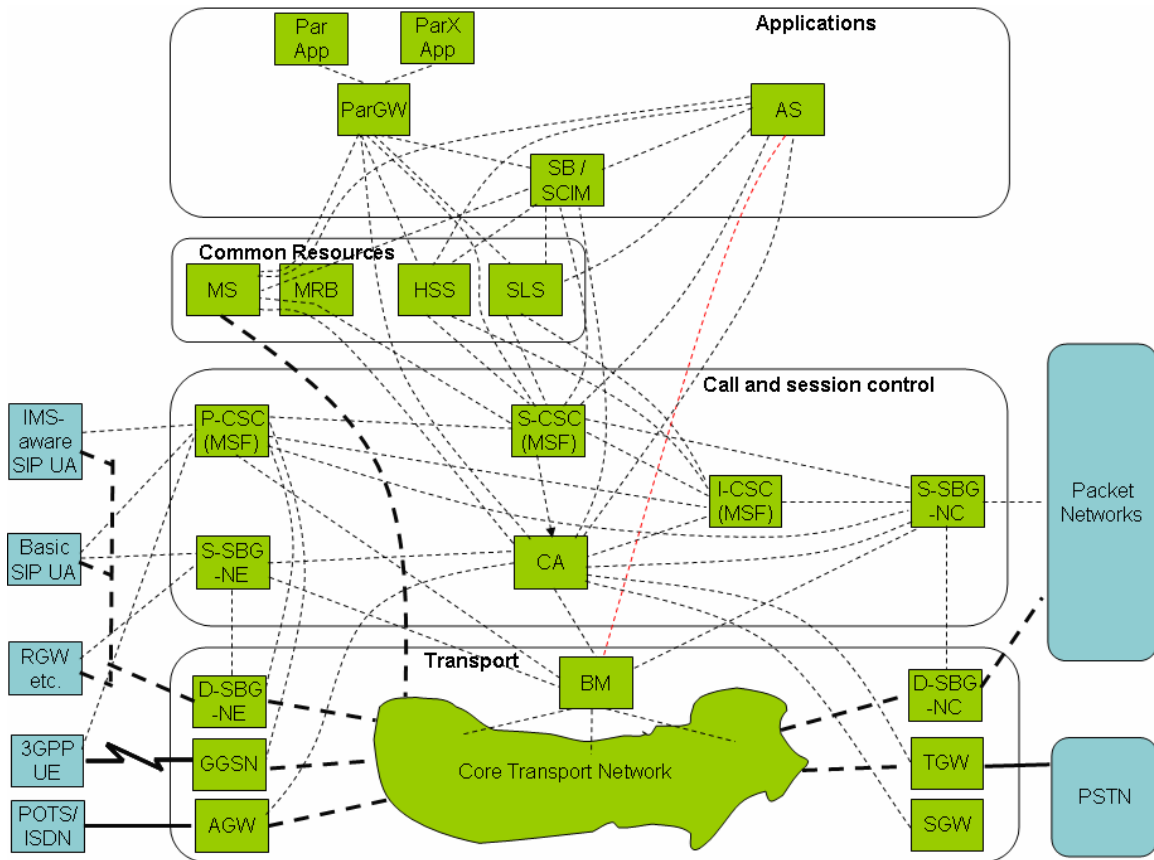


Figure 1 – Overview of the MSF Release 3 Architecture

2 General Requirement

All of the following requirements must be met for any device to claim compliance to the MSF Release 3 architecture.

- REQ 1. The device **MUST** support the mandatory functions for the component as defined in MSF-ARCH-003.00-Final.
- REQ 2. The device must comply with the principles of operation specified in section 2.3 of MSF-IA-ARCH-003.00-FINAL
- REQ 3. It **MUST** be possible to physically separate this device from other components defined by the MSF Release 3 Architecture.
- REQ 4. The device **MUST** utilize proven MSF IAs for interoperability with other components. The permitted multi-vendor protocols and their applicable Implementation Agreements are listed in table 2.

3 Combinations of Components

Vendors may also claim MSF Release 3 conformance for products that combine more than one MSF Release 3 component into a single product. If the product's role is solely that of the component combination, then the requirements of section 2 apply to the whole combination. An example of this would be a combined S-SBG-NE and D-SBG-NE, where the TC-1 interface between them need never be exposed. On the other hand, if the product is such that it takes on the different roles depending on context, then the product must satisfy the requirements of section 2 separately for each role that it performs. An example of this latter behaviour is a combined P- and S-CSC (MSF) capable of deployment into a network containing multiple P- and S-CSC (MSF).

4 Detailed Requirements

Table 1 lists the complete set of MSF Release 3 components. Table 2 lists the Implementation Agreements applicable to each component. Documents cited in this specification may be found on the MSF web site at <http://www.msforum.org/techinfo/approved.shtml>.

Table 1 – MSF Release 3 Components

Abbreviation	Full Name
Customer equipment	
IAD	Integrated Access Device
RGW	Residential Gateway
ATA	Analogue Terminal Adapter
-	Basic SIP User Agent
-	IMS-aware SIP UA
-	3GPP UE
Transport and transport control	
-	Core router
BM	Bandwidth Manager
D-SBG-NE	Data Path Session Border Gateway, Network Edge
D-SBG-NC	Data Path Session Border Gateway, Network Core
AGW	Access Gateway
TGW	Trunking Gateway
SGW	Signalling Gateway
GGSN	Gateway GPRS Support Node
Call and session control	
S-SBG-NE	Signalling Path Session Border Gateway, Network Edge

S-SBG-NC	Signalling Path Session Border Gateway, Network Core
P-CSC (MSF)	Proxy Call and Session Controller
S-CSC (MSF)	Serving Call and Session Controller
I-CSC (MSF)	Interrogating Call and Session Controller
CA	Call Agent
Common equipment	
HSS	Home Subscriber Server
SLS	Subscription Locator Server
MRB	Media Resource Broker
MS	Media Server
Applications	
SB/SCIM	Service Broker/SCIM
AS	Application Server
ParGW	Parlay or Parlay X Gateway
Par App, Par X App	Parlay or Parlay X Application

Table 2 – Applicable Implementation Agreements, by Component

Component	Applicable Implementation Agreements
Integrated Access Device (IAD) Residential Gateway (RGW) Analogue Terminal Adapter (ATA)	<p><u>MSF-IA-MGCP.001-FINAL</u>, Implementation Agreement for MGCP Profile for Call Agent to User Agent Interface</p> <p><u>MSF-IA-SDP.001-FINAL</u>, Implementation Agreement for SDP Usage and Codec Negotiation for GMI 2004</p> <p><i>Optional IA</i></p> <p><u>MSF-IA-MGCP.002-FINAL</u>, Implementation Agreement for MGCP IA Call Agent <-> User Agent Security Addendum</p>
Basic SIP User Agent (UA)	<p><u>MSF-IA-SIP.002v2-FINAL</u>, Implementation Agreement for CORE SIP Profile, for Voice over IP Version 2</p> <p><u>MSF-IA-SIP.003-FINAL</u>, Implementation Agreement for a SIP Profile Between a CA and UA</p> <p><u>MSF-IA-SDP.001-FINAL</u>, Implementation Agreement for SDP Usage and Codec Negotiation for GMI 2004</p>

IMS-aware SIP UA	<p>MSF-IA-SIP.012-FINAL, Implementation Agreement for a MSFR3 SIP Server</p> <p>MSF-IA-SDP.002-FINAL, Implementation Agreement for media formats and SDP usage for MSF Release 3</p>
3GPP UE	All applicable 3GPP documentation, particularly TS 23.228 and TS 24.229
Core router	MSF-IA-SNMP.001-FINAL , Implementation Agreement for Bandwidth Manager TC-2 interface
Bandwidth Manager (BM)	<p>MSF-IA-DIAMETER.001-FINAL, Implementation Agreement for Diameter interface to Bandwidth Manager</p> <p>MSF-IA-SNMP.001-FINAL, Implementation Agreement for Bandwidth Manager TC-2 interface</p> <p><i>Optional IA</i></p> <p>MSF-IA-MEGACO.015-FINAL (msf2005.185), S-SBG to D-SBG Interface Implementation Agreement; H.248 Profile for Distributed Session Border Gateways</p>
Data Path Session Border Gateway, Network Edge (D-SBG-NE)	<p>MSF-PS-SBG.001-FINAL, MSF Session Border Gateway Requirements</p> <p>MSF-IA-MEGACO.015-FINAL (msf2005.185), S-SBG to D-SBG Interface Implementation Agreement; H.248 Profile for Distributed Session Border Gateways</p> <p><i>Optional IA</i></p> <p>MSF-IA-MEGACO.014-FINAL, Implementation Agreement for explicit SIP signaling pinhole control via H.248 as a supplement document of H.248 IA</p>
Data Path Session Border Gateway, Network Core (D-SBG-NC)	<p>MSF-PS-SBG.001-FINAL, MSF Session Border Gateway Requirements</p> <p>MSF-IA-MEGACO.015-FINAL (msf2005.185), S-SBG to D-SBG Interface Implementation Agreement; H.248 Profile for Distributed Session Border Gateways</p>
Access Gateway (AGW)	<p><i>In the UK market:</i></p> <p>MSF-IA-MEGACO.010-FINAL, Multi-service Access Gateway Implementation Agreement (UK Market based on ETSI H.248 profile)</p> <p>MSF-IA-MEGACO.013-FINAL, Appendix B - Multi-</p>

	<p>service Access Gateway (UK Market based on ETSI H.248 profile) - POTS Message Flows MSF-IA-MEGACO.012-FINAL, Appendix B - Multi-service Access Gateway (UK Market based on ETSI H.248 profile) - System Management Procedures MSF-IA-SDP.001-FINAL, Implementation Agreement for SDP Usage and Codec Negotiation for GMI 2004</p> <p><i>Elsewhere:</i></p> <p>MSF-IA-MEGACO.003v2-FINAL (msf2004.175), Implementation Agreement for MEGACO/H.248 Profile for Media Gateway Controller/Trunking Gateway using IP Trunks MSF-IA-SDP.001-FINAL, Implementation Agreement for SDP Usage and Codec Negotiation for GMI 2004</p>
Trunking Gateway (TGW)	<p>MSF-IA-MEGACO.011-FINAL, Implementation Agreement for a MSFR3 MGC-2 Interface; H.248 Profile for controlling Trunking Media Gateways MSF-IA-SDP.002-FINAL, Implementation Agreement for media formats and SDP usage for MSF Release 3</p>
Media Gateway (Mobile networks)	<p>MSF-IA-MC.001v2-FINAL, Implementation Agreement for the 3GPP Mc Interface MSF-IA-SDP.002-FINAL, Implementation Agreement for media formats and SDP usage for MSF Release 3</p>
Signalling Gateway (SGW)	Not specified
Gateway GPRS Support Node (GGSN)	Not specified (specified by 3GPP)
Signalling Path Session Border Gateway, Network Edge (S-SBG-NE)	<p>MSF-PS-SBG.001-FINAL, MSF Session Border Gateway Requirements MSF-IA-DIAMETER.001-FINAL, Implementation Agreement for Diameter interface to Bandwidth Manager MSF-IA-SDP.001-FINAL, Implementation Agreement for SDP Usage and Codec Negotiation for GMI 2004 MSF-IA-MEGACO.015-FINAL (msf2005.185), S-SBG to D-SBG Interface Implementation Agreement; H.248 Profile for Distributed Session Border Gateways</p> <p><i>Optional IA for the S-SBG to D-SBG Interface</i></p>

	<p><u>MSF-IA-MEGACO.014-FINAL</u>, Implementation Agreement for explicit SIP signaling pinhole control via H.248 as a supplement document of H.248 IA</p> <p><i>If SIP functionality is supported</i></p> <p><u>MSF-IA-SIP.002v2-FINAL</u>, Implementation Agreement for CORE SIP Profile, for Voice over IP Version 2</p> <p><u>MSF-IA-SIP.003-FINAL</u>, Implementation Agreement for a SIP Profile Between a CA and UA</p> <p><i>If MGCP functionality is supported</i></p> <p><u>MSF-IA-MGCP.001-FINAL</u>, Implementation Agreement for MGCP Profile for Call Agent to User Agent Interface <i>and optionally</i></p> <p><u>MSF-IA-MGCP.002-FINAL</u>, Implementation Agreement for MGCP IA Call Agent <-> User Agent Security Addendum</p>
<p>Signalling Path Session Border Gateway, Network Core (S-SBG-NC)</p>	<p><u>MSF-PS-SBG.001-FINAL</u>, MSF Session Border Gateway Requirements</p> <p><u>MSF-IA-SIP.012-FINAL</u>, Implementation Agreement for a MSFR3 SIP Server</p> <p><u>MSF-IA-SDP.002-FINAL</u>, Implementation Agreement for media formats and SDP usage for MSF Release 3</p> <p><u>MSF-IA-DIAMETER.001-FINAL</u>, Implementation Agreement for Diameter interface to Bandwidth Manager</p> <p>MSF-IA-MEGACO.015-FINAL (msf2005.185), S-SBG to D-SBG Interface Implementation Agreement; H.248 Profile for Distributed Session Border Gateways</p> <p><i>Required to process calls incoming from MSF R2 domains:</i></p> <p><u>MSF-IA-SIP.002v2-FINAL</u>, Implementation Agreement for CORE SIP Profile, for Voice over IP Version 2</p> <p><u>MSF-IA-SIP.004-FINAL</u>, Implementation Agreement for an Inter-CA SIP Profile</p> <p><u>MSF-IA-SDP.001-FINAL</u>, Implementation Agreement for SDP Usage and Codec Negotiation for GMI 2004 <i>Optional IA for SIP-T support</i></p> <p><u>MSF-IA-SIP-T.001.02-FINAL</u>, Implementation Agreement for SIP-T Profile for a CA/MGC</p>

<p>Proxy Call and Session Controller (P-CSC (MSF))</p>	<p>MSF-IA-SIP.012-FINAL, Implementation Agreement for a MSFR3 SIP Server</p> <p>MSF-IA-SDP.002-FINAL, Implementation Agreement for media formats and SDP usage for MSF Release 3</p> <p>MSF-IA-DIAMETER.001-FINAL, Implementation Agreement for Diameter interface to Bandwidth Manager</p> <p><i>If Basic SIP UA supported</i></p> <p>MSF-IA-SIP.002v2-FINAL, Implementation Agreement for CORE SIP Profile, for Voice over IP Version 2</p> <p>MSF-IA-SIP.003-FINAL, Implementation Agreement for a SIP Profile Between a CA and UA</p> <p>MSF-IA-SDP.001-FINAL, Implementation Agreement for SDP Usage and Codec Negotiation for GMI 2004</p> <p><i>Optional IAs</i></p> <p>MSF-IA-MEGACO.015-FINAL (msf2005.185), S-SBG to D-SBG Interface Implementation Agreement; H.248 Profile for Distributed Session Border Gateways</p> <p>MSF-IA-MEGACO.014-FINAL, Implementation Agreement for explicit SIP signaling pinhole control via H.248 as a supplement document of H.248 IA</p>
<p>Serving Call and Session Controller (S-CSC (MSF))</p>	<p>MSF-IA-SIP.012-FINAL, Implementation Agreement for a MSFR3 SIP Server</p> <p>MSF-IA-SDP.002-FINAL, Implementation Agreement for media formats and SDP usage for MSF Release 3</p> <p>MSF-IA-DIAMETER.002-FINAL, Implementation Agreement for the DB-0 Interface</p> <p>MSF-IA-SIP.013-FINAL, Implementation Agreement for ISC Interface</p> <p><i>Required to process calls incoming from MSF R2 domains:</i></p> <p>MSF-IA-SIP.002v2-FINAL, Implementation Agreement for CORE SIP Profile, for Voice over IP Version 2</p> <p>MSF-IA-SIP.004-FINAL, Implementation Agreement for an Inter-CA SIP Profile</p> <p>MSF-IA-SDP.001-FINAL, Implementation Agreement for SDP Usage and Codec Negotiation for GMI 2004</p> <p><i>Required to invoke the Media Server</i></p>

	<p><u>MSF-IA-SIP.014-FINAL</u>, Media Resource Broker SIP Client Implementation Agreement</p> <p><u>MSF-IA-SIP.015-FINAL</u>, Implementation Agreement for SIP Media Server Interface</p> <p><u>MSF-IA-DIAMETER.001-FINAL</u>, Implementation Agreement for Diameter interface to Bandwidth Manager</p>
Interrogating Call and Session Controller (I-CSC (MSF))	<p><u>MSF-IA-SIP.012-FINAL</u>, Implementation Agreement for a MSFR3 SIP Server</p> <p><u>MSF-IA-DIAMETER.002-FINAL</u>, Implementation Agreement for the DB-0 Interface</p> <p><i>Required to route calls incoming from MSF R2 domains</i></p> <p><u>MSF-IA-SIP.002v2-FINAL</u>, Implementation Agreement for CORE SIP Profile, for Voice over IP Version 2</p> <p><u>MSF-IA-SIP.004-FINAL</u>, Implementation Agreement for an Inter-CA SIP Profile</p>
Call Agent (CA)	<p><u>MSF-IA-SIP.002v2-FINAL</u>, Implementation Agreement for CORE SIP Profile, for Voice over IP Version 2</p> <p><u>MSF-IA-SIP.004-FINAL</u>, Implementation Agreement for an Inter-CA SIP Profile</p> <p><u>MSF-IA-SIP.005-FINAL</u>, Implementation Agreement for SIP interface between Call Agent and Service Broker</p> <p><u>MSF-IA-SIP.012-FINAL</u>, Implementation Agreement for a MSFR3 SIP Server</p> <p><u>MSF-IA-SIP-T.001.02-FINAL</u>, Implementation Agreement for SIP-T Profile for a CA/MGC</p> <p><u>MSF-IA-SDP.001-FINAL</u>, Implementation Agreement for SDP Usage and Codec Negotiation for GMI 2004</p> <p><u>MSF-IA-SDP.002-FINAL</u>, Implementation Agreement for media formats and SDP usage for MSF Release 3</p> <p><u>MSF-IA-MEGACO.011-FINAL</u>, Implementation Agreement for a MSFR3 MGC-2 Interface; H.248 Profile for controlling Trunking Media Gateways</p> <p><u>MSF-IA-DIAMETER.001-FINAL</u>, Implementation Agreement for Diameter interface to Bandwidth Manager</p> <p><i>Required to invoke the Media Server</i></p> <p><u>MSF-IA-SIP.014-FINAL</u>, Media Resource Broker SIP Client Implementation Agreement</p> <p><u>MSF-IA-SIP.015-FINAL</u>, Implementation Agreement for SIP Media Server Interface</p>

	<p><i>If Basic UA supported</i></p> <p><u>MSF-IA-SIP.003-FINAL</u>, Implementation Agreement for a SIP Profile Between a CA and UA</p> <p><i>If MGCP user agents are supported</i></p> <p><u>MSF-IA-MGCP.001-FINAL</u>, Implementation Agreement for MGCP Profile for Call Agent to User Agent Interface <i>and optionally</i></p> <p><u>MSF-IA-MGCP.002-FINAL</u>, Implementation Agreement for MGCP IA Call Agent <-> User Agent Security Addendum</p> <p><i>If H.248 access gateways are supported</i></p> <p><i>In the UK market:</i></p> <p><u>MSF-IA-MEGACO.010-FINAL</u>, Multi-service Access Gateway Implementation Agreement (UK Market based on ETSI H.248 profile)</p> <p><u>MSF-IA-MEGACO.013-FINAL</u>, Appendix B - Multi-service Access Gateway (UK Market based on ETSI H.248 profile) - POTS Message Flows</p> <p><u>MSF-IA-MEGACO.012-FINAL</u>, Appendix B - Multi-service Access Gateway (UK Market based on ETSI H.248 profile) - System Management Procedures</p> <p><i>Elsewhere:</i></p> <p><u>MSF-IA-MEGACO.003v2-FINAL</u> (msf2004.175), Implementation Agreement for MEGACO/H.248 Profile for Media Gateway Controller/Trunking Gateway using IP Trunks</p>
Home Subscriber Server (HSS)	<p><u>MSF-IA-DIAMETER.002-FINAL</u>, Implementation Agreement for the DB-0 Interface</p> <p><u>MSF-IA-DIAMETER.003-FINAL</u>, Implementation Agreement for the DB-2 Interface</p>
Subscription Locator Server (SLS)	<p><u>MSF-IA-DIAMETER.002-FINAL</u>, Implementation Agreement for the DB-0 Interface</p> <p><u>MSF-IA-DIAMETER.003-FINAL</u>, Implementation Agreement for the DB-2 Interface</p>
Media Resource Broker	<p><u>MSF-IA-SIP.012-FINAL</u>, Implementation Agreement</p>

(MRB)	<p>for a MSFR3 SIP Server</p> <p><u>MSF-IA-SIP.014-FINAL</u>, Media Resource Broker SIP Client Implementation Agreement</p> <p><u>MSF-IA-SIP.015-FINAL</u>, Implementation Agreement for SIP Media Server Interface</p>
Media Server (MS)	<p><u>MSF-IA-SIP.012-FINAL</u>, Implementation Agreement for a MSFR3 SIP Server</p> <p><u>MSF-IA-SIP.015-FINAL</u>, Implementation Agreement for SIP Media Server Interface</p>
Service Broker/SCIM (SB/SCIM)	<p><u>MSF-IA-SIP.012-FINAL</u>, Implementation Agreement for a MSFR3 SIP Server</p> <p><u>MSF-IA-SIP.013-FINAL</u>, Implementation Agreement for ISC Interface</p> <p><u>MSF-IA-SIP.014-FINAL</u>, Media Resource Broker SIP Client Implementation Agreement</p> <p><u>MSF-IA-SIP.015-FINAL</u>, Implementation Agreement for SIP Media Server Interface</p> <p><u>MSF-IA-DIAMETER.001-FINAL</u>, Implementation Agreement for Diameter interface to Bandwidth Manager</p> <p><u>MSF-IA-DIAMETER.003-FINAL</u>, Implementation Agreement for the DB-2 Interface</p> <p><i>Required to interoperate with the Call Agent</i></p> <p><u>MSF-IA-SIP.002v2-FINAL</u>, Implementation Agreement for CORE SIP Profile, for Voice over IP Version</p> <p><u>MSF-IA-SIP.005-FINAL</u>, Implementation Agreement for SIP interface between Call Agent and Service Broker</p>
Application Server	<p><u>MSF-IA-SIP.012-FINAL</u>, Implementation Agreement for a MSFR3 SIP Server</p> <p><u>MSF-IA-SIP.013-FINAL</u>, Implementation Agreement for ISC Interface</p> <p><u>MSF-IA-SIP.014-FINAL</u>, Media Resource Broker SIP Client Implementation Agreement</p> <p><u>MSF-IA-SIP.015-FINAL</u>, Implementation Agreement for SIP Media Server Interface</p> <p><u>MSF-IA-SDP.002-FINAL</u>, Implementation Agreement for media formats and SDP usage for MSF Release 3</p> <p><u>MSF-IA-DIAMETER.001-FINAL</u>, Implementation Agreement for Diameter interface to Bandwidth Manager</p> <p><u>MSF-IA-DIAMETER.003-FINAL</u>, Implementation Agreement for the DB-2 Interface</p>

<p>Parlay or Parlay X Gateway</p>	<p><u>MSF-IA-SIP.012-FINAL</u>, Implementation Agreement for a MSFR3 SIP Server <u>MSF-IA-SIP.013-FINAL</u>, Implementation Agreement for ISC Interface <u>MSF-IA-SIP.014-FINAL</u>, Media Resource Broker SIP Client Implementation Agreement <u>MSF-IA-SIP.015-FINAL</u>, Implementation Agreement for SIP Media Server Interface <u>MSF-IA-SDP.002-FINAL</u>, Implementation Agreement for media formats and SDP usage for MSF Release 3 <u>MSF-IA-DIAMETER.001-FINAL</u>, Implementation Agreement for Diameter interface to Bandwidth Manager <u>MSF-IA-DIAMETER.003-FINAL</u>, Implementation Agreement for the DB-2 Interface</p> <p><u>MSF-IA-PARLAY.001-FINAL</u>, Implementation Agreement of Parlay/OSA API for GMI 2006, <i>or</i> <u>MSF-IA-PARLAY.002-FINAL</u>, Implementation Agreement of Parlay X API for GMI 2006</p>
<p>Parlay or Parlay X Application</p>	<p><u>MSF-IA-PARLAY.001-FINAL</u>, Implementation Agreement of Parlay/OSA API for GMI 2006, <i>or</i> <u>MSF-IA-PARLAY.002-FINAL</u>, Implementation Agreement of Parlay X API for GMI 2006</p>