Release Notes for Platform Analytics

Platform Analytics
Version 7.6
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Contents

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Comments to: *doc@platform.com*

Support: *support@platform.com*

Obtaining Analytics 7.6

To obtain Analytics, contact Platform Computing or download the files from the Platform FTP site as follows:

- FTP server: *ftp.platform.com*
- User: lsfuser
- FTP directory: distrib/7.0/analytics7

The FTP directory has the following subdirectories:

- docs: Documentation files.
- nodes: Node installation packages.
- schema: Data schema package.
- servers: Server installation packages.
- upgrade: Upgrade packages.

What's New in Analytics 7.6

Performance improvements

Analytics 7.6 features the following performance improvements:

- Faster OLAP cube builds: Cube build processing is now three to five times faster than previous 7.x product releases of Analytics.
- Fine-tuned SQL queries: Analytics now has optimized SQL queries for aggregation resulting in queries that are two times faster than previous 7.x versions of Analytics.
- Improved turnaround time for hourly OLAP cubes: Hourly cubes can now have data from the last hour, whereas in previous versions of Analytics, the hourly cubes were built daily.
- Raw data reduction: By default, Analytics no longer stores raw data that is not used by cubes. This substantially improves data loading and aggregation performance.
- Auto-partitioning: For Oracle Enterprise Edition (9i, 10g, and 11g), tables are now partitioned and old partitions can be dropped immediately during data purging, which saves hours when purging large tables.
- Analytics now has improved performance for the job-related data transformers: lsfJobStatisticsHourly, lsfJobSlotsUsageByGroupHourly, and lsfJobResUsageByGroupHourly.

New OLAP cubes

Analytics 7.6 includes the following new cubes:

Cluster Capacity cube	Visibility in slot status in terms of used, idle, closed, or down states against the total available slot capacity.
Jobs vs. Slot Utilization cube	Visibility in slot usage in terms of running, pending, or suspending states against the total available slot capacity.
Health Check cube	Using this cube, you can check data latency, which data flow is experiencing problems, and by how many days a problematic data flow is behind.

Manageability and troubleshooting

Analytics 7.6 now includes the following new features for manageability and troubleshooting.

- Tablespace utilization monitoring: This allows administrators or DBAs to monitor Oracle tablespace usage and avoids tablespace errors, which can block any data aggregation.
- Enhanced support for debug message logging in data transformers, datamarts, cubes, and data loaders.
- You can now filter email notifications using regular expressions to focus on important notifications.

Support for latest versions of third party products

Analytics 7.6 now supports the following versions of third party products:

- Oracle 11g Enterprise Edition Release 1 and 2
- Oracle 11g Standard Edition.

Note:

Standard Edition does not support tablespace partitioning. Standard Edition is not recommended for use in clusters with over 1000 hosts running over 100 000 jobs per day.

- Oracle JDBC driver 10.2.0.3

Attention:

You must specifically use the 10.2.0.3 version of the Oracle JDBC driver, because other versions do not work correctly with Analytics.

- IBM Cognos PowerPlay Enterprise Server and IBM Cognos PowerPlay Transformer Edition 7.4 MR3 and MR4.
- Flexera FLEXnet Manager v12 and v14.
- Flexera FLEXnet Server (FLEXlm) v11.x.

What's Changed in Analytics 7.6

Analytics 7.6 includes the following changes:

- You now have the option of including the job ID in workload and workload license cubes. For performance reasons, we recommend that you only enable this option if your combined daily job submissions from all clusters is within 200 000 finished jobs.

- The Analytics Console now has the following three optional columns to identify the Analytics nodes:
  - System Purpose
  - Display Description
  - Business Area

Recommended system requirements

Analytics server host

Supported operating systems

The following table describes the supported operating systems for the Analytics server host. The Analytics server host must be a Windows 2003 or Solaris 10 host to install the Cognos tools. For additional requirements, refer to the Cognos documentation.

If you do not wish to generate cubes with the Analytics server, you may proceed with the installation if the host does not meet the Cognos requirements. The Analytics server host can be a Linux, Solaris, or Windows host if you are not installing Cognos tools.

Remember:

The Cognos tools do not work with Linux or Windows 2008.

Platform and hardware	Operating systems
Linux x86 64-bit (AMD64, EM64T) - see note above	RedHat Enterprise Linux 4 and 5 SUSE Linux Enterprise Server 9 and 10
Solaris 64-bit (SPARC: Sun Ultra 5, Fire V100)	Solaris 10
Windows x86 64-bit (AMD64, EM64T)	Windows 2003 (all) Windows 2008 (all) - see note above

Recommended hardware requirements

The following table describes the recommended hardware requirements for the Analytics server host, depending on the size of your cluster:

Cluster size	RAM	CPU	Local hard disk	Network
Medium (100 - 1000 hosts)	4GB	2 × 3.0GHz	Either one of: • SATA 7200 rpm • SCSI 10K rpm • Solid state disk 60 GB free space 2× RAM size for swap space	Gigabit Ethernet
Large (more than 1000 hosts)	16GB	8 × 3.0GHz	Either one of: • SATA 10K rpm • SCSI 15K rpm • Solid state disk 200 GB free space 2× RAM size for swap space	Gigabit Ethernet

Note:

Using an NFS disk mount instead of a local hard disk is not recommended.

Database host

Supported databases

The following are the supported versions of Oracle:

• Oracle 9i Enterprise Edition
• Oracle 10g Enterprise Edition and Standard Edition
• Oracle 11g Enterprise Edition and Standard Edition

Note:

Standard Edition does not support tablespace partitioning. Standard Edition is not recommended for use in clusters with over 1000 hosts running over 100 000 jobs per day.

Recommended hardware requirements

The following table describes the recommended hardware requirements for the database host, depending on the size of your cluster:

Cluster size	Database	RAM	CPU	Local hard disk	Table space	Network
Medium (100 - 1000 hosts)	Oracle Enterprise Edition	8GB	4 × 3.0GHz	SCSI 15K rpm RAID 01 or 10 2× RAM size for swap space	100GB (for 300 000 finished jobs per day)	Gigabit Ethernet

Cluster size	Database	RAM	CPU	Local hard disk	Table space	Network
Large (more than 1000 hosts)	Oracle Enterprise Edition with partitioning	16GB	8 × 3.0GHz	SCSI 15K rpm RAID 01 or 10 2× RAM size for swap space	350GB (for 1 000 000 finished jobs per day)	Gigabit Ethernet

Analytics node hosts

Supported operating systems for LSF 7.x

The following table describes the supported operating systems for the Analytics node installed in an LSF 7.x cluster. Contact Platform Computing if you require support for other operating systems.

Platform and hardware	Operating systems
AIX 64-bit	AIX 5.3
HP-UX 64-bit (IA64)	HP-UX 11.23
Linux x86 32-bit (Intel x86)	RedHat 8
	RedHat Enterprise Linux 3, 4, and 5
	SUSE Linux Enterprise Server 8, 9, and 10
Linux x86 64-bit (AMD64, EM64T)	RedHat Enterprise Linux 4 and 5
	SUSE Linux Enterprise Server 9 and 10
Solaris 64-bit (SPARC: Sun Ultra 5, Fire V100)	Solaris 10
Windows x86 32-bit (Intel x86)	Windows 2003 Server (Enterprise and Standard)
Windows x86 64-bit (AMD64, EM64T)	Windows 2003 Standard

Supported operating systems for LSF 6.2

The following table describes the supported operating systems for the Analytics node installed in an LSF 6.2 cluster. Contact Platform Computing if you require support for other operating systems.

Important:

To ensure that your LSF 6.2 cluster works properly with Analytics, you must install the latest Maintenance Pack to your LSF 6.2 cluster.

Platform and hardware	Operating systems
AIX 64-bit	AIX 5.3
HP-UX 64-bit (IA64)	HP-UX 11.23
Linux x86 32-bit (Intel x86)	RedHat 8
	RedHat Enterprise Linux 3 and 4
	SUSE Linux Enterprise Server 8 and 9
Linux x86 64-bit (AMD64, EM64T)	RedHat Enterprise Linux 4
	SUSE Linux Enterprise Server 9
Solaris 64-bit (SPARC: Sun Ultra 5, Fire V100)	Solaris 10
Windows x86 32-bit (Intel x86)	Windows 2003 Server (Enterprise and Standard)
Windows x86 64-bit (AMD64, EM64T)	Windows 2003 Standard

Recommended hardware requirements

The following table describes the recommended hardware requirements for the Analytics node host, depending on the size of your cluster:

Cluster size	RAM	CPU	Local hard disk	Network
Medium (100 - 1000 hosts)	2GB	3.0GHz	SATA 7200 rpm 10GB of free space 2× RAM size for swap space	Gigabit Ethernet
Large (more than 1000 hosts)	4GB	2 × 3.0GHz	SATA 10K rpm 10GB of free space 2× RAM size for swap space	Gigabit Ethernet

Scalability

The following table describes the maximum scale of clusters that Analytics supports depending on the Oracle database:

Data type	Scalability factor	Oracle Enterprise Edition with the partitioning feature	Oracle Standard Edition
LSF data	Number of hosts	5 000	1 000
	Number of finished jobs per day	3 000 000	600 000
FLEXnet server data	Number of license features	2 000	400
	Number of license servers	350	70
FLEXnet Manager data	Number of license events per day	3 000 000	600 000

Running on the maximum scale of clusters as mentioned above, Analytics 7.6 has shown that the overall performance is 2 to 3 times faster than previous 7.x product releases.

Obtaining the Cognos installation files

Analytics supports Cognos 7.4 MR3 and MR4 for generating cubes. Contact Platform for details on downloading the Cognos installation files.

Known issues and limitations

- *LSF 6.2, 7.0.4, 7.0.5, and 7.0.6 cluster data loaders do not obtain any job data if lsb.stream is not enabled* on page 10
- *Analytics cube views cannot open if Cognos is installed in a non-default locale* on page 10
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LSF 6.2, 7.0.4, 7.0.5, and 7.0.6 cluster data loaders do not obtain any job data if lsb.stream is not enabled

After installing Analytics on a cluster running LSF 6.2, 7.0.4, or 7.0.5, the data loaders do not obtain any job data. This is because, by default, LSF 6.2, 7.0.4, and 7.0.5 do not enable the lsb.stream file for the exporting of LSF job event data, while Analytics requires this to be enabled for the data loaders to obtain job data.

To resolve this issue, you need to enable the lsb.stream file for the exporting of LSF job event data.

Enable the lsb.stream file

1. Edit the lsb.params file

   - UNIX: $LSF_ENVDIR/lsbatch/*cluster_name*/configdir/lsb.params
   - Windows: %LSF_ENVDIR%\lsbatch*cluster_name*\configdir\lsb.params

2. In the lsb.params file, edit the Parameters section to enable the exporting of LSF job event data to the lsb.stream file.

   Add the following lines to the Parameters section:

   ```
   # Enable streaming of lsbatch system events
   ENABLE_EVENT_STREAM=y
   # Determines the location of the lsb.stream file. This parameter is optional.
   # The default location is: $LSB_SHAREDIR/{clustername}/logdir/stream.
   # EVENT_STREAM_FILE=/tmp/lsb.mystream
   # Determines the maximum size of the lsb.stream file. This parameter is optional.
   # The default size is 100MB.
   # MAX_EVENT_STREAM_SIZE=10000
   ```

3. Reconfigure mbatchd to apply these changes.

   badmin mbdrestart

4. To verify that these changes are in effect, verify that the lsb.stream files exists.

   By default, lsb.stream is located at the following directories:

   - UNIX: $LSB_SHAREDIR/*cluster_name*/logdir/stream
   - Windows: %LSB_SHAREDIR%*cluster_name*\logdir\stream

   If you defined the EVENT_STREAM_FILE parameter in lsb.params, check the specified file path for the lsb.stream file.

Analytics cube views cannot open if Cognos is installed in a non-default locale

When installing Cognos, you must select the default locale (United States) and language (English); otherwise, you cannot open published cube views and you may see an error message stating that "The request failed because there is no valid cube mapping to handle the request".

If you encounter this problem, you must reinstall Cognos using the default locale and language, then reinstall the Analytics server.

LSF event data loader may report "Could not parse the record" if an Analytics node is running on an AIX or HP-UX host

If you have an Analytics node running on an AIX or HP-UX host, the LSF event data loader (`lsfeventloader`) may report "Could not parse the record" in the log.

This issue occurs because the field length for each event is limited to 512 characters, which may not be enough for AIX or HP-UX hosts.

To resolve this issue, download and apply the appropriate patches for LSF 6.2 or LSF 7.0.5 from the Platform FTP site (`ftp.platform.com`) for LSF. These patches do not work for other versions of LSF.

- For LSF 6.2, download LSF Patch 128495 from the following directory in the Platform FTP site: `/patches/6.2/patch/build128495`
- For LSF 7.0.5, download LSF Patch 128556 from the following directory in the Platform FTP site: `/patches/7.0.5/patch/build128556`

LSF data loaders fail to work on Windows if installing Analytics with EGO-enabled LSF before restarting Windows

If you installed LSF (with EGO enabled) on a Windows host and wish to install the Analytics node on this host, you must restart Windows before you install Analytics; otherwise the LSF data loaders might not work correctly when you start the loader controller.

Analytics node does not send events after installation if it is started before the Analytics server

After installing Analytics using a clean database, if you start the Analytics node before starting the Analytics server, the node will not send events. This problem only occurs the first time after installation.

The EVENT_MANAGER_CONF table for the event locator is not initialized until you start the Analytics server for the first time. Therefore, if you start the Analytics node without first starting the Analytics server after initial installation with a clean database, the event sender does not have access to the EVENT_MANAGER_CONF TABLE until you start the Analytics server.

To resolve this issue, restart the Analytics node after you start the Analytics server.

When upgrading Analytics on a shared file system, the upgrade package may stop responding

When upgrading Analytics from version 7.1, if Analytics is installed on a shared file system, the upgrade package may stop responding if the shared file system is not fully stable.

This is an issue with the InstallShield Multiple Platform (ISMP) on which the upgrade package is built.

To work around this issue, kill the upgrade process and run the upgrade package again.

Data loaders may not activate immediately when the database host is physically disconnected from the network

If the database host is disconnected from the network, DLP does not activate within 15 minutes, resulting in data loss. This does not occur if the database goes down, but the database host is still physically connected.

This is an issue with the Oracle JDBC driver. To work around this issue, restart the loader controller after the database host is physically disconnected from the network.

FLEXnet events data loader does not support mapped network drives on Windows

In the FLEXnet events data loader properties file (flexliceventloader.properties), if you defined the LicenseLogFile parameter to point to a Windows UNC file path or to a mapped network drive, the data loader log file shows a "not a valid file" or "does not exist" error for "FlexlmEventParser.java".

The FLEXnet events data loader (flexliceventsloader) does not support mapped network drives and has limited support for UNC file paths.

To work around this issue, use a slash (/) to define a UNC file path or a local Windows file path rather than a backslash (\). For a mapped network drive, use the UNC file path instead of the mapped network file path.

For example,

- For a local log file (c:\logs\flexlicense.log), use the following to define a Windows file path:

   ```
   LicenseLogFile=c:/logs/flexlicense.log
   ```
- For a mapped network drive (\\fileserver\logs\flexlicense.log mapped to z:\logs\flexlicense.log), use the following to define a UNC file path instead of the mapped network file path:

   ```
   LicenseLogFile=//fileserver/logs/flexlicense.log
   ```

FLEXnet usage data loader could not obtain license usage data due to insufficient swap space

If you have an Analytics node running on a UNIX host, the FLEXnet usage data loader (flexlicusageloader) log may report "Failed to obtain license usage from the license server" and "Not enough space" errors. This problem does not apply to Windows hosts.

This error occurs if you have insufficient disk space allocated to the swap space on that host. To work around this issue, extend the swap space so it has at least 2 GB of free space on that host before starting the Analytics node on the host.

FLEXnet usage data loader does not work and indicates that lmutil could not find glibc

If you have an Analytics node running on a Linux host (running the linux2.4-glibc2.2 platform), the FLEXnet usage data loader (flexlicusageloader) log may report the following lmutil errors:

```
lmutil: /lib/i686/libc.so.6: version `GLIBC_2.3' not found (required by ./lmutil)
```

```
lmutil: /lib/i686/libc.so.6: version `GLIBC_2.3.2' not found (required by ./lmutil)
```

This error occurs because the lmutil utility bundled with Analytics cannot run on linux2.4-glibc2.2 platforms. To work around this issue, either install the Analytics node on a host running linux2.4-glibc2.3 (or newer) platforms, or download an older version of lmutil from the Platform FTP site:

- For 32-bit (linux2.4-glibc2.2-x86), download the lmutil binary from patches/lsf_analytics/7.6/FLEXlm9.2/linux2.4-glibc2.2-x86 and move it to *ANALYTICS_TOP*/license/7.0/linux-x86/etc.
- For 64-bit (linux2.4-glibc2.2-x86_64), download the lmutil binary from patches/lsf_analytics/7.6/FLEXlm9.2/linux2.4-glibc2.2-x86_64 and move it to *ANALYTICS_TOP*/license/7.0/linux-x86_64/etc.

In certain configurations, the Analytics Console shows that the loader controller is down, but perfadmin shows it is running

In the Analytics Console, if you click Data Collection Nodes, you may see that the loader controller is Down. However, if you examine the loader controller service (plc) in the Analytics node (using perfadmin list) the loader controller service is STARTED.

This issue may occur because you incorrectly defined the loopback IP address (127.0.0.1) as the name of your host rather than localhost in the /etc/hosts file, or if your host has multiple network interface cards (NICs).

To fix this problem, you need to change the loopback IP address and NSS (Name Service Switch) configuration.

Change the loopback IP address and NSS configuration

1. Change the loopback IP address to localhost.
   a) Edit the /etc/hosts file.
   b) Navigate to the line where you defined the loopback IP address (127.0.0.1).

      If this IP address is not defined as localhost, you need to change the definition

      For example, if your host is hostA in the example.com domain, you need to navigate to and change the following line :

      ```
      127.0.0.1       hostA   hostA.example.com
      ```
   c) Either delete the line or change the definition to localhost and save the file.

      For example, either delete the line or change it to the following:

      ```
      127.0.0.1       localhost   localhost.localdomain
      ```
2. If your host has multiple network interface cards (NICs), change the NSS (Name Service Switch) configuration to look up NIS before looking up the file for host names and numbers.
   a) Edit the /etc/nsswitch.conf file.
   b) Navigate to the line with the definition for hosts.

      For example, by default, this line is as follows:

      ```
      hosts:      files nis dns
      ```
   c) Change the line so "nis" appears before "files" and save the file.

      For example,

```
hosts:      nis files dns
```

3. Restart the services on the Analytics node.

    perfadmin stop all

    perfadmin start all

License servers with the same license feature must run in the same time zone

If you have two or more license servers in different time zones, the wi_licutilfeaturemart datamart contains inaccurate information. This issue occurs when you have license servers with the same license feature running in different time zones.

To work around this issue, ensure that license servers with the same license feature are running in the same time zone.

The BuildCubes process does not stop when you stop the Analytics daemons on Solaris hosts

On Solaris hosts, when you stop the Analytics daemons (using **daemons.sh stop**) the BuildCubes Java process does not stop.

To work around this issue, after stopping the Analytics daemons, find the cube build Java processes by running **ps -ef | grep -i java | grep -i cube**, then manually kill the relevant Java processes.

A crashed InstallShield database may cause the Analytics installation to fail

If you failed to install Analytics, you may need to manually remove the InstallShield Multi-Platform (ISMP) database.

Remove the ISMP database from the following directories:

*   Windows: C:\Program Files\Common Files\InstallShield\Universal\common
*   UNIX: ~/InstallShield

Fixed bugs and known issues

Analytics 7.6 includes fixes for the following bugs and known issues:

*   The WARN message is not correct if the loader controller host clock is not synchronized with the host running mbatchd.
*   The datamart type is Houlry (instead of HOURLY) when saving a datamart in the Analytics Console.
*   The Datamart Properties - ETL window cannot show the whole elements.
*   The Hourly Hardware with Boolean Resources cube failed at midnight due to the following error: "ORA-08103: object no longer exists".
*   Syntax error found in the events report in the Analytics Console.
*   HOSTPARAMETERS should use the Analytics tablespace instead of the USERS tablespace.
*   In AIX 5.3 platforms, the perfadmin start plc displays misleading messages.
*   The default event notification level should be ERROR instead of INFO.

- The `flexlicusageloader` data loader stops loading the rest of the license usage data if it encounters a bad record.
- The error message of the data transformer should be consolidated when it encounters the following error: "`Failed to get the current record`".
- The name is wrong in some `.mdl` files.
- The `JOB_RUN_RUSAGE` event is missing without any error or warning messages when the Analytics node is installed on a LSF 7.0.2 cluster.
- The data transformer does not handle MultiCluster jobs correctly in `WI_JOBSLOTUSAGEBYGROUP`.
- If the database password contains special characters such as "?" or "$", the encryption code of the password will be incorrect after installation.
- The `lsfeventloader` data loader has a parsing error when the record includes `^M`.
- The Analytics node has a coredump when the LSF master host is down for a period or time.
- The loader controller fails to register the cluster name if there is a record with the `cluster_name` "`-`" in the `register_info` table.

Get technical support

Contact Platform

Contact Platform Computing or your Analytics vendor for technical support. Use one of the following to contact Platform technical support:

Web Portal eSupport

You can take advantage of our Web-based self-support available 24 hours per day, 7 days a week ("24x7") by visiting *my.platform.com*. The Platform eSupport and Support Knowledgebase site enables you to search for solutions, submit your support request, update your request, enquire about your request, as well as download product manuals, binaries, and patches.

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