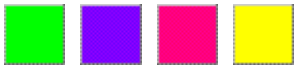


Installation Manual CInsightC

Release 2.4.1

1 Preface

Thank you for choosing Tempus Verus' CInsightC!

CinsightC helps you in monitoring Clarity and increase the availability and performance. To do so, it measures Clarity at several important checkpoints. The results are stored in the Clarity database.

These area's are checked:
- Clarity Logfiles;
- Clarity Access Logfiles;
- Clarity Garbage Collection Logfiles;
- Clarity User Sessions.
- Clarity Availability & System Statistics;
- Clarity SQLTrace Files

Note: Clarity User Sessions are only available when the customization is applied as described in Chapter 4.

To be able to get serious information from the enormous amount of stored facts, a number of portlets are provided on the tempusverus.com website:

- TV Clarity Logfiles;
- TV GC Logging;
- TV Sessions;
- TV Uptime Log;
- TV Clarity Logfiles (graph);
- TV GC (graph);
- TV Logins (graph);
- TV Uptime (graph);
- TV Monitor Column (graph);
- And much more...

2 Product System Requirements

This table lists all the supported components:

Type	Version
Clarity	7.5.3 Any Fixpack; 8.1 Any Fixpack; 8.1.1 Any Fixpack;
Operating System	Windows 2000 or higher. AIX 5.2, AIX 5.3 Sun Solaris 8,9,10. HPUX 11
Database Vendor	Oracle 9.2; Oracle 10.1; Oracle 10.2; SQLServer 2000; SQLServer 2005.
Java	1.5.x
Mail server	Any SMTP Server

3 Support

Tempus Verus offers different types of support and consulting services to your organization. Our support can help you by answering technical questions, resolving issues and train your staff in analyzing the results of CInsightC.
Alternatively, our consultants and software engineers can develop customized classes, toolkits and give assistance on implementing CInsightC to Clarity installations. Contact your Tempus Verus representative to discuss the standard or customized support and consulting solutions for your organization.

Installation Support

However the installation of CInsightC is quite easy, it might be required to have CInsightC installed by a skilled and trained engineer. Tempus Verus provides this installation support. Installation and configuration takes about one day and includes:
- Installation.
- Configuration.
- Scheduling.
- Fine tuning.
- Documentation of the installation.
- Knowledge transfer to the (Clarity) administrators.

Please contact dbos@dbts.nl for availability and pricing.

Standard Support

This monthly-fee based support is targeted at the majority of the CInsightC and CA Clarity customers. It will give email and phone support during business hours and gives answers to your technical questions and resolving issues.

On-site Support

This support option is delivered by Tempus Verus in cooperation with CA. It is equal to standard support but includes extra services. A Tempus Verus engineer will visit your site periodically and give technical advice based on the statistics of CInsightC. This technical advice includes infrastructure, performance, stability and any information given by the CInsightC statistics.

Custom Consulting

Doesn't satisfy Standard or Onsite Support your needs? Extensive consulting options are possible like integration of the statistics of your interface runs, more customized notifications etc... Tempus Verus engineers are ready to help your organization implementing CInsightC.

4 Installation Description

The installation of CInsightC exists out of 5 technical steps:

Files: Put files in the correct location.
Customize:See 'Customize (optional)'.
Configuration: Configure all the configuration files.
Upload: Upload the CInsightC Portlet Pack to Clarity using XOG.
Run: Run CInsightC.
Schedule: Schedule CInsightC using a scheduling tool (Windows Scheduling / Crontab supported).

Files

Copy the installation files to the preferred location on the server. CInsightC needs at least one location where it can write the log files. The software binaries don't have to reside in a writable directory.
Example: d:\clarity\CInsightC

Listing of files and purpose:

CinsightC.jar	Application binaries.
hosts.xml	File containing all the url's to check.
logfile.csv	Comma Separated File having the uptime statistics.
messages.xml	Contains the message text of the notifications.
queries.xml	Contains all the queries of CinsightC.
run.bat	Executable Batchfile, including the memory
settings.xml	Central configuration file.
system_out.log	System_out file. Contains eventual error messages.

Customize (optional)

This step is a customisation. Apply this at your own risk. CA Support approval is required! TempusVerus B.V. Does not take any responsibility for using this customisation.

Take a backup of the file [clarity_home]\META-INF\security\xbl\loginAction.xbl
Open the file [clarity_home]\META-INF\security\xbl\loginAction.xbl and replace the secion:

```
    <xbl:otherwise>
      <xbl:login userName="{data/userName/@value}"
      passWord="{data/passWord/@value}"/>
    </xbl:otherwise>
```

by:

```
    <xbl:otherwise>
      <xbl:login userName="{data/userName/@value}"
            passWord="{data/passWord/@value}"/>
          <message id="{data/userName/@value} Logged in." type="error"/>
        <xbl:log level="error" value="{data/userName/@value} Logged in."/>
    </xbl:otherwise>
```

Save the file.
Restart Clarity.

Configuration

Configure CInsightC using the files hosts.xml (which url's to check), settings.xml (all other runtime settings) and messages.xml (possibility to adjust the message text and message subject of the email notifications).

Run

Execute the file run.bat. This will create the required database objects on the first run. Adjust the heap size as well in this file.
Example: java -Xms128m -Xmx128m checkUptime

Other possible functions are:
reinstall.bat / reinstall.sh: Will drop all tables and execute CInsightC (which will recreates all tables)
DesEncrypter.bat / DesEncrypter.sh: Will encrypt your database password using your encryption key (settings.xml)

Upload

Use XOG to XOG-in the provide .xml file containing the CInsightC portlets.

After the upload is complete, login to Clarity as an administrator and execute the following steps:

Create a new Menu Item:

1. Navigate to the Admin Tool – Menu Manager
2. Choose either "Administration Tool Menu" or "Application Menu"
3. Add – Section
   i. Provide a Section Name and Id for the section
4. Add – Link
   i. Enter *'CInsightC'* as Link Name
   ii. Select *'Clarity Logfiles'* as Page Name
   iii. Select the new Section created as Parent Menu Item

Schedule

Schedule CInsightC using the windows scheduler. CInsightC is tuned to run very fast. It is recommended to schedule CInsightC for every minute. If this is not feasible because of any limitation, it can be scheduled less often as well. The risk is running CInsightC less frequently can results in gaps in the analyzed data.

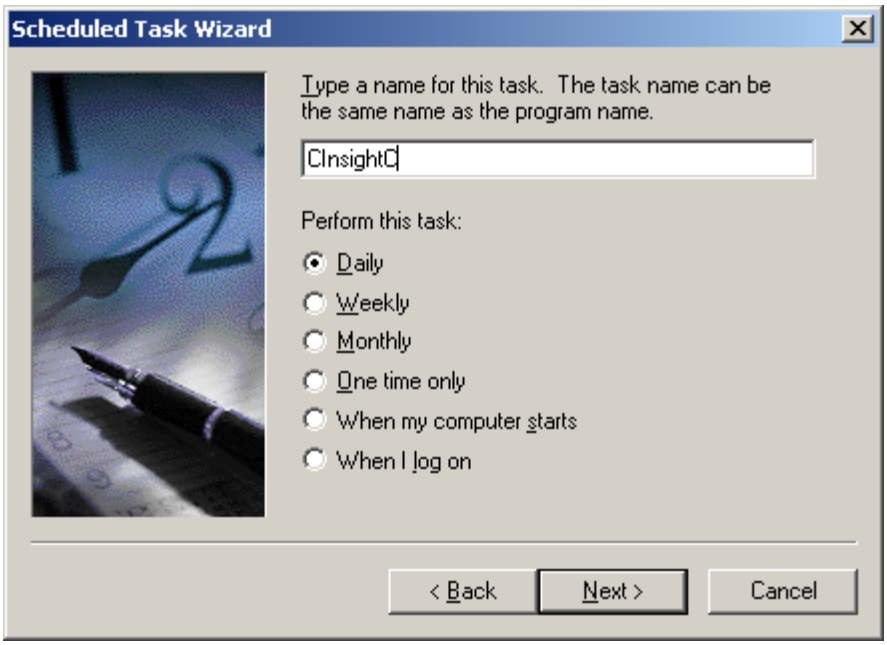
Steps to schedule CInsightC:

1. Start a command prompt window: Start >> Run >> 'cmd'
2. Execute (change the parameter to the correct value):

```
SCHTASKS /create /S <host_name> /SC MINUTE /TN CInsightC
         /TR <path>\run.bat /ST 00:00:00 /RU <user_name>
```

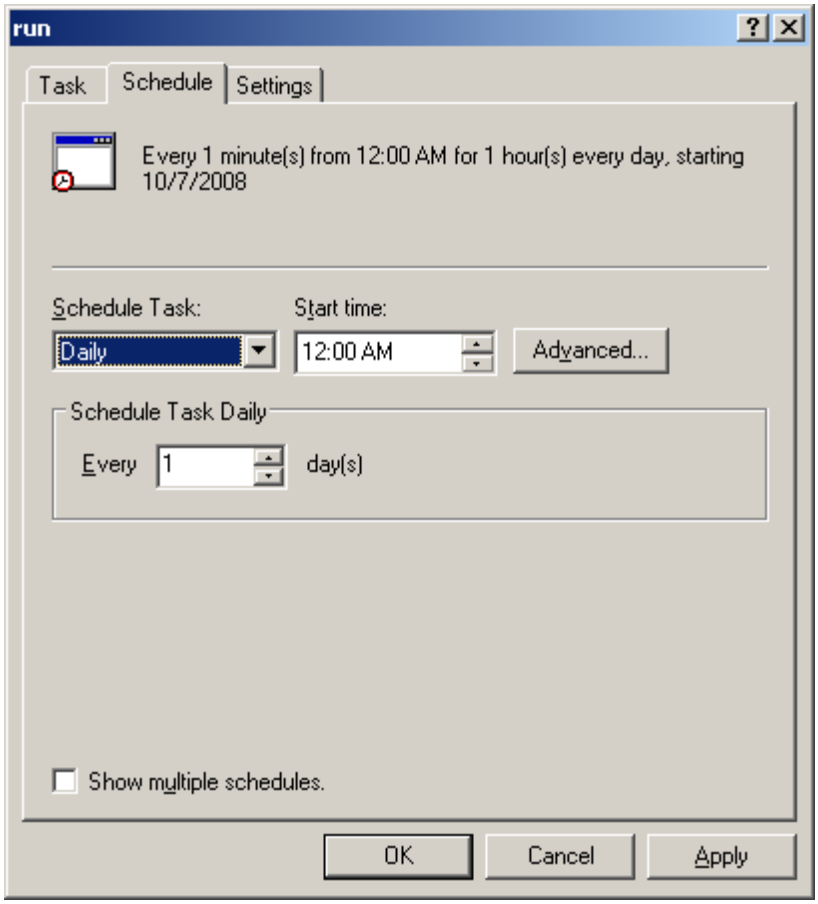
Alternative steps to schedule CInsightC:

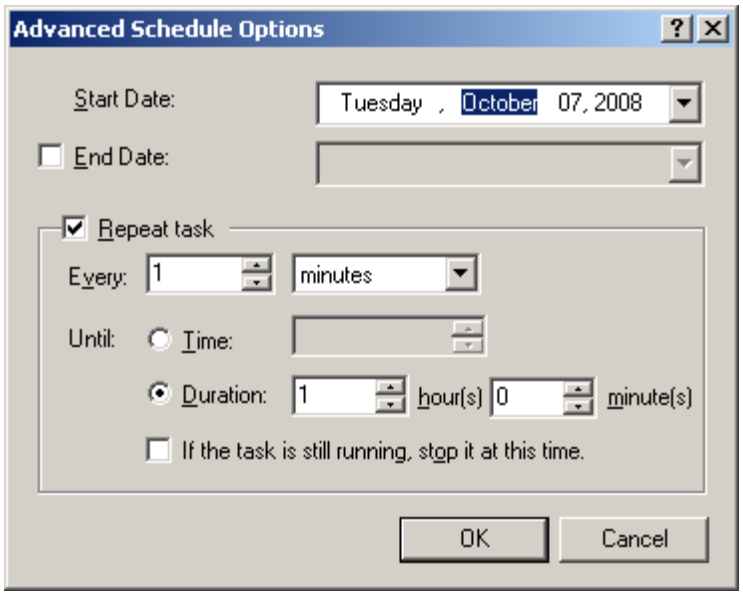
1. Start >> Programs >> Accessories >> System Tasks >> Scheduled Tasks.
2. Click 'Add Scheduled Task'.
3. Click 'Next'.
4. Click 'Browse'.
5. Go to the directory where CInsightC is installed and select run.bat.
6. Set the interval to 'Daily' and click Next.



7. Click Next.
8. Enter the Windows security details and click Next.

9. Select 'Open advanced properties for this task when I click finish' and click Finish (see screenshot above).
10. Click 'Schedule'.
11. Set values according to this screenshot and click 'Advanced':





12. Set the values in the part of the screen 'Repeat Task' according to the screenshot above.
13. Close all windows by clicking OK.

CInsightC can be scheduled using the crontab commands on Unix.

5 Appendix A – settings.xml

<cinsightc_version>2.4.1</cinsightc_version>

<encrypt_key>ab1)</encrypt_key>

Your personal key to encrypt your database password (and license).

<to_notify_administrators>info@tempusverus.com</to_notify_administrators>

This is a listing of all the administrators who needs to get a notification on certain events. If multiple administrators must receive notifications, separate the email addresses by a comma:
<to_notify_administrators>admin1@tempusverus.com,admin2@tempusverus.com</to_notify_administrators>
The possible events are:
- Application Node Down.
- Database Down.
- Certain error message found in the log file (see <alert_strings>).

<send_from>clarity_admin@tempusverus.com</send_from>

This is the send-from email address. Most likely a no_reply address or the technical Clarity administrator's email address.

<mailserver_hostname>mail.tempusverus.com</mailserver_hostname>

The mail server needed to send notifications. Only SMTP traffic is supported.

<mailserver_portnumber>25</mailserver_portnumber>

Port number of the mail server.

<mailserver_username>niku</mailserver_username>

Username needed to send a notification (optional, in most companies it's allowed to send email without a security validation).

<mailserver_password>niku</mailserver_password>

Password related to the <mailserver_username> (optional).

<logfile>C:\copy\Data\DBTS\Applications\checkUptime\logfile.csv</logfile>

File containing the results of all the runs of CInsightC. Formatting:

Timestamp;Type of Check (DB or App (=URL));name of tested object;result;what has been tested

2008.10.06 11.14.34;URL;http://localhost/niku/app;true;no login tested;n/a;
2008.10.06 11.14.34;DB;dbos;true;db login tested;n/a;

<system_logfile>C:\clarity\CInsightC\system_out.log</system_logfile>

Location and file name of the standard system out file.

<login>false</login>

Parameter to define if CInsightC must login into Clarity as well. Not applicable in this release.

<clarity_username></clarity_username>

If <login> = true, specify the Clarity username here. Any user able to login to Clarity is allowed.

<clarity_password></clarity_password>

If <login> = true, specify the Clarity password here. Encryption is not supported yet.

<clarity_logfiles>c:\clarity\clarity81\logs\app-niku.log</clarity_logfiles>

Location and file name of the Clarity log files. Specify Path + Filename. If multiple Clarity JVM's are being used, separate the log files by a comma:
<clarity_logfiles>c:\clarity\clarity81\logs\app1-niku.log,c:\clarity\clarity81\logs\app2-niku.log</clarity_logfiles>
The Log file names must be in the same sequence as the nodes as specified in hosts.xml.
Only standard Clarity log files are allowed.

<clarity_access_logfile_dirs>d:\niku\clarity8\logs</clarity_access_logfile_dirs>

The directory where the Clarity Access logfiles are stored. CInsightC will only process the files based on the pattern below.

<clarity_access_logfile_pattern>access-2009</clarity_access_logfile_pattern>

The pattern that defines the Access Logfiles.

<clarity_gcfiles>c:\clarity\clarity81\logs\gc-app.log</clarity_gcfiles>

Location and file name of the Clarity Garbage Collection log files. Specify Path + Filename. If multiple Clarity JVM's are being used, separate the garbage collection log files by a comma:
<clarity_gcfiles>c:\clarity\clarity81\logs\gc-app1.log,c:\clarity\clarity81\logs\gc-app2.log</clarity_gcfiles>
The log file names must be in the same sequence as the nodes as specified in hosts.xml and the sequence of the clarity_logfiles.

<gc_type>standard</gc_type>

Standard or Websphere

<hw_architecture>windows</hw_architecture>

Windows or AIX.

<alert_strings>OutOfMemory</alert_strings>

Clarity will send a notification to the administrators if it detects a new error in the Clarity log files having one of the specified keywords in <alert_strings>. If multiple keywords must be checked, specify them by using a comma separator. Example:
<alert_strings>OutOfMemory,Deadlock</alert_strings>

<exclusion_strings></exclusion_strings>

N/A

<interval>1</interval>

N/A

<license_key>aLj6cQ</license_key>

Enter a licensekey for enhanced support and functionalities. Go to www.tempusverus.com for more information.

<keytype>temporary</keytype>

Enter a licensekey for enhanced support and functionalities. Go to www.tempusverus.com for more information.

<temp_key_startdate>20090101</temp_key_startdate>

Enter a licensekey for enhanced support and functionalities. Go to www.tempusverus.com for more information.

<temp_key_enddate>20090331</temp_key_enddate>

Enter a licensekey for enhanced support and functionalities. Go to www.tempusverus.com for more information.

<servers>localhost,laptop</servers>

Servers to be checked for system availability and performance.

<db_vendor>oracle</db_vendor>

Specify Oracle if you're running Clarity on Oracle. The alternative will be MSSQL Server; this is not supported in release 1.0.

<db_host>localhost</db_host>

Specify the database hostname here.

<db_port>1521</db_port>

Specify the database port number here. Standard is 1521 for Oracle and 1433 for MSSQL Server.

<db_name>clarity</db_name>

Specify the database name here.

<db_user>clarity81</db_user>

Specify the database username here. For Oracle: In CInsightC release 1.0 it must be the schema owner.

<db_pass>clarity81</db_pass>

Specify the database password here. Encryption is not supported yet.

<db_pass_encrypted>false</db_pass_encrypted>

Use DesEncrypter.sh <your_password> to encrypt the password.

<check_db>true</check_db>

Specify true if the database must be checked, and false if the database doesn't need to be checked.

<set_db_timestamp>true</set_db_timestamp>

N/A

<number_log_lines>100000</number_log_lines>

The maximum of lines from a application logfile being processed per batch.
Low: 1000.
Medium: 10000.
High: 100000.

<number_gc_log_lines>1000000</number_gc_log_lines>

The maximum of Garbage Collection loglines being processed per batch.

<number_access_log_lines>2000000</number_access_log_lines>

The maximum of Access Loglines being processed per batch.
Low: 500000.
Medium: 1000000.
High: 2000000.
This setting affects the amount of used memory a lot. The lower the setting, the faster CinsightC is.

6 Appendix B – queries.xml

The file queries.xml contains all the queries being used by CInsightC. The queries are stored in the external file queries.xml to enable easy troubleshooting. Customizations are not allowed in queries.xml. If a customization is required, approval must be given by Tempus Verus.

7 Appendix C – messages.xml

The file messages.xml contains all the message text being sent to administrators on certain events. It is allowed to update the message text in messages.xml. Example:

```
<message_text>
Dear Administrator,

The server {url} is unreachable.

Please take action.

Regards,

Your most humble assistant.
</message_text>
```

Don't modify the tags <message_text> or </message_text>. They are needed to identify the correct message by CInsightC. The tag {url} will be replaced by the url of the unavailable Clarity Application Instance. The other text can be updated, like:

```
<message_text>
Dear Clarity Administrator,

The server {url} is unreachable. Please create a new ticket in Servicedesk and
take action according to the standard procedures.

Regards,

Clarity Availability Agent.
</message_text>
```

This is a listing of the purpose of all the different sections in messages.xml:

```
<message_text>    The message body send on failure of an App Instance.
<message_subject>       Subject of the email sent on App Instance failure.
<message_text_db>       The message body sent on failure of the Database.
<message_subject_db>    Subject of the email sent on Database failure.
<message_error_found>   Messagebody for an identified logfile keyword.
<message_subject_error_found> Subject for an indentified log file keyword.
```

8 Appendix D - hosts.xml

hosts.xml contains all the URL's which must be checked by CInsightC.

```
<hosts>
<urls>http://server1/niku/app,http://server2/niku/app</urls>
</hosts>
```

The different url's must be separated by a comma. The sequence of the hosts must be equal to the sequence of the log files. Url 1 relates to log file 1 and GC log file 1, etc...

9 Appendix E – Data model

There are 4 tables in use for CInsightC:

Z_ACCESS_LOGS	Contains the Access Logging information.
Z_GC_ENTRIES	Contains the GC Logging information.
Z_LOG_ENTRIES	Contains the Standard Clarity loggings.
Z_SESSION_HISTORY	Contains the Session information.
Z_SQLTRACE	Contains the SQLTrace information.
Z_TIME_BREAKDOWN	Contains the time information.
Z_TYPEPERF	Contains the system performance information.
Z_UPTIME_STATS	Contains the availability statistics.

Z_ACCESS_LOGS

ID	NUMBER	PK of this table.
LOGFILE	VARCHAR2(128)	Original logfile where data came from.
NUM_TIMESTAMP	NUMBER	Timestamp in miliseconds since 1/1/1970.
TIMESTAMP	TIMESTAMP(6)	Timestamp in date.
IP_ADDRESS	VARCHAR2(16)	Ip-address for the requester.
URL	VARCHAR2(2048)	URL of the requested page.
ACTION	VARCHAR2(196)	The action requested.
HTTP_CODE	VARCHAR2(8)	The HTTP exit code.

Z_GC_ENTRIES

ID	NUMBER	PK of this table.
NUM_TIMESTAMP	NUMBER	Timestamp in miliseconds since 1/1/1970.
TIMESTAMP	TIMESTAMP(6)	Timestamp in date.
GC_TYPE	VARCHAR2(8)	Full GC or GC.
MEM_FROM	NUMBER	Heap in use before GC run.
MEM_TO	NUMBER	Heap in use after GC run.
HEAP	NUMBER	Allocated heap.
DURATION_MS	NUMBER	Total runtime GC run.
LOGFILE	VARCHAR2(128)	Original logfile where data came from.

Z_LOG_ENTRIES

ID	NUMBER	PK of this table.
NUM_TIMESTAMP	NUMBER	Timestamp in miliseconds since 1/1/1970.
TIMESTAMP	TIMESTAMP(6)	Timestamp in date.
CATEGORY	VARCHAR2(8)	Severity of error.
MESSAGE	VARCHAR2(2000)	The text of the errormessage.
LOGFILE	VARCHAR2(128)	Original logfile where data came from.

Z_SESSION_HISTORY

SESSION_ID	NUMBER	PK of this table equals the Clarity Session.
LOGFILE	VARCHAR2(128)	Original logfile where data came from.
USER_NAME	VARCHAR2(96)	Username of the Clarity Session.
TIMEOUT	TIMESTAMP(6)	N/a
LOGOUT	TIMESTAMP(6)	Timestamp in date of logout / timeout.
LOGIN	TIMESTAMP(6)	Timestamp in date of login.

Z_SQLTRACE

ID	NUMBER	PK of this table.
LOGFILE	VARCHAR2(128)	Original logfile where data came from.
TIMESTAMP	TIMESTAMP(6)	Timestamp in date.
STATEMENT	VARCHAR2(128)	The sql statement;
NON_SQL	NUMBER	The time (ms) needed to retrieve the query.
QUERY	VARCHAR2(4000)	The query without parameters.
QUERYPARAM	CLOB	The query with parameters.
EXECUTETIME	NUMBER	The time (ms) needed to execute the query
OPENTIME	NUMBER	The total time needed to show the results

Z_TIME_BREAKDOWN

ID	NUMBER	PK of this table.
YEAR	NUMBER	Year.
MONTH	NUMBER	Month.
DAY	NUMBER	Day.
HOUR	NUMBER	Hour.
MINUTE	NUMBER	Minute.
SECOND	NUMBER	Second.
TIMESTAMP	TIMESTAMP(6)	Timestamp in date.
NUM_TIMESTAMP	NUMBER	Timestamp in miliseconds since 1/1/1970.

Z_TYPEPERF

TIMESTAMP	TIMESTAMP(6)	Timestamp in date.
NUM_TIMESTAMP	NUMBER	Timestamp in miliseconds since 1/1/1970.
HOST	VARCHAR2(128)	The hostname of the measured server.
TYPE	VARCHAR2(128)	The type of check executed.
VALUE	VARCHAR2(128)	The retrieved value.

Z_UPTIME_STATS

ID	NUMBER	PK of this table.
TIMESTAMP	TIMESTAMP(6)	Date of fact.
ACTION_TYPE	VARCHAR2(8)	What type of component has been checked.
URL	VARCHAR2(128)	Which component has been checked.
SUCCEEDED_TO_LOGINPAGE	VARCHAR2(32)	Result.
SUCCEEDED_TO_OVERVIEWPAGE	VARCHAR2(32)	Result. N/a.
LOGIN_TIME	NUMBER	N/a.