

Avaya Solution & Interoperability Test Lab

# Application Notes for Visionutveckling Vision 80/20 and Avaya IP Office – Issue 1.0

## Abstract

These Application Notes describe the conformance testing of the Visionutveckling Vision 80/20 with Avaya IP Office. These Application Notes contain an extensive description of the configurations for both Vision 80/20 and Avaya IP Office which were used for testing. The testing which was performed tested the major functions of the Vision 80/20 product.

Information in these Application Notes has been obtained through DevConnect compliance testing and additional technical discussions. Testing was conducted via the DevConnect Program at the Avaya Solution and Interoperability Test Lab.

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# 1. Introduction

These Application Notes describe the configuration used to test Vision 80/20 with Avaya IP Office. Vision 80/20 is a widely used application for managing presence information as well as to provide attendant functionality and voicemail for small companies and large enterprises. Vision 80/20 is a complete application combining attendant console, APBX/PBX-integration and an interface for users to administer their extension/profile via a web application.

The following diagram illustrates the configuration which was used for testing.



**Figure 1: System Configuration** 

In the above diagram, Avaya IP Telephones are registered with the Avaya IP Office. Avaya 4610 IP Telephones configured for H.323 were used for testing.

Phone	User Name	Model	Extension	PSTN
А	Patrik Olsson	4610SW IP	50121	069 907 yyyyy 50121
В	Peter Olsson	4610SW IP	50192	069 907 yyyyy 50192
С	The Operator	2410	50007	069 907 yyyyy 50007
Х				069 xxxx 6174
Hunt	Helpdesk		50010	069 907 yyyyy 50010
Group				

The following table shows the extensions which were used for testing.

**Table 1: Extensions Used for Testing** 

# 2. Equipment and Software Validated

The following equipment and software were used for the sample configuration provided:

Equipment	Version	
Avaya IP Office 500	4.2(4)	
Avaya IP TAPI Driver	3.2.15	
Avaya 46xxSW IP Telephone (H.323)	2.887	
Vision 80/20 Server Platform	MSWIN Server 2003 SP 2	
MySQL	5.0.24a	
YATE (Yet Another Telephony Engine)	2.0	
Visionutveckling Vision 80/20	2.2	

#### Table 2: Equipment and Version Validated

# 3. Configuration

## 3.1. Avaya IP Office

All configuration steps for Avaya IP Office were performed using the IP Office Manager program.

Note that the configuration of the BRI interface to the Public Switched Telephone Network (PSTN) is not described in detail in this document, as this is not required for the operation of Vision 80/20.

## 3.1.1. Licenses

A license is required for CTI Link Pro, which can be confirmed by selecting the "Licenses" icon.

XXX		CTI Link Pro
Γ	icenses	
	License Key	5vJcRQgSDUofbTcIU9LEcGv7pp7eYHLe
	License Type	CTI Link Pro
	License Status	Valid
[	Instances	255
	Expiry Date	Never

Figure 2: IP Office License for CTI Link Pro

## 3.1.2. System

Select the "System" icon and enter the parameters shown in the following table.

TabParameter		Usage		
LAN1	IP Address	Enter the IP address assigned to IP Office.		
LANI	IP Mask	Enter the network mask assigned to IP Office.		
Telephony	Dial Delay Time	Enter the inter-digit dial delay time. A value of "1" seconds was used for the test.		
	Dial Delay Count	Enter "4".		

**Table 3: IP Office System Parameters** 

	IPO_SOE	
System LAN1 LAN2 DNS LAN Settings Gatekeeper Net	Voicemail Telephony LDAP	System Events SMTP
IP Address IP Mask	192       168       200       40         255       255       255       0	
Primary Trans. IP Address RIP Mode	0 0 0 0 0	~
Number Of DHCP IP Addresses	Enable NAT	
🔿 Server 🔷 Client	O Dialin	

Figure 3: IP Office System: LAN Settings Tab

	IPO_S	SOE				d'	$\cdot   \times$
System LAN1 LAN2 DNS V	/oicemail Telephony	LDAP	System Events	SMTP	CDR/SMDR	Twinning	VCM
Telephony Tones & Music							
Analogue Extensions			Compan	ding Law			
Default Outside Call Sequence	Normal	*	Switch				
Default Inside Call Sequence	Ring Type 1	~		W	O ULAW	Line	
Default Ring Back Sequence	Ring Type 2	~		w	O ALAW	' Line	
Dial Delay Time (secs)	1		DSS S	tatus			
Dial Delay Count	4		🗹 Auto H	Hold			
Default No Answer Time (secs)	25 🛟		🗹 Dial By	/ Name			
Hold Timeout (secs)	15 🛟		🔽 Show	Account	Code		
Park Timeout (secs)	25 🛟						
Ring Delay (secs)	5 🛟		🔲 Inhibit	Off-Swi	tch Forward/T	ransfer	
Call Priority Promotion Time (secs)	Disabled :	-					
Default Currency	EUR	~	📃 Restri	ct Netwo	rk Interconne	ct	

Figure 4: IP Office System: Telephony Tab

### 3.1.3. Default Gateway

Select the "IP-Route" icon and create a route with the parameters shown in the following table.

Parameter	Usage
IP Address	Enter "0.0.0.0".
IP Mask	Enter "0.0.0.0".
Gateway IP Address	Enter the address of the router which is used to attach IP Office to the Visionutveckling VoIP Network.
Destination number	Select "LAN1" from the drop-down list.

#### **Table 4: Default Gateway Parameters**

×××	0.0.0.0	🚔 •   🗙   🗸   <
IP Route		
IP Address	0 0 0 0	
IP Mask	0 · 0 · 0 · 0	
Gateway IP Address	192 168 200 254	
Destination	LAN1	*
Metric	0	\$
	Proxy ARP	

Figure 5: IP Office Route: Default Gateway

## 3.1.4. H.323 Line

Select the "IP-Route" icon and create a route with the parameters shown in the following table.

TabParameter		Value		
	Line Number	Use the next available line number.		
VoIP Line	Incoming Group ID	Assign the same value as the line number.		
	Outgoing Group ID Assign the same value as the line number.			
	Gateway IP Address	Enter the IP address of the Vision 80/20 Server.		
VoIP Settings	Compression Mode	Select "G.711 ALAW 64K" from the drop-down list.		
	Enable Faststart	Check this box.		

 Table 5: H.323 VoIP Line Parameters

	IP - Line 10	🖆 -   🗙   🗸
VoIP Line Short Codes VoIP S	ettings	
Line Number	10	TEI
Telephone Number		
Incoming Group ID	10	Outgoing Group ID 10
Prefix		Number of Channels 20 💲
National Prefix		Outgoing Channels 20 😂
International Prefix		Voice Channels 20 🛟
		Data Channels 20 💲

Figure 6: VoIP Line to Vision 80/20: VoIP Line Tab

IP - Line 10					
VoIP Line Short Codes VoIP Se	ettings				
Gateway IP Address	192 - 168 - 200 - 98		VoIP Silence Suppression		
Voice Payload Size (ms)	20		🗹 Enable Faststart		
Compression Mode	G.711 ALAW 64K	~	Local Tones		
H450 Support	H450	*	Enable RSVP		
Call Initiation Timeout	4		Out Of Band DTMF		
			Allow Direct Media Path		
			Voice Networking		
			Eax Transport Support		
			Default Name From Display IE		

Figure 7: VoIP Line to Vision 80/20: VoIP Settings Tab

### 3.1.5. Local Telephone

From the "Extensions" icon, create an extension for each the User and Operator extensions shown in **Table 1** and enter the extension in the "Base Extension" field.

۷ V	'olP Extension: 8000 50121
Extn VoIP	
Extension Id	8000
Base Extension	50121
Caller Display Type	On 💽
Reset Volume After Calls	
Device type	Avaya 4610
Module	0
Port	0
Disable Speakerphone	

#### Figure 8: IP Office Local Telephone Extension: Extn Tab

From the "User" tab, add a new user for each of the local telephones show in **Table 1**, using the parameters shown in the following table.

Parameter	Usage		
Name	Enter the name of the user.		
Extension	Enter the local extension to be assigned to the user.		

#### Table 6: System-Parameters Features Parameters

××× 			Patri	k Olssor	n: 50121				📥 - 🗙
User	DND	ShortCodes	Source Numbers	Telephony	Forwarding	Dial In	Button Programming	Mer	nu Programming
Name	e		Patrik Olsson						
Pass	word								
Conf	irm Passwo	ord							
Full N	Name								
Exte	nsion		50121						
Loca	le							*	
Prior	ity		5					*	
			Ex Director	У					
	Device Type		Unknown IP ha	andset					_
Use	er Rights —								
Use	er Rights vi	iew	User data					*	
Wo	rking hour:	s time profile	<none></none>					~	
Wo	rking hour:	s User Rights						*	
Out	: of hours I	User Rights						~	

Figure 9: IP Office User: User Tab

### 3.1.6. Hunt Groups

Create a hunt group for a helpdesk number, using the values shown in the following table.

Parameter	Usage			
Name	Enter the name "Helpdesk".			
Extension	Enter "50010", the extension to be assigned to the hunt group.			

#### **Table 7: Helpdesk Hunt Group Parameters**

S	equential Group Helpdesk	: 50010	<b>☆</b> •   X   •   <
Hunt Group Fallback Queuing	Announcements		
Name	Helpdesk	SBCC Agent Group	
Extension	50010		
Ring Mode	Sequential 💌	No Answer Time (secs)	System Default (25) 🔷 🗘
Overflow Mode	Group	Overflow Time (secs)	Off 🗘
Hold Music Source	No Change 🛛 🗸		
Agent's Status on No-Answer Applies To	None		
Central System	IPO_SOE	Advertise Group	
Extension List		Overflow Group List	
Extension Name System		Group Name	
	Add Remove		Add Remove

#### Figure 10: Helpdesk Hunt Group Screen

Create a hunt group for operators, using the values shown in the following table.

Parameter	Usage		
Name	Enter the name "Main Visionutv".		
Extension	Enter the extension "50000" which is used in Figure 18.		
Extension List	Enter the extension of "The Operator" from <b>Table 1</b> in this list. If additional operators are added to the system, include them in this hunt group.		

🗧 💦 Sequential Group Main Visionutv: 50000 🥂 📸 🖌 🖍 🗸 🗸 🕹					<   >		
Hunt Group Fallback Queuing	Announcements						
Name	Main Visionuty		SBCC Agent Group				
Extension	50000						
Ring Mode	Sequential	۷	No Answer Time (secs)	System I	Default (25)		-
Overflow Mode	Group	۷	Overflow Time (secs)	Off			*
Hold Music Source	No Change	*					
Agent's Status on No-Answer Applies To	None	*					
Central System	IPO_SOE		Advertise Group				
Extension List			Overflow Group List				
Extension Name	System		Group Name				
50007 The Operator	r IPO_SOE						
	Add Demove				dd G	emove	
	Add Reillove					centove	

#### **Table 8: Operator Hunt Group Parameters**

Figure 11: Operator Hunt Group Screen

Create a primary voicemail hunt group using the parameters in the following table.

Parameter	Usage
Name	Enter an appropriate name to identify the voicemail hunt group.
Extension	Enter the extension "50001" which is referenced in Figure 22.

#### **Table 9: Primary Voicemail Hunt Group Parameters**

S.	equential Group Voicemail	1: 50001	🖆 •   🗙   🗸   <
Hunt Group Fallback Queuing	Announcements		
Name	Voicemail1	SBCC Agent Group	
Extension	50001		
Ring Mode	Sequential	No Answer Time (secs)	System Default (25)
Overflow Mode	Group	Overflow Time (secs)	Off 🗘
Hold Music Source	No Change 🛛 🗸		
Agent's Status on No-Answer Applies To	None		
Central System	IPO_SOE	Advertise Group	
Extension List		Overflow Group List	
Extension Name System		Group Name	
		Main Visionutv	
	Add Remove		Add Remove

Figure 12: Primary Voicemail Hunt Group Screen

Create a secondary voicemail hunt group using the parameters in the following table.

Parameter	Usage
Name	Enter an appropriate name to identify the voicemail hunt group.
Extension	Enter the extension "50002" which is referenced in Figure 22.

#### **Table 10: Secondary Voicemail Hunt Group Parameters**

s:	equential Group Voicemail	2: 50002	<b>☆</b> •   X   √   <
Hunt Group Fallback Queuing	Announcements		
Name	Voicemail2	SBCC Agent Group	
Extension	50002		
Ring Mode	Sequential 🗸 🗸	No Answer Time (secs)	System Default (25)
Overflow Mode	Group	Overflow Time (secs)	Off 😂
Hold Music Source	No Change 🛛 🗸		
Agent's Status on No-Answer Applies To	None		
Central System	IPO_SOE	Advertise Group	
-Extension List		Overflow Group List	
Extension Name System		Group Name	
		Main Visionutv	
	Add Remove		Add Remove

Figure 13: Secondary Voicemail Hunt Group Screen

## 3.1.7. Shortcodes

Create a shortcode to route outgoing calls to Vision 80/20 when user diversions are configured.

Parameter	Usage
Code	Enter "*23*N#".
Feature	Select "Dial" from the drop-down menu.
Telephone Number	Enter "."

#### **Table 11: Diversion Shortcode Parameters**

×		*23*N#: Dial
Short Code		
Code	*23*N#	
Feature	Dial	~
Telephone Number		
Line Group Id	0	*
Locale		*
Force Account Code		

**Figure 14: Diversion Shortcode Screen** 

Create a shortcode to route voicemail calls to the Vision 80/20 Server via the H.323 trunk. This shortcode is also referenced in **Figure 18**.

Parameter	Usage
Code	Enter "99xxxxx".
Feature	Select "Dial" from the drop-down menu.
Telephone Number	Enter ".".
Line Group Id	Enter the line group number assigned to H.323 trunk, which is defined in <b>Figure 6</b> .

**Table 12: Voicemail Shortcode Parameters** 

×××		99xxxxx: Dial
Short Code		
Code	99xxxxx	
Feature	Dial	~
Telephone Number		
Line Group Id	10	~
Locale		~
Force Account Code		
Telephone Number Line Group Id Locale Force Account Code	10	~

Figure 15: Voicemail Shortcode Screen

## 3.2. Configure TAPI Client

Install Avaya IP Office TAPI client on each workstation which is to be used as Vision 80/20 client.

Parameter	Usage
Switch IP Address	Enter the IP address of the Avaya IP Office main unit.
Third Party	Select this radio button.
Switch Password	Enter the password assigned to Avaya IP Office.
ACD Queues	Check this box.

Avaya TAPI2 configuration	×
Switch IP Address 192.168.200.40	
O Single User	Cancel
User Name	
User Password	
Third Party	
Switch Password	
Ex Directory Users	
WAV Users	
ACD Queues	

Figure 16: TAPI Client Configuration Screen

## 3.3. Configure Vision 80/20 Server

Install the Vision 80/20 application and database from the installation media, accepting all the default settings.

## 3.3.1. Configure Administrera

Start the Vision 80/20 administration program "Administrera" by starting the "C:\vision8020\Admin.exe" program, select the "PBX Configuration" menu point in the left frame, and configure the menu fields as shown in the following table.

Parameter	Usage
Kind of PBX	Select "Avaya IPO" from the drop-down menu.
Extension number length	Enter "5", which corresponds to the length of the extensions shown in <b>Table 1</b> .
Name on PBX	Enter an appropriate name to identify the PBX.
Message Waiting	Select "Always" from the drop-down menu.
IP address to PBX	Enter the IP address of the IP Office system.
Password to PBX	Enter the IP Office system password.

#### **Table 14: PBX Configuration Settings**

🚰 Vision 80/20 Administrera			
<u>File Language</u>			
Settings     Common     Fason codes     System settings     G" Diversion destinations     G" Number conversion	Please note that the Avaya IPO	se settings will affect the	e whole system
	PBX ID	1	
<ul> <li>Basic settings for Svara</li> </ul>	Kind of PBX	Avaya IP Office 🔍 👻	Trunk prefix 0
⊡ ∰⊡ Message delivery systems ∰⊡ email/SMS via SMTP	Extension number length	5	Known prefixes 99
Message templates	Name on PBX	Avaya IPO	Voicemail nr
Calendar replication	Message waiting	Always	MWI number
	IP address to PBX	192.168.200.40	Delay flash (ms) 300
GT PBX Configuration □@ Informera (web)	Password to PBX	******	Save/restore forwarding
Fast diversion buttons	Default reason code	4	

Figure 17: PBX Configuration Screen

Select the "System settings->Diversion destinations" menu point in the left frame. Add an entry for the "Voicemail" using the shortcode which was assigned to voice mail in **Figure 15**, followed by "[\$roll\_anknr]". Add an entry for "Operator" with the "Destination" value that was assigned to the Operator Hunt Group in **Figure 11**.

🚰 Vision 80/20 Administrera					
<u>File L</u> anguage					
⊡ ⊡ Administrera ▲	Add	Edit	Remove		
Common	Description			Destination	
🛶 reason codes	Voicemail			99[\$roll_anknr]	
🖻 🔚 System settings	Operator			50000	
6₩ Diversion destinations 6₩ Number conversion					
Basic settings for Svara					

**Figure 18: Diversion Destinations Screen** 

Select the "Operators" menu point in the left frame, and add a "Username" for each of the "users" shown in **Table 1**. Add an entry for "Operator ID" entry for the operators shown in **Table 1**.



**Figure 19: Operators Screen** 

Select the "Reason codes" menu point from the left frame and add the user absence reason codes shown in the following screen, which are used to inform the operator. These reason codes are then input after the shortcode "\*23\*" to indicate a reason for the absence, which is defined in **Figure 14**.



Figure 20: Reason Codes Screen

Select "Customer name" from the left frame and configure the parameters as shown in the following table.

Parameter	Usage
Computer Name	Enter an appropriate name to identify the Vision 80/20 server.
Default action for diversions	Select "Voicemail" from the drop-down menu.
Default PBX	Select "Avaya IPO" from the drop-down menu.
IP address Vision 80/20 server	Enter the IP address of the Vision 80/20 server.

**Table 15: Parameters for System Settings File** 



Figure 21: System Settings Screen

Select "Settings for Tala" from the left frame and configure the "System settings" tab parameters as shown in the following table.

Parameter	Usage
Protocol	Select "H323" from the drop-down box.
IP-address to PBX	Enter the IP address of Avaya IP Office.
PBX kind	Select "Get information from prefix" from the drop-down list.
Prefix for [always]	Enter "99". This should match the voicemail short code which was allocated in <b>Figure 15</b> .
How to get reroute cause	Select "Ask Vision 80/20" from the drop-down list.
Number for external login	Enter "99999". This is just a number to call into the system from the outside, so it should be a number within the customer's PSTN dialplan.
Delay before answer	Enter "1000".
Lines to operator	Enter the voicemail hunt group extensions which are allocated in <b>Figure 12</b> and <b>Figure 13</b> .

#### Table 16: Tala Settings Parameters: System Settings Tab

😭 Vision 80/20 Administrera				_ 🗆
<u>File Language</u>				
E 🚡 Settings	System settings Settings for voi	icemail Settings for calling person		
reason codes	Settings specific for PBX			
G Diversion destinations	Protocol	H323		
G	IP-address to PBX	192.168.200.40		
Uperators     Sasic settings for Svara	PBX kind	Get information from prefix	Lines to operator	
Message delivery systems     mail/SMS via SMTP	Header for rerouted number	sip_to	50001	
	Prefix for [no answer]	99	50002	
Euchange 2000/2002	Prefix for [busy]	99	1	
Lotus Notes	Prefix for [always]	99		
	How to get reroute cause	Ask Vision 80/20		
	Number for external logon	99999		
	Delay before answer	1000		
Tips icons	🔲 Ta bort inledande nolla på ir	nkommande externt nummer		
i⊟ 🔁 Information fields	🔲 🔲 Lägg till inledande nolla på ir	nkommande externt nummer		
	Sammanslagning av ljudfiler			
Settings for Tala	Merge audio files	Slå ihop ljudfiler för enbart nummer		
Database backup	Delay between audio files	25		

Figure 22: Tala Settings: System Settings Tab

Select "Settings for Tala" from the left frame and configure the "Settings for voicemail" tab parameters as shown in the following table.

Parameter	Usage
Allow automatic login (mobile)	Check this box.
Allow automatic login (internal)	Check this box.
Allow [reroute to sender]	Check this box.

Table 17: Tala Settings Parameters: Settings for Voicemail Tab

👷 Vision 80/20 Administrera	
Eile Language	System settings Settings for voicemail Settings for calling person
<ul> <li>→ Preason codes</li> <li>→ Preason codes</li> <li>→ System settings</li> <li>→ Preason destinations</li> </ul>	Options ✓ Allow automatic login (mobile) ✓ Allow automatic login (internal) ✓ Allow [reroute to sender]
	Timeouts when listening - when to update a message as "read" Minimum listening length (percent) 0 Minimum listening length (ms) 0

Figure 23: Tala Settings: Settings for Voicemail Tab

Select "Settings for Tala" from the left frame and configure the "Settings for calling person" tab parameters as shown in the following table.

Parameter	Usage
Allow [reroute to operator]	Check this box.
Allow [reroute to mobile]	Check this box.
Play extension number	Check this box.
Play "ring" on incoming call	Check this box.
Use general reason code when missing phrases	Check this box.

Table 18: Tala Settings Parameters: Settings for Calling Person Tab

ge Vision 80/20 Administrera	
<u>File Language</u>	
Settings     Common     Preason codes     System settings     GY Diversion destinations     GY Number conversion     Operators     Operators     Message delivery systems     email/SMS via SMTP     Message templates     Calendar replication     Exchange 2000/2003	<ul> <li>System settings Settings for voicemail Settings for calling person</li> <li>Options         <ul> <li>✓ Allow [reroute to operator]</li> <li>✓ Play extension number</li> <li>✓ Allow [reroute to mobile]</li> <li>✓ Play "ring" on incomming call</li> <li>✓ Use general reason code when missing phrases</li> </ul> </li> <li>Timeout when leaving a new message</li> <li>Minimum message length (ms)</li> </ul>
Lotus Notes	Languages Primary language English
Fast diversion buttons	Secondary language Swedish

Figure 24: System Settings: Settings for Calling Person Tab

Select "Import/Export" -> "From PBX" from the left frame and click the "Import" button. Verify that the list of extension matches those which were allocated in **section 3.1.5**.

😋 Vision 80/20 Administrera				
File Language				
email/SMS via SMTP	Extension	First name The	Last name Operator	<b>_</b>
	50121 50192	Patrik Peter	olsson Olsson	
From PBX     From PBX     From PBX     From PBX     Passwords	Import			

Figure 25: PBX Import/Export Values

### 3.3.2. Configure H.323 Interface

Use a text editor to edit the file C: \vision8020\tala\yate\conf.d\h323chan.conf, as shown in the following table.

Section	Parameter	Usage
general	alaw	Set this value to "enable". This should match the setting in <b>Figure 7</b> .
ep	faststart	Set this value to "on". This should match the setting in <b>Figure 7.</b>

#### Table 19: Configuration Settings for File h323chan.conf

```
[general]
skip_stoppedexternal_on_destroy=true
; needmedia: bool: Drop calls for which no common media could be negotiated
needmedia=yes
; alaw: bool: Companded-only G711 a-law (G.711-ALaw-64k)
alaw=enable
; g729: bool: ITU G.729 all variations (G.729)
g729=disable
[ep]
; Control the endpoint operation of the module
; ep: bool: True if you want to activate the h323 endpoint
ep = true
; gw: bool: Set to true if you want this endpoint to declare itself as gateway
gw = true
; alias: string: The alias used by h323 module to connect to gatekeeper
alias = yate
; ident: string: Sets the hostname part of the outgoing e.164 (numeric) aliases
ident = yate
; faststart: bool: Enable Fast Start mode (offer media channels early)
faststart=on
; silencedetect: keyword: Silence detection algorithm: none, fixed, adaptive
silencedetect = adaptive
; gkclient: bool: If h323 module endpoint should register to a gatekeeper
gkclient = false
```

#### Figure 26: Configuration File h323chan.conf Values

# 4. Interoperability Compliance Testing

The objective of the compliance testing done on the Visionutveckling Vision 80/20 product was to verify that it is compatible with Avaya IP Office. This includes verifying that the essential Vision 80/20 features function properly when used with Avaya IP Office, and that Avaya IP Office features are not hindered by the interaction with Vision 80/20. Furthermore, Vision 80/20's robustness was verified.

The following tests steps were performed:

- Avaya IP Office was configured to support various local IP telephones, as well as a networked PBX connection and a PSTN connection.
- A PSTN interface was attached to Avaya IP Office, which was used to communicate with external telephones.
- The major Vision 80/20 features and functions were verified using the above-mentioned local and external telephones.
- The following test scenarios were used to test the various Vision 80/20 features:
  - Tests of operations performed by Vision 80/20 server via TAPI (for both local and external endpoints)
    - Diversion to operator, unconditional, busy, DNA
    - Deactivate diversion
    - Leave a message and verify that MWI lamp changes to ON
    - Retrieve a message and verify that MWI lamp changes to OFF
    - Change state of local stations from on- to off-hook and verify that all clients are informed of the change.
    - Call local stations and verify that all clients are informed of the alerting condition.
    - From the operator console, re-route an alerting call to another user.
  - Tests of operations performed by operator (for both local and external endpoints)
    - Incoming basic call
    - Outgoing basic call
    - Initiate second call
    - Blind transfer
    - Blind transfer with timeout
    - Supervised transfer
    - Toggle call
    - Three-party conference
    - Call park
    - Park call terminates
    - Un-park call
    - Call diversion to operator unconditionally, busy, DNA
    - Call diversion to voicemail unconditionally, busy, DNA
    - Hunt group call diverted to operator
    - Hunt group call to busy operator is queued
    - Operator break-through to diverted destination
    - Operator intrusion to busy user
  - Tests of operations performed by user via web client (for both local and external endpoints)

- Incoming basic call
- Outgoing basic call
- Initiate second call
- Blind transfer
- Blind transfer with timeout
- Supervised transfer
- Toggle between calls
- Three-party conference
- Call park
- Park call terminates
- Un-park call
- Listen to voicemail messages, verify MWI change
- Busy/available status
- o Voicemail
  - Verify that voicemail informs caller of correct reason for user absence
  - Use voicemail to connact back to operator.
  - Use voicemail to divert call to mobile endpoint
  - Use voicemail to call back via caller ID
- The robustness of the Vision 80/20 was tested by verifying its ability to recover from interruptions to its LAN connection between and the Vision 80/20 and the network and to start up automatically.

All testing was performed manually. The tests were all functional in nature, and no performance testing was done.

## 4.1. Test Results

The tests all produced the expected results.

# 5. Verification Steps

The correct installation and configuration of Vision 80/20 can be verified by verifying the operation of the Vision 80/20 User and Operator clients:

- Verify that the client can detect on-hook/off-operations of other clients
- Verify that the unanswered calls to the client are correctly forwarded to voicemail and the caller is informed of the correct reason for the inability of the client to answer the call.
- Verify that the client can administer voicemail.
- Verify that the client can transfer calls and create conferences

# 6. Conclusion

These Application Notes contain instructions for configuring Avaya IP Office to connect to the Visionutveckling Vision 80/20 server. A list of instructions is provided to enable the user to verify that the various components have been correctly configured.

# 7. Additional References

This section references documentation relevant to these Application Notes. The Avaya product documentation is available at <u>http://support.avaya.com</u>.

- [1] Administrator Guide for Avaya IP Office, January 2008, Issue 4.0, Document Number 03-300509.
- [2] *Feature Description and Implementation for Avaya IP Office*, January 2008, Issue 6, Document Number 555-245-205.
- [3] *4600 Series IP Telephone LAN Administrator Guide*, October 2007, Issue 7, Document Number 555-233-507
- [4] Vision 80/20 Product Description: http://www.vision8020.se/misc/Vision%208020\_eng\_2008-11.pdf

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