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**DP/ID/SER.A/
10 June 1996
ORIGINAL: ENGLISH**

**ESTABLISHMENT OF INDUSTRIAL TECHNOLOGY AND MARKET
INFORMATION NETWORK (ITMIN)**

DG/SRL/93/010/11-53

SRI LANKA

Technical report: ITMIN development issues (third mission)

**Prepared for the Government of Sri Lanka
by the United Nations Industrial Development Organization,
acting as Implementing Agency for the United Nations Development Programme**

**Based on the work of M. Muraszkievicz
Consultant on Information Systems Management**

**Backstopping Officer:
Paul H. Makin, Industrial Information Officer
Industrial Information Section, Information and Research Division**

**United Nations Industrial Development Organization
Vienna**

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EXPLANATORY NOTES

Currency

According to the UN operational rate 1 US dollar is equivalent to 54.5 Rupees of Sri Lanka.

Main Abbreviations

CTA	Chief Technical Adviser
CISIR	Ceylon Institute of Scientific and Industrial Research
FP	Focal Point
HTML	HyperText Markup Language
ITMIN	Industrial, Technology and Market Information Network
LAN	Local Area Network
NOS	Network Operating System
PPP	Point-to-Point Protocol
SLIP	Serial Line Internet Protocol
UNIDO	United Nations Industrial Development Organization
UNDP	United Nations Development Programme
USD	United States Dollar
WWW	World Wide Web

ABSTRACT

Author: M. Muraszkiwicz
Corporate author: UNIDO
Title of project: Establishment of Industrial Technology and Market Information Network (ITMIN)
Number of project: DG/SRL/93/010/11-53
Title of report: ITMIN development issues (third mission)
Date of printing: 10 June, 1996

This document is a technical report on the activities and outputs achieved by Consultant 11-53 during the third part of a split mission to ITMIN Ltd., Colombo, Sri Lanka (9 May - 8 June, 1996).

The main outcomes of Consultant's work are the evaluation of the current ITMIN status in terms of information and Internet activities, as well as, the cooperation within the ITMIN network. In particular, the internal ITMIN Internet-based environment has been set up, ITMIN network cooperation principles worked out, and design of ITMIN accounting system completed.

Documents enclosed in Appendices 1, 2, 3 and 4 present these issues in detail.

1. INTRODUCTION

Objective

The mission in Colombo lasted from 9 May through 8 June 1996. The Consultant was attached to ITMIN Ltd. in Colombo.

The main objectives of the assignment were:

1. To work towards improving cooperation within the ITMIN network.
2. To assist in negotiations with prospective customers.
3. To assist in the design and development of the Integrated ITMIN Accounting System.
4. To assist in setting up an in-house Internet environment for internal communication and training purposes.
5. To help evaluate the DOS version of the ITMIN database software and specify requirements, if any, regarding the UNIX version of the software.
6. To consult the data collection process and the establishment of the ITMIN database.
7. To deliver introductory training on the HTML language and tools for creating Internet home pages.

All the objectives were reached.

Background

The rationale for ITMIN was broadly presented in the ITMIN Feasibility Study [FST,1992] and in the Project Document [PRD,1994] approved by the concerned parties. New elements strengthening the business orientation of ITMIN were identified and proposed in [MUR,1995]. The summary of the ITMIN implementation issues until April 1996 is given in the terminal report by Mr. E. Vajda, CTA [VAJ,1996a].

Acknowledgments

A great deal of very helpful opinions and suggestions, and valuable contributions were received from the UNIDO and counterpart experts. The consultant is indebted to all of them and expresses his gratitude for their contribution to his work.

2. RECOMMENDATIONS

To ITMIN Ltd.

1. To fulfill all the recommendations given by CTA in the document [VAJ,96b].
2. To acquire the connectivity to SPRINT, optimize the routing scheme and connect the ITMIN computing environment to the whole Internet.
3. To finalize the development of the UNIX version of the ITMIN software and to integrate it with the whole ITMIN computer environment, in particular to make it available to the customers.
4. To complete the establishment of an integrated accounting system for ITMIN Ltd. In particular, to finalize the implementation of the billing package (developed by the ITMIN staff) related to the information services, put it into operation within ITMIN Ltd, and offer it at a price to the nodes and other prospective customers.
5. To tune the ITMIN intranet environment, and to finish the ITMIN in-house home page.
6. To start offering/selling Internet-based services to commercial customers.
7. To provide the ITMIN nodes with computer equipment, software and training as specified in Annex 2, and to set up bilateral cooperation agreements with the ITMIN nodes which wishes to do so.
8. To deliver comprehensive training on the Java language and creation of applets to the programming staff.
9. To get prepared to the tripartite meeting (scheduled for September' 96).

To UNIDO

1. To provide the project with consultancy and training on configuring ITMIN Internet servers, in particular WWW, and maintenance principles related to running the Internet services.
2. To assist ITMIN Ltd in developing a new line of services, namely an information infrastructure audit of companies and re-engineering of the information infrastructure of the companies.

3. ACTIVITIES

1. Analysis of the project current status was carried out.
2. Analysis of the ITMIN computing architecture was carried out.
3. Discussions with Mr. V. Ratnarajah and ITMIN staff on the specific issues listed in [VAJ,96b] by Mr. E. Vajda, CTA were held.
4. Work on ITMIN network cooperation principles and payment scheme was performed.
5. Work on the integrated accounting package was carried out, in particular the EX package was evaluated and the billing package (developed by the ITMIN staff) related to the information services was assessed.
6. Work on the ITMIN internal Internet environment was carried out.
7. An evaluation of the DOS version of the ITMIN software (developed by the Foundation of Advanced Computer Studies) was supervised.
8. Participated in business negotiations with prospective customers (Directories Lanka) and evaluation of the contract proposal for Seylan Bank Ltd..
9. A questionnaire to collect the Internet related needs of the ITMIN nodes was devised.
10. Speeches to the ITMIN Directors (members of the Board), ITMIN Nodal Task Force and ITMIN staff on the current ITMIN development issues were delivered.
11. An open competition (for ITMIN employees) for designing and implementing the ITMIN home page was prepared.
12. A discussion on upgrading the node located at CISIR with Dr. P.M. Jayatissa, Director of CISIR and Dr. A.M. Mubarak, CISIR (both are members of the ITMIN Board) was held.
13. An introductory course on HTML to the whole ITMIN staff was given.
14. Meetings with Mr. R. Conroy, Deputy Resident Representative, UNDP and Mr. T. Gunawardana, UNDP took place.
15. A meeting with Ms. S. Hulugalle of the World Bank Resident Mission took place.

4. OUTPUTS

1. The analysis of the ITMIN current status. See Annex 1.
2. A proposal of the ITMIN network cooperation principles and payment scheme. See Annex 2.
3. The internal ITMIN Internet environment established, and ITMIN in-house home page initiated (see Annex 4).
4. The programming team briefed on the architecture of the integrated accounting system and instructed as far as the implementation was concerned. A billing system for following internal information activities evaluated. The team is in the process of developing the integrated system.
5. An evaluation of the DOS version of the ITMIN software done and remarks transferred to the developer (the Foundation of Advanced Computer Studies).
6. The specific needs regarding international consultancy on the Internet issues determined (see Annex 5 which contains a memo by G. Balaganesh, System Engineer).
7. A successful telnet session (started from the WWW page) with a prototype of the UNIX version of the ITMIN database software located on the Foundation of Advanced Computer Studies' site (p5uni.ii.pw.edu.pl) has been executed.
8. A questionnaire to collect the Internet related needs of the ITMIN nodes set up (see Annex 3).
9. Various speeches on the current ITMIN development issues and cooperation principles delivered to the ITMIN Directors (members of the Board), ITMIN Nodal Task Force and ITMIN staff (see Annex 1, Annex 2).
10. An open competition (for ITMIN employees only) for designing and implementing the ITMIN home page took place.
11. An introductory course on HTML to all the ITMIN staff members delivered.
12. A concept of upgrading the node located at CISIR developed. The chief elements of the upgrading strategy are as follows: (I) establishment of a multi-user full-fledged computerized library management system operating on LAN, whose dialog interface will be compatible with the ITMIN systems; (ii) setting up an on-line catalogue of the CISIR library accessible via the Internet. Assistance in preparing a Project Document proposal was given to CISIR.

5. REFERENCES

- [FST,1992] Industrial Technology and Market Information Network (ITMIN), DP/SRL/91/007, *Feasibility Study*, Colombo, Sept., 1992 (available at UNIDO).
- [MUR,1995] Muraszkiwicz M., Business and Communication Aspects of ITMIN; Strategies for Providing ITMIN with the Internet Services [in:] *Technical Report*, First mission of the Consultant), March 2, 1995.
- [PRD,1994] Industrial Technology and Market Information Network (ITMIN), *Project Document*, DG/SRL/93/010, Colombo, 1994.
- [VAJ,1996a] Vajda E., Terminal report (draft), April 19, 1996.
- [VAJ,1996b] Vajda E., Recommendations, April 29, 1996.

Annex 1. Current ITMIN Development Issues

**UNITED NATIONS INDUSTRIAL DEVELOPMENT
ORGANIZATION**

CURRENT ITMIN DEVELOPMENT ISSUES

ITMIN Project DG/SRL/93/010

VISUALS

by M. Murasziewicz

Colombo, 16 May, 1996

RATIONALE

SOME FACTS TO REMEMBER

- * **The project is delayed**
- * **Some ITMIN components are missing (e.g. Internet link, ITMIN database)**
- * **Expectations are high**
- * **Criticism emerges (not only from competitors)**
- * **The project to be completed in September'96. A tripartite final evaluation meeting of the project is scheduled for September'96**

SOME CONCLUSIONS TO IMPLEMENT

1. In-depth evaluation of the current ITMIN situation is needed

2. Priorities and a critical path have to be defined

3. The priorities have to be reached by September'96

undoubtedly, mobilization of resources and unorthodox management will be necessary

4. Comprehensive preparations to the tripartite meeting have to be undertaken

do not forget about mobilizing ITMIN allies

MAJOR ITMIN OBJECTIVES

AND

**LIKELIHOOD OF REACHING THEM BY TRIPARTITE
MEETING (SEPTEMBER '96)**

1. Ability to provide business and industry Info services

likelihood: low, average

2. Ability to provide the Internet-based business services

likelihood: high

3. Setting up the ITMIN network and establishing cooperation between ITMIN Ltd and the nodes

likelihood (physical network): high

likelihood (cooperation): low

likelihood scale: <low, average, high>

ITMIN DEVELOPMENT PRIORITIES

(AS OF BEGINNING OF MAY '96)

1. Availability of the ITMIN Internet Services (=< end July '96)

critical aspects

- setting up the connection to SPRINT
- provision of funds
- marketing (2 phases: "silent", "noisy")
- UNDP and CISIR should be the first to be connected to the Internet

hint: follow The "Business Plan for ITMIN Internet Services"

2. Availability of basic ITMIN Info Services (=< end August '96)

critical aspects

- completion of the development of the UNIX ITMIN database software
- collection of data and establishment of a kernel of the ITMIN database

hints: (i) set up a "shock data collection team";
(ii) identify and evaluate the database from which the data could be imported to the ITMIN database and import the data.

3. Setting up the Integrated ITMIN Accounting System (4 modules)

- General ledger (asap)
- Info services & Internet services module (end July'96)
- On-line (Internet) Traffic module (end July'96)
- Training module (now)

Note: the accounting system is not only for bookkeeping; it's a management tool, too

4. Get a project from DIRECTORIES LANKA (Yellow Pages) or similar

SECONDARY TASKS

**(YET, NOT TO BE NEGLECTED AND
TO BE COMPLETED BY SEPTEMBER'96)**

1. To set up the ITMIN network (physical layer)

- to provide nodes with PCs, modems;
- to install the SLIP on the nodal PCs;
- to train nodal Internet operators.

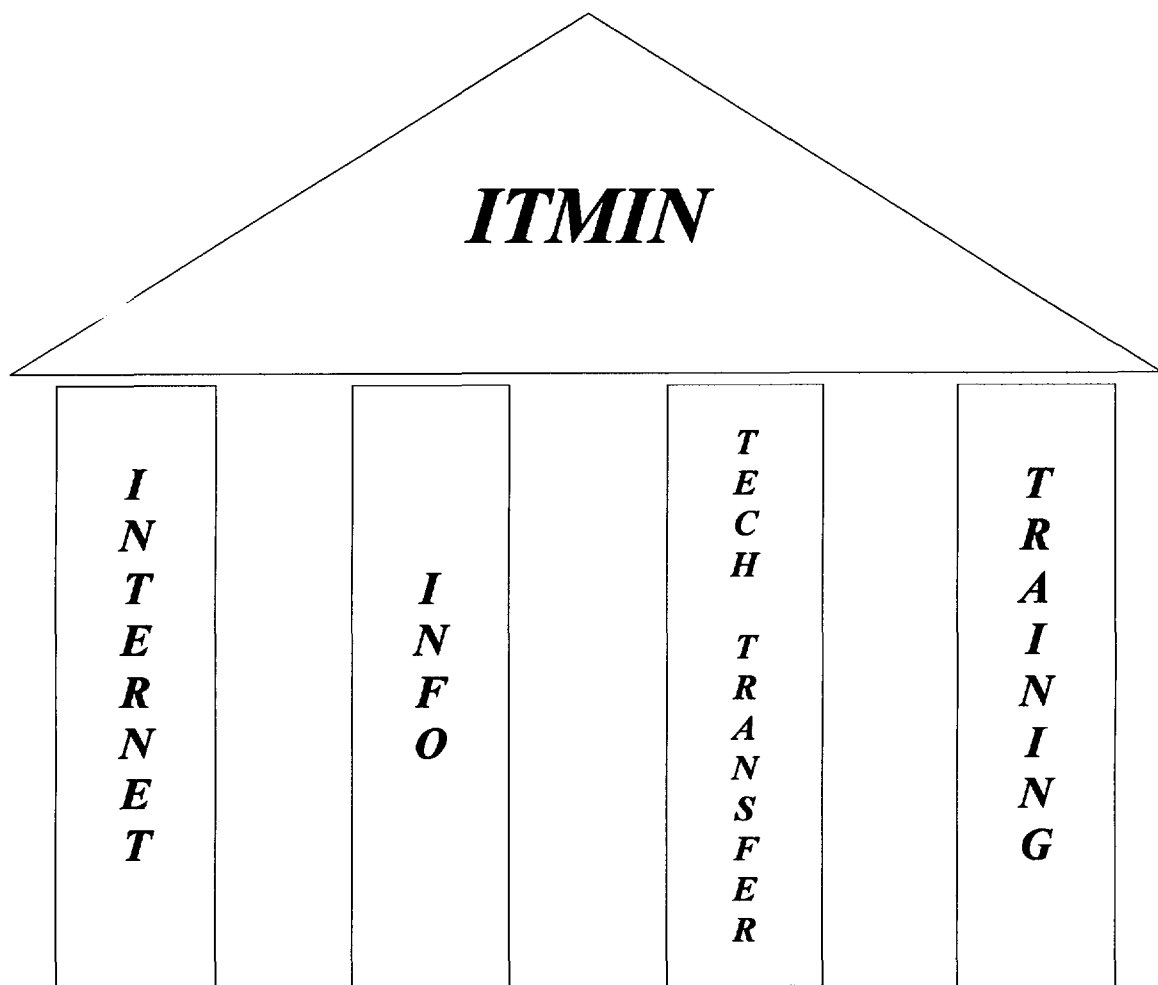
2. To start developing sound cooperation with the nodes

- ITMIN Ltd to make use (at a price) of nodal expertise and experience when answering specialistic and/or complex queries;
- ITMIN Ltd to offer the Internet-based business services (e.g. WWW) to the nodes on favorable conditions;
- to work out a data exchange mechanism between ITMIN Ltd and the nodes based on business principles, yet, including privileges available to the members of the ITMIN network only.

Note: cooperation with nodes has to be developed because

- it is required by the Project Document;
- mutual benefit (for ITMIN rather in medium- and long-term) can be expected;
- now and during the tripartite evaluation meeting ITMIN will badly need allies (there are already indications that ITMIN might find itself under heavy fire - competitors, disappointed agents, etc.).

ITMIN PILLARS



ITMIN SANDWICH

Value Added

INFO - Databases

INTERNET Platforms

ITMIN MARKETING PRINCIPLE

ITMIN slogan:

**ITMIN[®] - an agent who
CARES**

**ITMIN is an agent who CARES about its customers, and
therefore provides the products and services which are**

Comprehensive

Adequate

Reliable

Efficient

Standards-based

Do not forget another ITMIN motto which is 3B, i.e.

**Business-to-Business Bridge
Building Better Business**

THE "HOTTEST" THINGS

To-day

- * Internet connectivity**
- * Establishment of Home Pages**
- * Interfacing Home Pages with databases**

Very soon

- * as above**
- * shopping & banking (money transfer)
on the Internet**

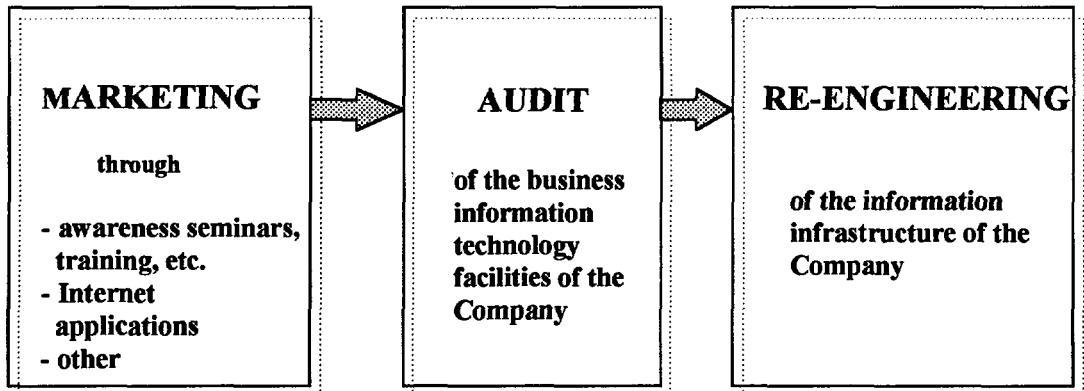
**A niche to be seized by the Golden Key !
(technology to be elaborated by ITMIN Ltd)**

A bit later

- * Auditing and/or re-engineering of the
information infrastructure of companies**

3B - Building Better Business

Service Phasing



DEGREE OF ITMIN **COMPETITIVE ADVANTAGE**

(AS EXPECTED BY SEPTEMBER'96)

BUSINESS AND INDUSTRY INFO SERVICES

scope	medium
quality	low, medium

INTERNET-BASED BUSINESS SERVICES

scope	high
quality	high

TECHNOLOGY TRANSFER

scope	medium
quality	low, medium

CUSTOMIZED TRAINING (BUSINESS ON THE INTERNET, OFFICE AUTOMATION)

scope	high
quality	high

CUSTOMERS SUPPORT

Info	medium
Internet	high

MARKETING

?

scale: <low, medium, high>

Annex 2. A Proposal of ITMIN Network Cooperation Principles

**UNITED NATIONS INDUSTRIAL DEVELOPMENT
ORGANIZATION**

**A Proposal of
ITMIN Network Cooperation Principles**

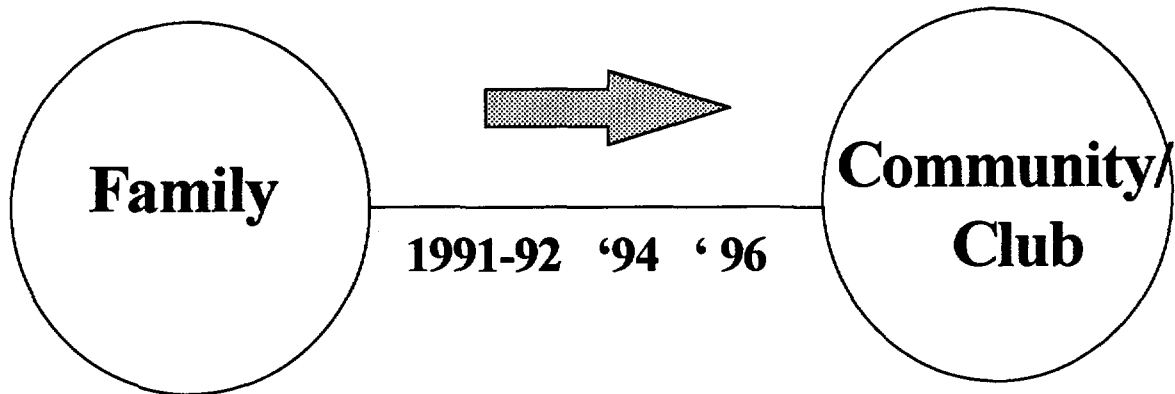
ITMIN Project DG/SRL/93/010

VISUALS

by M. Muraszkievicz

Colombo, 3 June, 1996

Evolution of ITMIN Collective Spirit



Reactive and Pro-active Character of the ITMIN Network

ITMIN, as a business operation, has to:

- * identify and respond to the market needs and demand (reactive)**
- * create market that will support ITMIN's growth (active)**

ITMIN Ltd Input to the Nodes

Workstation + software + installation



* a Pentium/75 MHz workstation, HD 540 MB, RAM 8 MB,

1.44 FD, monitor SVGA 14”;

* DOS 6.2, Windows 95, OS/2;

* the Internet Kit for running SLIP protocol composed of, *inter alia*, TCP Trumpet Winsock, Netscape, telnet, ftp, e-mail;

deadline: 15 August '96

(shell)

* the DOS version of the ITMIN database software

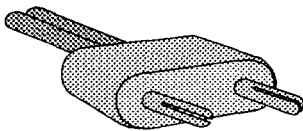
als.

based on Micro CDS ISIS package with user's manu-

Note: SLIP is a protocol which allows the user to run all the Internet services (i.e. to be a true Internet user)

on the dial-up connection basis (in Colombo the speed is practically limited to 14.4 Kbits/sec).

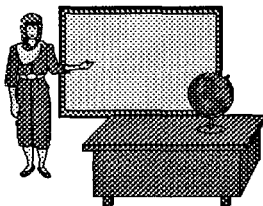
Access to the Internet



ITMIN Ltd will ensure the SLIP-based access to the whole Internet for all the nodes through the ITMIN Ltd Internet facilities

deadline: 31 August '96

Training



The ITMIN Ltd will provide the nodes with 4 hours training on the use of the Internet Kit, 6 hours training on the use of the ITMIN database, and 2 hours training for nodes' information managers on architecture and operation modes of the ITMIN network.

deadline: 31 August '96

Organizational regulations

1. There are no special regulations, whatsoever, regarding the type and scope of services offered by any ITMIN network member to the customers (non-ITMIN network members) and other ITMIN network members.

Financial regulation

2. The cooperation between ITMIN Ltd and the nodes is based on the following *win-win* principle. Any node can request an agreement with ITMIN Ltd whose financial regulations will be based on the following rule:
 - each month ITMIN Ltd assigns a monthly allowance (referred to as ALLOW) of Rs 50,000 (??) to the node, and vice versa, i.e. the same allowance is assigned by the node to ITMIN Ltd;
 - the fees for all the services requested by the node from ITMIN Ltd and fulfilled by ITMIN Ltd are calculated according to the price scheme of ITMIN Ltd and summed up on a monthly basis; the result is referred to as SUM; the same rule applies to the services requested by ITMIN Ltd from the node;
 - for the billing formula see “Discount Package” slide
3. The nodes are not obliged to set up agreements with ITMIN Ltd according to the principle given in p. 2; however, ITMIN Ltd cannot refuse signing such an agreement, if a node wishes to do so.
4. The nodes are encouraged to set up mutual (bilateral) cooperation agreements, preferably based on the principle compatible with the one given in p.2.
5. The above rules are valid until 31 December 1997 and subject to change by the Board of ITMIN Directors.

DISCOUNT PACKAGE

WIN-WIN Strategy

Fee Formula:

- $0.75 * ALLOW + (SUM - ALLOW),$ if $SUM > ALLOW$
- $0.75 * SUM,$ if $SUM \leq ALLOW$

Example

Node X requested the following services from ITMIN Ltd, which were completed by ITMIN Ltd in September

service_1	Rs.	34,000	
service_2	Rs.	25,500	
service_3	Rs.	10,500	
<hr/>			
Total	Rs.	70,000	= SUM

Given that $ALLOW = 50,000$, the calculation of the fee to be billed is as follows

$$FEE_{September} = 0.75 * 50,000 + (70,000 - 50,000) = Rs. 57,500$$

Annex 3. Questionnaire

Internet Related Needs of the ITMIN Nodes

QUESTIONNAIRE

Objective: Information collected from you by means of this questionnaire will help ITMIN staff prepare a toolkit customized according to the needs of your organization, and reserve enough computing and disk space resources on the ITMIN Ltd Internet host for you. As a result, the installation of the toolkit on your computer and connecting it to the Internet will be easier and faster, and also ITMIN Ltd will be able to optimize the overall performance of the services provided to its customers.

Kindly note that the questionnaire is intended to identify your needs which does not imply that ITMIN Ltd will fulfill these needs free-of-charge. However, according to the ITMIN network cooperation programme (accepted by the ITMIN Board of Directors) some tools (1 Pentium workstation with software) and training will be delivered to the nodes on a free-of-charge basis.

Instruction:

1. Often, the answer consists in choosing one or more options from many. Indicate relevant option(s) by ticking or by providing a relevant figure. If necessary, add items according to your knowledge.
2. Irrelevant questions/options should be skipped.
3. Whenever in doubt, please, contact Mr. L. Wickramasinghe, ITMIN, phone no: 683948 ext. 310

Thank you for your co-operation.

I. General Information

I.1. Organization name:

I.2. Address:

I.3. Telephone: Fax: e-mail:

I.4. Name of the interviewee(s)

I.5. Are you already an Internet user ?

- no
- e-mail
- www

II. Your Needs

II. 1. Type of connection

- dial-up (note that you can run SLIP/PPP on the dial-up basis)
- leased line (specify speed Kbits/s)

II. 2. Which Internet services do you plan to use?

- e-mail
- ftp (file transfer protocol)
- telnet
- archie
- gopher
- wais
- www

II. 3. What kind of activities do you plan to carry out on the Internet ?

- to market and advertise your services
- to sell products
- to carry out market research
- to provide customers support
- to look for information (browsing)
- to provide inward/outward communication
- to perform financial/banking operations
- to provide an in-house operation work platform (“intranet”)
- to collaborate remotely with your partners
- to set up your home page on www
- to set up home pages of your customers on www
- to provide access to your information resources (databases)
- to carry out discussion groups

other (please, specify)

II. 4. Specify your databases you plan to make available via www, if any

Name	Short description	number of records	Software used	Operating system

II. 7. How many passwords do you plan to purchase from ITMIN Ltd ?

- e-mail passwords
- all Internet services (including gopher and www) passwords
- access to ITMIN databases passwords

II. 1. Estimated daily login usage/time (durations of all sessions added up) min.

II. 2. Estimated amount of disk space required for your account(s) MegaBytes

II. 3. Training requested

- general (introductory) course on the Internet
- e-mail
- navigation (ftp, telnet, gopher, archie, wais, www)
- html
- Java/applets (programming language for www)
- doing business on the Internet

other (please, specify)

Annex 4. A Skeleton of the ITMIN In-house Home Page

Netscape - [ITMIN Internal Home Page]

File Edit View Go Bookmarks Options Directory Help

Home Reload Open Print Find

Location: file:///C:/INTERNET/INTERNET/HTML.DOC/ITMIN.HTM

ITMIN Internal Home Page

(under development, last update: 4 June, 1996)

Topics:

- [Our profile and staff](#)
- ITMIN network architecture. Nodes
- Useful phone/fax numbers
- [Services](#)
- ITMIN external home page

Message from COO:

News from the Net Administrator:

[F-6]

Netscape - [ITMIN Internal Home Page]

File Edit View Go Bookmarks Options Directory Help

Back Home Reload Open Print Find

Location: file:///C:/INTERNET/INTERNET/HTML.DOC/profile.htm

Profile of ITMIN Ltd

Topics:

- Our mandate. Objectives
- Our organizational structure
- Our partners
- Staff posts/phone numbers
- In-house services
- ITMIN external Home Page

[\[Back to Main Menu\]](#)

[F-6]

Netscape - [ITMIN Internal Home Page]

File Edit View Go Bookmarks Options Directory Help

Back Home Reload Open Print Find

Location: file:///C:/INTERNET/INTERNET/HTML.DOC/service.htm

In-house Services

- Information services
- Library
- Technology transfer
- Internet
- Training
- Accounting
- *other items to be added*
- ITMIN external Home Page

[Back to Main Menu](#)

7/96

Netscape - [ITMIN Internal Home Page]

File Edit View Go Bookmarks Options Directory Help

Back Home Reload Open Print Find

Location: file:///C:/INTERNET/INTERNET/HTML.DOC/train.htm

Training

Type of training

- Computer applications
- Internet
- Business
- Information
- Librarianship
- *other items to be added*
- ITMIN external Home Page

[Back to Main Menu](#)

7/96 Document Done

Netscape - [ITMIN Internal Home Page]

File Edit View Go Bookmarks Options Directory Help

Back Home Reload Open Print Find

Location: file:///C:/INTERNET/INTERNET/HTML.DOC/staff.htm

Staff of ITMIN Ltd

Managers

- Mr. Khavan M. Perera Chief Executive Officer
- Mr. Vijit Ratnarajah Chief Operating Officer ext. xxx
- Mr. Lasantha Wickramasinghe Marketing Manager ext. xxx

other staff to be added

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2/3

Annex 5. Note on Internet Consultants Work

To : COO 22.05.1996.
CC : Dr.M. Muraszkiwicz
From : Systems Engineer

Internet Setup Work Schedule

The work schedule and proposals are as follows :

<u>WORK DESCRIPTION</u>	<u>DURATION APPRX</u>	<u>PERSONAL REQUIRE</u>
1. Network design	Done.	UNIDO Consultan+self
2. Configuring the Terminal Server.	Four Days.	-----do-----
3. Configuring the Router.	Four Days.	-----do-----
4. Configuring the Risc 6000 server.	Five Days.	-----do-----
PS: Except clause 4.3(Billing).		
5. Configure the firewall and Primary Domain Name Server(DNS) on the 586 (Linux machine).	Four Days.	-----do-----
PS: Except ISIS Configuration.		
6. Configure the PC320 for World Wide Web (WWW) and ISIS data base (Linux machine).	Two Days.	-----do-----
PS: Except ISIS Configuration.		
7. Configuring the Network Monitoring System (Internet).	Unable to estimate at present.	-----do-----
8. Testing the link and Configuration (SLT/SPRINT).	---do---	-----do-----

9. Creating of web pages & related things ---do---- -----do-----

Total No of Days ---> Nineteen days excluding item
7,8,9 &4.3

Notes:

1. Since the UNIDO Consultant has partly configured items 1 to 6 and has expressed his views not to disturb the existing setup, I recommend that the final configuration be done jointly.

2. In respect of billing I am advised that the UNIDO consultant has spoken of a particular package to facilitate obtaining logs for billing purposes. Hence I suggest either we wait for the Consultant or obtain necessary information prior to his arrival.

3. The management needs to decide whether to recruit an experienced person locally & provide additional training or for a UNIDO Consultant to train an existing staff member who has the necessary initiative for creative work. The UNIDO Consultant (the person who configured the web server) is anyway required to ensure the function & security of the Web server.

Detailed Work:

1. Basic Network Design

This work has been done.

2 Configuring the Terminal Server (Cisco 2511)

2.1 Configuring the Ethernet (i.e. assigning the IP to the Ethernet port)

2.2 Configuring the async ports for the modems to be connected in order for the dial in facility.

Note: The PPP should not be configured here.

Reasons:

1. How to maintain the logs for the billing for various packages.

2. Again the login accounts have to be created here which is much more easier to maintain and keep track in the Risk 6000 (the main Internet server)

3. E-mail customers can access Internet without being charged.

Solution: Create a account (e.g.: customer) then telnet to the Risk machine to login and execute the PPP or SLIP

* Check the configuring PPP at the Risc 6000

configuration(section 4.1).

- 2.3 Connecting the Modems/Modem Pool to the async ports and check whether it works.

Note: Hasitha should check up for the hunting line systems.

3. Configuring the Router (Cisco 2501)

- 3.1 Configuring the route table
i.e. adding static routes , subnetting ,etc.
- 3.2 Configuring miscellaneous configurations such as Default-gateway, Default route, etc.

Note : Deciding how the low KB leased line customers are going to be connected (e.g. 32KB and lower customers).

4. Configuring the Risc 6000 Server

- 4.1 Configuring the Morning Star PPP (Should be purchased/cost approx. US 800).
- 4.2 Configuring the POP Server for the E-mail service.(POP-2 has to be installed).
- 4.3 Design, developing and verifying billing module for the whole Internet operation for various pricing schemes.
- 4.4 Configuring as the secondary Name server(Secondary DNS).
- 4.5 Configuring the List Server.

5. Firewall and Primary DNS

- 5.1 Configuring the Firewall (Either freeware or commercial).
- 5.2 Configuring Primary Domain Name Server(PrimaryDNS).

6. Configure the PC320

- 6.1 Configure WWW Server.
- 6.2 Configure ISIS

Note : Time period for the ISIS should be allocated by one of the Consultant.

7. Configuring Network Monitoring System.

Again this issue has to be decided by the consultant.

8. Testing the link

8.1 This have to be done with the coordination of SLT and Sprint.

The work completed by the consultant

1. DNS work have been done but when the new IPs arrive this work has to be done again.
2. POP Server have been installed. But the POP server is POP-3 but it has to be replaced by POP-2 because in POP-3 there is a bug.
3. Firewall I am not sure about, but according to Jayalath it has been done.
4. List Server has been done.
5. WWW Server partly completed.

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