



COUNTERPATH

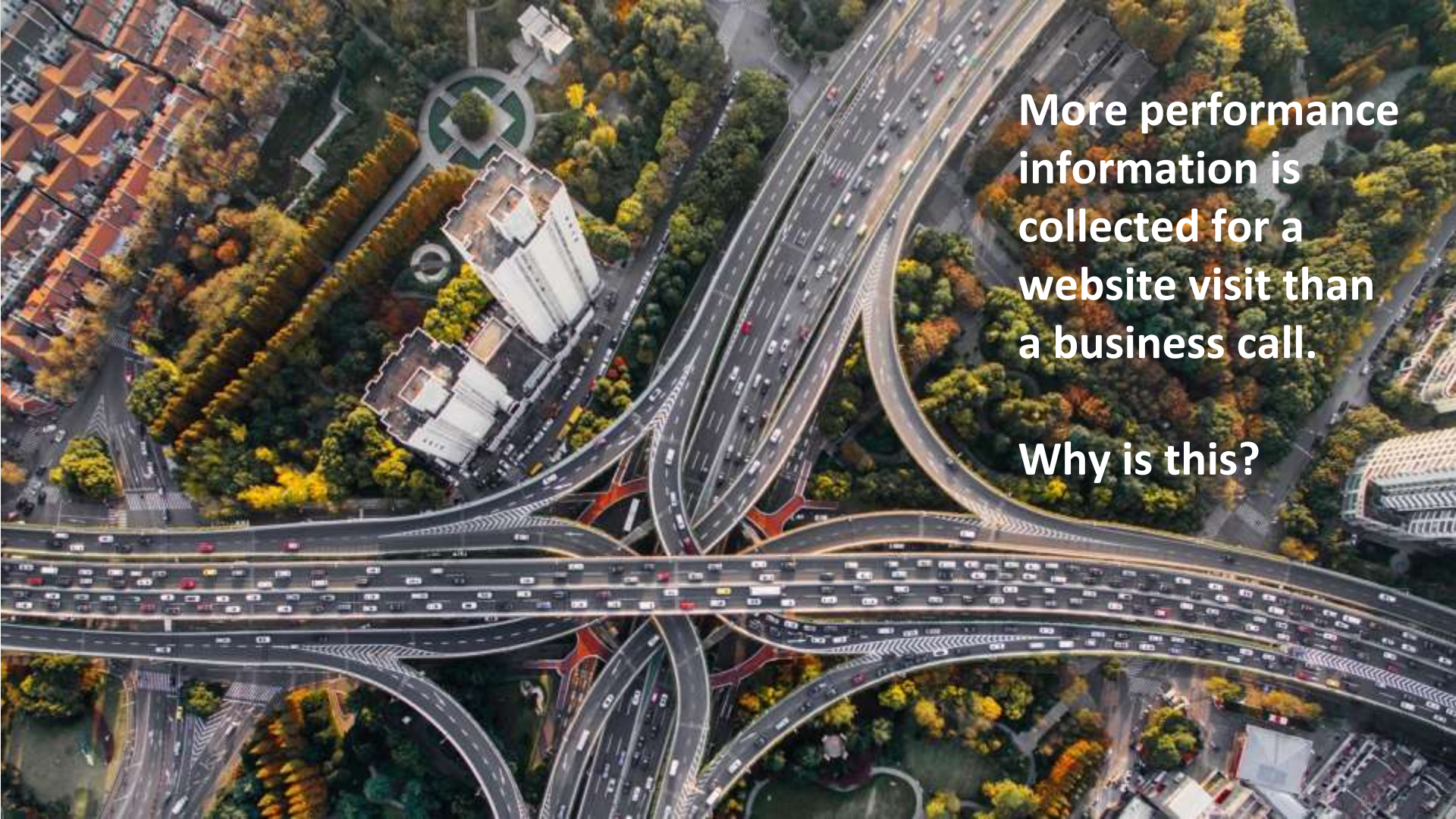
Presented by: Jim O'Brien, VP of Server Engineering

User-edge Focused Network Operations: Best Practices for Management, Performance and Troubleshooting from the User Equipment Perspective and the Benefits of this Approach to Network Operations

SIPFORUM | **SIP^{NOC} 2018**

Owned network to any network operations





More performance
information is
collected for a
website visit than
a business call.

Why is this?

**Call Detail
Records are
neither
big data or
detailed call
information**



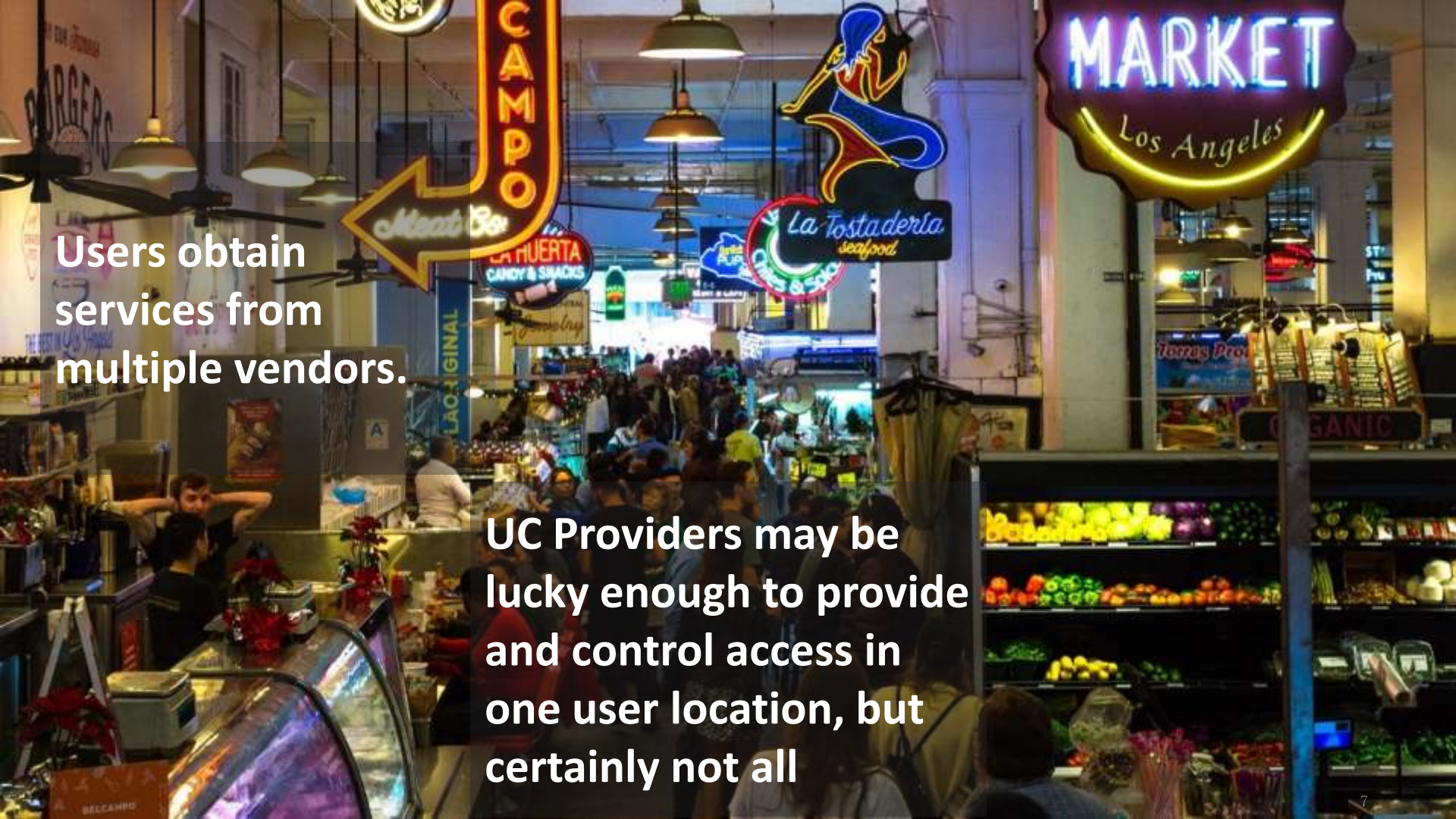


We need to take a data first approach to understanding the traffic on our networks.



Users are no longer fixed terminals in fixed networks.

Users move between networks and locations based on their own mobility.

A photograph of a bustling indoor market, likely the Grand Central Market in Los Angeles. The scene is filled with people walking through aisles lined with various food stalls. In the foreground, there's a stall with a large display of fresh produce, including yellow and red bell peppers, green onions, and other vegetables. Above the stalls, numerous neon signs are visible, including a large 'MARKET Los Angeles' sign, a 'CAMP' sign, a 'Meat Co.' sign, and a 'La Tostaderia seafood' sign. The atmosphere is lively and colorful, with warm lighting from the market's interior fixtures.

Users obtain services from multiple vendors.

UC Providers may be lucky enough to provide and control access in one user location, but certainly not all



User-Edge Defined



- The vision chart for a 'normal' end-user is no longer a single office location filled with a plastic phone on a desk, connected to an Ethernet LAN, served by a local IP PBX or Remote UC service.
- Some users may follow a single scenario of consumption modes for UC services but this is not where we are going.
- Users leverage multiple distinct devices over the course of a single day based on what device suits their moment and movement.
- UC services unlock restrictions and by doing so create a set of environments and scenarios that are the new user-edge.

- Office workers; Logistics team members; Retail sales associates; Monday & Friday Telecommuters; Work-from-home on-their-iPad call center agents are the User-Edge.
- A Laptop, a mobile phone, a borrowed iPad are the User-Edge.
- Corporate offices, Remote offices, Co-Working spaces, Coffee Shops, Airport lounges, Dining room tables are the User-Edge.
- Fiber, Wi-Fi, LTE, and Airplane Wi-Fi are the User-Edge.
- Users consuming services on any device, on any network, connected to any service infrastructure are the User-Edge.

- We define the user-edge as the experience and the components that provide the experience while a user is engaged in consuming communications services.
- The user-edge is anywhere users access services. It is what devices they are using. It is what networks they are connecting over. It is what services may best serve the users needs.
- All of these things. In each moment.










User-Edge Toolkit



User Centric Client Management

A woman in a white shirt is pointing her right index finger at a small blue sticky note on a dark wall. The wall is covered with numerous other sticky notes in various colors (blue, orange, yellow, green). In the background, another woman with blonde hair, wearing a light blue blazer, is looking towards the sticky note. The scene is dimly lit, with the primary light source coming from the left, creating a focused and collaborative atmosphere.

User Centric Client Management

Details for user: jobrien@counterpath.com		
  		
Attribute	Value	Src
_licenseKey	180YMYRK31R6ADNG9MP3N0210;180EK2JAPP23KXEH9MP3N0232;180BOS1Q	
account.notification._userEmailAddress	jobrien@counterpath.com	
account.notification.administratorName	CounterPath	
account.notification.linkForDesktopMac		
account.notification.linkForDesktopWindows		
account1Sip.accountName	CounterPath PBX w/ push	
account1Sip.credentials.authorizationName	3404	
account1Sip.credentials.displayName	Jim O'Brien	
account1Sip.credentials.password	*****	
account1Sip.credentials.username	3404	
account1Sip.desk.sendCalls.viaProxy	default (true)	
account1Sip.domain	counterpath.com	
account1Sip.proxy	pbx.counterpath.com:5060	
account1Sip.voicemailNumber	6000	
account2Xmpp.accountName	CounterPath Stretto IM w/ sync	
account2Xmpp.credentials.displayName	Jim O'Brien	

ion Test Tool

signing Username	jobrien@counterpath.com
e	sip.xmpp.collab
late	pull.mobile.sip.xmpp.collab

ponse Document

```
<settings_data>
  <core_data_list>
    <data name="enablePRACK" value="false"/>
    <data name="enableRPort" value="false"/>
    <data name="enableVideo" value="true"/>
    <data name="ignoreFlsCertVerify" value="true"/>
    <data name="messagesIM" value="true"/>
    <data name="messagesSMS" value="false"/>
    <data name="portRtp" value="4000"/>
    <data name="stunServer" value="stun.counterpath.com"/>
    <data name="useDns" value="true"/>
    <data name="useICE" value="false"/>
    <data name="useICE3G" value="false"/>
    <data name="useQoS" value="false"/>
    <data name="useStun" value="false"/>
    <data name="useStun3G" value="false"/>
    <data name="useVbr" value="true"/>
    <data name="enableAnalytics" value="true"/>
    <data name="enableSendAnalyticsAfterCall" value="true"/>
    <data name="analyticsReportingFrequency" value="86400"/>
    <data name="pushServerUrl" value="https://push.counterpath.com/push"/>
    <data name="apnType" value="pushKit"/>
    <data name="supportsLegacyPush" value="true"/>
    <data name="supportsPublicPush" value="false"/>
    <data name="remoteDebugPostServiceUrl"
value="wss://ccs3.cloudprovisioning.com:18083/stretto/adminsocks"/>
    <data name="remoteDebugPostAuthUrl"
```

Device Management



Device Management

Group: counterpath.com				
<a>Edit	<a>Save	<a>Cancel	<a>Download	<a>Upload
<a>Validate	<a>Logs	<a>Store		
Information	Device Limits	Attributes	Devices	Messaging options
Portal Settings				
Devices				
jobrien@counterpath.com	2014-03-10 16:07	iPad	FF0DA62AABD4B9647A10B95FB755E79EC09...	
jobrien@counterpath.com	2014-03-11 16:09	iPhone	CEB24BF0277677150A71B5768DEB5A855EE...	
jobrien@counterpath.com	2014-10-14 12:29	iPhone	D30A24FE847AB4067C8AE0D82D8941F6241...	
jobrien@counterpath.com	2013-09-17 23:12	Android smart phone	E626D369BEF590D8A84BD727222A720E02F7...	
jobrien@counterpath.com	2014-02-26 19:17	iPad	C5D994A9FA6D936AB547D378A7E7F81D3F4...	
jobrien@counterpath.com	2014-01-07 14:15	iPhone	C224D812AE5D05530264EEF2BA23CA3A04D...	
jobrien@counterpath.com	2014-01-07 14:54	Windows device	0490498da128c99e795db4e177a8f0427b2cb3be...	
jobrien@counterpath.com	2014-01-07 15:05	Windows device	35b038a9a137c88a53d400b375eafef01aa7005...	
jobrien@counterpath.com	2014-01-12 19:48	iPhone	92439C1257C8CEE93DEDA107A0FEEC26AD...	
jobrien@counterpath.com	2014-01-23 19:26	iPhone	1D616849F9F42AA58EE0E741E22BC4C2739...	
jobrien@counterpath.com	2013-12-03 07:07	Android smart phone	D02FA981225A3F93EE713C342484BF1DC803...	
jobrien@counterpath.com	2014-10-16 09:37	Android smart phone	EC4C9B9D6C7752EA7EFBC8DF84E1A63C45...	
jobrien@counterpath.com	2014-04-07 16:21	Windows device	6caeeff12b221674118964b01a621350721d542d...	
jobrien@counterpath.com	2014-10-15 04:51	iPhone	39A090ACB1D985273955C77D601EC892BAE...	
jobrien@counterpath.com	2014-04-23 09:40	Mac	3f692b737b015bf508f1422a2ea35ddc2cc0ea9...	
jobrien@counterpath.com	2014-10-15 09:21	iPhone	0AE1F804CE3D33BDFB77D15CBA793064712...	
jobrien@counterpath.com	2014-04-17 04:05	Blackberry	0x2ab38d2b	
jobrien@counterpath.com	2015-04-22 13:46	Windows device	9f53af05e71b18925afab1a50c90e73652e3e68d...	
jobrien@counterpath.com	2016-07-19 14:40	Windows virtual desktop	8fd933f9eb6952658e28afa31ca5e3aa01359b4...	
jobrien@counterpath.com	2015-04-08 15:22	Windows device	66bfe4212b222fcb833aa3645d71ed8bcd5a66d...	
jobrien@counterpath.com	2016-07-20 11:11	Windows virtual desktop	b4276081dded8c5ad48770012a1e331bd18792cc...	
jobrien@counterpath.com	2015-03-16 12:31	Mac	dd73c86ded8c01852db5ef23e89994731c1245d...	
jobrien@counterpath.com	2015-07-29 12:59	Android smart phone	B3BC68C634A724A3A9C2F267CE84C8FF965...	
jobrien@counterpath.com	2017-01-28 14:21	Android smart phone	CD999A85A08F4D4F9871FE0E841EC889C9...	
jobrien@counterpath.com	2016-07-19 13:55	iPad	30f6FCDEFF34247E8177EE4C63F9A2D41...	
jobrien@counterpath.com	2015-01-16 15:21	Windows device	517016310067223f687e9049b6c190c3887525ea...	
jobrien@counterpath.com	2017-10-30 16:14	Windows device	2506bba0d89c9c753e8373a91e689abc3459da3b...	
jobrien@counterpath.com	2015-09-17 18:01	iPhone	C85D935AAD011448AD222000408221E484B...	

Details for user: jobrien@counterpath.com

Edit Cancel Save

Settings Devices Subscribers XMPP

Device 1

Delete

Description	Bria Stretto iOS release 5.4.3002 stamp 42983.42989 5.4.3002.42983.42989 iPhone10,3 ios.phone 12.0.1
ID	A11C8F16E92C037E0635EC3959B3EC69E27246B4
Device Type	phone
Device Model	iPhone10,3
Operating System	ios [12.0.1]
Load Version	5.4.3002.42983.42989
Registered	2018-03-03 20:29
Last access	2018-10-30 18:32

Device 2

Delete

Description	Bria Stretto Android 5.5.0 5.5.0.108756 ASUS_A006 android.phone 7.0
ID	7DCFF79601496BB32015B5183A7EB235DAA30EDC
Device Type	phone
Device Model	ASUS_A006
Operating System	android [7.0]
Load Version	5.5.0.108756
Registered	2018-02-20 20:48
Last access	2018-10-30 13:00

Device 3

Delete

Description	Bria Stretto release 5.4.0 stamp 94384 94384 MAC
ID	4de0ec06d98a18989d2243abde87069088e6358e
Device Type	desktop
Device Model	
Operating System	MAC [OSX10.14.0]
Load Version	5.4.0.94384
Registered	2014-08-19 13:11
Last access	2018-10-23 22:52



Client Traces

Client Traces

Logfile Preview: jobrien@counterpath.com_B75C505A_A11C8F16E92C037E0635EC3959B3EC69E27246B4.txt

```
-- jobrien@counterpath.com_B75C505A_A11C8F16E92C037E0635EC3959B3EC69E27246B4.txt --
-- Log file header --
Username: jobrien@counterpath.com
Log Reference ID: B75C505A
Device ID: A11C8F16E92C037E0635EC3959B3EC69E27246B4
Device Type: Bria_Stretto
Date created: 2018-10-19 12:53:03 -- Fri Oct 19 12:53:03 EDT 2018
-- Log file header end --
10-16 16:30:04.643 [O][I] [SDK] Transmitting to [ V4 69.90.51.179:5061 TLS target domain=callserver1.counterpath.com mFlowKey=0 ] tlsDomain= via [ V4 10.231.4.49:0 TLS target domain=

INVITE sip:7000@69.90.51.179:5061;transport=tls SIP/2.0
Via: SIP/2.0/TLS 10.231.4.49;branch=z9hG4bK-524287-1---43b25e5a99b41154;rport;allas
Max-Forwards: 70
Contact: <sip:guest_JimOBrien_30e7f3a3@107.107.60.41:37439;instance=8ca8cfc7e62964c5;transport=tls>
To: <sip:7000@callserver1.counterpath.com>;tag=SKD58m11NS5Q
From: "Jim O'Brien" <sip:guest_JimOBrien_30e7f3a3@callserver1.counterpath.com>;tag=5a0a0d02
Call-ID: YTu2NzUzY2lyYW11M2ExMjZkMGUjNzVMTdjOTZKMWE
CSeq: 3 INVITE
Allow: OPTIONS, INVITE, ACK, CANCEL, BYE, REFER, INFO, NOTIFY, UPDATE, PRACK, MESSAGE, SUBSCRIBE
Content-Type: application/sdp
Proxy-Authorization: Digest username="guest_JimOBrien_30e7f3a3",realm="callserver1.counterpath.com",nonce="4f4c533a-ffa8-455c-a790-950203adb280",url="sip:7000@69.90.51.179:5061"
transport=tls",response="02a85bdc776cfe1bf5c7f4c67f391853",cnonce="e8d6fc5f8e3fd67d731a4fc1b12f8069",nc=00000002,qop=auth,algorithm=MD5
Supported: replaces
User-Agent: Bria_Stretto iOS release 5.4.3001 stamp 42850.42852
Content-Length: 1398

v=0
o=- 1539721803360698 2 IN IP4 10.231.4.49
s=Cpc session
c=IN IP4 10.231.4.49
t=0 0
m=audio 64466 RTP/SAVP 120 121 18 0 101
a=rtpmap:120 opus/48000/2
a=fmtp:120 useinbandfec=1; usedtx=1; maxaveragebitrate=64000
a=rtpmap:121 SILK/8000
a=rtpmap:18 G729/8000
a=fmtp:18 annexb=no
a=rtpmap:101 telephone-event/8000
a=fmtp:101 0-15
a=crypto:1 AES_256_CM_HMAC_SHA1_80 inline:y/IFLd/BH/1/BJeVmtwszZTAbMbyUBHCLP0wLJoTC89yyeVF+KN6g6koNdFNyQ==
a=crypto:2 AES_256_CM_HMAC_SHA1_32 inline:u+/Rt/Oeh0TerbHmelaibLC6nMPzkNRsZZP5YanarECEbgTh9DhHil57YSt2w==
a=crypto:3 AES_CM_128_HMAC_SHA1_80 inline:Rb3ytqLJy6B5x9Vr6/4kyFzQGZrYyubMZYY2+eR
a=crypto:4 AES_CM_128_HMAC_SHA1_32 inline:q5NvISuQ/9kXyshPYkVf8wOyN11opbpLLufNbMo
a=sendrecv
m=video 64314 RTP/SAVP 127 126 100
a=rtpmap:127 H264/90000
a=fmtp:127 profile-level-id=42801f;packetization-mode=0
a=rtpmap:126 H264/90000
a=fmtp:126 profile-level-id=42801f;packetization-mode=1
a=rtpmap:100 VP8/90000
a=rtpfb:100 nack
a=rtpfb:100 nack pli
a=crypto:1 AES_256_CM_HMAC_SHA1_80 inline:Wv5hsFwJEDOFp/jpYNOYru+88xmCgcgrW2in3bqSOWOUus0SsOk4s6C0cEauDg==
a=crypto:2 AES_256_CM_HMAC_SHA1_32 inline:v7LS5XWCApPmaDLX3OHEE65lcfecGzq/euYolWulebTKPubNZwujBE0c9UOxQ==
```

Remote Command and Control



Remote Command and Control



COUNTERPATH | Stretto Admin

Groups Admins Reports **Help Desk Assistant** Admin Guide Client Traces About Log out

Connect to Client Disconnect Clear Console 19:35

Connecting to Help Desk Assistant service...
Remote debug session connected.
snapshot basic

Version info:

Bria Stretto CounterPath Corporation Inc. iOS Edition
5.3.1001.41256.41259(154000)

Cpc Features:

Remote Debug, Video, IM, SMS, VQMon, Analytics, LDAP Directory, TSCF Tunnel Support, Apple Push Notifications

App Features:

featureStaticLoginRequiresLicense, featureRemoveWebPortalHomeButton, featureVoipProvidersHideGeneric, featureShowWebTab, featureBroadworksExtension, featureSiriSupport, featureAutoBuyVideo, featureAutoBuyAmrWb, featureRemoveWebPortalNavigation, featureStaticLogin, featureSimplifiedServiceMessages, featureXmppSupport, featureRecording, featureAutoBuyImps, featureSmsApiSupport, featureAutoBuySms, featureAutoBuyG729, featureAutoBuyBroadworks, featureMaxAccountsCount, featureVcgHandoff, featureShowWebTabFirst, featureQuickMenuButton

App Purchases:

CodecG729, CodecAmrWb, Imps, Video, Broadworks

Accounts info:

Number of SIP accounts: 1

name:CounterPath PBX w/push protocol:Sip status:200 Dtmf:RFC
moniker: 3404@counterpath.com
Account type: Provisioned

Account status: Registered

Account synchronization status: Disabled

use session based chat NO

Account SIP transport: UDP

Account Dial Plan rules:

name: North America

match: 1xxxxxxxxx

remove:

add: 9

testPhone: (null)

name: North America2

match: xxxxxxxxxx

remove:

add: 91

testPhone: (null)

name: Overseas

match: 011[1-9]x.

remove:

add: 9

testPhone: (null)

Command...

Command Help

Command	Description
snapshot basic	Basic set of information.
snapshot advanced	More information about the device.
app update check	Check for available updates.
app update execute	Update client to newer version.
app exit	Close the Bria client.
call audio {number}	Start audio call.
call video {number}	Start video call.
call answer	Answer incoming call.
call terminate	Terminate the call.
call record	Initiating call recording.
call stats	View real-time call statistics for the current call.
call vqmon	View voice quality data.
log simplified	View enhanced client debug logs.
log calllog	View call log.
log advanced enable	Enable advanced logging.
log	Disable advanced

1:33

Settings Help Desk Assistant



The Reference number is ZILLYF

Disconnect



Phone



Contacts



History



Messaging

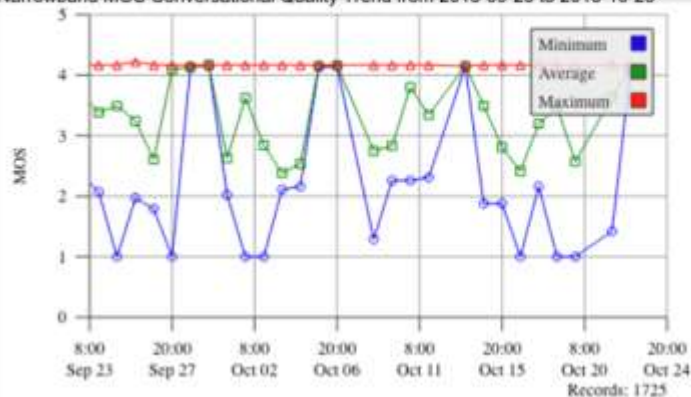


Settings

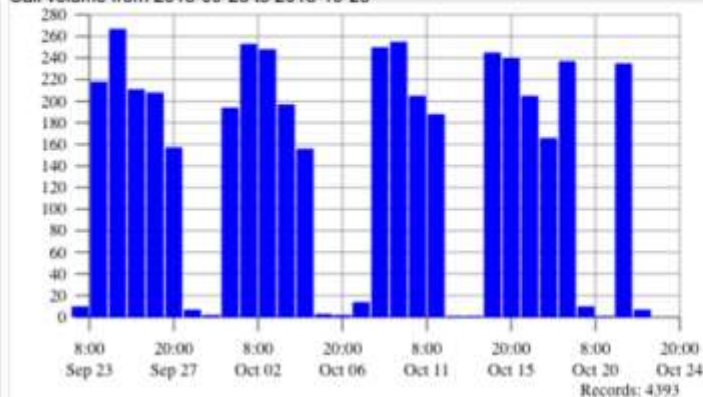
User Experience Metrics



Narrowband MOS Conversational Quality Trend from 2018-09-23 to 2018-10-23



Call volume from 2018-09-23 to 2018-10-23



Filters

Group:

career.counterpath.com
collab.softphone.com
counterpath.com
demo.softphone.com

☐ Include subgroup activity

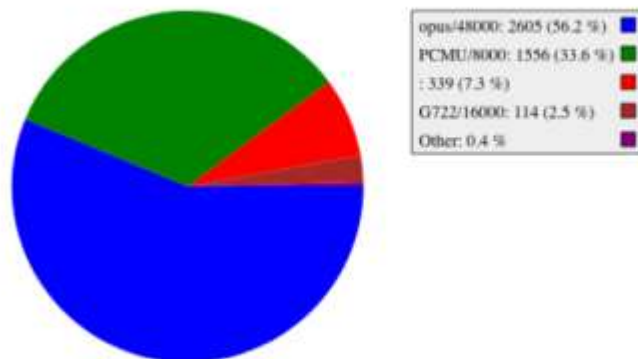
Dates

End Date: Oct 23

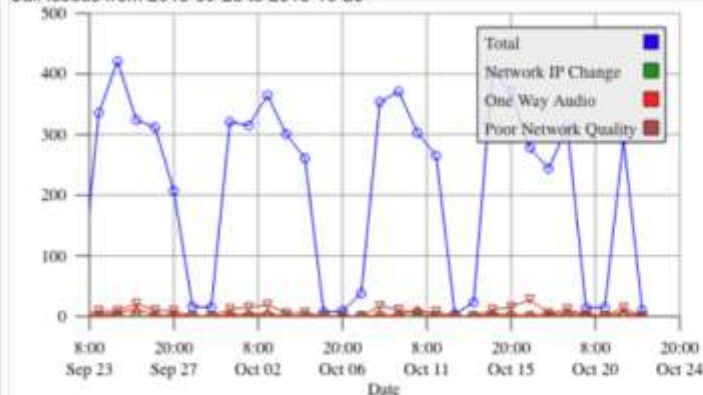
End Time: 09:00

Range: 1 month


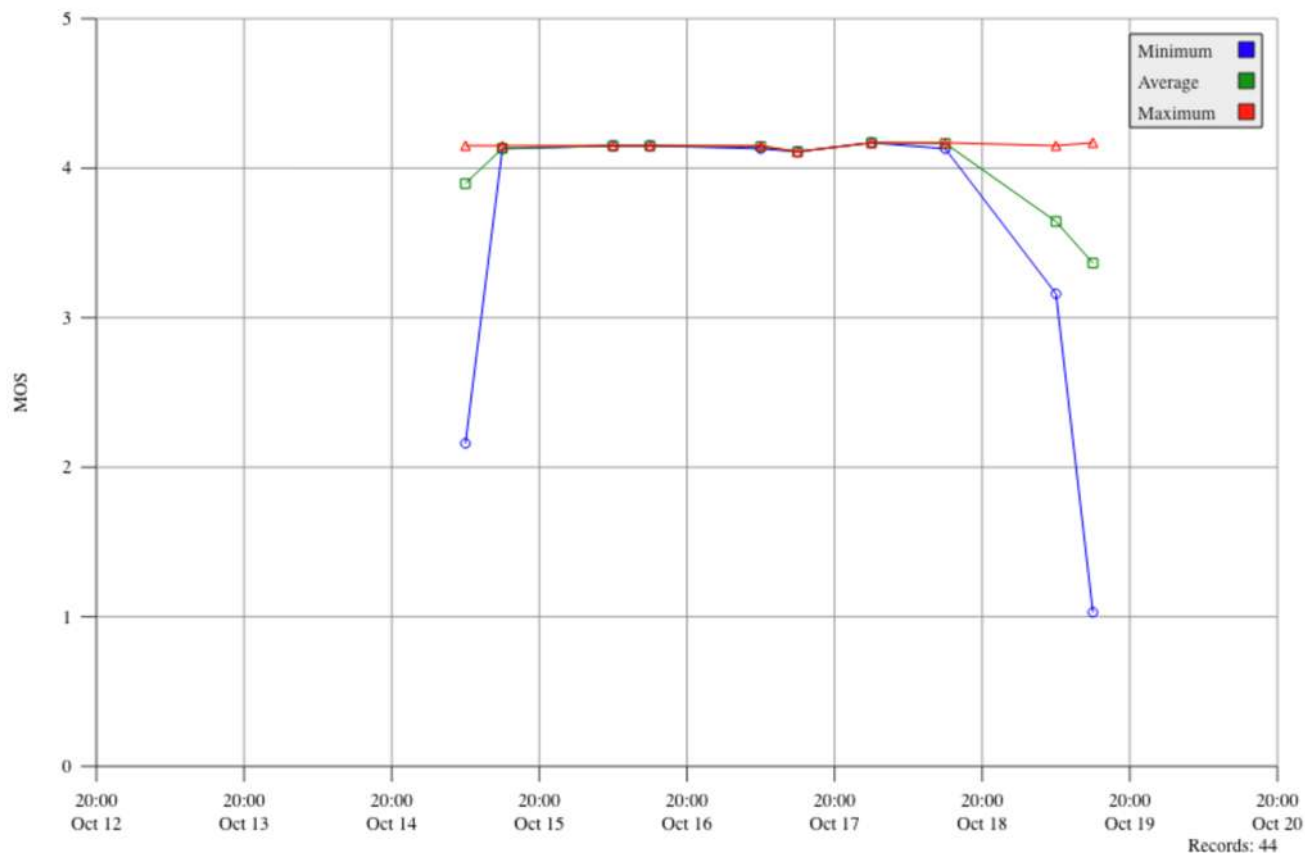
Audio-in Codecs from 2018-09-23 to 2018-10-23



Call Issues from 2018-09-23 to 2018-10-23



Wideband MOS Conversational Quality Trend from 2018-10-13 to 2018-10-20

Report   Update Download

Filters

Group:

career.counterpath.com
collab.softphone.com
counterpath.com
demo.softphone.com

☐ Include subgroup activity

Dates

End Date:  Oct 20 

End Time: 10:00

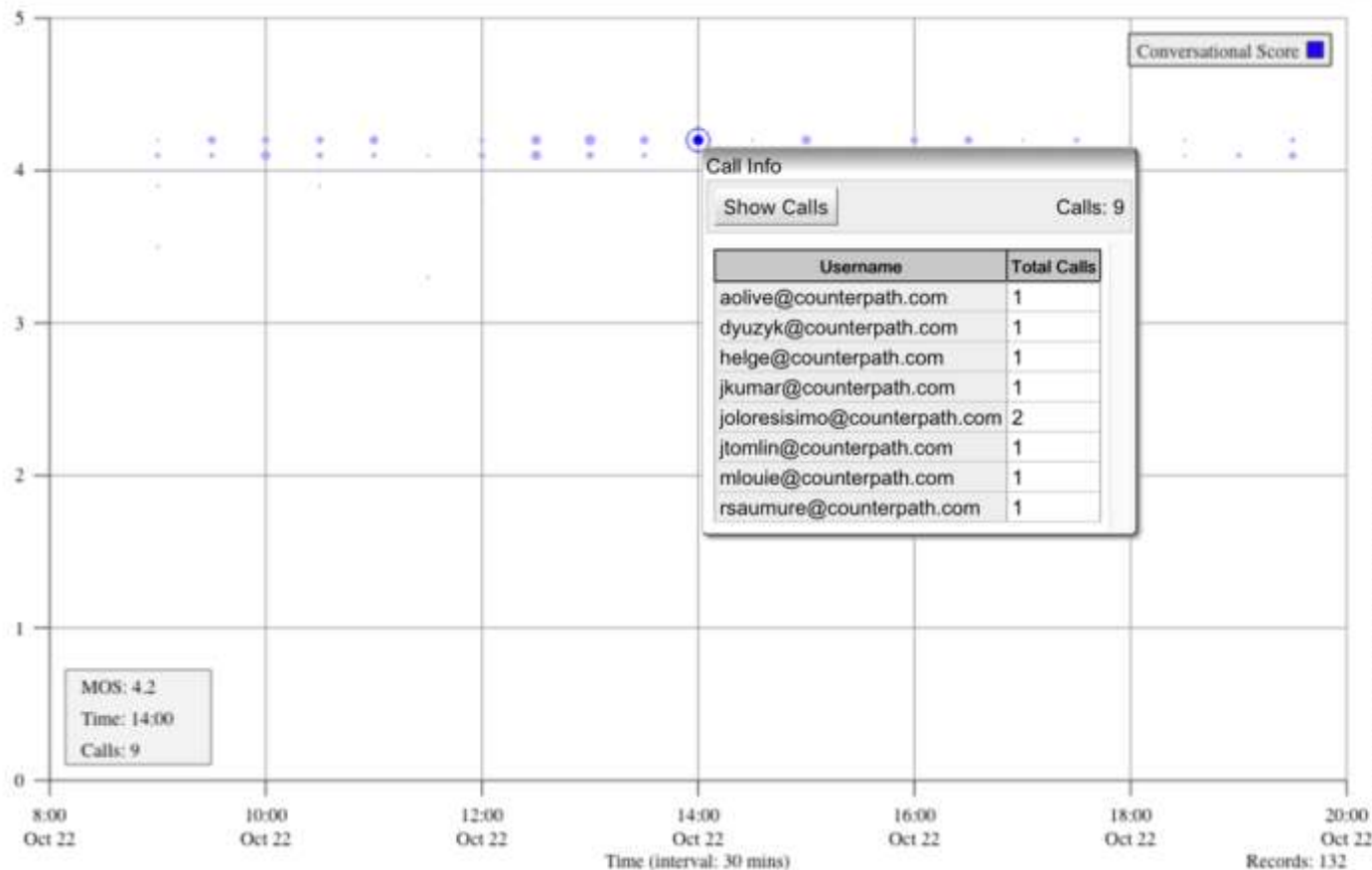
Range: 1 week 

Users

jobrien@counterpath.com

Line Chart 

>>

Report   Update Download

Filters

Group:

- ☒ BriaSaasLiveCustomers
- ☒ HostedCcsCustomers
- ☒ HostedCcsDemos
- ☒ InternalGroups

☐ Include subgroup activity

Dates

End Date:  Oct 22 

End Time: 20:00

Range: 12 hours 

Call Explorer

Report  Update

 Download

Name	Value
Call ID	NenM3MRy2Y2dMMk...
Local ID	
Remote ID	
Orig ID	
Local Address	IP=192.168.120.2 PORT=56036 SSRC=0x5a260ff
Remote Address	IP=69.90.51.50 PORT=48500 SSRC=0x2ca7264
Local MAC	
Remote MAC	

Name	Value
Start Time	2018-10-22 01:16:38 PM UTC-0400
Stop Time	2018-10-22 01:31:26 PM UTC-0400
Payload Type	-
Payload Description	OPUS
Wideband Codec	true
Sample Rate	32000 - 32000
Frame Duration	20
Frame Octets	0
Frames Per Packet	2
Packets Per Second	25
FMTMP Options	
Packet Loss Concealment	Unspecified
Silence Suppression	-
JB Adaptive	adaptive
JB Rate	-
JB Nominal	40
JB Max	40
JB Discard Rate	0.0
Network Packet Loss Rate	0.0
Burst Loss Density	100.0
Burst Duration	80
Gap Loss Density	0.0
Gap Duration	-
Min. Gap Threshold	16
Round Trip Delay	173
One Way Delay	156
Listening Q R	176
Conn. Q R	172
External R In	-
External R Out	-
MOS Listening Q	4.19
MOS Conversational Q	4.15

Name	Value
Start Time	2018-10-22 01:16:38 PM UTC-0400
Stop Time	2018-10-22 01:31:26 PM UTC-0400
Payload Type	-
Payload Description	Wideband Codec
Wideband Codec	false
Sample Rate	---
Frame Duration	-
Frame Octets	-
Frames Per Packet	-
Packets Per Second	-
FMTMP Options	
Packet Loss Concealment	Standard
Silence Suppression	-
JB Adaptive	adaptive
JB Rate	0
JB Nominal	40
JB Max	40
JB Discard Rate	0.0
Network Packet Loss Rate	0.0
Burst Loss Density	99.5
Burst Duration	40
Gap Loss Density	0.0
Gap Duration	65535
Min. Gap Threshold	16
Round Trip Delay	173
One Way Delay	-
Listening Q R	-
Conn. Q R	172
External R In	-
External R Out	-
MOS Listening Q	4.09
MOS Conversational Q	4.09

Name	Value
Group	counterpath.com
User	jbrien@counterpath.com
Device ID	7DCFF79601496B832...
Start time	2018-10-22 01:16:21 PM UTC-0400
Duration	888
Incoming	true
Call successful	true
Failure reason	-
# digits dialed	0
Transferred	false
Local conference	false
Max conference participants	0
Video call	false
Video conference	false
Audio in codec	opus/48000
Audio out codec	opus/48000
Recorded	false
USB device	-
Bluetooth device	-
Video out device	-
Video out codec	-
Video out portalt	-
Video out, width	-
Video out height	-
Video in codec	-
Video in portalt	-
Video in width	-
Video in height	-
One way audio	false
Poor network quality	false
Network type	NW_WIFI
Network IP change	false
SRTP media encryption	false

Name	Value
Group	counterpath.com
User	jbrien@counterpath.com
Device ID	7DCFF79601496B832...
Created	2018-10-22 10:12:13 AM UTC-0400
Account username	3404
Domain	counterpath.com
Outbound proxy	sbc.counterpath.com:1...
Protocol	SIP
Enabled	true
Keepalive Call	true
Keepalive Wi-Fi	true
Keepalive Wi-Fi interval	30
SIP Call refresh interval	900
SIP Wi-Fi refresh interval	900
Cell NAT ICE	false
Cell NAT STUN	false
Cell NAT TURN	false
WiFi NAT ICE	false
WiFi NAT STUN	false
WiFi NAT TURN	false
SIP-Simple supported	true
Signalling transport	UDP
Media Encryption	NONE

Name	Value
Group	counterpath.com
User	jbrien@counterpath.com
Device ID	7DCFF79601496B832...
Created	2018-10-22 10:12:13 AM UTC-0400
Last Updated	2018-10-22 01:53:55 PM UTC-0400
Installation Date	2018-02-20 09:48:08 PM UTC-0400
OS Type	Android
OS Version	24
Hardware Model	asus ASUS_A006
Client Version	5.4.3.108509
Client IP Address	192.168.120.2
Client Launch Time	2018-10-22 09:00:37 AM UTC-0400
Template Version	1.8
Language	en
# SIP Accounts	1
# SIP Simple Accounts	1
# XMPP Accounts	1
LDAP	false
Outlook Sync	false
Mac Address Book	false
Run in background	true
Data over mobile	true
data net	
VoIP over mobile	true
data net	
Timezone Offset	-4:00

Name	Value
Group	counterpath.com
User	jbrien@counterpath.com
Device ID	7DCFF79601496B832...
Interval Start	2018-10-22 11:50:00 AM UTC-0400
Report Start	2018-10-22 11:51:24 AM UTC-0400
Report End	2018-10-22 01:31:27 PM UTC-0400
Contacts	3730
Contacts With Presence	162
Successful Provision Attempts	0
Failed Provision Attempts	0
Crashes	0

Filters

Group: career counterpath.com
coltab softphone.com
counterpath.com
demo.softphone.com

☐ Include subgroup activity

Dates

End Date: Oct 23 or

End Time: 09:00

Range: 1 month

Users

jbrien@counterpath.com

Some UEM Statistics and Insights

from
a very
small sample

A Sample of 1000 calls from the CounterPath team



- The average Call length was 718 seconds
- The average MOS LQ was 3.89
- The average delay was 120 ms
- The average Packet Loss was .93% (including some crazy calls with over 85% loss)
- 22 % of calls were inbound
- Codec Usage: Opus: 61.7%; G711: 33.9%, G722: 0.35%; SILK: 0.03; G729: 0.01%
- Operating Systems: 510 Windows, 246 Mac, 165 iOS & 79 Android.
- Headsets: 376 Reported no headset, 57 Jabra LINK 360, 54 Conexant SmartAudio HD, 49 Plantronics C320, 31 Realtek High Definition Audio, 26 Sennheiser USB headset, 25 Plantronics .Audio 478 USB, 23 Plantronics Blackwire 320, 22 Logitech USB Headset, 17 Plantronics Savi 7xx, 17 3- Plantronics C320, 16 Plantronics Blackwire C220, 14 High Definition Audio Device, 14 3- Logitech USB Headset, 13 9- HP Digital Stereo Headset, 11 Logitech USB Headset H540, ...

- 4a9579a80ec487a2c5c765aaa84b960a9d79ccfc is the device ID that made the most calls, 55. The owner of this device is one of our EU sales managers. Tim actually made or received 59 of the sample 1000 calls. The additional 4 used his Android Phone, the 55 above were with his Windows 10 laptop.
- The user with the most reported contacts on their device has 25861, which was reported on an iPhone 10. The second most contact rich user reported 7155 contacts on an iPhone 10S Max. I'm feeling left out of the fun with only 3672 contacts on my iPhone 10.
- Of Video Calls 45% were 1080P 54% were 720P and 1% were VGA resolution. An interesting note is that of the 720P calls more that 1/5th were taken in portrait mode.

Benefits and Best Practices



- User-Edge devices have a wealth of information to provide.
- Managing user based configurations and understanding user device adoption provides an important backdrop to both troubleshooting and data collection activities.
- Network performance data can be greatly enhanced with information
 - About the devices/software being leveraged by users
 - From user location and connectivity
 - That details services are consumed in which scenarios
- User experience lifecycle is critical and there is a long tail of information that users and their devices emit which can be harnessed by service providers that curate this information.
- All of this information provides service operations teams with a dataset from which they can understand how their end users leverage the services they are consuming.

- Provisioning and Device tracking form crucial baseline set of processes to enable management of devices and insights into how users consume services.
- Opportunities for active tools that allow remote command and control
- Collect all the information; include data collection capabilities in the evaluation process for user equipment, clients and applications.
- Integrate review of data collection into operations processes.
- Find your team's inner data scientist; or find someone who wants to be that person.



(Quick Demo) Help Desk Assistant

Massachusetts

YEAR
Massachusetts
2000
C. 314749

VOIP

Thank
You

The Spirit of America

Jim O'Brien @jimdoesvoip jobrien@counterpath.com

