

## 1. General Description of Connectivity

The Athens Exchange S.A. and Hellenic Exchanges S.A. both provide connectivity to their systems through **Points of Presence** at the Applications Users premises [1, 3]. The users of ATHEX-Net services are offered the necessary devices (access network) for establishing a secure interface to **ATHEX-Net** and their communication with the servers of the Applications through the distribution network and core network.

**ATHEX-Net** is the Wide Area Private Network which uses 3<sup>rd</sup> parties telecommunications infrastructure (Hellenic Telecommunications wired leased line circuits and Forthnet LMDS wireless circuits) for the provision of connectivity to the **ATHEX-Net Applications Providers** (Athens Exchange S.A. and Hellenic Exchanges S.A.) [3]. ATHEX chooses both the wired and wireless circuits from commercially available carrier provider circuits that meet set specifications.

**ATHEX-Net Applications Users** [2, 4] include:

- The Athens Exchange Members (Stock and/or derivatives market members)
- The Hellenic Exchanges Dematerialized Securities System Operators (CSD account operators)
- The Hellenic Exchanges Derivative Clearing Members (Derivatives clearing members)

The perspective or the existing ATHEX-Net Applications User may select the preferred technical solution for connectivity to ATHEX from a number of available "**ATHEX-Net node types**" [3, 4]. Those node types give access on an equal basis for all Users but offer different type of redundancy based on a number of hardware and configuration characteristics (e.g. number of routers, number of switches, number and type of primary and back-up circuits).

## 2. Service provided

The **ATHEX-Net Applications User** is given the option to select

- The type of ATHEX-Net Node or the Athex-Net equipment to be installed in its premises.
- The address for the installation of the ATHEX-Net equipment.
- The number of nodes to be installed in one or more of its Data Centers.
- The interface speed between the ATHEX-Net Node and the ATHEX-Net Central Nodes according to the specifications that are set by the ATHEX-Net Application Providers of the services.

The technical connection service that is provided includes:

1. Provision of Point of Presence (PoP) to the ATHEX-Net Application User premises (end-to-end connectivity) through circuits that meet special characteristics of redundancy (wired and wireless circuits).
2. Equality in the participation of all ATHEX-Net Application Users to their relevant Applications.
3. Provision of uninterrupted operation with a high degree of reliability and availability.
4. Provision of the greatest possible data safety.
5. Centralised network administration based on the FCAPS (Fault, Configuration, Accounting, Performance and Security management) model.
6. Maintenance and replacement cost for all network equipment including client premises network equipment.
7. A one-stop Support Desk (Network Operation Center) for submitting requests and receiving advice and support.

### 3. Fee Schedules

The fee schedule for using the ATHEX-Net applies to both Application Providers and Application Users. There is a lump sum (one-off) initial fee and a monthly fee depending on the characteristics and configuration of the node and the geographical location of the node (that is the distance between the central ATHEX-Net nodes in Athens and Thessaloniki and the node's installation location, as specified by the User) [5, 6]. In particular fees are distinguished according to [5]:

- The type of the ATHEX-Net Applications User Node,
- The geographical zone where the ATHEX-Net Applications User Node is installed,
- The interface speed of ATHEX-Net Applications User Node, and
- The category of user.

### 4. Example

For the calculation of the cost the figures of document [5] are being used.

#### 4.1 Typical example for a Member of ATHEX Securities Market (Exchange member) and Account Operator of DSS (Depository account operator).

**Parameters**

Node type 1.a	(over 85% of Users)
Zone A	(over 90% of Users)
1 <sup>st</sup> Node	(over 70% of Users)
Bandwidth	128 kbps
COST	One-off fee 28,056 €
	Monthly fee 0 €

#### 4.2 Non-Typical example for a Member of ATHEX Securities Market (Exchange member) and Account Operator of DSS (Depository account operator).

**Parameters**

Node type 1.a	(over 85% of Users)
Zone A	(over 90% of Users)
<u>Additional Node</u>	(less than 30% of Users)
Bandwidth	128 kbps
COST	One-off fee 28,056 €
	Monthly fee 675 €

#### 4.3 Typical example for a Member of ATHEX Securities Market (Exchange member) outside Greece

**Parameters**

Node type 1.a.1	
Zone D (London)	
1 <sup>st</sup> Node	
Bandwidth	128 kbps
COST	One-off fee 28,056 €
	Monthly fee 0 €

#### 4.4 Typical example for an Account Operator of DSS (Depository account operator – Custodian Bank).

**Parameters**

Node type 1.a	(over 85% of Users)
Zone A	(over 95% of Users)
1 <sup>st</sup> Node	(over 95% of Users)
Bandwidth	128 kbps
COST	One-off fee 28,056 €
	Monthly fee 675 €

## 5. References

1. **ATHEX Board Resolution 29**  
*"Provision of Technological Services of ATHEX"*
2. **ATHEX Board Resolution 29, Annex A**  
*"Provision of Interface Services on ATHEX-Net"*
3. **ATHEX Board Resolution 29, Annex A , Schedule I-1**  
*"Athens Exchange Transactions Network (ATHEX-Net)"*
4. **ATHEX Board Resolution 29, Annex A , Schedule I-2**  
*"Provided Interface Services to ATHEX-Net Applications Users"*
5. **ATHEX Board Resolution 29, Annex A , Schedule I-3**  
*"Price List of provided Interface Services to ATHEX-Net Applications Users"*
6. **ATHEX Board Resolution 32**  
*"(Fees) Price list of the Securities Market of ATHEX"*
7. **ATHEX Board Resolution 32 , Schedule A**