



**ΕΛΛΗΝΙΚΗ ΔΗΜΟΚΡΑΤΙΑ**  
**ΥΠΟΥΡΓΕΙΟ ΥΓΕΙΑΣ**  
**1<sup>η</sup> Υ.ΠΕ ΑΤΤΙΚΗΣ**  
**Γ.Ν.Α. «ΛΑΪΚΟ»**

**ΔΙΕΥΘΥΝΣΗ** : ΔΙΟΙΚΗΤΙΚΗΣ ΥΠΗΡΕΣΙΑΣ  
**ΥΠΟΔΙΕΥΘΥΝΣΗ** : ΟΙΚΟΝΟΜΙΚΗΣ ΥΠΗΡΕΣΙΑΣ  
**ΤΜΗΜΑ** : ΠΡΟΜΗΘΕΙΩΝ  
**ΓΡΑΦΕΙΟ** : ΠΡΟΜΗΘΕΙΩΝ  
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Αθήνα, 20 Αυγούστου 2019  
 Αριθ. πρωτ.: 12259

**ΠΡΟΣ: Κάθε ενδιαφερόμενο**

**ΘΕΜΑ:** «Διενέργεια Β' Φάσης Δημόσιας Διαβούλευσης των Τεχνικών Προδιαγραφών για την προμήθεια Δικτυακού Εξοπλισμού για την αναβάθμιση του Δικτύου Δομημένης Καλωδίωσης του Νοσοκομείου και εγκατάσταση WiFi στο ισόγειο και 1<sup>ο</sup> όροφο των Εξωτερικών Ιατρείων του Β' κτηρίου, προϋπολογισθείσας δαπάνης 28.000,00€, πλέον Φ.Π.Α. 24%, με κριτήριο κατακύρωσης την πλέον συμφέρουσα από οικονομική άποψη προσφορά βάσει της τιμής».

**ΤΟ ΓΕΝΙΚΟ ΝΟΣΟΚΟΜΕΙΟ ΑΘΗΝΩΝ «ΛΑΪΚΟ»**

Έχοντας υπόψη:

1. Τις διατάξεις του Ν. 4412/2016 «Δημόσιες Συμβάσεις Έργων, Προμηθειών και Υπηρεσιών (προσαρμογή στις Οδηγίες 2014/24/ΕΕ και 2014/25/ΕΕ)» (Φ.Ε.Κ. Α' 147/08-08-2016).
2. Το υπ' αρ. 4963/05-10-2016 έγγραφο της ΕΠΥ με θέμα «Προμήθειες από τους φορείς της παραγράφου 1 του άρθρου 9 του ν. 3580/2007 – Καθορισμός ΚΑΑ».
3. Το υπ' αρ. 4661/14-09-2016 έγγραφο της ΕΠΥ σχετικά με την αρμοδιότητά της να εγκρίνει τεχνικές προδιαγραφές μετά τη θέση σε ισχύ του ν. 4412/2016.
4. Το Ν. 3580/2007 (ΦΕΚ 134/τ.Α'/18-06-07) «Προμήθειες Φορέων εποπτευόμενων από το Υπουργείο Υγείας και Κοινωνικής Αλληλεγγύης και άλλες διατάξεις» όπως ισχύει.
5. Το Ν. 3329/2005 (ΦΕΚ 81/Α/04-04-2005) «Εθνικό Σύστημα Υγείας και Κοινωνικής Αλληλεγγύης και λοιπές διατάξεις» όπως ισχύει.
6. Το υπ' αριθμ. πρωτ. 11690/01-08-2019 έγγραφο Διενέργειας Δημόσιας Διαβούλευσης των Τεχνικών Προδιαγραφών Α' φάσης.
7. Το υπ' αριθμ. πρωτ. 11946/08-08-2019 έγγραφο της εταιρείας «Cloud-U Telecoms».
8. Το υπ' αριθμ. πρωτ. 12132/14-08-2019 έγγραφο της Επιτροπής Σύνταξης Τεχνικών Προδιαγραφών του Νοσοκομείου.

9. Το γεγονός ότι από τις διατάξεις της παρούσας δεν προκαλείται δαπάνη σε βάρος του προϋπολογισμού του Νοσοκομείου.

#### **ΑΝΑΚΟΙΝΩΝΕΙ**

1. Τη Διενέργεια Β' Φάσης Δημόσιας Διαβούλευσης των Τεχνικών Προδιαγραφών για την προμήθεια Δικτυακού Εξοπλισμού για την αναβάθμιση του Δικτύου Δομημένης Καλωδίωσης του Νοσοκομείου και εγκατάσταση WiFi στο ισόγειο και 1<sup>ο</sup> όροφο των Εξωτερικών Ιατρείων του Β' κτηρίου, προϋπολογισθείσας δαπάνης 28.000,00€, πλέον Φ.Π.Α. 24%, με κριτήριο κατακύρωσης την πλέον συμφέρουσα από οικονομική άποψη προσφορά βάσει της τιμής.
2. Οι ενδιαφερόμενοι δύνανται να λάβουν γνώση των τεχνικών προδιαγραφών από την ιστοσελίδα του Νοσοκομείου [www.laiko.gr](http://www.laiko.gr).
3. Η διάρκεια της διαβούλευσης ορίζεται σε τέσσερις (4) ημέρες.
4. Οι ενδιαφερόμενοι μπορούν να υποβάλλουν τις παρατηρήσεις τους μέχρι τις **26/08/2019 ημέρα ΔΕΥΤΕΡΑ και ώρα 15:00 στο πρωτόκολλο του νοσοκομείου ή να τις αποστείλουν με τηλεομοιοτυπία στο 213-2061638.**
5. Το Νοσοκομείο δεν δεσμεύεται να υιοθετήσει τις προτάσεις που θα υποβληθούν και θα αποφασίσει για την οριστικοποίηση αυτών με αντικειμενικά κριτήρια ώστε να επιτευχθεί η μέγιστη δυνατή συμμετοχή των προμηθευτών, εξασφαλίζοντας ταυτόχρονα την ποιότητα των παρεχομένων υπηρεσιών μας.
6. Με την οριστικοποίηση των Τεχνικών Προδιαγραφών θα προκηρυχθεί Συνοπτικός Διαγωνισμός για την προμήθεια Δικτυακού Εξοπλισμού για την αναβάθμιση του Δικτύου Δομημένης Καλωδίωσης του Νοσοκομείου και εγκατάσταση WiFi στο ισόγειο και 1<sup>ο</sup> όροφο των Εξωτερικών Ιατρείων του Β' κτηρίου, προϋπολογισθείσας δαπάνης 28.000,00€, πλέον Φ.Π.Α. 24%, ήτοι συνολικής δαπάνης 34.720,00€, με κριτήριο κατακύρωσης την πλέον συμφέρουσα από οικονομική άποψη προσφορά βάσει της τιμής.

**Ο ΔΙΟΙΚΗΤΗΣ**

**Επισυνάπτονται:**

Δεκαεννέα (19) σελίδες

**ΗΡΑΚΛΗΣ ΧΑΡΜΑΝΙΔΗΣ**

**ΤΕΧΝΙΚΕΣ ΠΡΟΔΙΑΓΡΑΦΕΣ****Προσφερόμενος Δικτυακός Εξοπλισμός****1. Gigabit Stackable Managed Switches (24 GE copper + 4 10GE (2 10GE copper/SFP+ combo + 2 SFP+)) TEMAXIA 2**

Με τις παρακάτω τεχνικές προδιαγραφές:

<b>Gigabit Stackable Managed Switches</b>	<b>TEMAXIA 2</b>
<b>24 GE copper + 4 10GE (2 x 10GE copper/SFP+ combo + 2 SFP+)</b>	
<b>Performance</b>	
Switching capacity (Capacity in Mpps)	≥ 95 Mpps
Forwarding rate (Switching Capacity (Gbps))	≥ 128 Gbps
<b>Layer 2 Switching</b>	
Spanning Tree Protocol	Rapid spanning Tree (RSTP)
	Multiple spanning tree (MSTP)
Port grouping (Link Aggregation)	Support for IEEE 802.3ad Link Aggregation Control Protocol (LACP)
	Up to 32 groups
	Up to 8 ports per group
VLAN	Support for up to 4094 active VLANs
	Management VLANs
	Private VLANs
	Dynamic VLANs
GVRP/GARP	
DHCP relay at Layer 2	
IGMP (versions 1, 2, and 3) snooping	
IGMP querier	
Head-of-line (HOL) blocking	
<b>Layer 3</b>	
IPv4 routing	
IPv6 static routing	
Layer 3 interface	
CIDR	
RIP v2	
VRRP	
Policy-based routing (PBR)	
DHCP server	
DHCP relay at Layer 3	
User Datagram Protocol (UDP) relay	
<b>Stacking</b>	
Hardware stack	Up to 8 units in a stack
High availability	

Plug-and-play stacking configuration and management	
High-speed stack interconnects	
<b>Security</b>	
SSH	
SSL	
IEEE 802.1X (authenticator role)	
Web-based authentication	
STP BPDU Guard	
STP Root Guard	
DHCP snooping	
IP Source Guard (IPSG)	
Dynamic ARP Inspection (DAI)	
IP, MAC, and Port Binding (IPMB)	
Secure Core Technology (SCT)	
Secure Sensitive Data (SSD)	
Private VLAN	
Port security	
RADIUS TACACS+	
RADIUS accounting	
Storm control	
DoS prevention	
Multiple user privilege levels in CLI	
ACLs	
<b>Quality of Service</b>	
Priority levels	
Scheduling	
Class of service	
Rate limiting	
Congestion avoidance	
<b>Standards</b>	
Standards (IEEE, RFC's)	IEEE 802.3 10BASE-T Ethernet, IEEE 802.3u 100BASE-TX Fast Ethernet, IEEE 802.3ab 1000BASE-T Gigabit Ethernet, IEEE 802.3ad Link Aggregation Control Protocol, IEEE 802.3z Gigabit Ethernet, IEEE 802.3ae 10 Gbit/s Ethernet over fiber for LAN, IEEE 802.3an 10GBase-T 10 Gbit/s Ethernet over copper twisted pair cable, IEEE 802.3x Flow Control, IEEE 802.1D (STP, GARP, and GVRP), IEEE 802.1Q/p VLAN, IEEE 802.1w Rapid STP, IEEE 802.1s Multiple STP, IEEE 802.1X Port Access Authentication, IEEE 802.3af, IEEE 802.3at, IEEE 802.1AB Link Layer Discovery Protocol, IEEE 802.3az Energy Efficient Ethernet, RFC 768, RFC 783, RFC 791, RFC 792, RFC 793, RFC 813, RFC 826, RFC 879, RFC 896, RFC 854, RFC 855, RFC 856, RFC 858, RFC 894, RFC 919, RFC 920, RFC 922, RFC 950, RFC 951, RFC 1042, RFC 1071, RFC 1123, RFC 1141, RFC 1155, RFC 1157, RFC 1213, RFC 1215, RFC 1286, RFC 1350, RFC 1442, RFC

	1451, RFC 1493, RFC 1533, RFC 1541, RFC 1542, RFC 1573, RFC 1624, RFC 1643, RFC 1700, RFC 1757, RFC 1867, RFC 1907, RFC 2011, RFC 2012, RFC 2013, RFC 2030, RFC 2131, RFC 2132, RFC 2233, RFC 2576, RFC 2616, RFC 2618, RFC 2665, RFC 2666, RFC 2674, RFC 2737, RFC 2819, RFC 2863, RFC 3164, RFC 3176, RFC 3411, RFC 3412, RFC 3413, RFC 3414, RFC 3415, RFC 3416, RFC 4330
<b>IPv6</b>	
IPv6	
IPv6 QoS	
IPv6 ACL	
IPv6 First Hop Security	
Multicast Listener Discovery (MLD v1/2) snooping	
IPv6 applications	Web/SSL, Telnet Server/SSH, Ping, Traceroute, SNMP, TFTP, SNMP, RADIUS, Syslog, DNS client, DHCP Client, DHCP Autoconfig, IPv6 DHCP Relay, TACACS
IPv6 RFC supported	RFC 4443 (which obsoletes RFC 2463): ICMPv6
	RFC 4291 (which obsoletes RFC 3513): IPv6 address architecture
	RFC 4291: IP Version 6 Addressing Architecture
	RFC 2460: IPv6 Specification
	RFC 4861 (which obsoletes RFC 2461): Neighbor Discovery for IPv6
	RFC 4862 (which obsoletes RFC 2462): IPv6 Stateless Address Autoconfiguration
	RFC 1981: Path MTU Discovery
	RFC 4007: IPv6 Scoped Address Architecture
	RFC 3484: Default address selection mechanism
	RFC 5214 (which obsoletes RFC 4214): ISATAP tunneling
	RFC 4293; MIB IPv6: Textual Conventions and General Group
	RFC 3595; Textual Conventions for IPv6 Flow Label
<b>Management</b>	
Web user interface	
SNMP	SNMP versions 1, 2c, and 3 with support for traps
	SNMP v3 User-based Security Model (USM)
RMON	
IPv4 and IPv6 dual stack	
Firmware upgrade	Web browser upgrade (HTTP/HTTPS) and TFTP and

	SCP
	Upgrade through console port
	Dual images for resilient firmware upgrades
Port mirroring	
VLAN mirroring	
Flow-based redirection and mirroring	
Remote Switch Port Analyzer (RSPAN)	
sFlow agent	
DHCP (options 12, 66, 67, 82, 129, and 150)	
Autoconfiguration with Secure Copy (SCP) file download	
Text-editable configs	
Smartports	
Auto Smartports	
Secure Copy (SCP)	
Textview CLI	
Cloud services	
Localization	
Login banner	
Time-based port operation	
Other management	Traceroute; single IP management; HTTP/HTTPS; SSH; RADIUS; port mirroring; TFTP upgrade; DHCP client; Simple Network Time Protocol (SNTP); Xmodem upgrade; cable diagnostics; Ping; syslog; Telnet client; SSH client; automatic time settings from Management Station.
<b>Green (Power Efficiency)</b>	
Energy detect	
Cable length detection	
EEE compliant (802.3az)	
Disable port LEDs	
<b>General</b>	
Jumbo frames	Frame sizes up to 9K bytes
MAC table	16K addresses
<b>Discovery</b>	
Bonjour	
LLDP (802.1ab) with LLDP-MED extensions	
CDP (Cisco Discovery Protocol)	
<b>Product Specifications</b>	
Power consumption (worst case)	Green Power (mode) EEE, Energy Detect, Short Reach
	System Power Consumption 220V=33.5W
	Heat Dissipation (BTU/hr) 114,31
Ports	24 x 10/100/1000 ports
	4 x 10 Gigabit Ethernet (2 x 10GBase-T/SFP+ combo + 2 x SFP+)

Console port	
OOB management port	
RPS	
USB slot	
Reset button	
LEDs	System, master, fan, RPS, stack ID, link/speed per port
Flash	256 MB
CPU	800 MHz (dual-core) ARM
CPU memory	512 MB
Packet buffer	1.5 MB
<b>Environmental</b>	
Unit dimensions (W x H x D) (1 U)	440 x 44 x 257 mm
Power	100 - 240V 47 - 63 Hz, internal, universal
Certification	UL (UL 60950), CSA (CSA 22.2), CE mark, FCC Part 15 (CFR 47) Class A
Operating temperature	0° to 50°C

## 2. Gigabit Stackable Managed Switches (22 10G SFP+ slots + 2 combo 10G copper/SFP+ plus 1 GE OOB management) TEMAXIA 2

Με τις παρακάτω τεχνικές προδιαγραφές:

<b>Gigabit Stackable Managed Switches</b>	<b>TEMAXIA 2</b>
<b>22 10G SFP+ slots + 2 combo 10G copper/SFP+ plus 1 GE OOB management)</b>	
<b>Performance</b>	
Switching capacity (Capacity in Mpps)	≥ 357 Mpps
Forwarding rate (Switching Capacity (Gbps))	≥ 480 Gbps
<b>Layer 2 Switching</b>	
Spanning Tree Protocol	Rapid spanning Tree (RSTP)
	Multiple spanning tree (MSTP)
Port grouping (Link Aggregation)	Support for IEEE 802.3ad Link Aggregation Control Protocol (LACP)
	Up to 32 groups
	Up to 8 ports per group
VLAN	Support for up to 4094 active VLANs
	Management VLANs
	Private VLANs
	Guest VLANs
	Dynamic VLANs
GVRP/GARP	
DHCP relay at Layer 2	
IGMP (versions 1, 2, and 3) snooping	
IGMP querier	
Head-of-line (HOL) blocking	
<b>Layer 3</b>	

IPv4 routing	
IPv6 static routing	
Layer 3 interface	
CIDR	
RIP v2	
VRRP	
Policy-based routing (PBR)	
DHCP server	
DHCP relay at Layer 3	
User Datagram Protocol (UDP) relay	
<b>Stacking</b>	
Hardware stack	Up to 8 units in a stack
High availability	
Plug-and-play stacking configuration and management	
High-speed stack interconnects	
<b>Security</b>	
SSH	
SSL	
IEEE 802.1X (authenticator role)	
Web-based authentication	
STP BPDU Guard	
STP Root Guard	
DHCP snooping	
IP Source Guard (IPSG)	
Dynamic ARP Inspection (DAI)	
IP, MAC, and Port Binding (IPMB)	
Secure Core Technology (SCT)	
Secure Sensitive Data (SSD)	
Private VLAN	
Port security	
RADIUS TACACS+	
RADIUS accounting	
Storm control	
DoS prevention	
Multiple user privilege levels in CLI	
ACLs	
<b>Quality of Service</b>	
Priority levels	
Scheduling	
Class of service	
Rate limiting	
Congestion avoidance	
<b>Standards</b>	



Standards (IEEE, RFC's)	IEEE 802.3 10BASE-T Ethernet, IEEE 802.3u 100BASE-TX Fast Ethernet, IEEE 802.3ab 1000BASE-T Gigabit Ethernet, IEEE 802.3ad Link Aggregation Control Protocol, IEEE 802.3z Gigabit Ethernet, IEEE 802.3ae 10 Gbit/s Ethernet over fiber for LAN, IEEE 802.3an 10GBase-T 10 Gbit/s Ethernet over copper twisted pair cable, IEEE 802.3x Flow Control, IEEE 802.1D (STP, GARP, and GVRP), IEEE 802.1Q/p VLAN, IEEE 802.1w Rapid STP, IEEE 802.1s Multiple STP, IEEE 802.1X Port Access Authentication, IEEE 802.3af, IEEE 802.3at, IEEE 802.1AB Link Layer Discovery Protocol, IEEE 802.3az Energy Efficient Ethernet, RFC 768, RFC 783, RFC 791, RFC 792, RFC 793, RFC 813, RFC 826, RFC 879, RFC 896, RFC 854, RFC 855, RFC 856, RFC 858, RFC 894, RFC 919, RFC 920, RFC 922, RFC 950, RFC 951, RFC 1042, RFC 1071, RFC 1123, RFC 1141, RFC 1155, RFC 1157, RFC 1213, RFC 1215, RFC 1286, RFC 1350, RFC 1442, RFC 1451, RFC 1493, RFC 1533, RFC 1541, RFC 1542, RFC 1573, RFC 1624, RFC 1643, RFC 1700, RFC 1757, RFC 1867, RFC 1907, RFC 2011, RFC 2012, RFC 2013, RFC 2030, RFC 2131, RFC 2132, RFC 2233, RFC 2576, RFC 2616, RFC 2618, RFC 2665, RFC 2666, RFC 2674, RFC 2737, RFC 2819, RFC 2863, RFC 3164, RFC 3176, RFC 3411, RFC 3412, RFC 3413, RFC 3414, RFC 3415, RFC 3416, RFC 4330
<b>IPv6</b>	
IPv6	
IPv6 QoS	
IPv6 ACL	
IPv6 First Hop Security	
Multicast Listener Discovery (MLD v1/2) snooping	
IPv6 applications	Web/SSL, Telnet Server/SSH, Ping, Traceroute, SNMP, TFTP, SNMP, RADIUS, Syslog, DNS client, DHCP Client, DHCP Autoconfig, IPv6 DHCP Relay, TACACS
IPv6 RFC supported	RFC 4443 (which obsoletes RFC 2463): ICMPv6
	RFC 4291 (which obsoletes RFC 3513): IPv6 address architecture
	RFC 4291: IP Version 6 Addressing Architecture
	RFC 2460: IPv6 Specification
	RFC 4861 (which obsoletes RFC 2461): Neighbor Discovery for IPv6
	RFC 4862 (which obsoletes RFC 2462): IPv6 Stateless Address Autoconfiguration
	RFC 1981: Path MTU Discovery RFC 4007: IPv6 Scoped Address Architecture

	RFC 3484: Default address selection mechanism
	RFC 5214 (which obsoletes RFC 4214): ISATAP tunneling
	RFC 4293; MIB IPv6: Textual Conventions and General Group
	RFC 3595; Textual Conventions for IPv6 Flow Label
<b>Management</b>	
Web user interface	
SNMP	SNMP versions 1, 2c, and 3 with support for traps
	SNMP v3 User-based Security Model (USM)
RMON	
IPv4 and IPv6 dual stack	
Firmware upgrade	Web browser upgrade (HTTP/HTTPS) and TFTP and SCP
	Upgrade through console port
	Dual images for resilient firmware upgrades
Port mirroring	
VLAN mirroring	
Flow-based redirection and mirroring	
Remote Switch Port Analyzer (RSPAN)	
sFlow agent	
DHCP (options 12, 66, 67, 82, 129, and 150)	
Autoconfiguration with Secure Copy (SCP) file download	
Text-editable configs	
Smartports	
Auto Smartports	
Secure Copy (SCP)	
Textview CLI	
Cloud services	
Localization	
Login banner	
Time-based port operation	
Other management	Traceroute; single IP management; HTTP/HTTPS; SSH; RADIUS; port mirroring; TFTP upgrade; DHCP client; Simple Network Time Protocol (SNTP); Xmodem upgrade; cable diagnostics; Ping; syslog; Telnet client; SSH client; automatic time settings from Management Station.
<b>Green (Power Efficiency)</b>	
Energy detect	
Cable length detection	
EEE compliant (802.3az)	
Disable port LEDs	

<b>General</b>	
Jumbo frames	Frame sizes up to 9K bytes
MAC table	64K addresses
<b>Discovery</b>	
Bonjour	
LLDP (802.1ab) with LLDP-MED extensions	
CDP (Cisco Discovery Protocol)	
<b>Product Specifications</b>	
Power consumption (worst case)	Green Power (mode) EEE, Energy Detect, Short Reach
	System Power Consumption 220V=77.5W
	Heat Dissipation (BTU/hr) 264,44
Ports	24 x 10 Gigabit Ethernet SFP+
	2 x 10 Gigabit Ethernet 10Gbase-T copper port (combo with 2 SFP+)
	1 x Gigabit Ethernet management port
Console port	
OoB management port	
RPS	
USB slot	
Reset button	
LEDs	System, master, fan, RPS, stack ID, link/speed per port
Flash	256 MB
CPU	800 MHz (dual-core) ARM
CPU memory	512 MB
Packet buffer	2 MB
<b>Environmental</b>	
Unit dimensions (W x H x D) (1 U)	440 x 44 x 350 mm
Power	100 - 240V 47 - 63 Hz, internal, universal
Certification	UL (UL 60950), CSA (CSA 22.2), CE mark, FCC Part 15 (CFR 47) Class A
Operating temperature	0° to 50°C

### 3. Gigabit Managed Switch 26 Ports (24 GE copper + Combo 2 SFP) TEMAXIA 10

Με τις παρακάτω τεχνικές προδιαγραφές:

<b>Gigabit Stackable Managed Switches</b>	<b>TEMAXIA 10</b>
<b>24 GE copper + 2 GE Combo copper/SFP</b>	
<b>Performance</b>	
Switching capacity (Capacity in Mpps)	≥ 38 Mpps
Forwarding rate (Switching Capacity (Gbps))	≥ 52 Gbps
<b>Layer 2 Switching</b>	

Spanning Tree Protocol	Standard 802.1d spanning tree support
	Rapid spanning Tree (RSTP)
	Multiple spanning tree (MSTP)
Port grouping (Link Aggregation)	Support for IEEE 802.3ad Link Aggregation Control Protocol (LACP)
	Up to 4 groups
	Up to 8 ports per group
VLAN	Support for up to 256 active VLANs simultaneously
	Port-based and 802.1Q tag-based VLANs Management VLAN
	Management VLAN
	Guest VLAN
GVRP/GARP	
DHCP relay at Layer 2	
IGMP (versions 1, 2, and 3) snooping	
IGMP querier	
Loopback detection	
<b>Layer 3</b>	
IPv4 routing	
IPv6 static routing	
Layer 3 interface	
CIDR	
DHCP relay at Layer 3	
User Datagram Protocol (UDP) relay	
<b>Security</b>	
SSH	
SSL	
IEEE 802.1X (authenticator role)	
Secure Core Technology (SCT)	
Secure Sensitive Data (SSD)	
Port security	
RADIUS	
Storm control	
DoS prevention	
Access Control Lists (ACLs)	
STP loopback guard	
<b>Quality of Service</b>	
Priority levels	
Scheduling	
Class of service	
Rate limiting	
Congestion avoidance	
<b>Standards</b>	

Standards (IEEE, RFC's)	IEEE 802.3 10BASE-T Ethernet, IEEE 802.3u 100BASE-TX Fast Ethernet, IEEE 802.3ab 1000BASE-T Gigabit Ethernet, IEEE 802.3ad Link Aggregation Control Protocol, IEEE 802.3z Gigabit Ethernet, IEEE 802.3x Flow Control, IEEE 802.3 ad LACP, IEEE 802.1D (STP), IEEE 802.1Q/p VLAN, IEEE 802.1w RSTP, IEEE 802.1s Multiple STP, IEEE 802.1X Port Access Authentication, IEEE 802.3af, IEEE 802.3at, RFC 768, RFC 783, RFC 791, RFC 792, RFC 793, RFC 813, RFC 879, RFC 896, RFC 826, RFC 854, RFC 855, RFC 856, RFC 858, RFC 894, RFC 919, RFC 920, RFC 922, RFC 950, RFC 951, RFC 1042, RFC 1071, RFC 1123, RFC 1141, RFC 1155, RFC 1157, RFC 1213, RFC 1215, RFC 1286, RFC 1350, RFC 1442, RFC 1451, RFC 1493, RFC 1533, RFC 1541, RFC 1542, RFC 1573, RFC 1624, RFC 1643, RFC 1700, RFC 1757, RFC 1867, RFC 1907, RFC 2011, RFC 2012, RFC 2013, RFC 2030, RFC 2131, RFC 2132, RFC 2233, RFC 2576, RFC 2616, RFC 2618, RFC 2665, RFC 2666, RFC 2674, RFC 2737, RFC 2819, RFC 2863, RFC 3164, RFC 3411, RFC 3412, RFC 3413, RFC 3414, RFC 3415, RFC 3416, RFC 4330
<b>IPv6</b>	
IPv6	
IPv6 QoS	
IPv6 ACL	
IPv6 First Hop Security	
Multicast Listener Discovery (MLD v1/2) snooping	
IPv6 applications	Web/SSL, Telnet server/SSH, Ping, Traceroute, Simple Network Time Protocol (SNTP), Trivial File Transfer Protocol (TFTP), Simple Network Management Protocol (SNMP), Remote Authentication Dial-In User Service (RADIUS), Syslog, DNS client, DHCP client, DHCP autoconfig
IPv6 RFC supported	RFC 4443 (which obsoletes RFC 2463): ICMPv6
	RFC 4291 (which obsoletes RFC 3513): IPv6 address architecture
	RFC 4291: IP Version 6 Addressing Architecture
	RFC 2460: IPv6 Specification
	RFC 4861 (which obsoletes RFC 2461): Neighbor Discovery for IPv6
	RFC 4862 (which obsoletes RFC 2462): IPv6 Stateless Address Autoconfiguration
	RFC 1981: Path MTU Discovery
	RFC 4007: IPv6 Scoped Address Architecture
	RFC 3484: Default address selection mechanism
	RFC 5214 (which obsoletes RFC 4214): ISATAP tunneling
	RFC 4293; MIB IPv6: Textual Conventions and General Group
RFC 3595; Textual Conventions for IPv6 Flow Label	
<b>Management</b>	

Web user interface	
SNMP	SNMP versions 1, 2c, and 3 with support for traps
	SNMP v3 User-based Security Model (USM)
RMON	
IPv4 and IPv6 dual stack	
Firmware upgrade	Web browser upgrade (HTTP/HTTPS) and TFTP and SCP
	Upgrade through console port
	Dual images for resilient firmware upgrades
Port mirroring	
VLAN mirroring	
Flow-based redirection and mirroring	
Remote Switch Port Analyzer (RSPAN)	
sFlow agent	
DHCP (options 12, 66, 67, 82, 129, and 150)	
Autoconfiguration with Secure Copy (SCP) file download	
Text-editable configs	
Smartports	
Auto Smartports	
Secure Copy (SCP)	
Textview CLI	
Cloud services	
Localization	
Login banner	
Other management	Traceroute; single IP management; HTTP/HTTPS; SSH; RADIUS; port mirroring; TFTP upgrade; DHCP client; Simple Network Time Protocol (SNTP); Xmodem upgrade; cable diagnostics; Ping; syslog; Telnet client; SSH client; automatic time settings from Management Station.
<b>Green (Power Efficiency)</b>	
Energy detect	
Cable length detection	
EEE compliant (802.3az)	
Disable port LEDs	
Time-based port operation	
<b>General</b>	
Jumbo frames	Frame sizes up to 9K bytes
MAC table	8K addresses
<b>Discovery</b>	
Bonjour	
LLDP (802.1ab) with LLDP-MED extensions	
CDP (Cisco Discovery Protocol)	
<b>Product Specifications</b>	
Power consumption (worst case)	Green Power (mode) EEE, Energy Detect, Short Reach
	System Power Consumption 220V=18.9W

	Heat Dissipation (BTU/hr) 64,49
Ports	24 x 10/100/1000 ports
	2 GE Combo copper/SFP
Console port	
OOB management port	
RPS	
USB slot	
Reset button	
LEDs	System, master, fan, RPS, stack ID, link/speed per port
Flash	256 MB
CPU	800 MHz ARM
CPU memory	512 MB
Packet buffer	12 MB
<b>Environmental</b>	
Unit dimensions (W x H x D) (1 U)	440 x 44 x 202 mm
Power	100 - 240V 47 - 63 Hz, internal, universal
Certification	UL (UL 60950), CSA (CSA 22.2), CE mark, FCC Part 15 (CFR 47) Class A
Operating temperature	0° to 50°C

#### 4. SFP Gigabit Ethernet Transceiver (Multimode fiber, 1000 Mbps) TEMAXIA 18

Με τις παρακάτω τεχνικές προδιαγραφές:

<b>SFP Gigabit Ethernet Transceiver</b>	<b>TEMAXIA 18</b>
<b>Specifications</b>	
Type	LC-SFP Gigabit Ethernet Transceiver (1000Base-SX)
Connector Type	LC Duplex
Cable Type	Multi-mode Fiber
Maximum Distance	500m
Wavelength (nm)	850nm

#### 5. 10 Gigabit Ethernet Stack Cable TEMAXIA 4

Με τις παρακάτω τεχνικές προδιαγραφές:

<b>10 Gigabit Ethernet Stack Cable</b>	<b>TEMAXIA 4</b>
<b>Specifications</b>	
Type	10 Gigabit Ethernet Stack Cable
Cable Type	Copper coax
Maximum Distance	1m
Speed	10 Gb

#### 6. UniFi Access Point (UAP-AC-PRO) TEMAXIA 6

Με τις παρακάτω τεχνικές προδιαγραφές:

<b>UBIQUITI Access Point</b>	TEMAXIA 6
<b>Unifi AC UAP-AC-PRO</b>	
<b>Specifications</b>	
Dimensions	196.7 x 196.7 x 35 mm (7.74 x 7.74 x 1.38")
Weight	350 g (12.4 oz)
With Mounting Kits	450 g (15.9 oz)
Networking Interface	(2) 10/100/1000 Ethernet Ports
Port	(1) USB 2.0 Port
Buttons	Reset
Power Method	Passive Power over Ethernet (48V), 802.3af/802.3at Supported (Supported Voltage Range: 44 to 57VDC)
Power Supply	UniFi Switch (PoE)
Power Save	Supported
Maximum Power Consumption	9W
Maximum TX Power	
2.4 GHz	22 dBm
5 GHz	22 dBm
Antennas	(3) Dual-Band Antennas, 2.4 GHz: 3 dBi, 5 GHz: 3 dBi
Wi-Fi Standards	802.11 a/b/g/n/r/k/v/ac
Wireless Security	WEP, WPA-PSK, WPA-Enterprise (WPA/WPA2, TKIP/AES)
BSSID	Up to 8 per Radio
Mounting	Wall/Ceiling (Kits Included)
Operating Temperature	-10 to 70° C (14 to 158° F)
Operating Humidity	5 to 95% Noncondensing
Certifications	CE, FCC, IC
<b>Advanced Traffic Management</b>	
VLAN	802.1Q
Advanced QoS	Per-User Rate Limiting
Guest Traffic Isolation	Supported
WMM	Voice, Video, Best Effort, and Background
Concurrent Clients	250+
<b>Supported Data Rates (Mbps)</b>	
Standard	Data Rates
802.11ac	6.5 Mbps to 1300 Mbps (MCS0 - MCS9 NSS1/2/3, VHT 20/40/80)
802.11n	6.5 Mbps to 450 Mbps (MCS0 - MCS23, HT 20/40)
802.11a	6, 9, 12, 18, 24, 36, 48, 54 Mbps
802.11g	6, 9, 12, 18, 24, 36, 48, 54 Mbps
802.11b	1, 2, 5.5, 11 Mbps

## 7. Gigabit Switch D-Link (DGS-1210-08P) TEMAXIA 4



Με τις παρακάτω τεχνικές προδιαγραφές:

<b>D-Link Switch</b>	
<b>DGS-1210 Series Gigabit Smart PoE Switches with Fibre Uplinks</b>	<b>TEMAXIA 4</b>
<b>General</b>	
Port Standards & Functions	IEEE 802.3 10BASE-T Ethernet, IEEE 802.3u 100BASE-TX Fast Ethernet, IEEE 802.3ab 1000BASE-T Gigabit Ethernet, IEEE 802.3x Flow Control for Full-Duplex Mode, IEEE 802.3af compliance, IEEE 802.3at compliance, Auto-negotiation
Number of Ports	8 x 10/100/1000BASE-T PoE ports 2 x SFP ports
Network Cables	UTP Cat. 5, Cat. 5e (100 m max.); EIA/TIA-568 100-ohm STP (100 m max.)
Full/Half Duplex	Full/half duplex for 10/100 Mbps speeds; Full duplex for Gigabit speed
Media Interface Exchange	Auto or configurable MDI/MDIX
<b>Performance</b>	
Switching Capacity	20 Gbps
Transmission Method	Store-and-forward
MAC Address Table	8K entries per device
MAC Address Update	Up to 256 static MAC entries, Enable/disable auto-learning of MAC addresses
Maximum 64 bytes Packet Forwarding Rate	14.9Mpps
Packet Buffer Memory	4.1 Mbits
<b>PoE</b>	
PoE Standard	IEEE 802.3af and IEEE 802.3at
PoE Capable Ports	Ports 1 to 8: Up to 30 W
PoE Power Budget	Max. 65 W
<b>Physical &amp; Environment</b>	
AC Input	54.0 V DC external power adapter
Maximum Power Consumption	PoE Enable: 80.6 W
	PoE Disable: 7.5 W
Standby Power Consumption	2.5 W
Fan Quantity	0
Acoustics	0 dB(A)
Heat Dissipation	275.04 BTU/hr
Operation Temperature	-5 to 50 °C (23 to 122 °F)
Storage Temperature	-20 to 70 °C (-4 to 158 °F)
Operation Humidity	0% to 95% non-condensing
Storage Humidity	0% to 95% non-condensing
Dimensions	280 x 126 x 44 mm 19" standard rack mounting width, 1U height
Weight	0.95 kg
Diagnostic LEDs	Power (per device), Link/Activity/Speed/PoE (per 10/100/1000 Mbps port), Link/Activity/Speed (per SFP port),

	Button to switch LED display mode between PoE and Link/Activity
MTBF	729,258 hours
Certifications and Safety	CE Class A, cUL, CE LVD
<b>Software Features</b>	
L2 Features	<ul style="list-style-type: none"> <li>• MAC Address Table: 8K</li> <li>• Flow Control</li> <li>• 802.3x Flow Control</li> <li>• HOL Blocking Prevention</li> <li>• Jumbo Frame up to 10,000 Bytes</li> <li>• IGMP Snooping</li> <li>• IGMP v1/v2 Snooping</li> <li>• IGMP Snooping v3 Awareness</li> <li>• Supports 256 IGMP groups</li> <li>• Supports at least 64 static multicast addresses</li> <li>• IGMP per VLAN</li> <li>• Supports IGMP Snooping Querier</li> <li>• MLD Snooping</li> <li>• Supports MLD v1/v2 awareness</li> <li>• Supports 256 groups</li> <li>• Fast Leave</li> <li>• Spanning Tree Protocol</li> <li>• 802.1D STP</li> <li>• 802.1w RSTP</li> </ul>
	<ul style="list-style-type: none"> <li>• Loopback Detection</li> <li>• 802.3ad Link Aggregation</li> <li>• Max. 4 groups per device/8 ports per group (DGS-1210-08P)</li> <li>• Max. 8 groups per device/8 ports per group (DGS-1210-16/24/24P)</li> <li>• Max. 16 groups per device/8 ports per group (DGS-1210-48P)</li> <li>• Port Mirroring</li> <li>• One-to-One, Many-to-One</li> <li>• Supports Mirroring for Tx/Rx/Both</li> <li>• Multicast Filtering</li> <li>• Forwards all unregistered groups</li> <li>• Filters all unregistered groups</li> <li>• LLDP, LLDP-MED</li> </ul>
VLAN	<ul style="list-style-type: none"> <li>• 802.1Q Tagged VLAN</li> <li>• VLAN Group</li> <li>• Max. 256 static VLAN groups</li> <li>• Max. 4094 VIDs</li> <li>• Management VLAN</li> </ul>
	<ul style="list-style-type: none"> <li>• Asymmetric VLAN</li> <li>• Auto Voice VLAN</li> <li>• Auto Surveillance VLAN</li> </ul>

Quality of Service (QoS)	<ul style="list-style-type: none"> <li>• 802.1p Quality of Service</li> <li>• Queue Handling</li> <li>• Strict</li> <li>• Weighted Round Robin (WRR)</li> <li>• 8 queues per port</li> <li>• Bandwidth Control</li> <li>• Port-based (Ingress/Egress, min. granularity for 10/100/1000Base-T ports is 16 Kb/s)</li> </ul>
	<ul style="list-style-type: none"> <li>• CoS based on</li> <li>• 802.1p Priority Queues</li> <li>• DSCP</li> <li>• ToS</li> <li>• TCP/UDP port number</li> <li>• IPv6 traffic class1</li> </ul>
Access Control List (ACL)	<ul style="list-style-type: none"> <li>• ACL based on</li> <li>• MAC Address</li> <li>• IPv4 Address (ICMP/IGMP/TCP/UDP)</li> <li>• IPv6 Address (ICMP/TCP/UDP)1</li> <li>• 802.1p</li> <li>• DSCP</li> <li>• Ether type</li> <li>• IPv6 traffic class1</li> </ul>
	<ul style="list-style-type: none"> <li>• ACL Actions</li> <li>• Permit</li> <li>• Deny</li> <li>• Max. 6 profiles</li> <li>• Max. 768 entries</li> <li>• Single or multiple ports (each rule)</li> </ul>
Security	<ul style="list-style-type: none"> <li>• Port Security</li> <li>• Supports up to 64 MAC addresses per port</li> <li>• Broadcast/Multicast/Unicast Storm Control</li> <li>• Static MAC</li> <li>• D-Link Safeguard Engine</li> <li>• DHCP Server Screening</li> <li>• Trusted Host</li> <li>• ARP Spoofing Prevention</li> <li>• Max. 64 entries</li> </ul>
	<ul style="list-style-type: none"> <li>• SSL</li> <li>• Supports v1/v2/v3</li> <li>• Supports IPv4/IPv6</li> <li>• Traffic Segmentation</li> <li>• Smart Binding</li> <li>• Discover connected devices and click to bind</li> <li>• ARP Packet Inspection: 256 entries</li> <li>• IP/4/IPv6 Packet Inspection: 127/63 entries</li> <li>• Supports DHCP Snooping</li> </ul>

AAA	<ul style="list-style-type: none"> <li>• 802.1X Port-based Authentication</li> <li>• Supports RADIUS Server</li> <li>• Supports EAP, OTP, TLS, TTLS, PEAP</li> </ul>
OAM	<ul style="list-style-type: none"> <li>• Cable Diagnostics</li> <li>• Factory Reset</li> </ul>
MIB	<ul style="list-style-type: none"> <li>• 1213 MIB II</li> <li>• 1493 Bridge MIB</li> <li>• 1907 SNMP v2 MIB</li> <li>• 1215 Trap Convention MIB</li> <li>• 2233 Interface Group MIB</li> <li>• D-Link Private MIB</li> <li>• Power-Ethernet MIB</li> <li>• LLDP MIB</li> <li>• D-Link ZoneDefense MIB1</li> </ul>
RFC Standard Compliance	<ul style="list-style-type: none"> <li>• RFC 783 TFTP</li> <li>• RFC 854 Telnet Server</li> <li>• RFC 951 BootP/DHCP Client</li> <li>• RFC 1157 SNMP v1, v2, v3</li> <li>• RFC 1213 MIB II, IF MIB</li> <li>• RFC 1215 MIB Traps Convention</li> <li>• RFC 1350 TFTP</li> <li>• RFC 1493 Bridge MIB</li> <li>• RFC 1542 BootP/DHCP Client</li> <li>• RFC 1769 SNTP</li> <li>• RFC 1901 SNMP v1, v2, v3</li> <li>• RFC 1907 SNMP v2 MIB</li> <li>• RFC 1908 SNMP v1, v2, v3</li> <li>• RFC 2068 FCS</li> <li>• RFC 2131 BootP/DHCP Client</li> <li>• RFC 2138 RADIUS Authentication</li> </ul>
	<ul style="list-style-type: none"> <li>• RFC 2139 RADIUS Authentication</li> <li>• RFC 2233 Interface Group MIB</li> <li>• RFC 2246 SSL</li> <li>• RFC 2475</li> <li>• RFC 2570 SNMP v1, v2, v3</li> <li>• RFC 2575 SNMP v1, v2, v3</li> <li>• RFC 2598 CoS</li> <li>• RFC 2616 FCS</li> <li>• RFC 2618 RADIUS Authentication</li> <li>• RFC 2819 RMON v1</li> <li>• RFC 2865 RADIUS Authentication</li> <li>• RFC 3164 System Log</li> <li>• RFC 3195 System Log</li> <li>• RFC 3411-17 SNMP</li> <li>• RFC 3621 Power Ethernet MIB</li> </ul>

Management	<ul style="list-style-type: none"> <li>• Web-based GUI</li> <li>• Telnet Server</li> <li>• TFTP Client</li> <li>• IPv6 Neighbor Discovery</li> <li>• Configurable MDI/MDIX</li> <li>• SNMP</li> <li>• Supports v1, v2, v3</li> <li>• SNMP Trap</li> <li>• System Log</li> </ul>
	<ul style="list-style-type: none"> <li>• BootP/DHCP Client</li> <li>• D-Link Network Assistant support</li> <li>• SNTP</li> <li>• ICMPv6</li> <li>• IPv4/v6 Dual Stack</li> <li>• DHCP Auto Configuration</li> <li>• RMON v1</li> </ul>
Power Saving Technology	<ul style="list-style-type: none"> <li>• 802.3az Energy Efficient Ethernet (EEE) (disabled by default)</li> <li>• Power Saving by: <ul style="list-style-type: none"> <li>• Link Status</li> <li>• Cable Length detection</li> <li>• LED or Port Shut-off</li> <li>• Port Standby mode</li> <li>• System Hibernation mode</li> <li>• Time-based PoE (PoE model only)</li> </ul> </li> </ul>

### Οπτικά Καλώδια / Καλώδια / Διάφορα Παρελκόμενα

Optical Fiber Patch Cable ST to LC 3m 62.5/125 (Multimode)	<b>Τεμάχια 14</b>
Optical Fiber Patch Cable LC to LC 3m 50/125 OM3 (Multimode)	<b>Τεμάχια 8</b>
Fiber Optic Καλώδιο (2 x 12 ινών 50/125 Multimode OM3)	<b>Μήκος 360 μέτρα</b>
Fiber Optic Patch Panel LC 24 Port 1U	<b>Τεμάχια 2</b>
Coupler DOUBLE LC Multimode Simplex 50/125 Multimode OM3	<b>Τεμάχια 48</b>
Fiber Optic Pigtails LC 1m 50/125 Multimode OM3	<b>Τεμάχια 48</b>
Heat Shrink (ΘΕΡΜΟΣΥΣΤΕΛΟΜΕΝΑ)	<b>Τεμάχια 48</b>
Splice Cassette 24 ινών	<b>Τεμάχια 2</b>
Πλαστική Σωλήνα Β.Τ. Φ32 (ΚΟΥΒΙΔΗ)	<b>50 μέτρα</b>
Πλαστικό Κανάλι 40x40	<b>20 μέτρα</b>
UTP Cat6 Καλώδια για διασυνδεση WiFi Access Points στον 1ο και 2ο Όροφο του Κτιρίου Β (305 m μία κούτα)	<b>1 κούτα 305 μέτρα</b>
Modules CAT6 UTP για τον τερματισμό των καλωδίων	<b>12</b>
Patch Cables CAT6 2 μέτρων	<b>15</b>