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22032

**Final Report**

**Project no XP/as/96/052**

**Ministry of Industry and Electricity**

Prepared by

**Projects Division  
al Alamiah Elec. Co.**

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## ***Introduction***

**Ministry of Industry and Electricity** is one of the Major Ministries in the Kingdom of Saudi Arabia responsible for all aspects of Industries and Electricity affairs. The Management Information System Department of the Ministry of Industry and Electricity needed to upgrade their Integrated System from Oracle 5.0 running under Unisys 2000 to Oracle 7.3 under Windows NT4.0.

Al Alamiah Electronic Co. was awarded the contract for providing services relating to the upgrade of the “Computer System Integration” for the Ministry of Industry and Electricity in the Kingdom of Saudi Arabia. Al Alamiah Elec. Co. have successfully upgraded their existing system to required system and all the application alongwith the data is migrated and implemented. This report explains the details of completion of the said task.

As al-Alamiah is one of the well known companies in Kingdom and abroad working in the Application Software Research and Development. al-Alamiah has recognized the importance and the necessity of this project to the administration, monitoring and control of MIE computer center and the statistical department.

Therefore, al-Alamiah, with its technical potentials, have been done its best efforts to conduct and implement this project accordingly and up to the standards set forth for this project and complied with all the requirements definition of Project XP/SAU/96/052 .

al-Alamiah, have selected highly qualified staff for implementation of the different phases of the project to assure high quality of outcomes. It devoted the in-Kingdom experience and skills to support the project staff during all phases of implementation to make it a success.

### *Overview of Project*

The overview of this project covers the requirements of the statement of work outlined in the technical document of the RFP. Al-alamiah have successfully implemented the basic contract which covered the following scope:

1. Main server upgrade, hardware & software
2. Program and data migration
3. Network installation
4. PC procurement and installation
5. Training

al-Alamiah, having recognized the requirements of UNIDO to execute the project of “Upgrade of Ministry of Industry and Electricity’s (MIE) Computer System Integration”, presents these Technical approach and final report .

The final report presents al-Alamiah methodology and approach implementing the requirements and to produce the specified deliverables in accordance to the specifications stated in the RFP, which are:

- Basic Requirements:
  - ⇒ Main server upgrade
  - ⇒ Program and data migration
  - ⇒ Network installation
  - ⇒ PC procurement and installation
  - ⇒ Training

The final report explains the technical steps of the Procurement, installation and development life cycle which we have developed the stated MIE Application and data migration.

al-Alamiah have provided the Hardware, Software, and Network equipment's for the development phase of the project and in accordance to the specifications set forth for these items.

We have delivered a Dell Pentium Pro machine as a file server and Dell Workstations, which meet all technical specification. Our deliverable items of network are based on 3Com products in a Fast Ethernet topology. Technical training have been conducted on an authorized training center for training of Networking, Database and Development.

Al-alamiah has been completed the project with the responded to the terms and conditions stated in the RFP.

### *Implementation Approach*

Al-alamiah has implemented the project with the approach to Migrate data and programs AS IT IS. No modification or enhancement added to the current system as per RFP requirements.

Since our solution is based on an NT Intel based machine as the main server running an Oracle Workgroup server/2000 as a database engine. The steps we have followed in-migrating both data and programs are described below, taking into consideration our above assumptions.

Migrating programs was not an easy and straight forward task as compare to the migration of the data. Since the existing programs were written using an old version of Oracle Forms, which is based on character mode, there is no utility available to do the automatic conversion. A manual tedious program migrating was done. We need to state that all Fortran, Cobol and C coding which was embedded in the old system has been replaced by standard SQL and PL/SQL in the new system. The development tool used is Oracle's Developer/2000. The approach adopted by al\_Alamiah for migration of data and programs is explained as follows.

We have clearly understood the basic concept of the existing programs and methodology used. We have down loaded all the files that is entry forms, query forms, reports and the tables from the UNIX based server using PC utility.

Please see the attached process chart for the entire conversion process. It is a time consuming task as it involves a lot of manual work. However we have successfully converted the entry and query forms from Asmo 499+ 7 bit Arabization to Asmo 499+ 8 bit Arabization. We also have upgraded the converted Arabised files to forms 4.5 and achieved satisfactory results which are running smoothly. The following tasks were completed during the migration of programs.

All Oracle source files such as entry forms, query forms menu forms and reports were transferred from Unix to Windows NT4.0. All the database objects such as tables, views and indexes were transferred from Oracle 5.0 database under Unix to Oracle 7.3 under Windows NT system. The Arabic Conversion is done from Asmo 499+7 bit to Microsoft Arabic standards. All the SQL forms 2.0 were converted to Developer2000 (Forms 4.5). Required screens of the whole application were redesigned and coded accordingly. All the Entry forms, Query forms and Menu forms were tested and implemented under Developer2000. The Startup form of the main log on screen was redesigned. All SQL 2.0 menu forms were successfully migrated with GUI features. Password decryption and jump code investigation is completed and is being used in the system. Standard tool bar for Entry forms, Query forms with GUI features have been incorporated. All the SQL Reports had to be completely rewritten in Developer2000 (Reports 2.5). These reports have been tested and implemented successfully.

### *Work Definition*

- Migration of SQL Forms 2.0 to Oracle Developer 2000 Forms 4.5.
- Migration of Reports SQL Report 1.1 to Developer 2000 Reports 2.5
- Migration of Oracle 5.0 Database – Unix to Oracle 7.3 – Windows-NT 4.0

### *METHODOLOGY ADOPTED*

A common approach as per the attached process charts has been implemented in migrating the Arabic Code Page from ASMO 449+ 7 bit to Microsoft Arabization. As there is no utility available for the code page conversions, we had to go through a lot of manual and tedious job. However we have successfully achieved the objective. We are proud to announce that we have made use of one of al-Alamiah produced utility (Sakhr Communication Program) in the entire migration process.

### *Migration of Oracle Forms 2.0 to Oracle Developer 2000 Forms 4.5*

Forms Generate utility has been used to upgrade the Unix based SQL Forms 2.0 to Developer 2000 Forms 4.5 from character mode to Bitmapped Environment with user friendly GUI features. In character mode environment key triggers were used very heavily as opposed to PRE-, POST-, ON-VALIDATE-triggers. The key triggers are precisely the ones that make the character-mode to bitmapped migration a very challenging one. However Al-Alamiah with all its technical expertise has achieved the migration of all forms with desired functionality by rewriting the triggers where ever required. A standard tool bar has been attached to each ENTRY and QUERY form. Please refer the attached list for details of the migrated Menu/Entry/Query forms.

### *Migration of Reports SQL Report 1.1 to Developer 2000 Reports 2.5*

There is no utility available to migrate the reports. Nevertheless al-Alamiah has rewritten all the reports in Developer 2000, Reports 2.5 and achieved excellent quality Laser Reports. Whenever requested by the Ministry, any additions and modifications to the reports have been accepted. Some reports that are not part of the integrated system have been migrated by al-Alamiah free of cost as a friendly gesture.

PRO-C was used in Unix based system for the report integration. However al-Alamiah has rewritten the entire report integration with exact functionality with added GUI features using Developer 2000 Forms 4.5.

*Migration of Oracle 5.0 Database – Unix to Oracle 7.3 – Windows-NT 4.0*

Data migration is one of the very sensitive and error prone areas. Nevertheless al-Alamiah with its expert technical staff specialized in this particular area has achieved a perfect data migration. The migrated data has gone through various technical checks by the Ministry's technical staff by randomly querying the data and printing various reports from old and new system with the same parameters. In all the cases the data has been proved to be consistent with the old data.

In summary the system as a whole is running smoothly. In case of any minor / major discrepancies al-Alamiah will be very cooperative in trouble shooting and helping the ministry whenever required.



***Deliverable Items***

We have been delivered the following items and programs for the project:

**a- Network**

We have installed and fixed the whole network equipment and accessories and it is working now fine without any problems, please find below the final distribution of nodes: -

Installing 21 nodes in the second floor as distributed as follows :

<b>Room number</b>	<b>Department</b>	<b>Number of nodes</b>
212	Industrial cities	One
213	industrial cities	One
220	engineering	One
221	engineering	One
226	foreign investment	One
227	foreign investment	One
228	foreign investment	One
230	foreign investment	One
232	foreign investment	One
235	Licensing	One
237	Licensing	One
238	Licensing	One
239	Licensing	One
242	Licensing	Three
246	Protection	One
247	Protection	One
252	Export	One
254	Export	One
255	Export	One

Installing 5 nodes in the first floor distributed as follows :

<b>Room number</b>	<b>Department</b>	<b>Number of nodes</b>
144	Statistics	One
145	Statistics	One
148	Statistics	One
150	Statistics	One

Install 13 nodes in the ground floor in different places inside the computer department.

The cabinets location one in the first floor in the computer room and the other one in the second floor in room no 237 (licensing department)

### **b- File server**

We have delivered Dell file server with the following specifications

#### DELL POWEREDGE 4100/200 SERVER

##### Processor

Dual Pentium Pro 200 MHz Processor in Smp  
Eisa/Pci Bus Architecture

##### Memory

Ram 64 Mb ECC Standard Expandable To 1 GB  
Cache Memory 512 Kb

##### Data Storage

Pci Fast /Ultra Wide Scsi-2 Controller  
4x4 GB Fast/Wide Scsi-2 Hard Disk (16 GB TOTAL)  
6 Internal 3.5" hard drive bays free  
3 External 5.25" five bays free  
Integrated SCSI controls Ultra/wide scsi and Ultra/narrow scsi  
Raid controller dell expandable pci raid (raid 0,1,5,10)

##### Standard Backup/Load Devices

One Floppy Drive 1.44 Mb 3.5 Inch  
CD-ROM 8 Speed Internal Scsi-2  
Tape Backup 4 GB Uncompressed Scsi-2

##### I/O Connection:

One Parallel Port  
Two Serial Port and One Mouse Port

##### Video

Video Ram Adapter 64 Pit 1MB, PCI

##### Network Interface

Network Card Ethernet 10/100 Bast-T ,Pci 3com 3C905

##### Expansion Slots:

3x Eisa Slot  
5x Pci Slot (8 In Total)

##### Keyboard 101 Arabic /English

##### Display Monitor 15 " Resolution 1024x768

SCSI Backplane and Hot swap drives  
500 watt power supply  
Redundant hot swap options

This server is installed in computer room in computer department at first floor.

**c- Software**

We have delivered the following software: -

WINDOWS NT SERVER 4.0  
WINDOWS NT CLIENT (60 ACCESS CLIENT))  
ORACLE WORKGROUP /2000 FOR 60 USERS  
ORACLE DESIGNER 2000  
ORACLE DEVELOPER 2000

Windows NT server 4.0 and Oracle workgroup 2000 are installed in DELL server oracle developer and oracle designer are installed in one of workstation located in computer department.

**d-Workstation type I**

We have delivered 28 units of Dell PC model Gsl with the following specifications

Processor Pentium 200 MHz  
Ram memory 32 Mb  
Cache memory 256 kb  
PCI Ethernet card 10/100 base-t from 3com  
Dell 15" monitor  
Hard disk 2 GB

Note : we were proposed Pentium 166 MHz for this type of workstation but we delivered Pentium 200 MHz as Pentium 166 MHz phased out from Dell .

**Workstation type II**

We were delivered two units of Dell PC model Gsl with the following specifications

Processor Pentium 200 MHz  
Ram memory 32 Mb  
Cache memory 256 kb  
CPI Ethernet card 10/100 base-t from 3com  
Dell 15" monitor  
Hard disk 2 GB  
CD-ROM 16 speed

### **e-Program&Data migration**

Programs migration we were translated and converted all of the modules and completed from old platform to a new platform.

Data migration we were migrated data from old system to new system successfully.

### **f- Technical Training**

al-Alamiah completed technical training to Five designated MIE staff on the following subjects:

#### **Oracle Training**

Since Oracle RDMS has been selected to be the core Database of the system, training conducted to the technical staff on:

Oracle Development Tools, and  
Oracle Database Administration

The training conducted by certified Oracle instructor, and covered all Oracle subjects as per Oracle Course Syllabus.

#### **Window NT Training**

Windows NT training covered the following courses:

Core Technologies of Microsoft NT server 5.  
Supporting Microsoft Windows NT Server 4.0 Enterprise Technologies.

Training conducted in Microsoft authorized training center by an authorized Microsoft instructor.

**Items Delivered to MOIE**

ITEM #	PART #	DESCRIPTION	QNTY
CLIN 0001	4100/200	<u>a- SERVER HARDWARE</u> DELL POWEREDGE 4100/200	1
		<u>b- SERVER SOFTWARE</u> 1-WINDOWS NT SERVER 4.0 2-WINDOWS NT CLIENT 3-ORACLE WORKGROUP/2000 FOR 60 USER 4-ORACLE DESIGNER 2000 5-ORACLE DEVELOPER 2000 6-DATA MIGRATION 7- PROGRAM MIGRATION	1 60 1 1 1 1 1
	3C250A-TX  3C262-FX 3C219 3C1680-5 X9909595  23598047 23598107 A0405236 A0405303	<u>c- NETWORKING SOLUTION</u> SUPER STACK II HUB 100BASE-TX 12 PORT RJ-45 100BASE_TX PORT FIBER OPTIC TRANSCEIVER MODULE 62.5/125 M FIBER HUB EXPANSION CABLE ISOLAN FIBER-OPTIC MICRO TRANSCEIVER (ST) BDN PLUS CABLE , 4 PAIR ,24 AWG , 1000 ft/spool , REELEX CAT 5 ISDN/ISDN 8/8 1.2 m CAT 5 DROP CABLE ISDN/ISDN 8/8 3 m CAT 5 PATCH CABLE SINGLE , SURFACE , ALMOND FACE PLATE MODULE RJ-45 FOR MDVO PANEL 24 PORT GRAY UNLOADED FOR MDVO MODULES 2 FIBERS ZIP CORD FIBER OPTIC CABLE ST CONNECTOR 22 U HIGH - FRONT GLASS DOOR CABINET FIXING TRUNKS & CONDUITS , PULLING CABLES , TERMINATION AND TESTING PRICE PER NODE	4  2 2 2 15  31 31 31 62 2 140 6 2 31
	Gs 5166 Gs 5200	<u>d- WORKSTATION</u> 1- TYPE I (DELL OPTIPLEX 5166) 2- TYPE II (DELL OPTIPLEX 5200)	28 2
		<u>e- TRAINING</u> 1- WINDOWS NT ADMINISTRATION 2- DEVELOPER 2000 TOOLS FOUNDATION 3- ORACLE FORMS 4.5 PART I 4- ORACLE FORMS 4.5 PART II 5- ORACLE REPORTS 2.5 6- DATABASE ADMINISTRATER OF ORACLE 7 DATABASE PART I 7- DATABASE ADMINISTRATER OF ORACLE 7 DATABASE PART II	5 5 5 5 5 5 5

### *Recommendations*

The Oracle 7.3 supports Y2K problem from 4712 B.C to 4712 AD . Program modifications for the Y2K issues in MOIE application needs to be done. We are capable of handling these Y2K issues.

For data security and safety, planned backup strategies are recommended to be carried out by the concerned authorities of MOIE.

User and programmers need to be trained on the application. Authentication of users and modules is required to be done for any operational hurdle.

Analyze programs and data. Add new functions to the system as needed. Restructure the database and normalize it.

The statistical department is using a DOS application. The application is written in CLIPPER and running on three different PC. The Statistical Department needs 10 additional reports to be generated from the existing DBF files. Also Statistical Department needs to reinstall the existing Clipper applications to a five newly machines.

There are three alternatives in accomplishing Statistical Department for adding additional reports. Those alternatives are:

- Write new program to print additional reports.
- Modify existing programs to incorporate additional reports.
- Rewrite the statistical application to be in complying with MIE new database and development tools.

We do not recommend alternatives 1 and 2 as they are still DOS applications, Single user, MIE has to maintain to development environments, and difficult to maintain.

Alternative 3 is more costly to develop. But on the long run it will be wiser decision, because of the added benefit from redeveloping the Statistical Department application using a GUI interface running on MIE server.

## *Appendices*

## Ministry of Industry and Electricity Project Status Report

#	Form	Status	Remarks
(LICENSING DEPARTMENT). إدارة تقويم وترخيص المشاريع الصناعية.			
Entry			
1	ISE101101	COMPLETED	
2	ISE101102	COMPLETED	
3	ISE101103	COMPLETED	
4	ISE101104	COMPLETED	
5	ISE101105	COMPLETED	
6	ISE101106	COMPLETED	
7	ISE101107	COMPLETED	
8	ISE101201	COMPLETED	
9	ISE101202	COMPLETED	
10	ISE101301	COMPLETED	
11	ISE101302	COMPLETED	
12	ISE101401	COMPLETED	
13	ISE101402	COMPLETED	
Query			
1	ISQ10113001	COMPLETED	
2	ISQ10113002	COMPLETED	
3	ISQ10113004	COMPLETED	
4	ISQ10113005	COMPLETED	
5	ISQ10113006	COMPLETED	
6	ISQ10133001	COMPLETED	
7	ISQ10133002	COMPLETED	
8	ISQ10133003	COMPLETED	
9	ISQ10143001	COMPLETED	
10	ISQ10143002	COMPLETED	
Reports			
11	ISR10114001	COMPLETED	
12	ISR10114002	COMPLETED	
13	ISR10114003	COMPLETED	
14	ISR10114004	COMPLETED	
15	ISR10114005	COMPLETED	
16	ISR10114006	COMPLETED	
17	ISR10114007	COMPLETED	
18	ISR10114008	COMPLETED	
19	ISR10114009	COMPLETED	
20	ISR10124001	COMPLETED	
21	ISR10124002	COMPLETED	
22	ISR10134001	COMPLETED	
23	ISR10144001	COMPLETED	
24	ISR10144002	COMPLETED	
25	ISR10144003	COMPLETED	
26	ISR10144005	COMPLETED	
27	ISR10144006	COMPLETED	
28	ISR10144007	COMPLETED	



## Ministry of Industry and Electricity Project Status Report

#	Form	Status	Remarks
	(FOREIGN INVEST	COMPLETED	
	Entry	COMPLETED	
1	ISE102103	COMPLETED	
2	ISE102201	COMPLETED	
3	ISE102202	COMPLETED	
4	ISE102202A	COMPLETED	
5	ISE102203	COMPLETED	
6	ISE102204	COMPLETED	
7	ISE102206	COMPLETED	
8	ISE102207	COMPLETED	
9	ISE102301	COMPLETED	
10	ISE102302	COMPLETED	
11	ISE102304	COMPLETED	
12	ISE102303	COMPLETED	
13	ISE102305	COMPLETED	
14	ISE102306	COMPLETED	
15	ISE102307	COMPLETED	
16	ISE102308	COMPLETED	
17	ISE102309	COMPLETED	
18	ISE102403	COMPLETED	
19	ISE102405	COMPLETED	
20	ISE102406	COMPLETED	
21	ISE102407	COMPLETED	
22	ISE102408	COMPLETED	
	Query		
1	ISQ10213001	COMPLETED	
2	ISQ10223001	COMPLETED	
3	ISQ10233005	COMPLETED	
4	ISQ10243001	COMPLETED	
5	ISQ10243002	COMPLETED	
6	ISQ10243003	COMPLETED	
7	ISQ10243006	COMPLETED	
	Reports		
1	ISR10214001	COMPLETED	
2	ISR10224001	COMPLETED	
3	ISR10224002	COMPLETED	
4	ISR10234001	COMPLETED	
5	ISR10234002	COMPLETED	
6	ISR10234003	COMPLETED	
7	ISR10234004	COMPLETED	
8	ISR10234005	COMPLETED	
9	ISR10234006	COMPLETED	
10	ISR10234007	COMPLETED	
11	ISR10234008	COMPLETED	
12	ISR10234009	COMPLETED	
13	ISR10234010	COMPLETED	
14	ISR10234011	COMPLETED	
15	ISR10234012	COMPLETED	
16	ISR10234013	COMPLETED	
17	ISR10244001	COMPLETED	
18	ISR10244002	COMPLETED	
19	ISR10244006	COMPLETED	

## Ministry of Industry and Electricity Project Status Report

#	Form	Status	Remarks
20	ISR10244007	COMPLETED	
21	ISR10244008	COMPLETED	
22	ISR10244009	COMPLETED	

## Ministry of Industry and Electricity Project Status Report

#	Form	Status	Remarks
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Entry			
1	ISE103101	COMPLETED	
2	ISE103102	COMPLETED	
3	ISE103103	COMPLETED	
4	ISE103201	COMPLETED	
5	ISE103202	COMPLETED	
6	ISE103301	COMPLETED	
7	ISE103305	COMPLETED	
8	ISE103401	COMPLETED	
9	ISE103402	COMPLETED	
10	ISE103405	COMPLETED	
11	ISE103406	COMPLETED	
12	ISE103407	COMPLETED	
13	ISE103408	COMPLETED	
14	ISE103501	COMPLETED	
Query			
1	ISQ10313001	COMPLETED	
2	ISQ10323001	COMPLETED	
3	ISQ10323002	COMPLETED	
4	ISQ10323003	COMPLETED	
5	ISQ10333001	COMPLETED	
6	ISQ10333002	COMPLETED	
7	ISQ10333003	COMPLETED	
8	ISQ10333005	COMPLETED	
9	ISQ10333006	COMPLETED	
10	ISQ10343001	COMPLETED	
11	ISQ10343002	COMPLETED	
12	ISQ10353001	COMPLETED	
13	ISQ10353002	COMPLETED	
14	ISQ10353003	COMPLETED	
Reports			
1	ISR10314001	COMPLETED	
2	ISR10314002	COMPLETED	
3	ISR10314003	COMPLETED	
4	ISR10314004	COMPLETED	
5	ISR10314005	COMPLETED	
6	ISR10314006	COMPLETED	
7	ISR10314007	COMPLETED	
8	ISR10324001	COMPLETED	
9	ISR10324002	COMPLETED	
10	ISR10334002	COMPLETED	
11	ISR10334003	COMPLETED	
12	ISR10334007	COMPLETED	
13	ISR10344002	COMPLETED	
14	ISR10344003	COMPLETED	
15	ISR10344004	COMPLETED	

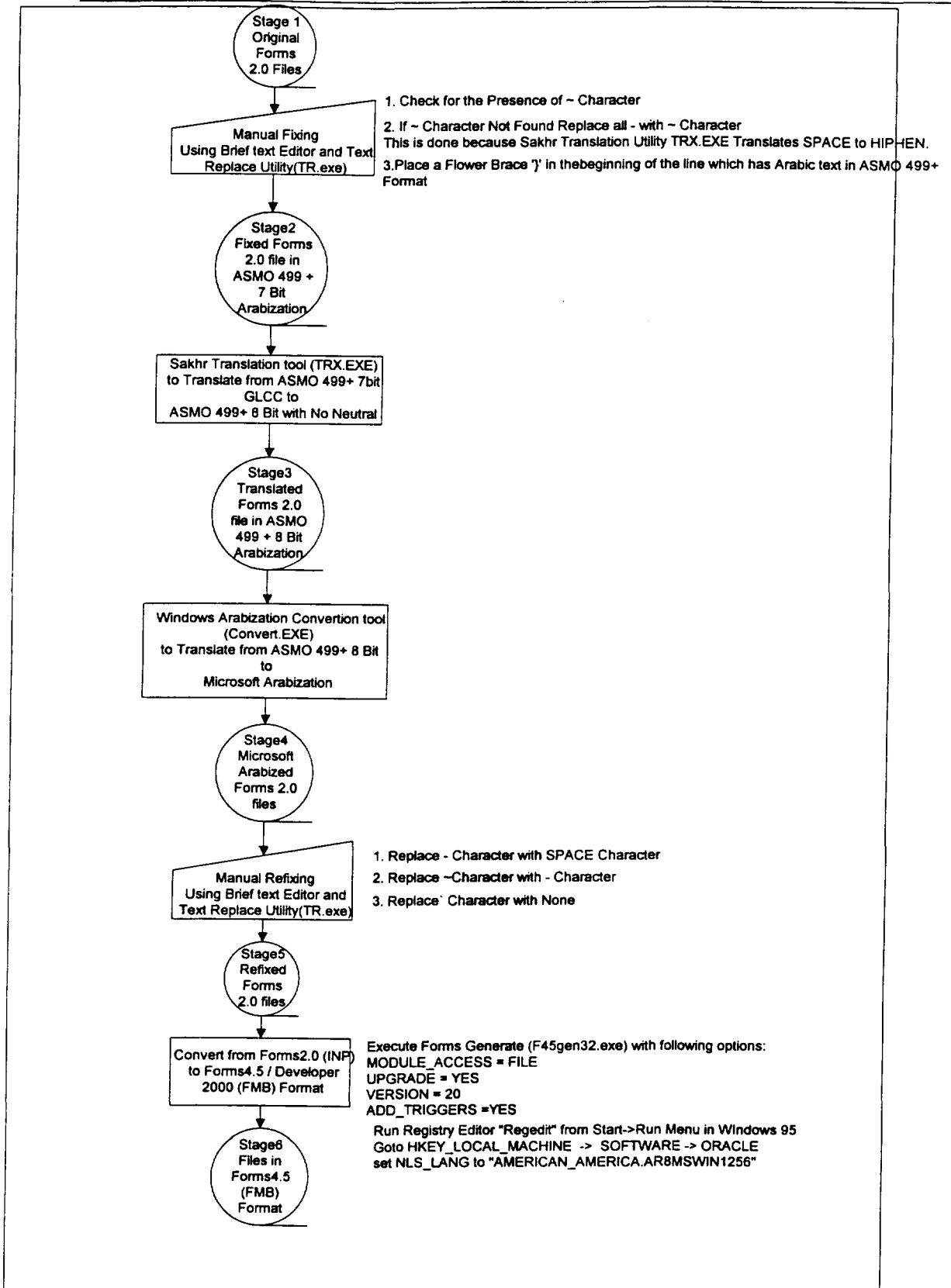
## Ministry of Industry and Electricity Project Status Report

#	Form	Status	Remarks
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Reports			
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2	ISR10414002	COMPLETED	
3	ISR10414003	COMPLETED	
4	ISR10414004	COMPLETED	
إدارة العلاقات الدولية.			
Entry			
1	ISE105101	COMPLETED	
2	ISE105102	COMPLETED	
3	ISE105103	COMPLETED	
4	ISE105104	COMPLETED	
Query			
5	ISQ10513001	COMPLETED	
6	ISQ10513002	COMPLETED	
Reports			
7	ISR10514004	COMPLETED	
8	ISR10514005	COMPLETED	
9	ISR10514006	COMPLETED	
10	ISR10514007	COMPLETED	
11	ISR10514008	COMPLETED	
إدارة الإحصاء الصناعي.			
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2	ISR10634002	COMPLETED	
3	ISR10634101	COMPLETED	
4	ISR10634102	COMPLETED	
5	ISR10634103	COMPLETED	
6	ISR10634104	COMPLETED	
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8	ISR10634201	COMPLETED	
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14	ISR10634401	COMPLETED	
15	ISR10634402	COMPLETED	
16	ISR10634403	COMPLETED	
17	ISR10634404	COMPLETED	
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19	ISR10634406	COMPLETED	
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21	ISR10634502	COMPLETED	
22	ISR10634503	COMPLETED	
23	ISR10634504	COMPLETED	
24	ISR10634505	COMPLETED	
25	ISR10634506	COMPLETED	
26	ISR10634601	COMPLETED	
27	ISR10634602	COMPLETED	
28	ISR10634603	COMPLETED	
29	ISR10634606	COMPLETED	
30	ISR10634701	COMPLETED	
31	ISR10634702	COMPLETED	

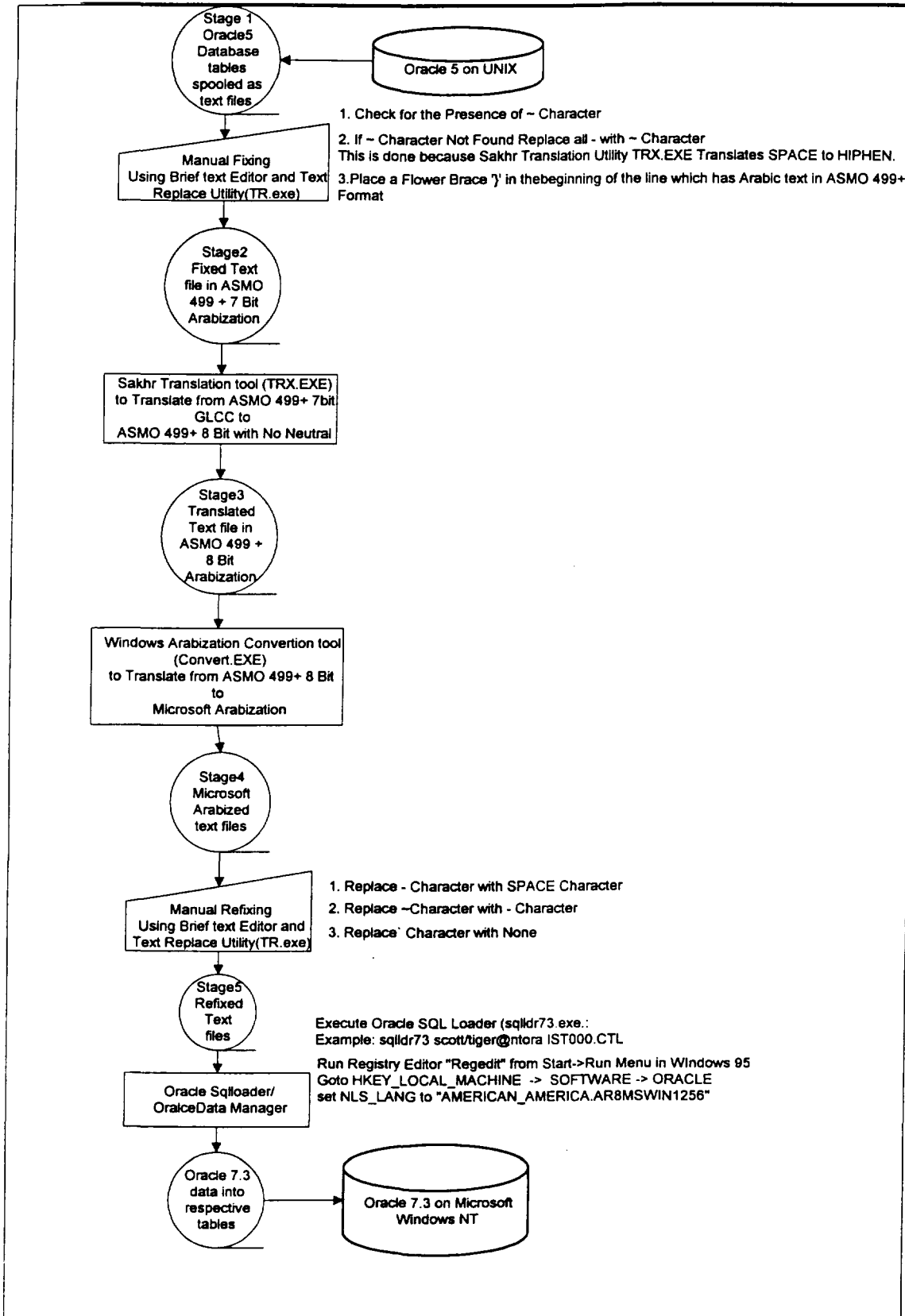
## Ministry of Industry and Electricity Project Status Report

#	Form	Status	Remarks
32	ISR10634703	COMPLETED	
33	ISR10634704	COMPLETED	
34	ISR10634803	COMPLETED	
35	ISR10634804	COMPLETED	
(ENGINEERING DEPARTMENT). الإدارة الهندسية و المشاريع			
Programs from other departments are being used			

Process Chart for Conversion from Asmo 499+ 7 Bit to Microsoft Arabization



Process Chart for Conversion from Asmo 499+ 7 Bit to Microsoft Arabizationb for Oracle5 Database Spooled as Text Files



## Ministry of Industry and Electricity Project Status Report

#	Form	Status	Remarks
( MAINTANANCE). نظام الادارة			
Entry			
1	ISE301000	COMPLETED	
2	ISE302101	COMPLETED	
3	ISE302102	COMPLETED	
4	ISE302103	COMPLETED	
5	ISE302104	COMPLETED	
6	ISE302105	COMPLETED	
7	ISE302106	COMPLETED	
8	ISE302107	COMPLETED	
9	ISE302108	COMPLETED	
10	ISE302109	COMPLETED	
11	ISE302110	COMPLETED	
12	ISE302111	COMPLETED	
Reports			
1	ISR30214001	COMPLETED	
2	ISR30214002	COMPLETED	
3	ISR30214003	COMPLETED	
4	ISR30214004	COMPLETED	
5	ISR30214005	COMPLETED	
6	ISR30214006	COMPLETED	
7	ISR30214007	COMPLETED	
8	ISR30214008	COMPLETED	
9	ISR30214009	COMPLETED	
10	ISR30214010	COMPLETED	



**MINISTRY OF INDUSTRY AND ELECTRICITY PROJECT  
DATA MIGRATION STATUS REPORT**

#	Table	STATUS	UNIX	Windows NT
1	IST000	COMPLETED	378	378
2	IST002	COMPLETED	11	11
3	IST003	COMPLETED	1	1
4	IST006	COMPLETED	5	5
5	IST008	COMPLETED	32	32
6	IST011	COMPLETED	21	21
7	IST012	COMPLETED	448	448
8	IST014	COMPLETED	1	1
9	IST016	COMPLETED	11	11
10	IST020	COMPLETED	2	2
11	IST116	COMPLETED	2	2
12	IST119	COMPLETED	3	3
13	IST134	COMPLETED	10	10
14	IST141	COMPLETED	1	1
15	IST209	COMPLETED	6	6
16	IST211	COMPLETED	3	3
17	IST302	COMPLETED	8	8
18	IST303	COMPLETED	9	9
19	IST310	COMPLETED	2	2
20	IST401	COMPLETED	242	242
21	IST405	COMPLETED	78	78
22	IST407	COMPLETED	431	431
23	IST413	COMPLETED	2	2
24	IST418	COMPLETED	31	31
25	IST001	COMPLETED	197	197
26	IST005	COMPLETED	7954	7954
27	IST007	COMPLETED	20094	20089
28	IST010	COMPLETED	334	334
29	IST101	COMPLETED	9396	9396
30	IST106	COMPLETED	7935	7935
31	IST108	COMPLETED	16987	16987
32	IST120	COMPLETED	165	165
33	IST123	COMPLETED	8411	8405
34	IST125	COMPLETED	23911	23905
35	IST128	COMPLETED	8891	8874
36	IST131	COMPLETED	817	817
37	IST137	COMPLETED	3	3
38	IST201	COMPLETED	1260	1260
39	IST210	COMPLETED	4	4
40	IST219	COMPLETED	146	146
41	IST221	COMPLETED	53	53
42	IST222	COMPLETED	128	128
43	IST225	COMPLETED	9	9
44	IST229	COMPLETED	132	132

**MINISTRY OF INDUSTRY AND ELECTRICITY PROJECT  
DATA MIGRATION STATUS REPORT**

#	Table	STATUS	UNIX	Windows NT
45	IST301	COMPLETED	10563	10563
46	IST404	COMPLETED	5	5
47	IST410	COMPLETED	148	148
48	IST411	COMPLETED	11	11
49	IST416	COMPLETED	3	3
50	IST142	COMPLETED	0	0
51	IST157	COMPLETED	0	0
52	IST159	COMPLETED	0	0
53	IST165	COMPLETED	0	0
54	IST204	COMPLETED	0	0
55	IST241	COMPLETED	0	0
56	IST414	COMPLETED	0	0
57	IST420	COMPLETED	0	0
58	IST004	COMPLETED	5528	5528
59	IST009	COMPLETED	4	4
60	IST013	COMPLETED	4395	4395
61	IST017	COMPLETED	1	1
62	IST018	COMPLETED	840	840
63	IST019	COMPLETED	9	9
64	IST021	COMPLETED	2	2
65	IST022	COMPLETED	2	2
66	IST102	COMPLETED	1	1
67	IST104	COMPLETED	11	11
68	IST107	COMPLETED	34687	34687
69	IST113	COMPLETED	2489	2489
70	IST114	COMPLETED	1	1
71	IST115	COMPLETED	22990	22990
72	IST117	COMPLETED	1	1
73	IST118	COMPLETED	2707	2707
74	IST121	COMPLETED	19439	19439
75	IST122	COMPLETED	9895	9895
76	IST124	COMPLETED	7955	7943
77	IST126	COMPLETED	11383	11359
78	IST127	COMPLETED	9083	9076
79	IST129	COMPLETED	19509	19503
80	IST130	COMPLETED	3725	3715
81	IST132	COMPLETED	1094	1094
82	IST133	COMPLETED	113	113
83	IST135	COMPLETED	31625	31625
84	IST136	COMPLETED	6432	6424
85	IST138	COMPLETED	28133	28133
86	IST139	COMPLETED	47552	47536
87	IST140	COMPLETED	3	3
88	IST155	COMPLETED	2473	2467

**MINISTRY OF INDUSTRY AND ELECTRICITY PROJECT**  
**DATA MIGRATION STATUS REPORT**

#	Table	STATUS	UNIX	Windows NT
89	IST156	COMPLETED	8433	8433
90	IST158	COMPLETED	1164	1164
91	IST160	COMPLETED	1	1
92	IST166	COMPLETED	5531	5531
93	IST167	COMPLETED	2	2
94	IST168	COMPLETED	9	9
95	IST202	COMPLETED	1057	1057
96	IST203	COMPLETED	4	4
97	IST205	COMPLETED	2066	2066
98	IST206	COMPLETED	5	5
99	IST207	COMPLETED	2730	2730
100	IST212	COMPLETED	5	5
101	IST213	COMPLETED	3	3
102	IST214	COMPLETED	2	2
103	IST215	COMPLETED	3	3
104	IST216	COMPLETED	4	4
105	IST217	COMPLETED	18	18
106	IST218	COMPLETED	281	281
107	IST220	COMPLETED	22	22
108	IST223	COMPLETED	22	22
109	IST224	COMPLETED	5	5
110	IST228	COMPLETED	1143	1143
111	IST230	COMPLETED	3278	3278
112	IST231	COMPLETED	265	265
113	IST232	COMPLETED	3	3
114	IST233	COMPLETED	1304	1304
115	IST234	COMPLETED	2	2
116	IST240	COMPLETED	8	8
117	IST304	COMPLETED	129	129
118	IST305	COMPLETED	520	520
119	IST306	COMPLETED	9219	9219
120	IST307	COMPLETED	2	2
121	IST308	COMPLETED	2	2
122	IST309	COMPLETED	22	22
123	IST403	COMPLETED	65754	65754
124	IST406	COMPLETED	2	2
125	IST408	COMPLETED	4	4
126	IST409	COMPLETED	961	961
127	IST412	COMPLETED	2	2
128	IST417	COMPLETED	2	2
129	IST419	COMPLETED	104	104
130	IST421	COMPLETED	5	5
131	IST422	COMPLETED	36	36
132	IST423	COMPLETED	3	3

**MINISTRY OF INDUSTRY AND ELECTRICITY PROJECT**  
**DATA MIGRATION STATUS REPORT**

#	Table	STATUS	UNIX	Windows NT
133	IST424	COMPLETED	15	15
134	IST425	COMPLETED	5	5
135	IST427	COMPLETED	13	13
136	IST428	COMPLETED	1	1
137	IST00X	COMPLETED	111	111
138	IST1	COMPLETED	27	27
139	IST101P	COMPLETED	7076	7076
140	IST1235	COMPLETED	1368	1368
141	IST155A	COMPLETED	9	9
142	IST777	COMPLETED	0	0
143	IST900	COMPLETED	0	0
144	IST909	COMPLETED	9	9
145	IST977	COMPLETED	950	950
146	IST999	COMPLETED	0	0
147	ISTCARD	COMPLETED	636	636
148	ISTISC	COMPLETED	9780	9780
149	ISTPART	COMPLETED	6854	6854
150	ISTPROD	COMPLETED	10538	10538