

## CHAPTER C2 - TELEPHONE SYSTEM

### 2.1 General

2.1.1 This chapter describes the planning, supply, installation and operation of Telephone system, and its integration with other systems.

#### 2.1.2 Work Content

- Detailed planning of the Telephone system
- Coordination and integration with other systems
- System installation
- Acceptance tests and operation
- Delivery and documentation
- Training including training kits
- One year warranty including service and maintenance

#### 2.1.3 Important Points

2.1.3.1 The contractor shall supply a Telephone system from the updated supplier approved by the GOI Department of Communication (Bezek Benleumi Ltd. Details: Sales Manager for customs - Dror Elperoviz – cell : 0504014203 ).

2.1.3.2 The Telephone system will include all peripheral cards, extension and electrical installations of all system components. The system will be installed as a complete unit and will operate as specified below.

2.1.3.3 The system will be a standard product of a reputable manufacturer. The manufacturer will assure parts availability and on-site technical assistance for at least 5 years after delivery.

2.1.3.4 The Telephone system and telephone models and final amount shall be approved by the customer.

## **2.2 System Core**

### **2.2.1 System Requirements**

The proposed telephone system will have the following characteristics.

2.2.1.1 IP Office control PBX (similar to Avaya IP model TBD) for IP telephony applications:

- a. 35 Smart phones (model TBD).
- b. 50 Standard phones with identification caller's number (model TBD).
- c. Analog trunk channels.
- d. PRI trunk channels.
- e. Cellular providers interfaces
- f. Intercom Doors relay
- g. PA system interface.
- h. Expansion ports to expansion modules.

2.2.1.2 Stackable unit mounted 19" in a communication rack.

2.2.1.3 The unit will be supported by the latest version of operating software .

### **2.2.2 Switching and Performance Requirements**

2.2.2.1 The supplier will submit detailed information on the following items:

- a. Grade of service test program and certificates from recognized standards organizations in accordance with the definitions of this chapter.
- b. Unit supporting computer and processor performance.

### **2.2.3 Configuration and Capacity**

2.2.3.1 The supplier will list all the system supported cards. A discription and part number will be given for each card.

2.2.3.2 The supplier will provide information on all basic unit slots supporting peripheral cards (extensions and channels). The following will be listed:

- a. Total number of slots
- b. Number of slots occupied by dedicated cards and card types
- c. Net number of slots available for extensions and channels

- 2.2.3.3 Where expansion unit can be added, the supplier will provide information on the hardware aspects of such an expansion (e.g. connection method, power unit, and adding/replacing basic unit cards for expansion unit support). Likewise, the supplier will provide information on all extension unit slots supporting peripheral cards (extensions and channels).
- 2.2.3.4 Engineering limitations specific to the unit configuration will be listed.
- 2.2.3.5 Maximum operating capacity of regular extensions, smart extensions and channel lines will be listed.

## **2.3 System Features**

### **2.3.1 General**

System features are listed below. The supplier will note which of the features is supported. Details will be given in accordance with the paragraphs below. Other features not appearing on the list will be mentioned, where applicable.

### **2.3.2 Internal Dialing**

- 2.3.2.1 The unit will support 3-digit “internal dialing” .

### **2.3.3 Call Transfer**

- 2.3.3.1 The unit will support the “Call transfer” feature.
- 2.3.3.2 The unit will also allow call transfer in the event of no-answer from the destination extension.

### **2.3.4 Conference Call**

- 2.3.4.1 The unit will support the “Conference call” feature for at least 3 internal or external callers.
- 2.3.4.2 The supplier will provide information on this service.

### **2.3.5 Hunting**

The unit will support the “Hunting” feature for the following cases:

- 2.3.5.1 Line engaged – a sequential or circular hunt will be defined.
- 2.3.5.2 Line idle – minimum of two transfers are required. Definition of number of rings when waiting for transfer will be provided.

### **2.3.6 Follow Me**

- 2.3.6.1 The unit will support the “Follow me” feature.
- 2.3.6.2 The supplier will provide information on this service.
- 2.3.6.3 The “Follow me” feature will route incoming calls to the following destinations:
  - a. Internal extension
  - b. External destinations (for authorized users).
  - c. Voice mail.
- 2.3.7 Call Waiting
- 2.3.7.1 The supplier will provide information on the unit’s support capability of this service.
- 2.3.7.2 The supplier will provide information on indication capabilities and possibilities of switching between phones (regular and smart phone).
- 2.3.8 Phone Locking
- 2.3.8.1 The unit will allow phone locking/unlocking by means of a personal code (password).
- 2.3.8.2 Information on limited service and the possibility of internal dialing only in the locked state will be provided.
- 2.3.9 Personal Speed Dialing Libraries
- 2.3.9.1 The supplier will provide information on speed dialing by means of a personal library.
- 2.3.9.2 The detailed description will list the number of personal speed-dial memories, number of code digits etc.
- 2.3.10 System Speed Dialing Libraries

The unit will support the “System speed dialing” feature.

The following will be noted:

  - a. Number of libraries assigned for system speed dialing.
  - b. Unit blocking override dialing (e.g. dialing overseas to a number defined in the library from an unit that is normally blocked for overseas dialing).
  - c. Number of system speed-dial memories, number of code digits etc.

### 2.3.11 After-hours Service

2.3.11.1 The supplier will provide information on transfer to after-hours service mode.

2.3.11.2 This service will allow incoming call routing to alternative destinations such as extension, recorded message, voicemail etc.

2.3.11.3 Detailed information will be given on the following items:

- a. Which peripheral units are compatible with after-hours service and service operation features.
- b. Automatic transfer to after-hours service mode according to pre-designed hourly and daily schedule.

### 2.3.12 Music on Hold

The unit will support the music on-hold and music on-transfer feature.

Detailed information will be given on the following items:

- a. Connections sources: radio/ CD
- b. Music source – integral or external
- c. If source not integral – which interface type required

### 2.3.13 Public Address System

The unit will support PA system connection.

Detailed information will be given on the following items:

- a. PA system – integral or external
- b. If message playback not integral – which interface type required
- c. PA systems checked and found compatible with the unit.

### 2.3.14 Door Opening Module

The unit will support door opening module connection (e.g panacode) at the door entrances of the buildings.

Detailed information will be given on the following items:

- a. Interface type required.
- b. Door opening modules checked and found compatible with the unit.

### 2.3.15 Emergency Routing

The unit will support emergency routing to pre-designed extensions in case of system crash.

Detailed information will be given on the following items:

- a. Routing system – integral or external
- b. Amount of emergency routed channels.

### 2.3.16 Management

Detailed information will be given on the following:

- a. Local LAN PC Management
- b. WEB far Management.

## **2.4 Peripheral Units**

### 2.4.1 Definition

2.4.1.1 The supplier will provide information on support of the following units:

- a. Smart phones.
- b. Standard phones

### 2.4.2 Smart Phones

2.4.2.1 The supplier will list the rooms to install Smart phones.

#### 2.4.2.2 Features

The supplier will note which of the features is unit-supported. Details will be given in accordance with the paragraphs below. Other features not appearing on the list will be mentioned, where applicable.

a. Programmable pushbuttons

Smart extension will support programmable pushbuttons to allow maximum flexibility. The following will be noted:

- 1) Programmable functions
- 2) Operating status indications (colored LED, LCD)

b. Alphanumeric display

Smart extension will support an alphanumeric display. The supplier will list smart phone display capabilities according to the following parameters:

- 1) Language –hebrew
- 2) Number of lines
- 3) Number of characters per line
- 4) Displays
- 5) Soft keys
- 6) Volume and clarity control

c. Fast dialing

Smart extension will support fast dialing capability. The supplier will list smart dialing capabilities according to the following parameters:

- 1) Fast dialing from programmed pushbutton – easy and convenient number setting and changing. The feature will be activated by maximum of two clicks.
- 2) Personal phonebook containing names and numbers to allow fast search and dialing.

d. Automatic redial

The supplier will provide information on automatic redial that will attempt to place an outgoing call until it is answered.

e. Intercom

Smart extension will support intercom to allow establishing unidirectional or bi-directional contact at a touch of a button (as pre-assigned) between two smart units. The supplier will list the following:

- 1) Visual No-answer indication (LCD, LED)
- 2) Number of voice channels

f. Hands-free speakerphone

Smart extension will support dialing talking and listening without lifting the receiver, Possibility to change from hands-free to receiver use and back during the call.

g. Boss/secretary feature

Smart extension will support the boss/secretary feature. The supplier will list capabilities according to the following parameters:

- 1) After hours call transfer
- 2) Boss/secretary status indicator (free, engaged, blocked)
- 3) Intercom
- 4) One-button fast transfer
- 5) Operational flexibility –one secretary/several bosses or one boss/several secretaries.

h. Message waiting indication

- 1) Smart extension will allow indications of message waiting in voice mail application, office or operator station.
  - 2) The supplier will list the existing indication.
- i. Status/follow-up indication
- The supplier will provide visual indication (LCD, LED) information on extension status /follow-up.

## **2.5 Interfaces**

2.5.1 The supplier will support interfaces listed below by the proposed unit. The following information will be provided:

- a. Interface card dedicated slots
- b. Number of interfaces per card
- c. Additional hardware/software requirements

2.5.2 Interfaces : BRI , PRI,E1,T1 .

## **2.6 Auxiliary Systems**

2.6.1 Auxiliary systems are listed below. The supplier will note which of the systems is unit-supported. Details will be given in accordance with the paragraphs below. Other features not appearing on the list will be mentioned, where applicable.

### **2.6.2 Call Recording**

- a. The supplier will list:
  1. Name of manufacturer
  2. Software version
- b. The system will process any external call record by the following parameters:
  1. Date, hour, minute and second of call start
  2. Call initiating and call receiving extension
  3. Dialed number or the number from which the call was received (PRI)
  4. Call duration

5. Call channel
6. Bezeq call rates
7. Call cost
8. Calls transferred or forwarded by the Follow me feature will be displayed in a manner that allows identifying all participants throughout the call duration.

### 2.6.3 Voice Mail Message

The unit will support voice message playback.

Detailed information will be given on the following items:

- a. Voice mail server.
- b. Allowed message lengths (seconds)
- c. Message recording techniques
- d. Number of channels.
- e. Message playback

## **2.7 Power and Backup**

2.7.1 The unit will be supplied with 3 hours backup power supply ( e.g 2000VA ADVICE) for operation at full load (UPS/Batteries, chargers).

2.7.2 The supplier will provide information on:

- a. Unit power consumption
- b. Anticipated heat dissipation
- c. Electrical & Grounding requirements for the Telephone system to be done by the contractor.

2.7.3 The supplier will list emergency routing capabilities allowing the routing of lines to telephones during power failure.

## **2.8 Infrastructure**

2.8.1 The supplier will submit a proposal for all infrastructure works required for unit installation and operation including peripheral units.

2.8.2 The infrastructure works will be listed according to the following:

- a. Unit Rack 19" mounted installation
- b. Infrastructure/piping laying
- c. Cable drawing

### 2.8.3 Unit installation

As a rule, the unit installation will comply with the Ministry of Communication and Bezeq standards.

### 2.8.4 Infrastructure/piping laying/outlets

2.8.4.1 Infrastructure will be implemented according to needs-see chapter C1.

### 2.8.5 Cable drawing

2.8.5.1 CAT 7A cables will enter each room for Telephone RJ-45 outlets.

2.8.5.2 Outdoor Telephone 20/50 pair cables will feed each building for Telephone purposes.

## **2.9 Installation, Operation and Training**

### **2.9.1 Installation**

The installation will be professional, expert and efficient, using standard and safe materials and tools, complying with Israeli Standards and work practices.

### **2.9.2 Acceptance Tests**

2.9.2.1 The supplier will attach acceptance test notes or specifications.

2.9.2.2 The tests will be conducted by the supplier in the presence of customer's representative. Once tests are completed, the supplier will prepare a summary report. The supplier and the customer's representative will append their signatures as mark of approval of the tests and their results.

2.9.3 All approvals including the Ministry of Communications and Bezeq will be under the responsibility of the supplier.

### **2.9.4 Maintenance Commitment**

The supplier will be committed to stocking necessary spare parts for a minimum period of 7 years.

### **2.9.4 Training**

Once the system is operating, the supplier will train the customer's employees in system operation, features and capabilities. The training will be based on documentation provided to the customer. The customer will be able to order refresher courses and additional training for a period of 6 month from unit start-up date, at no additional cost.

## **2.10 Service, Maintenance and Safety**

### **2.10.1 Service**

2.10.1.1 Supplier's service center will be ready to provide telephone diagnostic and troubleshooting support. To this end, a professional will be available to respond to queries within 10 minutes from the call for service, or for telephone support and remote connection via modem.

2.10.1.2 Response time required for urgent failures (unit disabled, management phone faulty):

- a. Modem connection within 15 minutes

- b. Technician arrival within 4 hours

#### 2.10.1.3 Ordinary failure response times:

- a. Modem connection within 2 hours
- b. For failure message received before 11:00 the technician will arrive the same working day before 15:00. For failure message received after 11:00 the technician will arrive until 11:00 the next working day.
- c. The supplier will make sure the customer is available and the faulty equipment is accessible. No technician visit will take place without prior coordination.

#### 2.10.2 Maintenance

2.10.2.1 The supplier will visit the site once in three months. The periodic inspection will include system, peripheral units, ambient conditions etc. Visit report will be submitted to the customer or as pre-assigned.

2.10.2.2 The supplier will keep a maintenance and event log.

2.10.2.3 A remote maintenance modem will be connected to the system. The supplier will take care of security mechanisms such as: authorization level, caller identification and callback, and any device designed to prevent break-in, system misuse, damage or crime.

#### 2.10.3 Safety

2.10.3.1 The supplier will be fully and unreservedly responsible for the unit safety and will prevent its unauthorized use.

2.10.3.2 Unit safety will consist of:

- a. Unit maintenance port protection (modem disconnection, frequent password changes, 10-character password etc.)
- b. Blocking voicemail access to external lines.

2.10.3.3 The supplier will list authorization levels and additional safety means for the proposed unit.

### **2.11 Documentation**

- 2.11.1 While installing the system the supplier will attach the following documentation in Hebrew. He will be responsible for providing documentation and technical literature as follows:
- a. Technical documentation – all equipment user instructions and specifications. This documentation will be forwarded to communication manager on special request within 24 hours.
  - b. Operating documentation – equipment operating instructions, troubleshooting etc. This documentation will be forwarded to communication manager.
  - c. End user documentation – peripheral equipment operating instructions (telephones, digital telephones, operator’s stands, auxiliary devices). The end user documentation language will be Hebrew only. Required amount of the documentation will be provided.
- 2.11.2 The supplier will provide the customer with 4 documentation sets including:
- a. Technical specifications of system and interfaces
  - b. System layout with connection and interface points
  - c. Detailed user guide for operator and system manager allowing optimal system operation
  - d. Operating instructions for end users
- 2.11.3 Any other information and documentation pertaining to optimal unit operation;
- 2.11.4 The supplier will attach technical and commercial specifications as well as Ministry of communication certificates for all proposed SLT and smart telephone models.
- 2.11.5 The documentation will have a clear and good-looking graphic layout, incorporating advanced graphic features that facilitate reader’s comprehension. Documentation samples will be submitted on customer’s request.
- 2.11.6 The documentation will be submitted in a bound book format and, where possible, in Microsoft Word compatible CD-ROM format.