

INDeX

Technical Bulletin

Commercial - in - Confidence

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INDeX CT Integrator 2.05 – General Release

Avaya is pleased to announce the general release availability of **INDeX CT Integrator 2.05**. This release replaces the previous version, 2.04.

INDeX CT Integrator is the Computer Telephony Integration (CTI) middleware product, which allows full integration of existing computer applications with the INDeX Communication System.

With this release, we have taken the opportunity to simplify the INDeX CTI Product range.

Rationalisation of product codes

The standard and enhanced variants of INDeX CT Integrator have been removed, in favour of a single product offering that includes all previous functionality. There are now just three product codes for the entire INDeX CT Integrator range.

The three products are:

- **INDeX CT Integrator SDK (Software Development Kit)**
This product is designed for customers who wish to develop their own software applications. This product includes the CT Integrator Runtime (see below).
- **INDeX CT Integrator Runtime**
This middleware product is designed for customers wishing to connect INDeX to a third-party product written using the CT Integrator SDK.
- **INDeX CSTA-1 Gateway**
This product delivers the standard ECMA CSTA-1 through the CT Integrator Runtime.

The **INDeX CT Integrator SDK** is available on a separate CD (order code CTINT-SDK). The SDK includes all developer manuals and sample code.

The **INDeX CT Integrator Runtime** is available on the INDeX Applications CD, and is enabled by use of a licence key. Please note that this product does not include developer manuals or sample code. It is designed for easy deployment of Avaya and third-party software applications.

Product Enhancements

The new version of INDeX CT Integrator Runtime includes many enhancements, including an improved network transport layer, using TCP/IP, which drastically reduces the amount of network resources consumed per client. For backwards compatibility reasons, both new and old network transports are supported. As a result, we are now able to relax the previous requirement that no more than 25 users be connected over a single 10Mb network segment.

Tests show that the bandwidth used by INDeX CT integrator is now 30-50% more efficient than previous versions. In addition, the new network transport layer improves CT Integrator's speed by between 10% and 150%, depending on the application.

In addition, the TAPI driver provided by INDeX CT Integrator has been modified to give higher compatibility between the 2060 TAPI driver and CT Integrator.

Supported Platforms and Operating Systems

INDeX CT Integrator Server runs successfully on Windows NT 4.0 (SP6), Windows 2000 Server and Windows 2000 Advanced Server.

Note 1: INDeX CT Integrator Server should not be installed on the IVM Server Cassette.

Note 2: IP Networking must be enabled if CT Integrator Server is installed on Windows 2000.

INDeX CT Integrator Client will runs on Windows 95 OSR2, Windows 98, Windows NT 4.0 Workstation, Windows NT 4.0 Server, Windows NT 4.0 Terminal Server, Windows 2000 Professional, Windows 2000 Server, Windows 2000 Advanced Server, both in standalone and Terminal Server configurations.

Note: During the installation of CT Integrator on Windows NT 4.0 Terminal Server a number of error messages will appear. To avoid this it is recommended that Internet Explorer 5 is installed first.

How to order

The standard and enhanced variants of INDeX CT Integrator have been removed, in favour of a simple product offering. There are now just three product codes for the entire INDeX CT Integrator range:

Code	Description
LIC-CTINT-RUN	INDeX CTI Middleware Runtime - supports all APIs except CSTA-1
CTINT-SDK	INDeX CTI Middleware Software Developers Kit – supports all APIs except CSTA-1
CTINT-CSTA1 ¹	ECMA CSTA-1 Protocol Driver for INDeX
APP-CD-ROM	INDeX Applications CD-ROM (contains the software for INDeX CT Integrator Runtime)

Please note that ACD type applications that require agent related events also require the CCM Agent License Pack to be installed. This must be set to the number of agents on whom events and call/feature control are required.

1. This license also requires the CTINT-RUN license.

These product codes replace the previous LIC-CTINT-STxx and LIC-CTINT-Enxx product codes.

Documentation

The following Documentation has been reissued:

Installation Manual	38HSC00001SCJ	Issue 7
Administrator's Manual	38HSC00001SCK	Issue 7
CT Call Control User Manual	38HSC00001SCH	Issue 7
C,C++ & OLE Developer's Manual	38HSC00001SCC	Issue 7
Samples Manual	38DHB00002UKBY	Issue 4

Upgrades

CT Integrator 2.02, 2.03 or 2.04 can be upgraded to CT Integrator 2.05 Runtime software which is available on the INDeX Applications CD, which can be ordered using product code IND-APPS-CD.

When performing an upgrade from a previous version of CT Integrator the existing software must be Uninstalled prior to installation of version 2.05. For details of the Uninstall process please refer to the CT Integrator Installation Manual.

Note: Help files are not uninstalled from previous version so in order to have the correct Help ensure that the following files are manually deleted before the upgrade is performed.

Windows 95 and 98

Windows\system\ Powerbut.hlp
Windows\system\ Powerbut.jp.hlp

or

Windows\system32 directory for Windows NT.

Technical Training

As part of the release of INDeX CT Integrator 2.05, and following feedback received from BusinessPartners, the training courses for this product have been revised and restructured. There are now three training courses available:

W14 - CTI Visual Basic - £300 per delegate

This two-day course is an introduction to Visual Basic, and covers the programming language in some detail. Attendance of this course or knowledge of Visual Basic to a similar level is a pre-requisite for the CT Integrator installation and integrator course detailed below.

W13 - CT Integrator installation and integration - £300 per delegate

This two-day course is designed for BusinessPartner engineers who wish to learn about CT integrator, and how to install, maintain and use both the SDK and Runtime variants of CT Integrator. The Introduction to NT Networking course (course code **W11**) and the CTI Visual Basic (course code **W14**) are pre-requisites for this new course.

W15 – CT Components Installation and integration - £150 per delegate

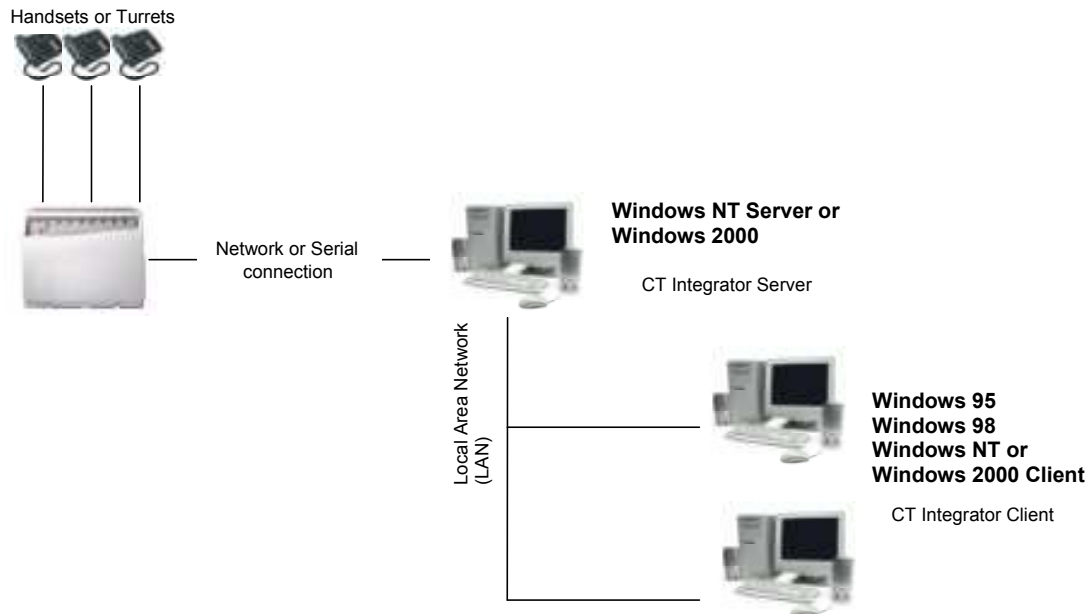
This one-day course covers installation and integration with INDeX CT Components.

For more details, please contact Technical Training on 01707 364154.

Frequently Asked Questions (FAQ's)

A number of common questions and answers about the product have been collated into a set of notes (FAQ's). This can be found on the AVAYA web site at www.sdxplc.com/cti/ctintegrator_faq.htm. It is strongly recommended that the FAQ's are read in conjunction with this bulletin. A copy is attached, however the FAQ's on the web site will be updated as necessary.

System requirements



- Depending on the exact configuration of the INDeX, the NT or Windows 2000 platform must be connected to the INDeX either through the LAN (if INDeX Voice Manager is installed), or using an RS232 serial cable, which is not supplied.
- For Windows 2000 Platforms, the Access Manager may not run on the CT Integrator server; instead it should be run on the INDeX Voice Manager Cassette, the CCM Server, or on a separate computer if none of these products is also installed. The minimum INDeX software level is 9.0. INDeX CT Integrator 2.05 will work with either a CPU-V or CPU-X cassette installed.

Queries on any of the above should in the first instance , be directed to Technical Support on Tel: +44 (0) 1707 364222 or email: tech.support@sdxplc.com
Official Synergy Developers can call the Synergy Support line or email: synergy@avaya.com.
Also visit the Synergy web site at <http://www.sdxplc.com>

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INDeX CT Integrator 2.05 Frequently Asked Questions

What is INDeX CT Integrator?

The INDeX CT Integrator is the Computer Telephony Integration (CTI) product for INDeX. The product is available in two versions: INDeX CT Integrator SDK and INDeX CT Integrator Runtime. The main difference between them is that the SDK variant includes the developer manuals, help files and sample code, whereas the Runtime variant simply enables CTI for each INDeX telephone system.

What is the CSTA-1 Gateway?

The CSTA-1 Gateway is an additional optional module for INDeX CT Integrator, which implements the ECMA CSTA-1 protocol. This protocol is used to enable other telephony APIs, such as IBM CallPath and Dialogic CT-Connect.

What level of INDeX does the CT Integrator require?

INDeX CT Integrator 2.05 requires at least INDeX 9.0. It will work correctly with either a CPU-V or CPU-X Cassette.

What happened to the Standard and Enhanced variants?

Previous versions of INDeX CT Integrator were sold on a per-user basis, and there were Standard and Enhanced variants. The difference between them was the ability to report and control on ACD Agent events: if the Standard version was purchased, then all agent-specific events, such as Busy-Wrap-Up and Agent Logon/Logoff were hidden, and the ACD agent was made to look and behave like a normal extension. Both the SDK and runtime versions correspond to the "Enhanced Unlimited User" variant of previous versions.

Do I still need CCM Agent Packs licensed to get ACD agent events?

Yes. In order to enable full events from the INDeX for ACD agents, CCM Agent Packs must be purchased. The 5 agent CCM licence is free of charge.

What operating systems does CT Integrator support?

The server will run on Windows NT 4.0 (service pack 6 or later), or Windows 2000. The client will run on Windows 95 OSR2, Windows 98, Windows NT, and Windows 2000.

What about other platforms?

We have no plans to implement CT Integrator on any non-Microsoft operating systems.

What's new in this version?

We've heavily revised the TAPI driver, which was causing several problems in the field. The TAPI driver is now compatible with the 2060 handset. In addition, we've added a new networking infrastructure, which uses TCP/IP. This reduces the bandwidth required by each client by between 30% and 50%. In addition, the permissions manager has been enhanced so that only permitted users can make changes to the telephone system's permissions.

What about backwards compatibility?

Programs compiled against previous versions of INDeX CT Integrator should continue to operate correctly with the new version. It is also possible to run the 2.05 Server with older 2.04 clients. This is to simplify the deployment of the product on larger sites.

Are there any known issues with the software?

Yes, there are some known issues. The section below contains the current known issues in INDeX CT Integrator 2.05:

Permissions Editor

- Even if a user does not have rights to modify the permissions table, they can still add a new computer or user. However, these changes are not stored.
- Under some circumstances, the number of TAPI users enabled in the Licences dialog box can contain incorrect values.
- The Permissions editor does not check directory numbers when they are entered. This can cause a problem when CT Integrator is connected to more than one INDeX. An example of a directory number when multiple INDeXes are connected is: MAININDEX/4110. Equipment numbers are formatted the same way, except they start with a # symbol: MAININDEX/#0123.
- When the permissions are changed for a user name or computer name, the CT Integrator client does not retrieve this information until it is re-started.

All CTI interfaces

- CT Integrator only supports 3 party conference calls. Because monitored and intruded calls also use the conference facility of INDeX, similar restrictions apply. It is possible to generate 4- and higher party conferences using CT Integrator, but the resulting events are inconsistent, and not defined.
- Paging does not generate CTI events. Only when the page is accepted by a terminal do events get generated.
- If a terminal stops ringing because it has been taken out of group, no RingStop event is generated.
- When the VT100 interface is used to change a device from an extension to an agent, the device must be reset (by unplugging it, or logging off the phone) for CT Integrator to recognise the new device type.
- Calls over DPNSS do not present DDI information
- Supervised transfers across DPNSS do not present CLI information.
- When changing the status of an extension from "Group" to "Divertd", two ExtensionStatusChanged events are generated.
- The CT Integrator does not provide any events from the DRC Cassette.
- ISDN-2 extensions do not generate full events.
- The WaitingInQueue and HearRinging events are generated in the wrong order.
- Idle events can sometimes be missed if the extension or agent does not go idle for two seconds.

- Cancelling a held three-party conference will generate an extra ConnectedTalking event.
- When making an internal call to a sequential-ring group, the calling extension may obtain a Digits event instead of the WaitingInQueue event.
- Handsets that are twinned with DECT devices will receive incorrect and misleading events.
- If a handset is set up to require an account code for all outbound calls, CT Integrator will still allow a call to be made without an account code.
- Splitting a conference call causes any associated Call Cargo to be lost.
- There is no way to cancel a supervised transfer before the transfer is completed.
- When a handset is set to divert calls on no answer to an off-switch number, the value received from CT Integrator will be incorrect. In addition, it is not possible to use CT Integrator to set handsets to divert to off-switch numbers.

ActiveX Control

- Under Windows 2000, Power User privileges are required in order to compile programs using the ActiveX Control.
- If the CT Integrator server is shut down, then the ActiveX control must be reset to operate correctly.

C interface

- Issuing a ctiHoldCall on a 3-party conference will split the conference, not hold it.
- If a call is delivered to a collective-ringing group, all idle terminals in group will receive the Alerting event. However, if a terminal becomes idle whilst the call is ringing, it will ring, but no Alerting event is issued.

Installation and Upgrades

- Installing the client on Windows 95 OSR2: if you select the CT Integrator server during the installation, the details will not be remembered when the product is installed.
- On Windows 2000, the ClntInst directory is not shared.
- On Windows NT 4.0 Terminal Services Edition, the server install will display various errors. However, these errors are misleading: the product has been installed, and will work correctly.
- The Access Manager must not be installed on Windows 2000.
- For Windows NT 4.0 Terminal Services Edition, the Access Manager must be installed on a different PC.
- When upgrading a previous version of CT Integrator, the old help files are not deleted. This may cause problems in displaying the new help files. Users should manually delete the old manuals from the \Windows\System32 or \Windows\System directories.
- Changing the computer name for CT Integrator Server causes the product to fail. If you change the computer name, you must re-install the server software.

TAPI

- The CT Integrator TAPI driver will not work if the 2060 TAPI driver is also installed.