



***CDS Developer's Kit
Getting Started Guide***

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1. Introduction

The Developers Kit is a full install of the IADS Client, the IADS Server (CDS), and the IadsDS sample data source project. The IADS Client and CDS are licensed strictly for development with a single connect user key (licensing instructions in section 3). The kit provides all the functional components necessary to run IADS in real time at your location and network infrastructure; thereby providing familiarization with the IADS software components for your data source development. The kit includes:

- CDS.exe - Caching Data Server executable - This is a Win32 Console application
- IADS.exe - This is a full working version of the IADS Client
- IadsDS Project files - This is the demonstration program for windows; compiled using Visual C++ 6.0 (available for download from the SYMVIONICS website; Visual C++ 2005 also available)
- IadsCDS.prn.DecomStyle – Sample CDS Parameter Definition (PRN) file
- IadsCDS.prn.SimStyle - Sample CDS PRN file
- IadsCDS.BlobStyle - Sample CDS PRN file
- IadsCDS.config – Starter IADS Configuration file
- CDS.ComputeDataServer.IadsStartupFile - Sample CDS initialization file

Note: The IADS Real Time Data Interface Document is included in the installation (shortcut on your Desktop) for additional configuration instructions.

2. Installation

2.1. Overview

A complete end-to-end IADS data system is comprised of three standalone executables: 1) The IADS Data Source, 2) the Caching Data Server, and 3) the IADS Client. The CDS Developer's Kit installs these components locally on the same machine and adds shortcuts on the Desktop to aid in development. For distribution on multiple machines contact an IADS representation for further instructions.

2.2. Instructions

To Install the IADS CDS Developer's Kit:

- 1) Click **IADS.msi** on the installation CD.
- 2) Click **Next**.
- 3) Click **Next**.
- 4) Click the drop down arrow next to *Data Source Sample* and click **This feature will be installed on local hard drive**.
- 5) Click **Next**.
- 6) Click **Install**.
- 7) Reboot your system.

3. IADS Licensing

The IADS licensing video is available online at: iads.symvionics.com/downloads
(Product Information, Item 10)

3.1. Obtaining an IADS License Key

To obtain a license key:

- 1) After the installation of IADS, run the IADS Key Manager located at *Start > All Programs > IADS > IADS Key Manager*. If there is already a *Currently Registered SysID* skip to step 4.
- 2) Click the **Create New SysID** button.
- 3) Click **Yes**.
- 4) Copy the Currently Registered SysID and paste into Notepad.
- 5) Send an email to mjones@symvionics.com with the system ID number and your license key will be emailed back to you.

3.2. Installing an IADS License Key

To install a license key:

- 1) Execute the IADS Key Manager at *Start > All Programs > IADS > IADS Key Manager*.
- 2) Copy and paste the license key from the Symvionics email into the **New Key** field.
- 3) Click the **Register Key** button. If there are no error messages the key installation is complete.

4. Setting up the Data Source and CDS to run IADS

4.1. Overview

To run the system end-to-end, run the IadsDS Data Source program, then the CDS; after the CDS has validated time, run the IADS Client to view the data. The starter configuration file that comes with this kit has several Stripcharts, two Crossplots, and several Alphanumeric displays.

4.2. Executing the Sample IADS Data Source

To execute the data source:

- 1) Click the **IADS Data Source** icon on the Desktop.
- 2) View the *IADS Data Source* command window; it should state: *Blocked waiting for connect by the CDS on Port...*

4.3. Starting the IADS Compute Data Server (CDS)

The CDS is the server software component in the IADS suite. This is the application that connects to your data source, accepts the data, archives it and makes the data available to all the clients.

The CDS requires three files to operate, the IADS Parameter Definition file (PRN), the IADS Configuration file, and its own initialization (startup) file that defines the environment of the CDS. Eventually these files can be modified for you development. For your reference they are located here:

The IADS Parameter Definition file:

C:\ProgramFiles\IADS\ComputeDataServer\parameterDefinitionFiles\iadsCDS.prn

The IADS Configuration file:

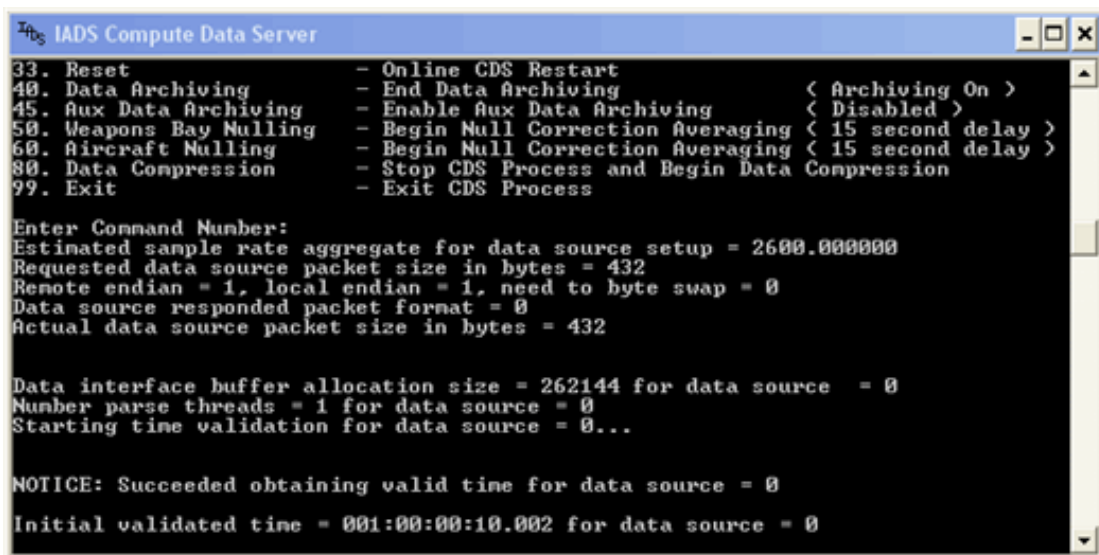
C:\ProgramFiles\IADS\ComputeDataServer\configFiles\iadsCDS.config

The IADS Startup file:

C:\ProgramFiles\IADS\ComputeDataServer\CDS.ComputeDataServer.IadsStartupFile

To start the CDS:

- 1) Click the **IADS Compute Data Server** icon on the Desktop.
- 2) At the *IADS Compute Data Server* command prompt, type in **20** and hit the **Enter** key to validate time. The response will show multiple lines and the statement *CDS configuration validation succeeded*.
- 3) At the *IADS Compute Data Server* command prompt, type in **30** and hit the **Enter** key to start the CDS process. After a few moments you will notice the CDS succeeded in obtaining valid time for the data source.



```
IADS Compute Data Server
33. Reset - Online CDS Restart
40. Data Archiving - End Data Archiving ( Archiving On )
45. Aux Data Archiving - Enable Aux Data Archiving ( Disabled )
50. Weapons Bay Nulling - Begin Null Correction Averaging ( 15 second delay )
60. Aircraft Nulling - Begin Null Correction Averaging ( 15 second delay )
80. Data Compression - Stop CDS Process and Begin Data Compression
99. Exit - Exit CDS Process

Enter Command Number:
Estimated sample rate aggregate for data source setup = 2600.000000
Requested data source packet size in bytes = 432
Remote endian = 1, local endian = 1, need to byte swap = 0
Data source responded packet format = 0
Actual data source packet size in bytes = 432

Data interface buffer allocation size = 262144 for data source = 0
Number parse threads = 1 for data source = 0
Starting time validation for data source = 0...

NOTICE: Succeeded obtaining valid time for data source = 0
Initial validated time = 001:00:00:10.002 for data source = 0
```

- 4) Check that the *IADS Data Source* command window responded with *Start data source transfer...* This message verifies the two components are working together correctly.

4.4. Starting the IADS Client

To start IADS:

- 1) Click the **IADS Development Client** icon on the Desktop.
- 2) Click the **Log On** button.

5. The IADS Data Source (IadsDS) Project

The IadsDS MS Dev Studio project is provided on installation and can be located at: *C:\Program Files\IADS\DataSource\IadsDS.dsp*

The IadsDS (IADS Data Source) is a sample program that demonstrates how to create a data source program for the IADS CDS Custom interface (how to send data to the CDS). It is a Windows based program that can be easily ported to other platforms such as Linux/Unix. Complex structures were purposely left out as not to hinder the understanding of the fundamental construct of making the appropriate data packets for the CDS and the initial handshake required. The IadsDS creates simulated data for (10) parameters and sends those to the CDS. It includes 2 styles of data source input data, Simulator and Decom style. The Simulator style demonstrates at all the same rate which is typical for simulator outputs. The Decom style demonstrates a mix of data and time in a buffer or packet with various sample rates.

Note: See the header of the IadsDS source file for more instructions on creating/modifying this data source for your development.