Release Notes

Prospect® 8.0

Motorola CDMA/AMPS/EVDO R22/S19/R9 RP5 Upgrade

Vallent™

DOCUMENT CONTROL

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1 Description

This document provides information on the Prospect® 8.0 – Motorola CDMA/AMPS/EVDO R22/S19/R9 RP5 upgrade release (22.0.5.0.0).

This release of Motorola CDMA/AMPS/EVDO is a cumulative release which can be applied on a Motorola CDMA/AMPS/EVDO RP4, RP4.1 or RP4.2 system in order to bring the system up to the RP5 release point. (Applying the RP5 upgrade on an RP4.0 system will apply RP4.1, RP4.2 and then finally the RP5 specific changes). Refer to section 6.1.1 for details.

NOTE: This document only covers details for performing the upgrade from Motorola CDMA/AMPS/EVDO RP4.2 to Motorola CDMA/AMPS/EVDO RP5.

This release also includes an upgrade of the Prospect® core from 8.0.5 to 8.0.6.

The Prospect 8.0.6 upgrade release notes and other generic Prospect 8.0.6 documentation can be found at the following location: http://publib.boulder.ibm.com/infocenter/tivihelp/v8r1/index.jsp?topic=/com.ibm.netcool_pm.doc/prospect_806_docpage.html

The upgrade to Prospect 8.0.6 is supported only on a Prospect 8.0.5 server running with Oracle 10g. Because Prospect 8.0.6 supports Oracle 10g only (Oracle 9i is no longer supported), you must upgrade your database to Oracle 10g (10.2.0.3), if it is not already there, before installing Prospect 8.0.6. For instructions on upgrading to Oracle 10g, refer to Appendix B: Upgrading Oracle 9i to 10g.

Once you have installed the Prospect 8.0.6 core, you should then install the Prospect 8.0.6 client which is available to download from the IBM Passport Advantage website.

The following publications are included with this release

Publication	File Name	Revision Date
Prospect Administration Guide	AdminGuide.pdf	02 February 2009
Prospect Open Interface API	OpenInterface.pdf	08 October 2008
Prospect Performance Data Reference	PerfDataRef.pdf	01 February 2009
Prospect User Guide	UsersGuide.pdf	11 October 2008
Expressions Technical Reference	Expressions.pdf	07 October 2008

To verify that you have the correct version of the Prospect publications, see the revision date in the *About this Documentation* section of any guide or Help file.

2 Compatibility of Prospect Components

The following is a list of components that Prospect is compatible with:

Prospect Component	Version Supported
Prospect Server	8.0.5.0.08 or 8.0.6.0 b14
Prospect Client	8.0.5.0.06 or 8.0.6.0.13
Prospect Web	2.2.5.0.7 or 2.2.6 (see note below)
Oracle	Oracle 10g (10.2.0.3 on Solaris 10)
Solaris	9 and 10 (Zoning not supported)
DAT	7.1
Perl	5.6.1
Java	1.5.0_13 or higher

Note: Though RP5 is compatible with PWeb 2.2.5.0.7, customers should upgrade to PWeb 2.2.6 as it is the officially supported version.

The vendor software releases supported are:

Supported Vendor Software
Motorola CDMA RAN 18 19 20 21 22
Motorola EVDO R5 R6 R7 R8 R9
Motorola AMPS EMX S17 S18 S19

Complete platform support information for the current release is in the *Prospect Server Preparation Guide*. Complete client hardware and software requirements are in the *Prospect Installation Guide*.

3 New Features

3.1 Prospect® 8.0.6.0

The upgrade to Prospect® 8.0.6 will install the features described in the next sections.

3.1.1 Increase Granularity for Parallel Options (partmaint)

Provide the possibility to set parallelism level for the "analyze" activity (part maint) at tablespace and table level. Before this feature, it was possible to set parallelism only at a global level (applies to all tables).

To set the parallelism you should use the `part_tablespaces.sh` command. The usage of the command is the following

```
part_tablespaces.sh –h
part_tablespaces.sh –O
part_tablespaces.sh -S [ -T <tablespace> | -t <table> ] [ -m
<degree> | -s <degree> ]
```

`-h`	: help
`-O`	: output
`-S`	: set
`-T <tablespace>`	: for the specified tablespace
`-t <table>`	: for the specified table
`-m <degree>`	: move parallelism degree during part_maint activity
`-s <degree>`	: analyze parallelism degree during part_maint activity
	: *<degree>* = 0: reset value (use the upper hierarchy level)
	: *<degree>* = 1: disable parallelism for specified tablespace/table
	: *<degree>* = >1 && <99: apply specified parallelism

Note*: The feature implementation enables the user to specify the parallelism levels for the move operation as well, but these settings are ignored by Oracle because of an Oracle limitation.*

3.2 Motorola CDMA/AMPS/EVDO

3.2.1 EVDO R9 Support

Support has been added for Motorola EVDO R9. EVDO 9.0 does not contain any new counters when compared to EVDO R8.0.

3.2.2 CDMA file types CDF and NECF

The loaders for the Motorola CDMA file types CDF and NECF have been updated so that they populate data into the BSC mapping table.

The correct display of NECF and CDF data types in data availability depends on the contents of the BSC mapping table. This table is populated by group pmC52, which is a part of the ConfigPM file type. To remove dependency on ConfigPM data availability for NECF and CDF data types the mapping table is now also populated when the NECF and CDF data types load.

4 Resolved Issues

4.1 Prospect® 8.0.6.0 Resolved Issues

Following is a list of problems present in the previous release that have been resolved.

APAR number ClearQuest or DDTS number	Abstract
IZ13905 SEAde68988	Need rg_common.sql to set hash_area_size
IZ13925 SEAde69274	BHUpdate log shows #INVALID# message during copy to BH table
IZ14994 SEAde69079	ORA-01410 errors occur when reports and soft alarms run
valnt00016433	Improve the 'ps-mgr purge' command
IZ22889 valnt00040655	JLoader: Needs to reduce number of database connections issued
IZ16072 valnt00016464	AutoCleanMaxRowsPerLoop settings are being overwritten during installs
IZ17405 valnt00040618	Summaries are exiting with return code 0 even when failing with ORA errors
IZ18779 SEAde69523	pm_weekly summations take longer times as time progresses
valnt00019149	Introduce the 3GPP special characters support into the loader component
IZ19261 valnt00040597	FX Dataserver restarts often
IZ25999 valnt00043396	Legal UDC created thru PWeb is invalidated by Core Prospect causing report using it to fail
IZ26496 valnt00044051	Re-running a BH job takes a long time to complete
IZ28841 valnt00046975	RG_COMMON package getting invalidated by pm_weekly
IZ29225 valnt00047489	Lost or failed client connections due to FX Dataserver restarts
valnt00051301	Add parent_isalive check to multi-session part_maint, busyhour and summations

valnt00053095	Jloader fails with ORA errors
IZ31688 valnt00053128	A bug in cfgtool caused omission of all field_aggregation types except 'A' or 'S' resulting in missing columns for summation
IZ29159 valnt00047484	The summary.log and detail.log are the same after installation/upgrade
IZ17114 valnt00042900	Jloader detect reset counters properly
IZ13561 valnt00040862	Update wminstall to no longer check id values of UNIX accounts
IZ17740 valnt00040637	Path to oracle libs is hard coded in core.spec.9i

4.2   Motorola CDMA/AMPS/EVDO

Following is a list of problems present in the previous release that have been resolved.

APAR number *ClearQuest or* *DDTS number*	*Abstract*
valnt00070575	Moto RP4.2 Bld 2 - Installation failed due to prodname not Motorola
valnt00070383	Found *.bad files in Moto RP4.2
IZ43111 / valnt00077547	BSCDO_ID'S NOT SHOWING IN SCENARIO EDITOR

5 Known Problems

ClearQuest / DDTS	Abstract
valnt00059038- valnt00052081	Run-time error occurred while trying to create a new map template
valnt00044564	Proper error message is not shown when invalid date format is given while running AD_run.sh
SEAde36042	SMTP Configuration for E-Mail Event Notifications
SEAde41961	Stored Busy Hour Reports Fail for Last Interval of the Day
SEAde58948	Fields for which "show" button set off in template are not shown in regular output but do show on graph(should not)
SEAde64209	Warning message when 'healthcheck' command is executed
SEAde68341	Execution 'add_filetype_timeout.sh all' script throws error
SEAde69660	Unwanted pattern generated if part_mask.sh run with -R option
SEAde64290	Some of the options in $FLEXPM_HOME/scripts/run-sentry are not functioning
valnt00045812	Unnecessary reports generated by healthcheck script
valnt00045813	add_part.sh and delete_part.sh scripts need enhancement on usage message
SEAde69522	Scenario activation time reset back to default after core upgrade
valnt00077054	Simulated data used for RP5 testing
valnt00051620	Server Prep needs update
valnt00063048	Unique constraint error found in RP4 Fresh Install installation log
valnt00067099	Incorrect spelling in SM and BH editor
valnt00070360	Oracle sessions/processes parameters both need to increase for Fresh Installation of Motorola RP4.0
valnt00065989	Motorola RP4.0 SizingTool does not create ENTERPRISE Tablespace
valnt00051564]	Missing parameters in wm_system_values_v view
valnt00071032	add_part.sh gives ORA- error after Core 8.0.5 patch installation

5.1 Run-time error occurred while trying to create a new map template [valnt00059038- valnt00052081]

Description: Tried to create map templates, Run-time error occurred.

Impact: Client cannot be accessed.

Workaround: Client is closed and reopened again.

5.2 Proper error message is not shown when invalid date format is given while running AD_run.sh [valnt00044564]

Description: When setting an incorrect date to define active entities in a date range, no error message is promptly shown.

Impact: The setting execution fails logging error.

Workaround: Insert the correct date range.

5.3 SMTP Configuration for E-Mail Event Notifications [SEAde36042]

Description: If the `configure-smtp.sh` script is run and an invalid SMTP server/option is specified, then the event handler can take a long time to process events (email notification section).

Impact: If this is subsequently fixed and the event handler is restarted, then a flood of emails could be sent if there are many unhandled events in the database.

Workaround: None.

5.4 Stored Busy Hour Reports Fail for Last Interval of the Day [SEAde41961]

Description: Stored busy hour reports fail for the last interval of the day (23:45). This is observed for the entity interface and might be an issue for other entities as well. The non stored busy hour report works correctly.

Impact: Stored busy hour reports fail for the last interval of the day (23:45).

Workaround: None. Users can use the Non-Stored Busy Hour report for specific cases.

5.5 Fields for which "show" button set off in template are not shown in regular output but do show on graph(should not) [SEAde58948]

Description: In the report result, the fields with "show" attribute set off should not be displayed in the excel report both in values and also in graph.

Actual Results:

The fields for which the "show" button set off are not shown in the report values but are shown in the graph

Impact: Report and graph show different results.

Workaround: Report is correct.

5.6 Warning message when 'healthcheck' command is executed [SEAde64209]

Description: When the "`healthcheck`" command is issued at the Unix prompt, there will be a warning message stating "`No such file or directory..`" along with the expected output. Of the many attributes for which '`healthcheck`' displays the status, the above-mentioned warning is for the attribute: "`files_age`". Though there is warning message, status of all the attributes is displayed.

Impact: None

Workaround: None

5.7 Execution 'add_filetype_timeout.sh all' script throws error [SEAde68341]

Description: Running 'add_filetype_timeout.sh all', then changing the default time out value using override_default_timeout.sh -f < file type> -t <timeout to override> and running add_filetype_timeout.sh once again give ORA errors.

Impact: ORA errors occur.

Workaround: Not recommended to run the script. Please refer to Useful Hints 7.13 for more information.

5.8 Unwanted pattern generated if part_mask.sh run with –R option [SEAde69660]

Description: If part_mask.sh script is run with –R option, the previous part_mask pattern for particular table will be updated to '1000000'.

Impact: Run part_mask.sh with –R option would result unwanted pattern.

Workaround: Don't run the command with –R option.

5.9 Some of the options in $FLEXPM_HOME/scripts/run-sentry are not functioning [SEAde64290]

Description: While executing run-sentry script, some of the options may not work properly. E.g. run-sentry logs.

Impact: run-sentry does not scan through the log directory and does not return the correct results for some commands.

Workaround: None.

5.10 Unnecessary reports generated by healthcheck script [valnt00045812]

Description: The failed_data report generated by healthcheck script would return empty directory and filename if there is no data file in the fail directory.

Impact: healthcheck –c or healthcheck –c failed_data would return unnecessary reports if there is no data file in the fail directory.

Workaround: None.

5.11 add_part.sh and delete_part.sh scripts need enhancement on usage message [valnt00045813]

Description: The add_part.sh and delete_part.sh scripts would throw ORA- errors if the script is run with extra "-" option. These scripts should be enhanced to print out user friendly message instead of throwing errors.

Impact: The add_part.sh and delete_part.sh scripts throw errors if the script is run with an extra "-" option.

Workaround: None.

5.12 Scenario activation time reset back to default after core upgrade [SEAde69522]

Description: The scenario activation time is reset to default run time, i.e. 01:00 daily after the core upgrade.

Impact: Scenario activation run time changed if it was set to a time other than default one.

Workaround: Run the following command to change it back to customized time:

```
$ schedule_maint scenario_activation <YYYYMMDD> <HHMI>
```

5.13 Simulated data used for RP5 testing [valnt00077054]

Description: The development and testing of the Motorola RP5 product was done based on the format specifications received from the vendor. This was due to unavailability or lack of reliable sample data coverage received.

Impact: Data loading may fail if the production data does not match the vendor format specifications

Workaround: None.

5.14 Server Prep needs update [valnt00051620]

Description: Upgrading Oracle 9i to 10g steps on editing listener should be done by editing the `listener.ora` before starting the listener.

Impact: None

Workaround: Restart listener.

5.15 Unique constraint error found in RP4 Fresh Install installation log [valnt00063048]

Description: After installation of Motorola RP4 FI completed, checked the log got `ORA-00001: unique constraint (MOTO42.UNQ_PART_TABLES_IDX)` violated error.

Impact: None

Workaround: None.

5.16 Incorrect spelling in SM and BH editor [valnt00067099]

Description: The word "continue" is spelled incorrectly in the Summation Editor and Busy Hour Editor in the question: `'Do you want to coninue?'`

Impact: None

Workaround: None.

5.17 Oracle sessions/processes parameters both need to increase for Fresh Installation of Motorola RP4.0 [valnt00070360]

Description: During a Fresh Installation of Motorola RP4.0, there could be a failure due to the Oracle sessions, processes parameter values are not sufficient.

Impact: Installation may fail due to the processes and session setting is low.

Workaround: Please ensure the Oracle session and Processes setting are set to values mentioned below before the RP4.0 fresh install is done

```
SQL> show parameter processes
NAME                              TYPE        VALUE
------------------------- ----------- -----
processes                      integer     2000


SQL> show parameter sessions
NAME                              TYPE        VALUE
------------------------- ----------- -----
Sessions                       integer     2205
```

5.18 Motorola RP4.0 SizingTool does not create ENTERPRISE Tablespace [valnt00065989]

Description: Sizing tool does not create Enterprise tablespace. Motorola RP4.0 Sizing Tool did not create Enterprise tablespace. We had to create it manually. Due to this the install failed first.

```
ALTER TABLE PE_AGENT_LOAD ADD PARTITION p2008110300 VALUES
LESS THAN ( TO_DATE( '2008110400', 'YYYYMMDDHH24' ) )
TABLESPACE ENTERPRISE
FAIL: ORA-00959: tablespace 'ENTERPRISE' does not exist
```

Impact: None.

Workaround: Enterprise tablespace should be created manually before RP4.0 fresh install. Create "enterprise" tablespace before performing the instructions in Section 2.3.4 of the Prospect Installation Guide.

```
$ sqlplus /nolog
SQL> connect / as sysdba
SQL> create tablespace enterprise datafile
'/u04/flexpm/enterprise01.dbf' size 512M REUSE
minimum extent 512K
default storage ( initial 512K next 512K
maxextents unlimited pctincrease 0 );
SQL> exit
```

5.19 add_part.sh gives ORA- error after Core 8.0.5 patch installation [valnt00071032]

Description: If you have installed Core 8.0.5.0.6 (or later) patch after RP4.2 upgrade – then you will notice that `add_part.sh` for `aemsC30min`, `aemsCDO10min`, and `aemsC10min` datatypes (AEMS data) produces an `ORA-` error as shown below. You will need a fix for this issue only if one of the 2 conditions below applies to you.

a) If you need to add partitions for older '`aemsC30min`' datatype (or the other two datatypes mentioned above)

b) If you need older '`aemsC30min`', '`aemsCDO10min`' or '`aemsC10min`' data to be preserved and not dropped by nightly job (e.g. If you have `past_part_maint.sh aems30Cmin 45` and you need data older than 45 days to be preserved for some reason).

Impact: Expected Error:

```
: flexpm@abc ; add_part.sh aemsC30min 20070816 20070816
ERROR at line 1:
ORA-01422: exact fetch returns more than requested number of rows
```

Workaround: Contact IBM Customer Support.

5.20 Missing parameters in wm_system_values_v view [valnt00051564]

Description: During the Fresh Install, three parameters are missing from the `wm_system_values_v` view:

```
AutoCleanIOTMaxLoops (default value: '5')
EventTruncatePmFolderEventTable (default value:'Y')
SummationForceNI (default value: 'FALSE')
```

Impact: None. Prospect will use the given default value for each.

Workaround: If there is any abnormal behavior, you can add the relevant parameter(s) to `wm_system_values_v` with the following command in SQL*Plus:

`exec wm_sysval.newSysValIfNotExists` ('parameter-name', 'parameter-value');

For example,

```
exec wm_sysval.newSysValIfNotExists('AutoCleanIOTMaxLoops', '5');
exec wm_sysval.newSysValIfNotExists('EventTruncatePmFolderEventTable', 'Y');
exec wm_sysval.newSysValIfNotExists('SummationForceNI', 'FALSE');
```

6 Upgrade Instructions

The following instructions are for an upgrade of Prospect® 8.0 for Motorola CDMA/AMPS/EVDO RP4.0 (or later) to Motorola CDMA/AMPS/EVDO RP5. As this release is a cumulative release, all minor point releases since RP4.0 are included and will be automatically applied. Detailed baseline requirements are given in section 6.1.1.

6.1 Prerequisites

Please see the Table in Section 2 for the pre-requisites. Please make sure they match your current system.

6.1.1 Baseline Requirements

Important Note: *The RP5 upgrade is a cumulative upgrade that contains the older RP4.1 and RP4.2 upgrades. This means that RP5 can be applied against an existing RP4, RP4.1 or RP4.2 system. The wminstall command will check the current patch level and apply the required upgrades. On an RP4 system upgrades RP4.1, RP4.2 and finally RP5 will be installed. On RP4.1 the RP4.2 and RP5 upgrades will be applied and on a RP4.2 system only the RP5 upgrade will be applied.*

Note: *The core upgrade to 8.0.6 will be applied to the system regardless of the release point level.*

The base environment that this patch will be applied against:

a. Prospect 8.0 Motorola CDMA/AMPS/EVDO R17/S17/R4 Release (Upgrade Install Path)

- Prospect 8.0 Motorola CDMA/AMPS/EVDO R17/S17/R4 (Drop 1.4) base release

- Prospect 8.0 Motorola CDMA/AMPS/EVDO R18/S17/R5 (RP2.2) upgrade release

- Prospect 8.0 Motorola CDMA/AMPS/EVDO R18/S17/R5 RP2.2 Hotfix 1 (18.0.2.2.1.28012) release (optional)

- Prospect 8.0 Motorola CDMA/AMPS/EVDO R18/S17/R5 RP2.2 Hotfix 2 (18.0.2.2.2.28011) release (optional)

- Prospect 8.0 Motorola CDMA/AMPS/EVDO R18/S17/R5 RP2.2 Hotfix 3 (18.0.2.2.3.28011) release (optional)

- Prospect 8.0 Motorola CDMA/AMPS/EVDO R18/S17/R5 RP2.2 Hotfix 4 (18.0.2.2.4.28011) release (optional)

- Prospect 8.0 Motorola CDMA/AMPS/EVDO R18/S17/R5 RP2.2 Hotfix 5 (18.0.2.2.5.28011) release (optional)

- Prospect 8.0 Motorola CDMA/AMPS/EVDO R19/S18/R6 RP3 upgrade (19.0.3.0.0.41105) release

- Prospect Core 8.0.2 patch09 or later patch

- Prospect 8.0 Motorola CDMA/AMPS/EVDO R19/S18/R6 RP3 Hotfix 1 (19.0.3.0.1.41105) release

- Prospect 8.0 Motorola CDMA/AMPS/EVDO R19/S18/R6 RP3 Patch 10 (19.0.3.0.10.41102) release

- Prospect 8.0 Motorola CDMA/AMPS/EVDO R19/S18/R6 RP3 Patch 10 Hotfix 1 (19.0.3.0.11.41101) release

- Prospect 8.0 Motorola CDMA/AMPS/EVDO R19/S18/R6 RP3 Patch 10 Hotfix 2 (19.0.3.0.12.41101) release

- Prospect 8.0 Motorola CDMA/AMPS/EVDO R19/S18/R6 RP3 Patch 10 Hotfix 3 (19.0.3.0.13.41101) release

- Prospect 8.0 Motorola CDMA/AMPS/EVDO R19/S18/R6 RP3 Patch 10 Hotfix 4 (19.0.3.0.14.41101) release

- Prospect 8.0 Motorola CDMA/AMPS/EVDO R20/S19/R7 RP4 Upgrade (20.0.4.0.0.3) release.

- Prospect 8.0 Motorola CDMA/AMPS/EVDO R20/S19/R7 RP4.1 Upgrade (20.0.4.1.0.2) release. (Optional)

- Prospect 8.0 Motorola CDMA/AMPS/EVDO R22/S19/R8 RP4.2 Upgrade (20.0.4.2.0.2) release. (Optional)

- Prospect 8.0 Motorola CDMA/AMPS/EVDO R22/S19/R8 RP4.2 Upgrade (20.0.4.2.1.1) release. (Optional)

b. Prospect 8.0 Motorola CDMA/AMPS/EVDO R20/S19/R7 Release (Fresh Install PATH)

- Prospect 8.0 Motorola CDMA/AMPS/EVDO R20/S19/R7 RP4 Fresh (20.0.4.0.0.3) release

- Prospect 8.0 Motorola CDMA/AMPS/EVDO R20/S19/R7 RP4.1 Upgrade (20.0.4.1.0.2) release. (Optional)

- Prospect 8.0 Motorola CDMA/AMPS/EVDO R22/S19/R8 RP4.2 Upgrade (20.0.4.2.0.2) release. (Optional)

- Prospect 8.0 Motorola CDMA/AMPS/EVDO R22/S19/R8 RP4.2 hotfix 1 (20.0.4.2.1.1) release. (Optional)

Execute the following command to check the currently installed system. The sample output below is the output if the base is RP4.2.

```
[flexpm]$ show_installed
```

The output should be similar to the following:

```
COMPONENT                          INSTALL_TY INSTALL_DATE
---------------------------------- ---------- -------------
CORE Prospect rev 8.0.5.0 b8       INSTALL    08-JUN-10 17:52:15
VENDOR MotoEVDO rev 8.0.4.2.0 b2   UPGRADE    08-JUN-10 18:15:36
VENDOR MotoCDMA rev 22.0.4.2.0 b2  UPGRADE    08-JUN-10 18:07:28
```

For optional hotfixes, they are not prerequisites. It would work if they have been installed already. Otherwise, they are not required.

Important! *It is critical that you apply this patch to an environment at the correct patch level. Please verify the environment carefully. For more information, please contact IBM customer support.*

6.1.2 Disk Space and Table Space Requirements

The installation of the upgrade requires additional 500 MB disk space under /u01 file system.

The install script also requires that at least 10% of total tablespace size is available for each tablespace. Please contact IBM customer support if there is less than 10% of total tablespace available for any of the tablespaces.

Note: *It is recommended to always keep 10% of total table space size available for each table space.*

6.1.3 Environment path

Prospect installations will no longer ship with the `gtar`, `gunzip` or `gzip` binaries. These are installed with Solaris 9 and Solaris 10.

Make sure that `/usr/bin` and `/usr/sfw/bin` are in your path. Enter the following commands to locate `gtar`, `gunzip` and `gzip`:

```
$ which gtar
$ which gunzip
$ which gzip
```

These commands return the path to `gtar`, `gunzip` and `gzip` on your system. If these utilities are not found, add `/usr/sfw/bin` to the path in your .profile file.

6.1.4 Oracle version

Prospect® 8.0.6 is only supported on an Oracle 10g (10.2.0.3) database. Other versions are not supported. The `wminstall` command will check the database version and issue error messages if this check fails.

6.1.5 XDK

The Oracle Database must have XDK installed. Log into the database using SQL*Plus:

```
$ sqlplus $DB_CONNECT
```

Please use the following sql statement to check if the XDK is installed accordingly. Oracle XDK for Java should be there in the result. The version must be 10.2.0.x.

```
SQL> SELECT comp_id, comp_name, version FROM dba_registry
WHERE comp_id = 'XML';


COMP_ID  COMP_NAME               VERSION
-------- ----------------------- -----------------
XML      Oracle XDK for Java     10.2.0.3.0
```

6.1.6 Perl Version

Make sure that `/usr/perl5/5.6.1` is on your server. Type the following command to verify:

```
$ /usr/perl5/5.6.1/bin/perl -v
```

The first line of the output should start with:

```
This is perl, v5.6.1 built …
```

If an error is received as below, please contact system administrator to install Perl 5.6.1.

```
ksh: /usr/perl5/5.6.1/bin/perl:  not found
```

***Note**: If the Perl version is incorrect, the installation will not proceed.*

6.1.7 Java Version

Make sure that Java version 1.5.0_13 or above is installed. Type the following command:

```
$ java -version
```

The output should resemble the following:

```
java version "1.5.0_13"
Java(TM) 2 Runtime Environment, Standard Edition (build
1.5.0_13-b03)
Java HotSpot(TM) Server VM (build 1.5.0_13-b03, mixed mode)
```

***Note**: If the installed version is earlier than required, some scripts might not run, or might produce incorrect results.*

6.1.8 Checking Environment Variables

Execute the following command to verify that the environment variables LOG and OK are NOT set:

```
$ echo $LOG $OK
$                 <- default setting should be empty
```

If the above environment variables are set, please unset the environment variables as below:

```
$ unset LOG
$ unset OK
$ echo $LOG $OK
$                 <- default setting should be empty
```

6.2   Installation Privileges Required

Privilege	Required
UNIX flexpm user in DBA group	Yes
Root privilege required	No
Oracle sys user password set to default (change_on_install)	Yes

Important! Please do not proceed with installation if the required privileges are not present.

6.3   Pre-Installation Instructions

6.3.1   System Backup

This upgrade cannot be uninstalled. This upgrade involves updates to the database and the metadata; therefore recovery from backup is the only way to reverse the changes made by this upgrade. You must perform a full system backup before installing this upgrade. In a multi-schema database, if the schema being updated can be reliably backed up then this is sufficient, if not then backup the entire database. If needed, please refer to the "*Backing up the Database*" section of the *Prospect Administration Guide*. Please contact IBM customer support if you require further support.

6.3.2   Network Timeouts

If your system has a security policy in place such that a session is disconnected after a lengthy period of apparent inactivity, you should disable it during this upgrade. The upgrade can take over an hour to run and requires no user input during the majority of the upgrade. This can make the upgrade session appear idle. If timeouts are not disabled, the upgrade terminal could be disconnected during the upgrade.

6.3.3   Warning: Disable server access in Prospect Web

If Prospect Web is accessing this Prospect installation, then use the admin tool to disable the corresponding data source. Failure to do this step may results in errors in both the upgrade and Prospect Web. Consult customer support if you have questions.

6.3.4   Note schedule_maint Settings

If the server is down for an extended period of time, the script `schedule_maint` could display some jobs as not scheduled. Thus the jobs will not run and the system will fail.

Before the upgrade, run `schedule_maint` to get a list of the current schedule settings. Make a note of the next run time of each job.

6.3.5 Oracle Sys Account Access

Prospect® 8.0 requires that all logins using the sys account must be qualified as `sysdba`. The following Oracle changes are required.

1. Verify that the change is needed. Try to log in using `sqlplus`:

   ```
   $ sqlplus /nolog
   SQL> connect sys/change_on_install@flexpm as sysdba
   ```

   Note: *If you can log in, you can skip the rest of this procedure.*

2. If you get an error concerning privileges, then you need to continue with the following steps.

3. Set the `remote_login_passwordfile` parameter in the `init<sid>.ora` file. On most Prospect systems the sid is `flexpm`. Log in as the `oracle` user, and then enter the following command.

   ```
    $ cd $ORACLE_BASE/admin/flexpm/pfile
   ```

4. Edit the `init<sid>.ora` file (for example, `initflexpm.ora`) and add the following line.

   ```
    remote_login_passwordfile=EXCLUSIVE
   ```

5. Create the Oracle password file to allow remote sys access. While still logged in as the oracle user verify that `$ORACLE_HOME`, and `$ORACLE_SID` are correct, then enter the following command.

   ```
   $ orapwd file=${ORACLE_HOME}/dbs/orapw${ORACLE_SID} \
   password=change_on_install entries=10
   ```

6. Bounce the database so that the parameter and password file take effect. If you get an error concerning the `passwordfile`, verify that it is in the `dbs` directory and that the filename is `orapwflexpm`.

7. To verify that the changes has been taken. Rerun step 1.

6.3.6 Recommend Export of Prospect documents

As mentioned earlier the upgrade cannot be reversed and if for some reason the upgrade fails, restoration from backup is the only option and if there is no good backup then customer will have to do a fresh install. Hence it is highly recommended that users do "`export_docs.sh -h`". This will show the parameters necessary to invoke the script. Once the script is invoked with appropriate parameters, it can export all user documents such as templates/reports/UDCs etc. Then on a fresh install system user can import the user documents. That way there is no loss of Prospect. For more details please refer to the `Admin Guide`.

6.3.7 Copy the upgrade package to the Prospect server

Download the upgrade package from the IBM support website and copy it to the appropriate Prospect server into a staging directory.

1. Download the upgrade package from the IBM support site

2. Login to the target Prospect server as `flexpm` and source the `.profile` (if you have not already done this)

3. Make a staging area for the upgrade package to be copied to. For example:

   ```
   $ mkdir -p ~flexpm/upgrades/22.0.5.0-TIV-PROSPECT-MOTCDM-IF0000
   ```

4. Copy the upgrade package into the staging directory

5. `cd` to the staging directory

   ```
   $ cd ~flexpm/upgrades/22.0.5.0-TIV-PROSPECT-MOTCDM-IF0000
   ```

6. Untar the upgrade package

   ```
   $ tar -xvf 22.0.5.0-TIV-PROSPECT-MOTCDM-IF0000.tar
   ```

6.4 Upgrade Instructions

Important! *Un-installation of this upgrade is not supported. A complete system back up is recommended before installing this upgrade*

NOTE: *For installations and upgrades to Solaris 10 see the Server Preparation Guide to install Perl and Java*

1. Log in as user flexpm.

2. If the server is running multiple Prospect schemas or the Motorola profile is not configured to be executed on log in as the `flexpm` user, then the Motorola profile must be sourced before applying this upgrade.

   If a menu system is in place to allow selection of the Motorola system from a list of installed Prospect applications, then select the Motorola option. Alternatively, navigate to the location of the Motorola installation and manually source the `.profile` in the `ProspectBase` directory. Assume Motorola is installed under `~flexpm/Motorola` directory.

   ```
   [flexpm]$ cd ~flexpm/Motorola/ProspectBase
   [flexpm]$ . ./.profile
   ```

3. Check for incorrectly named partitions

   Due to an issue with partition maintenance, some partitions for the traffic tables may have been created with a non-standard partition name. This issue has been resolved and the 8.0.6 upgrade attempts to rename the incorrect partitions to use the standard naming convention. If, however, partitions have also been created using the correct naming convention then the partition rename attempt fails and the core upgrade will not complete correctly.

   To avoid this please run the `check_partitions.sql` script which will identify any such conflicts in the traffic partitions.

   ```
   [flexpm] $ cd <staging location>
   [flexpm] $ sqlplus $DB_CONNECT
   SQL> @check_partitions.sql
   SQL> exit
   ```

If the SQL returns any rows then please DO NOT run the upgrade. Please contact IBM customer support for advice on how to resolve the conflicting partitions issue.

Important: Do not run the upgrade until the check_partitions.sql script returns "no rows selected" otherwise the core upgrade to 8.0.6 will not finish correctly.

4. Stop the middleware from running if it is currently running

```
[flexpm]$ ps-mgr stop all
[flexpm]$ ps-mgr halt
```

5. Check for locked objects

Occasionally, some of the Prospect Server processes (such as busy hour and summation) may lock some Oracle objects. When this happens and the upgrade tries to use these objects, you would see `ORA-04021` and `ORA-0054` errors indicating that "`Resource is busy`". These errors may cause the upgrade to fail.

To prevent such errors, we recommend that you run the `check_lock.sql`. If the script outputs non-zero rows, then you need to work with Support to determine the best way to proceed.

Check for existing processes locking Oracle objects in the database using the following SQL script found in the staging area created in 6.3.7 above.

```
[flexpm]$ cd <staging location>
[flexpm]$ sqlplus $DB_CONNECT
SQL> @check_lock.sql
SQL> exit;
```

6. Run the pre `wminstall` prior to installation.

```
[flexpm]$ cd <staging location>
[flexpm]$ ./pre_wminstall.sh
```

7. Preview the installation for problems before installing the update:

```
[flexpm]$ ./wminstall -b $FLEXPM_BASE -d $DB_CONNECT \
-portbase $PORT_GROUP -preview -v
```

Check the results of the preview and contact IBM Customer Support if you have any queries.

8. For installation, it is possible to run the command in the background with No Hangup (nohup) if you are using Solaris 9 or Solaris 10.

For normal installation (without nohup)

Run the installation by typing the following commands:

```
[flexpm]$ ./wminstall -b $FLEXPM_BASE -d $DB_CONNECT \
-portbase $PORT_GROUP -v
```

For installation using "nohup"

1) Read the license agreement file "license.txt" which will be in the staging area created in section 6.3.7 and make sure you understand the terms and conditions of the Prospect license.

2) Edit the response file "responseFile.txt" and find the entry:

```
LICENSE_ACCEPTANCE = false
```

3) Change the entry to the following to indicate that you agree to the terms and conditions of the Prospect license:

```
LICENSE_ACCEPTANCE = true
```

4) Run the installation by entering the following commands:

```
[flexpm] $ nohup ./wminstall -b $FLEXPM_BASE -d $DB_CONNECT \
-portbase $PORT_GROUP -r responseFile.txt -v &
```

The output will look like:

```
$ Sending output to nohup.out
```

5) At this point `wminstall` is running via `nohup`. It is now safe to exit the console if you wish to. Type `exit` twice to quit from the console:

```
[flexpm] $ exit
     You have running jobs.
[flexpm] $ exit
```

Note: The output of the wminstall command will go to nohup.out (file created at the installer directory or $HOME if there is no permission to the installer directory) as well as the usual install log in the /var/tmp/yyyy_mm_dd*.

```
[flexpm] $ cd /var/tmp
[flexpm] $ ls -ltr
```

The installation of the upgrade might take a while to complete. The log file (with filename like <YYYY>__<MM>__<DD>__<HH>__<MM>__<SS>) under `/var/tmp` can be viewed from another console during the installation for the installation progress.

After `wminstall` is completed, please examine the `detail.log` or `summary.log` under the directory of `$FLEXPM_HOME/audit/<YYYY>__<MM>__<DD>__<HH>__<MM>__<SS>` for any error messages. There could be some harmless messages that can be ignored. If you have any concerns, please contact the IBM Customer Support team for help.

6.5 Post-Installation Instructions

6.5.1 Resource the updated profile

1. Log out and log back in as `flexpm`, if you have not already done so.

2. If the server is running multiple Prospect schemas or the Motorola profile is not configured to be executed on log in as the `flexpm` user, then the Motorola profile must be sourced.

   If a menu system is in place to allow selection of the Motorola system from a list of installed Prospect applications, then select the Motorola option. Alternatively, navigate to the location of the Motorola installation and manually source the

`.profile` in the `ProspectBase` directory. Assume Motorola RP5 is installed under `~flexpm/Motorola` directory.

```
[flexpm]$ cd ~flexpm/Motorola/ProspectBase

[flexpm]$ . ./.profile
```

To check if the correct profile has been sourced and also verifying that all components have been successfully installed, running the command `show_installed` should result in the following output being displayed:

```
COMPONENT                         INSTALL_TY INSTALL_DATE
-------------------------------- ---------- -------------
CORE Prospect rev 8.0.6.0 b14     UPGRADE    09-FEB-10 17:52:15
VENDOR MotoEVDO rev 9.0.5.0.0 b2  UPGRADE    09-FEB-10 18:15:36
VENDOR MotoCDMA rev 22.0.5.0.0 b2 UPGRADE    09-FEB-10 18:07:28
```

Note: *The version numbers (rev) should be the same as those shown. The build numbers (e.g. b1, b2 or b3, etc) might be different. The install type (INSTALL, PATCH or UPGRADE) is not important. The install dates and times will be different from those shown.*

6.5.2 Install the latest core patch or fixes

To ensure that the system is at its primary performance level and with newly added functionalities, it is highly recommended to install the lasted Prospect core 8.0.6 patch in the environment.

Please go to the IBM Prospect Support web site (http://www-01.ibm.com/software/sysmgmt/products/support/Prospect.html) to get the latest Prospect core 8.0.6 patch or fixes.

6.5.3 Configure Time Zone Region

During the upgrade, the schema's Time Zone Region defaults to the 'Greenwich Mean Time' Time Zone Region

For further information on Time Zone Regions please refer to the Prospect Administration Guide.

This can be configured as follows:

1. Review your current Time Zone Region. If your time zone information is correct, skip to 6.5.3.

    ```
    [flexpm]$ set_tzr.sh -t
    Connected.
    Greenwich Mean Time
    ```

2. Review the list of available Time Zone Regions:

    ```
    [flexpm]$ timezoneregion.sh -t
    Connected.
    ```

```
America/Anchorage    -540 [1] First Sunday on or after Mar 8
at 02:00 ... First Sunday in Nov at 02:00, 60 minutes

America/Buenos Aires -180

America/Caracas      -240

America/Chicago      -360 [1] First Sunday on or after Mar 8
at 02:00 ... First Sunday in Nov at 02:00, 60 minutes

America/Denver       -420 [1] First Sunday on or after Mar 8
at 02:00 ... First Sunday in Nov at 02:00, 60 minutes

America/Honolulu     -600

America/Indianapolis -300

America/Lima Peru    -300

America/Mexico City  -480 [1] First Sunday on or after Mar 8
at 02:00 ... First Sunday in Nov at 02:00, 60 minutes

America/New York     -300 [1] First Sunday on or after Mar 8
at 02:00 ... First Sunday in Nov at 02:00, 60 minutes

...
```

3. Set your Time Zone Region using one of the existing options:

```
[flexpm]$ set_tzr.sh -n "America/Seattle"
Connected.
OK: America/Seattle
```

6.5.4 Start the Middleware

Once the installation has been completed, you should start the middleware so that data can be loaded and the system can be used.

To start the middleware

```
[flexpm]$ ps-mgr init
```

6.5.5 Enable Server Access in Prospect Web

If you disabled access to the Prospect server from Prospect Web in step 6.3.3, then use the admin tool to re-enable access to the corresponding data source in Prospect Web.

6.5.6 Check schedule settings

After the middleware has been restarted, run `schedule_maint` to check the next run time of the scheduled jobs. If any of the jobs display the next run time as "`job not scheduled`" or have been reset to the default times from a custom defined time then run `schedule_maint` and update the values to an appropriate future time based on the settings you recorded in Section 6.3.4.

For example, to set the `pm_daily` job to run at 1:00 am on 1 May 2006:

```
[flexpm] $ schedule_maint pm_daily 20060501 0100
```

Note: Remember to enter a time in the future. If unsure of appropriate times then please contact customer support

6.6 Un-installation Procedure

This upgrade cannot be uninstalled. This upgrade involves updates to the database or the metadata. Therefore recovery from backup is the only way to reverse the changes made by this upgrade. You must perform a full system backup before installing this upgrade. In a multi-schema database, if the schema being updated can be reliably backed up then this is sufficient, if not then backup the entire database. If needed, please refer to the "Backing up the Database" section of the Prospect Administration Guide. Please contact IBM customer support if you require further support.

7   Useful Hints

7.1   Installation log checking

Due to the change of installation method, the install_error.log which is generated after each installation is not automatically generated after the RP4.2 upgrade:

<u>Before</u>:

`install_error.log` is created and must be of zero size for a successful and error free installation

<u>Now</u>:

You should follow the steps below to run a script which will generate the `install_error.log` file:

1.   cd to the audit directory which contains the detail.log file to analyse

    ```
    $ cd $PM_HOME/audit/<YYYY>__<MM>__<DD>__<HH>__<MM>__<SS>
    ```

2.   Run the `check_install_log.sh` script on the `detail.log` file

    ```
    $ $FLEXPM_BASE/patches/22.0.5.0.0.2/check_install_log.sh
    ```

Check the `install_error.log` file which has been created.

NOTE*: The install_error.log file generated by the check_install_log.sh script should be of zero file size to indicate a successful upgrade. If the install_error.log file has a non-zero size then please check the contents for error messages.*

7.2   Invalid objects

Occasionally after the upgrade, there may be Oracle objects invalidated by the upgrade. If it happens, the `recompile_schema` script needs to be run to recompile these invalid objects again.

7.3   PM_Daily job

After the installation, the first time scheduled PM_Daily job might be failed. Just re-run the job if you see any error in the wmtm-20 log under $PM_HOME/rg/log/ directory.

7.4   nej_list configuration

All CDMA entries in the $PROSPECT_HOME/nej_list must contain a single system_id. Multiple system_ids are not supported for CDMA CDL configurations in the nej_list. This is consistent with the previous RP3 release.

The EVDO CDL nej_list configuration was new in RP4. The ne_name of the EVDO entries must be configured using the BSCDO_ID as the ne_name.

Sample nej_list configuration:

```
wakko33CSR     5555    2     R20    wakko33CSR.      MotoCDMA      CDL
wakko30CSR     5555    5     R20    wakko30CSR.      MotoCDMA      CDL
01011          5555    1011  R7     hrpda1011.       MotoEVDO      CDL
```

```
01012            5555    1012 R7    hrpda1012.       MotoEVDO       CDL
```

To register this nej_list in the system, run the following command:

```
$ addNEJ.sh
```

7.5 aemsC data file loading scenario creation [SEAde69785]

After loading the aemsC data file, it is possible that the scenario may not appear in the scenario list. This behavior was existent in RP3 release and is documented here for reference.

It is expected that other data types such as PM are also loaded with the same system id as defined in the nej_list. This will then create the scenario containing the instances the aemsC file loaded, which can be used for reporting purposes.

7.6 APC_IP to APC_ID mapping [SEAde69814]

The loading of the new aemsC DO CDL files contains APC_IP. In order to get the APC_ID displayed in the reports, the *.cfgmap files with the necessary APC_IP to APC_ID mapping must be loaded first.

If the mapping information for a particular APC_IP is not found in the cfgmap file, the APC and APC_Modem fullkeys will be formed using the APC_IP as the APC_ID.

Note: BTSDO_ID no longer requires mapping information from the *.cfgmap files.

7.7 VPU pcalcs populated by VPUpm file [SEAde69764]

The TotVPF* pcalcs at the VPU entity level may be unable to be report generated with the "No data" error message.

If this is this issue is encountered, kindly ensure the SAR file with the corresponding VPU instance and timestamp is loaded before attempting to generate reports based on these pcalcs.

7.8 Running import/export_docs.sh in Moto RP4.1

After the RP4.1 upgrade, the default import/export scripts has been changed.

```
import_docs.sh -r -p <dirname> -f <import_file> -l <logfile>
export_docs.sh -r -p <dirname> -f <export_file> -l <logfile>
```

e.g.

```
$ import_docs.sh -r -p /Users/Prospect -f /tmp/import_rep.lst \
  -l /tmp/export_rep.log
$ export_docs.sh -r -p /Users/Prospect -f /tmp/export_rep.lst \
  -l /tmp/export_rep.log
```

Note:

Exported reports before RP4 will no longer be imported in RP4 or higher release. However if there is a need to import the old report please refer to SEAde69884/valnt00044573.

Should the import/export docs needs to be performed on a different scenario (similar to the scenario mentioned above), kindly contact IBM customer support on advice on how to proceed.

7.9   Prospect Client/Server Compatibility

The Prospect client is backward compatible with older Prospect servers. If you try to use an older client with newer server, the results are undefined.

7.10 Prospect Single Client

This release features a single, uniform client for all vendor versions.

Users of the Prospect system have expressed the need to connect to all of their Prospect servers with a single client. Several customers have installed multiple Prospect servers, which cover several different vendor technologies. Two key benefits to the single client are:

- Reduced number of clients that your IT department need to install

- Reduced confusion among users over which Prospect client should be used with which Prospect server.

The single Prospect client supports Prospect servers co-released with the client and a defined number of server versions released before the client. Prospect (core) servers released after the client are not supported (that is, the Prospect client is not forward-compatible). Contact your IBM customer support representative to identify the server versions that your client supports.

This feature removes support for two or more Prospect clients installed on the same PC. Side-by-side installations were originally supported because the Prospect client was not backward compatible with older versions of the server. Full support for backward compatibility removes the need for side-by-side support.

7.11 Ports Used by the Prospect Client

The Prospect client uses two ports to connect to the Prospect server:

- FX port - Most queries from the Prospect client, status monitor, Auto Downloader, and DSMonitor (DSMonitor is a process that registers for updates from the DataServer) use this port. By default the FX port number is the base port plus four (4). For example, if the base port is 6440, the FX port would be 6444.

- Event port - DSMonitor and Prospect Alarm use this port. By default the Event port number is the base port plus three (3). For example, if the base port is 6440, the Event port would be 6443.

If you have closed the ports required by the Prospect client for security reasons, or if you are using these ports for other services, you need to either re-open or re-assign them to the Prospect FX and Event ports. Otherwise, the ability for the Prospect client to be able to communicate with the Prospect server is compromised.

To determine which port numbers are required for your system, log on as flexpm and run the following commands:

```
[flexpm]$ echo $FX_DS_PORT
[flexpm]$ echo $EVENT_PORT
```

7.12 Use of add_filetype_timeout.sh is not recommended

Using the `add_filetype_timeout.sh` script is not recommended, as the user will wait a considerable amount of time. This is caused by the time taken for the script to clean the schedule table during the middleware start up.

The `add_filetype_timeout.sh` script is not recommended to be used for checking the data file if it does not arrive as expected. If used, user will have to wait for a substantial long period of time as the `add_filetype_timeout.sh` script increases the time to clean up the schedule table when the middleware is started up.

7.13 Solaris 10 Zones not supported

Prospect® 8.0.6 does not support Solaris 10 zones.

7.14 Traffic Template Description Length Limitation in Prospect Client

Field description in traffic template editor has a limitation of displaying 260 characters only. Traffic template editor will display only the first 260 characters when the actual length of field description is longer than that.

For complete field description, please refer to *Prospect Performance Data Reference* or the online help.

8 Customer Support

Contact IBM customer support if a problem is encountered during the installation of this patch or release.

9 Manifest

The manifest of files contained within this release is in the root directory on the tar bundle. It is called manifest.txt.

10 Appendix A

Daylight Saving Time Support (DST)

The U.S. government is changing the way Daylight Saving Time (DST) will be calculated in the United States starting in the spring of 2007. To ensure correct support of these changes we strongly recommend all Prospect installations upgrade their 3rd party software as noted below.

Solaris

All Solaris OS installations versions 9 and 10 should apply the following patches which may be obtained through SUN Solaris support:

Solaris 9 – 113225-03 or later and 112874-33 or later

Solaris 10 – 122032-01 or later and 119689-07 or later

11 Appendix B: Upgrading Oracle 9i to 10g

This section describes how to upgrade an existing Oracle database from version 9.2.0 (with the 9.2.0.8 patch set) to 10.2.0.

Prerequisites

Oracle upgrades should be performed by an Oracle Database Administrator (DBA). This section assumes that expertise.

Before starting the Oracle upgrade, it is recommended that you read the *Oracle 10g Upgrade Guide* on the Oracle Metalink Web site. You can use the Database Upgrade Assistant (dbua), but it is useful to read the manual to gain an awareness of the issues involved.

The system should contain enough disk space to allow for a full backup of the database. If the backup is done by means of the Database Upgrade Assistant (dbua), then the space needed for the backup is equal to the current size of the database data files. To save space, you can also manually back up the database before the upgrade.

11.1 Perform Pre-Upgrade Tasks

The following tasks involve backing up the Oracle database and Prospect files, then installing Oracle 10g.

11.1.1 Shut Down Prospect and Oracle

Before you can perform a backup, you must first shut down the Prospect software and the Oracle instance.

To shut down the Prospect software

1. Log on to the Prospect server as `flexpm`.

2. Enter the following command:

   ```
   ps-mgr halt
   ```

3. Stop all the loaders using the following command:

   ```
   ps -ef | grep perl | grep $prodname | cut –c10-14 | xargs kill -9
   ```

To stop Oracle

1. Log on using the `oracle` account.

2. Connect to Oracle as `sysdba`:

   [oracle] `$ sqlplus /nolog`

   SQL> `connect sys/<password> as sysdba`

   where `<password>` is the password for the `sys` user.

3. Shut down the Oracle instance:

   SQL> `shutdown immediate;`

```
SQL> exit;
```

4. Stop the Oracle listener:

    [oracle] $ lsnrctl stop

11.1.2 Back Up the Oracle9i Database and Prospect Files To perform the backup

1. Back up the Oracle9i database.

    *   When Oracle is in NOARCHIVELOG mode, back up the database in cold backup mode.

    *   When Oracle is in ARCHIVELOG mode, back up the database in either cold backup or hot backup mode.

2. Back up the Prospect home directory.

    Back up the files under $FLEXPM_HOME.

11.1.3 Set Up Profiles

The first step in updating Oracle to 10g is to set up the profiles: first for Oracle 9i, then for Oracle 10g. You need to know the IP address for your display for the following procedures.

To set up a profile for Oracle 9i

1. Log on as the oracle user.

2. Create a file called .9i.profile in /u01/apps/oracle.

    ```
    cd /u01/apps/oracle
    vi .9i.profile
    ```

3. Add these lines to the file:

    ```
    export ORACLE_BASE=/u01/apps/oracle
    export ORACLE_HOME=/u01/apps/oracle/product/9.2.0
    export ORACLE_SID=flexpm
    export ORACLE_VERS=920
    export PATH=$ORACLE HOME/bin:$ORACLE_HOME/OPatch:$PATH
    ```

4. Save the file and exit.

To set up a profile for Oracle 10g

1. Create a file called .10g.profile in /u01/apps/oracle.

    ```
    cd /u01/apps/oracle
    vi .10g.profile
    export LD_LIBRARY_PATH=$ORACLE_HOME/lib32:$LD_LIBRARY_PATH
    export TNS_ADMIN=$ORACLE_BASE/network/admin
    ```

2. Add these lines to the file:

```
export ORACLE_BASE=/u01/apps/oracle
export ORACLE_HOME=/u01/apps/oracle/product/10.2.0
export ORACLE_VERS=1020
export ORACLE_SID=flexpm
export PATH=$ORACLE_HOME/bin:$ORACLE_HOME/OPatch:$PATH
export LD_LIBRARY_PATH=$ORACLE_HOME/lib32:$LD_LIBRARY_PATH
export TNS_ADMIN=$ORACLE_BASE/network/admin
```

3. Save the file and exit.

Source the appropriate profile.

11.1.4 Oracle 10g Naming Conventions

The Prospect client expects the installation to follow the Optimal Flexible Architecture (OFA) standards concerning naming conventions. The software also expects Oracle to be installed into the directory `/u01/apps/oracle/product/10.2.0`. If it is installed in another location, you must create a symbolic link from `/u01/apps/oracle/product/10.2.0` to the directory.

11.2 Upgrade to Oracle 10g

The Oracle 10.2.0.3 upgrade involves three major steps as follows:

1. Installing the Oracle 10.2.0.1 software.

2. Applying patches.

    All patches recommended in this guide should be applied before running `dbua`.

3. Running the `dbua` tool (the database upgrade utility that converts your database from a 9i database to a 10g database).

It is recommended that you perform the upgrade in this order; however, your setup may have special requirements.

Consult the *10g Upgrade Companion*, document 466181.1, on the Oracle Metalink Web site for the latest information provided by Oracle.

11.3 Install Oracle Patches

Download the following patches, in order:

* 10gr2_companion_sol.cpio.gz

* p5337014_10203_SOLARIS64.zip

* p3748430_10203_SOLARIS64.zip

* p4898608_10203_GENERIC.zip

* p5752399_10203_SOLARIS64.zip

* p5195356_10203_SOLARIS64.zip

- p6072999_10203_SOLARIS64.zip

- p6331382_10203_SOLARIS64.zip

Note: To install the patch 10gr2_companion_sol_cpio.gz CD, in the SELECT A PRODUCT TO INSTALL window, choose option 1, Oracle Database10g Products 10.2.0.1.0 – Oracle JDBC dev drivers, Oracle SQLJ, Database Examples, Oracle Text Knowledge Base, JAccelerator (NCOMP), Intermedia Image Accelerator, Oracle Ultra Search, and Oracle Workflow.

The `dbua` tool requires these additional patches to be applied:

- p5755471_10203_SOLARIS64.zip

- p5871314_10203_SOLARIS64.zip

- p5892355_10203_SOLARIS64.zip

Example

1. Set your current directory to the directory where the patch is located, and apply the patch.

```
$ cd 3748430
$ opatch apply
```

Note: If you do not see the following response to the previous command, **STOP** and do not proceed. It is a fatal error if you do not receive the following response:

```
Invoking OPatch 10.2.0.3.0
```

This is the only valid system response.

2. Click Y for `Do you want to proceed`. The patch responds: `OPatch successful`.

11.4 Upgrade to 10g Using dbua

The following procedure includes a step that backs up your current database. If you want the database upgrade utility to back up your database, be prepared to supply a directory capable of holding a full backup of your database.

Note: The following procedure is just an example. Choose your own preferred upgrade method.

Note: If you are upgrading your database from 9.2.0.8 to 10.2.0.3, you may get the following warning: "The instance version does not match with the dictionary version which is possible when the database is not patched to the release." You can ignore this message.

1. Log on as `oracle`. Source the profile.

```
. ./.10g.profile
```

2. Run the database upgrade utility at the UNIX prompt.

```
dbua &
```

3. Follow the on-screen instructions.

4. From the list of available databases for upgrade, select `$DBUSER` and click NEXT.

Note: If you do not see the `flexpm` database when you run the `dbua` tool, make sure that the `/var/opt/oracle/oratab` has the `flexpm` database listed. Many of the patches listed in [Install Oracle Patches](#) overwrite this file so it is important to check this.

5. The next screen displays a number of warnings about `dblink` passwords and stale optimizer statistics. You can ignore these warnings. Click OK to continue with the upgrade.

6. The SYSAUX screen is displayed. Increase the INCREMENT field from 1 to 10 MB, then accept all the other defaults. Click NEXT.

7. At the screen RECOMPILE INVALID OBJECTS, use the defaults to recompile invalid objects at the end of the upgrade. Depending on your hardware, you might need to select a higher number of CPUs. Click NEXT.

8. The BACKUP dialog box is displayed. If you have not already backed up your database, you should do so now.

   To back up the database, select I WOULD LIKE THIS TOOL TO BACK UP MY DATABASE.

   You must then supply a directory that is capable of holding a full backup of the database; that is, it must be a directory with a size greater than the current database.

   If you decide to back up your database now, you can either enter the full path to the backup directory in the text box, or select it by means of the BROWSE button.

   Click NEXT. The screen MANAGEMENT OPTIONS is displayed.

9. Clear the first checkbox. (Prospect does not use the Enterprise Manager.) Click NEXT. The screen NETWORK CONFIGURATION is displayed.

10. Accept the default setting REGISTER THIS DATABASE WITH ALL THE LISTENERS and click NEXT.

11. The next screen displays the summary of the upgrade tasks. Verify the entries and select FINISH to start the upgrade.

    The next screen displays the progress of the upgrade. When the upgrade utility finishes, it displays the message:

    ```
    Progress Complete
    ```
    Note the location of the upgrade log files.

12. Click OK. The upgrade results are displayed.

    If you see a warning about the JAccelerator, you can ignore it.

13. You can reset the database passwords by selecting CONFIGURE DATABASE PASSWORDS. This step is optional and can be left out. Click CLOSE twice.

    On the command line in the directory where you launched `dbua`, the following message is displayed:

    ```
    Database upgrade has been completed successfully, and the
    database is ready to use.
    ```
    You can now open a browser to display the *Oracle 10g Release Notes* from the file:

    ```
    /u01/apps/oracle/product/10.2.0/assistants/dbua/doc/help/
    DefaultBehaviorChangesin10g.html
    ```

Click EXIT.

11.5 Create the SPFILE

An `spfile` is a server parameter file, which is Oracles new method of maintaining database parameters dynamically, using the "`alter system`" commands. The `spfile` replaces the `init.ora` file.

The following procedure creates the `spfile`, which Oracle will then use as the initialization file when starting up the database.

To create an spfile from a pfile

1. Edit `$ORACLE_HOME/dbs/initflexpm.ora`. Verify that the following lines are in the file; if not, add them.

    ```
    NLS_DATE_FORMAT='YYYY-MM-DD HH24:MI'
    COMPATIBLE=10.2.0.3.0
    log_archive_format="LOG_%t_%s_%r.arc"
    ```

2. Connect to Oracle as `sysdba`.

    ```
    [oracle] $ sqlplus /nolog
    SQL> connect sys/<password> as sysdba
    ```

    where `<password>` is the password for the `sys` user.

    If you do not see the message `'connected to an idle instance'` then issue the following command:

    ```
    SQL>shutdown immediate;
    ```

3. Create the spfile, and then shut down and restart (bounce) the database using one of the following:

    ```
    SQL> CREATE SPFILE='$ORACLE_HOME/dbs/spfileflexpm.ora' FROM
    PFILE='$ORACLE_HOME/dbs/initflexpm.ora';
    ```

    or

    ```
    SQL> CREATE SPFILE='$ORACLE_HOME/dbs/spfileflexpm.ora' from
    pfile;
    SQL> shutdown;
    SQL> startup;
    SQL> exit;
    ```

    Note that the `spfile` is a binary file; attempts to edit it can corrupt it.

4. Reconnect as SYSDBA.

    ```
    SQL> connect sys/<password> as sysdba;
    ```

Warning: If you encounter an error (ORA-12547:TNS:lost contact) when bouncing the database after an `spfile` has been created, reconnect as SYSDBA and use the STARTUP command.

Verify the settings described in *"Setting PGA_AGGREGATE TARGET"* in the *Server Preparation* manual and the New Oracle 10g Parameter settings section.

11.6 Additional Considerations

Disable the automatic statistics collection done by Oracle 10g as documented in Disable Automatic Statistics Collection in Oracle 10g and create a new job in the Oracle schedule to flush statistics every 15 minutes as documented in Create a Job to Flush Database Statistics in Oracle 10g.

11.6.1 Disable Automatic Statistics Collection in Oracle 10g

The automatic statistics collection done by Oracle 10g causes issues with Prospect and must be disabled using the following procedure:

1. Start up `sqlplus` and connect as `sys`:

   ```
   $sqlplus /nolog
   SQL> connect sys/change_on_install as sysdba
   ```

2. Verify that the job is enabled:

   ```
   SQL> SELECT state FROM dba_scheduler_jobs WHERE job_name =
   'GATHER_STATS_JOB';


   STATE

   --------------

   SCHEDULED
   ```

3. Disable the job:

   ```
   SQL> EXEC dbms_scheduler.disable ('GATHER_STATS_JOB');
   ```

4. Verify that the job is now disabled:

   ```
   SQL> SELECT state FROM dba_scheduler_jobs WHERE job_name
   'GATHER_STATS_JOB';


   STATE

   --------------

   DISABLED
   ```

11.6.2 Create a Job to Flush Database Statistics in Oracle 10g

Due to a known issue in Oracle 10g for which there is no patch, Prospect requires an Oracle job to flush the database statistics every 15 minutes. Prospect runs also without this job but with report performances negatively impacted. It is recommended that you create this job.

1. Start up `sqlplus` and connect as `sys`:

   ```
   $sqlplus /nolog
   SQL> connect sys/change_on_install as sysdba
   ```

2. Create a job in the Oracle schedule that flushes statistics:

```
SQL> exec dbms_scheduler.create_job
(job_name=> 'FLUSH_STATS_WORKAROUND_JOB',
job_type=> 'STORED_PROCEDURE',
job_action=> 'dbms_stats.flush_database_monitoring_info',
start_date=>cast (trunc(sysdate, 'HH24')+1/96 as timestamp
with time zone),
repeat_interval=>'FREQ=MINUTELY; INTERVAL=15;',
enabled=>FALSE);
```

3. Enable the job:

```
SQL> exec dbms_scheduler.enable('FLUSH_STATS_WORKAROUND_JOB');
```

4. Verify that the job is scheduled:

```
SQL> select job_name, state, next_run_date
from dba_scheduler_jobs
where job_name = 'FLUSH_STATS_WORKAROUND_JOB';


JOB_NAME                          STATE
--------------------------- ---------------
NEXT_RUN_DATE
----------------------------------------------------------
----------
FLUSH STATS WORKAROUND JOB    SCHEDULED
12-FEB-08 11.45.00.000000 AM -08:00
```

11.7 Final Tasks

Log on as the oracle user, and source the .10g.profile file:

```
 $ . ./.10g.profile
```

Log on to Oracle as sysdba:

```
sqlplus '/ as sysdba'
```

Re-enable AQ:

```
ALTER SYSTEM SET aq_tm_processes=1 SCOPE=BOTH;
```

Increase the maximum number of cursors for the oracle database to 1000:

```
ALTER SYSTEM SET open_cursors=1000 SCOPE=BOTH;
```

Disable the recycle bin:

```
SQL> alter system set recyclebin = off scope=both;
```

Apply a workaround for connect_by:

```
SQL> alter system set "_optimizer_connect_by_cost_based" =
false scope= both;
```

Shut down the database:

```
SQL> shutdown abort
SQL> startup
SQL> shutdown immediate
SQL> quit
```

Make sure that the listener is stopped:

```
$ lsnrctl stop
```

Log in as `oracle`.

```
cd /u01/apps/oracle
rm network
ln -s ./product/10.2.0/network network
```

Copy the `tnsnames.ora` and `listener.ora` from the 9i to 10g directory structure while logged in as `oracle`:

```
cp $ORACLE_BASE/product/9.2.0/network/admin/listener.ora \
$ORACLE_BASE/product/10.2.0/network/admin
cp $ORACLE_BASE/product/9.2.0/network/admin/tnsnames .ora \
$ORACLE_BASE/product/10.2.0/network/admin
```

Log on as the oracle user, copy the `$ORACLE_BASE/network/admin/listener.ora` file to `listener.ora.9i`, then edit the `listener.ora` file so that the LISTENER and SID_LIST_LISTENER sections looks like this; replace `<hostname>` with the name of your server and `<FLEXPM_HOME>` with the correct value for your environment:

```
LISTENER =
   (ADDRESS LIST =
   (ADDRESS = (PROTOCOL = TCP) (HOST = <hostname> ) (PORT 1521))
   (ADDRESS = (PROTOCOL = IPC) (KEY = EXTPROC32))
   )
SID LIST LISTENER =
   (SID_LIST =
        (SID_DESC =
            (GLOBAL_DBNAME = $DBSID )
            (ORACLE_HOME = /u01/apps/oracle/product/10.2.0 )
            (SID NAME = $DBSID )
        )
        (SID_DESC =
            (SID_NAME = PLSExtProc)
            (ORACLE_HOME = /u01/apps/oracle/product/10.2.0 )
            (PROGRAM = extproc32)
   (ENVS =
   "EXTPROC_DLLS=ANY, LD_LIBRARY_PATH=<FLEXPM_HOME>/pm/lib/tp:/
u01/apps/oracle/product/10.2.0/lib32 :<FLEXPM_HOME>/pm/bin:
<FLEXPM_HOME> /pm/lib/wm")
```

```
)
)
```

Make sure that oracle is not running:

```
$ ps -ef | grep ora | grep flexpm
```

If this returns any processes, stop them using the `kill -9` command.

While logged on as the `oracle` user, edit the `oratab` file in `/var/opt/oracle`. Comment out the line with 9i, and in the line with 10g, change the flag from N to Y.

Example of what is in `oratab` before the edit:

```
*:/u01/apps/oracle/product/9.2.0:N
$ORACLE_SID:/u01/apps/oracle/product/10.2.0:N
```

Ensure that after edit the two lines look like this:

```
#*:/u01/apps/oracle/product/9.2.0:N
$ORACLE_SID:/u01/apps/oracle/product/10.2.0:Y
```

Restart the listener:

```
$ lsnrctl start
```

Restart the database:

```
$ sqlplus '/ As sysdba'
SQL> startup
SQL> quit
```

Log on as `flexpm`.

As user `flexpm`, update the system to reference the 10g profiles:

```
cd $FLEXPM_HOME
cp .profile.oracle10g .profile.oracle
cp .profile~oracle10g .profile~oracle
```

Log off and log back in as user `flexpm`.

Update the system to use the Oracle 10g binaries:

```
cd $FLEXPM_HOME
make bldfix
```

Start the system:

```
ps-mgr init
```

After all these tasks are completed, the upgrade of Oracle from 9.2.0 to 10.2.0 has been successful.

Notes

1. If an error occurs and you had previously selected the CREATE BACKUP option through the `dbua`, you are given the option to return the database to its pre-upgrade state. Select this option and notify IBM Support of the problem.

2. If you have errors and have not selected a backup as part of the upgrade, use your previous manual backup. Contact your DBA for information on this.

3. If you need to manually restore data from the backup created by dbua, follow these steps:

    a. Log on as oracle.

    b. Shut down the database.

    c. `cd` to the backup directory you selected in `dbua`:

        ```
        lsnrctl stop
        ./flexpm_restore. sh
        ```

    d. Edit `/var/opt/oracle/oratab` to point to the 9.2.0 directories.

    e. Start the database.

    f. Start the listener.

4. Edit the `~oracle/.profile` file and set the environment variables to the same as in the `.10g.profile` file.

The restore is complete.

11.8 New Oracle 10g Parameter settings

In 10g, Oracle has introduced two new parameter settings: `SGA_MAX_SIZE` and `SGA_TARGET`. It is recommended that these settings be applied on 10g servers running Prospect, because this enables Oracle to have more flexibility with memory management.

Below are suggested initial values for these parameters. You may need to monitor the `v$sga_target_advice` view and update the settings as necessary:

*   SGA_MAX_SIZE

    If you have at least 8GB of physical memory, then set `SGA_MAX_SIZE` to be 40% of physical memory.

    For example, on a 16GB system set this value to 6.4GB. Since the parameter must be an integer, set this to 6554M.

*   SGA_TARGET

    If you have more than 16GB of physical memory, then set `SGA_TARGET` to be 75% of the `SGA_MAX_SIZE`.

    If you have 16GB or less physical memory, then set this to be 95% of the `SGA_MAX_SIZE`.

    For example, on a 16GB system, set this to be 95% of 6554M, which is approximately 6226M.

Note: `SGA_TARGET` must be less than `SGA_MAX_SIZE`.

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