

Munich



Cologne

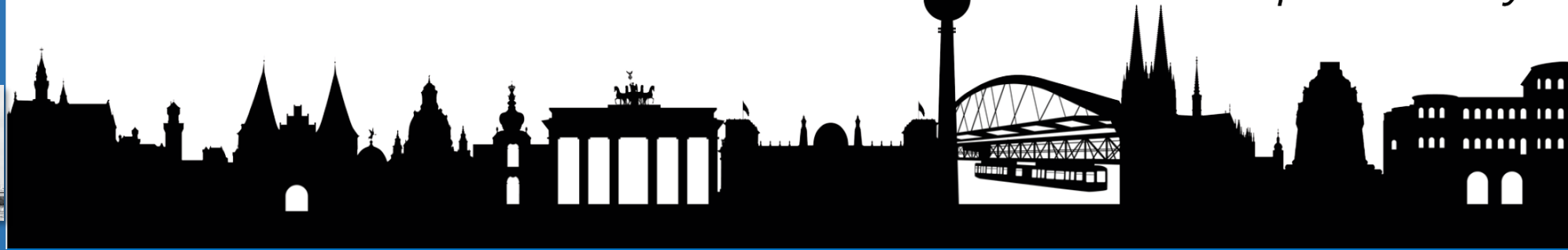


Hamburg



Skype for Business

User Group Germany



Skype for Business Supporting Busy On Busy

YOUR SKYPE FOR BUSINESS
HARDWARE DISTRIBUTOR

Westcon[™]

The broadest and most comprehensive Lync
Optimised vendor portfolio anywhere in distribution



Thomas Poett – Office Server and Service MVP

UC Business Developing Manager – Westcon UCC Germany

Agenda

- Configure Busy on Busy
- Troubleshooting Busy on Busy
 - Tracing Busy on Busy
- Busy on Busy behavior
- User and System know issues

Configure Busy on Busy

Quick reminder 😊

Deployment BoB

```
Get-CsPool
```

```
New-CsServerApplication -Identity  
'Service:Registrar:%FQDN%/BusyOptions' -Uri  
http://www.microsoft.com/LCS/BusyOptions -  
Critical $False -Enabled $True -Priority  
(Get-CsServerApplication -Identity  
'Service:Registrar:%FQDN%/UserServices').Pri  
ority
```

```
Get-CsServerAppliacion | where-object  
$_.Name -eq "BusyOptions"}
```

```
Update-CsAdminRole
```

```
Set-CsBusyOptions -Identity "Thomas Poett" -  
ActionType BusyOnBusy
```

```
Set-CsBusyOptions -Identity "Thomas Poett" -  
ActionType VoiceMailOnBusy
```

Skype for Business Server

Home DIAL PLAN VOICE POLICY ROUTE PSTN USAGE TRUNK CONFIGURATION TE

Users Edit Voice Policy - Global

Topology OK Cancel

IM and Presence

Persistent Chat

Voice Routing

Voice Features

Response Groups

Conferencing

Clients

Federation and External Access

Monitoring and Archiving

Scope: Global

Name: *

Global

Description:

Calling Features

- Enable call forwarding
- Enable delegation
- Enable call transfer
- Enable call park
- Enable simultaneous ringing of phone
- Enable team call
- Enable PSTN reroute
- Enable bandwidth policy override
- Enable malicious call tracing
- Enable busy options

Troubleshooting Busy on Busy

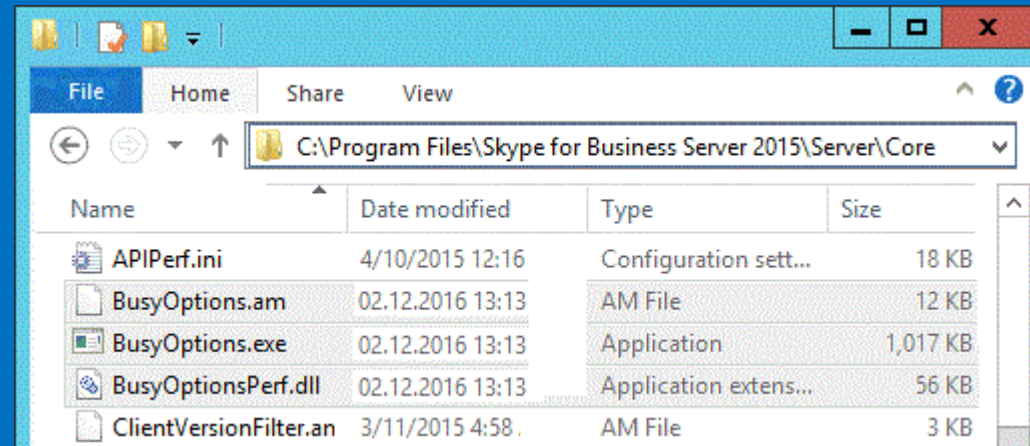
A big thanks to Alessio Giombini for his inspiring blog !

<http://blog.giombini.com/>

Follow the next steps

First you can check if the new APPLICATION was installed correctly:

The newly created appliance will be loaded during the Frontend server startup procedure and you will be able seeing a not in Event 30253, indicating the application was included in the loading process.



Usage of CLS Logging Tool

CLS is required for BoB tracing

Chose the BusyOptions Scenario:

Component: S4

Level: INFO

Flags: ALL

Component: Sipstack

Level: INFO

Flags: TF_PROTOCOL, TF_CONNECTION,

TF_SECURITY, TF_DIAG;

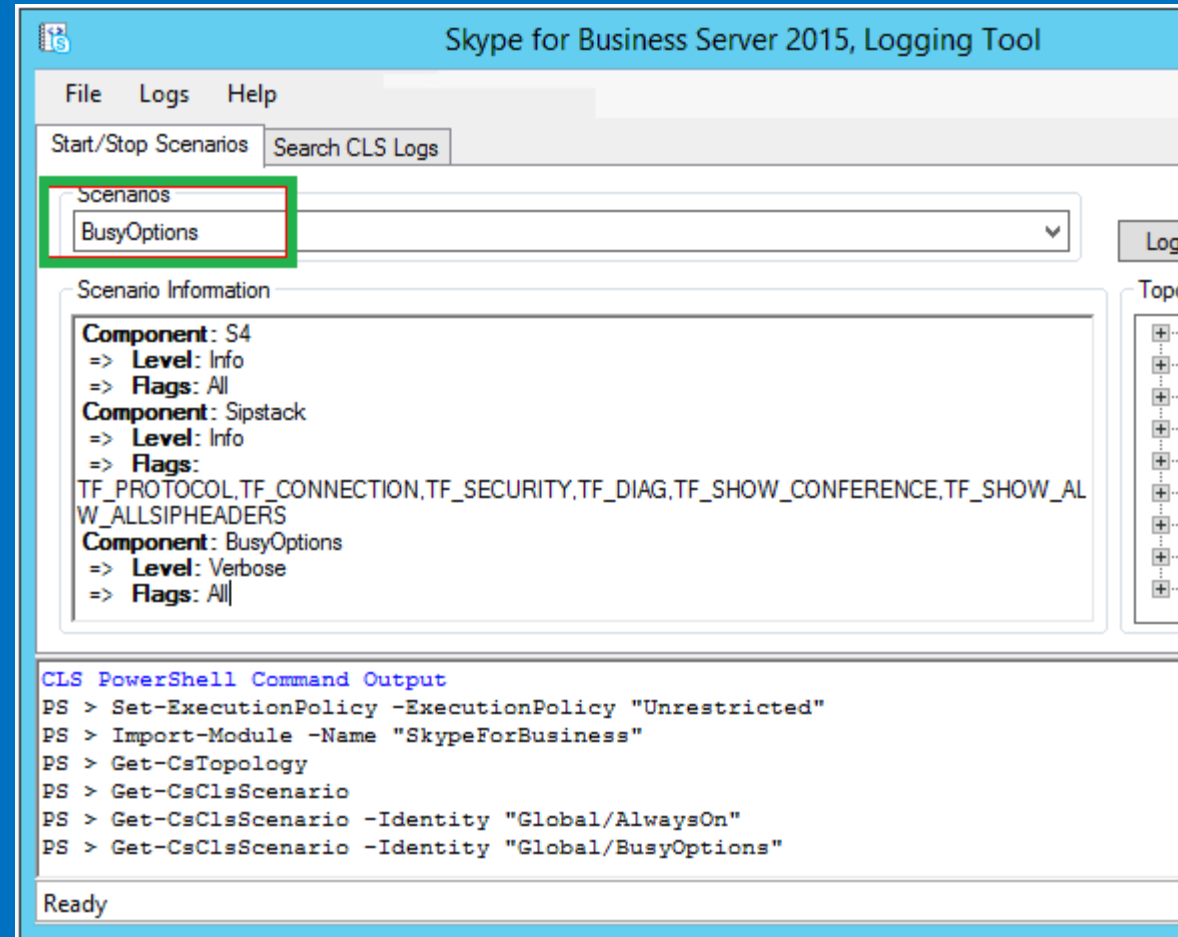
TF_SHOW_CONFERENCE,

TF_SHOW_ALL_W_ALLSIPHEADERS

Component: BusyOptions

Level: VERBOSE

Flags: All



Tracing Busy on Busy

User related SIPStack message

Content-Length: 0

Via: SIP/2.0/TLS 192.168.0.13:49887;received=103.12.145.113;ms-received-port=41538;ms-received-cid=9F6B100

From: "User1"<sip:user1@westconlab.com>;tag=8ea09bf2e6;epid=2983f4c267

To: <sip:user2@westconlab.com>;tag=C643D58961F545B

Call-ID: 734ea4e359617902c2098433b

CSeq: 1 INVITE

Server: BusyOptions/6.0.0.0

ms-diagnostics:

1034;reason="Previous hop federated peer did not report diagnostic information"; Domain="westconlab.com"; PeerServer="sip.westconlab.com"; source="sip.westconlab.com"

ms-edge-proxy-message-trust:

ms-source-type=AutoFederation; ms-ep-fqdn=sfbedge.westconlab.com; ms-source-network=federation; ms-source-verified-user=verified

Analyze SIP Message in CLS Log

TL_INFO (TF_COMPONENT)

BoB begins processing
a new SIP invite
containing audio

```
TL_INFO(TF_COMPONENT) [fe01\fe01]176C.4B20::08/24/2016-20:00:17.263.00026C87
(BusyOptions, BusyOnBusy.OnSipAudioInvite:busyonbusy.cs(359))
(000000000054029F) "Received a sip audio invite for call id
[d6ae161097d3473f832ad2e618555843]

To Header:
[<sip:fe01.user1@westconlab.local;gruu;opaque=srvr:Microsoft.Rtc.Applications.TestBot:JAYVi887GVW5E593qO_7VAAA>]

From Header:
[<sip:administrator@westconlab.com>]

RequestUri:
[sip:fe01.user1@westconlab.local;gruu;opaque=srvr:Microsoft.Rtc.Applications.TestBot:JAYVi887GVW5E593qO_7VAAA]
```

Analyze SIP Message in CLS Log

TL_VERBOSE (TF_STACKTRACE)

BOB checks if Busy
Options are enabled
and the output is TRUE

```
TL_VERBOSE (TF_STACKTRACE) [fe01\fe01]176C.4B20::08/24/2016-  
20:00:17.276.00026C8C  
(BusyOptions,PolicyReaderWrapper.ReadPolicy:policyreaderwrapper.cs(48))  
(0000000014C5876) [Exit] Returning new BobVoicePolicy with policyName:  
[TenantId={00000000-0000-0000-0000-000000000000};0=1318020581;],  
vPolicy.EnableBusyOptions: [True]
```

Analyze SIP Message in CLS Log

TL_VERBOSE (TF_STACKTRACE)

BoB checks if there is at least one voice policy enabled for Busy Options and the output is TRUE

```
TL_VERBOSE (TF_STACKTRACE) [fe01\fe01]176C.4B20::08/24/2016-  
20:00:17.277.00026C8D  
(BusyOptions,UserAttributeReader.ReadVoicePolicy:userattributereader.cs(155))  
(00000000066037E)[Exit] Returninv voicePolicy with voicePolicy.PolicyName:  
[TenantId={00000000-0000-0000-0000-000000000000};0=1318020581;],  
voicePolicy.BobEnabled: [True]
```

Analyze SIP Message in CLS Log

```
TL_VERBOSE (TF_STACKTRACE)  
TL_VERBOSE (TF_COMPONENT)
```

BoB performs further checks on the voice policy assigned to the user and checks if Busy Options are enabled for the callee

```
User had Global Voice Policy set TRUE
```

```
TL_VERBOSE (TF_STACKTRACE) [fe01\fe01]176C.4B20::08/24/2016-  
20:00:17.290.00026C9A
```

```
(BusyOptions,PolicyReaderWrapper.ReadPolicy:policyreaderwrapper.cs(48))  
(00000000014C5876)[Exit] Returning new BobVoicePolicy with policyName:  
[Global], vPolicy.EnableBusyOptions: [True]
```

```
TL_VERBOSE (TF_STACKTRACE) [fe01\fe01]176C.4B20::08/24/2016-  
20:00:17.290.00026C9B
```

```
(BusyOptions,UserAttributeReader.ReadVoicePolicy:userattributereader.cs(155))  
(000000000066037E)[Exit] Returninv voicePolicy with voicePolicy.PolicyName:  
[Global], voicePolicy.BobEnabled: [True]
```

```
TL_VERBOSE (TF_COMPONENT) [fe01\fe01]176C.4B20::08/24/2016-20:00:17.290.00026C9C
```

```
(BusyOptions,UserAttributeReader.GetUserAttributes:userattributereader.cs(111))  
(000000000066037E)User voice policy enabled: [True]
```

```
]
```

Analyze SIP Message

TL_VERBOSE (TF_STACKTRACE)

BoB checks on the user details, at this point you should have noticed the Busy Option is **DISABLED** for the callee (and the caller)

Just a further check, even is first result was provided in the last message

```
TL_VERBOSE (TF_STACKTRACE) [fe01\fe01]176C.4B20::08/24/2016-  
20:00:17.290.00026C9F  
(BusyOptions,UserAttributeReader.GetUserAttributes:userattributereader.cs(126))  
(000000000066037E) [Exit] Returning userDetails with userDetails.BusyOption:  
[Disabled], userDetails.ClientFlags [NULL]
```

Analyze SIP Message in CLS Log

TL_VERBOSE (TF_STACKTRACE)

BoB checks if it's a
Team Call

If RESULT are **all FALSE**, than confirm not from Team Call

```
TL_VERBOSE (TF_STACKTRACE) [fe01\fe01]176C.4B20::08/24/2016-  
20:00:17.292.00026CA5 (BusyOptions,CallInfo.GetIsTeamCall:callinfo.cs(145))  
(000000000AA9FBC)[Enter] Querying history info header and callee clientflags  
to determine whether it is a team call.  
TL_VERBOSE (TF_STACKTRACE) [fe01\fe01]176C.4B20::08/24/2016-  
20:00:17.292.00026CA8 (BusyOptions,CallInfo.GetIsTeamCall:callinfo.cs(153))  
(000000000AA9FBC)"[Exit]  
historyInfoContainsTeamCallRetargetReason: [False]  
clientFlagsContainsTeamRing: [False]  
Return value: [False]
```

Analyze SIP Message in CLS Log

TL_VERBOSE (TF_STACKTRACE)

BoB checks if it's a
Response Group Call

If RESULT are **all FALSE**, than confirm not from RGS Call

```
TL_VERBOSE (TF_STACKTRACE) [fe01\fe01]176C.4B20::08/24/2016-
20:00:17.292.00026CA9 (BusyOptions,CallInfo.GetIsRgsCall:callinfo.cs(286))
(0000000000AA9FBC)[Enter] Querying History-Info and MS-Application-Aor headers
to determine if this is an RGS related call.
TL_VERBOSE (TF_STACKTRACE) [fe01\fe01]176C.4B20::08/24/2016-
20:00:17.292.00026CAA
(BusyOptions,CallInfo.GetIsRgsCallFromHistoryInfo:callinfo.cs(309))
(0000000000AA9FBC)[Enter] Querying History-Info header to determine if this is
an RGS related call.
TL_VERBOSE (TF_STACKTRACE) [fe01\fe01]176C.4B20::08/24/2016-
20:00:17.292.00026CAE (BusyOptions,CallInfo.GetIsRgsCall:callinfo.cs(292))
(0000000000AA9FBC)"[Exit]
isRgsCallFromHistoryInfo: [False]
getIsRgsCallFromMsApplicationAor: [False]
Return value: [False]
```


Analyze SIP Message in CLS Log

```
TL_VERBOSE (TF_STACKTRACE)  
TL_VERBOSE (TF_COMPONENT)
```

BoB checks if it's a parked call, or a delegate Call

If RESULT are **all FALSE**, than confirm not parked nor delegate Call

```
TL_VERBOSE (TF_STACKTRACE) [fe01\fe01]176C.4B20::08/24/2016-20:00:17.292.00026CAF  
(BusyOptions,CallInfo.GetIsCpsCall:callinfo.cs(380)) (0000000000AA9FBC)[Enter]  
Querying the Contact header for the [isCps] parameter to determine if this is a CPS  
call.  
TL_VERBOSE (TF_STACKTRACE) [fe01\fe01]176C.4B20::08/24/2016-20:00:17.292.00026CB0  
(BusyOptions,CallInfo.GetIsCpsCall:callinfo.cs(397)) (0000000000AA9FBC)[Exit]  
Contact header does not contain the [isCps] parameter, returning false.  
TL_VERBOSE (TF_STACKTRACE) [fe01\fe01]176C.4B20::08/24/2016-20:00:17.292.00026CB1  
(BusyOptions,CallInfo.GetIsReferredByHeaderPresent:callinfo.cs(263))  
(0000000000AA9FBC)[Enter] Checking if the Referred-By header is present.  
TL_VERBOSE (TF_STACKTRACE) [fe01\fe01]176C.4B20::08/24/2016-20:00:17.292.00026CB2  
(BusyOptions,CallInfo.GetIsReferredByHeaderPresent:callinfo.cs(270))  
(0000000000AA9FBC)[Exit] Referred-By header is not present, returning false.  
TL_VERBOSE (TF_STACKTRACE) [fe01\fe01]176C.4B20::08/24/2016-20:00:17.292.00026CB3  
(BusyOptions,CallInfo.GetIsDelegateCall:callinfo.cs(412)) (0000000000AA9FBC)[Enter]  
Check clientflags to determine whether this is a Delegate related call.  
TL_VERBOSE (TF_COMPONENT) [fe01\fe01]176C.4B20::08/24/2016-20:00:17.292.00026CB4  
(BusyOptions,CallInfo.GetIsDelegateCall:callinfo.cs(428)) (0000000000AA9FBC)"  
clientFlagsContainsForwardAudioAppInvites: [False]  
clientFlagsContainsDelegateRing: [False]  
result: [False]
```

Analyze SIP Message in CLS Log

```
TL_VERBOSE (TF_STACKTRACE)
```

BoB checks if it's a
Conference Call

If RESULT are **all FALSE**, than confirm not from RGS Call

```
TL_VERBOSE (TF_STACKTRACE) [fe01\fe01]176C.4B20::08/24/2016-  
20:00:17.292.00026CB6  
(BusyOptions,CallInfo.GetIsConferenceInvite:callinfo.cs(201))  
(000000000AA9FBC) [Enter] Querying TO header to determine if this is a  
conference invite.  
TL_VERBOSE (TF_STACKTRACE) [fe01\fe01]176C.4B20::08/24/2016-  
20:00:17.292.00026CB8  
(BusyOptions,CallInfo.GetIsConferenceInvite:callinfo.cs(216))  
(000000000AA9FBC) [Exit] Request is not a conference invite, returning false.
```

Analyze SIP Message in CLS Log

TL_VERBOSE (TF_STACKTRACE)

BoB checks if forwarding or simultaneous ring is enabled

If RESULT is **FALSE**, than confirmation

```
TL_VERBOSE (TF_STACKTRACE) [fe01\fe01]176C.4B20::08/24/2016-
20:00:17.292.00026CB9
(BusyOptions,CallInfo.GetIsCallForwardingEnabled:callinfo.cs(482))
(0000000000AA9FBC) [Enter] Check clientflags to determine whether call
forwarding is enabled.
TL_VERBOSE (TF_STACKTRACE) [fe01\fe01]176C.4B20::08/24/2016-
20:00:17.292.00026CBA
(BusyOptions,CallInfo.GetIsCallForwardingEnabled:callinfo.cs(487))
(0000000000AA9FBC) [Exit] Returning clientFlagsContainsForwardImmediate: [False]
TL_VERBOSE (TF_STACKTRACE) [fe01\fe01]176C.4B20::08/24/2016-
20:00:17.292.00026CBB
(BusyOptions,CallInfo.GetIsSimultaneousRingEnabled:callinfo.cs(500))
(0000000000AA9FBC) [Enter] Check clientflags to determine whether simultaneous
ring is enabled.
TL_VERBOSE (TF_STACKTRACE) [fe01\fe01]176C.4B20::08/24/2016-
20:00:17.292.00026CBC
(BusyOptions,CallInfo.GetIsSimultaneousRingEnabled:callinfo.cs(505))
(0000000000AA9FBC) [Exit] Returning clientFlagsContainsSimultaneousRing: [False]
```

Analyze SIP Message in CLS Log

TL_VERBOSE (TF_STACKTRACE)

BoB checks if this is a re-invite

If RESULT is **FALSE**, than confirmation

```
TL_VERBOSE (TF_STACKTRACE) [fe01\fe01]176C.4B20::08/24/2016-  
20:00:17.292.00026CBD (BusyOptions,CallInfo.GetIsReInvite:callinfo.cs(226))  
(0000000000AA9FBC)[Enter] Querying TO header to determine if this is a re-  
invite.
```

```
TL_VERBOSE (TF_STACKTRACE) [fe01\fe01]176C.4B20::08/24/2016-  
20:00:17.292.00026CBE (BusyOptions,CallInfo.GetIsReInvite:callinfo.cs(248))  
(0000000000AA9FBC)[Exit] TO header does not contain parameter [tag], returning  
false.
```

Analyze SIP Message in CLS Log

```
TL_VERBOSE(TF_COMPONENT)  
TL_INFO(TF_COMPONENT)
```

this is just a normal inbound call to a "normal" user who is not in any of the scenarios above:

BoB checks if the call should be prioritized

```
TL_VERBOSE(TF_COMPONENT) [fe01\fe01]176C.4B20::08/24/2016-20:00:17.296.00026CC8  
(BusyOptions,CallInfo.ShouldPrioritizeCall:callinfo.cs(104))  
(000000000AA9FBC)Querying history info header and callee routing preamble to  
determine whether should prioritize call.
```

```
TL_VERBOSE(TF_COMPONENT) [fe01\fe01]176C.4B20::08/24/2016-20:00:17.297.00026CC9  
(BusyOptions,CallInfo.ShouldPrioritizeCall:callinfo.cs(121))  
(000000000AA9FBC) "
```

```
IsTeamCall: [False]  
IsRgsCall: [False]  
IsCpsCall: [False]  
IsReferredByHeaderPresent: [False]  
IsDelegateCall: [False]
```

```
TL_VERBOSE(TF_COMPONENT) [fe01\fe01]176C.4B20::08/24/2016-20:00:17.299.00026CCA  
(BusyOptions,CallInfo.ShouldPrioritizeCall:callinfo.cs(130))  
(000000000AA9FBC) "
```

```
IsConferenceInvite: [False]  
IsCallForwardingEnabled: [False]  
IsSimultaneousRingEnabled: [False]  
OverridePrioritizeCallValue: [False]
```

```
TL_INFO(TF_COMPONENT) [fe01\fe01]176C.4B20::08/24/2016-20:00:17.299.00026CCB  
(BusyOptions,CallInfo.ShouldPrioritizeCall:callinfo.cs(138))  
(000000000AA9FBC)Return value: [False]
```

Analyze SIP Message in CLS Log

TL_VERBOSE (TF_COMPONENT)

this should be a
summary of the checks
before?!?

```
TL_VERBOSE (TF_COMPONENT) [fe01\fe01]176C.4B20::08/24/2016-20:00:17.299.00026CCC
(BusyOptions, BobManager.ProcessInviteMessage: bobmanager.cs (158)) (0000000001EC2612) "
    fromSipAddress: [sip:administrator@westconlab.com]
    toSipAddress: [sip:fe01.administrator@westconlab.local]
    fromUserBusyOption: [Disabled]
    toUserBusyOption: [Disabled]
TL_VERBOSE (TF_COMPONENT) [fe01\fe01]176C.4B20::08/24/2016-20:00:17.299.00026CCD
(BusyOptions, BobManager.ProcessInviteMessage: bobmanager.cs (166)) (0000000001EC2612) "
    replacesCallId: [NULL]
    isConferenceInvite: [False]
    isPrioritizedCall: [False]
    isReInvite: [False]
```

Analyze SIP Message in CLS Log

```
TL_VERBOSE (TF_COMPONENT)  
TL_INFO (TF_STACKTRACE)
```

Result for an non busy option set user

```
TL_VERBOSE (TF_COMPONENT) [fe01\fe01]176C.4B20::08/24/2016-20:00:17.299.00026CCC  
(BusyOptions, BobManager.ProcessInviteMessage:bobmanager.cs (158))  
(0000000001EC2612) "  
    fromSipAddress: [sip:administrator@westconlab.local]  
    toSipAddress: [sip:fe01.  
administrator@westconlab.com]  
    fromUserBusyOption: [Disabled]  
    toUserBusyOption: [Disabled]  
TL_INFO (TF_STACKTRACE) [fe01\fe01]176C.4B20::08/24/2016-20:00:17.299.00026CCE  
(BusyOptions, BobManager.ProcessInviteMessage:bobmanager.cs (180))  
(0000000001EC2612) [Exit] Busy Options not enabled for both caller  
[sip:administrator@westconlab.com] and callee  
[sip:fe01.administrator@westconlab.local]. Passing through the call.  
(BusyOptions, DefaultProcessor.Run:defaultprocessor.cs (32))  
(0000000001F12850) Passing request through.  
(BusyOptions, BusyOnBusy.ProcessInviteMessage:busyonbusy.cs (487))  
(000000000054029F) [Exit]  
TL_VERBOSE (TF_STACKTRACE) [fe01\fe01]176C.4B20::08/24/2016-20:00:17.301.00026CD8  
(BusyOptions, BusyOnBusy.OnSipAudioInvite:busyonbusy.cs (473))  
(000000000054029F) [Exit]
```

Other Stack Traces

- OnSipAudioInvite
- GetIsTeamCall
- GetIsRgsCall
- GetIsDelegateCall
- ShouldPrioritizeCall

Busy on Busy behavior



Busy on Busy behavior summary

Response Groups (RGS)

- RGS number will be ignored (multiple calls are allowed)
- Agents with Busy settings will be ignored, RGS attendant routing will remain unchanged
- Calls from RGS to user with RGS agent contribution will not be throttled by any Busy settings
- Call to user which are RGS agent, but receive an personal call, BoB options apply

Team Call

- Calls to user with Team Call setups will be prioritized and BoB ignored
- Team Call user experience will remain for users with BoB set
- Non-Team Call related call has applied BoB settings

Boss/Admin Delegation

- Incoming call to Boss/Admin (Delegation) will not be honored by users BoB settings first.
- All other call reflect users BoB settings

Shared Line Appearance (SLA)

- SLA affects user experience, SLA is preferred
- Native SLA will honor BoB settings

Call Parking Service (CPS)

- Parked call ring back user after timeout (in park) and overwrite BoB

Call Conferencing

- User with BoB setting participate in a conference are considered BUSY and call will be reject with BoB setting applied
- BoB option doesn't prevent a user making a new call or conf call while in a conference
- User in a conf call will receive a Meeting Call invite, but a direct call will be ignored based on the BoB setting

NOTE:

BoB Option is either Busy Signal or Voicemail redirect if [TRUE]

User and System know issues

With CU 3 SfB Only

If you query a user for this Busy Options and the user hasn't configured any setting, the commandlet Get-CsBusyOptions will show you an "red" error.

But this is not an error, it mainly provides the information that BusyOnBusy is NOT configured with this user.

```
Administrator: Skype for Business Server Management Shell
PS C:\Users\S4B_Admin> Get-CsBusyOptions -Identity "Czekalla Thomas"
Get-CsBusyOptions : The Busy Options are missing for Identity "Czekalla Thomas".
At line:1 char:1
+ Get-CsBusyOptions -Identity "Czekalla Thomas"
+ ~~~~~
+ CategoryInfo          : InvalidOperation: (:) [Get-CsBusyOptions], BobException
+ FullyQualifiedErrorId : Microsoft.Rtc.Management.Bob.Cmdlets.BobGetConfigurationCmdlet
PS C:\Users\S4B_Admin> _
```

False Positive

With CU 3 SfB Only

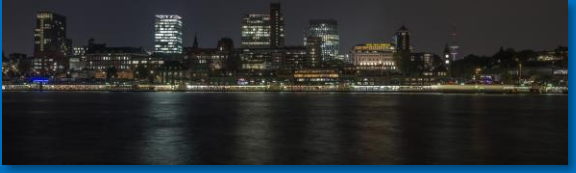
NOTE:

If BoB enabled user switches a network, e.g. wired to wifi might experience an issue with BUSY. A refresh status update time is applied with 12min. This issue disappears after a waiting time of 12min.

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Work with



Westcon™
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and Collaboration Solutions

Unit Leader SfB



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