

# MSN 音频视频交流过程分析

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在 MSN Messenger 4.5 版本以，MSN 加入了音频（Audio）、视频（Video）的支持，本文是在充分分析 MSN 音频视频交流建立过程的基础上撰写的。

本文使用 Wpe Pro 工具抓取数据包，但是在抓包过程中并没有实际抓到音频视频数据包，怀疑是 WPE Pro 工具并没有抓到数据包。

## 音频交流

过程如下：

蓝色指令表示 MSN client taogx@163.com 向服务器发送的指令；

褐色指令表示服务器向 MSN Client taogx@163.com 发送的指令；

红色指令表示 MSN client yxu68@hotmail.com 向服务器发送的指令；

绿色指令表示服务器向 MSN Client yxu68@hotmail.com 发送的指令；

紫色指令表示 taogx@163.com 向 yxu68@hotmail.com 发送的指令；

深蓝色指令表示 yxu68@hotmail.com 向 taogx@163.com 发送的指令；

yxu68@hotmail.com 所在 IP 地址 192.168.0.165；

taogx@163.com 所在 IP 地址 192.168.0.127；

黑色文字表示说明部分，注释部分用 // 开始。

## 1. 请求音频对话

指令流如下：

请求由 taogx@163.com 发起

CAL 39 yxu68@hotmail.com\r\n

PNG\r\n

QNG 43\r\n

CAL 39 RINGING 17054421\r\n

RNG 17054421 207.46.108.35:1863 CKI 1064898110.23581 taogx@163.com dd\r\n

ANS 44 yxu68@hotmail.com 1064898110.23581 17054421\r\n

JOI yxu68@hotmail.com ?寰愫吵\r\n // ?寰愫吵是 yxu68 的名称 UTF-8

IRO 44 1 1 taogx@163.com dd\r\n

ANS 44 OK\r\n

MSG 40 S 462\r\n

MIME-Version: 1.0\r\n

Content-Type: text/x-msmsgsinvoke; charset=UTF-8\r\n

\r\n

Application-Name: 闊抽 漢硅瘡\r\n //闊抽 漢硅瘡是音频对话的 UTF-8

Application-GUID: {02D3C01F-BF30-4825-A83A-DE7AF41648AA}\r\n

Session-Protocol: SM1\r\n

Context-Data: Requested:SIP\_A,;Capabilities:SIP\_A,;\r\n

这里标明请求类型和本身可以使用的类型 SIP\_A 表示音频，SIP\_V 表示视频。如果既请求 音 频 会 话 ， 又 请 求 视 频 会 话 ， 这 里 为 "Requested:SIP\_A,SIP\_V,;Capabilities:SIP\_A,SIP\_V,;"，如果只请求音频会话，但

是客户端支持视频会话，这里可为：

"Requested:SIP\_A,;Capabilities:SIP\_A,SIP\_V,;"

Invitation-Command: INVITE\r\n

Invitation-Cookie: 23939640\r\n

Session-ID: {B939BBE1-5049-4D9D-8BF6-3B17C8F48821}\r\n

Conn-Type: IP-Restrict-NAT\r\n

Sip-Capability: 1\r\n

Private-IP: 192.168.0.127\r\n

Public-IP: 211.91.101.105\r\n

UPnP: FALSE\r\n

\r\n

MSG taogx@163.com dd 462\r\n

MIME-Version: 1.0\r\n

Content-Type: text/x-msmsgsinvite; charset=UTF-8\r\n

\r\n

Application-Name: 闊抽 漢硅瘡\r\n //闊抽 漢硅瘡是音频对话的 UTF-8

Application-GUID: {02D3C01F-BF30-4825-A83A-DE7AF41648AA}\r\n

Session-Protocol: SM1\r\n

Context-Data: Requested:SIP\_A,;Capabilities:SIP\_A,;\r\n

Invitation-Command: INVITE\r\n

Invitation-Cookie: 23939640\r\n

Session-ID: {B939BBE1-5049-4D9D-8BF6-3B17C8F48821}\r\n

Conn-Type: IP-Restrict-NAT\r\n

Sip-Capability: 1\r\n

Private-IP: 192.168.0.127\r\n

Public-IP: 211.91.101.105\r\n

UPnP: FALSE\r\n

\r\n

//如果需要拒绝音频视频会话，请转到第 6 项处。

MSG 45 A 486\r\n

MIME-Version: 1.0\r\n

Content-Type: text/x-msmsgsinvite; charset=UTF-8\r\n

\r\n

Invitation-Command: ACCEPT\r\n

Context-Data: Requested:SIP\_A,;\r\n

接受其请求，则如上处理，如果接受音频则为"Requested:SIP\_A,;"如果既接受音频又接受视频则为"Requested:SIP\_A,SIP\_V,;"

Invitation-Cookie: 23939640\r\n

Session-ID: {0EF9084D-18D1-44FE-B0E8-BCC4723AE2D9}\r\n

Session-Protocol: SM1\r\n

Conn-Type: IP-Restrict-NAT\r\n

Sip-Capability: 1\r\n

Private-IP: 192.168.0.165\r\n

Public-IP: 211.91.101.105\r\n

UPnP: FALSE\r\n  
Launch-Application: TRUE\r\n  
Request-Data: IP-Address:\r\n  
请求对方提供 IP 地址和端口  
IP-Address: 192.168.0.165:11630\r\n  
IP-Address-Enc64: MTkyLjE2OC4wLjE2NToxMTYzMA==\r\n  
声明本机打开的端口和本机 IP 地址  
\r\n  
ACK 45\r\n  
MSG yxu68@hotmail.com \302\240\345\276\220\346\263\263 486\r\n  
MIME-Version: 1.0\r\n  
Content-Type: text/x-msmsgsinvite; charset=UTF-8\r\n  
\r\n  
Invitation-Command: ACCEPT\r\n  
Context-Data: Requested:SIP\_A,;\r\n  
Invitation-Cookie: 23939640\r\n  
Session-ID: {0EF9084D-18D1-44FE-B0E8-BCC4723AE2D9}\r\n  
Session-Protocol: SM1\r\n  
Conn-Type: IP-Restrict-NAT\r\n  
Sip-Capability: 1\r\n  
Private-IP: 192.168.0.165\r\n  
Public-IP: 211.91.101.105\r\n  
UPnP: FALSE\r\n  
Launch-Application: TRUE\r\n  
Request-Data: IP-Address:\r\n  
IP-Address: 192.168.0.165:11630\r\n  
IP-Address-Enc64: MTkyLjE2OC4wLjE2NToxMTYzMA==\r\n  
\r\n  
MSG 41 A 403\r\n  
MIME-Version: 1.0\r\n  
Content-Type: text/x-msmsgsinvite; charset=UTF-8\r\n  
\r\n  
Invitation-Command: ACCEPT\r\n  
Invitation-Cookie: 23939640\r\n  
Session-ID: {B939BBE1-5049-4D9D-8BF6-3B17C8F48821}\r\n  
Conn-Type: IP-Restrict-NAT\r\n  
Sip-Capability: 1\r\n  
Private-IP: 192.168.0.127\r\n  
Public-IP: 211.91.101.105\r\n  
UPnP: FALSE\r\n  
Launch-Application: TRUE\r\n  
IP-Address: 192.168.0.127:12449\r\n  
IP-Address-Enc64: MTkyLjE2OC4wLjEyNzoxMjQ0OQ==\r\n  
\r\n

提供本机 IP 地址和端口

ACK 41\r\n

MSG taogx@163.com dd 403\r\n

MIME-Version: 1.0\r\n

Content-Type: text/x-msmsgsinvite; charset=UTF-8\r\n

\r\n

Invitation-Command: ACCEPT\r\n

Invitation-Cookie: 23939640\r\n

Session-ID: {B939BBE1-5049-4D9D-8BF6-3B17C8F48821}\r\n

Conn-Type: IP-Restrict-NAT\r\n

Sip-Capability: 1\r\n

Private-IP: 192.168.0.127\r\n

Public-IP: 211.91.101.105\r\n

UPnP: FALSE\r\n

Launch-Application: TRUE\r\n

IP-Address: 192.168.0.127:12449\r\n

IP-Address-Enc64: MTkyLjE2OC4wLjEyNzoxMjQ0OQ==\r\n

\r\n

## 2. 以下开始 SIP 协商会话

yxu68@hotmail.com 向 taogx@163.com 发送如下 SIP/SDP 包

### Session Initiation Protocol

Request line: INVITE sip:192.168.0.127:12449 SIP/2.0

Method: INVITE

Message Header

Via: SIP/2.0/UDP 192.168.0.165:11630

Max-Forwards: 70

From: "yxu" <sip:taogx@163.com>;tag=756b3f5213a2415e8c2583753fa06cca

To: <sip:192.168.0.127:12449>

Call-ID: a0c241bf9538449aa9b95d4872e0dd22@192.168.0.165

CSeq: 1 INVITE

Contact: <sip:192.168.0.165:11630>

User-Agent: RTC/1.2

Content-Type: application/sdp

Content-Length: 286

对应文本命令行:

INVITE sip:192.168.0.127:12449 SIP/2.0\r\n

Via: SIP/2.0/UDP 192.168.0.165:11630\r\n

Max-Forwards: 70\r\n

From: "yxu" <sip:taogx@163.com>;tag=756b3f5213a2415e8c2583753fa06cca\r\n

To: <sip:192.168.0.127:12449>\r\n

Call-ID: a0c241bf9538449aa9b95d4872e0dd22@192.168.0.165\r\n

CSeq: 1 INVITE\r\n

Contact: <sip:192.168.0.165:11630>\r\n

User-Agent: RTC/1.2\r\n\r\n

Content-Type: application/sdp\r\n

Content-Length: 286\r\n

\r\n

## Session Description Protocol

Session Description Protocol Version (v): 0

Owner/Creator, Session Id (o): - 0 0 IN IP4 192.168.0.165

Owner Username: -

Session ID: 0

Session Version: 0

Owner Network Type: IN

Owner Address Type: IP4

Owner Address: 192.168.0.165

Session Name (s): session

Connection Information (c): IN IP4 192.168.0.165

Connection Network Type: IN

Connection Address Type: IP4

Connection Address: 192.168.0.165

Bandwidth Information (b): CT:110

Bandwidth Modifier: CT

Bandwidth Value: 110

Time Description, active time (t): 0 0

Session Start Time: 0

Session Start Time: 0

Media Description, name and address (m): audio 36772 RTP/AVP 97 0 8 4 101

Media Type: audio

Media Port: 36772 //声明 audio 包接收的端口

Media Proto: RTP/AVP

Media Format: 97

Media Format: 0

Media Format: 8

Media Format: 4

Media Format: 101

Media Attribute (a): rtpmap:97 red/8000

Media Attribute Fieldname: rtpmap

Media Attribute Value: 97 red/8000

Media Attribute (a): rtpmap:0 PCMU/8000

Media Attribute Fieldname: rtpmap

Media Attribute Value: 0 PCMU/8000

Media Attribute (a): rtpmap:8 PCMA/8000

Media Attribute Fieldname: rtpmap

Media Attribute Value: 8 PCMA/8000

Media Attribute (a): rtpmap:4 G723/8000

Media Attribute Fieldname: rtpmap

Media Attribute Value: 4 G723/8000

Media Attribute (a): rtpmap:101 telephone-event/8000

Media Attribute Fieldname: rtpmap

Media Attribute Value: 101 telephone-event/8000

Media Attribute (a): fmp:101 0-16

Media Attribute Fieldname: fmp

Media Attribute Value: 101 0-16

Media Attribute (a): encryption:rejected

Media Attribute Fieldname: encryption

Media Attribute Value: rejected

对应文本命令

v=0\r\n

o=Mike 0 0 IN IP4 192.168.0.165\r\n

s=session\r\n

c=IN IP4 192.168.0.165\r\n

b=CT:110\r\n

t=0 0\r\n

m=audio 36727 RTP/AVP 97 0 8 4 101\r\n

a=rtpmap:97 red/8000\r\n

a=rtpmap:0 PCMU/8000\r\n

a=rtpmap:8 PCMA/8000\r\n

a=rtpmap:4 G723/8000\r\n

a=rtpmap:101 telephone-event/8000\r\n

a=fmp:101 0-16\r\n

encryption:rejected\r\n

**taogx@163.com 向 yxu68@hotmail.com 回复如下 SIP 包（两个）**

### Session Initiation Protocol

Status line: SIP/2.0 100 Trying

Status-Code: 100

Message Header

Via: SIP/2.0/UDP 192.168.0.165:11630

From: "yxu" <sip:taogx@163.com>;tag=756b3f5213a2415e8c2583753fa06cca

To: <sip:192.168.0.127:12449>;tag=d1486a68903a42e0b491b958f0691c6c

Call-ID: a0c241bf9538449aa9b95d4872e0dd22@192.168.0.165

CSeq: 1 INVITE

User-Agent: RTC/1.2

Content-Length: 0

对应文本命令:

SIP/2.0 100 Trying\r\n

Via: SIP/2.0/UDP 192.168.0.165:11630\r\n

From: "yxu" <sip:taogx@163.com>;tag=756b3f5213a2415e8c2583753fa06cca\r\n

To: <sip:192.168.0.127:12449>;tag=d1486a68903a42e0b491b958f0691c6c\r\n

Call-ID: a0c241bf9538449aa9b95d4872e0dd22@192.168.0.165\r\n

CSeq: 1 INVITE\r\n

User-Agent: RTC/1.2\r\n  
Content-Length: 0\r\n  
\r\n

### Session Initiation Protocol

Status line: SIP/2.0 180 Ringing

Status-Code: 180

#### Message Header

Via: SIP/2.0/UDP 192.168.0.165:11630

From: "yxu" <sip:taogx@163.com>;tag=756b3f5213a2415e8c2583753fa06cca

To: <sip:192.168.0.127:12449>;tag=d1486a68903a42e0b491b958f0691c6c

Call-ID: a0c241bf9538449aa9b95d4872e0dd22@192.168.0.165

CSeq: 1 INVITE

User-Agent: RTC/1.2

Content-Length: 0

对应文本命令:

SIP/2.0 180 Ringing\r\n

Via: SIP/2.0/UDP 192.168.0.165:11630\r\n

From: "yxu" <sip:taogx@163.com>;tag=756b3f5213a2415e8c2583753fa06cca\r\n

To: <sip:192.168.0.127:12449>;tag=d1486a68903a42e0b491b958f0691c6c\r\n

Call-ID: a0c241bf9538449aa9b95d4872e0dd22@192.168.0.165\r\n

CSeq: 1 INVITE\r\n

User-Agent: RTC/1.2\r\n

Content-Length: 0\r\n

\r\n

**taogx@163.com 向 yxu68@hotmail.com 回复如下 SIP/SDP 包**

### Session Initiation Protocol

Status line: SIP/2.0 200 OK

Status-Code: 200

#### Message Header

Via: SIP/2.0/UDP 192.168.0.165:11630

From: "yxu" <sip:taogx@163.com>;tag=756b3f5213a2415e8c2583753fa06cca

To: <sip:192.168.0.127:12449>;tag=d1486a68903a42e0b491b958f0691c6c

Call-ID: a0c241bf9538449aa9b95d4872e0dd22@192.168.0.165

CSeq: 1 INVITE

Contact: <sip:192.168.0.127:12449>

User-Agent: RTC/1.2

Content-Type: application/sdp

Content-Length: 286

对应文本命令:

SIP/2.0 200 OK\r\n

Via: SIP/2.0/UDP 192.168.0.165:11630\r\n

From: "yxu" <sip:taogx@163.com>;tag=756b3f5213a2415e8c2583753fa06cca\r\n

To: <sip:192.168.0.127:12449>;tag=d1486a68903a42e0b491b958f0691c6c\r\n

Call-ID: a0c241bf9538449aa9b95d4872e0dd22@192.168.0.165\r\n

CSeq: 1 INVITE\r\n  
Contact: <sip:192.168.0.127:12449>\r\n  
User-Agent: RTC/1.2\r\n  
Content-Type: application/sdp\r\n  
Content-Length: 286\r\n  
\r\n

#### Session Description Protocol

Session Description Protocol Version (v): 0  
Owner/Creator, Session Id (o): - 0 0 IN IP4 192.168.0.127  
    Owner Username: -  
    Session ID: 0  
    Session Version: 0  
    Owner Network Type: IN  
    Owner Address Type: IP4  
    Owner Address: 192.168.0.127  
Session Name (s): session  
Connection Information (c): IN IP4 192.168.0.127  
    Connection Network Type: IN  
    Connection Address Type: IP4  
    Connection Address: 192.168.0.127  
Bandwidth Information (b): CT:110  
    Bandwidth Modifier: CT  
    Bandwidth Value: 110  
Time Description, active time (t): 0 0  
    Session Start Time: 0  
    Session Start Time: 0  
Media Description, name and address (m): audio 36768 RTP/AVP 97 0 8 4 101  
    Media Type: audio  
    Media Port: 36768     //声明本机接收 audio 的端口  
    Media Proto: RTP/AVP  
    Media Format: 97  
    Media Format: 0  
    Media Format: 8  
    Media Format: 4  
    Media Format: 101  
Media Attribute (a): rtpmap:97 red/8000  
    Media Attribute Fieldname: rtpmap  
    Media Attribute Value: 97 red/8000  
Media Attribute (a): rtpmap:0 PCMU/8000  
    Media Attribute Fieldname: rtpmap  
    Media Attribute Value: 0 PCMU/8000  
Media Attribute (a): rtpmap:8 PCMA/8000  
    Media Attribute Fieldname: rtpmap  
    Media Attribute Value: 8 PCMA/8000



Media Attribute (a): rtpmap:4 G723/8000  
Media Attribute Fieldname: rtpmap  
Media Attribute Value: 4 G723/8000  
Media Attribute (a): rtpmap:101 telephone-event/8000  
Media Attribute Fieldname: rtpmap  
Media Attribute Value: 101 telephone-event/8000  
Media Attribute (a): fmp:101 0-16  
Media Attribute Fieldname: fmp  
Media Attribute Value: 101 0-16  
Media Attribute (a): encryption:rejected  
Media Attribute Fieldname: encryption  
Media Attribute Value: rejected

相应文本命令:

```
v=0\r\n
o=Mike 0 0 IN IP4 192.168.0.127\r\n
s=session\r\n
c=IN IP4 192.168.0.127\r\n
b=CT:110\r\n
t=0 0\r\n
m=audio 36768 RTP/AVP 97 0 8 4 101\r\n
a=rtpmap:97 red/8000\r\n
a=rtpmap:0 PCMU/8000\r\n
a=rtpmap:8 PCMA/8000\r\n
a=rtpmap:4 G723/8000\r\n
a=rtpmap:101 telephone-event/8000\r\n
a=fmp:101 0-16\r\n
encryption:rejected\r\n
```

**yxu68@hotmail.com 向 taogx@163.com 回复如下 SIP 包**

Session Initiation Protocol

Request line: ACK sip:192.168.0.127:12449 SIP/2.0

Method: ACK

Message Header

Via: SIP/2.0/UDP 192.168.0.165:11630

Max-Forwards: 70

From: "yxu" <sip:taogx@163.com>;tag=756b3f5213a2415e8c2583753fa06cca

To: <sip:192.168.0.127:12449>;tag=d1486a68903a42e0b491b958f0691c6c

Call-ID: a0c241bf9538449aa9b95d4872e0dd22@192.168.0.165

CSeq: 1 ACK

User-Agent: RTC/1.2

Content-Length: 0

相应文本命令:

```
ACK sip:192.168.0.127:12449 SIP/2.0\r\n
Via: SIP/2.0/UDP 192.168.0.165:11630\r\n
Max-Forwards: 70\r\n
```

From: "yxu" <sip:taogx@163.com>;tag=756b3f5213a2415e8c2583753fa06cca\r\n  
To: <sip:192.168.0.127:12449>;tag=d1486a68903a42e0b491b958f0691c6c\r\n  
Call-ID: a0c241bf9538449aa9b95d4872e0dd22@192.168.0.165\r\n  
CSeq: 1 ACK\r\n  
User-Agent: RTC/1.2\r\n  
Content-Length: 0\r\n  
\r\n

### 3. 开始传输数据

使用 UDP 在协商好的:192.168.0.165 和 192.168.0.127 两个端口之间进行

UDP 音频包传输

### 4. 结束音频会话

会话由 taogx@163.com 关闭

**taogx@163.com** 向 **yxu68@hotmail.com** 发出如下 SIP 包

#### Session Initiation Protocol

Request line: BYE sip:192.168.0.165:11630 SIP/2.0  
Method: BYE  
Message Header  
Via: SIP/2.0/UDP 192.168.0.127:12449  
Max-Forwards: 70  
From: "yxu" <sip:taogx@163.com>;tag=756b3f5213a2415e8c2583753fa06cca  
To: <sip:192.168.0.127:12449>;tag=d1486a68903a42e0b491b958f0691c6c  
Call-ID: a0c241bf9538449aa9b95d4872e0dd22@192.168.0.165  
CSeq: 1 BYE  
User-Agent: RTC/1.2  
Content-Length: 0

对应文本命令:

BYE sip:192.168.0.165:11630 SIP/2.0\r\n  
Via: SIP/2.0/UDP 192.168.0.127:12449\r\n  
Max-Forwards: 70\r\n  
From: "yxu" <sip:taogx@163.com>;tag=756b3f5213a2415e8c2583753fa06cca\r\n  
To: <sip:192.168.0.127:12449>;tag=d1486a68903a42e0b491b958f0691c6c\r\n  
Call-ID: a0c241bf9538449aa9b95d4872e0dd22@192.168.0.165\r\n  
CSeq: 1 BYE\r\n  
User-Agent: RTC/1.2\r\n  
Content-Length: 0\r\n  
\r\n

**taogx@163.com** 向服务器发出

MSG 54 A 318\r\n

MIME-Version: 1.0\r\n

Content-Type: text/x-msmsgsinvoke; charset=UTF-8\r\n

\r\n

Invitation-Command: CANCEL\r\n  
Cancel-Code: TIMEOUT\r\n  
Invitation-Cookie: 23939640\r\n  
Session-ID: {B939BBE1-5049-4D9D-8BF6-3B17C8F48821}\r\n  
Conn-Type: IP-Restrict-NAT\r\n  
Sip-Capability: 1\r\n  
Private-IP: 192.168.0.127\r\n  
Public-IP: 211.91.101.105\r\n  
UPnP: FALSE\r\n  
\r\n

**yxu68@hotmail.com 回复 taogx@163.com**

**Session Initiation Protocol**

Status line: SIP/2.0 200 OK

Status-Code: 200

Message Header

Via: SIP/2.0/UDP 192.168.0.127:12449

From: "yxu" <sip:taogx@163.com>;tag=756b3f5213a2415e8c2583753fa06cca

To: <sip:192.168.0.127:12449>;tag=d1486a68903a42e0b491b958f0691c6c

Call-ID: a0c241bf9538449aa9b95d4872e0dd22@192.168.0.165

CSeq: 1 BYE

User-Agent: RTC/1.2

Content-Length: 0

对应文本命令:

SIP/2.0 200 OK\r\n

Via: SIP/2.0/UDP 192.168.0.127:12449\r\n

From: "yxu" <sip:taogx@163.com>;tag=756b3f5213a2415e8c2583753fa06cca\r\n

To: <sip:192.168.0.127:12449>;tag=d1486a68903a42e0b491b958f0691c6c\r\n

Call-ID: a0c241bf9538449aa9b95d4872e0dd22@192.168.0.165\r\n

CSeq: 1 BYE\r\n

User-Agent: RTC/1.2\r\n

Content-Length: 0\r\n

\r\n

**yxu68@hotmail.com 向服务器发出**

**MSG 67 A 318\r\n**

**MIME-Version: 1.0\r\n**

**Content-Type: text/x-msmsgsinvoke; charset=UTF-8\r\n**

**\r\n**

**Invitation-Command: CANCEL\r\n**

**Cancel-Code: TIMEOUT\r\n**

**Invitation-Cookie: 23939640\r\n**

**Session-ID: {0EF9084D-18D1-44FE-B0E8-BCC4723AE2D9}\r\n**

**Conn-Type: IP-Restrict-NAT\r\n**

**Sip-Capability: 1\r\n**

**Private-IP: 192.168.0.165\r\n**

Public-IP: 211.91.101.105\r\n  
UPnP: FALSE\r\n  
\r\n  
OUT\r\n  
MSG taogx@163.com dd 318\r\n  
MIME-Version: 1.0\r\n  
Content-Type: text/x-msmsgsinvoke; charset=UTF-8\r\n  
\r\n  
Invitation-Command: CANCEL\r\n  
Cancel-Code: TIMEOUT\r\n  
Invitation-Cookie: 23939640\r\n  
Session-ID: {B939BBE1-5049-4D9D-8BF6-3B17C8F48821}\r\n  
Conn-Type: IP-Restrict-NAT\r\n  
Sip-Capability: 1\r\n  
Private-IP: 192.168.0.127\r\n  
Public-IP: 211.91.101.105\r\n  
UPnP: FALSE\r\n  
\r\n  
ACK 54\r\n  
ACK 67\r\n  
MSG yxu68@hotmail.com \302\240\345\276\220\346\263\263 318\r\n  
MIME-Version: 1.0\r\n  
Content-Type: text/x-msmsgsinvoke; charset=UTF-8\r\n  
\r\n  
Invitation-Command: CANCEL\r\n  
Cancel-Code: TIMEOUT\r\n  
Invitation-Cookie: 23939640 \r\n  
Session-ID: {0EF9084D-18D1-44FE-B0E8-BCC4723AE2D9}\r\n  
Conn-Type: IP-Restrict-NAT\r\n  
Sip-Capability: 1\r\n  
Private-IP: 192.168.0.165\r\n  
Public-IP: 211.91.101.105\r\n  
UPnP: FALSE\r\n  
\r\n

## 5. 正常处理其他指令

## 6. 拒绝音频会话

yxu68@hotmail.com 回复服务器的命令 MSG 45 A 486\r\n 要换成 MSG 70

指令，具体如下：

MSG 70 A 340\r\n  
MIME-Version: 1.0\r\n

Content-Type: text/x-msmsgsinvoke; charset=UTF-8\r\n\r\n

Invitation-Command: CANCEL\r\n

Cancel-Code: REJECT\r\n //拒绝

Invitation-Cookie: 23939640\r\n

Session-ID: {0EF9084D-18D1-44FE-B0E8-BCC4723AE2D9}\r\n

Session-Protocol: SM1\r\n

Conn-Type: IP-Restrict-NAT\r\n

Sip-Capability: 1\r\n

Private-IP: 192.168.0.165\r\n

Public-IP: 211.91.101.105\r\n

UPnP: FALSE\r\n\r\n

MSG yxu68@hotmail.com \302\240\345\276\220\346\263\263 340\r\n

MIME-Version: 1.0\r\n

Content-Type: text/x-msmsgsinvoke; charset=UTF-8\r\n\r\n

Invitation-Command: CANCEL\r\n

Cancel-Code: REJECT\r\n

Invitation-Cookie: 23939640\r\n

Session-ID: {0EF9084D-18D1-44FE-B0E8-BCC4723AE2D9}\r\n

Session-Protocol: SM1\r\n

Conn-Type: IP-Restrict-NAT\r\n

Sip-Capability: 1\r\n

Private-IP: 192.168.0.165\r\n

Public-IP: 211.91.101.105\r\n

UPnP: FALSE\r\n\r\n

ACK 70