

# *IBM Insight for SAP R/3*

## *Version 4.0*

### Overview of Process:

This software will capture performance and dialog step statistics generated by your production SAP system. The captured statistics are written to the hard drive of the Windows PC dedicated for the collection process. When the collection process is complete, the statistics are reduced and compressed before being sent to IBM for analysis. A report will be sent to you detailing how your production system was utilized. The provided collection tool is designed to have a minimal impact on your production environment.

It is recommended that you collect at least **one to three days** of statistics during a peak period to improve the quality and value of the report.

Note: **Date and time** displayed in the Insight report will be **based on the PC clock** where the Insight Collector is run – not the R/3 application servers.

### Insight Host CPU Utilizations

Most of Insight's information is related to just the SAP system where Insight was run. However, Insight's host CPU utilization has a wider perspective. It is at a "host view". As such, it includes all the work running in that operating system image -- not just the SAP system where Insight was run. Running unrelated work with SAP will increase the "Host CPU Utilization". Similarly, if you were running two SAP systems on the same operating system image (e.g., in a single zSeries LPAR or with MCOD) the Insight "Host CPU utilization" is for both SAP systems.

However, the "Host CPU Utilization" does not include any work running in other LPARs.

### zSeries (S/390) RMF Data (sizing customers only)

**In the z/OS (or OS/390) SAP environment, we strongly suggest you also provide us with Resource Measurement Facility (RMF) data that corresponds to the Insight observation interval.** This can allow us to better take into account Logical Partitioning, the specific machine type, as well as other z/OS items. The following is a short description of which RMF information we would like. This description assumes familiarity with RMF. So you should pass this on to your z/OS people.

We would like to get the text output of a run of RMF's Postprocessor (ERBRMFPP) sent with the Insight data. Specifically we would like to see the Summary Report, the CPU Activity Report (which includes the Partition Data Report), and the Paging Activity Report. The interval of the

report should, as best as possible, correspond to the Insight interval. For example, assume Insight was run from 0800 hrs January 6, 2003 to 08:00 hrs January 9, 2003. Because of limitations of the RMF, this would entail three Postprocessor runs (and the associated RMF reports). See the Postprocessor control statements below as an example.

First report (0800 hrs to midnight January 6):

```
SUMMARY(INT,TOT) /* Summary reports */
REPORTS(CPU) /* CPU activity report - CPU and LPAR information */
REPORTS(PAGING) /* Paging activity report - memory installed how used */
DINTV(1600) /* Length of duration report - 16 hours */
RTOD(0800,2400) /* Starting and ending time of day to look at */
DATE(01062003,01062003) /* What day to look at - Jan 6, 2003 */
```

Second report (January 7 and 8 combined):

```
SUMMARY(INT,TOT) /* Summary reports */
REPORTS(CPU) /* CPU activity report - CPU and LPAR information */
REPORTS(PAGING) /* Paging activity report - memory installed how used */
DINTV(4800) /* Length of duration report - 2 days (continuos) */
RTOD(0000,2400) /* Starting and ending time of day to look at - all day */
DATE(01072003,01082003) /* What days to look at - Jan 7-8, 2003 */
```

Third report (0000 hrs to 0800 hrs January 9):

```
SUMMARY(INT,TOT) /* Summary reports */
REPORTS(CPU) /* CPU activity report - CPU and LPAR information */
REPORTS(PAGING) /* Paging activity report - memory installed how used */
DINTV(0800) /* Length of duration report - 3 days (continuos) */
RTOD(0000,0800) /* Starting and ending time of day to look at - all day */
DATE(01092003,01092003) /* What day to look at - Jan 9, 2003 */
```

Send the SYSOUT(s) to the PC that is running Insight. On this PC, rename the file(s) with a \*.RMF file type and add the file(s) to the Insight data directory created by the Insight Collector when started. Do this after the data collection phase but before the reduction. The Insight Reducer will then automatically compress the entire directory and send all the data to IBM.

Additionally, we recommend that you save all the SMF type 70 through 78 records for this interval in case you might want to do further analysis later. For example, after IBM has sent you the Insight results, you want to look in more detail at the eight hour peak CPU utilization period identified by Insight.

## Usage Requirements:

### **A dedicated PC:**

- IBM compatible with at least a 500 MHz Pentium processor and 64 MB of RAM.
- Installation of Windows 2000 SP3 or XP operating system.
- Disk space requirements: multiply the total expected number of dialog steps the Insight Collector will capture by 0.00025.  
Example: The Insight Collector is expected to run for four days capturing one million dialog steps per day.  $4,000,000 \times 0.00025 = 1,000\text{MB} = 1\text{GB}$  of disk space.
- For Windows 2000: Set the total virtual memory (physical memory + paging file) to a minimum of 128MB.
- PC must be on LAN with direct TCP/IP access to all production servers (except for a standalone database server).
- The TCP/IP address of all server short host names (as seen in SM51) must be resolved by either “hosts” file entries, or DNS with a consistent, fully qualified domain. In an SP environment, short host names may require an alias in the PC’s hosts file to resolve the switch host names over the client token-ring or ethernet network. Note: do not specify a domain in the SAP logon parameters.

Example alias entry in the PC’s hosts file:

#IP address	ethernet	switch
#	hostname	hostname
9.93.100.21	appsv1en	appsv1cs

- The PC must be powered on during the entire data collection process.
- Disable the PC’s power management (suspend) during the collection process.

### **SAP R/3 system:**

- *Insight* supports SAP releases 3.0D and higher.
- The SAP Operating System collector (saposcol) must be setup and running on all application servers in the target system.
- If the database is on a standalone server (no SAP instance), saposcol and rfcoscol/sapccmsr must be installed and working. Also, an RFC destination (TCP/IP connection in SM59) must be configured to access the remote saposcol from a gateway instance. This RFC destination is entered when prompted with the “Standalone Database Server(s)” dialog box.
- SAP statistics recording must be enabled (profile parameter: stat/level = 1).
- A SAP user ID of type CPIC (System) must be created and assigned a profile (e.g. Z:INSIGHT) with the following authorizations:

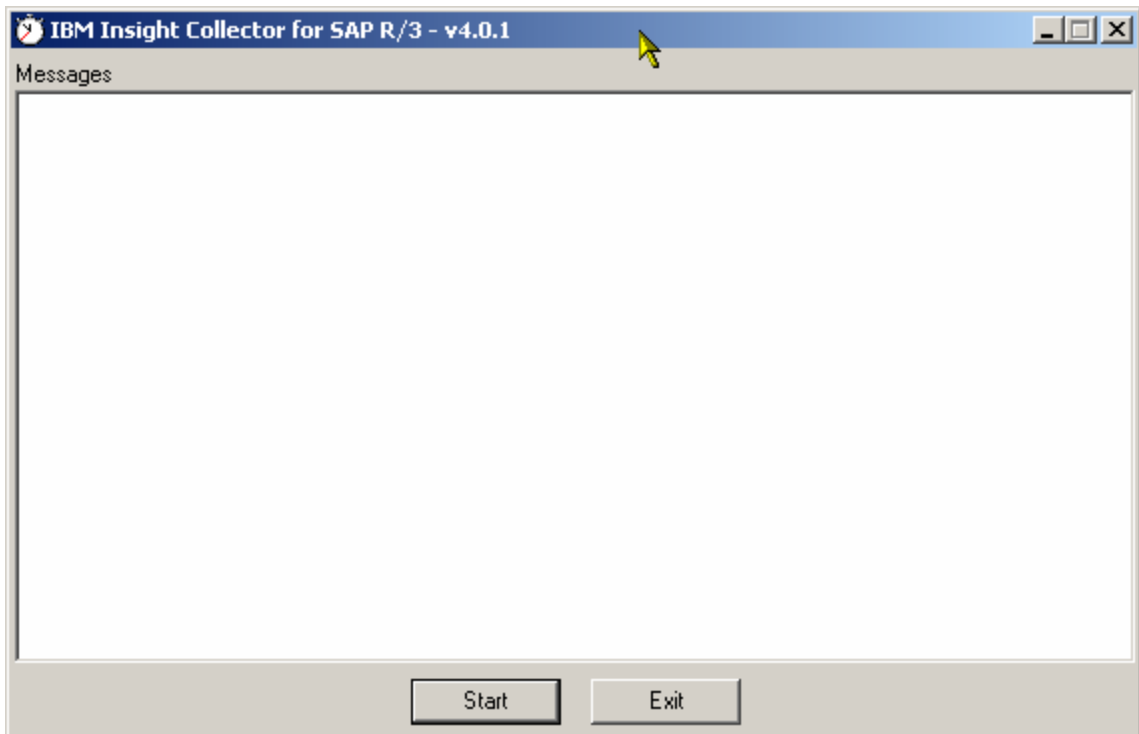
S_ADMI_FCD(S_SACHBEARB) ,	S_C_FUNCT(S_C_FUNCT_AL) ,
S_DATASET(S_DATASET_AL) ,	S_LOG_COM(S_LOGCOM_ALL) ,
S_RFC(S_RFC_ALL) ,	S_RZL_ADM(S_RZL_SHOW) .

## Installation Instructions:

1. On the designated PC, copy the installation executable "SetupInsight4.exe" to a temporary directory.
2. From Windows Explorer, double click on SetupInsight.exe to begin installation. Follow the installation process and reboot if necessary. *Insight* is designed to be uninstalled later.
3. Ping all SAP application server hosts from PC.
  - a. Using SAPGUI, logon to SAP and execute transaction "SM51".
  - b. The middle column, labeled "Host name", lists all of the short host names that must be directly accessible via TCP/IP from the PC.
  - c. While on the "SM51" screen, note the third column labeled "Type", and identify the host that is running "enque", this will be the name of the server that has the message server running (the host name of the message server will be needed for initial logon).
  - d. **If using DNS**, ping each host with name and domain from the PC command prompt (ex: C:\> ping appsrv01.yourcompany.com).
  - e. **If not using DNS**, the Windows "hosts" file must be maintained. For Windows 2000 or XP, the file is located in the \windows\system32\drivers\etc directory. If no "hosts" file is found, there is usually a sample "hosts.sam" file, which can be copied to "hosts" and then edited. Edit this file and verify that all the server names listed in SM51 and their corresponding TCP/IP addresses are in this file. From the PC command prompt, ping each short host name (ex: C:\> ping appsrv01).
4. Verify that the SAP operating system collector (saposcol) is running on each server (application and database). This can be done in the following manner.
  - a. Logon to SAP and execute transaction "SM51".
  - b. Highlight an application server and select "OS collector". For each application server, verify that some non-zero statistics are returned.
  - c. For a standalone database server, execute transaction OS07. Select the appropriate RFC destination. Verify that some non-zero statistics are returned.

**Insight Collector Usage Instructions:**

1. From the Windows Start menu, select Programs -> Insight4 for SAP -> Collector4.
2. Press the “Start” button.



3. Logon to R/3.

The screenshot shows a dialog box titled "Logon to R/3". It is divided into two main sections: "Server" and "User".

- Server section:**
  - Short Host Name:
  - Domain:
  - SAP Router String:
  - System Number:
- User section:**
  - Name:
  - Password:
  - Language:
  - Client:

At the bottom of the dialog, there are three buttons: "< Back", "Next >", and "Cancel".

- Enter the message server short hostname (ex: appsrv01). Do not enter an IP address or a domain suffix.
- If using DNS, enter your company's domain (ex: yourcompany.com).
- If required, enter a SAP Router string.
- Enter the message server system number (ex: 00).
- Enter the client number where the CPIC user has been created.
- Enter the CPIC user name, password, and language (ex: SAPCPIC, ADMIN, EN).
- Press the "Next" button.

4. Specify Data Directory

The screenshot shows a dialog box titled "Data Directory". It contains the following text: "Please specify the directory path where data files are to be written." Below this text is a text input field containing the path "C:\Program Files\IBM\Insight4 for SAP\DATA\". To the right of the text field is a button with three dots "...".

At the bottom of the dialog, there are three buttons: "< Back", "Next >", and "Cancel".

- Specify the directory where the Insight data files are to be written.
- Press the "Next" button.

5. Specify Standalone Database Server(s)
  - a. If needed, enter RFC destination(s) defined in SM59, Sysplex system name(s), and the corresponding gateway instance(s).

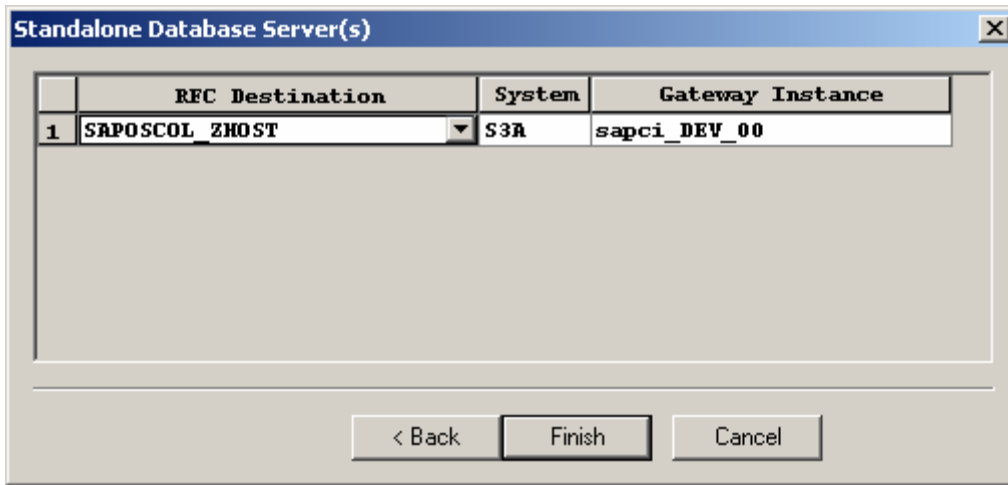
**Example:**     **Database and Central Instance on same host.**  
The database is not on a standalone server.  
No entries are required – **leave the grid blank.**

	RFC Destination	System	Gateway Instance
1			

**Example:**     **Database and Central Instance on different hosts.**  
The database is on a standalone server, enter the database RFC destination defined in SM59 and the gateway instance.

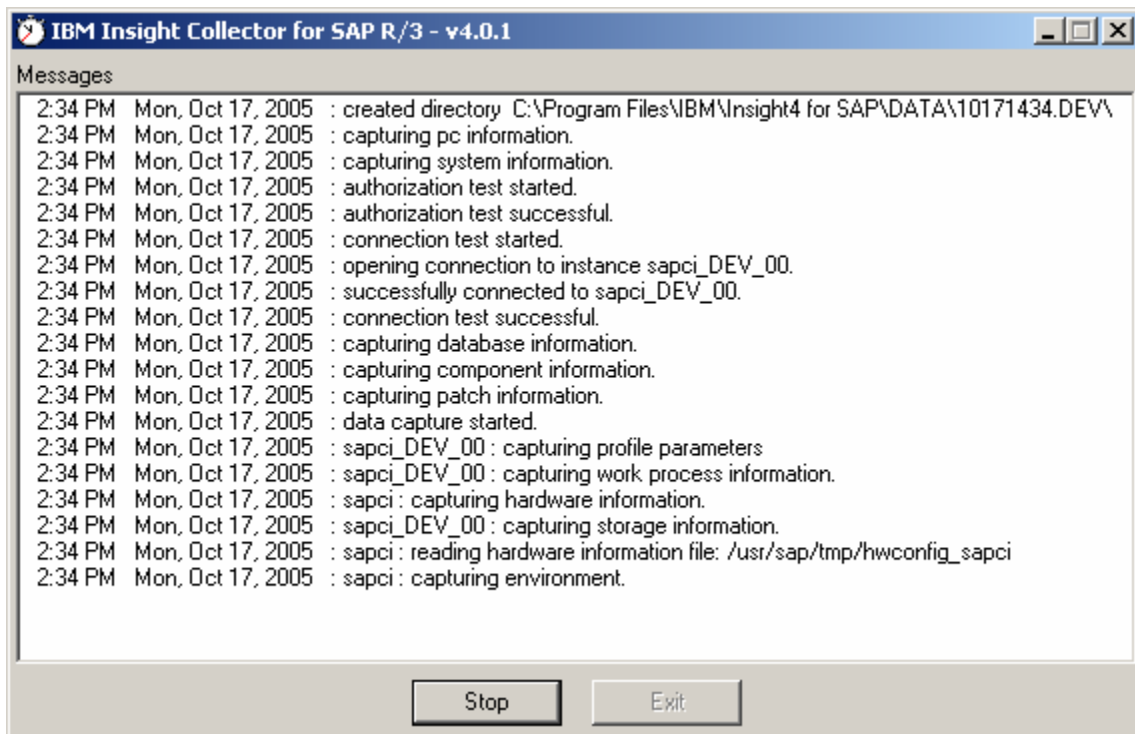
	RFC Destination	System	Gateway Instance
1	SAPOSCOL DBSERVER		sapci_DEV_00

**Example: Database and Central Instance on different hosts. SAPOSCOL in Sysplex.**  
 The database is on a standalone server, enter the database RFC destination defined in SM59, the Sysplex system name, and the gateway instance.



b. Press the “Finish” button.

6. The Collector is now running and will capture performance statistics every minute. Status messages will scroll in the Collector’s “Messages” window.

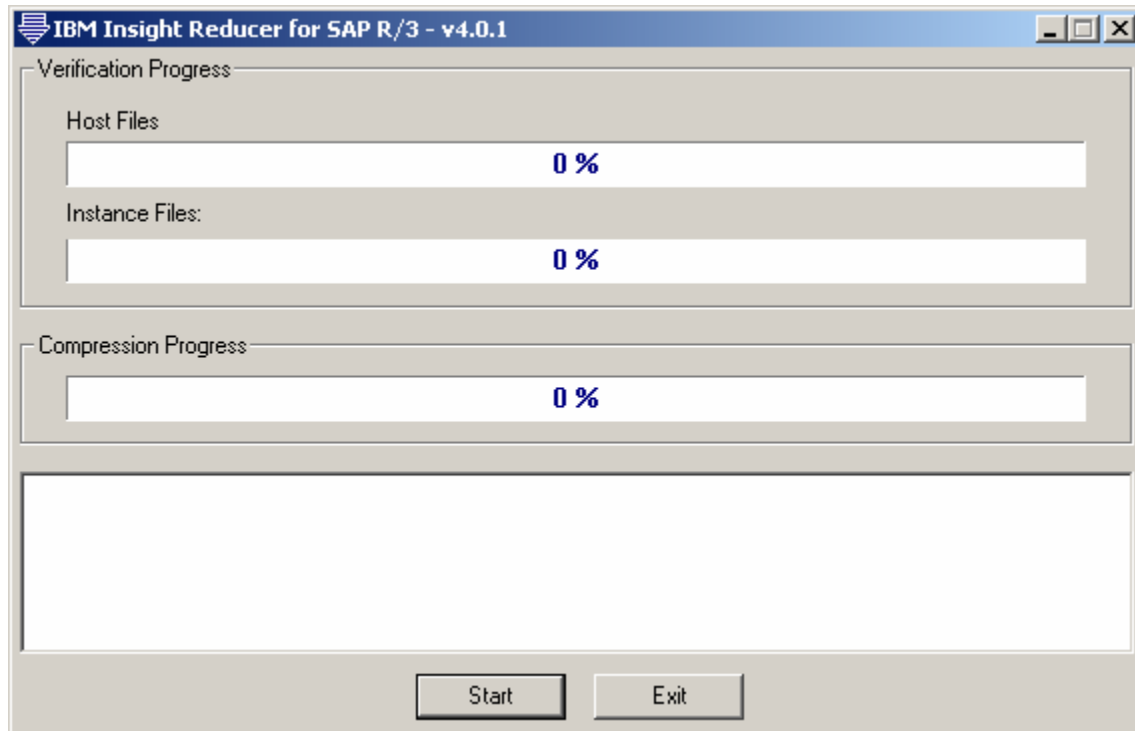


7. After one to three days of data collection, stop the *Insight* Collector by pressing the "Stop" button.

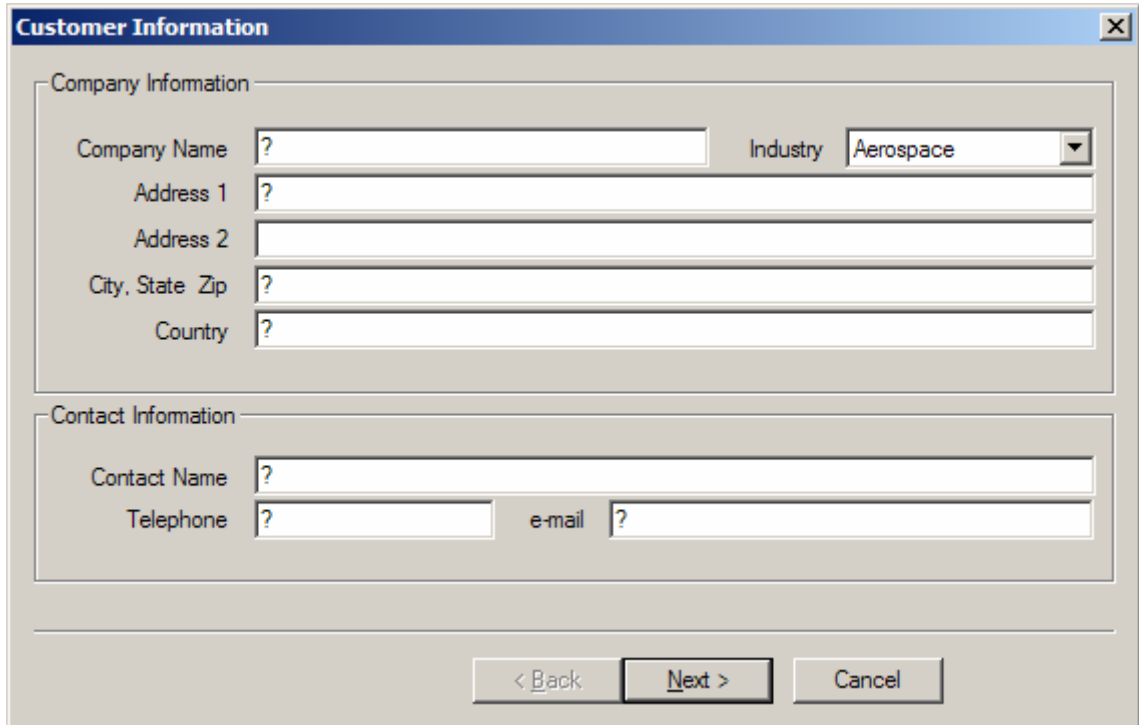


## **Insight Reducer Usage Instructions:**

1. From the Windows Start menu, select Programs -> Insight4 for SAP -> Reducer4.
2. Press the “Start” button.



3. Enter company and contact information



The 'Customer Information' dialog box is divided into two sections: 'Company Information' and 'Contact Information'. The 'Company Information' section includes fields for Company Name, Address 1, Address 2, City, State Zip, and Country, along with an Industry dropdown menu currently set to 'Aerospace'. The 'Contact Information' section includes fields for Contact Name, Telephone, and e-mail. Navigation buttons for '< Back', 'Next >', and 'Cancel' are located at the bottom.

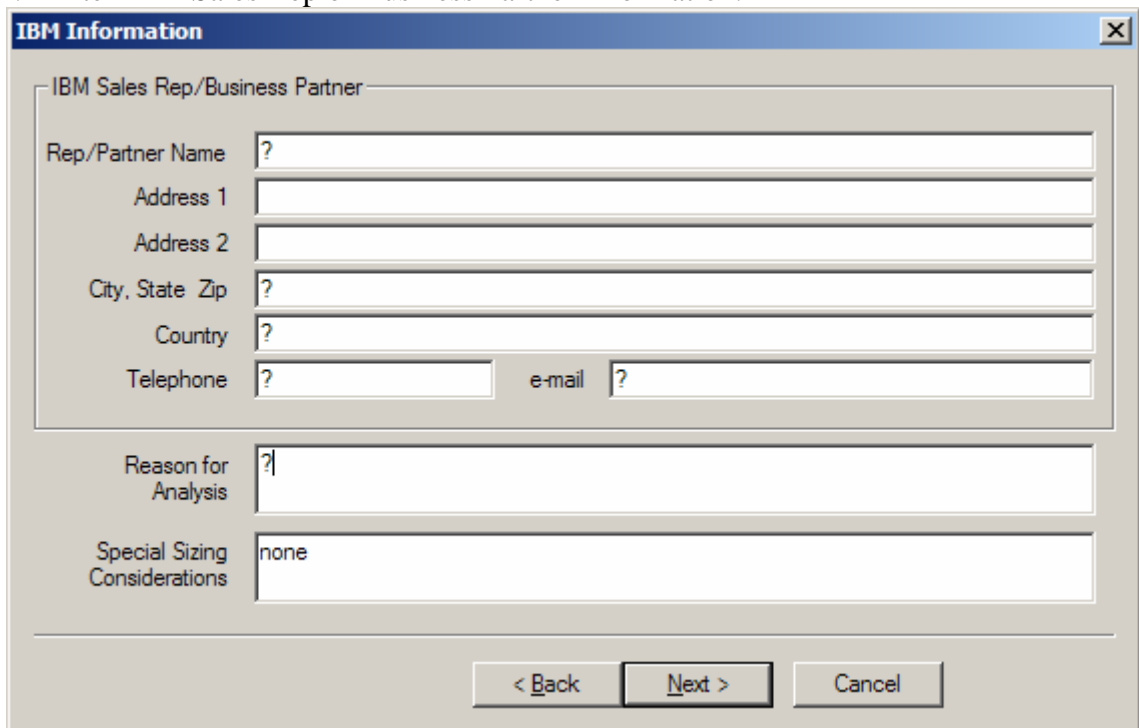
Company Information	
Company Name	?
Address 1	?
Address 2	
City, State Zip	?
Country	?
Industry	Aerospace

Contact Information	
Contact Name	?
Telephone	?
e-mail	?

< Back   Next >   Cancel

4. Enter IBM Sales Rep or Business Partner information.



The 'IBM Information' dialog box is divided into two sections: 'IBM Sales Rep/Business Partner' and 'Reason for Analysis' and 'Special Sizing Considerations'. The 'IBM Sales Rep/Business Partner' section includes fields for Rep/Partner Name, Address 1, Address 2, City, State Zip, Country, Telephone, and e-mail. The 'Reason for Analysis' section includes a field for Reason for Analysis. The 'Special Sizing Considerations' section includes a field for Special Sizing Considerations, currently containing the text 'none'. Navigation buttons for '< Back', 'Next >', and 'Cancel' are located at the bottom.

IBM Sales Rep/Business Partner	
Rep/Partner Name	?
Address 1	
Address 2	
City, State Zip	?
Country	?
Telephone	?
e-mail	?

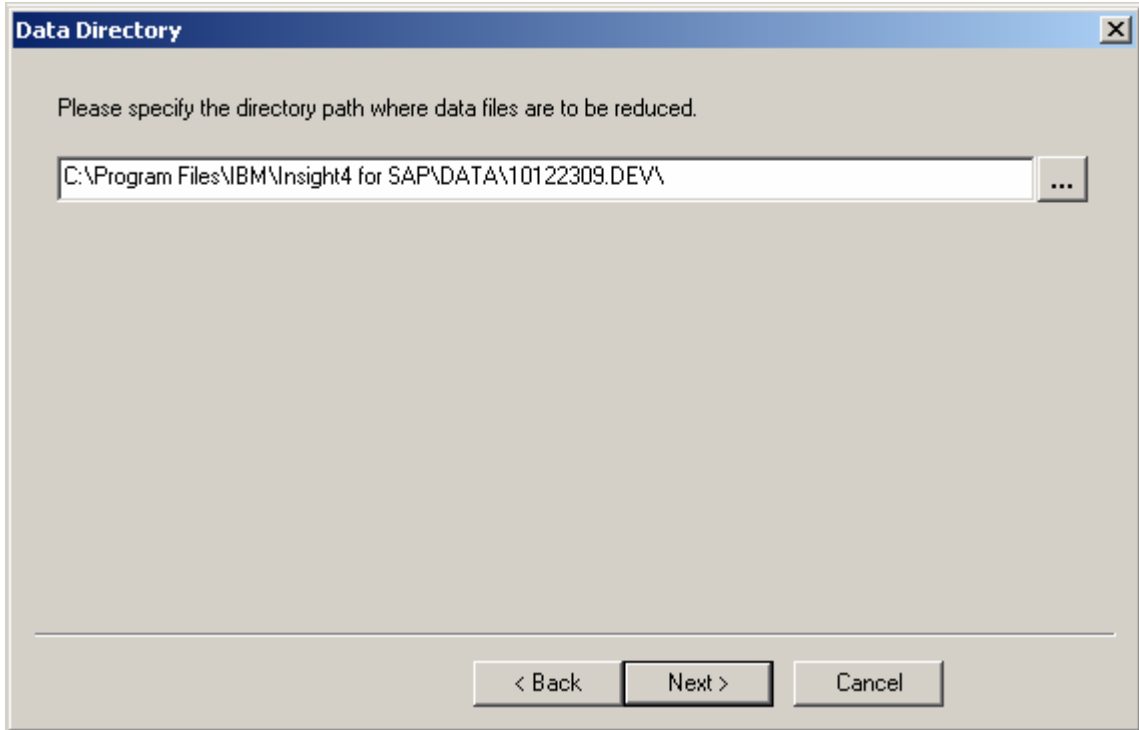
Reason for Analysis	?
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Special Sizing Considerations	none
-------------------------------	------

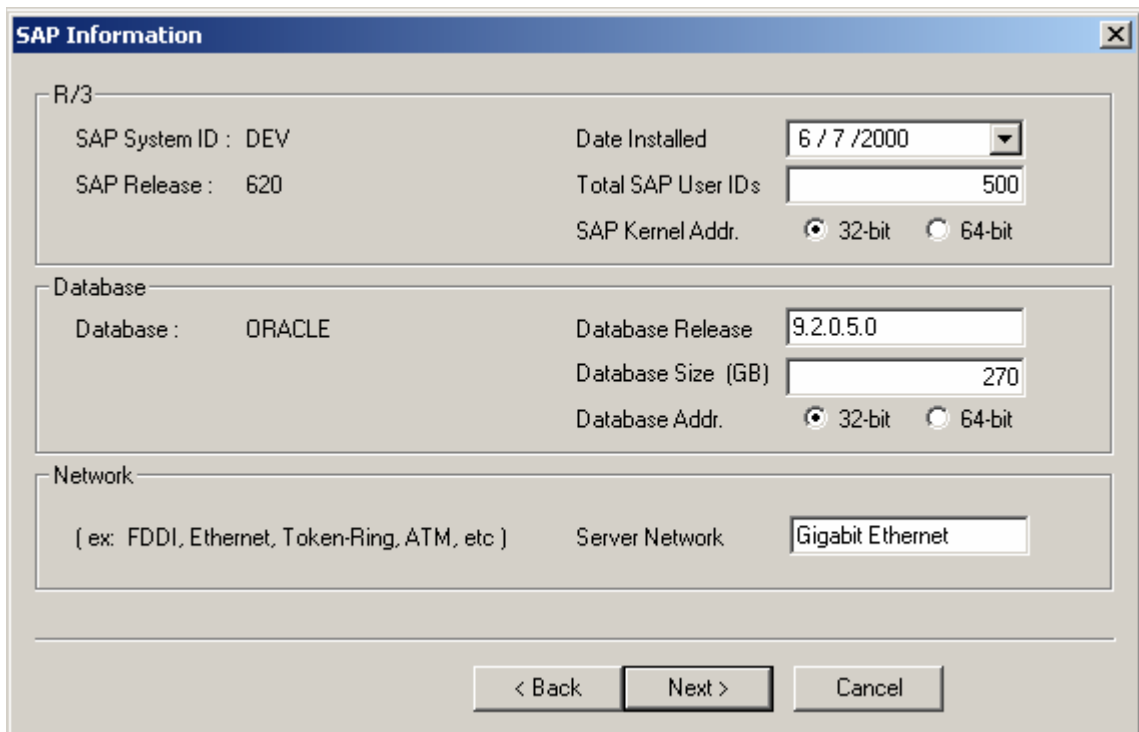
< Back   Next >   Cancel

5. Specify the directory path where Insight data files were written by the Collector.



The 'Data Directory' dialog box has a title bar with a close button. The main area contains the text 'Please specify the directory path where data files are to be reduced.' Below this is a text input field containing the path 'C:\Program Files\IBM\Insight4 for SAP\DATA\10122309.DEV\'. To the right of the input field is a button with three dots. At the bottom of the dialog are three buttons: '< Back', 'Next >', and 'Cancel'.

6. Enter the SAP installation information.



The 'SAP Information' dialog box has a title bar with a close button. It is divided into three sections: 'R/3', 'Database', and 'Network'.  
- The 'R/3' section contains: 'SAP System ID : DEV', 'SAP Release : 620', 'Date Installed' (dropdown menu with '6 / 7 /2000'), 'Total SAP User IDs' (input field with '500'), and 'SAP Kernel Addr.' with radio buttons for '32-bit' (selected) and '64-bit'.  
- The 'Database' section contains: 'Database : ORACLE', 'Database Release' (input field with '9.2.0.5.0'), 'Database Size (GB)' (input field with '270'), and 'Database Addr.' with radio buttons for '32-bit' (selected) and '64-bit'.  
- The 'Network' section contains: '( ex: FDDI, Ethernet, Token-Ring, ATM, etc )' and 'Server Network' (input field with 'Gigabit Ethernet').  
At the bottom of the dialog are three buttons: '< Back', 'Next >', and 'Cancel'.

7. Enter database server host name or RFC destination for each R/3 instance.

**Example:** Database and Central Instance on same host.

The screenshot shows a dialog box titled "Database Server(s)". It contains a table with two columns: "Instance" and "Database Host/Destination". The table has one row with the instance "sapci DEV 00" and the host "sapci". Below the table are three buttons: "< Back", "Next >", and "Cancel".

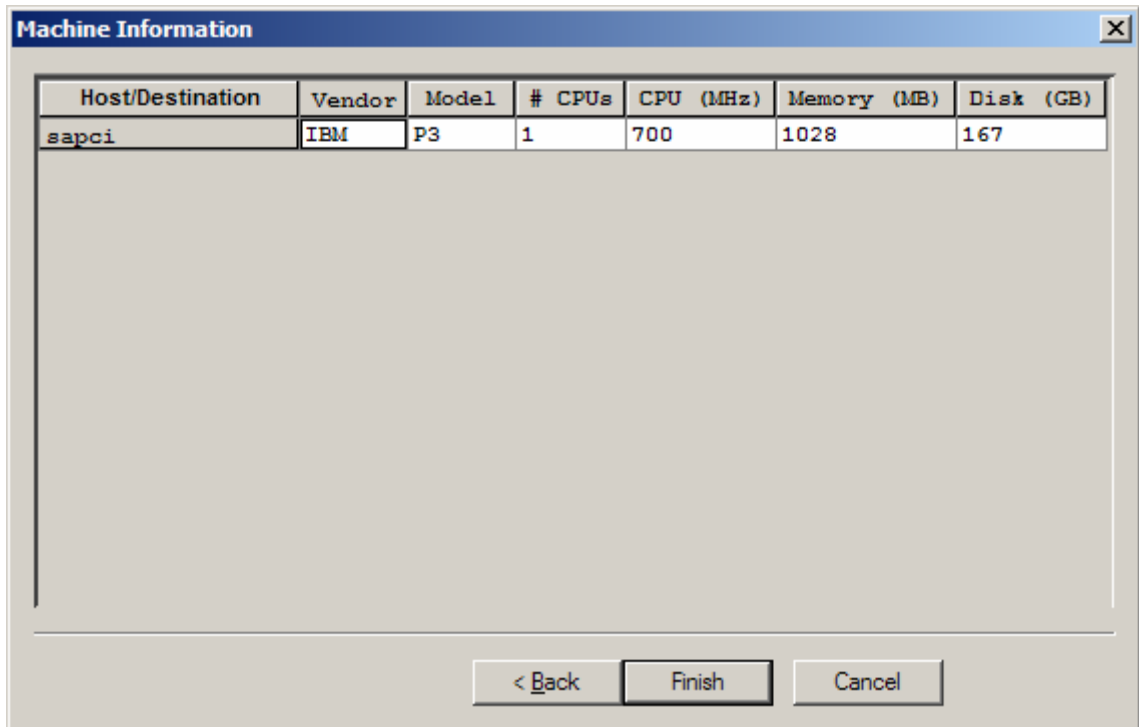
Instance	Database Host/Destination
sapci DEV 00	sapci

**Example:** Database and Central Instance on different hosts. SAPOSCOL in Sysplex.

The screenshot shows a dialog box titled "Database Server(s)". It contains a table with two columns: "Instance" and "Database Host/Destination". The table has nine rows, each representing an instance of "sapf223 BM1" with a unique ID (00 to 08). The "Database Host/Destination" column shows "SAPOSCOL\_S3A(S3A)" for instance 00 and "SAPOSCOL\_S3A(S39)" for instances 01 through 08. Below the table are three buttons: "< Back", "Next >", and "Cancel".

Instance	Database Host/Destination
sapf223 BM1 00	SAPOSCOL_S3A(S3A)
sapf223 BM1 01	SAPOSCOL_S3A(S3A)
sapf223 BM1 02	SAPOSCOL_S3A(S3A)
sapf223 BM1 03	SAPOSCOL_S3A(S3A)
sapf223 BM1 04	SAPOSCOL_S3A(S39)
sapf223 BM1 05	SAPOSCOL_S3A(S39)
sapf223 BM1 06	SAPOSCOL_S3A(S39)
sapf223 BM1 07	SAPOSCOL_S3A(S39)
sapf223 BM1 08	SAPOSCOL_S3A(S39)

8. Complete the host machine information.



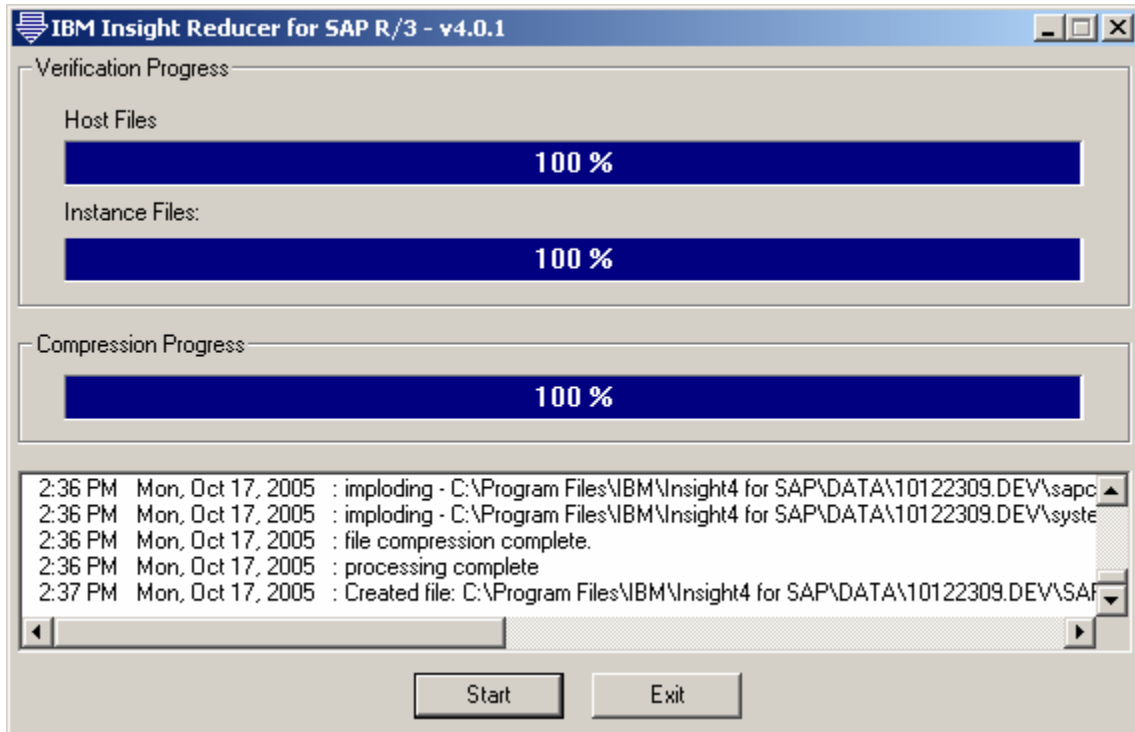
The image shows a dialog box titled "Machine Information" with a close button (X) in the top right corner. It contains a table with the following data:

Host/Destination	Vendor	Model	# CPUs	CPU (MHz)	Memory (MB)	Disk (GB)
sapci	IBM	P3	1	700	1028	167

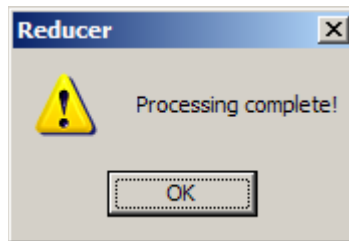
Below the table is a large empty text area. At the bottom of the dialog box are three buttons: "< Back", "Finish", and "Cancel".

Press the "Finish" button.

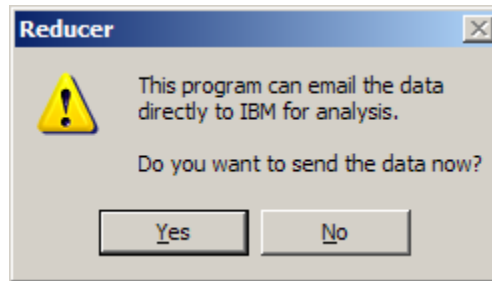
9. The reduction and compression processing will now run. Processing can be cancelled at anytime by pressing the “Stop” button. Processing can be restarted by pressing the “Start” button.



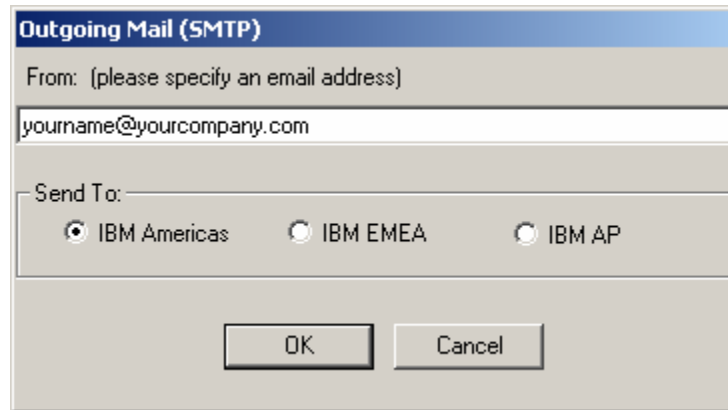
10. When the reduction and compression processing is complete, you will be prompted with a message box. Press the “OK” button.



11. Next you will be given the option to send an email with the *Insight* data attached for analysis directly to IBM. Installation of email software on the PC is **not required** to send the data. (ex: Microsoft Outlook, Lotus Notes, etc)

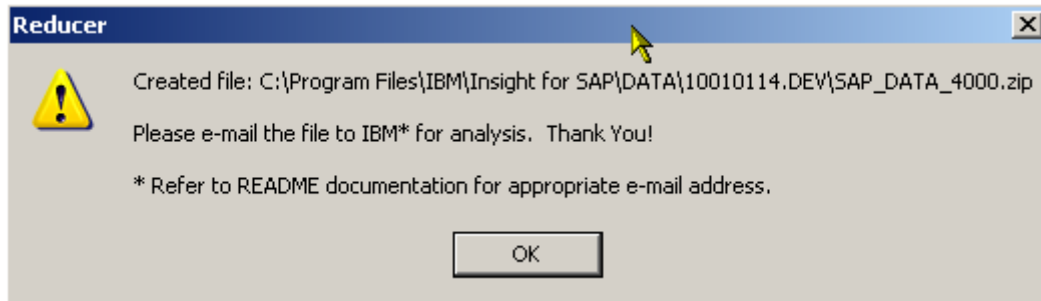


If you press the “Yes” button, you will be presented with the following dialog:



Enter your company contact’s email address. Select the appropriate IBM destination. Press the “OK” button to send the email.

If you don't want to send the email directly, press the "No" button, and you will be presented with the following message box:



The actual path of the ZIP file will depend upon your installation, data, and session directories.

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**Note for North and South America:** If your Insight dataset SAP\_DATA\_XXXX.ZIP is greater than 5 MB in size then please send a note to IBMERP@US.IBM.COM with words "Insight Data FTP Help Required" in the subject line and we will grant you access to our FTP server for Insight data upload. Please provide your name, phone number and email address in the note and we will contact you right away.

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In your email program, create a new mail with the following subject line:

Subject: Insight4 data for <company name>

Complete the following mail body:

Company :  
Country :  
SAP SID :  
  
Start : <date> <time>  
End : <date> <time>  
  
Contact :  
Telephone :  
email :  
  
Rep/Partner :  
Telephone :  
email :  
  
Reason :  
  
Considerations :



Attach the ZIP file and send it to the appropriate Techine group:

IBM Americas (North and South America)

IBM EMEA (Europe, Middle East, and Africa)

IBM Asia/Pacific

[ibmerp@us.ibm.com](mailto:ibmerp@us.ibm.com)

[erpemea@it.ibm.com](mailto:erpemea@it.ibm.com)

[TLsizing@jp.ibm.com](mailto:TLsizing@jp.ibm.com)

#### **4.0.1 Release Notes:**

1. Insight now supports Unicode R/3 systems.
2. Insight now supports saposcol on Sysplex.
3. Insight now supports fractional processors.

#### **3.1.1 Release Note:**

1. Insight now includes email addresses for A/P Techline.

#### **3.1 Release Notes:**

2. Insight now supports the SAPCCMSR agent.
3. Insight now supports R/3 releases based on 6.10/6.20 WAS.

#### **3.0 Release Notes:**

1. Insight now supports R/3 releases 3.0D and higher.
2. Insight now captures Disk I/O statistics.
3. Insight no longer requires clock synchronization across servers.
4. Insight userid requires the following additional authorizations:

S\_LOG\_COM (S\_LOGCOM\_ALL)  
S\_RZL\_ADM (S\_RZL\_SHOW)

5. Insight now supports S/390 R/3 app server and Parallel Sysplex

#### **2.7 Release Notes:**

1. Insight now captures OS memory statistics and R/3 buffer statistics.
2. Insight now provides transaction detail by module.
3. Insight userid now requires the following authorizations:

S\_ADMI\_FCD (S\_SACHBEARB)  
S\_C\_FUNCT (S\_C\_FUNCT\_AL)

#### **2.6 Release Notes:**

1. **Insight** now supports R/3 releases 3.0D thru 4.6C.
2. The **Insight** processing is accomplished using two separate executables, collector26.exe and the reducer26.exe.
3. The Survey.doc information is now entered in dialogs presented by the executables.
4. The user is allowed to specify the data drive and directory.
5. The **Insight** Reducer accuracy and performance have been greatly improved.
6. The **Insight** Reducer memory use is now more dynamic requiring less memory.
7. The **Insight** Reducer can be restarted in the event of a memory or disk exception.
8. The **Insight** Reducer now compresses the reduced data. The user is not required to run PKZip from the command line or batch file.
9. The **Insight** Reducer can send the data directly for analysis. The user is not required to manually compose and send an email.