



Avaya Solution & Interoperability Test Lab

Application Notes for Configuring CyTrack Unified Communications Suite with Avaya IP Office - Issue 1.0

Abstract

These Application Notes describe the procedures for configuring CyTrack Unified Communications Suite (UCS) with Avaya IP Office. CyTrack UCS is an enabling modular suite of products that provide business benefits and functionalities such as call control, call recording, queue management, call detail record reporting, interactive voice response and telemarketing call management.

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.

1. Introduction

These Application Notes describe the configuration steps required for CyTrack Unified Communications Suite (UCS) to successfully interoperate with Avaya IP Office.

The following CyTrack UCS products were tested:

- CyTrack® CyDesk™ - Telephone Unified Communications & CTI
- CyTrack® CyRecord™ - On Demand Voice Recording from the Desktop
- CyTrack® CyCall™ - TeleMarketing Campaign Management
- CyTrack® CyReport™ - Telephone Accounting, Billing, Directory and Reporting
- CyTrack® CyQ™ - Intelligent Inbound Call and Queue Management
- CyTrack® CyLive™ - Intelligent IVR

CyTrack UCS integrated with Avaya IP Office using the Microsoft Telephony Application Programmer Interface (TAPI).

Figure 1 illustrates the test configuration used to verify the CyTrack UCS solution. The Main Site is comprised of an Avaya IP Office 500, and has connections to the following: Avaya 4621SW IP Telephones, Avaya 2420 Digital Telephone, Avaya analog telephone and an ISDN-PRI trunk to the PSTN. CyTrack UCS is installed on a server running Microsoft Windows Server 2003 with Service Pack 2. It has connections to the IP Office 500 via four analog extensions for queuing of calls and playing announcements. CyTrack CyDesk is installed on three desktop PCs running Microsoft Windows XP Professional Service Pack 2 and is used to control the IP, Digital and analog telephones respectively. Branch Site A was only used to generate IP trunk Call Detail Records (CDR). The Avaya C363T-PWR Converged Stackable Switches provide Ethernet connectivity to the servers and IP telephones and Layer 3 IP routing between the two sites.

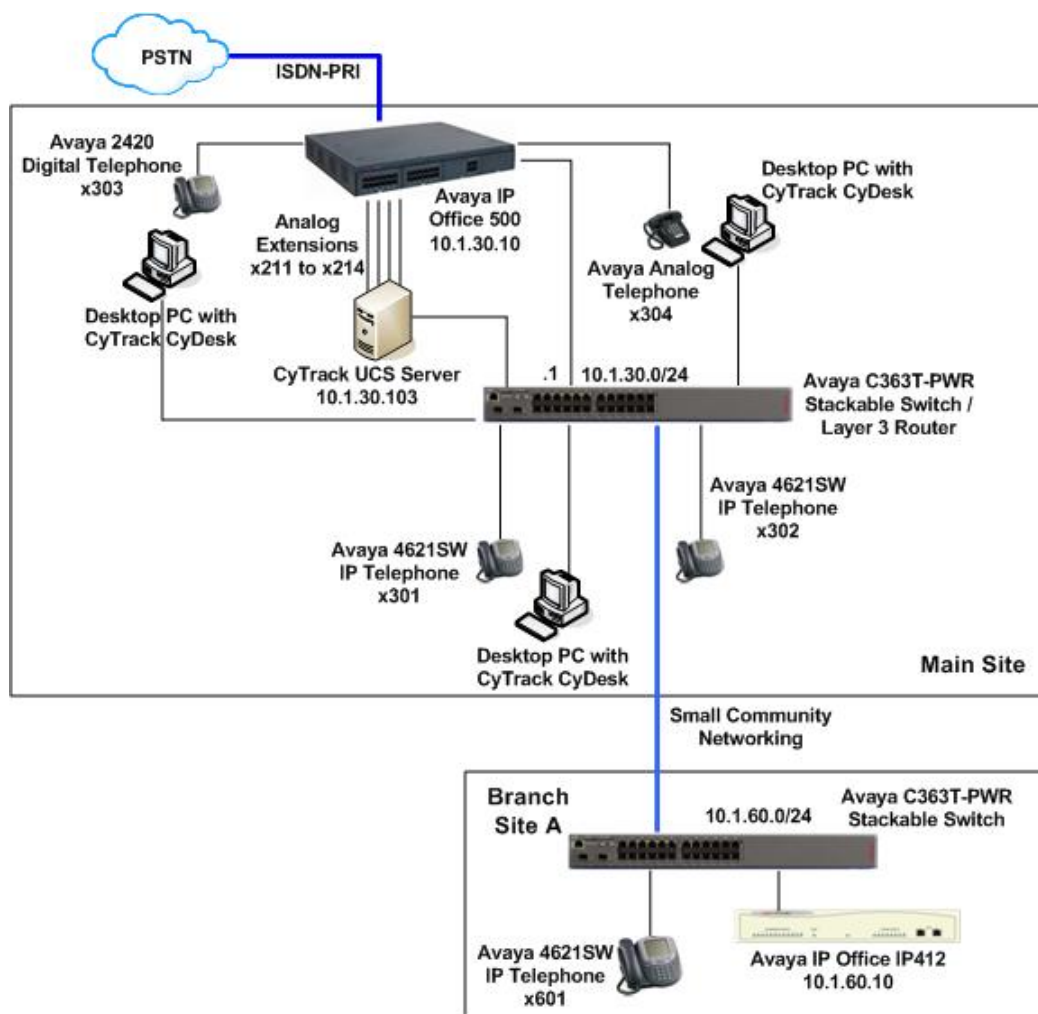


Figure 1: Test Configuration

2. Equipment and Software Validated

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

| Equipment | Software |
|--|---|
| Avaya IP Office 500 | 4.1(12) |
| Avaya IP Office IP412 | 4.1(12) |
| Avaya 4621SW IP Telephones | 2.8.8.7 (H.323) |
| Avaya 2420 Digital Telephone | - |
| Avaya Analog Telephone | - |
| Avaya C363T-PWR Converged Stackable Switches | 4.5.18 |
| CyTrack UCS | 5.2.2.1 |
| Dell PowerEdge 750 Server | Microsoft Windows Server 2003 with Service Pack 2 |
| Desktop PCs | Microsoft Windows XP Professional with Service Pack 2 |

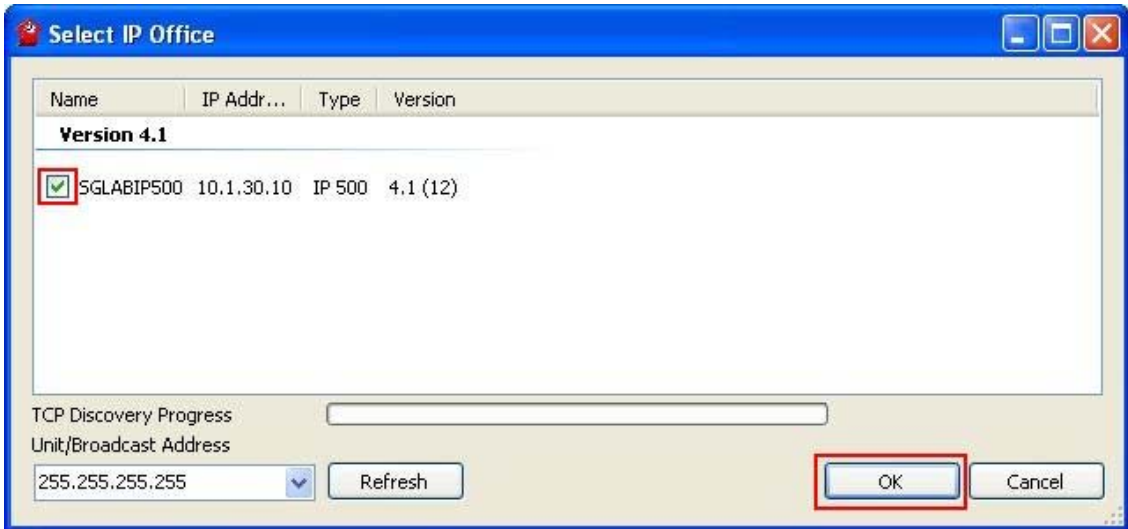
3. Configure Avaya Office

This section provides the procedures for configuring Avaya IP Office. The procedures include the following areas:

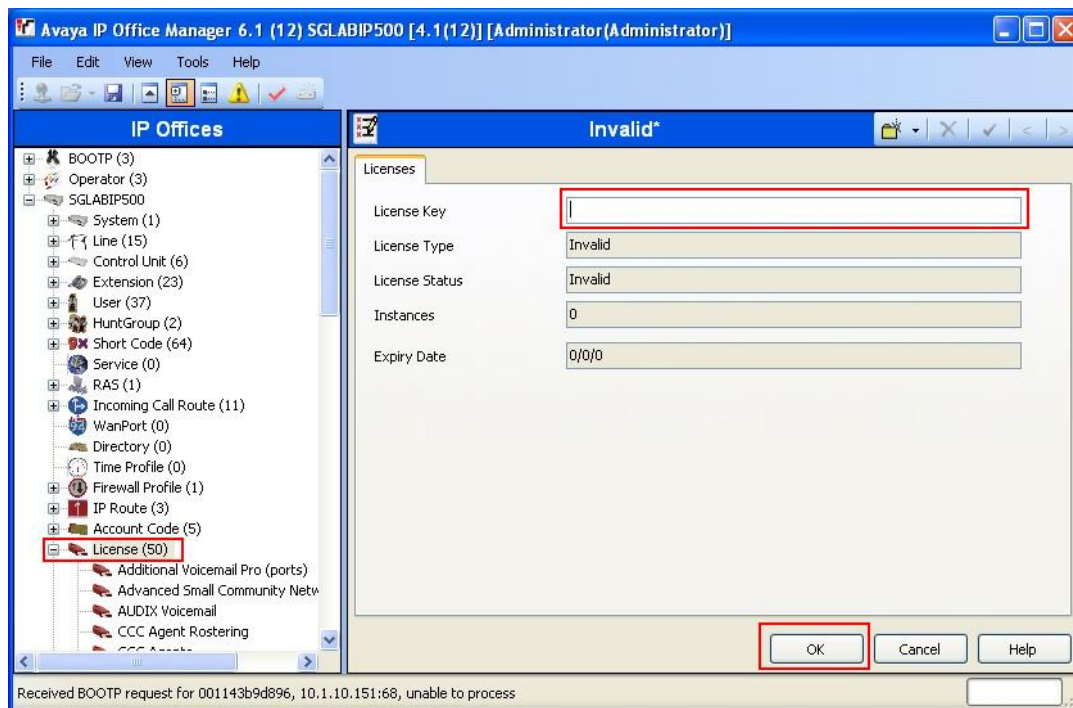
- Licensing Avaya IP Office
- Configuring Call Detail Record (CDR) settings
- Saving the Avaya IP Office configuration

It is expected that the installer is familiar with configuring users, hunt groups, short codes, etc. on Avaya IP Office as the focus of these Application Notes is on the configuration of the TAPI interface only. For all other provisioning information, such as software installation, installation of optional components, basic configuration of Avaya IP Office, etc., refer to the Avaya IP Office product documentation in reference [1] of **Section 10**.

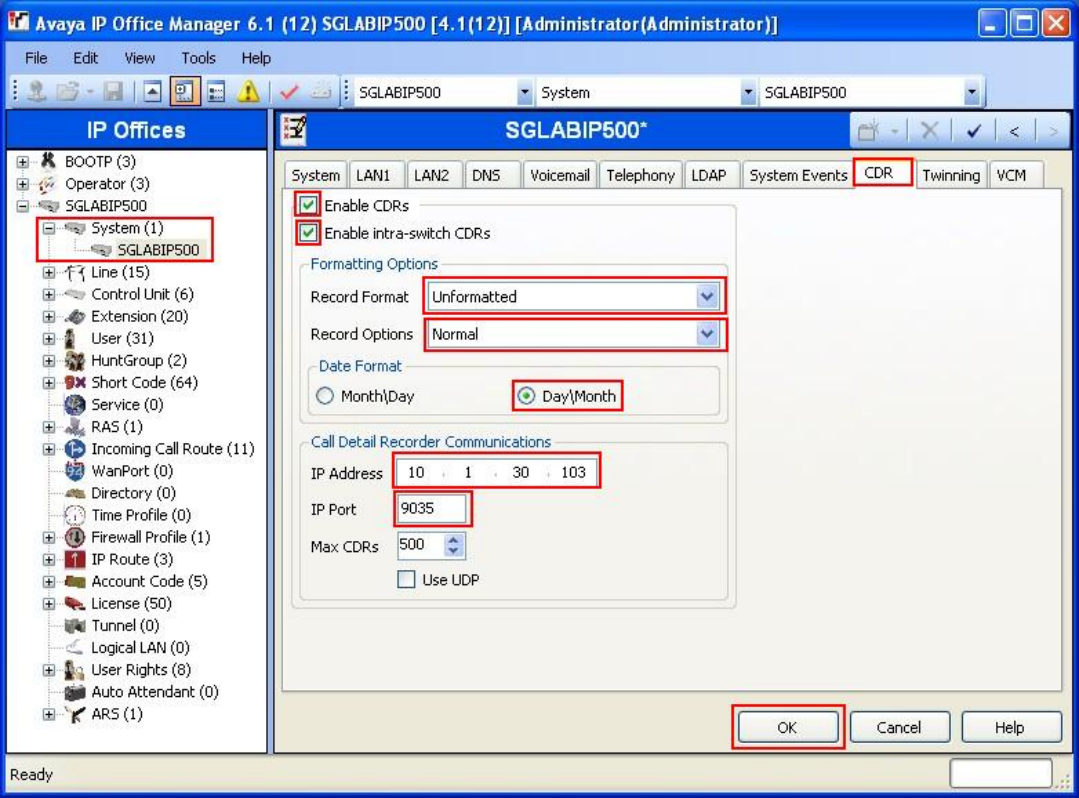
3.1. License Avaya IP Office

| Step | Description |
|------|---|
| 1. | <p>Log into the IP Office Manager PC and go to Start > Programs > IP Office > Manager to launch the Avaya IP Office Manager application. Go to File > Open Configuration to bring up the Select IP Office dialog box. Select the IP Office system by checking the system name as seen below and click OK.</p>  <p>Log into the Avaya IP Office Manager application by using the appropriate user name and password (not shown).</p> |

| Step | Description |
|------|--|
| 2. | <p>The CTI Link Pro license is required for CyTrack UCS to connect to Avaya IP Office via TAPI. To add a license, in the Avaya IP Office Manager window, go to the Configuration Tree, right-click License and select New from the drop-down menu (not shown). Enter the license code into the License Key field and click OK.</p> |



3.2. Configuring Call Detail Record (CDR) settings

| Step | Description |
|------|--|
| 1. | <p>In the Avaya IP Office Manager window, expand System on the left navigation menu. Click the CDR tab on the right panel and configure the settings as follows:</p> <ul style="list-style-type: none">• Enable CDRs: Checked• Enable intra-switch CDRs: Checked• Record Format: Unformatted• Record Options: Normal• Date Format: Select the format which corresponds to your region• IP Address: IP address of the CyTrack UCS Server• IP Port: 9035• Max CDRs: 500• Use UDP: Unchecked  |

3.3. Save the Avaya IP Office Configuration

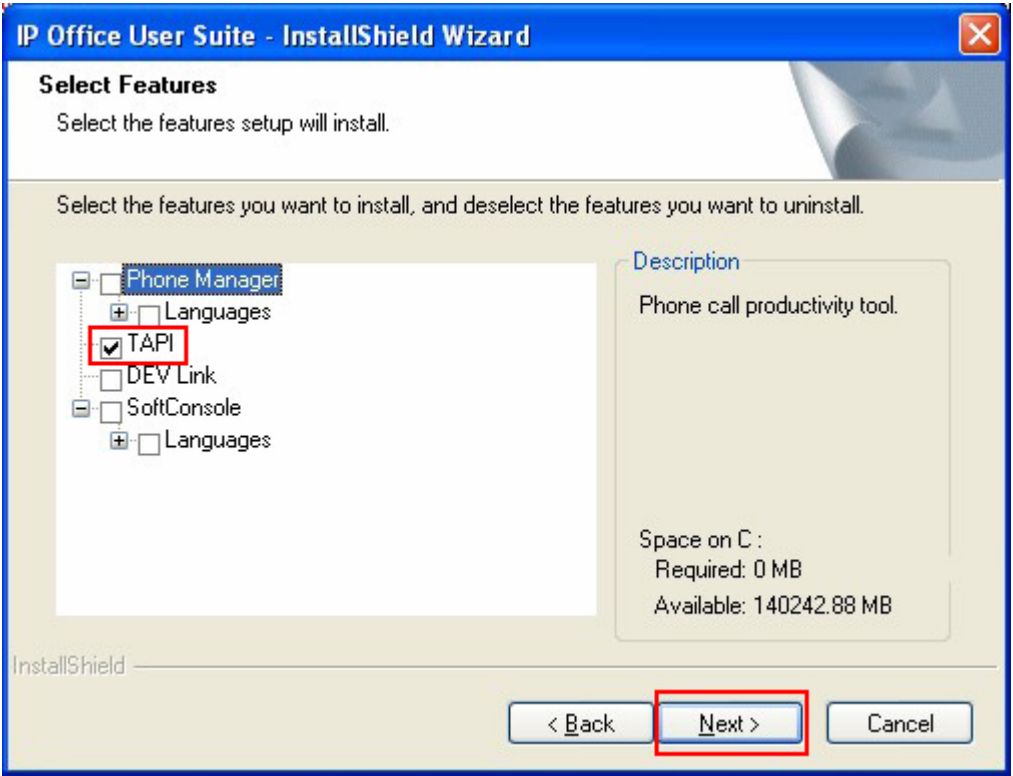
In the Avaya IP Office Manager window select **File > Save Configuration**. The configuration is saved to Avaya IP Office at this point and will require a reboot of Avaya IP Office. This completes the configuration of Avaya IP Office.

4. Configure Avaya TAPI Driver

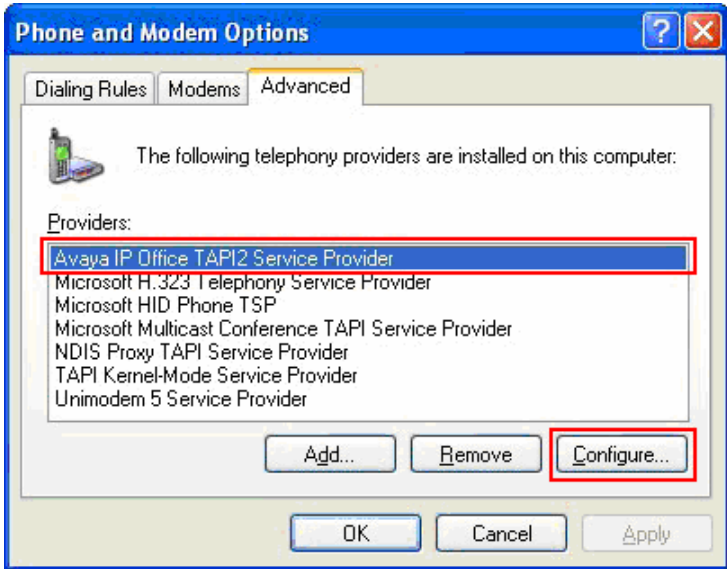
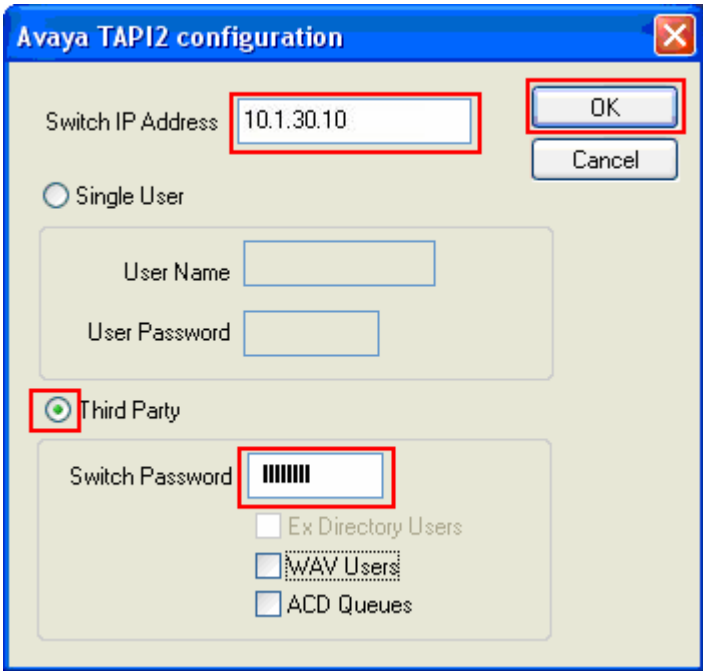
This section provides the procedures for configuring the Avaya TAPI Driver on the CyTrack UCS Server. The procedures include the following areas:

- Install Avaya TAPI driver
- Configure Avaya TAPI driver

4.1. Install Avaya TAPI Driver

| Step | Description |
|------|--|
| 1. | <p>Log into the CyTrack UCS Server with administrative privileges and start the IP Office User Suite installation. Check TAPI to install the Avaya IP Office TAPI driver on the server. Click Next to complete the installation of the Avaya IP Office User Suite. At the InstallShield Wizard Complete window, click Finish (not shown).</p>  <p>The screenshot shows the 'IP Office User Suite - InstallShield Wizard' window. The title bar is blue with a close button. The main area is titled 'Select Features' and contains the instruction 'Select the features setup will install.' Below this, it says 'Select the features you want to install, and deselect the features you want to uninstall.' A tree view on the left shows the following structure: 'Phone Manager' (expanded) contains 'Languages' (unchecked), 'TAPI' (checked and highlighted with a red box), 'DEV Link' (unchecked), 'SoftConsole' (unchecked), and 'Languages' (unchecked). To the right of the tree view is a 'Description' box containing the text 'Phone call productivity tool.' Below the description box, it shows 'Space on C :', 'Required: 0 MB', and 'Available: 140242.88 MB'. At the bottom of the window, there are three buttons: '< Back', 'Next >' (highlighted with a red box), and 'Cancel'.</p> |

4.2. Configure Avaya TAPI Driver

| Step | Description |
|------|---|
| 1. | <p>Go to the Windows Control Panel and open Phone and Modem Options. Click the Advanced tab, select Avaya IP Office TAPI2 Service Provider and click Configure....</p>  <p>The screenshot shows the 'Phone and Modem Options' dialog box with the 'Advanced' tab selected. A list of providers is shown, with 'Avaya IP Office TAPI2 Service Provider' highlighted. The 'Configure...' button at the bottom right is also highlighted.</p> |
| 2. | <p>In the Avaya TAPI2 configuration window that is displayed, set Switch IP Address to the IP address of Avaya IP Office, select Third Party and set Switch Password to the IP Office password. Click OK.</p>  <p>The screenshot shows the 'Avaya TAPI2 configuration' dialog box. The 'Switch IP Address' field contains '10.1.30.10'. The 'Third Party' radio button is selected. The 'Switch Password' field is filled with asterisks. The 'OK' button is highlighted.</p> |

| Step | Description |
|------|--|
| 3. | In the Phone and Modem Options window, click OK . Reboot the server for the new changes to take effect. |

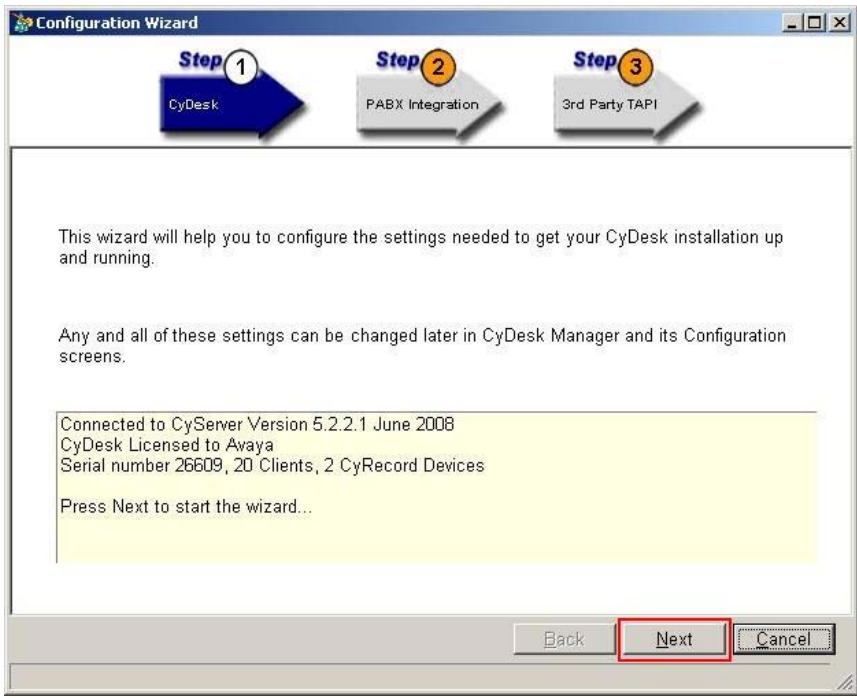
5. Configure CyTrack UCS

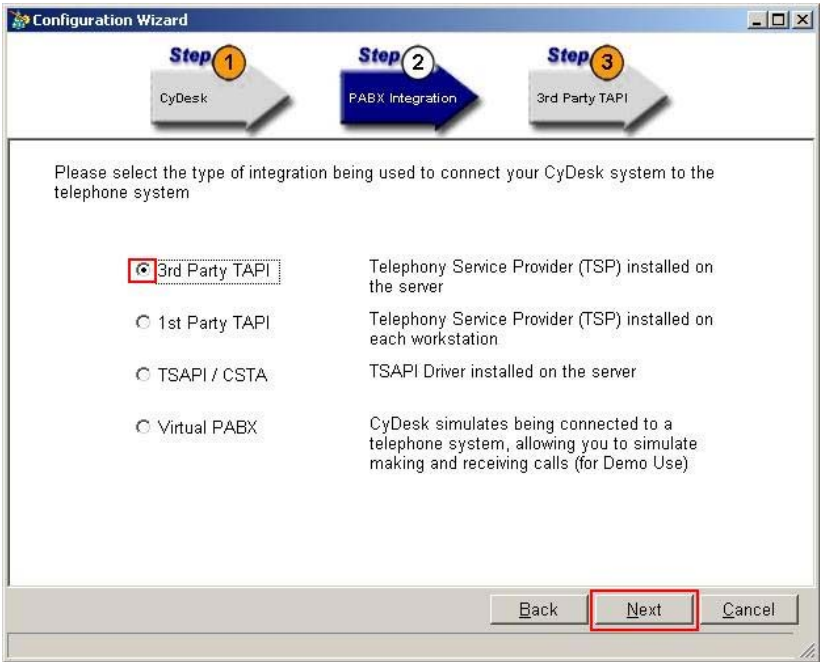
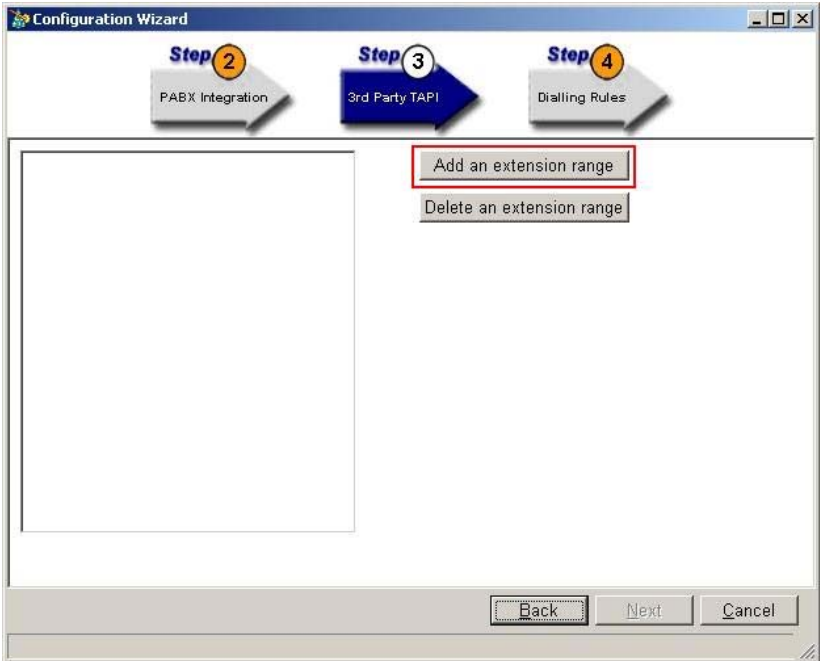
This section provides the procedures for configuring the CyTrack UCS Server. The procedures include the following areas:

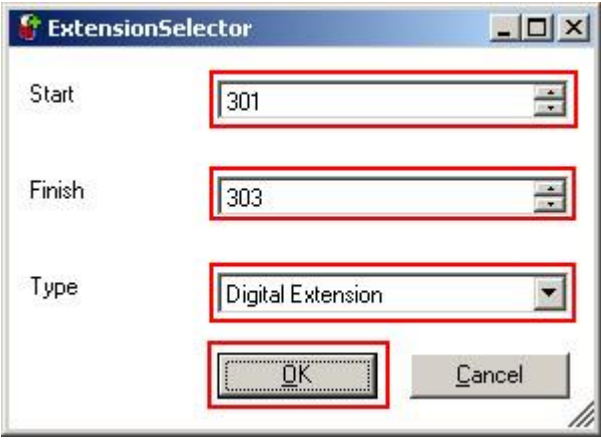
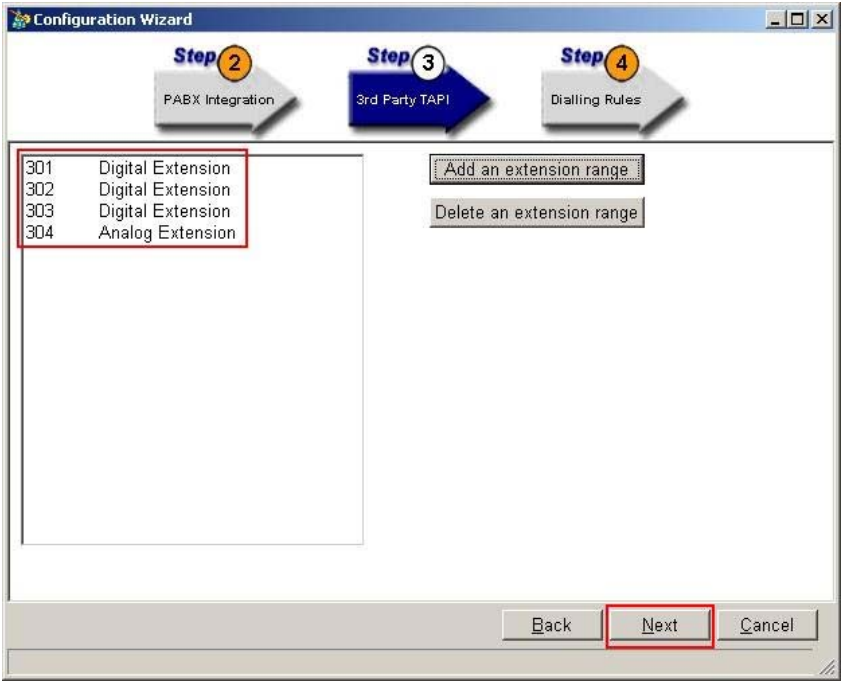
- Configure CyTrack UCS Server
- Configure CyTrack CyDesk on the PCs

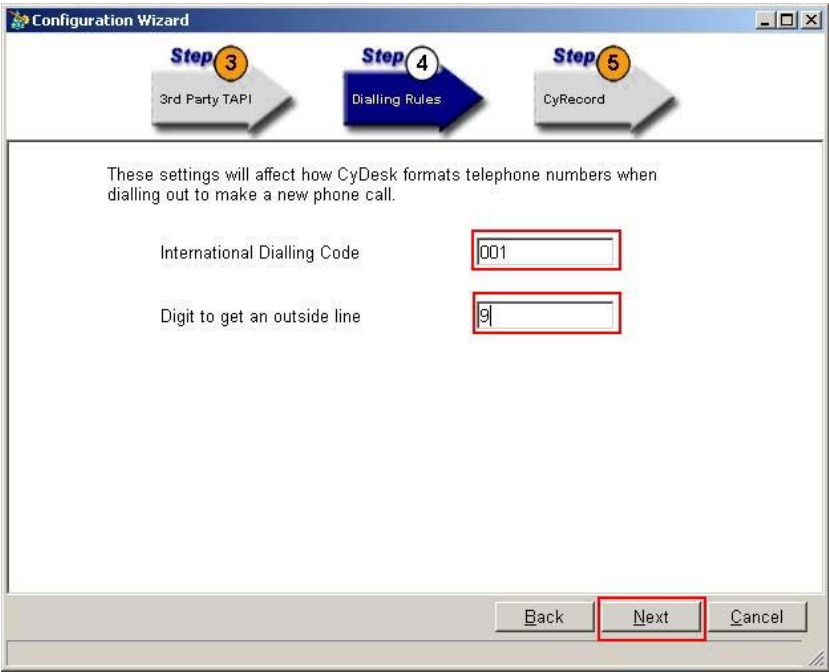
5.1. Configure CyTrack UCS Server

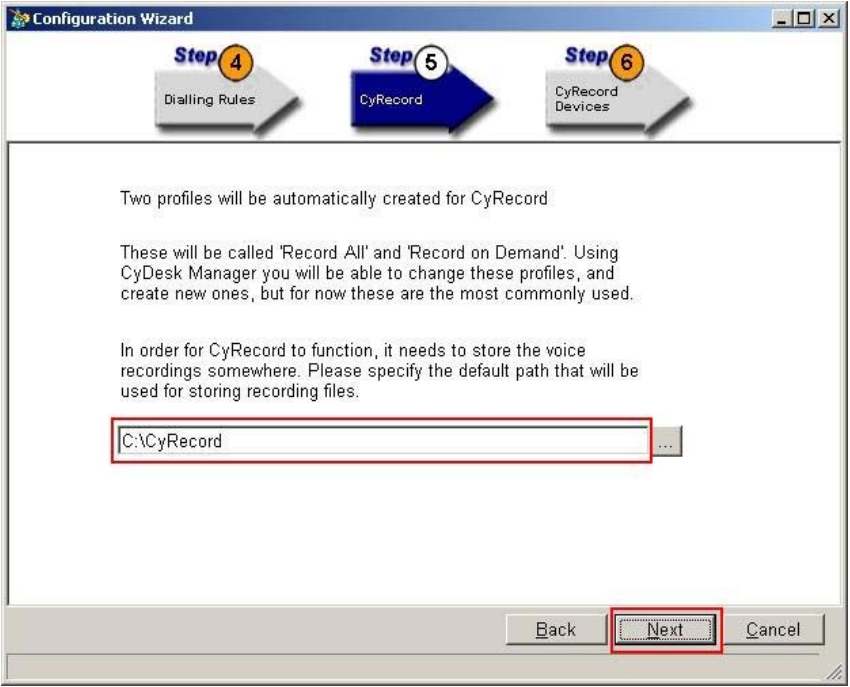
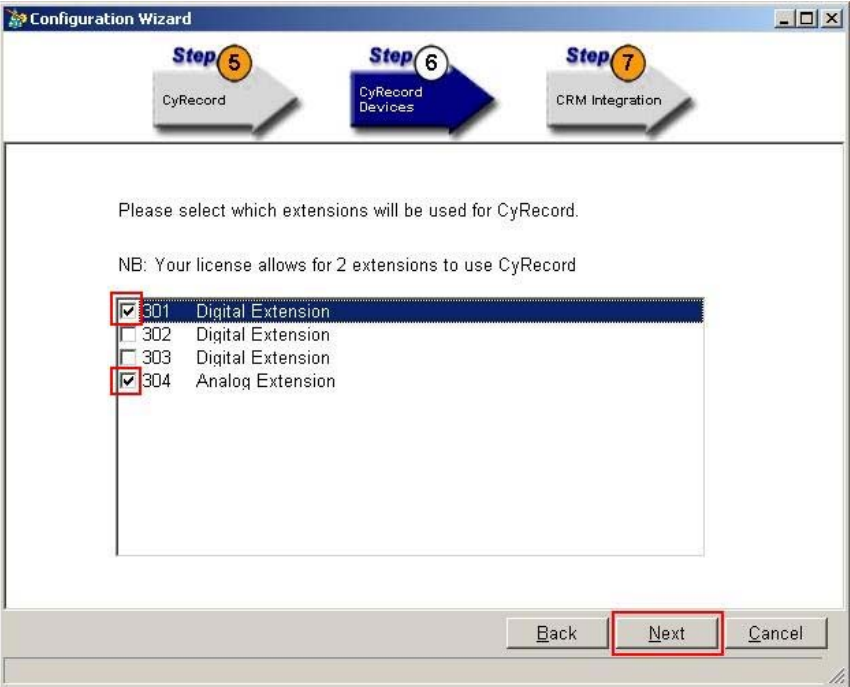
The initial configuration of the CyTrack UCS Server is done using the configuration wizard. The complete steps required to configure CyTrack UCS Server for service is beyond the scope of this document. Refer to CyTrack documentation in **Section 10** for details.

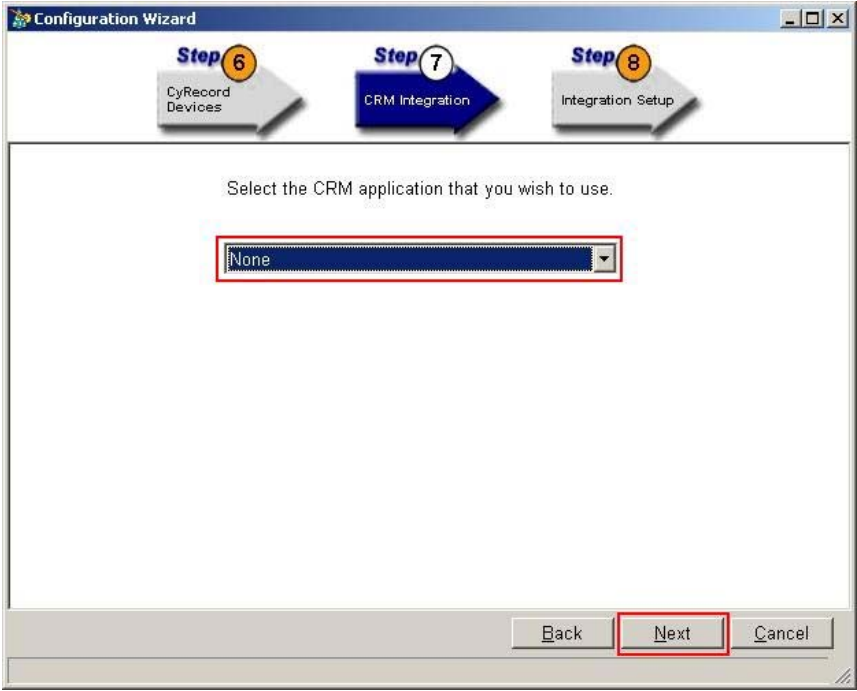
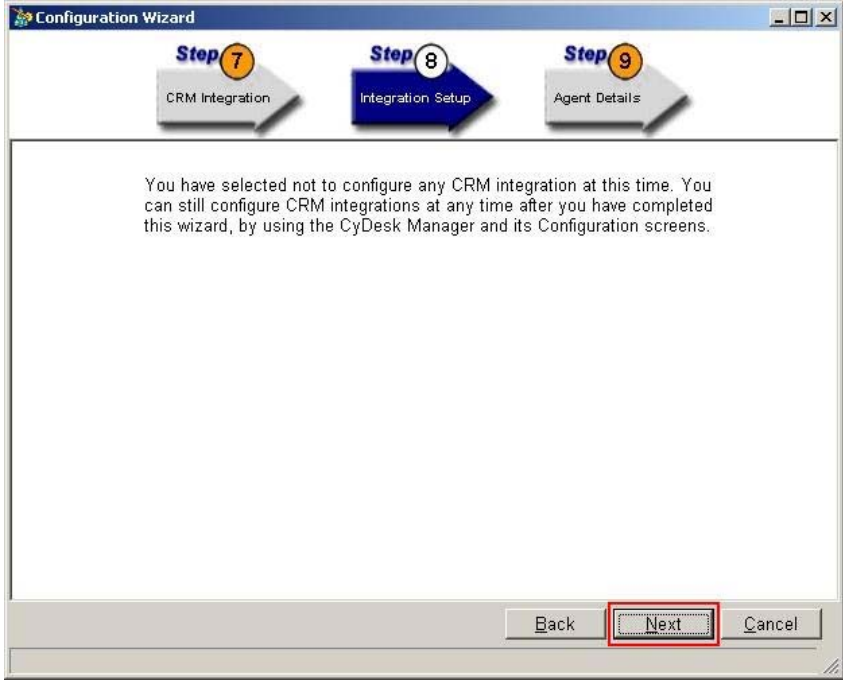
| Step | Description |
|------|--|
| 1. | <p>Log into the CyTrack UCS Server with administrative privileges. Browse to the folder C:\Program Files\CyTrack\CyDesk\ and double-click CyPhoneConfigurationWizard.exe to launch the configuration wizard. Click Next to continue.</p>  |

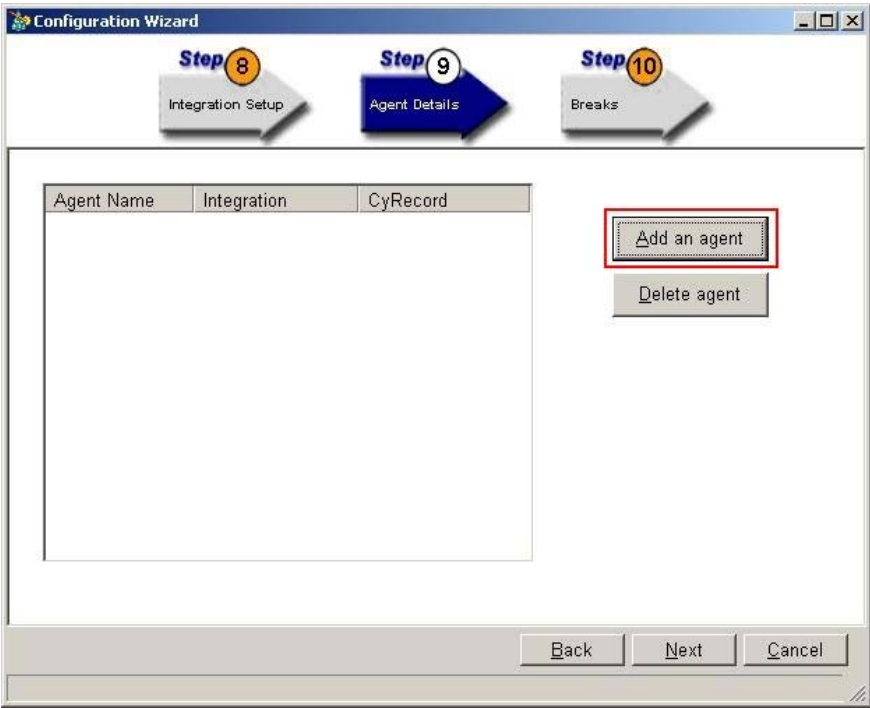

| Step | Description |
|------|--|
| 2. | <p>Select 3rd Party TAPI as the type of integration and click Next to continue.</p>  <p>The screenshot shows the 'Configuration Wizard' window at Step 2, 'PABX Integration'. At the top, there are three step indicators: Step 1 (CyDesk), Step 2 (PABX Integration), and Step 3 (3rd Party TAPI). The main text says 'Please select the type of integration being used to connect your CyDesk system to the telephone system'. There are four radio button options: '3rd Party TAPI' (which is selected and has a red box around it), '1st Party TAPI', 'TSAPI / CSTA', and 'Virtual PABX'. To the right of each option is a description. At the bottom right, there are three buttons: 'Back', 'Next' (highlighted with a red box), and 'Cancel'.</p> |
| 3. | <p>To define the range of extensions that CyTrack UCS Server will use, click Add an extension range.</p>  <p>The screenshot shows the 'Configuration Wizard' window at Step 3, '3rd Party TAPI'. At the top, there are four step indicators: Step 2 (PABX Integration), Step 3 (3rd Party TAPI), and Step 4 (Dialling Rules). The main area contains a large empty rectangular box for defining extension ranges. To the right of this box are two buttons: 'Add an extension range' (highlighted with a red box) and 'Delete an extension range'. At the bottom right, there are three buttons: 'Back', 'Next', and 'Cancel'.</p> |

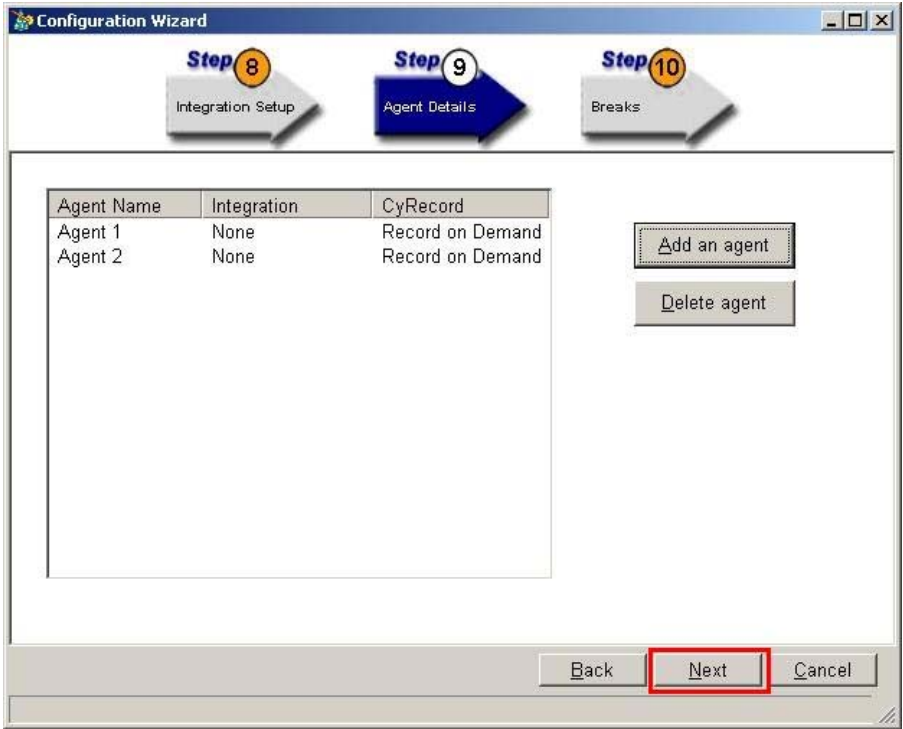
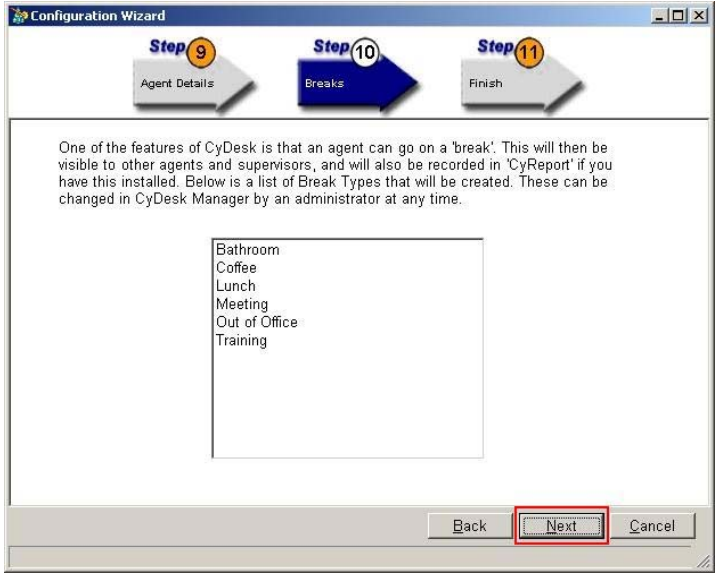
| Step | Description |
|------|--|
| 4. | <p>Enter the range of extensions by entering the appropriate values for Start and Finish. Note that for both the Avaya IP and Digital telephones, the Type field should be set to Digital Extension. Click OK.</p> <p>Repeat Steps 3 and 4 to add another extension with the Type set to Analog Extension.</p>  |
| 5. | <p>In this configuration, four extensions are defined. Click Next to continue.</p>  |

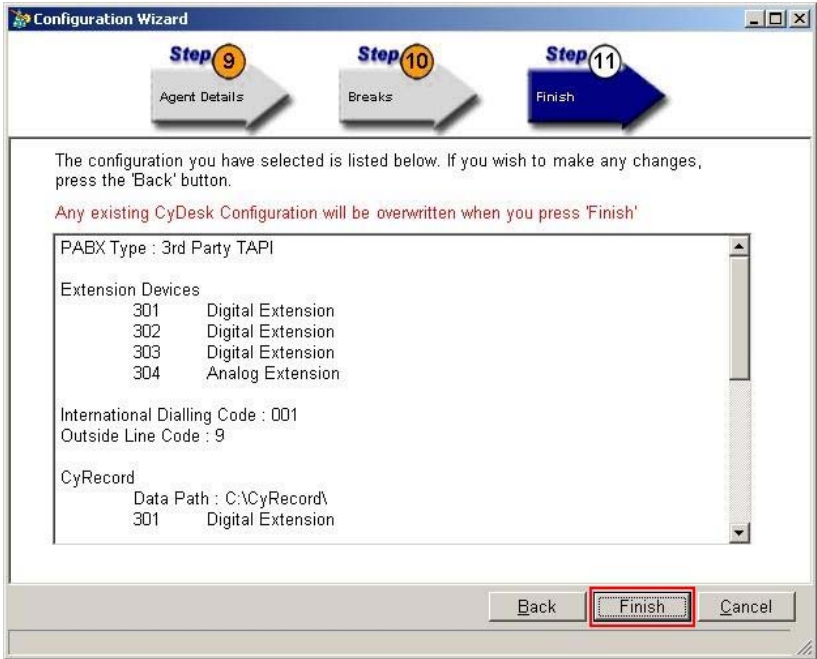
| Step | Description |
|------|--|
| 6. | <p>Enter the values for the fields International Dialling Code and Digit to get an outside line. Consult the Avaya IP Office administrator for the appropriate values. Click Next to continue.</p>  <p>The screenshot shows a 'Configuration Wizard' window titled 'Step 4: Dialling Rules'. At the top, there are three steps represented by arrows: 'Step 3: 3rd Party TAPI', 'Step 4: Dialling Rules' (which is highlighted in blue), and 'Step 5: CyRecord'. Below the steps, a text box states: 'These settings will affect how CyDesk formats telephone numbers when dialling out to make a new phone call.' There are two input fields: 'International Dialling Code' with the value '001' and 'Digit to get an outside line' with the value '9'. At the bottom right, there are three buttons: 'Back', 'Next' (which is highlighted with a red box), and 'Cancel'.</p> |

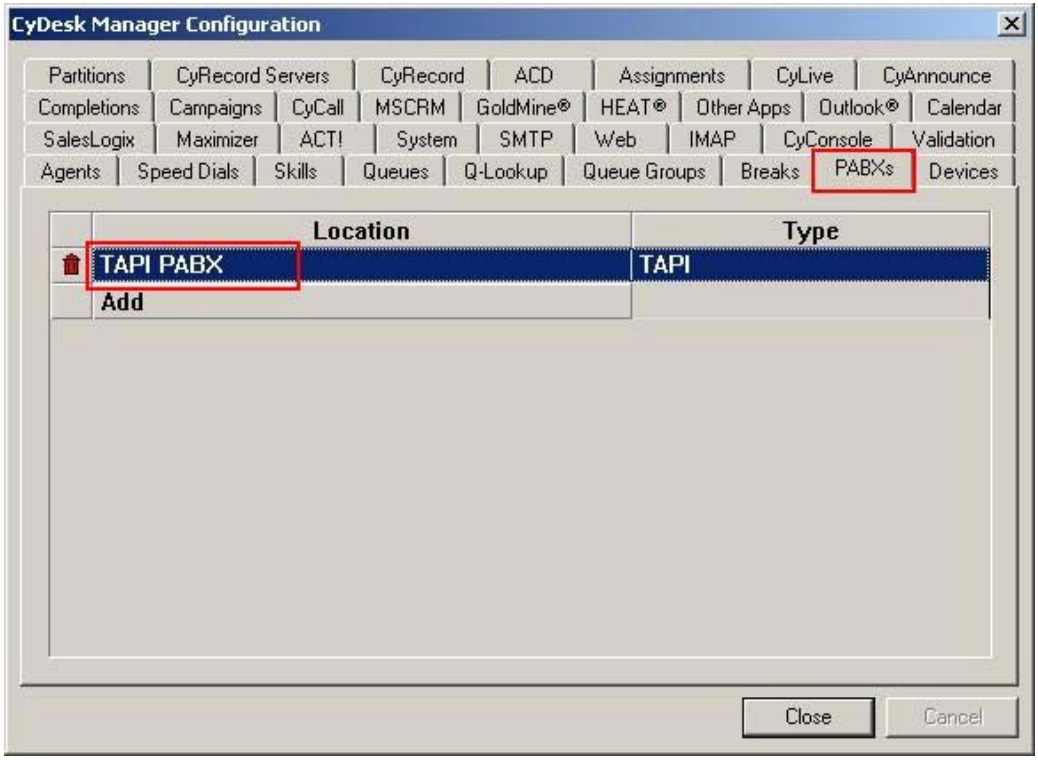
| Step | Description |
|------|---|
| 7. | <p>For the configuration of CyRecord, accept the default path for the storing of recording files and click Next to continue.</p>  |
| 8. | <p>Select the extensions that will be used for CyRecord. Click Next to continue.</p>  |

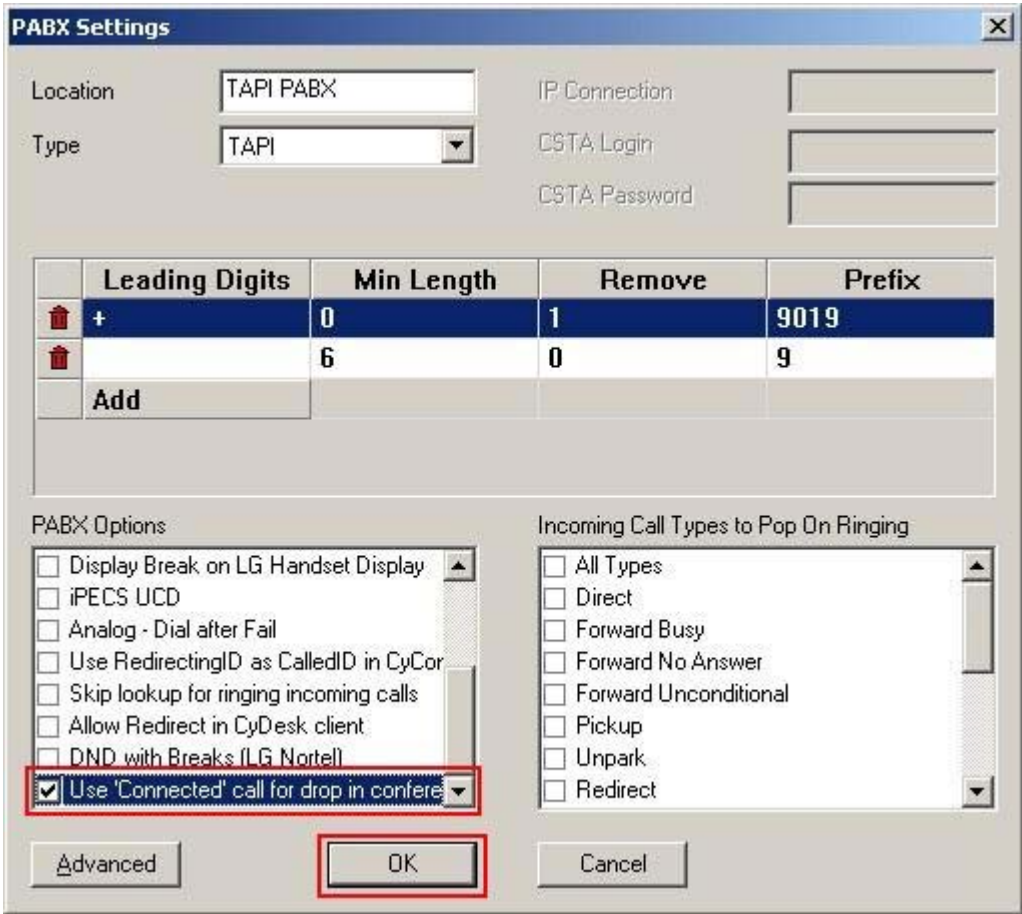
| Step | Description |
|------|--|
| 9. | <p>CyTrack UCS supports integration with several CRM applications out of the box. As this is not the focus of the testing, we select None. Click Next to continue.</p>  |
| 10. | <p>Click Next to continue.</p>  |

| Step | Description |
|------|--|
| 11. | <p>To configure the agents that will log in to CyTrack UCS, click Add an agent.</p>  |
| 12. | <p>In the Add agents window, enter the name of each agent on a separate line. In this configuration, Agent 1 and Agent 2 are created. Select Use CyRecord 'Record on Demand' to configure the agents for on-demand recording. Click OK.</p>  |

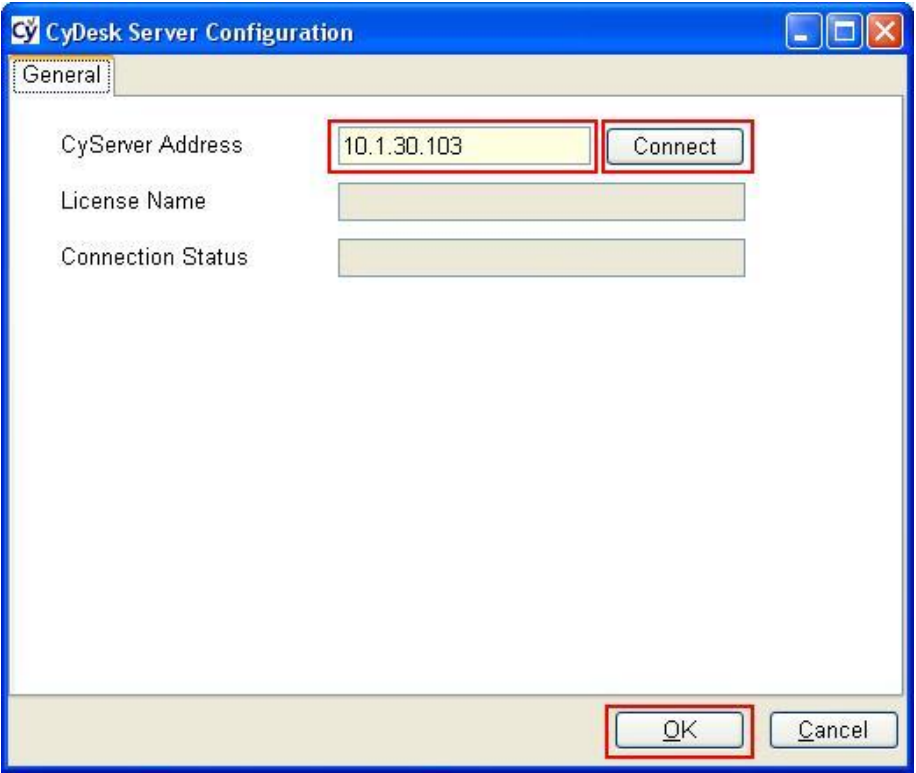
| Step | Description |
|------|--|
| 13. | <p>Click Next to continue.</p>  |
| 14. | <p>Accept the default Break Types to be created and click Next to continue.</p>  |

| Step | Description |
|------|---|
| 15. | <p>Click Finish to accept the configuration and allow the wizard to save the changes.</p>  |

| Step | Description |
|------|---|
| 16. | <p>Click Start > All Programs > CyTrack > CyDesk Manager to launch the CyDesk Manager program. Click Options > Configure (not shown) to open the CyDesk Manager Configuration window. Click the PABXs tab and then double-click TAPI PABX to configure additional options required for Avaya IP Office.</p>  |

| Step | Description |
|------|---|
| 17. | <p>In the PABX Settings window, check the option Use ‘Connected’ call for drop in conference. Click OK to close the window. This completes the initial configuration of CyTrack Server.</p>  |

5.2. Configure CyTrack CyDesk on the PCs

| Step | Description |
|------|---|
| 1. | <p>Log into the PC running CyTrack CyDesk with administrative privileges. Click Start > All Programs > CyTrack > CyDesk Config to configure CyDesk. Enter the IP address of the CyTrack UCS Server for CyServer Address and click Connect. Click OK.</p>  |

6. Interoperability Compliance Testing

The interoperability compliance test included both feature and serviceability testing.

The feature testing focused on verifying CyTrack UCS's handling of TAPI messages to request and respond to Avaya IP Office features. The feature testing also evaluated the ability of CyTrack UCS to collect and process CDR records for various types of calls.

The serviceability testing introduced failure scenarios to verify CyTrack UCS could resume operation after failure recovery.

6.1. General Test Approach

For feature testing, the general test approach was to use CyTrack CyQ to queue incoming calls to the agents and use CyTrack CyCall to place outgoing campaign calls. To manage the calls, the agents used CyTrack CyDesk on the agent PCs. CyTrack CyRecord was also configured to record the agent's incoming and outgoing calls. At the same time, a script was also deployed in

CyTrack CyLive to provide IVR features. Finally, CyTrack CyReport was used to collect CDR records for various types of calls which include intra-switch calls, inter-switch calls, inbound and outbound PSTN trunk calls. For serviceability testing, failures such as reboot of the CyTrack UCS Server and the Avaya IP Office were applied.

6.2. Test Results

All feature and serviceability tests passed.

7. Verification Steps

The following steps may be used to verify the configuration.

- Verify the CTI Link Pro license is enabled on Avaya IP Office (see **Section 3.1**).
- Assign an agent to an inbound queue. Log in and make the agent available. Place an incoming call to the inbound queue. Verify that the agent's phone rings and the agent is able to answer the call using CyTrack CyDesk.
- Assign an agent to an outbound campaign. Log in and make the agent available. Verify that an outbound call is placed. When the call is delivered to the agent, verify that the agent's phone rings and the agent is able to answer the call using CyTrack CyDesk.
- Using the System Monitor provided by Avaya IP Office, verify that Call Detail Records were generated after call completion and sent to CyTrack UCS.

8. Support

For technical support on CyTrack UCS, contact the CyTrack support team at:

- Phone: +61 1300 CYHELP (1300 294357)
- Fax: +61 1300 788791
- Email: support@cytrack.com

9. Conclusion

These Application Notes describe the compliance-tested configuration used to validate Avaya IP Office 4.1 with CyTrack UCS 5.2.2.1. All test cases were completed successfully.

10. Additional References

The following documents are available at <http://support.avaya.com>.

[1] *Avaya IP Office Release 4.1, Manager: 01, Using Manager*, Issue 20(i), November 2007

[2] *Avaya IP Office Release 4.1, Manager: 02, Configuration Settings*, Issue 20(h), October 2007

The following documents are available from CyTrack upon request:

[1] *CyDesk™ Telephony Suite Administration and User guide*

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