
User Guide

XML Server



Contact Center Express

Release 2.0 - Issue 0

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CHAPTER 1

Preface

This chapter provides information that will help you use this document.

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Document Conventions

Convention	Description
Initial Capital Letters	Names of windows and dialog boxes. For example, the Add VDN dialog box appears.
[key] or [button]	The name of a button or keyboard key. For example, click the [Blind] button or press the [F5] key.
Key+key	Hot key combinations you press down simultaneously to make the computer perform a function. For example, the Ctrl+S hot key combination saves your document.
<i>Italicized text</i>	Reference documents.
Click and double-click	The action of pressing the left or right mouse button once or twice. Always click the left button unless the right button is specified.

Related Documents

- Standard ECMA - 323 June 2001. *XML Protocol for Computer Supported Telecommunications Applications (CSTA) Phase III*.
- Standard ECMA - 269 4th Edition - June 2000. *Services for Computer Supported Telecommunications Applications (CSTA) Phase III*. Include document: *List of Corrected Errata for ECMA-269*
- Standard ECMA - 285 2nd Edition - June 2000. *Protocol for Computer Supported Telecommunications Applications (CSTA) Phase III*.

For these documents, refer to *Ecma's website* <http://www.ecma.ch>.

Other Related Documents

For information on how to develop client applications using XML Client, refer to the HTML Help file named *Developer for .Net.chm* in the directory: C:\Program Files\Avaya>Contact Center Express\Developer\Developer\XML Client\Component.

For more information on how XML Server uses License Server for licensing, refer to the *License Server User Guide*.

CHAPTER 2

Introduction

In This Chapter

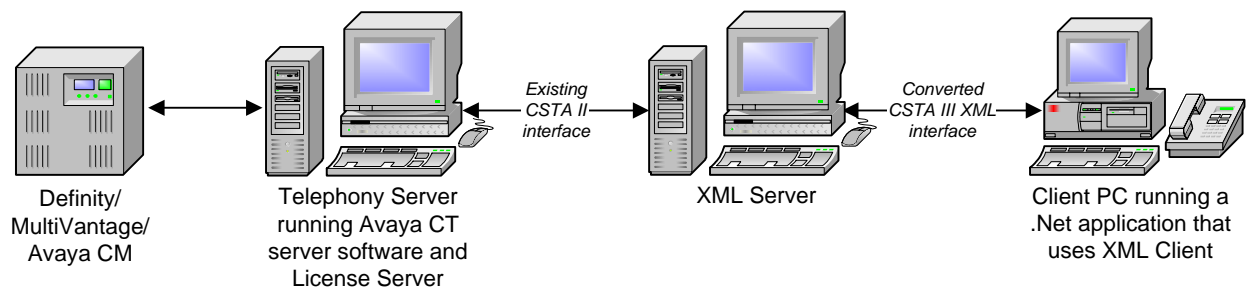
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What is the XML Service?

The eXtensible Markup Language (XML) has quickly become the standard for information exchange between disparate devices. This mechanism has been chosen by the European Computer Manufacturers Association (ECMA) as a standard for interfacing computer telephony.

The XML Service consists of the XML Server, which converts the existing CSTA II interface of Avaya Computer Telephony software to CSTA III XML, and XML Client, which allows developers to build CTI applications in .Net.

This CSTA XML-over-TCP interface complies with ecma-269, ecma-285 and ecma-323 (specifically as described in Annex G of the Standard ECMA - 323 June 2001, *XML Protocol for Computer Supported Telecommunications Applications (CSTA) Phase III.*)



XML Server

XML Server is a Windows service that starts with the operating system. On start up, it retrieves all configuration data from its local configuration file.

Each XML client that connects to the XML Server opens a corresponding link to a Telephony Server. This connection opens using a single user name and password provided in the configuration data. The supplied user name/password combination enables access to all appropriate Definity/MultiVantage/Avaya CM server devices via the security database.

XML Server supports connections to multiple Telephony Servers.

XML Client

Distributed as part of the Developer toolkit, XML Client provides a CSTA III XML interface that allows developers to build Windows-based CTI applications in Microsoft Visual .Net or Visual C#.

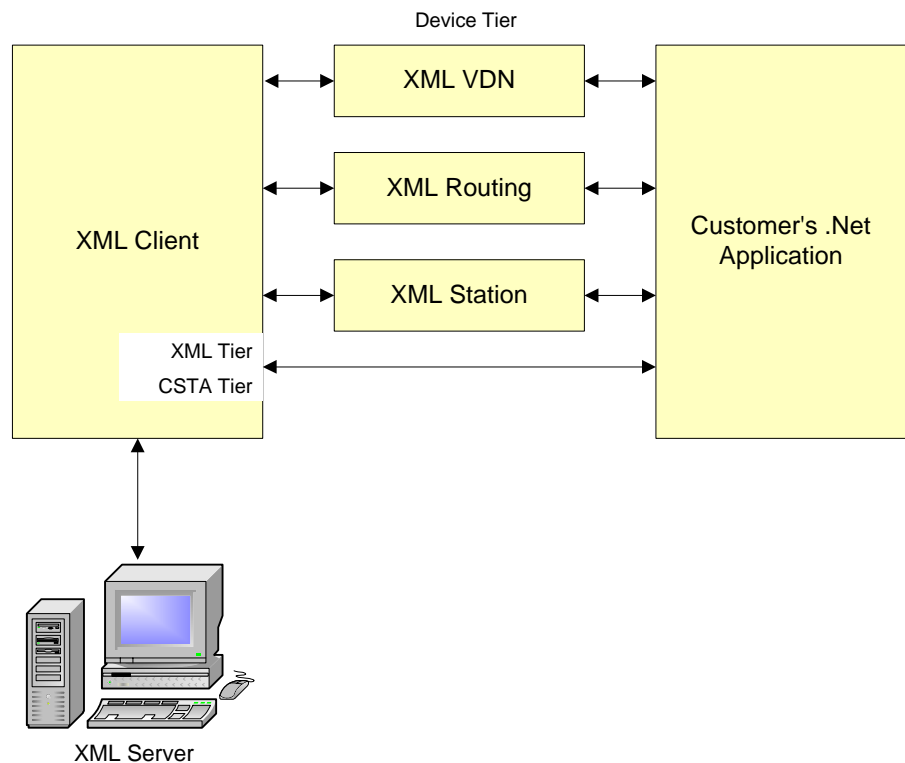
XML Client encompasses four developer components: XML Client, XML Station, XML Routing and XML VDN.

XML Client is the core component that communicates with the XML Server. Representing the base-level XML/CSTA tier, developers can use XML Client's exposed objects to implement telephony operations directly, or they can treat it as a 'data source' when using the higher-level, device-tier components: XML Station, XML Routing and XML VDN.

XML Station binds with XML Client to perform telephony operations on a voice station and manage the calls associated with it. The objects exposed by XML Station preserve the active calls on the voice station and allow users to manipulate calls through a set of methods at the call appearance level.

XML Routing binds with XML Client to perform the telephony operations on a registered VDN and manage the routing of calls associated with it.

XML VDN binds with XML Client to monitor VDNs (vector directory numbers) and receive call events associated those VDNs.



The base XML/CSTA tier includes the methods and events that communicate directly with the XML Server in XML. By working with this tier, more coding is required, but you have the ability to send your own customized XML requests to the server.

The device tier, on the other hand, does not deliver that level of control but offers more functionality with less coding. A set of methods at the call appearance level make it easy to control active calls.

For information on the methods and events exposed by XML Client (ASXMLClient.dll), refer to the HTML Help file named *Developer for .Net.chm* in the directory: C:\Program Files\Avaya>Contact Center Express\Developer\Developer\XML Client\Components.

Support for Non-Windows Clients

Many operating systems, such as Linux, Solaris or Unixware, have strong native support for XML document handling or readily available additional modules. If desired, you can develop your own XML client control to communicate with XML Server and run on one of these operating systems.

Licensing

Connections to the XML Server require a Contact Center Express license. The XML Server opens a connection to the License Server associated with the Telephony Server link being supported.

When a client connects to the XML Server, the server requests a license from the License Server. If a license can be obtained, the connection can process messages. If a license cannot be obtained, the XML Server returns an error and closes the connection.

For more information on the licensing, refer to the *License Server User Guide*.

Error Logging

The XML Server logs error information to a series of log files. A new log file will be created for each day of the week. Each error log is overwritten on a weekly cycle. The name of the error log file records the day of the week and clearly identifies the file, for example, AXMLSMon.log.

The type of errors logged by the error log are determined by the logging level retrieved from its configuration data. Levels of error logging are:

- `ERROR_LEVEL_NONE`. No error logging takes place.
- `ERROR_LEVEL_INFORMATION`. Logs fatal, major, minor and trace information.
- `ERROR_LEVEL_MINOR`. Logs fatal, major and minor errors.
- `ERROR_LEVEL_MAJOR`. Logs fatal and major errors.
- `ERROR_LEVEL_FATAL`. Logs fatal errors only.

Each file records the selected logging level as well as the date, time, location and description of every error that occurs.

All log files are placed in a folder named LogFiles.

CHAPTER 3

Installation

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Install Application

For full instructions on how to install this application, refer to the Contact Center Express Installation Guide.pdf.

The Contact Center Express Installation Guide is on the Contact Center Express CD (Overview and Miscellaneous folder) or can be downloaded from the **Avaya Contact Center Express website** (http://www.AvayaContactCenterExpress.com/Public_Documentation.htm).

CHAPTER 4

Configuration

In This Chapter

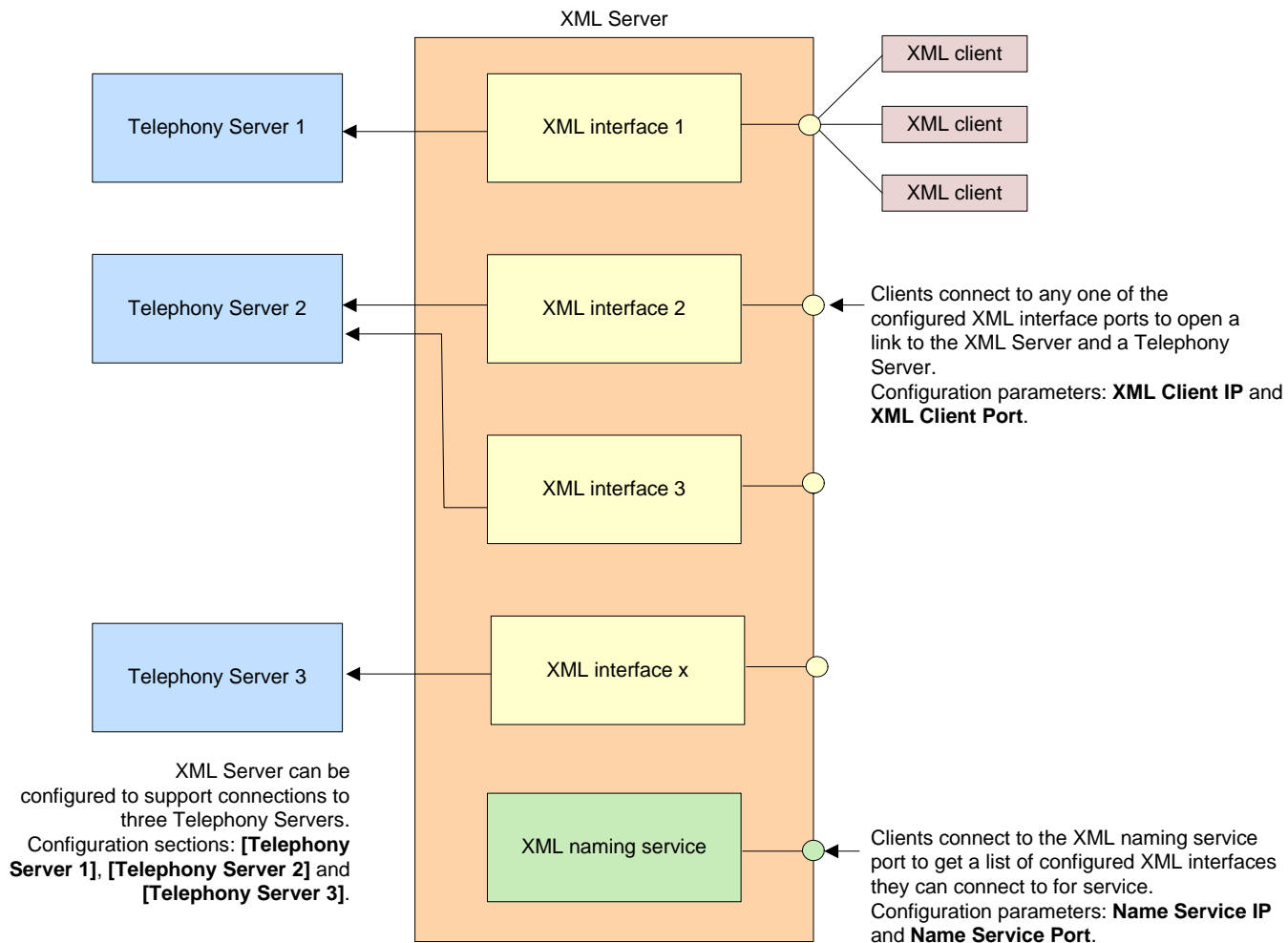
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Configuration Overview

On startup, the XML Server extracts all the information it needs to run via the configuration file, AXMLServer.ini.

This file must include the:

- the IP address and port number of the XML naming service clients connect to for a list of currently configured XML interfaces
- the IP address(es) and port numbers of the XML interfaces responsible for converting the existing CSTA II interface of Avaya Computer Telephony software to CSTA III XML and vice versa
- the name(s) of the Telephony Servers available for service.



Configurable Parameters

On startup, the XML Server extracts all the information it needs to run via the configuration file, AXMLServer.ini.

[XML Name Service]

Name Service IP. The IP address of the XML Server naming service.

Name Service Port. The IP port number of the XML Server naming service. By connecting to this port, clients get a list of currently configured XML interfaces (IP address/port number combinations) that they can connect to for service. The naming service default port is 29096.

[Error Log]

Error Log Level. The value that determines what level of error detail will be saved in the error log. 0=None, 1=Information, 2=Minor, 4=Major, 8=Fatal.

Max Log File Length. The maximum amount of information, in kilobytes, that will be stored in an error log file before it is archived and a new file is created.

[Telephony Server 1]

Enabled. The value that determines if this XML Server will connect to the Telephony Server. True=enabled, False=disabled.

Link Name. The telephony link (T-Link) name of the Avaya CT Server (Telephony Server) this server or application will connect to for information.

User Name. A valid user name on the Avaya CT Server (as entered in the Avaya CT security database).

User Password. The password associated with above user name. By default, the Contact Center Express application will encrypt this data. For more information, see the *Contact Center Express Installation Guide* (Configuration Commands).

XML Client IP. The IP address of one currently configured XML interface on the XML Server. Clients will use this IP address, in combination with XML Client Port, to open a link to the XML Server and connect to an Avaya CT Server stream. If the parameter is empty, the XML Server will accept connections on any configured IP address in the server's operating system.

XML Client Port. The IP port number of one currently configured XML interface on the XML Server. Clients will use this port number, in combination with XML Client IP, to open a link to the XML Server and connect to an Avaya CT Server stream. This port can be static (eg. 29097) or set to 0, allowing the server's operating system to determine the port in the free pool between 1024 and 5000. If the server determines the port, clients will need to use the naming service to gather information for client connections.

[Telephony Server 2]

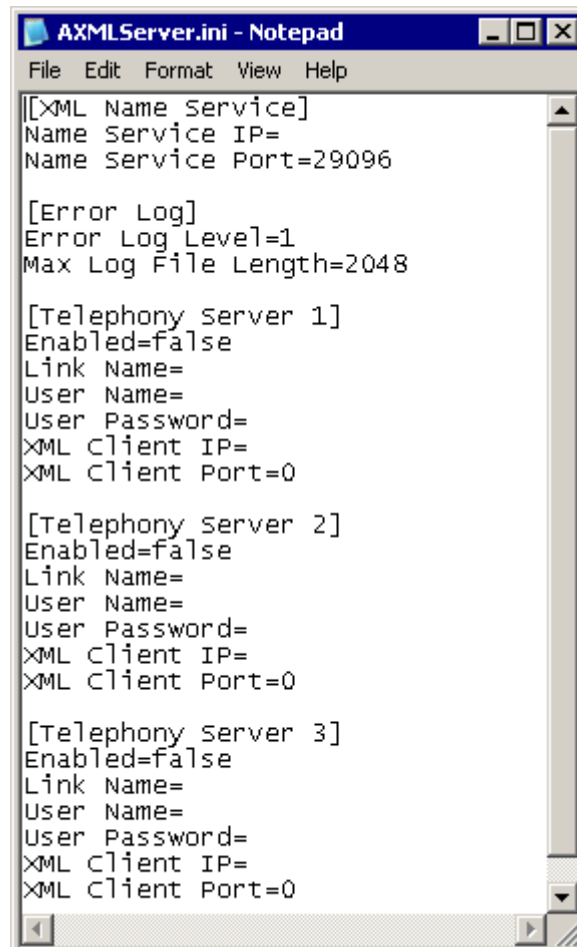
Configuration information specific to a second Telephony Server. Identical format to above.

[Telephony Server 3]

Configuration information specific to a third Telephony Server.

Configure XML Server via Ini File

- 1 Click the [Start] button on the Windows Taskbar and select Programs > Avaya Contact Center Express > Server > XML Server > Edit AXMLServer.ini from the pop-up menu.
- 2 Add configuration information as necessary. For detailed parameter information, refer to *Configurable Parameters* (on page 16). Note: Do not change section names, key names and, if possible, the default port number.



```
AXMLServer.ini - Notepad
File Edit Format View Help
[[XML Name Service]
Name Service IP=
Name Service Port=29096

[Error Log]
Error Log Level=1
Max Log File Length=2048

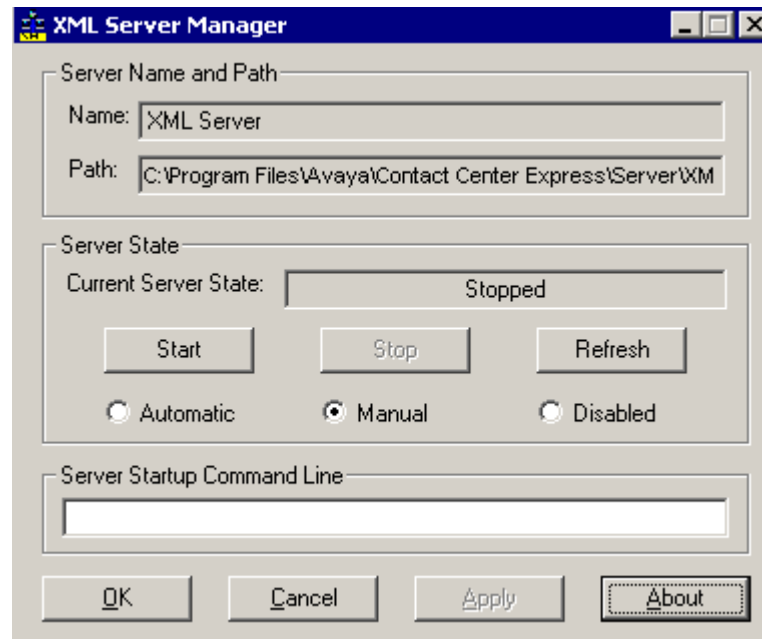
[Telephony Server 1]
Enabled=false
Link Name=
User Name=
User Password=
XML Client IP=
XML Client Port=0

[Telephony Server 2]
Enabled=false
Link Name=
User Name=
User Password=
XML Client IP=
XML Client Port=0

[Telephony Server 3]
Enabled=false
Link Name=
User Name=
User Password=
XML Client IP=
XML Client Port=0
```

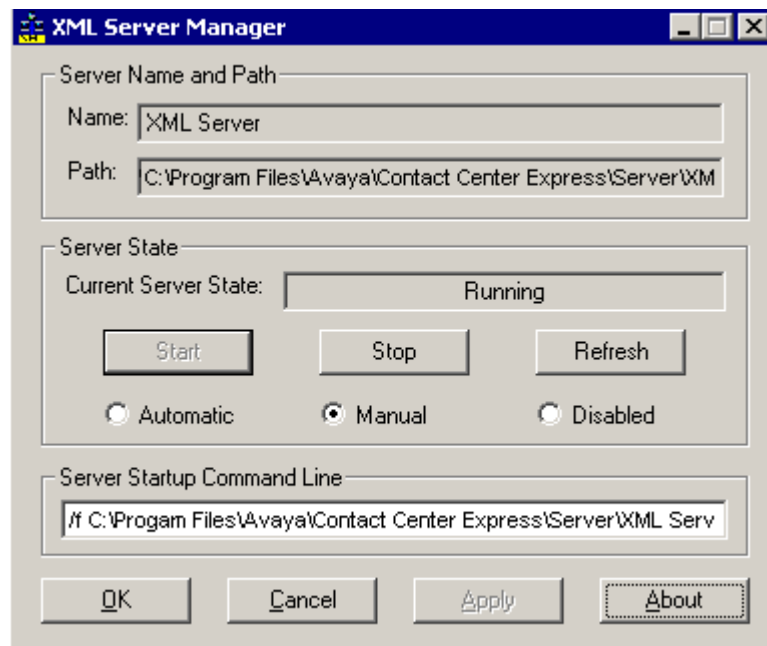
Start XML Server

- 1 Click the [Start] button on the Windows Taskbar and select Programs > Avaya Contact Center Express > Server > XML Server > XML Server Manager from the pop-up menu.



- 2 If you want the server to automatically restart on server reboot, click the radio button beside Automatic.
- 3 If you want XML Server to retrieve its configuration data from:
 - the .ini file in the default ConfigData folder, leave the Server Startup Command Line blank.
 - an.ini file stored on a shared network or location other than the default install folder, type /f *newfilepath*\AXMLServer.ini /z AXMLServer in the Server Startup Command Line text box.

- 4 Click the [Start] button.



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