Abstract

This document registers new disposition-types for the Content-Disposition header that apply to the application/3gpp-ims+xml body used by 3GPP. The applicability of these content-disposition values are limited to 3GPP IMS. The application/3gpp-ims+xml body has the following two distinct uses: (1) for redirecting the emergency session to use a different domain (e.g. using a Circuit Switched call), and (2) for delivering user profile specific information from the SIP registrar to an Application Server.
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1. Overall Applicability

This document makes certain assumptions regarding network topology and the existence of transitive trust. These assumptions are generally NOT APPLICABLE in the Internet as a whole. The mechanism specified here was designed to satisfy the requirements specified by the 3rd Generation Partnership Project for IP multimedia subsystem (IMS) for which either no general-purpose solution was found, where insufficient operational experience was available to understand if a general solution is needed, or where a more general solution is not yet mature.

2. Introduction

New disposition-types for the Content-Disposition header can only be registered with IANA according to procedures defined in Section 9 of [1].

The 3rd Generation Partnership Project (3GPP) ([http://www.3gpp.org](http://www.3gpp.org)) is specifying the IP multimedia subsystem (IMS) where SIP is the protocol used to establish media sessions across different participants.

This document registers new disposition-types for the Content-Disposition header: 3gpp-alternative-service and 3gpp-service-info, to address specific requirements of the IMS. The new disposition-types may not be applicable to the general Internet. The new disposition types are applicable to the "application/3gpp-ims+xml" MIME type [5].

3. Terminology

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in [2].

The term "Application Server" (AS) is introduced in this document.

An "Application Server" as referred to here is a SIP network server that performs network based functions. The AS can act as a SIP Proxy as defined in [3] or a back-to-back UA (B2BUA) as defined in [3] based on the functions it needs to perform. There can be one or more ASes involved in a SIP session.
4. Background for the new disposition-types for the Content-Disposition header

4.1. The application/3gpp-ims+xml MIME type with content disposition 3gpp-alternative-service

In the IMS it is possible that a UA attempts to place an emergency call when the IMS network does not support emergency services. The edge proxy detects the emergency call and can redirect the UE using a SIP 380 (Alternative Service) to place the emergency call using another domain (e.g. using a Circuit Switched network).

Section 21.3.5 of [3] specifies that, for the SIP 380 (Alternative Service) response, alternative services are described in the message body of the response. In IMS, for the purpose of indicating alternative domains, a SIP 380 (Alternative Service) response will include a MIME body and a Content-Type header field set to "application/3gpp-ims+xml".

The "application/3gpp-ims+xml" MIME type with content disposition 3gpp-alternative-service is applicable in the following circumstances:

- Where the invitee UA originates a SIP request containing in the R-URI a URI that identifies this request as an emergency session request;
- The network also contains intermediate network SIP servers that are trusted;
- The edge proxy has knowledge of the network’s capability or policy to handle the requested (type of) emergency session.

Such configurations are generally not applicable to the internet as a whole where such trust relationships do not exist.

In addition security issues have only been considered for networks which are trusted and use hop by hop security mechanisms with transitive trust and security issues with usage of this mechanism in the general internet have not been evaluated.

4.1.1. Example application/3gpp-ims+xml body

```xml
<3gpp-ims version="1">
  <alternative-service>
    <type>
```

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4.2. The application/3gpp-ims+xml MIME type with content disposition 3gpp-service-info

In 3GPP IMS the SIP registrar (S-CSCF) can perform a third party registration to an AS. The SIP registrar downloads User Profile information and can transparently transfer User Profile specific information to the AS using a body of MIME type "application/3gpp-ims+xml" in a SIP REGISTER request. In the example in Section 4.2.1, an International Mobile Subscriber Identity (IMSI) is transferred.

4.2.1. Example application/3gpp-ims+xml body

    <3gpp-ims version="1">
        <service-info>
            262013564857956
        </service-info>
    </3gpp-ims>

5. Security Considerations

It is necessary to protect the messages between proxies; implementation SHOULD use a transport that provides integrity and confidentially between the signaling hops. The Transport Layer Security (TLS) [4] based signaling in SIP can be used to provide this protection.

Security issues have only been considered for networks which are trusted and use hop by hop security mechanisms with transitive trust and security issues with usage of this mechanism in the general internet have not been evaluated.

6. IANA Considerations

This document registers new disposition-types for the Content-Disposition header that apply to the "application/3gpp-ims+xml" body used by 3GPP and are to be registered in the IANA registry for Mail ContentDisposition Values and Parameters:
7. Acknowledgements

The author would like to thank Andrew Allen, Dean Willis, Cullen Jennings for their guidance and comments that contributed to the progression of this work.

8. References

8.1. Normative References


8.2. Informative References

[5] 3GPP, "IP Multimedia Call Control Protocol based on Session Initiation Protocol (SIP) and Session Description Protocol (SDP); Stage 3 (Release 5)", 3GPP TS 24.229 V8.4.1, June 2008.

Appendix A. Revision Information

A.1. version 00
1. 2008-02-12, Initial version
2. 2008-07-02, Updated reference and further aligned 3GPP TS 24.229 and this document
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