

# A2. Instructions for Isite for Windows ADHOST

How to install and configure Isite for the Windows operating system on the ADHOST Server.

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## Table of Contents:

A2. Instructions for Isite for Windows ADHOST .....	1
A2.1 Getting Started .....	1
A2.1.1 Prepare a Directory Structure.....	2
A2.1.2 Transfer XML files and copy to data directory.....	2
A2.1.3 Batch Files.....	2
A2.2 Build an index.....	4
A2.2.1 Index .....	4
A2.2.2 Test Index (See Fig. A2.4 and A2.5) .....	6
A2.3 Configuring the Z39.50 server.....	6
A2.3.1 sapi.ini and zserver.ini files.....	6
A2.3.2 zserver.ini.....	6
A2.3.3 sapi.ini .....	9
A2.3.4 zserver.exe.....	10
A2.3.5 Test the zserver Installation (See Fig. A2.7).....	11
A2.4 Install zserver as a Windows Service .....	13
A2.4.1 Installation of srvany.exe: .....	13
A2.4.2 Windows Services.....	13
A2.4.3 Specifying the application to start and its parameters (See Fig. A2.9-A2.14).....	13
A2.5 Starting and Stopping the Zserver Process .....	17
A2.6 Local and System Level Zserver Processes.....	19
A2.7 Register your node.....	21

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## A2.1 Getting Started

The Isite software is already installed on the ADHOST server. Creating a node consists of creating directories to hold the data for your node, copying your metadata XML records to the server, establishing a zserver service uniquely associated with your particular node, and registering the node with the clearinghouse.

### A2.1.1 Prepare a Directory Structure

The instructions below were prepared during the process of establishing a clearinghouse node for the Chinese National Marine Data and information Service (NMDIS). In this document, we call the node “nmdis”. For your custom installation substitute the name of your node everywhere you see “nmdis”.

The steps below will allow you to create and register a node call nmdis. Within the directory E:\Isite2 create a subdirectory, E:\Isite2\nmdis for your node. Copy the zserver.ini and sapi.ini files from a working node directory, say E:\Isite2\npem, for later editing (see section 19.3.2 and 19.3.3). Within E:\Isite2\ nmdis create a subdirectory, E:\Isite2\nmdis\bat. Copy the files from a working directory node, say E:\Isite2\npem\bat, to E:\Isite2\nmdis\bat, for later editing.

Create a directory for your metadata xml files in the E:\Isite2\data directory. Call it E:\Isite2\data\pices-nmdis-adhost. Copy your metadata xml files to the E:\Isite2\data\pices-nmdis-adhost directory.

Create a directory for your database files in the E:\Isite2\db directory called E:\Isite2\db\pices-nmdis-adhost.

### A2.1.2 Transfer XML files and copy to data directory

FTP your xml files to the anonymous FTP site on the server, E:\PICES FTP Site. Then copy the xml files to the E:\Isite2\data\pices-nmdis-adhost directory.

### A2.1.3 Batch Files

Several batch files have been prepared to automate the process of indexing metadata records and verifying the zserver configuration has been successful. These are listed below in Fig. A2.1.

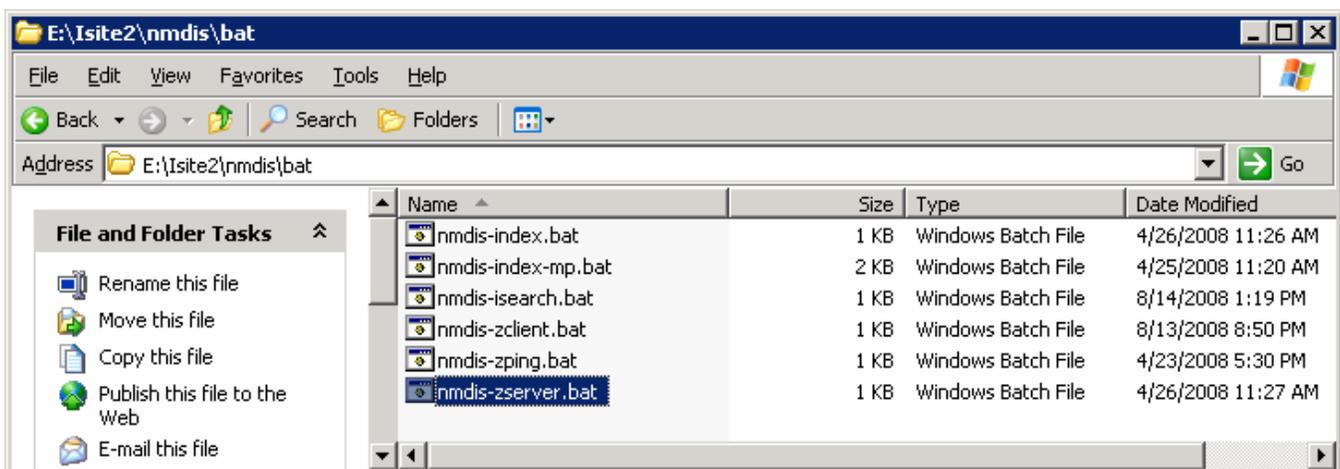
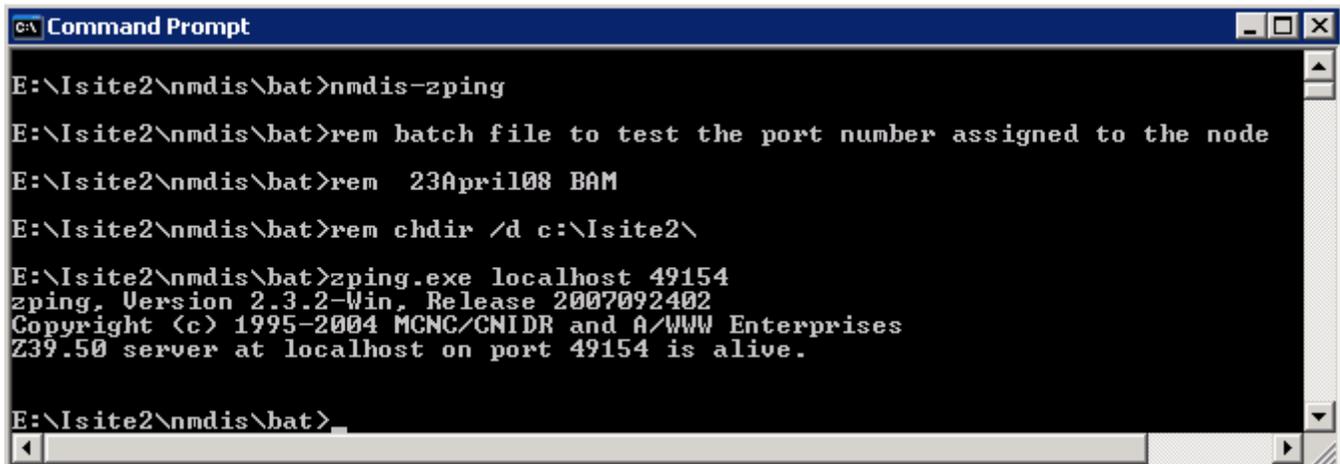


Fig. A2.1 Listing of DOS batch files to automate indexing and verification of zserver installation.

After navigating to the E:\site2\nmdis\bat directory, batch files can be executed in a DOS Command window by simply typing their name as shown in Fig. A2.2.



```
C:\ Command Prompt
E:\site2\nmdis\bat>nmdis-zping
E:\site2\nmdis\bat>rem batch file to test the port number assigned to the node
E:\site2\nmdis\bat>rem 23April08 BAM
E:\site2\nmdis\bat>rem chdir /d c:\site2\
E:\site2\nmdis\bat>zping.exe localhost 49154
zping, Version 2.3.2-Win, Release 2007092402
Copyright (c) 1995-2004 MCNC/CNIDR and A/WWW Enterprises
Z39.50 server at localhost on port 49154 is alive.
E:\site2\nmdis\bat>
```

Fig. A2.2. Example of running a DOS batch file in a DOS Command window.

The listed batch files perform the following functions

- nmdis-index.bat – automatically performs an index of the metadata records according to the instructions in section A2.2.1.
- nmdis-index-mp.bat – automatically creates HTML, TXT and SGML versions of the XML metadata records using the MP Utility.
- nmdis-isearch.bat - automatically performs a search against the indexed metadata records according to the instructions in section A2.2.2.
- nmdis-zclient.bat - automatically performs a test of the indexed metadata records according to the instructions in section A2.2.2.
- nmdis-zping.bat - automatically checks that the zserver service is running on a valid port according to the instructions in section A2.3.5)
- nmdis-zserver.bat – installs the zserver as a local process (see section A2.3.4). Note that a local zservice process will terminate once the logon session is terminated.(see section A2.5 for the difference).

You will need to edit all the batch files to change the name of the batch files to correspond to the name you give your node. Also edit the contents of every batch file, changing the nmdis to the name of your node.

## A2.2 Build an index

### A2.2.1 index

- ▶ Before you can index your metadata files, you must have metadata files in the E:\Isite2\data\pices-nmdis-adhost directory. There should be sample metadata files in the C:\Isite2\data directory already. However, if you want to index your metadata files, then replace the sample metadata files with your MP validated metadata files. You should have four different types of files: .txt, .html, .sgml, and .xml. \*\_faq.htm files are optional. For index to run, you must have at least one xml file.
- ▶ Open a command shell.

Note: These programs are built with the Cygwin emulator, so they require DOS-style paths like e:\Isite2 to be expressed as /cygdrive/e/Isite2.

For this example, we will assume that your database name will be in **bold** and the string you are searching for will be in ***bold italics***.

- ▶ index Command (See Fig. A2.3)

While in the E:\Isite2\nmdis directory, build an index using this command (all on one line):

```
E:\Isite2\nmdis>Iindex2.exe -d /cygdrive/e/Isite2/db/pices-nmdis-adhost\nmdis-t  
fgdc -o fieldtype=/cygdrive/c/Isite2/fgdc.fields  
/cygdrive/c/Isite2/data/*.xml
```

Syntax:

```
index -d [database] -t [document type] -o [document options] [metadata files]
```

What does the command do? The indexer goes into folder E:/Isite2/data/pices-nmdis-adhost, takes all xml files, using the fgdc.fields document type creates an index database and index files and put them in folder E:/Isite2/db/pices-nmdis-adhost.

You can automatically implement the indexing command by running the DOS batch file nmdis-index.bat in the E:\Isite2\nmdis\bat directory using a DOS Command Window.

```

C:\ Command Prompt
E:\Isite2\nmdis>lindex2.exe -d /cygdrive/e/Isite2/db/pices-nmdis-adhost/nmdis -t fgdc -o fieldtype=/
cygdrive/c/Isite2/fgdc.fields /cygdrive/e/Isite2/data/pices-nmdis-adhost/*.xml
lindex v2.5.10-Win, Release 2007092402
Building document list ...
The system cannot find the path specified.
Command failed: del \cygdrive/e/Isite2/db/pices-nmdis-adhost/nmdis.0* - No such file or directory
Creating new cache [/cygdrive/e/Isite2/db/pices-nmdis-adhost/nmdis.db]
Building database /cygdrive/e/Isite2/db/pices-nmdis-adhost/nmdis:

Parsing files ...

Parsing /cygdrive/e/Isite2/data/pices-nmdis-adhost/TS-Beihai.xml
Parsing /cygdrive/e/Isite2/data/pices-nmdis-adhost/TS-Dongfang.xml
Parsing /cygdrive/e/Isite2/data/pices-nmdis-adhost/TS-Haikou.xml
Parsing /cygdrive/e/Isite2/data/pices-nmdis-adhost/TS-Laohutan.xml
Parsing /cygdrive/e/Isite2/data/pices-nmdis-adhost/TS-Lianyungang.xml
Parsing /cygdrive/e/Isite2/data/pices-nmdis-adhost/TS-Qinhuangdao.xml
Parsing /cygdrive/e/Isite2/data/pices-nmdis-adhost/TS-Tanggu.xml
Parsing /cygdrive/e/Isite2/data/pices-nmdis-adhost/TS-Yantai.xml
Parsing /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-AirMusik.xml
Parsing /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-BalikPapan.xml
Parsing /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-BandaHarbour.xml
Parsing /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-BangkokBar.xml
Parsing /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-Beihai.xml
Parsing /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-Cebu.xml
Parsing /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-CuaCamApproaches.xml
Parsing /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-Dalian.xml
Parsing /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-Davao.xml
Parsing /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-Djakarta.xml
Parsing /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-DregerHarbour.xml
Parsing /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-Gaoxiang.xml
Parsing /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-Guangzhou.xml
Parsing /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-Haikou.xml
Parsing /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-HonNieu.xml
Parsing /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-HorsburghLighthouse.xml
Parsing /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-Jolo.xml
Parsing /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-KarangDjauang.xml
Parsing /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-KeppeHarbour.xml
Parsing /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-KualaBatuPahat.xml
Parsing /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-Labuan.xml
Parsing /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-Lianyungang.xml
Parsing /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-Manila.xml
Parsing /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-Miri.xml
Parsing /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-MuiVungTau.xml
Parsing /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-Pinang.xml
Parsing /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-PortDickson.xml
Parsing /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-PortKelang.xml
Parsing /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-PortMoresby.xml
Parsing /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-Qingdao.xml
Parsing /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-Sandakan.xml
Parsing /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-SeeadlerHarbour.xml
Parsing /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-SungaiBaito.xml
Parsing /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-SungaiKutei.xml
Parsing /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-SungaiSarawak.xml
Parsing /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-Surabaya.xml
Parsing /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-TanjungGelang.xml
Parsing /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-Trengganu.xml
Parsing /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-UilaHarbour.xml
Parsing /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-Wusong.xml
Parsing /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-Xiamen.xml
Parsing /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-Zhenhai.xml
Indexing 17163 words ...
.....
Database files saved to disk.
E:\Isite2\nmdis>_

```

Figure 19.3. Building Index using lindex command

In Fig. A2.3, “The system cannot find the path specified. Command failed: Del \cygdrive\c\Isite\db\NMDIS.0\* - No such file or directory” lines are actually a warning, not an error. It means that it’s a new index – the previous one doesn’t actually exist. It’s an information message and can be ignored.

Note: You must run this lindex command every time new metadata records are added to your node. In the future if your zserver is running and you want to index new metadata records, first stop your zserver, then run the lindex command, and

then restart your zserver. You can stop the zserver by opening the Windows Services tab, selecting the zserver-nmdis service and clicking on the Stop the service link. Restart the service by opening the Windows Services tab, selecting the zserver-nmdis service and clicking on the Start the service link (Fig. A2.16).

### A2.2.2 Test Index (See Fig. A2.4 and A2.5)

- ▶ Once it finishes indexing, you can test that the index was built correctly by confirming that the following full text search on your **NMDIS** database for the string *tidal* returns 42 records:

```
e:\Isite2\nmdis>Isearch2.exe -d /cygdrive/e/Isite2/db/pices-nmdis-adhost NMDIS  
tidal
```

- ▶ The following full text search should only return 42 records:

```
E:\Isite2\nmdis>Isearch2.exe -d /cygdrive/e/Isite2/db/pices-nmdis-adhost NMDIS  
title/tidal
```

Sometimes it is necessary to stop the zserver service (see Section A2.4) and erasing all files from the E:\Isite2\db\pices-nmdis-adhost directory before initiating the index command.

You can automatically implement the search command by running the DOS batch file nmdis-isearch.bat in the E:\Isite2\nmdis\bat directory using a DOS Command Window.

## A2.3 Configuring the Z39.50 server

### A2.3.1 sapi.ini and zserver.ini files

- ▶ Once you have verified that the indexes were built correctly, you will need to modify files zserver.ini and sapi.ini located in folder E:\Isite2\nmdis with a text editor. Notepad will do the job, as will MS Word, providing you remember to save the file as plain text. Replace nmdis with the name given to your node.

### A2.3.2 zserver.ini

- ▶ The zserver.ini file contains configuration information for the server process. Open and edit the file zserver.ini. Confirm the following parameters are set as they are below:

```
ServerType=STANDALONE  
Port=49514  
SAPI=/cygdrive/e/Isite2/nmdis/sapi.ini  
AccessLog=/cygdrive/e/Isite2/nmdis/zserver_access.log  
DBList= nmdis
```

# Instructions for Isite for Windows ADHOST

```
Command Prompt - Isearch2.exe -d /cygdrive/e/Isite2/db/pices-nmdis-adhost/nmdis tidal
E:\Isite2\nmdis>bat>cd ..
E:\Isite2\nmdis>Isearch2.exe -d /cygdrive/e/Isite2/db/pices-nmdis-adhost/nmdis tidal
Isearch v2.5.10-Win, Release 2007092402
Searching database /cygdrive/e/Isite2/db/pices-nmdis-adhost/nmdis:
Query String = tidal
42 document(s) matched your query, 42 document(s) displayed.
Score File
1. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-AirMusi.xml
Tidal prediction of main sea ports in Southeast Asia (Air Musi)
2. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-BalikPapan.xml
Tidal prediction of main sea ports in Southeast Asia (Balik Papan)
3. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-BandaHarbour.xml
Tidal prediction of main sea ports in Southeast Asia (Banda Harbour)
4. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-BangkokBar.xml
Tidal prediction of main sea ports in Southeast Asia (Bangkok Bar)
5. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-Beihai.xml
Tidal prediction of major coastal sea ports in China (Beihai)
6. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-Cebu.xml
Tidal prediction of main sea ports in Southeast Asia (Cebu)
7. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-CuaCamApproaches.xml
Tidal prediction of main sea ports in Southeast Asia (Cua Cam Approaches)
8. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-Dalian.xml
Tidal prediction of major coastal sea ports in China (Dalian)
9. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-Davao.xml
Tidal prediction of main sea ports in Southeast Asia (Davao)
10. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-Djakarta.xml
Tidal prediction of main sea ports in Southeast Asia (Djakarta)
11. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-DregerHarbour.xml
Tidal prediction of main sea ports in Southeast Asia (Dreger Harbour)
12. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-Gaoxiong.xml
Tidal prediction of major coastal sea ports in China (Gaoxiong)
13. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-Guangzhou.xml
Tidal prediction of major coastal sea ports in China (Guangzhou)
14. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-Haikou.xml
Tidal prediction of major coastal sea ports in China (Haikou)
15. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-HonNieu.xml
Tidal prediction of main sea ports in Southeast Asia (Hon Nieu)
16. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-HorsburghLighthouse.xml
Tidal prediction of main sea ports in Southeast Asia (Horsburgh Lighthouse)
17. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-Jolo.xml
Tidal prediction of main sea ports in Southeast Asia (Jolo)
18. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-KarangDjauang.xml
Tidal prediction of main sea ports in Southeast Asia (Karang Djauang)
19. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-KeppelHarbour.xml
Tidal prediction of main sea ports in Southeast Asia (Keppel Harbour)
20. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-KualaBatuPahat.xml
Tidal prediction of main sea ports in Southeast Asia (Kuala Batu Pahat)
21. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-Labuan.xml
Tidal prediction of main sea ports in Southeast Asia (Labuan)
22. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-Lianyungang.xml
Tidal prediction of major coastal sea ports in China (Lianyungang)
23. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-Manila.xml
Tidal prediction of main sea ports in Southeast Asia (Manila)
24. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-Miri.xml
Tidal prediction of main sea ports in Southeast Asia (Miri)
25. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-MuivungTau.xml
Tidal prediction of main sea ports in Southeast Asia (Muivung Tau)
26. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-Pinang.xml
Tidal prediction of main sea ports in Southeast Asia (Pinang)
27. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-PortDickson.xml
Tidal prediction of main sea ports in Southeast Asia (Port Dickson)
28. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-PortKelang.xml
Tidal prediction of main sea ports in Southeast Asia (Port Kelang)
29. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-PortMoresby.xml
Tidal prediction of main sea ports in Southeast Asia (Port Moresby)
30. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-Qingdao.xml
Tidal prediction of major coastal sea ports in China (Qingdao)
31. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-Sandakan.xml
Tidal prediction of main sea ports in Southeast Asia (Sandakan)
32. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-SeeadlerHarbour.xml
Tidal prediction of main sea ports in Southeast Asia (Seeadler Harbour)
33. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-SungaiBaito.xml
Tidal prediction of main sea ports in Southeast Asia (Sungai Baito)
34. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-SungaiKutei.xml
Tidal prediction of main sea ports in Southeast Asia (Sungai Kutei)
35. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-SungaiSarawak.xml
Tidal prediction of main sea ports in Southeast Asia (Sungai Sarawak)
36. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-Surabaya.xml
Tidal prediction of main sea ports in Southeast Asia (Surabaya)
37. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-TanjungGelang.xml
Tidal prediction of main sea ports in Southeast Asia (Tanjung Gelang)
38. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-Trengganu.xml
Tidal prediction of main sea ports in Southeast Asia (Trengganu)
39. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-UilaHarbour.xml
Tidal prediction of main sea ports in Southeast Asia (Uila Harbour)
40. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-Wusong.xml
Tidal prediction of major coastal sea ports in China (Wusong)
41. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-Xiamen.xml
Tidal prediction of major coastal sea ports in China (Xiamen)
42. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-Zhenhai.xml
Tidal prediction of major coastal sea ports in China (Zhenhai)
Select file #: _
```

Figure A2.4. Test that the index was built correctly by issuing a global search for the word “tidal”.

# Instructions for Isite for Windows ADHOST

```
Command Prompt - Isearch2.exe -d /cygdrive/e/Isite2/db/pices-nmdis-adhost/nmdis title/tidal
E:\Isite2\nmdis>Isearch2.exe -d /cygdrive/e/Isite2/db/pices-nmdis-adhost/nmdis title/tidal
Isearch v2.5.10-Win, Release 2007092402
Searching database /cygdrive/e/Isite2/db/pices-nmdis-adhost/nmdis:
Query String = title/tidal

42 document(s) matched your query, 42 document(s) displayed.

Score      File
-----
1. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-AirMusi.xml
Tidal prediction of main sea ports in Southeast Asia (Air Musi)
2. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-BalikPapan.xml
Tidal prediction of main sea ports in Southeast Asia (Balik Papan)
3. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-BandaHarbour.xml
Tidal prediction of main sea ports in Southeast Asia (Banda Harbour)
4. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-BangkokBar.xml
Tidal prediction of main sea ports in Southeast Asia (Bangkok Bar)
5. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-Beihai.xml
Tidal prediction of major coastal sea ports in China (Beihai)
6. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-Cebu.xml
Tidal prediction of main sea ports in Southeast Asia (Cebu)
7. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-CuaCamApproaches.xml
Tidal prediction of main sea ports in Southeast Asia (Cua Cam Approaches)
8. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-Dalian.xml
Tidal prediction of major coastal sea ports in China (Dalian)
9. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-Davao.xml
Tidal prediction of main sea ports in Southeast Asia (Davao)
10. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-Djakarta.xml
Tidal prediction of main sea ports in Southeast Asia (Djakarta)
11. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-DregerHarbour.xml
Tidal prediction of main sea ports in Southeast Asia (Dreger Harbour)
12. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-Gaoxiong.xml
Tidal prediction of major coastal sea ports in China (Gaoxiong)
13. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-Guangzhou.xml
Tidal prediction of major coastal sea ports in China (Guangzhou)
14. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-Haikou.xml
Tidal prediction of major coastal sea ports in China (Haikou)
15. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-HonNieu.xml
Tidal prediction of main sea ports in Southeast Asia (Hon Nieu)
16. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-HorsburghLighthouse.xml
Tidal prediction of main sea ports in Southeast Asia (Horsburgh Lighthouse)
17. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-Jolo.xml
Tidal prediction of main sea ports in Southeast Asia (Jolo)
18. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-KarangDjamuang.xml
Tidal prediction of main sea ports in Southeast Asia (Karang Djamuang)
19. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-KeppelHarbour.xml
Tidal prediction of main sea ports in Southeast Asia (Keppel Harbour)
20. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-KualaBatuPahat.xml
Tidal prediction of main sea ports in Southeast Asia (Kuala Batu Pahat)
21. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-Labuan.xml
Tidal prediction of main sea ports in Southeast Asia (Labuan)
22. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-Lianyungang.xml
Tidal prediction of major coastal sea ports in China (Lianyungang)
23. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-Manila.xml
Tidal prediction of main sea ports in Southeast Asia (Manila)
24. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-Miri.xml
Tidal prediction of main sea ports in Southeast Asia (Miri)
25. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-MuivungTau.xml
Tidal prediction of main sea ports in Southeast Asia (Muivung Tau)
26. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-Pinang.xml
Tidal prediction of main sea ports in Southeast Asia (Pinang)
27. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-PortDickson.xml
Tidal prediction of main sea ports in Southeast Asia (Port Dickson)
28. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-PortKelang.xml
Tidal prediction of main sea ports in Southeast Asia (Port Kelang)
29. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-PortMoresby.xml
Tidal prediction of main sea ports in Southeast Asia (Port Moresby)
30. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-Qingdao.xml
Tidal prediction of major coastal sea ports in China (Qingdao)
31. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-Sandakan.xml
Tidal prediction of main sea ports in Southeast Asia (Sandakan)
32. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-SeeadlerHarbour.xml
Tidal prediction of main sea ports in Southeast Asia (Seeadler Harbour)
33. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-SungaiBaito.xml
Tidal prediction of main sea ports in Southeast Asia (Sungai Baito)
34. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-SungaiKutei.xml
Tidal prediction of main sea ports in Southeast Asia (Sungai Kutei)
35. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-SungaiSarawak.xml
Tidal prediction of main sea ports in Southeast Asia (Sungai Sarawak)
36. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-Surabaya.xml
Tidal prediction of main sea ports in Southeast Asia (Surabaya)
37. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-TanjungGelang.xml
Tidal prediction of main sea ports in Southeast Asia (Tanjung Gelang)
38. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-Trengganu.xml
Tidal prediction of main sea ports in Southeast Asia (Trengganu)
39. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-UilaHarbour.xml
Tidal prediction of main sea ports in Southeast Asia (Uila Harbour)
40. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-Wusong.xml
Tidal prediction of major coastal sea ports in China (Wusong)
41. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-Xiamen.xml
Tidal prediction of major coastal sea ports in China (Xiamen)
42. 100 /cygdrive/e/Isite2/data/pices-nmdis-adhost/Tide-Zhenhai.xml
Tidal prediction of major coastal sea ports in China (Zhenhai)

Select file #: _
```

Figure A2.5. Test that the index was built correctly by issuing a search for the word “tidal” in the title field.

Note: Port 49154 is the registered port for the Z39.50 communications protocol for the nmdis node, and we use 49154 in this example. However, your port will be different. This port must be open in order for you to be able to test that the zserver program is running and for the new node to communicate with the Clearinghouse node.

If you would like to add additional databases, you can create a comma delimited list in your zserver.ini. For example, if you were adding a database named **SOA** the DBList line would read for example:

```
DBList=nmdis, SOA
```

### A2.3.3 sapi.ini

- ▶ Search API configuration file, sapi.ini, is located in folder e:\Isite2\nmdis. The sapi.ini file contains essential information for the server to connect to a specific search engine.
- ▶ Open and edit sapi.ini. You need to include an entry for each database you want to make available through zserver. Use the following for the **NMDIS** database, in the [Default] section of sapi.ini:

```
[NMDIS]  
Type=ISEARCH  
Location=/cygdrive/e/Isite2/db/pices-nmdis-adhost  
FieldMaps=/cygdrive/c/Isite2/bib1_fgdc.map, /cygdrive/c/Isite2/gils_fgdc.map,  
/cygdrive/c/Isite2/geo_fgdc.map
```

Note: The FieldMaps line should all be on one line. Also, you may use relative paths instead of absolute paths in the FieldMaps parameter, assuming these files are located in the same directory as the zserver program. For example:

```
[NMDIS]  
Type=ISEARCH  
Location=/cygdrive/e/Isite2/db/pices-nmdis-adhost  
FieldMaps=bib1_fgdc.map,gils_fgdc.map,geo_fgdc.map
```

Note: FieldMaps define the mapping between Use Attribute numbers and the corresponding element names in your metadata documents. FieldMaps are handled by the search script. In order for Z39.50 clients to search your Isearch database in a standardized manner, you must provide a mapping from Z39.50 database information to Isearch style information. This currently involves mapping Z39.50 Use attributes (combination Attribute Set Id and integer Use value representing a field name) to your field names as indexed by lindex. There are three mapping files that must be referenced here that allow your server to be seen as an FGDC server, a bibliographic server, and a GILS server. All three files are included in folder C:\Isite2.

Using a file editor, replace nmdis with the name of your node in the zserver.ini and sapi.ini files.

#### A2.3.4 zserver.exe

- ▶ Once you have configured zserver.ini and sapi.ini appropriately, you can issue the DOS command (see Fig. A2.6):

```
E:\Isite2\nmdis>zserver.exe
```

to start the server, then minimize the window and let the server run unattended.

Note: Do not close this DOS Command prompt window. Closing the DOS command prompt window will terminate the zserver process and the Z39.50 session. As you can see on the Command Prompt in Fig 3, the last line should return "Waiting to Accept client...".

- ▶ If you want to start zserver in a directory other than the one where zserver.ini and sapi.ini are located, the command would be (for example):

```
E:\Isite2\nmdis>zserver.exe -i/cygdrive/e/Isite2/nmdis/zserver.ini
```

```
C:\ Command Prompt - zserver.exe
E:\Isite2\nmdis>zserver.exe

CNIDR zserver, Version 2.3.2-Win, Release 2007092402, Copyright (c) 1995-2004 MC
NC/CNIDR and A/WWW Enterprises

zserver.ini Path = /cygdrive/e/Isite2/nmdis/zserver.ini
SAPI File = /cygdrive/e/Isite2/nmdis/sapi.ini
Looking for map files in /cygdrive/e/Isite2/nmdis/

Attempting to mount database nmdis
Location is /cygdrive/e/Isite2/db/pices-nmdis-adhost
Successfully mounted.
Adding 67 fields from /cygdrive/c/Isite2/bib1_fgdc.map to internal mapping table
$. . .
Adding 67 fields from /cygdrive/c/Isite2/gils_fgdc.map to internal mapping table
$. . .
Adding 67 fields from /cygdrive/c/Isite2/geo_fgdc.map to internal mapping tables
. . .

DebugLevel=9.
Listening on port 49154...
Listening to socket #4...
Forking Server Started, Port 49154...

Waiting to Accept client...
```

Figure A2.6. Start zserver

Leave the Command Prompt window open and open a second Command Prompt window. Arrange the two Command Prompt windows next to each other. As you test the zserver as instructed below, you should see how the zserver responds to your searches in the first Command Prompt window.

### A2.3.5 Test the zserver Installation (See Fig. A2.7)

- ▶ Ping your localhost on port 49154.

Once you have zserver running (on port 49154 and with a database named "**NMDIS**"), you can test it by confirming that it is running by executing the following command in your second DOS Command Prompt window:

```
E:\Isite2\nmdis>zping.exe localhost 49154
```

It should return, "Z39.50 server at localhost on port 49154 is alive." As seen in Fig. A2.7a.

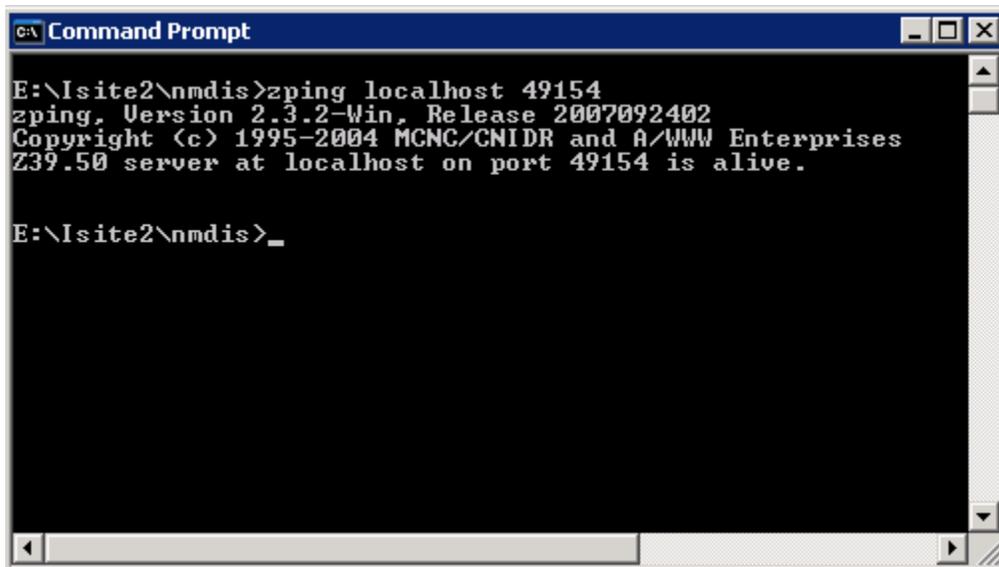


Figure A2.7a. Test that the zserver is running correctly by running zping.

- ▶ Confirm that a full text search for the string *tidal* returns 42 records (see Fig. A2.7b):

```
E:\Isite2\nmdis>zclient.exe localhost 49154 " NMDI " "tidal[1,1016]"
```

- ▶ Finally a global spatial search should return 50 records (all the records) (see Fig. A2.7c):

```
E:\Isite2\nmdis>zclient.exe localhost 49154 " NMDIS " "90 -180 -90 180[1,2060]"
```

```

C:\> Command Prompt - zclient.exe localhost 49154 "nmdis" "tidal[1,1016]"

E:\Isite2\nmdis>zping localhost 49154
zping, Version 2.3.2-Win, Release 2007092402
Copyright (c) 1995-2004 MCNC/CNIDR and A/WWW Enterprises
Z39.50 server at localhost on port 49154 is alive.

E:\Isite2\nmdis>zclient.exe localhost 49154 "nmdis" "tidal[1,1016]"
zclient, Version 2.3.2-Win, Release 2007092402
Copyright (c) 1995-2004 MCNC/CNIDR and A/WWW Enterprises
zclient, Version 2.3.2-Win, Release 2007092402
Copyright (c) 1995-2004 MCNC/CNIDR and A/WWW Enterprises

42 total records matched your query

1) Tidal prediction of main sea ports in Southeast Asia (Air Musi)
2) Tidal prediction of main sea ports in Southeast Asia (Balik Papan)
3) Tidal prediction of main sea ports in Southeast Asia (Banda Harbour)
4) Tidal prediction of main sea ports in Southeast Asia (Bangkok Bar)
5) Tidal prediction of major coastal sea ports in China (Beihai)
6) Tidal prediction of main sea ports in Southeast Asia (Cebu)
7) Tidal prediction of main sea ports in Southeast Asia (Cua Cam Approaches)
8) Tidal prediction of major coastal sea ports in China (Dalian)
9) Tidal prediction of main sea ports in Southeast Asia (Davao)
10) Tidal prediction of main sea ports in Southeast Asia (Djakarta)
11) Tidal prediction of main sea ports in Southeast Asia (Dreger Harbour)
12) Tidal prediction of major coastal sea ports in China (Gaoxiong)
13) Tidal prediction of major coastal sea ports in China (Guangzhou)
14) Tidal prediction of major coastal sea ports in China (Haikou)
15) Tidal prediction of main sea ports in Southeast Asia (Hon Nieu)
16) Tidal prediction of main sea ports in Southeast Asia (Horsburgh Lighthouse)
17) Tidal prediction of main sea ports in Southeast Asia (Jolo)
18) Tidal prediction of main sea ports in Southeast Asia (Karang Djamuang)
19) Tidal prediction of main sea ports in Southeast Asia (Keppel Harbour)
20) Tidal prediction of main sea ports in Southeast Asia (Kuala Batu Pahat)

Enter # of record to view (return to quit): _
    
```

Figure A2.7b. Test that the zserver is running correctly by running a full text search.

```

C:\> Command Prompt - zclient.exe localhost 49154 "nmdis" "90-180-90 180[1,2060]"

E:\Isite2\nmdis>zclient.exe localhost 49154 "nmdis" "90-180-90 180[1,2060]"
zclient, Version 2.3.2-Win, Release 2007092402
Copyright (c) 1995-2004 MCNC/CNIDR and A/WWW Enterprises
zclient, Version 2.3.2-Win, Release 2007092402
Copyright (c) 1995-2004 MCNC/CNIDR and A/WWW Enterprises

50 total records matched your query

1) Ocean Station Temperature and Salinity Dataset (Beihai 1213)
2) Ocean Station Temperature and Salinity Data Set (Dongfang 1212)
3) Ocean Station Temperature and Salinity Data Set (Haikou 1210)
4) Ocean Station Temperature and salinity Data Set (Laohutan 1005)
5) Ocean Station Temperature and Salinity Data Set (Lianyungang 1017)
6) Ocean Station Temperature and Salinity Data Set (Qinhuangdao 1008)
7) Ocean Station Temperature and Salinity Data Set (Tanggu 1009)
8) Ocean Station Temperature and Salinity Data Set (Yantai 1011)
9) Tidal prediction of main sea ports in Southeast Asia (Air Musi)
10) Tidal prediction of main sea ports in Southeast Asia (Balik Papan)
11) Tidal prediction of main sea ports in Southeast Asia (Banda Harbour)
12) Tidal prediction of main sea ports in Southeast Asia (Bangkok Bar)
13) Tidal prediction of major coastal sea ports in China (Beihai)
14) Tidal prediction of main sea ports in Southeast Asia (Cebu)
15) Tidal prediction of main sea ports in Southeast Asia (Cua Cam Approaches)
16) Tidal prediction of major coastal sea ports in China (Dalian)
17) Tidal prediction of main sea ports in Southeast Asia (Davao)
18) Tidal prediction of main sea ports in Southeast Asia (Djakarta)
19) Tidal prediction of main sea ports in Southeast Asia (Dreger Harbour)
20) Tidal prediction of major coastal sea ports in China (Gaoxiong)

Enter # of record to view (return to quit): _
    
```

Figure A2.7c. Test that the zserver is running correctly by performing a global search.

## A2.4 Install zserver as a Windows Service

Note: It is very important that you back up your computer registry before attempting to work with the Windows Service. Contact your system administrator for assistance.

### A2.4.1 Installation of srvany.exe:

- ▶ Using a DOS Command Prompt Shell install SRVANY.EXE as a Windows NT service with the following command (all in one line):

```
e:\Isite2\nmdis>INSTSRV zserver-nmdis c:\windows\system32\srvany.exe
```

This command line tells INSTSRV to install srvany.exe. and to create a service named "zserver-nmdis". You should receive the following message if the command was successful.

"The service was successfully added!"

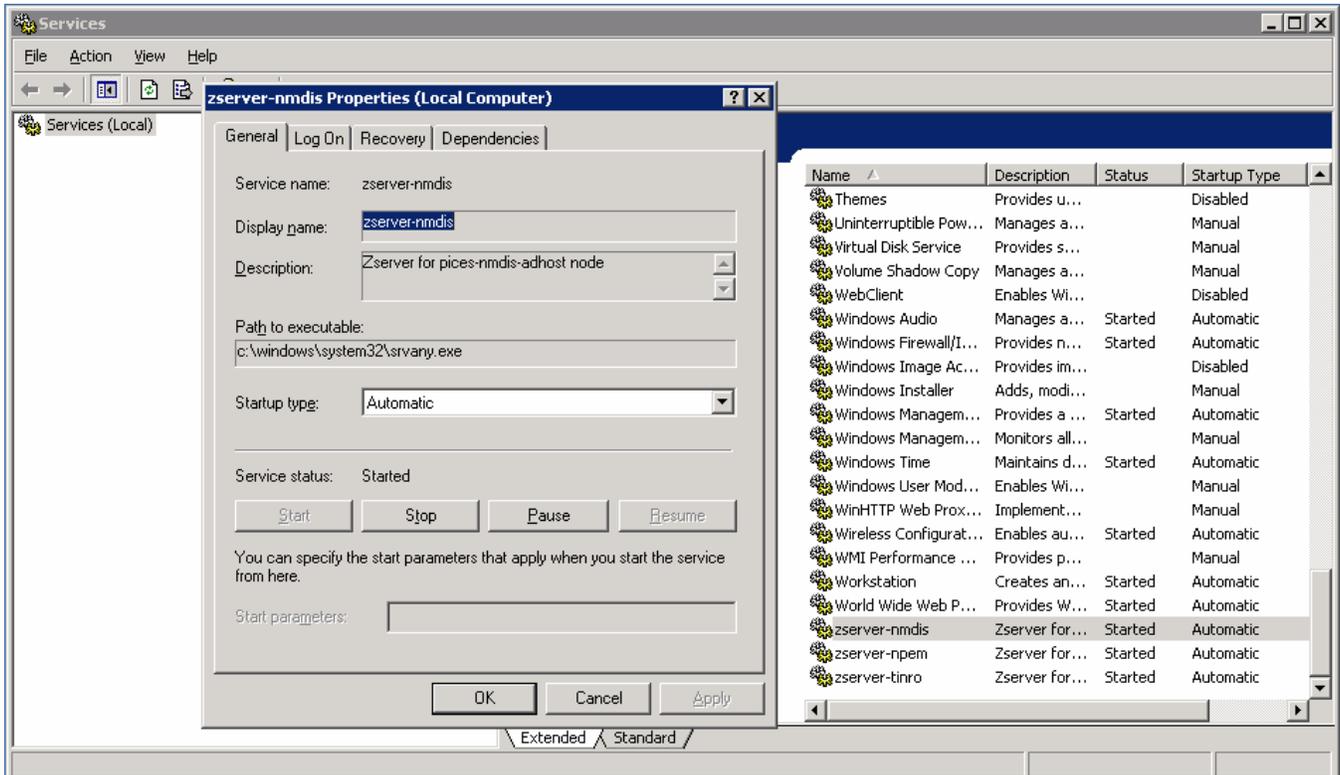
### A2.4.2 Windows Services

- ▶ Go to Start, Administrative Tools and use the "Services" control panel to configure the "Startup type" to "Automatic". (See Fig. A2.8)
- ▶ Scroll down to the item "zserver-nmdis."
- ▶ Right click on it and choose "Properties" to bring up the " zserver-nmdis Properties" dialog box.
- ▶ Change "Startup type:" to "Automatic".
- ▶ Choose the "Log On" tab.
- ▶ Set "Log On As:" to "Local System account".
- ▶ Press "OK" to save your changes.

### A2.4.3 Specifying the application to start and its parameters (See Fig. A2.9-A2.14)

- ▶ Run the Registry Editor from the Command Prompt Shell:

```
C:\>REGEDIT.EXE
```



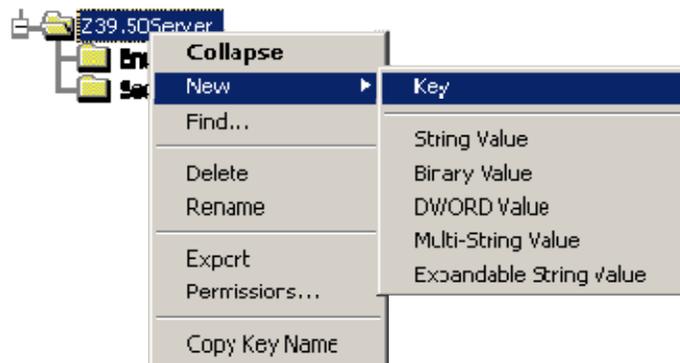
**Figure A2.8. Windows Services showing the zserver-nmdis service.**

- ▶ Click on the plus sign (⊕) next to "My Computer" (🖥️). The plus sign will turn into a minus sign (⊖) and a tree of folders (📁) will appear.
- ▶ Click on the plus sign next to the folder labeled "HKEY\_LOCAL\_MACHINE", and another tree structure will expand beneath it.
- ▶ Following the above pattern, click on the plus signs (⊕) next to the folders (📁) "SYSTEM", "CurrentControlSet", "Services", and "zserver-mynode", in that order.
- ▶ When you have navigated that far correctly you should see the following in your status bar:

My Computer\HKEY\_LOCAL\_MACHINE\SYSTEM\CurrentControlSet\Services\zserver-nmdis

**Figure A2.2a. Registry Editor status bar**

- ▶ Create a new key named "Parameters" by right clicking on the " zserver-nmdis" and choosing "New → Key" as shown below in Fig. A2.9:



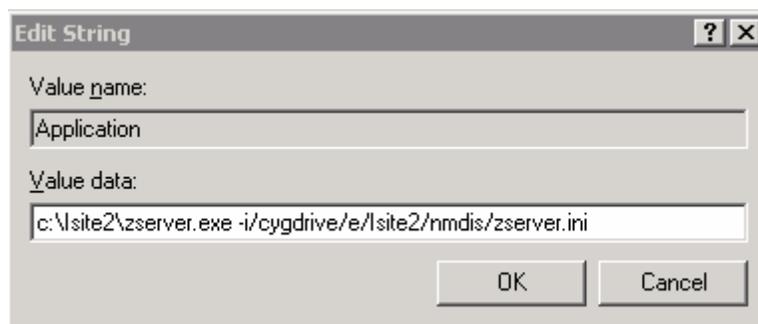
**Figure A2.3. Registry Editor: zserver-nmdis: Add new key**

- ▶ Under the "Parameters" key, create a new string value named "Application" by right clicking on the "Parameters" folder and choosing "New → String Value" as shown below in Fig. A2.10:

Name	Type	Data
(Default)	REG_SZ	(value not set)
Application	REG_SZ	

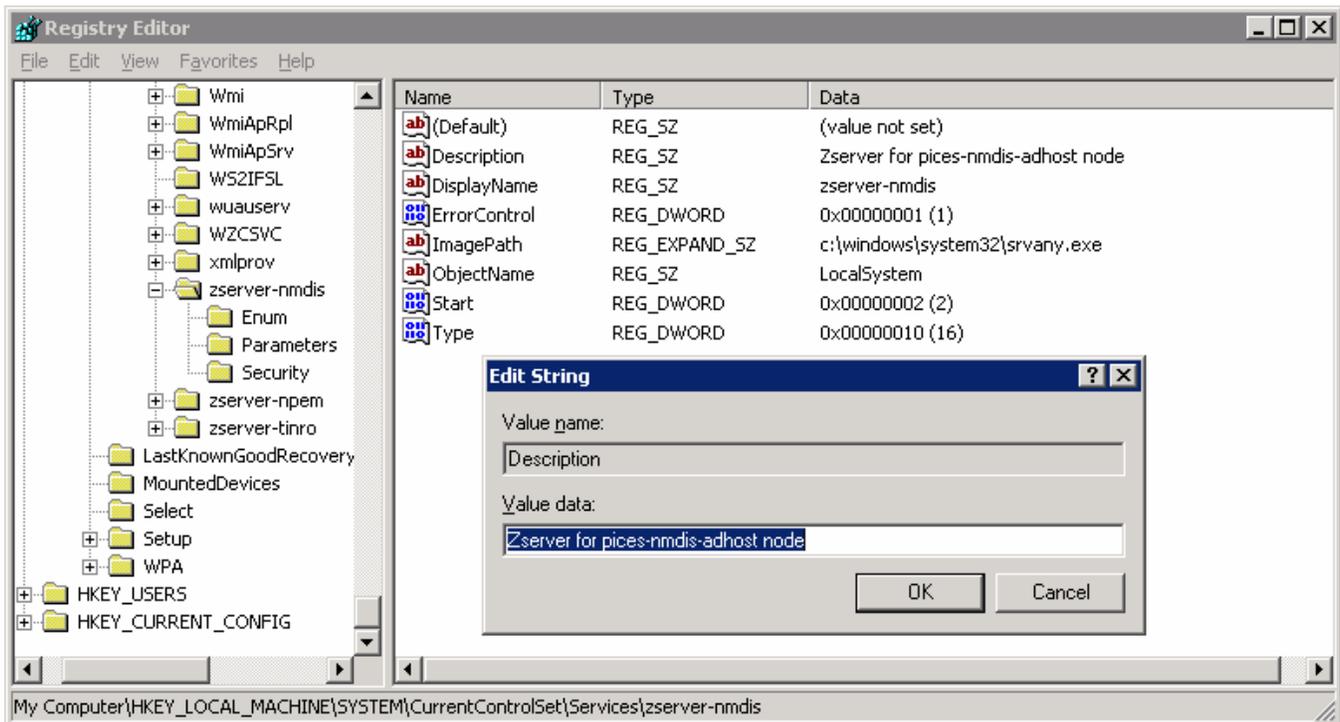
**Figure A2.4. Registry Editor: zserver-nmdis: Name the new key**

- ▶ Double click on the "Application" string value you have just created and in the "Edit String" window that pops up specify there the full path to the zserver.exe executable (including the extension - c:\Isite2\zserver.exe - i/cygdrive/e/Isite2/nmdis/zserver.ini), as shown in Fig. A2.11:



**Figure A2.5. Registry Editor: zserver-nmdis: Add Value data**

- ▶ Following the pattern of steps above, create a new string value named under the "Parameters" key named "Description" and specify there the Description for the zserver (see Fig. A2.12):



**Figure A2.6. Registry Editor: zserver-nmdis: Add new key and value data**

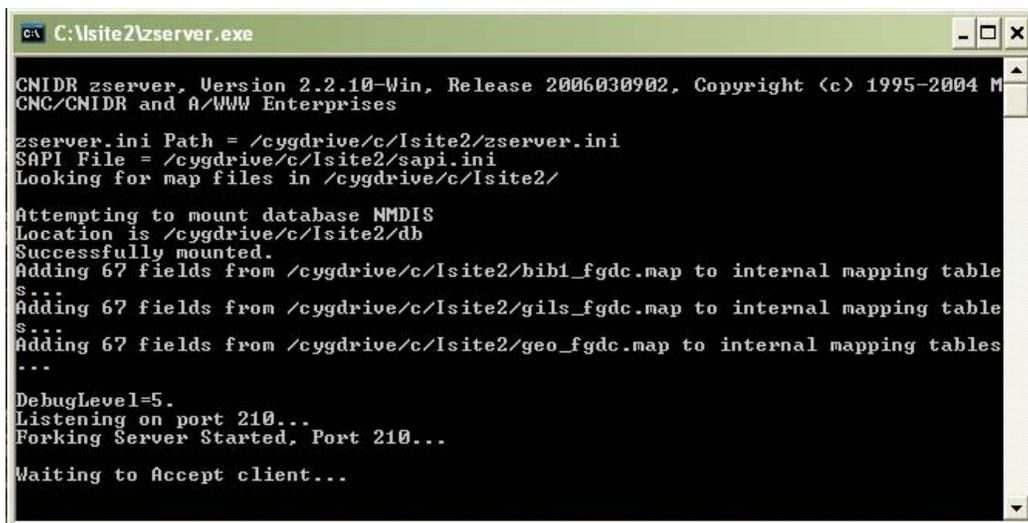
NOTE: You can check if everything is working okay by going into "zserver-nmdis Properties" using the steps outlined above. Go to the "Log On" tab and check the box next to "Allow Service to Interact with Desktop". Set the "DebugLevel" in zserver.ini to 5 so you will get some feedback. This should be the default setting in the zserver.ini file.



**Figure A2.7. Windows Services: zserver-nmdis Properties**

Then reboot and log in. You will get a command prompt box with the zserver debug text displayed.

If everything is okay, then you should see the Command Prompt Shell pop up with the screen in Fig. A2.14.



```
C:\site2\zserver.exe
CNIDR zserver, Version 2.2.10-Win, Release 2006030902, Copyright (c) 1995-2004 M
CNC/CNIDR and A/WWW Enterprises
zserver.ini Path = /cygdrive/c/Isite2/zserver.ini
SAPI File = /cygdrive/c/Isite2/sapi.ini
Looking for map files in /cygdrive/c/Isite2/

Attempting to mount database NMDIS
Location is /cygdrive/c/Isite2/db
Successfully mounted.
Adding 67 fields from /cygdrive/c/Isite2/bib1_fgdc.map to internal mapping table
S...
Adding 67 fields from /cygdrive/c/Isite2/gils_fgdc.map to internal mapping table
S...
Adding 67 fields from /cygdrive/c/Isite2/geo_fgdc.map to internal mapping tables
...
DebugLevel=5.
Listening on port 210...
Forking Server Started, Port 210...
Waiting to accept client...
```

Figure A2.8. Message received after reboot

Note: After the reboot **DO NOT** leave the "Allow Service to Interact with Desktop" checked, because a Command Prompt Shell will appear for every user and if a user exits the shell, the zserver process will terminate.

- ▶ Go to Windows Services > "zserver-nmdis" Properties" > "Log On" tab and uncheck the box next to "Allow Service to Interact with Desktop". Leave the Windows Services open. You'll have to get back to it.

When the zserver process is stable and registered, you should configure the zserver service to be started whenever the system reboots to ensure minimum down-time and administrator interaction. After you register your node with the Clearinghouse, go to Windows Services. In the Services, for zserver-nmdis, stop the service and then start it once more (see section A2.4). This will ensure that next time you reboot your zserver will start up automatically.

That's it! You're done with the Isite installation. Next, on to register your newly created node.

## A2.5 Starting and Stopping the Zserver Process

Normally, a zerver process is started for each individual node running on the AdHost server as listed in Fig. A2.15, which can be viewed by clicking on "Start", then "Administrative Tools", then "Services". Scroll to the bottom as services are listed alphabetically. Note that in this example, there is a separate zserver process running for three separate nodes and that the services are logged on as belonging to the local system.

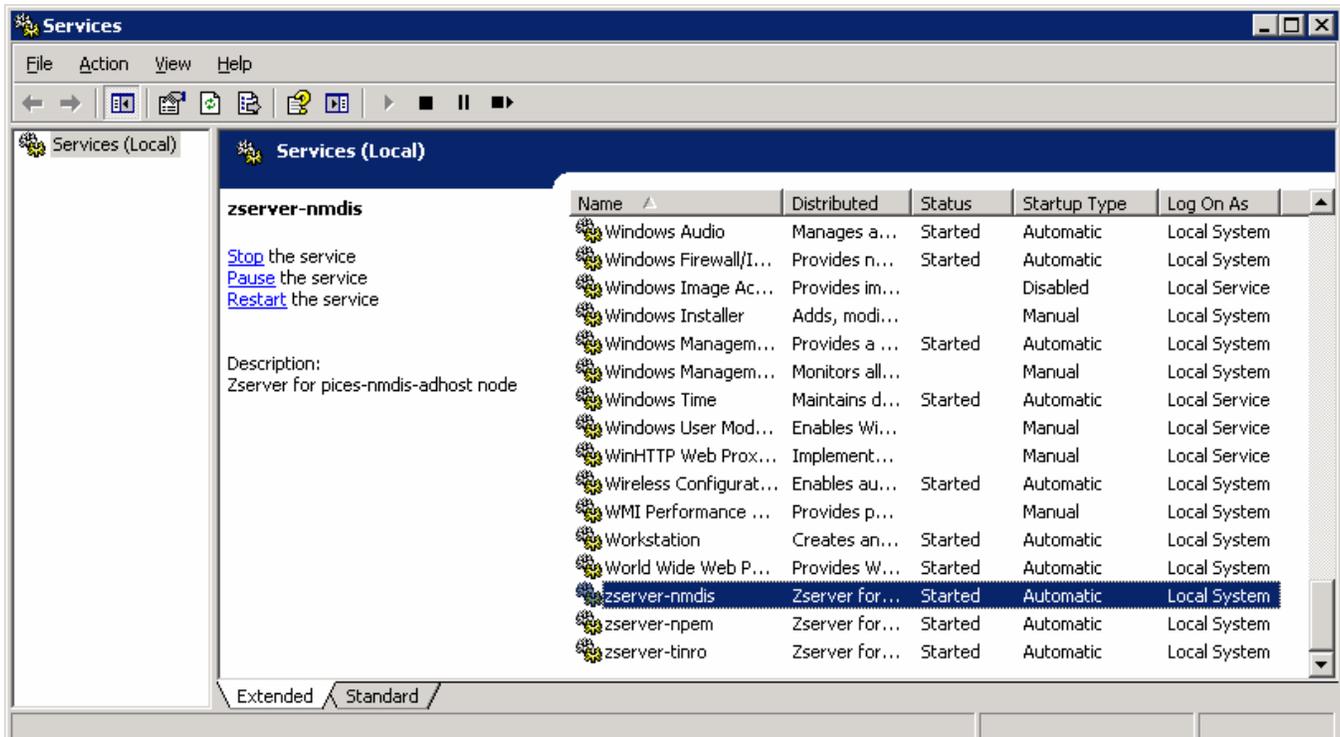


Figure A2.15 All three zserver processes are active and running.

A zserver process can be stopped by clicking on it, then clicking on the “stop the service” link to the left of the window (See Fig. A2.15). It can be started again by clicking on the “start the service” link (see Fig. A2.16). The three zserver processes can be seen running in the Windows Task Manager windows (Fig.A2.17). Note that all three are running as SYSTEM service meaning they will continue to run after you log off of the AdHost server.

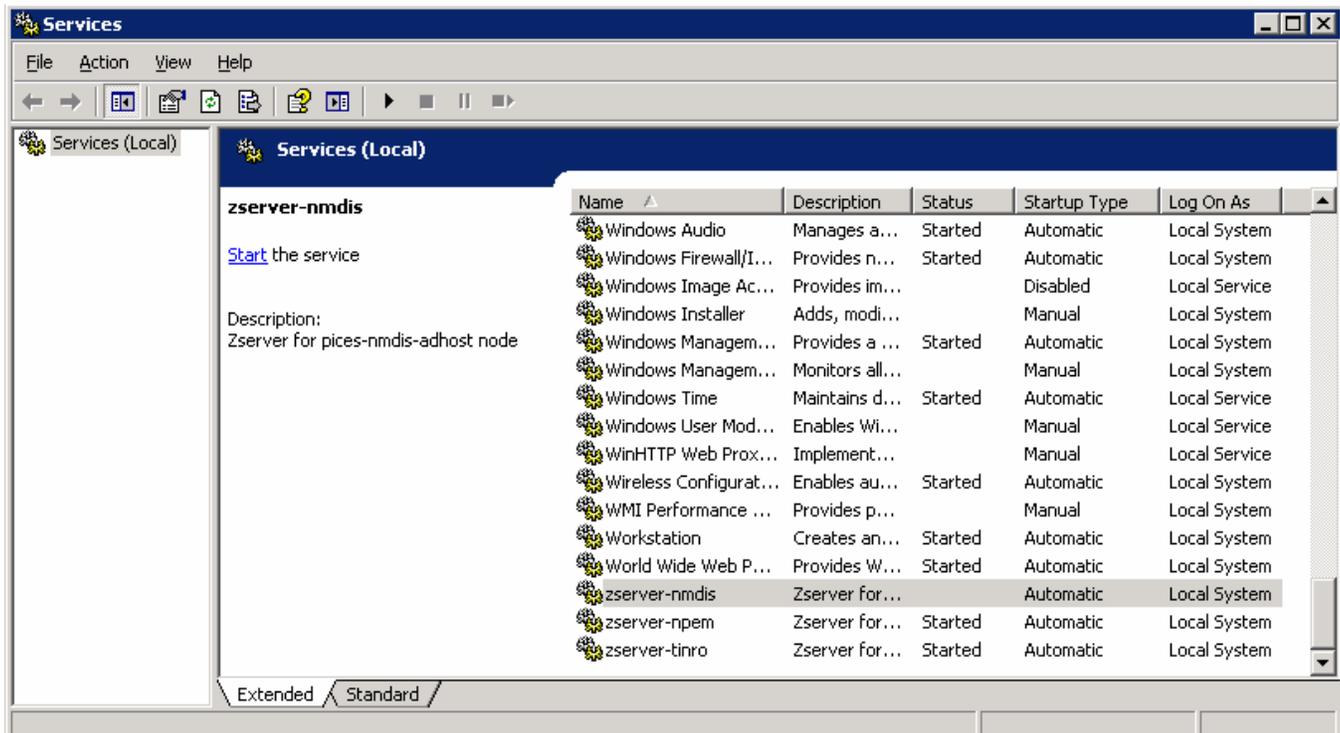


Figure A2.16. Only two zservers are active and running and one (nmdis) is stopped.

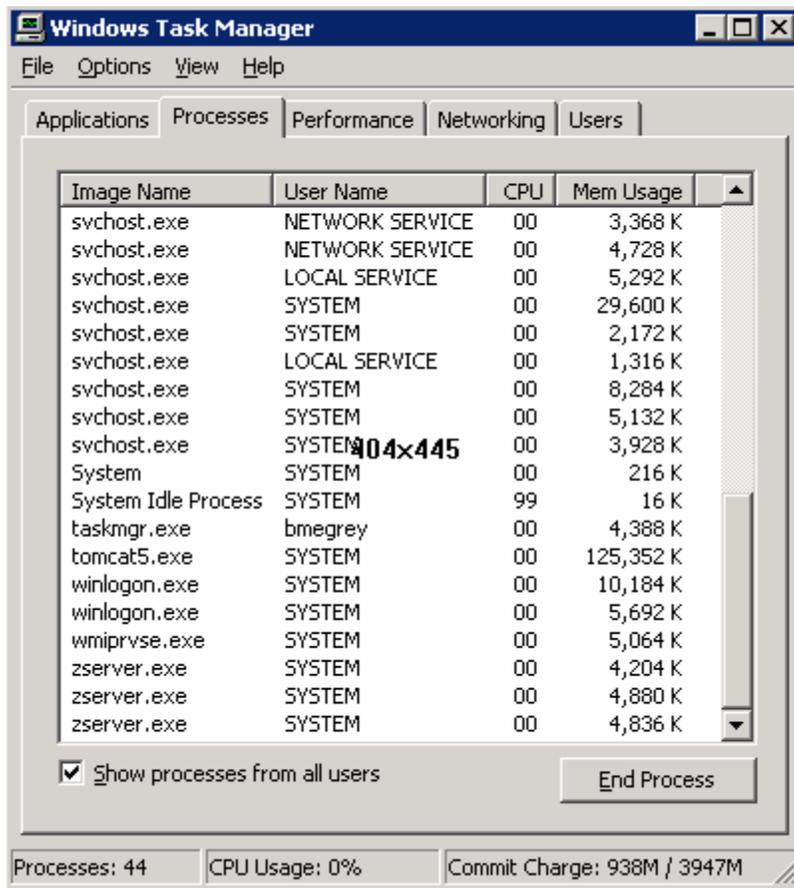


Figure A2.17. Windows Task manager showing the zserver process running separately for each of three active nodes.

## A2.6 Local and System Level Zserver Processes

A zserver service can be run locally for testing purposes by first stopping the SYSTEM zserver process in the Services Window (See Figs A2.15 and A2.16). Navigate to the E:\site2\nmdis\bat directory and run the batch job nmdis-zserver.bat in a DOS Command window which should look like Fig. A2.18. At this point, the Windows Task manager shows that there are two zserver process running at the SYSTEM level and one running locally under the username of bmegrey (see Fig. A2.19).

```

CA Command Prompt - nmdis-zserver
E:\Isite2\nmdis\bat>chdir /d c:\Isite2\
C:\Isite2>zserver.exe -i/cygdrive/e/Isite2/nmdis/zserver.ini
CNIDR zserver, Uersion 2.3.2-Win, Release 2007092402, Copyright (c) 1995-2004 MCNC/CNIDR and A/WWW Enterprises
zserver.ini Path = /cygdrive/e/Isite2/nmdis/zserver.ini
SAPI File = /cygdrive/e/Isite2/nmdis/sapi.ini
Looking for map files in /cygdrive/e/Isite2/nmdis/

Attempting to mount database nmdis
Location is /cygdrive/e/Isite2/db/pices-nmdis-adhost
Successfully mounted.
Adding 67 fields from /cygdrive/c/Isite2/bih1_fgdc.map to internal mapping tables...
Adding 67 fields from /cygdrive/c/Isite2/gils_fgdc.map to internal mapping tables...
Adding 67 fields from /cygdrive/c/Isite2/geo_fgdc.map to internal mapping tables...

DebugLevel=9.
Listening on port 49154...
Listening to socket #4...
Forking Server Started, Port 49154...

Waiting to Accept client...
    
```

Figure A2.18. Example of interactively starting a local zserver process.

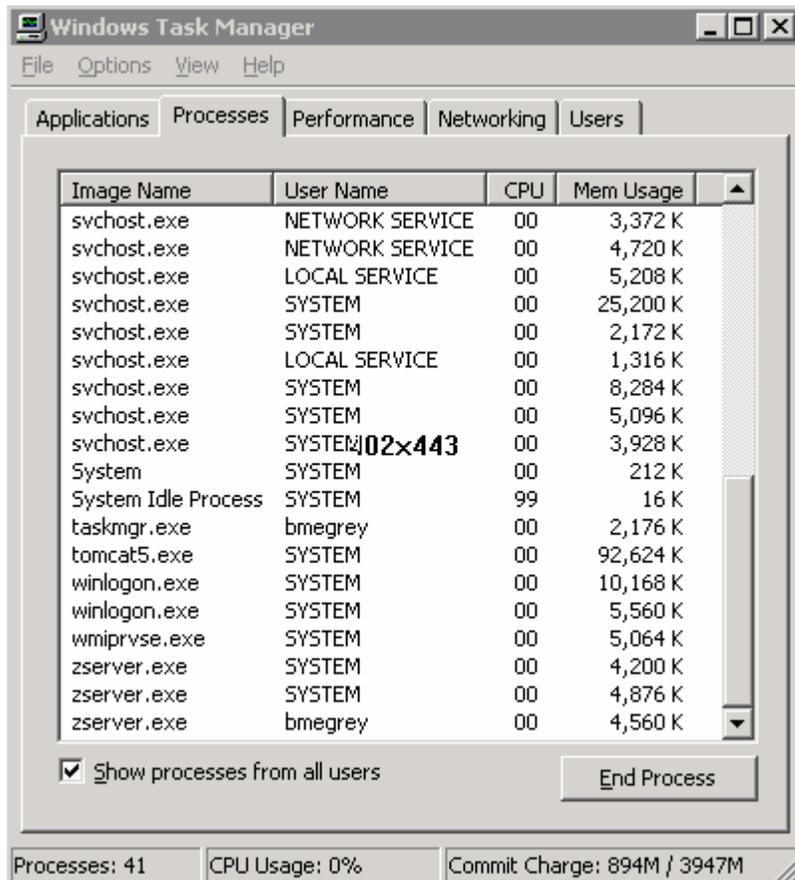
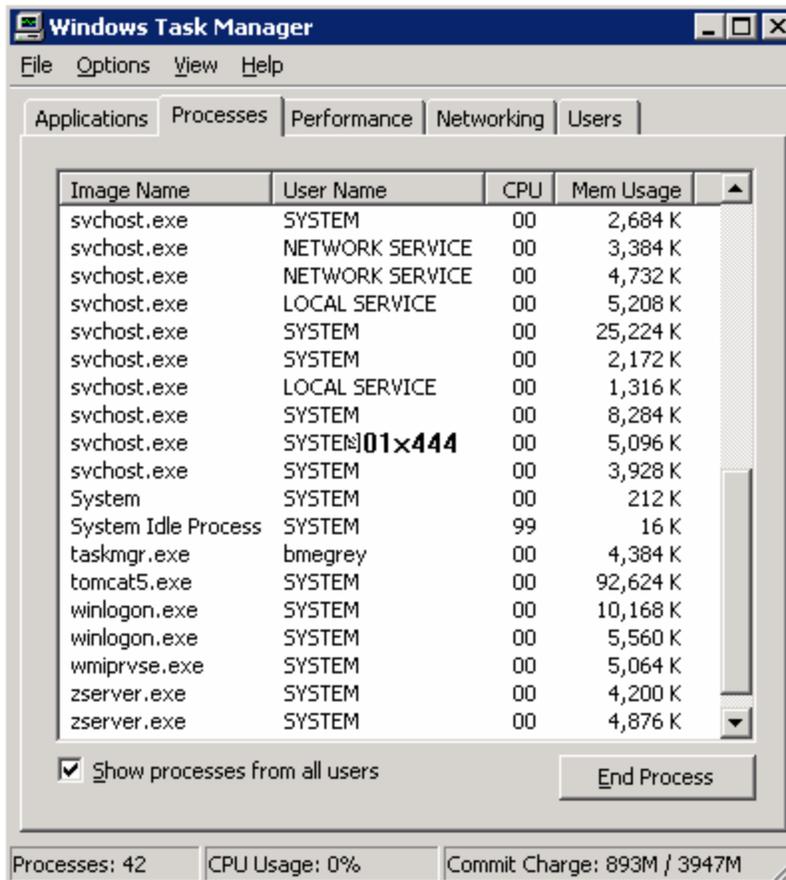


Figure A2.19. Windows Task Manager showing one local zserver process and two System Level zserver processes.

Once the DOS Command windows is closed the local zserver process will terminate (see Figure A2.20)



**Figure A2.20. Windows Task manager showing only two System Level zserver processes running after the local process was terminate by closing the DOS Command window.**

The SYSTEM zserver process for the nmdis node can be restarted from the Services window by clicking on the zserver-nmdis process and clicking on the “start the service” link (See Fig. A2.16). Always check that the zserver process successfully started by running the nmdis-zping batch file before logging off the AdHost server.

### A2.7 Register your node

- ▶ Until you register your server with the FGDC, it will not be included in the search forms. To register, fill in the server-level metadata at <http://registry.fgdc.gov/>.
- ▶ Refer to PICES Tech Memo for instructions to register your node (see section 8.6) or see the FGDC tutorial at <http://registry.fgdc.gov/TutorialAdd.asp>.