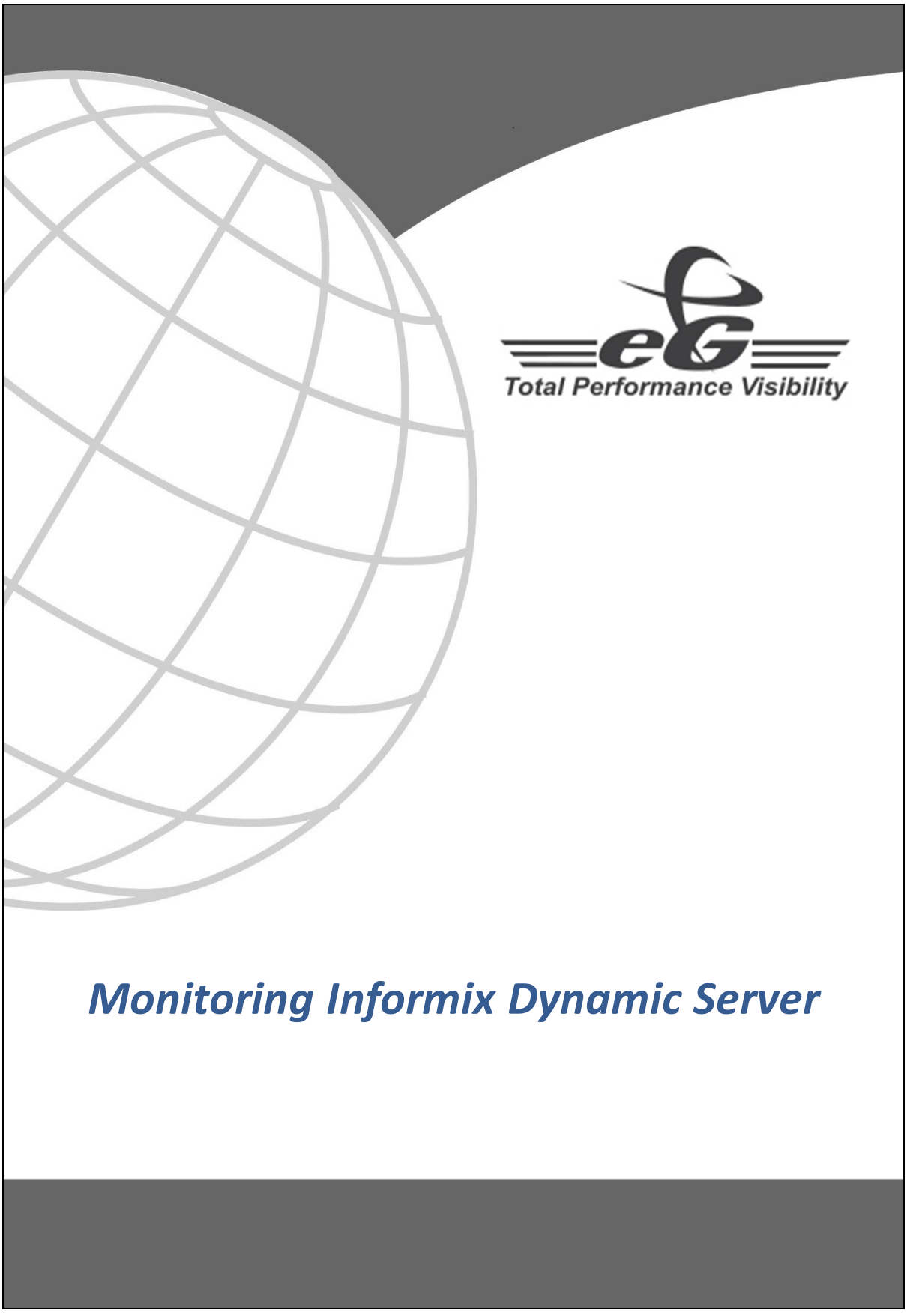

Monitoring Informix Dynamic Server

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1

Introduction

The Informix Dynamic Server is a database server that manages traditional relational, object-relational, and web-based databases. It supports alphanumeric and rich data, such as graphics, multimedia, geospatial, HTML, and user-defined types. It is typically used on UNIX, Linux, or Windows with online transaction processing (OLTP), data marts, data warehouses, and e-business applications. Any operational inefficiency or non-availability of the Informix server can therefore adversely impact the performance of the e-business application it supports, causing the business itself to suffer. To avoid such adversities, it is imperative that the Informix server is monitored, and performance problems instantly brought to the attention of the administrator.

1.1 Pre-requisites for monitoring the Informix Dynamic Server

A valid database user vested with 'select' permissions to the SMI tables in the sysmaster database. You do not need to explicitly create users for the Informix database server, as the server recognizes all the users of the system it is installed on. However, you need to explicitly GRANT the users permission to access the sysmaster database. For example, to grant user 'john' permission to access the database 'sysmaster', do the following:

1. In a Windows environment, follow the menu sequence depicted by Figure 1.1.

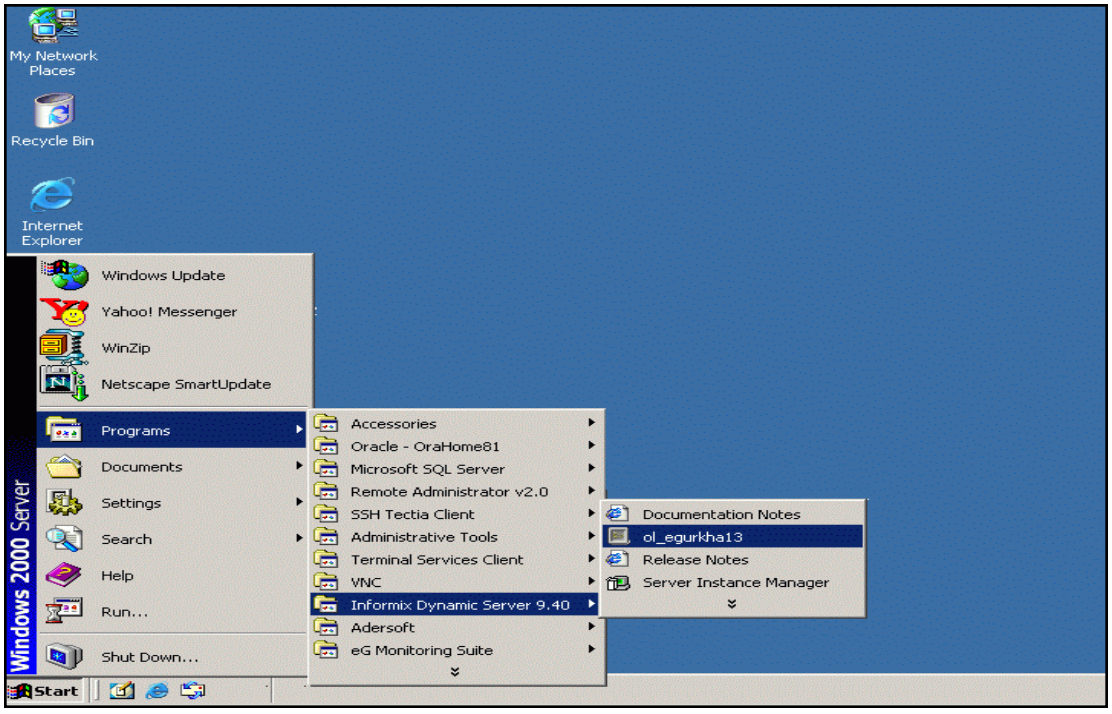

Figure 1.1: Opening the database instance

2. Next, from the command prompt, issue the command: **dbaccess** (see Figure 1.2). To issue the same command in Unix environments, first switch to the install directory of the Informix server from the command prompt, and then issue the command.

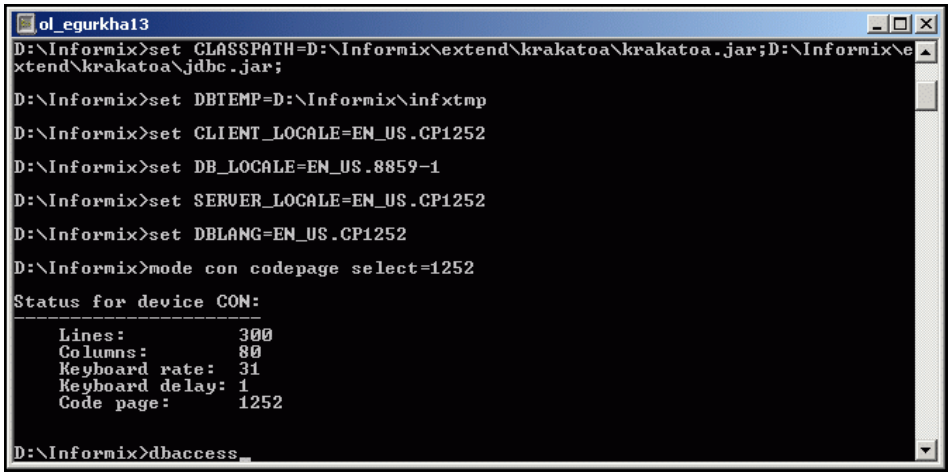

Figure 1.2: Issuing the dbaccess command

3. Figure 1.3 will then appear.

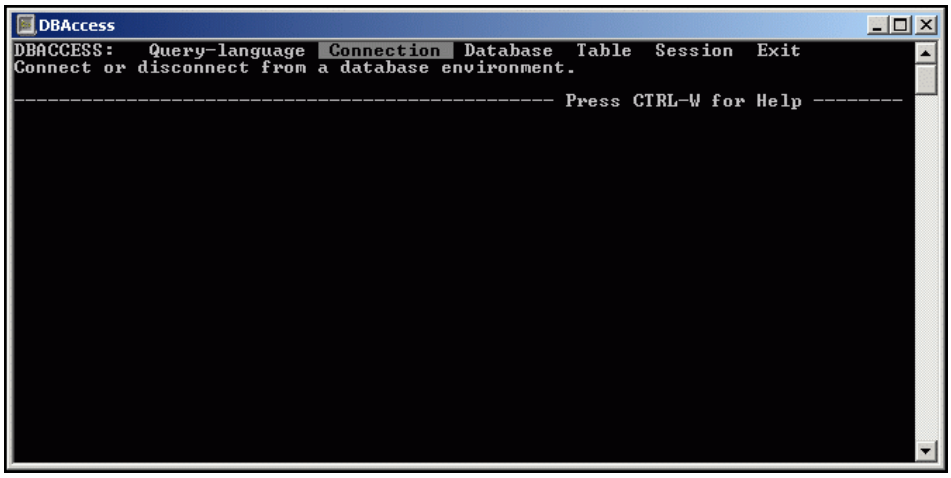

Figure 1.3: The DBACCESS menu

4. From the **DBACCESS** menu that appears in Figure 1.4, select the **CONNECTION** option. For that, first, navigate to that **CONNECTION** option using the right arrow button on the keyboard. Then, click the Enter key. The **CONNECTION** menu is the next to open (see Figure 1.4).

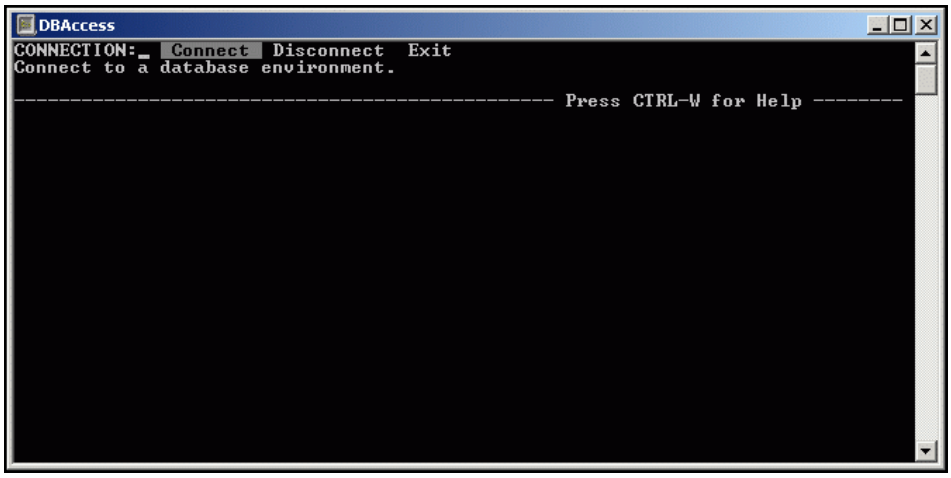

Figure 1.4: The CONNECTION menu

5. Select the **Connect** option from the **CONNECTION** menu. You will then be requested to choose a database server instance (see Figure 1.5).

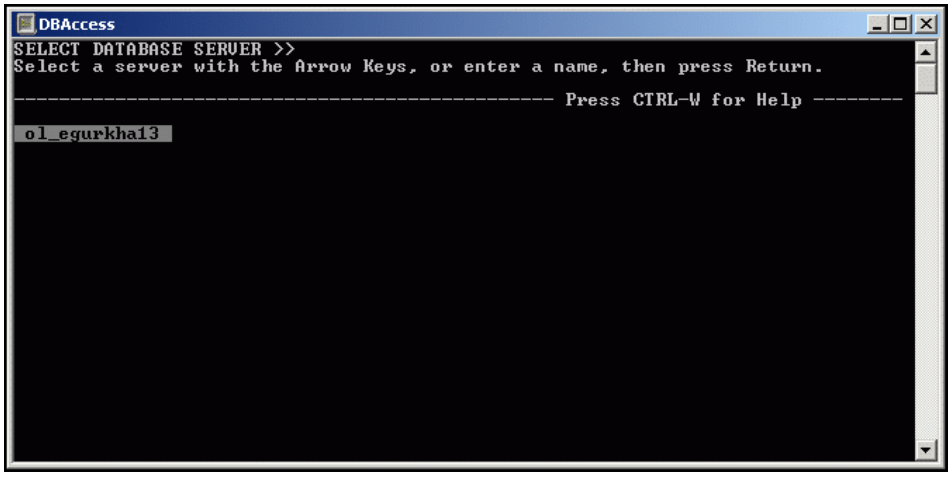

Figure 1.5: Selecting the Database server instance

6. A list of server instances will also be available in Figure 1.5 to choose from. Select a server instance from the list.
7. Then, proceed to login to the chosen database server as an administrative user. This because only an administrator can grant permissions to a user. As a first step, provide the admin user name against **USER NAME** (see Figure 1.6). **Informix** is the default admin user of an Informix server.

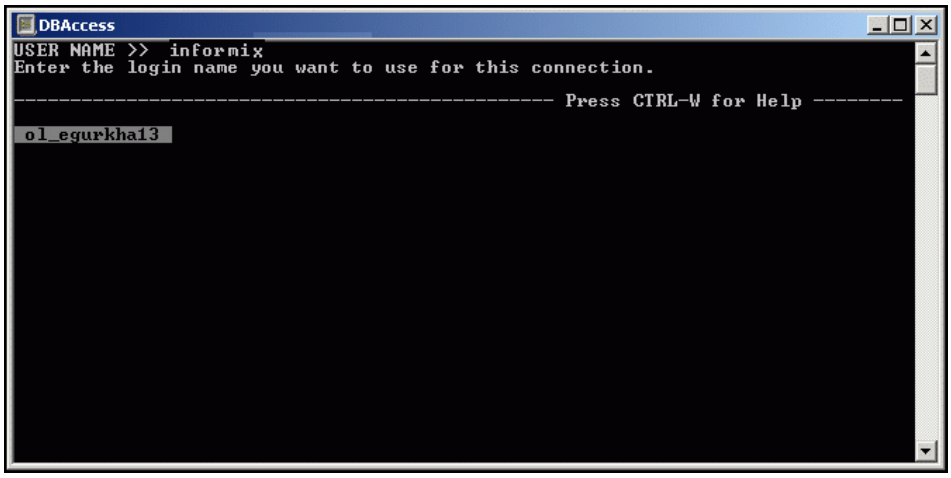

Figure 1.6: Logging into the database server

8. Next, specify the **PASSWORD** of the administrative user (see Figure 1.7).

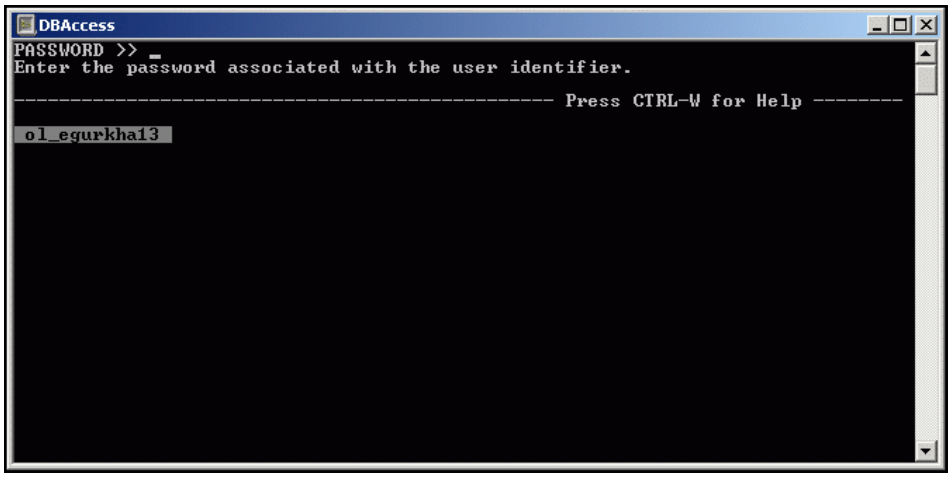

Figure 1.7: Specifying the admin password

9. Upon successful login, a **Connected** message will appear (see Figure 1.8). Then, select the database to open (see Figure 1.8) from the list of databases displayed.

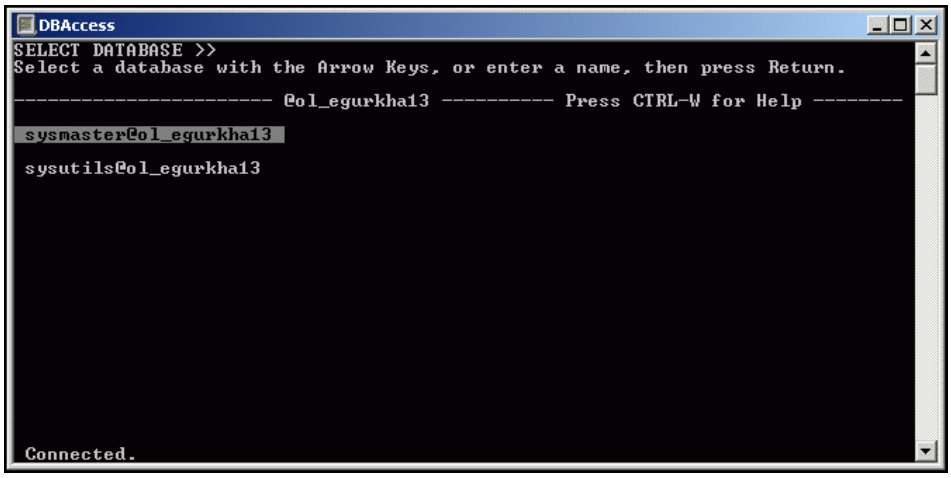

Figure 1.8: Selecting the database to open

10. Since our example seeks to work with the **sysmaster** database, select the same as depicted by Figure 1.8. Figure 1.9 will then appear.

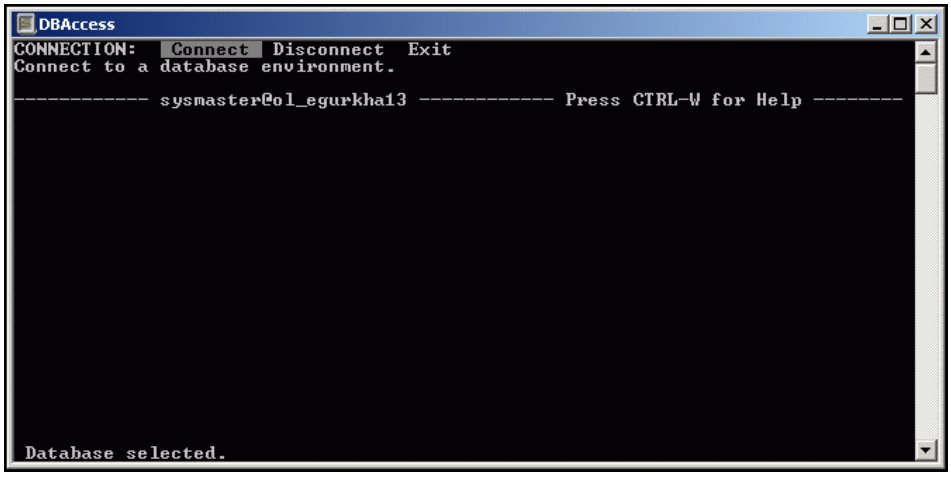

Figure 1.9: A message stating that the database has been selected

11. Next, exit the **CONNECTION** menu of Figure 1.9 by choosing the **Exit** option. Continue selecting the **Exit** option until the menu of Figure 1.3 appears. Select the **Query-language** option from the menu, and then choose the **New** option from the **SQL** menu. Figure 1.10 will then appear, wherein the command to grant 'connect' permission to user 'john' needs to be issued (see Figure 1.10). The syntax of the command is: **grant connect to <user_name>**.

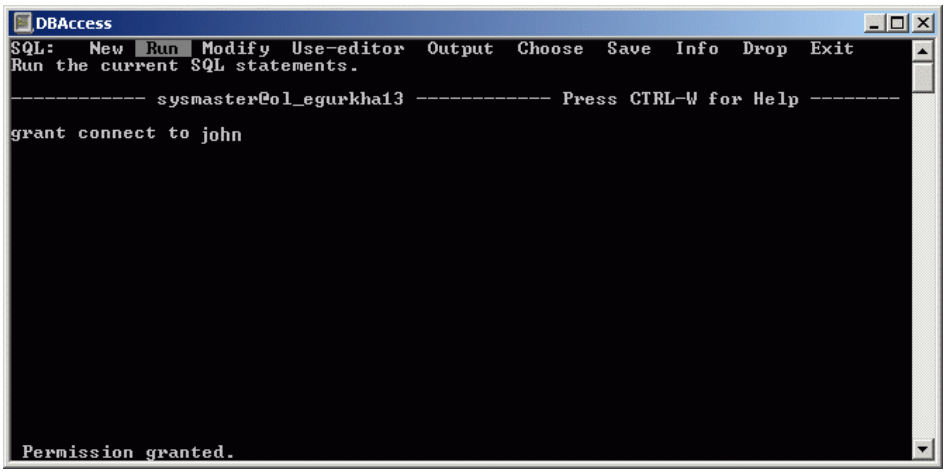

Figure 1.10: Granting connect permission to user john

12. Then, click on the **ESC** key on the keyboard to indicate that the command is complete. The **SQL** menu will reappear, but this time select the **Run** option to execute the command (see Figure 1.10). If the command executes successfully, a 'Permission granted' message will appear as shown by Figure 1.10.

13. Once the 'connect' permission is granted, the users will automatically be assigned to the default PUBLIC account. The PUBLIC account is authorized to perform 'select' operations on the SMI tables of the sysmaster database. Since all Informix users are assigned to the PUBLIC account by default, they will automatically inherit the 'select' privilege to the sysmaster database.

2

Administering eG Manager to work with Informix servers

To achieve the above, do the following:

1. Login to the administrative interface as an administrator (admin).
2. Check whether the Informix server has been auto-discovered. If not, run discovery using the **DISCOVERY** page (Infrastructure -> Components -> Discover) or manually add the server using the **COMPONENTS** page (Infrastructure -> Components -> Add/Modify). The eG Enterprise system automatically manages the manually added components. The discovered components however, need to go through a manual management exercise, using the **COMPONENTS MANAGE/UNMANAGE** page (Infrastructure -> Components -> Manage/Unmanage). This process is depicted by Figure 2.1 and Figure 2.2 below.

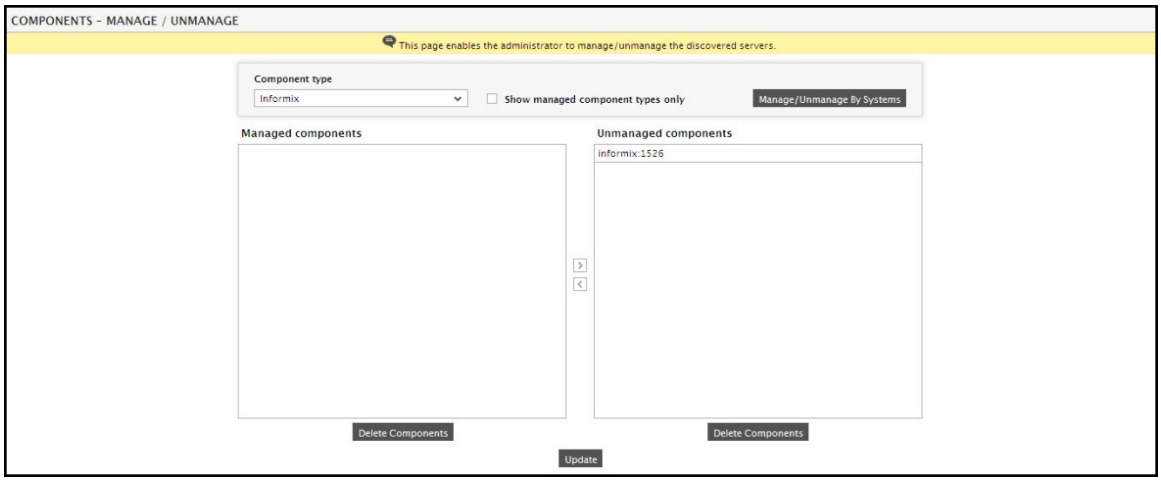

Figure 2.1: Selecting the Informix server to be managed

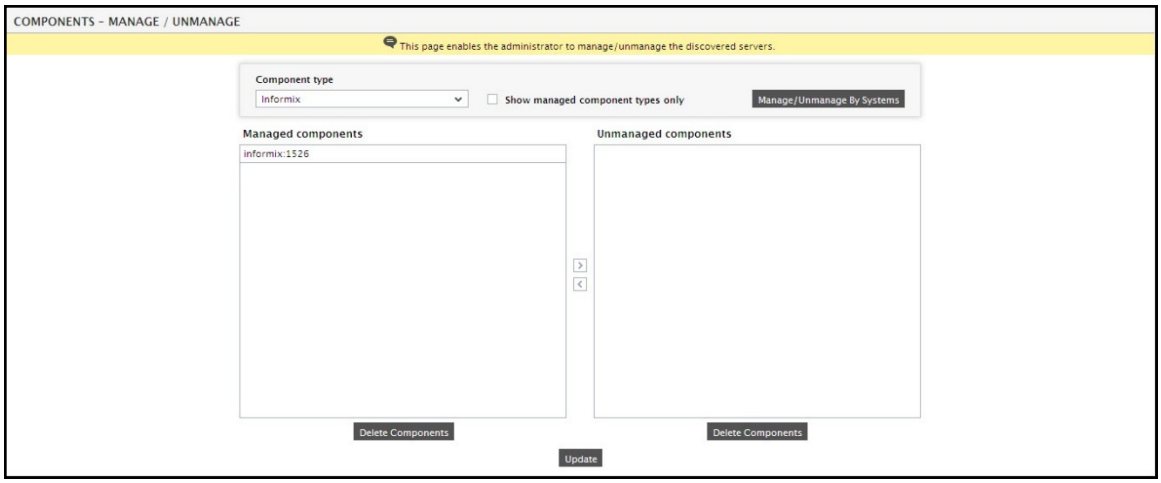

Figure 2.2: Managing the Informix server

3. Now, if you try to sign out of the user interface, you will be prompted to configure a list of tests for the Informix server. Click on the **Informix Response** test to configure it. This test reports the availability and response time of an Informix database server. To know how to configure the tes, click here.

3

Monitoring Informix Dynamic Servers

eG Enterprise presents an exclusive Informix monitoring model (see Figure 3.1) that consists of a set of hierarchical layers, each of which is associated with a wide variety of tests.

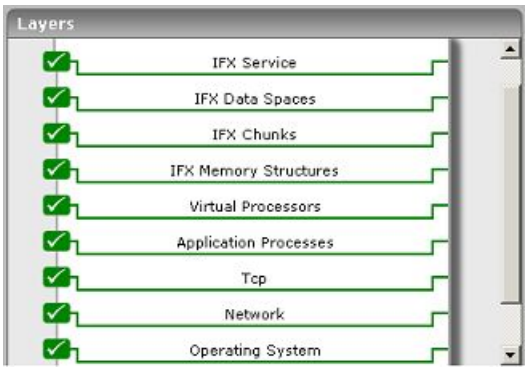

Figure 3.1: The layer model of an Informix database server

These tests, which are configured to execute on the Informix server periodically, extract a wide range of performance statistics from the server. These statistics reveal the following:

- Is the Informix database server available? If so, how quickly does it respond to user requests?
- Is any virtual processor class consuming CPU resources excessively?
- Are buffers being effectively used while reading/writing data, or are direct disk reads and writes high?
- How well does the database manage locks? Are too many requests waiting for locks? Are there a large number of deadlocks?
- Do the logical logs have adequate free pages?
- Are any chunks on the Informix server in an offline or inconsistent state? If so, which are tehy?
- Is any chunk experiencing a space crunch?
- Is any dbspace running out of free space?
- Are users able to access data quickly? Are sorts on disk and memory performed frequently to ensure quick and easy access?
- Are there too many open sessions on the server? Who initiated the sessions, and how long have they been open?
- Are transaction rollbacks kept at a minimum?
- Have too many transactions been running for a long time?

3.1 The Virtual Processors Layer

Database server processes are called virtual processors because the way they function is similar to the way that a CPU functions in a computer. Just as a CPU runs multiple operating-system processes to service multiple users, a database server virtual processor runs multiple threads to service multiple SQL client applications. Virtual processors are divided into classes depending upon the type of processing that they do. Each class of virtual processor is dedicated to processing certain types of threads.

This layer monitors every virtual processor class to report the number of processors associated with it and their collective CPU usage, so that CPU-intensive classes can be quickly determined.

Figure 3.2: The tests associated with the Virtual Processors layer

3.1.1 Informix VP Test

This test reports the CPU utilization and number of processors available for each virtual processor class.

Target of the test : An Informix Dynamic server

Agent deploying the test : An internal agent

Outputs of the test : One set of results for every virtual processor class on the Informix server being monitored

Configurable parameters for this test

1. **TEST PERIOD** – How often should the test be executed.
2. **HOST** – The IP address of the Informix Dynamic server.
3. **PORT** – The port on which the server is listening.
4. **INSTANCE** - The Informix server instance being monitored.
5. **DB** – Specify the name of a database on the server
6. **USER** – A valid Informix user name.

7. **PASSWORD** – The password corresponding to the above user
8. **CONFIRM PASSWORD** – Confirm the **PASSWORD** by retyping it here.
9. **DBLOCALE** - Specify the language/locale in which your database is installed. This will allow you to return the query in the language supported by your database. By default this attribute is set to "none", which means that by default, queries are returned in the English locale.
10. **CLIENTLOCALE** - Specify the language/locale in which the eG agent is running. Normally, when you use an internal agent to monitor Informix, the **CLIENTLOCALE** and **DBLOCALE** will be same. However, the **CLIENTLOCALE** may differ when you are monitoring the Informix tests using a remote agent (agentless monitoring). By default, the **CLIENTLOCALE** is set to "*none*", indicating that the eG agent runs in the English locale, by default.

Measurements made by the test

Measurement	Description	Measurement Unit	Interpretation
Number of processors:	The total number of virtual processors available for this class.	Number	
User CPU usage:	The percentage of CPU time taken by the user processes during the last measurement period.	Number	A high value may be indicative of excessive load on this class of virtual processors. If this value remains very high for a long period of time, then configure additional virtual processors for this class.
System CPU usage:	The percentage of CPU time taken by the Informix system during the last measurement period	Number	A high value may be indicative of excessive load on this class of virtual processors. If this value remains very high for a long period of time, then configure additional virtual processors for this class.

3.2 The IFX Memory Structures Layer

The tests associated with this layer track how well the Informix server performs the following activities:

- Caching and buffer flushing
- Lock activity
- Maintaining logical and physical logs

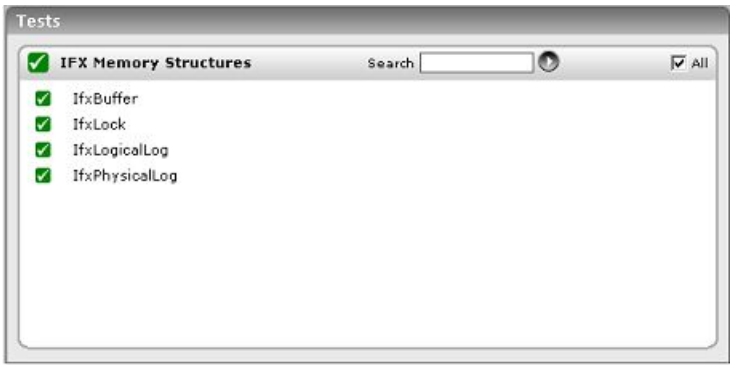

Figure 3.3: The tests associated with the IFX Memory Structures layer

3.2.1 Informix Buffers Test

The IfxBuffer test reports statistics pertaining to the caching and buffer flushing activities of the Informix database server.

Target of the test : An Informix Dynamic server

Agent deploying the test : An internal agent

Outputs of the test : One set of results for the Informix server being monitored

Configurable parameters for the test

1. **TEST PERIOD** – How often should the test be executed
2. **HOST** – The IP address of the Informix Dynamic server
3. **PORT** – The port on which the server is listening
4. **DB** – the name of a database on the server
5. **INSTANCE** - the Informix server instance being monitored
6. **USER** – a valid user name to login to the specified database
7. **PASSWORD** – The password corresponding to the above user
8. **CONFIRM PASSWORD** – Confirm the **PASSWORD** by retyping it here.
9. **DBLOCALE** - Specify the language/locale in which your database is installed. This will allow you to return the query in the language supported by your database. By default this attribute is set to “none”, which means that by default, queries are returned in the English locale.
10. **CLIENTLOCALE** - Specify the language/locale in which the eG agent is running. Normally, when you use an internal agent to monitor Informix, the **CLIENTLOCALE** and **DBLOCALE** will be same. However, the **CLIENTLOCALE** may differ when you are monitoring the Informix tests using a remote agent (agentless monitoring). By default, the **CLIENTLOCALE** is set to “none”, indicating that the eG agent runs in the English locale, by default.

Measurements made by the test

Measurement	Description	Measurement Unit	Interpretation
Read cache hit ratio:	The ratio of number of buffer reads to disk reads.	Percent	This measure is an indicator of the overall performance of your database server. This value should always be high.
Write cache hit ratio:	The ratio of number of buffer writes to disk writes.	Percent	This measure is an indicator of the overall performance of your database server. This value should always be high.
Flushes:	The rate at which buffer-pool buffers were flushed to disk.	Flushes/Sec	
Foreground writes:	The number of foreground writes per second during the last measurement period	Writes/Sec	Foreground writes should be avoided. They slow down the performance of your database server. If you find that foreground writes are occurring on a regular basis, tune the value of the page- cleaning parameters. Either increase the number of page cleaners or decrease the value of LRU_ MAX_ DIRTY.
LRU writes:	The number of LRU writes per second during the last measurement period	Writes/Sec	Compare this value with Foreground_ writes and Chunk_ writes to get an understanding of how the buffer flushing occurs in Informix.
Chunk writes:	The number of chunk writes per second during the last measurement period	Writes/Sec	Chunk writes are commonly performed by page- cleaner threads during a checkpoint or, possibly, when every page in the shared-memory buffer pool is modified. Chunk writes, which are performed as sorted writes, are the most efficient writes available to the database server.

Measurement	Description	Measurement Unit	Interpretation
			Compare this value with Foreground_ writes and LRU writes to get an understanding of how the buffer flushing occurs in Informix.

3.2.2 Informix Locks Test

This test reports the lock related measures of an Informix database server.

Target of the test : An Informix Dynamic server

Agent deploying the test : An internal agent

Outputs of the test : One set of results for the Informix server being monitored

Configurable parameters for the test

1. **TEST PERIOD** – How often should the test be executed.
2. **HOST** – The IP address of the Informix Dynamic server.
3. **PORT** – The port on which the server is listening.
4. **DB** – The name of a database on the server.
5. **INSTANCE** - The Informix server instance being monitored.
6. **USER** – A valid user name to login to the specified database .
7. **PASSWORD** – The password corresponding to the above user.
8. **CONFIRM PASSWORD** – Confirm the **PASSWORD** by retyping it here.
9. **DBLOCALE** - Specify the language/locale in which your database is installed. This will allow you to return the query in the language supported by your database. By default this attribute is set to “none”, which means that by default, queries are returned in the English locale.
10. **CLIENTLOCALE** - Specify the language/locale in which the eG agent is running. Normally, when you use an internal agent to monitor Informix, the **CLIENTLOCALE** and **DBLOCALE** will be same. However, the **CLIENTLOCALE** may differ when you are monitoring the Informix tests using a remote agent (agentless monitoring). By default, the **CLIENTLOCALE** is set to “none”, indicating that the eG agent runs in the English locale, by default.
11. **DETAILED DIAGNOSIS** – To make diagnosis more efficient and accurate, the eG Enterprise suite embeds an optional detailed diagnostic capability. With this capability, the eG agents can be configured to run detailed, more elaborate tests as and when specific problems are detected. To enable the detailed diagnosis capability of this test for a particular server, choose the **On** option. To disable the capability, click on the **Off** option.

The option to selectively enable/disable the detailed diagnosis capability will be available only if the following conditions are fulfilled:

- The eG manager license should allow the detailed diagnosis capability
- Both the normal and abnormal frequencies configured for the detailed diagnosis measures should not be 0.

Measurements made by the test

Measurement	Description	Measurement Unit	Interpretation
Lock requests:	The number of lock requests received.	Number	A high value indicates that there is high locking activity in the system and may need close scrutiny for the type of locks being requested. The detailed diagnosis of this measure, if enabled, provides a list of top 10 user sessions holding maximum number of locks.
Lock waits:	The number of lock waits.	Number	A high value of waits can have an adverse impact on application performance. Possible reasons for this behavior could be: • Inadequate number of locks available in the database • Unusually high locking behavior of applications accessing the database • Improper database application design, etc.
Lock timeouts:	The number of locks that timed out.	Number	Lock timeouts can be useful for removing tasks that acquire some locks, and then wait for long periods of time blocking other users.
Deadlocks:	The number of deadlocks.	Number	A deadlock may arise due to various situations including bad design of queries and deficient coding practices. A deadlock is a situation where both/all the lock requestors are in a mutual or a multi- way tie. Any deadlocks are

Measurement	Description	Measurement Unit	Interpretation
			detrimental to database application performance. The detailed diagnosis of this measure, if enabled, will report the details of user sessions performing deadlocks.

3.2.3 Informix Logical Logs Test

The logical logs are one of the most important resources of the database server. Your database server will be blocked if they become full because they could not be backed up. You might also lose transactions in the case of a failure, if your logical logs have not been backed up. Thus, observing the behaviour of the logical logs is essential. This test collects and reports measures related to the logical logs.

Target of the test : An Informix Dynamic server

Agent deploying the test : An internal agent

Outputs of the test : One set of results for the Informix server being monitored

Configurable parameters for this test

1. **TEST PERIOD** – How often should the test be executed
2. **HOST** – The IP address of the Informix Dynamic server
3. **PORT** – The port on which the server is listening
4. **INSTANCE** - The Informix server instance being monitored
5. **USER** – A valid Informix user name
6. **PASSWORD** – The password corresponding to the above user
7. **CONFIRM PASSWORD** – Confirm the **PASSWORD** by retyping it here.
8. **DBLOCALE** - Specify the language/locale in which your database is installed. This will allow you to return the query in the language supported by your database. By default this attribute is set to “none”, which means that by default, queries are returned in the English locale.
9. **CLIENTLOCALE** - Specify the language/locale in which the eG agent is running. Normally, when you use an internal agent to monitor Informix, the **CLIENTLOCALE** and **DBLOCALE** will be same. However, the **CLIENTLOCALE** may differ when you are monitoring the Informix tests using a remote agent (agentless monitoring). By default, the **CLIENTLOCALE** is set to “*none*”, indicating that the eG agent runs in the English locale, by default.

Measurements made by the test

Measurement	Description	Measurement Unit	Interpretation
Total size:	The total size of all logical log files.	Pages	
Total free space:	The total space available in all logical log files.	Pages	
Percent used space:	The percentage of space used in all logical log files.	Percent	
Current log file size:	The size of the log file currently in use.	Pages	
Free pages in current log:	The space available in the current log file.	Pages	
Current log used space:	The percentage of space used in the current log file.	Percent	
Logical log buffer records:	The rate at which transaction log records were written to the logical log buffer.	Records/Sec	
Logical log buffer writes:	The rate at which log pages were written to the logical log buffer.	Pages/Sec	
Logical log writes:	The rate at which logical log buffers were written to the logical log files.	Writes/Sec	

3.2.4 Informix Physical Logs Test

This test collects and reports measures related to the physical logs of an Informix database server.

Target of the test : An Informix Dynamic server

Agent deploying the test : An internal agent

Outputs of the test : One set of results for the Informix server being monitored

Configurable parameters for this test

1. **TEST PERIOD** – How often should the test be executed.
2. **HOST** – The IP address of the Informix Dynamic server.
3. **PORT** – The port on which the server is listening.
4. **INSTANCE** - The Informix server instance being monitored.
5. **USER** – A valid Informix user name.
6. **PASSWORD** – The password corresponding to the above user.
7. **CONFIRM PASSWORD** – Confirm the **PASSWORD** by retyping it here.
8. **DBLOCALE** - Specify the language/locale in which your database is installed. This will allow you to return the query in the language supported by your database. By default this attribute is set to "none", which means that by default, queries are returned in the English locale.
9. **CLIENTLOCALE** - Specify the language/locale in which the eG agent is running. Normally, when you use an internal agent to monitor Informix, the **CLIENTLOCALE** and **DBLOCALE** will be same. However, the **CLIENTLOCALE** may differ when you are monitoring the Informix tests using a remote agent (agentless monitoring). By default, the **CLIENTLOCALE** is set to "*none*", indicating that the eG agent runs in the English locale, by default.

Measurements made by the test

Measurement	Description	Measurement Unit	Interpretation
Physical log buffer writes:	The rate at which pages were written to the physical log buffer.	Pages/Sec	
Physical log writes:	The rate at which physical log buffers were written to the physical log files.	Writes/Sec	
Checkpoints:	The number of checkpoints occurred.	Checkpoints/Sec	
Checkpoint waits:	The number of times the threads waited for a checkpoint to finish to enter a critical section during a checkpoint.	Waits/Sec	

3.3 The IFX Chunks Layer

A chunk is the largest unit of physical disk dedicated to database server data storage. Using the IFX Chunks test associated with it, the IFX Chunks layer monitors the space usage and I/O activity on the chunks.

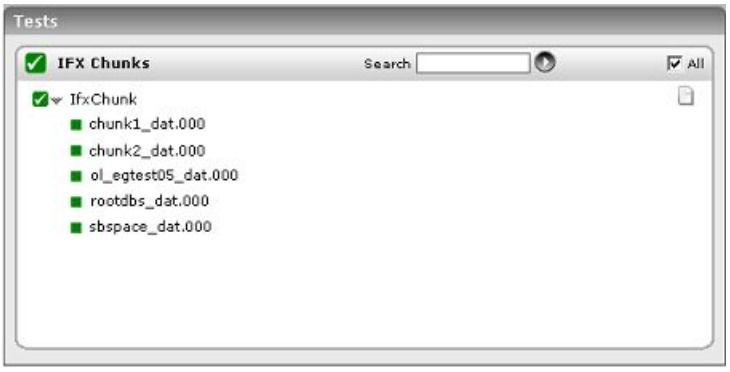

Figure 3.4: The tests associated with the IFX Chunks layer

3.3.1 Informix Chunks Test

This test collects the performance statistics pertaining to the disk space usage and disk I/O of a chunk.

Target of the test : An Informix Dynamic server

Agent deploying the test : An internal agent

Outputs of the test : One set of results for every chunk in an Informix database server

Configurable parameters for the test

1. **TEST PERIOD** – How often should the test be executed
2. **HOST** – The IP address of the Informix Dynamic server
3. **PORT** – The port on which the server is listening
4. **INSTANCE** - The Informix server instance being monitored
5. **USER** – A valid Informix user name
6. **PASSWORD** – The password corresponding to the above user
7. **CONFIRM PASSWORD** – Confirm the **PASSWORD** by retyping it here.
8. **DBLOCALE** - Specify the language/locale in which your database is installed. This will allow you to return the query in the language supported by your database. By default this attribute is set to “none”, which means that by default, queries are returned in the English locale.
9. **CLIENTLOCALE** - Specify the language/locale in which the eG agent is running. Normally, when you use an internal agent to monitor Informix, the **CLIENTLOCALE** and **DBLOCALE** will be same. However, the **CLIENTLOCALE** may differ when you are monitoring the Informix tests using a remote agent (agentless monitoring). By default, the **CLIENTLOCALE** is set to “none”, indicating that the eG agent runs in the English locale, by default.

Measurements made by the test

Measurement	Description	Measurement Unit	Interpretation
Chunk size:	The total size of a chunk.	Pages	
Free pages:	The amount of unused space in a chunk.	Pages	
Percent used:	The percentage of space used in a chunk.	Percent	
Status:	The status of a chunk.	Number	Possible values are: • 0 - Normal • 1 - Recovering • 2- Offline • 3- Inconsistent
Disk reads:	The rate of disk reads.	Reads/Sec	
Disk writes:	The rate of disk writes.	Writes/Sec	
Pages read:	The number of pages read from the chunk per second.	Pages/Sec	
Pages written:	The number of pages written to the chunk per second.	Pages/Sec	

3.4 The IFX Data Spaces Layer

A dbspace is a logical unit used to store databases, tables, logical log files and physical log files. It contains one or more chunks physically. The IfxDbSpace test, which is mapped to the **IFX Data Spaces** layer, monitors the dbspaces on the Informix server, and reports the size of each dbspace in terms of the number of chunks it constitutes, and the space usage and I/O activity on every dbspace.

Figure 3.5: The tests associated with the IFX Data Spaces layer

3.4.1 Informix Database Space Test

This test reports the space details of a dbspace.

Target of the test : An Informix Dynamic server

Agent deploying the test : An internal agent

Outputs of the test : One set of results for every dbspace in an Informix database server

Configurable parameters for the test

1. **TEST PERIOD** – How often should the test be executed.
2. **HOST** – The IP address of the Informix Dynamic server.
3. **PORT** – The port on which the server is listening.
4. **INSTANCE** - The Informix server instance being monitored.
5. **USER** – A valid Informix user name.
6. **PASSWORD** – The password corresponding to the above user.
7. **CONFIRM PASSWORD** – Confirm the **PASSWORD** by retyping it here.
8. **DBLOCALE** - Specify the language/locale in which your database is installed. This will allow you to return the query in the language supported by your database. By default this attribute is set to “none”, which means that by default, queries are returned in the English locale.
9. **CLIENTLOCALE** - Specify the language/locale in which the eG agent is running. Normally, when you use an internal agent to monitor Informix, the **CLIENTLOCALE** and **DBLOCALE** will be same. However, the **CLIENTLOCALE** may differ when you are monitoring the Informix tests using a remote agent (agentless monitoring). By default, the **CLIENTLOCALE** is set to “*none*”, indicating that the eG agent runs in the English locale, by default.

Measurements made by the test

Measurement	Description	Measurement Unit	Interpretation
Total size:	The total size of a dbspace.	Pages	
Free space:	The amount of unused space in a particular dbspace.	Pages	If one of your dbspaces runs out of space, some applications could stop working.
Percent used:	The percentage of space used in a dbspace.	Percent	
Number of chunks:	The total number of chunks present in a specific Dbspace.	Number	
Disk reads:	The rate at which data pages were read from the disk.	Pages/Sec	
Disk writes:	The rate at which data pages were read from the disk.	Pages/Sec	

3.5 The IFX Service Layer

The tests mapped to the IFX Service layer track how well the Informix server serves user requests.

Figure 3.6: The tests associated with the IFX Service layer

3.5.1 Informix Access Test

The IfxAccess test reports statistics pertaining to the sequential scans and table sorts performed on an Informix database server.

Target of the test : An Informix Dynamic server

Agent deploying the test : An internal agent

Outputs of the test : One set of results for the Informix server being monitored

Configurable parameters for this test

1. **TEST PERIOD** – How often should the test be executed
2. **HOST** – The IP address of the Informix Dynamic server
3. **PORT** – The port on which the server is listening
4. **INSTANCE** - The Informix server instance being monitored
5. **USER** – A valid Informix user name
6. **PASSWORD** – The password corresponding to the above user
7. **CONFIRM PASSWORD** – Confirm the **PASSWORD** by retyping it here.
8. **DBLOCALE** - Specify the language/locale in which your database is installed. This will allow you to return the query in the language supported by your database. By default this attribute is set to "none", which means that by default, queries are returned in the English locale.
9. **CLIENTLOCALE** - Specify the language/locale in which the eG agent is running. Normally, when you use an internal agent to monitor Informix, the **CLIENTLOCALE** and **DBLOCALE** will be same. However, the **CLIENTLOCALE** may differ when you are monitoring the Informix tests using a remote agent (agentless monitoring). By default, the **CLIENTLOCALE** is set to "*none*", indicating that the eG agent runs in the English locale, by default.
10. **DETAILED DIAGNOSIS** – To make diagnosis more efficient and accurate, the eG Enterprise suite embeds an optional detailed diagnostic capability. With this capability, the eG agents can be configured to run detailed, more elaborate tests as and when specific problems are detected. To enable the detailed diagnosis capability of this test for a particular server, choose the **On** option. To disable the capability, click on the **Off** option.

    The option to selectively enable/disable the detailed diagnosis capability will be available only if the following conditions are fulfilled:

    - The eG manager license should allow the detailed diagnosis capability
    - Both the normal and abnormal frequencies configured for the detailed diagnosis measures should not be 0.

Measurements made by the test

Measurement	Description	Measurement Unit	Interpretation
Sequential scans:	The number of sequential scans performed per second.	Scans/Sec	The detailed diagnosis of this measure, if enabled, will list the top 10 tables performing more number of sequential scans.
Memory sorts:	The percentage of sorts done in memory.	Percent	This value must always be high.
Disk sorts:	The number of disk sorts performed per second.	Sorts/Sec	This value must always be high.

3.5.2 Informix Response Test

This test reports the availability and response time of an Informix database server.

Target of the test : An Informix Dynamic server

Agent deploying the test : An external agent; if you are running this test using the external agent on the eG manager box, then make sure that this external agent is able to communicate with the port on which the target Informix server is listening. Alternatively, you can deploy the external agent that will be running this test on a host that can access the port on which the target Informix server is listening.

Outputs of the test : One set of results for every Informix database server

Configurable parameters for this test

1. **TEST PERIOD** – How often should the test be executed
2. **HOST** – The IP address of the Informix Dynamic server
3. **PORT** – The port on which the server is listening
4. **INSTANCE** - The Informix server instance being monitored
5. **USER** – A valid Informix user name
6. **PASSWORD** – The password corresponding to the above user
7. **CONFIRM PASSWORD** – Confirm the **PASSWORD** by retyping it here.
8. **DBLOCALE** - Specify the language/locale in which your database is installed. This will allow you to return the query in the language supported by your database. By default this attribute is set to “none”, which means that by default, queries are returned in the English locale.

9. **CLIENTLOCALE** - Specify the language/locale in which the eG agent is running. Normally, when you use an internal agent to monitor Informix, the **CLIENTLOCALE** and **DBLOCALE** will be same. However, the **CLIENTLOCALE** may differ when you are monitoring the Informix tests using a remote agent (agentless monitoring). By default, the **CLIENTLOCALE** is set to "*none*", indicating that the eG agent runs in the English locale, by default.

Measurements made by the test

Measurement	Description	Measurement Unit	Interpretation
Availability:	The availability of the database server.	Percent	The availability is 100% when the server is responding to a request, and 0% when it is not. Availability problems may be caused by a misconfiguration/malfunctioning of the database server, or if the server has not been started.
Response time:	The time taken by the database to respond to a user query.	Secs	A sudden increase in response time is indicative of a bottleneck at the database server.

3.5.3 Informix Sessions Test

This test reports the session related information of an Informix database server.

Target of the test : An Informix Dynamic server

Agent deploying the test : An internal agent

Outputs of the test : One set of results for the Informix server being monitored

Configurable parameters for this test

1. **TEST PERIOD** – How often should the test be executed
2. **HOST** – The IP address of the Informix Dynamic server
3. **PORT** – The port on which the server is listening
4. **INSTANCE** - The Informix server instance being monitored
5. **USER** – A valid Informix user name
6. **PASSWORD** – The password corresponding to the above user
7. **CONFIRM PASSWORD** – Confirm the **PASSWORD** by retyping it here.
8. **DBLOCALE** - Specify the language/locale in which your database is installed. This will allow you to

return the query in the language supported by your database. By default this attribute is set to “none”, which means that by default, queries are returned in the English locale.

9. **CLIENTLOCALE** - Specify the language/locale in which the eG agent is running. Normally, when you use an internal agent to monitor Informix, the **CLIENTLOCALE** and **DBLOCALE** will be same. However, the **CLIENTLOCALE** may differ when you are monitoring the Informix tests using a remote agent (agentless monitoring). By default, the **CLIENTLOCALE** is set to “*none*”, indicating that the eG agent runs in the English locale, by default.
10. **DETAILED DIAGNOSIS** – To make diagnosis more efficient and accurate, the eG Enterprise suite embeds an optional detailed diagnostic capability. With this capability, the eG agents can be configured to run detailed, more elaborate tests as and when specific problems are detected. To enable the detailed diagnosis capability of this test for a particular server, choose the **On** option. To disable the capability, click on the **Off** option.

    The option to selectively enable/disable the detailed diagnosis capability will be available only if the following conditions are fulfilled:

    - The eG manager license should allow the detailed diagnosis capability
    - Both the normal and abnormal frequencies configured for the detailed diagnosis measures should not be 0.

Measurements made by the test

Measurement	Description	Measurement Unit	Interpretation
Current sessions:	The total number of current user sessions.	Number	The detailed diagnosis of the Current sessions measure, if enabled, will provide the following information about each user session: • Session id • User name • Database name • Host name of the user • Session start time **Note** : This list will contain only recently connected 100 user sessions.
Blocked sessions:	The number of sessions waiting for various database objects.	Number	

3.5.4 Informix Transactions Test

This test reports the transaction related statistics of an Informix database server.

Target of the test : An Informix Dynamic server

Agent deploying the test : An internal agent

Outputs of the test : One set of results for the Informix server being monitored

Configurable parameters for this test

1. **TEST PERIOD** – How often should the test be executed
2. **HOST** – The IP address of the Informix Dynamic server
3. **PORT** – The port on which the server is listening
4. **INSTANCE** - The Informix server instance being monitored
5. **USER** – A valid Informix user name
6. **PASSWORD** – The password corresponding to the above user
7. **CONFIRM PASSWORD** – Confirm the **PASSWORD** by retyping it here.
8. **DBLOCALE** - Specify the language/locale in which your database is installed. This will allow you to return the query in the language supported by your database. By default this attribute is set to "none", which means that by default, queries are returned in the English locale.
9. **CLIENTLOCALE** - Specify the language/locale in which the eG agent is running. Normally, when you use an internal agent to monitor Informix, the **CLIENTLOCALE** and **DBLOCALE** will be same. However, the **CLIENTLOCALE** may differ when you are monitoring the Informix tests using a remote agent (agentless monitoring). By default, the **CLIENTLOCALE** is set to "*none*", indicating that the eG agent runs in the English locale, by default.

Measurements made by the test

Measurement	Description	Measurement Unit	Interpretation
Commits:	The rate of user commits.	Commits/Sec	
Rollbacks:	The rate of user rollbacks.	Rollbacks/Sec	
Long transactions:	The number of long running transactions.	Number	Long running transactions should be avoided. They consume major resources of your database server. If a long transaction exclusive high water mark (LTXEHWM) is reached, all other

Measurement	Description	Measurement Unit	Interpretation
			write activities will be blocked.

4

Conclusion

This document has described in detail the monitoring paradigm used and the measurement capabilities of the eG Enterprise suite of products with respect to **Informix Dynamic servers**. For details of how to administer and use the eG Enterprise suite of products, refer to the user manuals.

We will be adding new measurement capabilities into the future versions of the eG Enterprise suite. If you can identify new capabilities that you would like us to incorporate in the eG Enterprise suite of products, please contact support@eginnovations.com. We look forward to your support and cooperation. Any feedback regarding this manual or any other aspects of the eG Enterprise suite can be forwarded to feedback@eginnovations.com.