

ICIS Installation Diagnostic Tool

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Agenda

- Objectives of the tool
- Background
- Configuration Test Features
- Database Test Features
- DLL Test Features
- Other Features
- What's Next?

Objectives of the tool

- Discover the installation problem
- Suggest a solution to the installation problem
- Fix the installation problem

Background

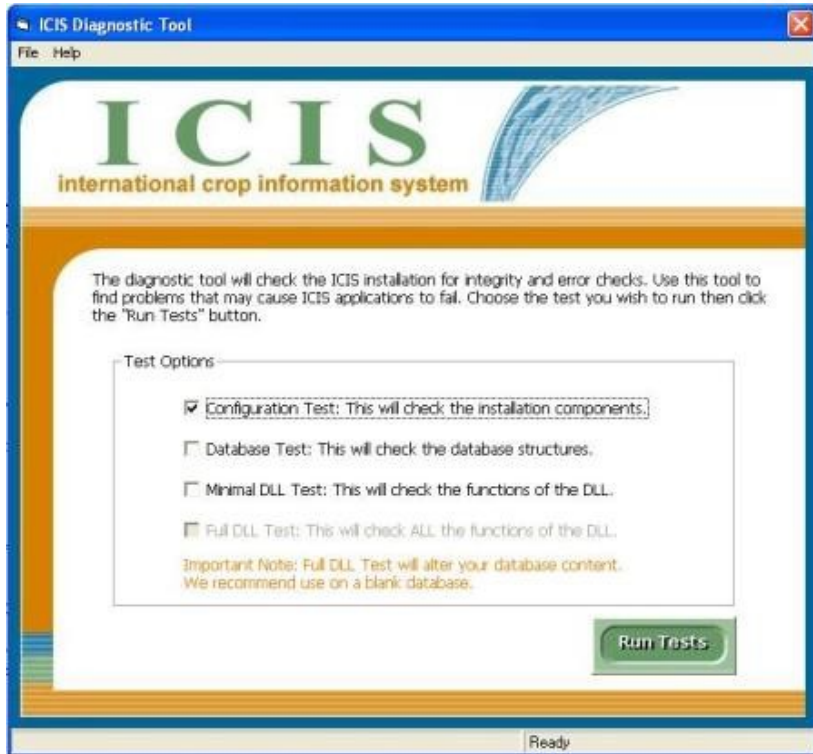
- First introduced at ICIS Developers' Workshop 2006
- Original name: **ICIS System Integrity Diagnostics Tool**
- Originally developed using Visual Basic

Background

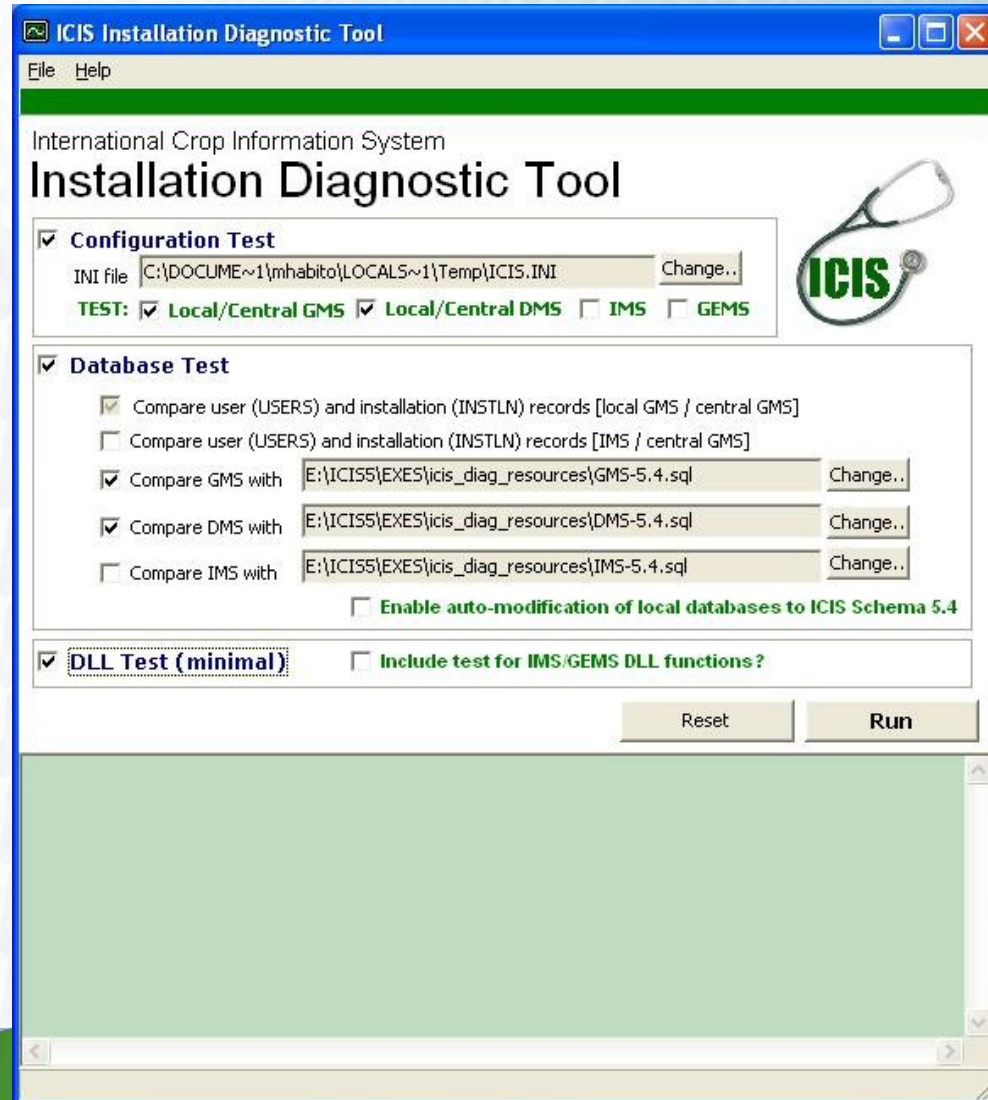
- With Configuration Test (OS, ODBC settings, module versions)
- With Database Test (compares DB structure against .SQL files)
- With DLL Test (minimal; check ICIS32.DLL functions/procedures)
- Original Visual Basic prototype translated to Delphi (commenced Jan 2007)

Background

- Original user interface:



- Version 5.4 user interface:



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Configuration Test Features

- Retrieve operating system info

```
Operating System:
```

```
Microsoft Windows XP Professional Service Pack 2 (Build 2600)
```

- Retrieve and check ODBC settings (local & central GMS/DMS)

```
ICIS ODBC settings:
```

```
Central GMS: [CENTRAL-IRIS-GMS-V5.3] Microsoft Access Driver (*.mdb) (OK)
```

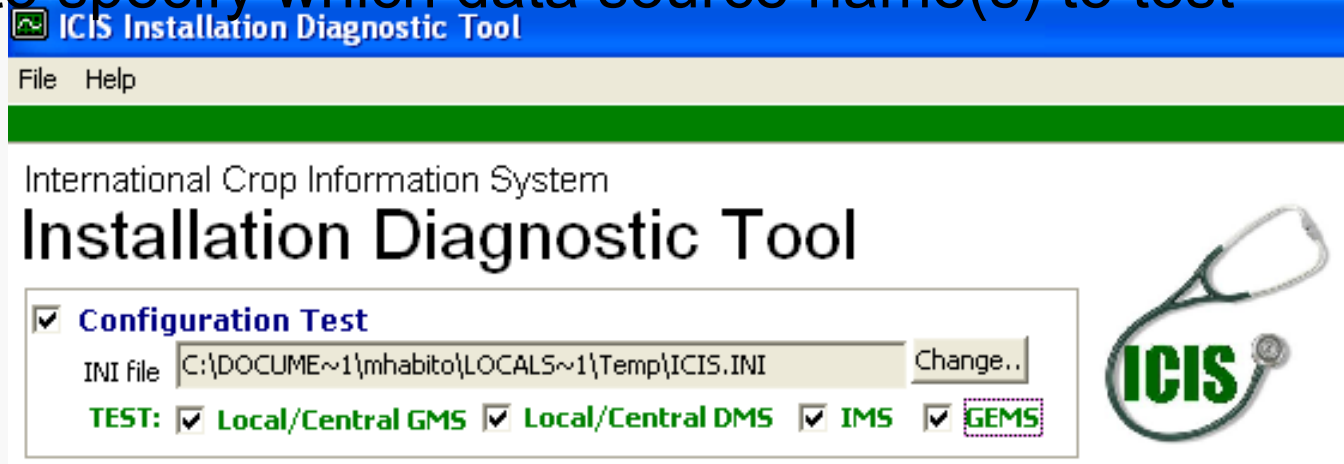
```
Local GMS: [LOCAL-IRIS-GMS-TRAINING-V5.3] Microsoft Access Driver (*.mdb) (OK)
```

```
Central DMS: [CENTRAL-IRIS-DMS-V5.3] Microsoft Access Driver (*.mdb) (OK)
```

```
Local DMS: [LOCAL-IRIS-DMS-TRAINING-V5.3] Microsoft Access Driver (*.mdb) (OK)
```


Configuration Test Features: NEW

- Option to specify which data source name(s) to test



- Option to change the ICIS configuration (.INI) file to use

Configuration Test Features: NEW

- Retrieve and check ODBC settings for IMS and GEMS

IMS: [LOCAL-IRIS-IMS-TRAINING] Driver do I

Central GEMS: [CENTRAL-IRIS-GEMS] Microsoft Access

Configuration Test Features: NEW

- Validation of file/directory paths specified in ICIS configuration (.INI) file. (Error-0011)

ICIS.INI paths:

```
[BROWSE]          LASTDIR=E:\ICIS5 (OK)
[CONFIGURATION]   LASTDIR=E:\ICIS5 (OK)
[WORKBOOK]       IMAGE=E:\ICIS5\Exes\dmsfiles\themes\wheat.bmp (OK)
[WORKBOOK]       WORKBOOK=E:\ICIS5\Exes (OK)
[WORKBOOK]       LASTDIR=E:\ICIS5 (OK)
[WORKBOOK]       HELPFILE=E:\ICIS5\Exes\dmsfiles\help\index.html.lnk (OK)
[RETRIEVER]      FILE=E:\ICIS5\Database\IRIS\Local\Training-RTV.mdb (OK)
```

- New error: “Error-0011: File path specified in ICIS.INI does not exist”

Configuration Test Features: NEW

- Checking for existence of required resource files: LAUNCHER.TXT, ICIS32.DLL (Error-0009)

```
Error-0009 : Resource file is missing [E:\ICIS5\EXES\LAUNCHER.TXT]
```

- **Checking for existence of data source name specified in ICIS configuration file (Error-0001)**

```
Error-0001 : Invalid ODBC DSN [CENTRAL-IRIS-DMSS]. The DSN does not exist.
```

Configuration Test Features: NEW

- Checking of database file location/path (i.e. .MDB file (MS Access)) associated with an ODBC data source name [refined algorithm] (Error-0001)

```
Error-0001 : Invalid ODBC DSN [LOCAL-IRIS-DMS-TRAINING-V5.3]. Microsoft Access  
Path: E:\ICISS\DATABASE\IRIS\LOCAL\5.3\New Folder\Training.mdb
```

- **Checking for existence of key value in the ICIS configuration (.INI) file (Error-0010)**

```
Error-0010 : No value specified for key [SECURITY] under section [D  
Or Section-Key combination does not exist.
```

Configuration Test Features: NEW

- Checking of module version against ICIS32.dll version [algorithm refined] (Error-0003)

```
InTrack.EXE:          13 October 2006, 09:26:30 AM  (5.3.1.0)
```

```
Error-0003 : Module [InTrack.EXE] is not compatible with ICIS32.dll.
```

- **Checking of ICIS32.dll version against ICIS release/schema version (Error-0004)**

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Database Test Features

- Main functionality: compare database structure with .SQL files released with the Installation Diagnostic Tool

Database Test:
 LOCAL
 CENTRAL

Compare user (USERS) and installation (INSTLN) records [local GMS / central GMS]

Compare GMS with

Compare DMS with

Compare IMS with

Enable auto-modification of local databases to ICIS Schema 5.4

- Limitation: currently, applicable to MS Access databases only

Database Test Features: NEW

- Option to specify which DB to test

Database Test:
 LOCAL
 CENTRAL

Compare user (USERS) and installation (IMS)

Compare GMS with

Compare DMS with

Compare IMS with

- Option to check the schema of the IMS

Compare IMS with

Chan

Database Test Features: NEW

- **Compares INSTLN records of local & central GMS (required)**

Compare user (USERS) and installation (INSTLN) records [local GMS / central GMS]

- **Option to change the .SQL files to compare with the DBs**

E:\ICIS5\EXES\icis_diag_resources\GMS-5.4.sql

Change..

E:\ICIS5\EXES\icis_diag_resources\DMS-5.4.sql

Change..

E:\ICIS5\EXES\icis_diag_resources\IMS-5.4.sql

Change..

Database Test Features: NEW

- On-the-fly generation of patch SQLs (full/partial) for missing DB table columns and DB indices (MS Access)

→ In-line (<<<startpatch>>> ... <<<endpatch>>>)

Reset

Run

Table: study (5 records)

```
ICISAutoMod Log: ICIS Schema v5.4 <<<startpatch>>> ALTER TABLE study ALTER COLUMN SNAME TEXT(50)
```

Missing Field: userid

```
ICISAutoMod Log: ICIS Schema v5.4 <<<startpatch>>> ALTER TABLE study ADD COLUMN USERID INT <<<en
```

→ Separate text file (one SQL statement per line)

Local DMS_PATCH - Notepad

File Edit Format View Help

```
ALTER TABLE study ALTER COLUMN SNAME TEXT(50)
```

```
ALTER TABLE study ADD COLUMN USERID INT
```

Database Test Features: NEW

- Option to enable automatic modification (ICISAutoMod) of local GMS/DMS/IMS database (to upgrade from ICIS Schema v5.3 to v5.4)

Enable auto-modification of local databases to ICIS Schema 5.4

→ Example: Local DMS

Table: study (5 records)

ICISAutoMod Log: DB Column SNAME set to length 50.

Missing Field: userid

ICISAutoMod Log: DB Column USERID added.

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DLL Test Features: NEW

- Option to check additional functions/procedures in ICIS32.DLL. Example:
 - IMS_OpenDatabase
 - GEMS_OpenDatabase
- Test parameters/data no longer hardcoded in the application

Other new features

- The different tests may be run independently

Configuration Test
 INI file
TEST: Local/Central

Database Test: LOCAL

Compare user (USERS)

Compare GMS with

Compare DMS with

Compare IMS with

DLL Test (minimal)

- Display of detections are classified into two categories:

→ Errors

→ Warnings

 Detected Errors:

Error-0003 : Module [InTrack.EXE] i

Error-0007 : DB table not found. [I

Error-0005 : User Access Error: Mis
 Local INSTLM record does not match

INSTALID

ADMIN

UPDATE

 Detected Warnings:

Warning-0001 : DB index not found.

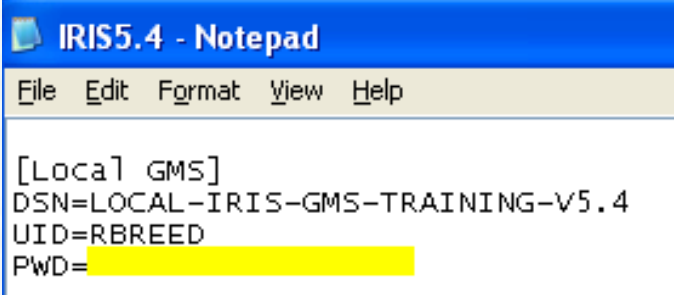
<<<startpatch>>> CRE

Other new features

- **More informative error/warning messages. Some messages have variations to help pinpoint the cause of the issue and/or recommend a solution to the issue**

→ **Example: “Error-0001: Invalid ODBC DSN”**

IRIS5.4.ini:



```
IRIS5.4 - Notepad
File Edit Format View Help

[Local GMS]
DSN=LOCAL-IRIS-GMS-TRAINING-V5.4
UID=RBREED
PWD=
```

Detected Errors:

```
Error-0002 : ODBC Connection failed for ODBC DSN [LOCAL-IRIS-GMS-TRAINING-V5.4]
            No password (PWD) supplied in configuration (.INI) file
```


Other new features

- Indents, extra spaces between sections, improved section headers/dividers placed in "Results" textfile for better readability

```

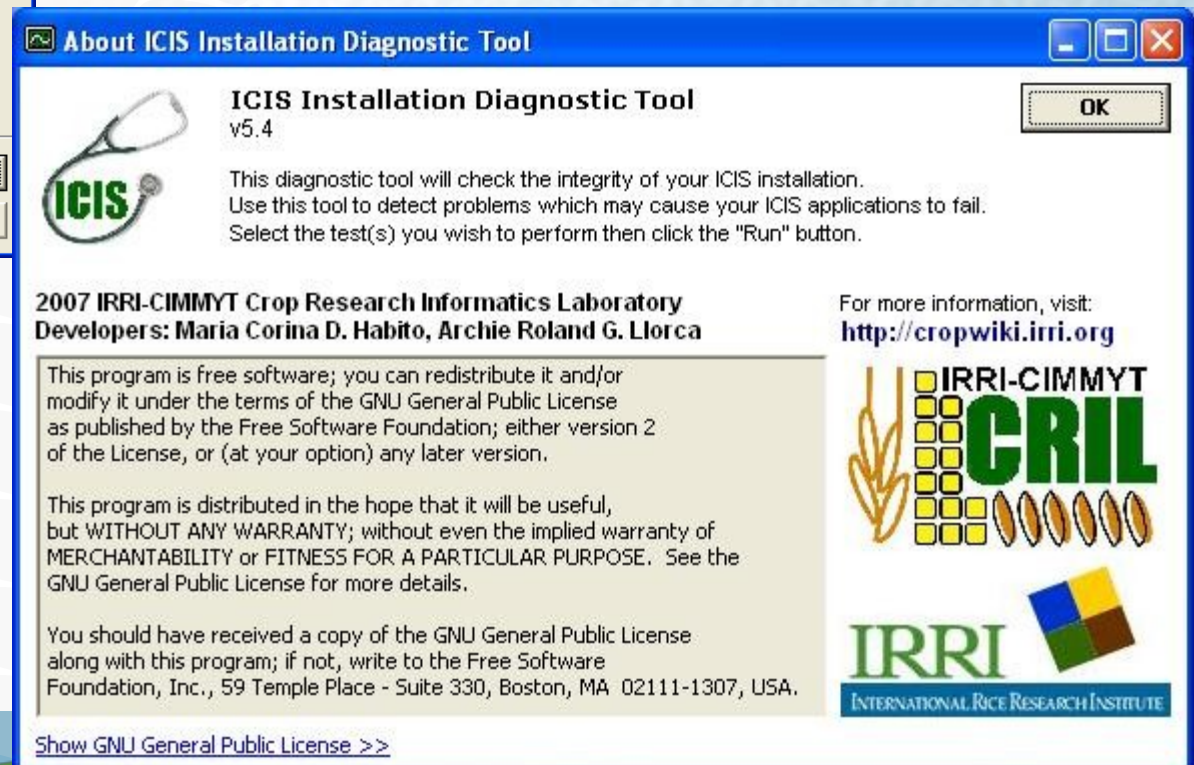
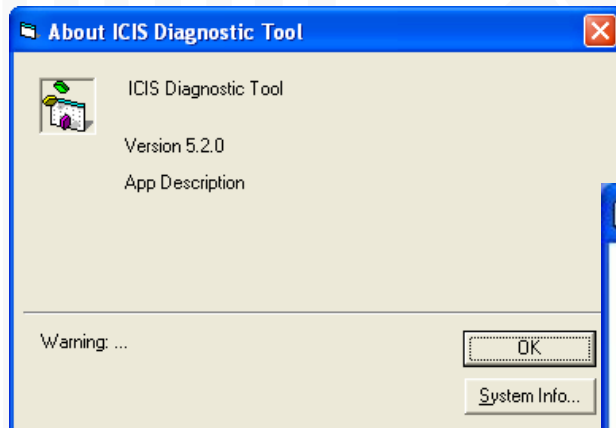
results - Notepad
File Edit Format View Help
-----
System Configuration
-----
Operating System: MSW
ICIS ODBC settings:
  Central GMS: [IRIS
  Local GMS: [LOCAL-
  Central DMS: [IRIS
  Local DMS: [LOCAL-
ICIS module versions
  icis32.dll: wednes
  BROWSE.EXE: Tuesda
  SETGEN.EXE: Thursd
  GMSSRCH.EXE: Thurs
  GMSInput.EXE: wedn
  ICISworkbook.xla:
  DataComp.XLS: Thur
  ICISForms.exe: Sat
  InTrack.EXE: wedne
  
```

```

ICIS Installation Diagnostic Tool - RES
File Edit Format View Help
=====
System Configuration
=====
Operating System:
  Microsoft windows >
ICIS ODBC settings:
  Local GMS: [LOCAL-IRIS
  Central GMS: [CENTRAL-IP
  Local DMS: [LOCAL-IRIS
  Central DMS: [CENTRAL-IP
ICIS module versions:
  ICIS32.DLL: 23 May
  BROWSE.EXE: 23 May
  SETGEN.EXE: 15 May
  GMSSRCH.EXE: 22 May
  GMSInput.EXE: 28 Janu
  ICISworkbook.xla: 30 May
  DataComp.XLS: 29 May
  ICISForms.exe: (Date
  InTrack.EXE: 13 Octo
  
```

Other new features

- Improved “About” form

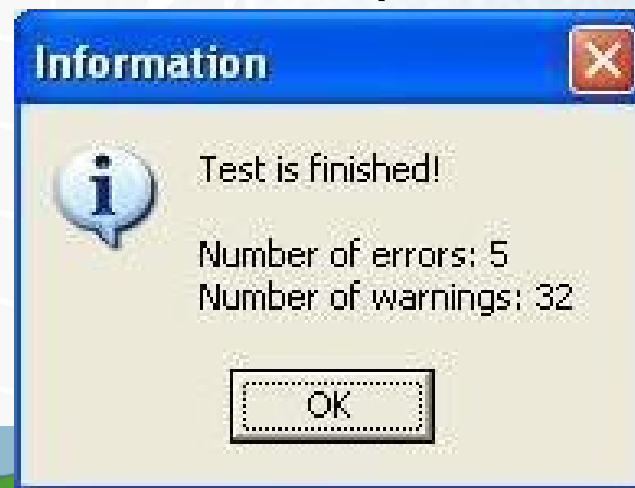


Other new features

- Application icon



- Message at the end of the test (no. of errors/warnings)



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What's Next?

- Make Database Test (including auto-modification of local DB) applicable to different DB backends
- Include more ICIS32 DLL functions/procedures in DLL test
- Implement a fourth test: Module-specific
- Setup a formal ICIS Installation Helpdesk (on CropForge Tracker?)