



EUROPEAN UNION

Delegation to Bosnia and Herzegovina

Corrigendum No. 3

Project title: Supply of ICT equipment for IDDEEA and Judicial Institutions in BiH

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The following corrections to the Technical Specifications are introduced:

ANNEX II+III Technical Specifications + Technical Offer - the technical specification for the **item 1.1 – Point to Multi – Point (PtMP) Equipment**:

Shall read as new text:

1. Item Number	2. Specifications Required	Qty
1.1	<p>POINT TO MULTI – POINT (PtMP) EQUIPMENT</p> <p>Base Station:</p> <ul style="list-style-type: none"> • Frequency: 3600 MHz – 3800MHz: • <u>Radio Access Method: FDD</u> • Channel Bandwidth: <ul style="list-style-type: none"> ○ 3,5 MHz ○ 5 MHz • Central Frequency Resolution: 0.125 MHz • Antenna Port: N-Type, 50 ohm • Max. Input Power (at antenna port): <ul style="list-style-type: none"> ○ -60 dBm before saturation, ○ -8 dBm before damage • Output Power (at antenna port): <ul style="list-style-type: none"> ○ 34 dBm +/-1 dB maximum ○ Power control range: 10 dB, in 1 dB steps • Modulation: <ul style="list-style-type: none"> ○ OFDM in the Downlink ○ OFDMA-16 in the Uplink (N x SUs per Symbol, N=1-16), ○ 256 FFT points; BPSK, QPSK, QAM16, QAM64 • FEC: Convolution Coding: 1/2, 2/3, 3/4 • Antenna: <ul style="list-style-type: none"> ○ 2 x 15.5 dBi minimum in the 3.3-3.8 GHz band, 90°AZ x 7°EL, dual slant +/- 45° polarization, compliance with ETSI EN 302 326-3 V1.2.1 ○ RoHS • IDU – ODU Communication: <ul style="list-style-type: none"> ○ IF Frequency: <ul style="list-style-type: none"> ▪ Tx: 240 MHz ▪ Rx: 140 MHz ○ Ref Synchronization Frequency: 64 MHz ○ ASK Bi-Directional Control Frequency: 14 MHz • Data Communication (Ethernet Ports): <ul style="list-style-type: none"> ○ Standards Compliance: IEEE 802.3CSMA/CD 	28 pairs (28 base station + 28 CPE)

	<ul style="list-style-type: none"> ○ VLAN Support: IEEE 802.1Q ○ Traffic Classification: IEEE802.1p, DSCP ○ Traffic Prioritization: IEEE 802.16a QoS (air interface) ● Configuration and Management: <ul style="list-style-type: none"> ○ Out Of Band (OOB) Management <ul style="list-style-type: none"> ▪ SNMP via Management port ▪ Telnet via Management port ▪ Monitor port ○ In Band (IB) Management via Data Port <ul style="list-style-type: none"> ▪ SNMP ▪ Telnet ○ SNMP Agents <ul style="list-style-type: none"> ▪ SNMP ver. 1 client ▪ MIB II (RFC 1213) ○ Authentication RADIUS ○ Software upgrade: Using TFTP ○ Configuration upload/download: Using TFTP ● Operating temperature: <ul style="list-style-type: none"> ○ Outdoor Unit: -40°C to 55°C ● Services: <ul style="list-style-type: none"> ○ Max number of Services: 1,023 ○ Max number of Service Profiles: 1024 ○ Max number of Forwarding Rules: 255 ○ Max number of Priority Classifiers: 255 ○ Max number of QoS Profiles: 255 ○ Max number of Subscribers: 1,024 (applicable only for permanent SUs) ○ Min number of data connections per Service 2 (1 uplink, 1 downlink) ○ Max number of data connections per Service 8 (4 uplink, 4 downlink) ○ Max number of data connections per SU 32 per direction ○ Max number of data connections: 3,072 - 3 x number of SUs (3 connections are reserved for each SU) ○ Max number of Served SUs: 250 ○ Max number of MAC addresses in Bridging Table: 1,000 ○ Max number of VLANs per Service: 16 ○ Max number of VLANs per SU: 16 ○ Max number of VLANs (VPL IDs): 1,024 ● Network Management System <ul style="list-style-type: none"> ○ GUI application with database, which supports both PtP and PtMP links <p>Customer Premise Equipment (CPE): Specification :</p> <ul style="list-style-type: none"> ● Frequency: <ul style="list-style-type: none"> ○ Base Station: <ul style="list-style-type: none"> ▪ 3.6 GHz: uplink:3600-3700.0MHz downlink: 3700-3800.0MHz ○ CPE: <ul style="list-style-type: none"> ▪ 3.6 GHz: uplink:3600-3700.0MHz downlink: 3700-3800.0MHz ● Radio Access Method: <ul style="list-style-type: none"> ○ TDMA FDD, full duplex ● Modulation: <ul style="list-style-type: none"> ○ OFDM 256 FFT, with adaptive sub-carrier modulation: BPSK, QPSK, QAM 16, QAM 64 ● Non-line-of-sight (NLOS) operation functionality: <ul style="list-style-type: none"> ○ yes ● Channel bandwidth: 	
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	<ul style="list-style-type: none"> ○ 3,5 MHz; 1,75 MHz; ○ Software selectable ● Base station Multi Carrier bandwidth (via IF Mux) <ul style="list-style-type: none"> ○ 14 MHz ● Duplexing Scheme: <ul style="list-style-type: none"> ○ AU (Access Unit): full duplex ○ SU (Subscriber Unit): half duplex ● Central frequency resolution: <ul style="list-style-type: none"> ○ 125 KHz; ● Antenna (CPE): <ul style="list-style-type: none"> ○ 18 dBi, 20°, Vertical and Horizontal polarization, compliant with ETSI EN 302 085 V1.1.2 TS3 ● Maximum output power (at antenna port): <ul style="list-style-type: none"> ○ AU (Access Unit): 28 dBm (+/- 1dBm) ○ SU (Subscriber Unit): 20 dBm (+/- 1dBm) ● Sensitivity (typical values): <ul style="list-style-type: none"> ○ For highest modulation (QAM 64) @ 3,5/1,75 MHz: -82/85 dBm ○ For lowest modulation (BPSK) @ 3,5/1,75 MHz: -100/103 dBm ● Data communications: <ul style="list-style-type: none"> ○ Data: IEEE 802.3 CSMA/CD ○ Air Interface: IEEE 802.16a ○ VLAN support: IEEE 802.1q ○ Traffic Classification: Layer 2 IEEE 802.1p, IP DiffServ Code Points DSCP ● Indoor unit module <ul style="list-style-type: none"> ○ Ethernet interface: one (1) IEEE 802.3 Ethernet 10/100 BaseT (RJ 45) ○ MAC address supported: 512 ○ Connection to outdoor unit: Category 5E Ethernet cable ○ Provides power (-54 VDC) and control signals to outdoor unit ○ Receives status indications from outdoor unit ● Configuration and Management: <ul style="list-style-type: none"> ○ Local Management via Ethernet Port <ul style="list-style-type: none"> ▪ Telnet ▪ Built-in web configuration server (using PC or PDA with http browser) ○ Remote Management <ul style="list-style-type: none"> ▪ Via the Base Station ○ Software upgrade <ul style="list-style-type: none"> ▪ Using TFTP via the Base Station ▪ Using TFTP via Ethernet port ○ Configuration upload/download <ul style="list-style-type: none"> ▪ Using TFTP via the Base Station ▪ Using TFTP via Ethernet port ● Operating temperature: <ul style="list-style-type: none"> ○ Outdoor Unit: -40°C to 55°C 	
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ANNEX II+III Technical Specifications + Technical Offer - the technical specification for the **item 3.15 –Database servers cluster (two servers with storage):**

Shall read as new text:

1. Item Number	2. Specifications Required	Qty
3.15	<p>Database servers cluster (two servers with storage) for software item 3.16:</p> <ul style="list-style-type: none"> • Processor: 2 x Quad-Core <ul style="list-style-type: none"> ◦ Minimum value of benchmark SPECfp_rate_base2006 = 81,5 ◦ Minimum value of benchmark SPECint_rate_base2006 = 111 • RAM: 8 GB DDR2 or equivalent • Storage controller: Smart Array Controller with minimum 256MB cache • Disk installed: 2 x 72GB 15000 rpm. Hot- Plug • Form factor: Rack Mount Chassis, height 3U-5U • Network adapter: Embedded Dual Port Gigabit Server Adapter • Redundant power supply • Redundant fans • Optical drive: DVD-RW drive • Minimum 2 x USB 2.0 • Operating system installed and configured on server :: Windows 2003 Enterprise Edition R2+ License + documentation English+ Installation disk+ Recovery disk or equivalent • Software installed and configured on server: SQL Server Standard Edition 2008+ License + documentation English+ Installation disk+ Recovery disk or equivalent • SAS storage chassis, with dual controller • 8x 146GB SAS 3,5" 15000 rpm Hot-Plug HDD, for SAS storage chassis 	1

ANNEX II+III Technical Specifications + Technical Offer - the technical specification for the **item 3.16 – Software (ready off the shelf):**

Shall read as new text:

1. Item Number	2. Specifications Required	Qty
3.16	<p>Software (ready off the shelf):</p> <ul style="list-style-type: none"> • Certified server platforms: <ul style="list-style-type: none"> ◦ Microsoft Windows 2008, Windows 2003 ◦ VMware ESX server ◦ Linux (Red Hat, SUSE) ◦ UNIX (IBM AIX, HP-UX, Sun Solaris) • Certified web platforms: <ul style="list-style-type: none"> ◦ Microsoft Windows XP ◦ Microsoft Vista ◦ Microsoft Windows 2003 ◦ Microsoft Windows 2008 ◦ Linux (Red Hat, SUSE) ◦ Macintosh OS X • Certified web servers: <ul style="list-style-type: none"> ◦ Microsoft IIS ◦ Apache Web Server ◦ Apache Tomcat 	1

	<ul style="list-style-type: none"> • Certified web browsers: <ul style="list-style-type: none"> ○ Microsoft Internet Explorer ○ Firefox, ○ Safari • Comprehensive Service and Support: <ul style="list-style-type: none"> ○ Must support functionality: tracking of service issues • Integrated workflow engine must support functionality <ul style="list-style-type: none"> ○ tool that can be used to define tasks ○ elements that can trigger external process to run ○ Conditional workflow paths provide automation for complex workflow processes. • Change Management must support functionality: <ul style="list-style-type: none"> ○ manage changes made to the IT infrastructure ○ templates that enable adherence to best practices and supports complex workflow processes • ITIL compliant • Change Impact Analyzer must support functionality: <ul style="list-style-type: none"> ○ associates assets, organized according to lines of business, ○ ability to see how a change can impact line of business • Web Interface, every system function can be performed via a web interface that can be accessed from any certified browser • ITIL Templates must support functionality: <ul style="list-style-type: none"> ○ Provides out-of-the box best practices such as incident, problem and change management for service desk process management and control • Wireless Interface feature must support functionality: <ul style="list-style-type: none"> ○ Wireless interface and a wireless PDA • Spell Check must support functionality: <ul style="list-style-type: none"> ○ Embedded spell check capability to verify the spelling of text input into the description fields in requests, change orders and issues • SLA Management must support functionality: <ul style="list-style-type: none"> ○ Defines service levels of requests and change orders, escalates and notifies according to applicable rules, and reports on SLA compliance. • Customer Surveys must support functionality: <ul style="list-style-type: none"> ○ surveys that provide instant feedback ○ Tool to measure of customer satisfaction. • Audit Trail must support functionality: <ul style="list-style-type: none"> ○ audit trails for regulatory compliance and internal tracking and monitoring purposes ○ problem resolution activities are tracked for each request or change order ○ time stamps with logs of what was changed embedded search tool • Notifications must support functionality: <ul style="list-style-type: none"> ○ targeted notification process that keeps everyone in the organization updated on critical status, helping to ensure faster responses to open issues ○ notification mechanism through emails, pagers, faxes, or online alerts 	
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	<ul style="list-style-type: none"> • Dashboard & Management Reports must support functionality: <ul style="list-style-type: none"> ○ reports include real-time graphical displays ○ drop down lists of common reports ○ graphical views of Key Performance Indicators • Self-Service Interface must support functionality: <ul style="list-style-type: none"> ○ allows a user to interact with the service desk • Keyword Search must support functionality: <ul style="list-style-type: none"> ○ built-in knowledge searching capability ○ consolidated view of the knowledge base • LDAP and Active Directory must support functionality: <ul style="list-style-type: none"> ○ Central authority lets the network database verify an user's identity and control his/her access • Browser-Based Notification must support functionality: <ul style="list-style-type: none"> ○ Alternative to email and paging for service desk notifications. • Edit in List must support functionality: <ul style="list-style-type: none"> ○ bulk-edit selected fields in issues, requests and change orders without opening the detail form • Web Services must support functionality: <ul style="list-style-type: none"> ○ ability to support remote applications through API to create and update requests, ○ change orders and issues; ○ create and update contact information; ○ manage workflow; ○ send notifications; ○ create and update assets • Service Aware must support functionality: <ul style="list-style-type: none"> ○ To allow applications themselves to call upon service desk functions. • Automatic Analyst Workload Balancing must support functionality: <ul style="list-style-type: none"> ○ set options and rules to evaluate analyst workload, schedules and capabilities, ○ assign requests directly to them based upon the results of the evaluation • Security must support functionality: <ul style="list-style-type: none"> ○ security integrity through role-based user access and multi-tenancy data segregation ○ Centralized security administration accessible from remote web clients. ○ all security information loaded in bulk • Integration must support functionality: <ul style="list-style-type: none"> ○ integrated tool to create knowledge database • Scalability must support functionality: <ul style="list-style-type: none"> ○ an n-tier architecture to support future growth • Failover Technology must support functionality: <ul style="list-style-type: none"> ○ High availability of mission-critical service 	
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	<ul style="list-style-type: none"> • Comprehensive Functionality must support functionality: <ul style="list-style-type: none"> ○ Knowledge management functionality including authoring, retention, retrieval, notification and life cycle management. • Rapid Access to Solutions must support functionality: <ul style="list-style-type: none"> ○ Ability that users can find solutions to questions based on categories and ranked by frequency of use. ○ bookmarks for favourite/mostly used solutions • Natural Language Search Capabilities must support functionality: <ul style="list-style-type: none"> ○ natural language interface ○ advanced self-learning algorithm to search the knowledge base • Related Incidents must support functionality: <ul style="list-style-type: none"> ○ to display history as to where knowledge solution was used successfully in the past • Most Recent Solutions must support functionality: <ul style="list-style-type: none"> ○ sort search results by date to see which solutions were added or updated most recently • Decision Trees must support functionality: <ul style="list-style-type: none"> ○ to guide the user to an appropriate conclusion • Knowledge Partitioning must support functionality: <ul style="list-style-type: none"> ○ Control access to information so that only those authorized can access it. • Leverage Existing Knowledge must support functionality: <ul style="list-style-type: none"> ○ Import information from existing knowledge packages or a text file into the integrated knowledge base. • Forums must support functionality: <ul style="list-style-type: none"> ○ An additional channel for analysts to share and obtain knowledge, all while storing it in the integrated knowledge base • Simple Administration must support functionality: <ul style="list-style-type: none"> ○ Integrated administrative tool ○ centralized console for managing the content and life cycle of each problem-solving paradigm ○ Provide a mechanism to build and edit the knowledge underlying retrieval tools. ○ assigns ownership of a particular knowledge solution to an appropriate individual • Key Performance Indicators must support functionality: <ul style="list-style-type: none"> ○ Comprehensive, near real-time analysis of key service desk performance indicators out of the box • Setting Thresholds must support functionality: <ul style="list-style-type: none"> ○ thresholds associated with key performance indicators ○ in the event of a violation actions can occur, such as color change, make a sound, email notification • Knowledge Tools KPIs must support functionality: <ul style="list-style-type: none"> ○ Key performance metrics regarding knowledge use and knowledge 	
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	<p>creation come out of the box. Managers know what knowledge works, who builds it and what knowledge documents are pending or delayed.</p> <ul style="list-style-type: none"> • Graphical and Tabular Views must support functionality: <ul style="list-style-type: none"> ○ Graphical and tabular display of critical management information. • Use and Tailor Views must support functionality: <ul style="list-style-type: none"> ○ Runtime interfaces to access the out-of-box views which display various performance indicators ○ View and edit existing performance indicator views as well as build new views in accordance with unique customer requirements. • Filtering Metric Information must support functionality: <ul style="list-style-type: none"> ○ Filter information used in the metric display • Refreshing the Dashboard <ul style="list-style-type: none"> ○ Display data in near real-time ○ Setting the interval for refreshing the display • Export to Excel must support functionality: <ul style="list-style-type: none"> ○ Support to extract information to be exported to an Excel spreadsheet for manipulation or inclusion in other documents • Support for Multiple Databases must support functionality: <ul style="list-style-type: none"> ○ Open database connectivity standard • Support and maintenance must be provided for 12 months for the following <ul style="list-style-type: none"> ○ Subscription to all major releases and updates must be available at no additional cost ○ Technical Support 24/7 must be available at no additional cost • Quantity Concurrent licenses must include the following: <ul style="list-style-type: none"> ○ One (1) production environment; ○ A minimum of 10 super users with non-restricted functionality and minimum 300 simple users. <p>Installation and putting in production of Software to the servers (Item 3.14 and 3.15).</p>	
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ANNEX II+III Technical Specifications + Technical Offer - the technical specification for the **item 6.6 – Mobile devices licence:**

Shall read as new text:

1. Item Number	2. Specifications Required	Qty
6.6	<p>Mobile devices licence:</p> <ul style="list-style-type: none"> • Software licence for client application for items 6.1 and 6.2 • Software for positioning and following of vehicles with events registration, routes, groups, reconstruction of events from history • Installation and testing 	2

ANNEX II+III Technical Specifications + Technical Offer - the technical specification for the **item 10.4 – Network printer:**

[Shall read as new text:](#)

1. Item Number	2. Specifications Required	Qty
10.4	<p>Network printer:</p> <ul style="list-style-type: none"> • Print, copy, scan, send-to-functionality • Colour printer • Print speed (colour, normal quality, A4): Up to 30 ppm • Print technology Laser • Print quality (colour, best quality): Up to 1200 x 600 dpi • Paper handling standard/input: 100-sheet multipurpose tray, 250-sheet input tray, 50-sheet Automatic Document Feeder (ADF), automatic two-sided printing and copying, optional third 500-sheet paper and heavy media tray; 250-sheet face-down output bin • Duplex print options: Standard • Processor speed: Minimum 515 MHz • Memory: 512 MB • Scan type: Flatbed, ADF • Copier resize: 25 to 400% • Compatible operating systems: Microsoft® Windows® XP Home, XP Professional, Server 2003, Server 2008; Windows Vista® or equivalent <p>Installation Guide + installation disk, Support Flyer, power cord, Control Panel Overlay, Admin CD, User CD, Getting Started Guide</p>	4

ANNEX II+III Technical Specifications + Technical Offer - the technical specification for the **item 13.1 – Scanner Type I:**

[Shall read as new text:](#)

1. Item Number	2. Specifications Required	Qty
13.1	<p>Scanner Type I</p> <ul style="list-style-type: none"> - Type : Desktop type sheet fed scanner - Scanning Unit Sensor: Charge coupled device (CCD) image sensor - Scanning speed: Monochrome, Grayscale & Colour at 300 dpi: 60 ppm - simplex/ 120 ppm - duplex - Scanning Side: Front/ Back/ Duplex - Document Feeding : Automatic document feeder (ADF) - Document Size <ul style="list-style-type: none"> o ADF Minimum 2 in. x 3 in. o ADF Maximum 11 in. x 17 in. - Scanning Resolution : 600 dpi - Interface : Ultra SCSI (50m) / Hi Speed USB 2.0 / Third Party Slot & Ultra SCSI (50m) / Hi Speed USB 2.0 / Ultra Wide SCSI (68m) VRS / Hi Speed USB 2.0 VRS (CGA) - Document Feeder : 200 sheets - Driver : ISIS/TWAIN Driver - Daily Duty Cycle : Approx. 15,000 scans / day <p>Features: Automatic color detection, content-based rotation, intelligent blank page deletion, background saturation, advanced clarity, selectable background, onboard JPEG compression, swivel ADF</p>	20