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**TÜBİTAK BİLGEM**

**NATIONAL ELEKTRONIC AND CRYPTOLOGY RESEARCH INSTITUTE**

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**AKIS**  
**PC INTERFACE**  
**INSTALLATION AND USAGE GUIDE**

**VERSION 2.2**  
**07.12.2011**

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# 1. AKiS ADMINISTRATOR PACKAGE INSTALLATION

## 1.1 BEFORE INSTALLATION

- Package can only be installed on Windows operating systems. There are separate packages for 32-bit and 64-bit operating systems:
  - *AKIS Yonetici (v.XY).msi* for Windows x86
  - *AKIS Yonetici x64(v.XY).msi* for Windows x64
- If an older version of the package is installed, a warning is displayed on the screen (Figure 1). The old package must be uninstalled from “Control Panel→Add/Remove Programs” and PC must be restarted.



Figure 1- Warning message

- AKiS Card Explorer tool needs Java Runtime Library (JRE) 6u10 or upper to run correctly. It must be 32-bit JRE on 32-bit operating system or 64-bit JRE on 64-bit operating system.
- Follow the installation steps described below.

## 1.2 JAVA INSTALLATION

- Download 32-bit Java for 32-bit operating system or 64-bit Java for 64-bit operating system (after JRE 6 update 10 and before JRE 7) from <http://www.java.com/tr/download/manual.jsp> and install.

## 1.3 AKIS INSTALLATION STEPS

- Run AKiS Administrator (v.X.Y).msi package.
- Figure 2 is displayed. Click Next.

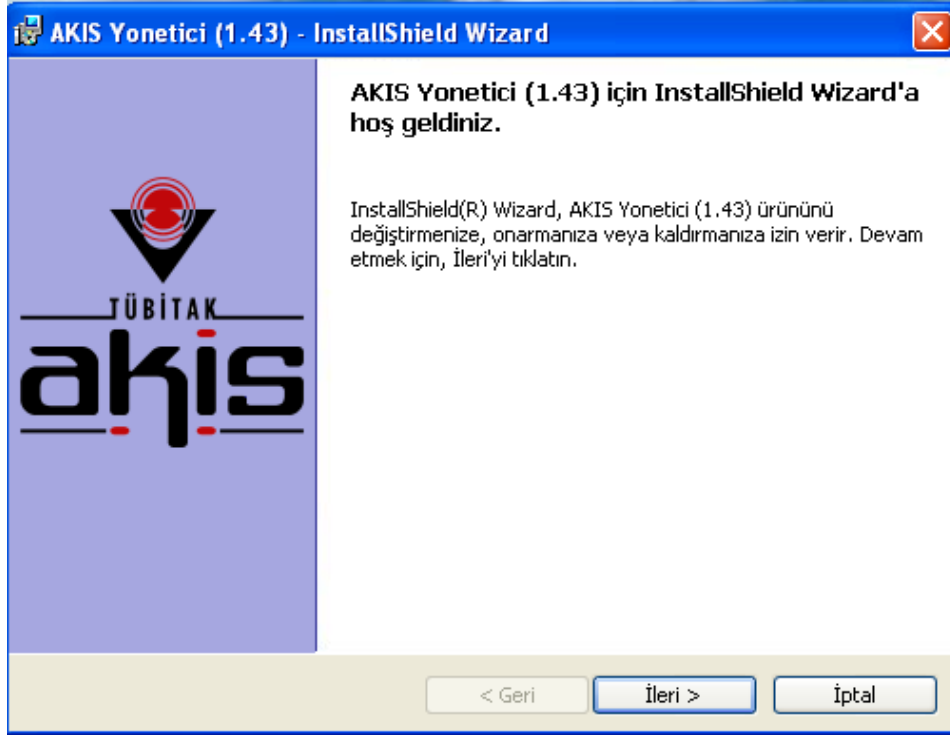


Figure 2

- License agreement is displayed in Figure 3. Select "I accept the license agreement". Click Next.

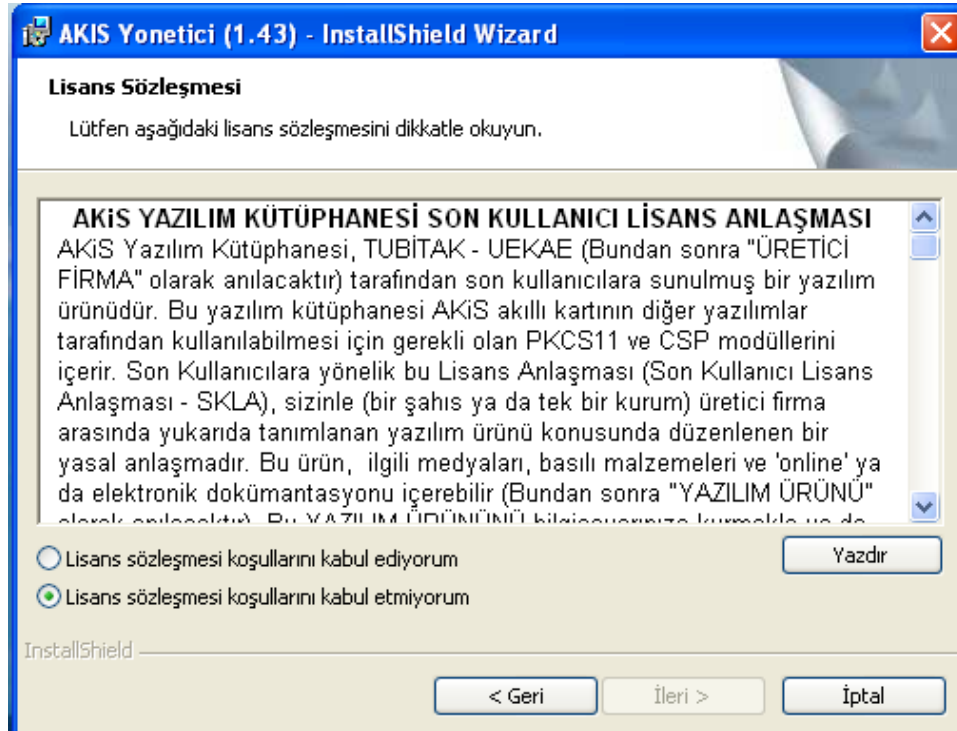


Figure 3

- Select User name and Installation type information. Select Next.

- Select Install on screen displayed in Figure 4 and start the installation. The installation ends with the Finish button.

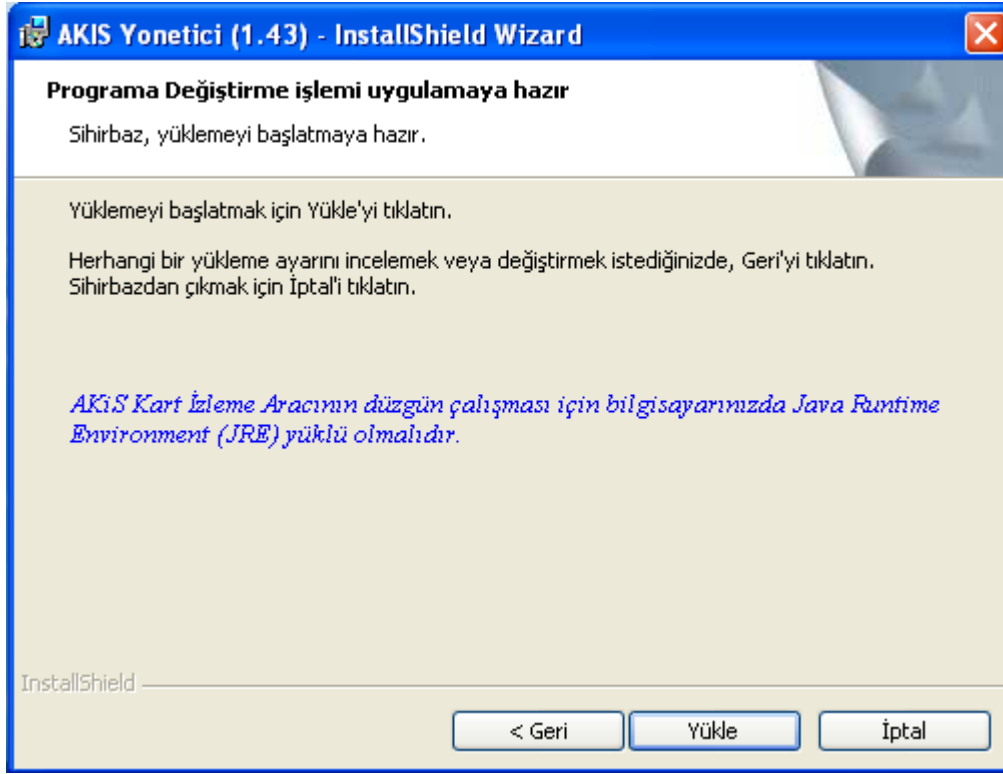


Figure 4

## 2. CONFIGURATION OF EMAIL PROGRAMS

### 2.1 OUTLOOK 2003 CONFIGURATION

For email signature and encryption functions with AKiS card on Outlook 2003, select Tools→Options→Security tab. On “Encrypted Email” section click “Settings”.

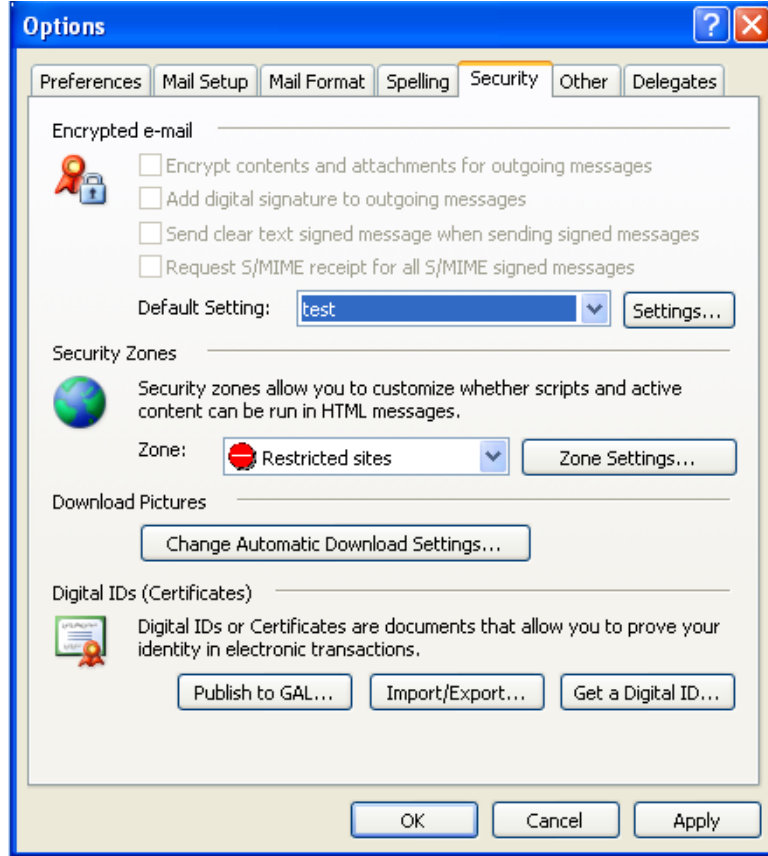


Figure 5- Outlook 2003 email encrypt/sign configuration

User's certificate is read from the card automatically, and displayed in “Certificates and Algorithms” section (Figure 6). Select OK.



Figure 6- Outlook user certificate settings

Sign and encrypt icons are placed on the new email window. For sending signed or encrypted email select the relevant icon.

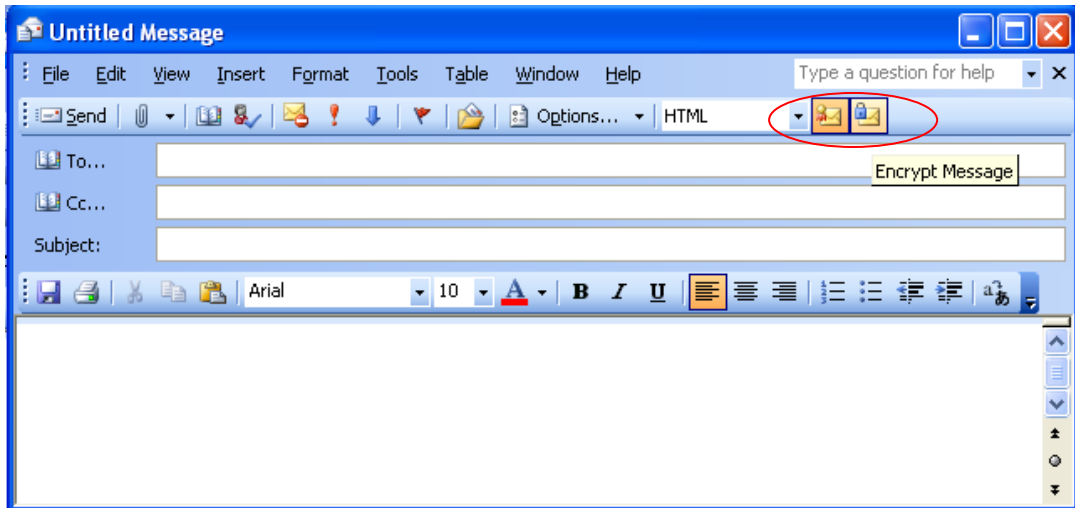


Figure 7- Send signed/encrypted email

## 2.2 OUTLOOK 2007 CONFIGURATION

For email signature and encryption functions with AKIS card on Outlook 2007, select Tools→Trust Center→Encrypted Email. On “Encrypted Email” window click “Settings”.



Figure 8- Outlook 2007 email encrypt/sign configuration

On Security Settings window, click “New” to set security settings. Give a name to the new security setting to use later.

Select encryption type “S/MIME”. As seen in Figure 8, check the checkboxes. In certificates and algorithms section, select the signature and encryption certificates present in smart card. The certificates are read from the smart card and the supported algorithms are listed on the window (like SHA1 and 3DES).

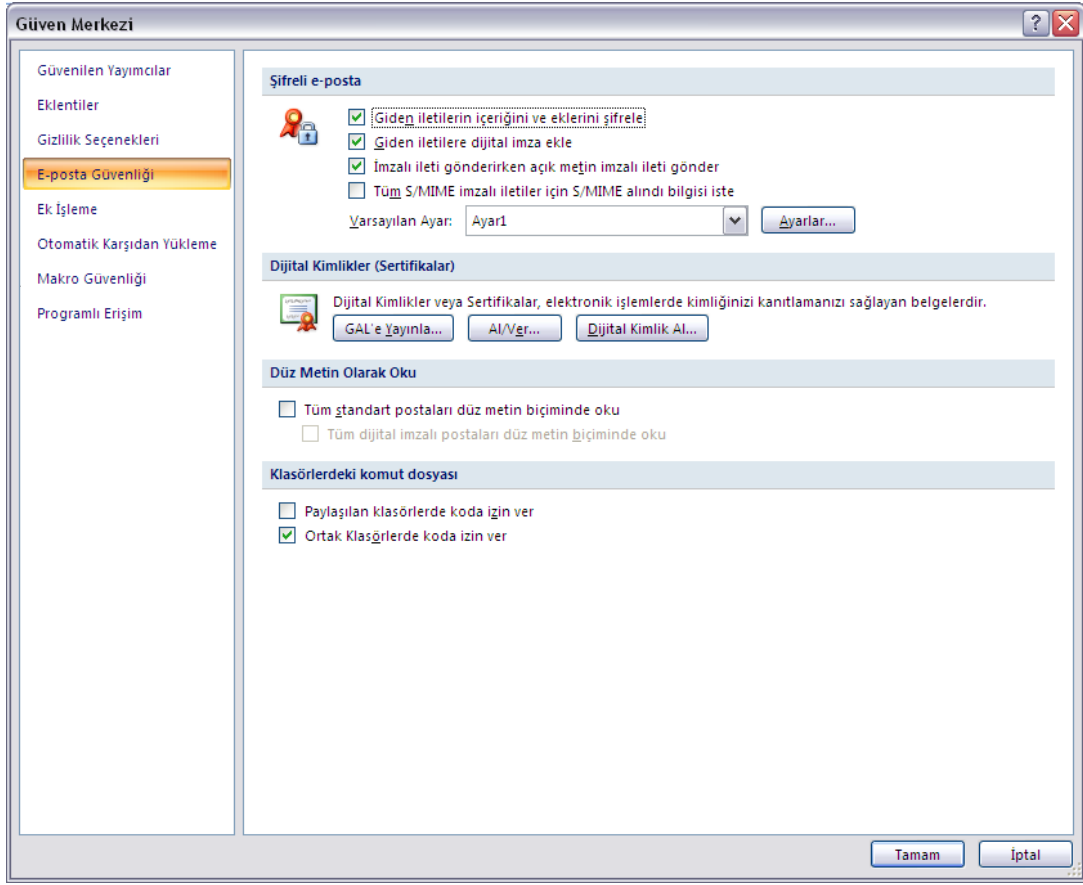


Figure 9- Outlook 2007 email sign/encrypt settings

For sending all emails signed and encrypted, check the checkboxes as shown in Figure 9.

After these settings, when a new email window is opened encryption and signature icons are activated as seen in Figure 10. When “Send” is clicked, the PIN for the smart card is prompted. After a successful authentication, email is sent encrypted and signed.

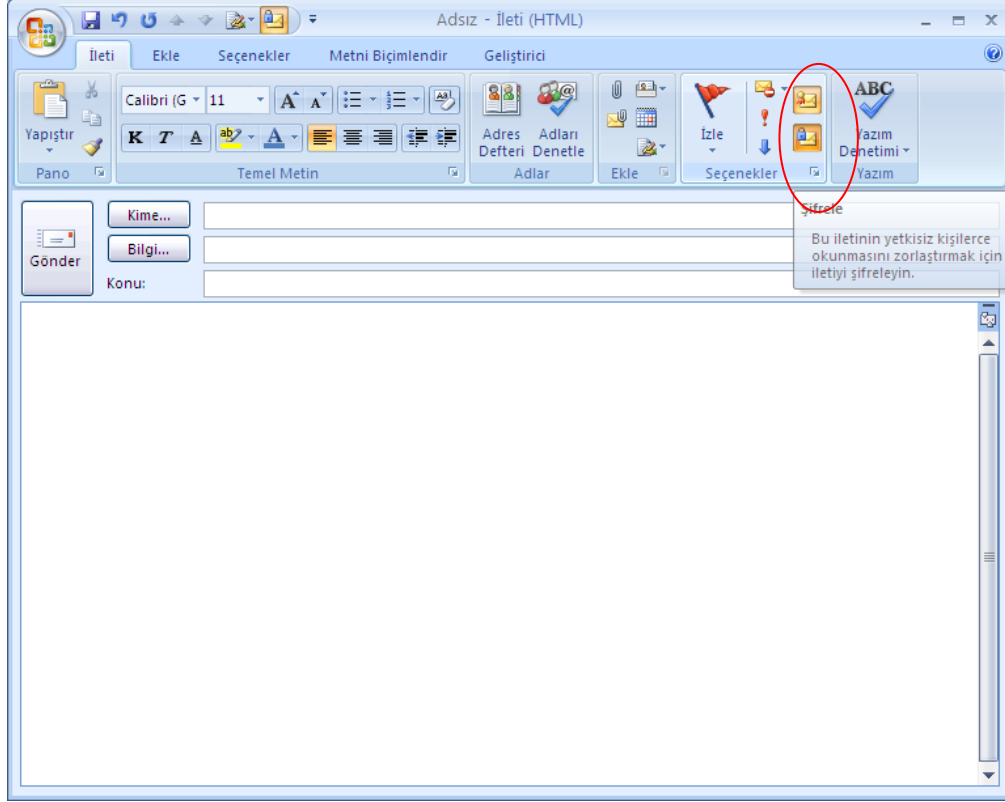


Figure 10- Sending signed/encrypted email

### 2.3 OUTLOOK 2010 CONFIGURATION

For email signature and encryption functions with AKiS card on Outlook 2010, select File→Options→Trust Center→ Trust Center Settings→Encrypted Email. On “Encrypted Email” window click “Settings”.



**Figure 14- Outlook 2010 email encrypt/sign configuration**

On Security Settings window, click “New” to set security settings. Give a name to the new security setting to use later.

Select encryption type “S/MIME”. As seen in Figure 8, check the checkboxes. In certificates and algorithms section, select the signature and encryption certificates present in smart card. The certificates are read from the smart card and the supported algorithms are listed on the window (like SHA1 and 3DES).

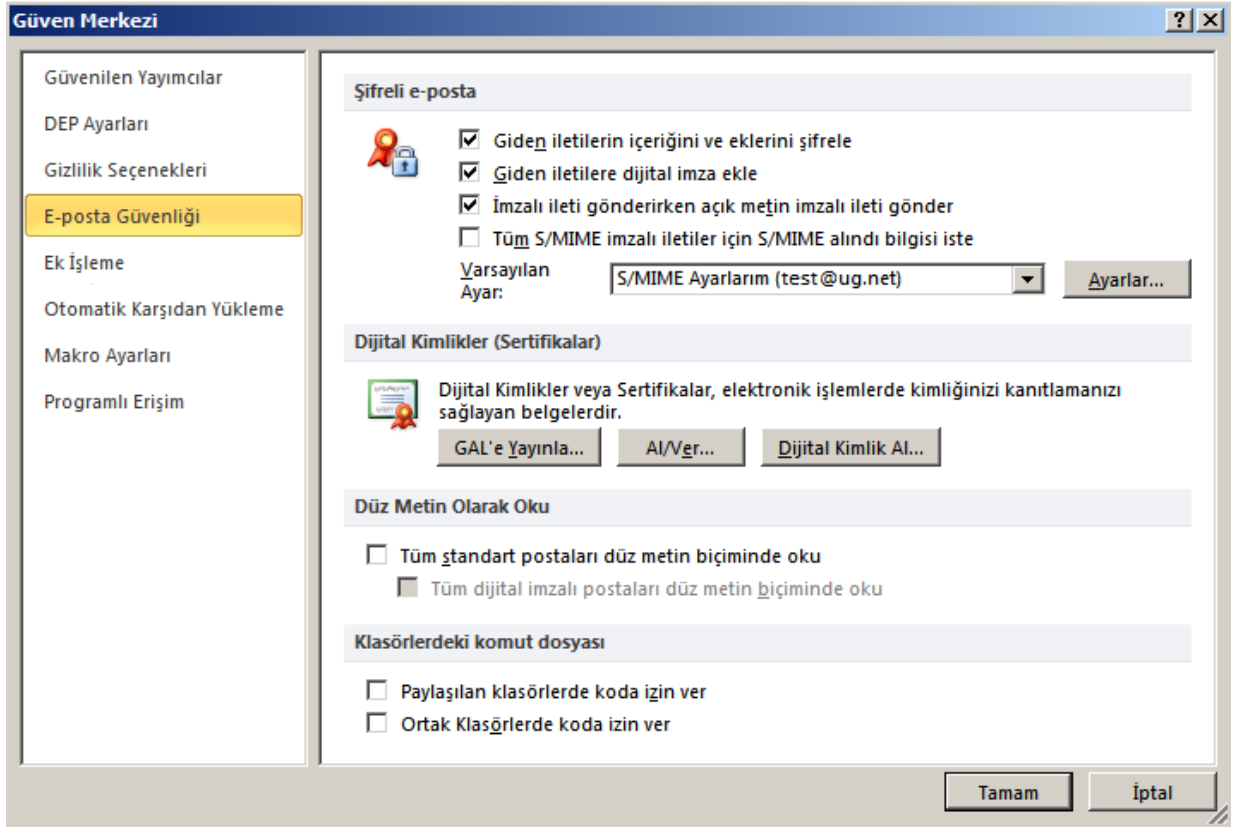


Figure 15- Outlook 2007 email sign/encrypt settings

For sending all emails signed and encrypted, check the checkboxes as shown in Figure 95.

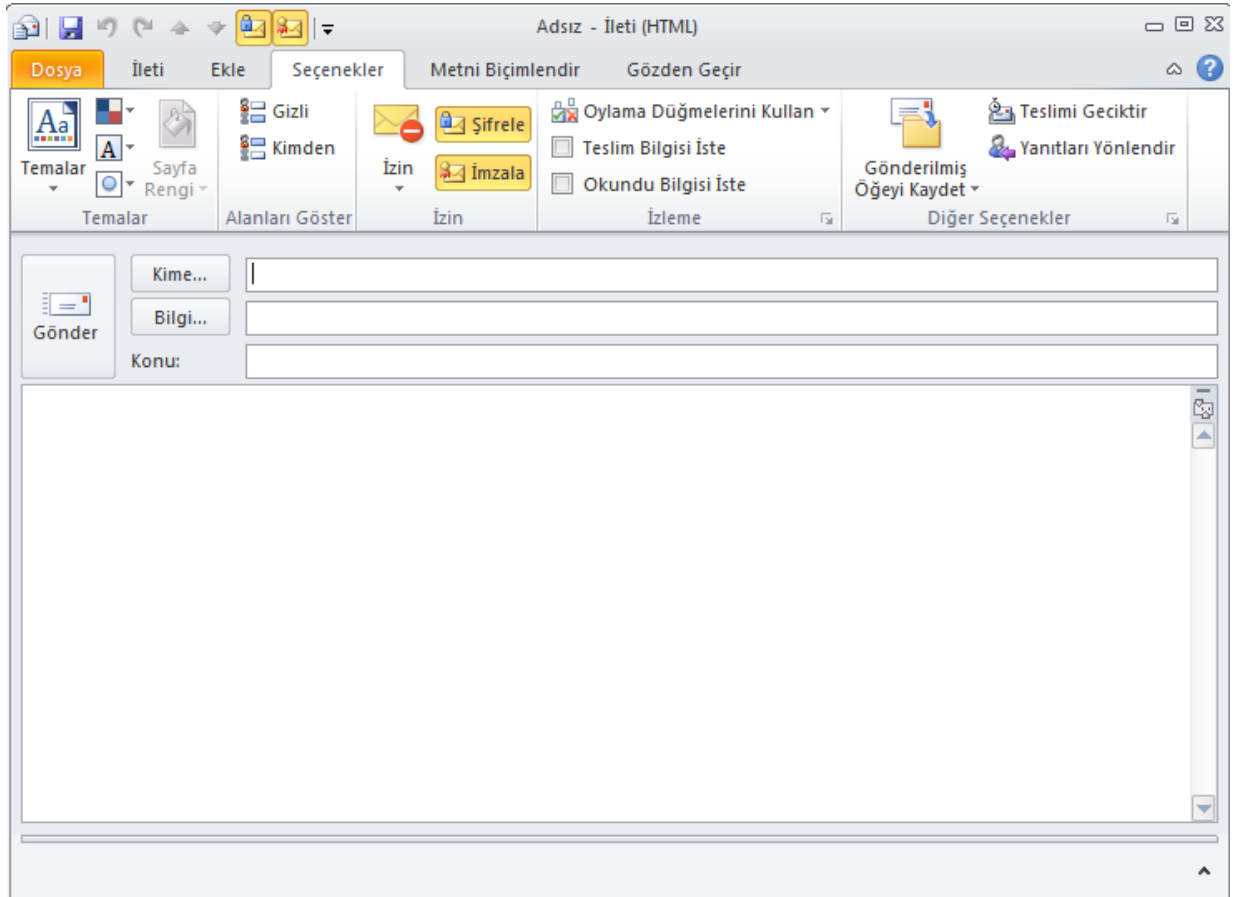


Figure 16- Sending signed/encrypted email

After these settings, when a new email window is opened encryption and signature icons are activated as seen in Figure 106. When "Send" is clicked, the PIN for the smart card is prompted. After a successful authentication, email is sent encrypted and signed.

## 2.4 ADDING A USER ACCOUNT WITH 32-BIT OUTLOOK ON 64-BIT OS

With 32-bit Outlook on 64-bit operating systems, the user accounts may not be added when Outlook program is open. In the case, open the control panel showing 32-bit applications. Select Mail (32-bit) as seen in Figure 17. When a Mail Setup window is opened, select E-mail Accounts button, and continue adding user account.

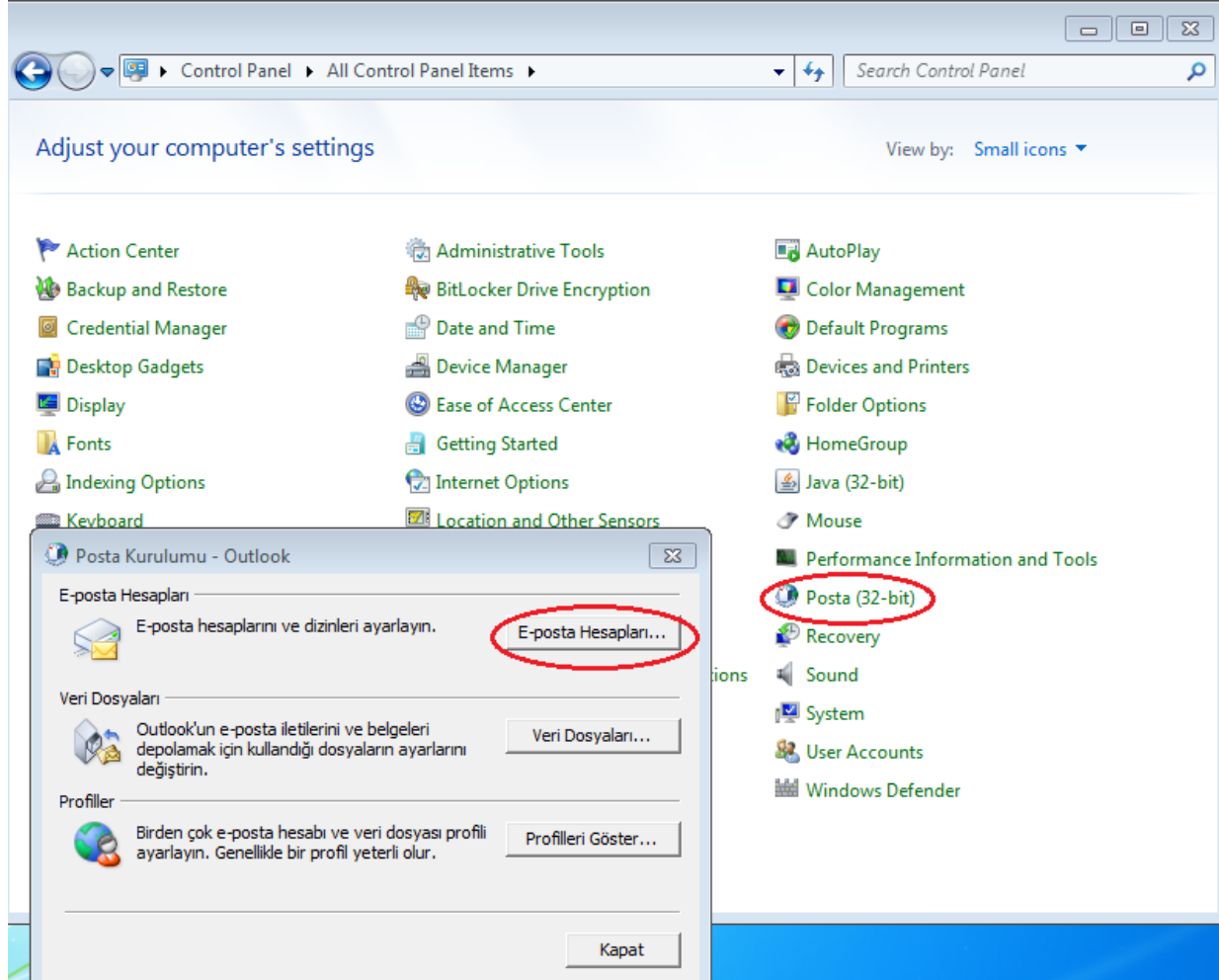


Figure 17- Adding user account with 32-bit Outlook on 64-bit OS

## 2.5 THUNDERBIRD CONFIGURATION

On Thunderbird, Tools→ Account Settings window Security tab, click the “Security Devices” button. On Device Manager window click the “Load” button, and enter module information (Module name: “akis pkcs11”, Module filename: “C:\WINDOWS\system32\akisp11.dll”) for Akis pkcs11 dll. Security module is loaded successfully message is displayed. Thunderbird can now be used with AKiS smart card.

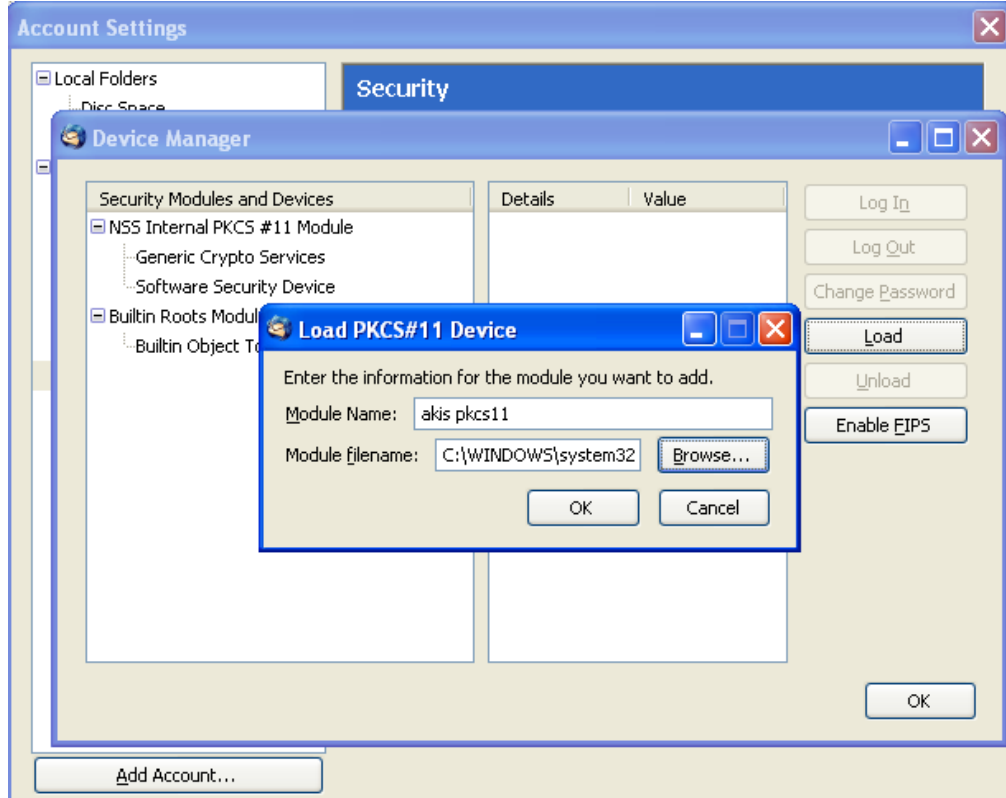


Figure 18- PKCS11 yazılımı tanıtımı

After the smart card is inserted to the card reader, on Security tab Digital Signing ve Encryption section click the Select button. Login with the card PIN and certificates on the card are installed to the system automatically.

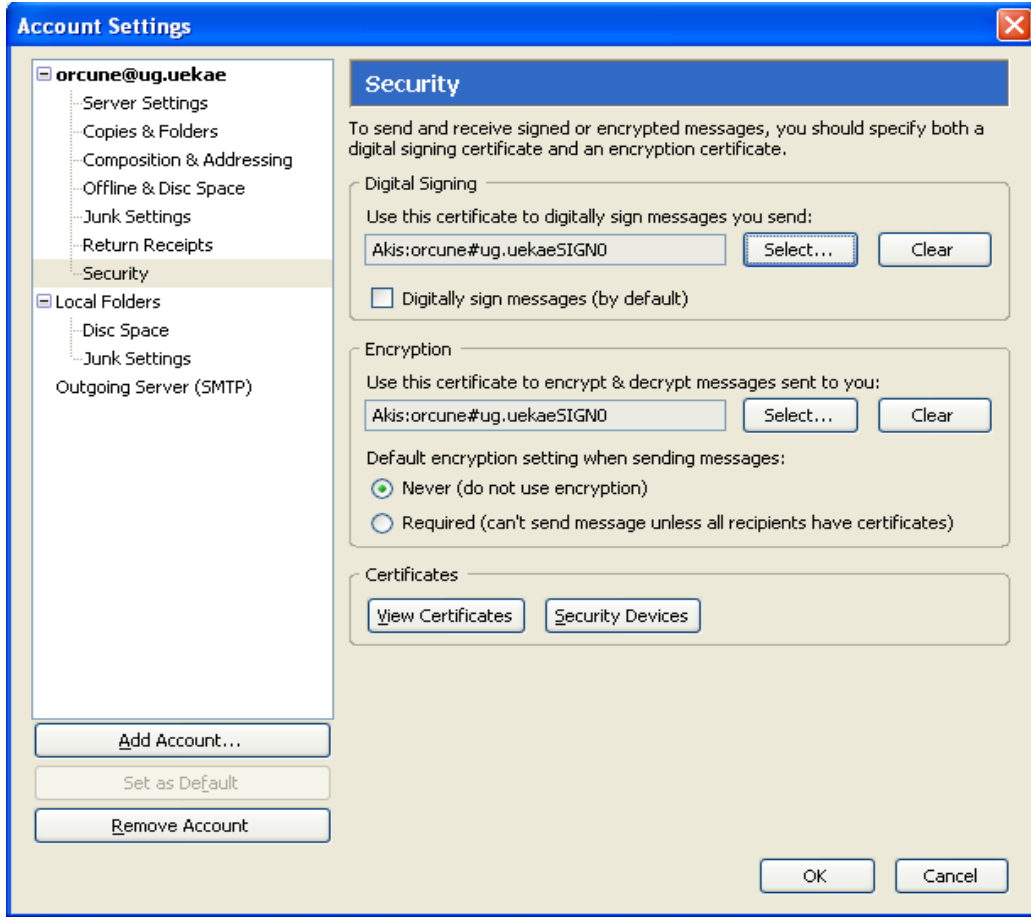


Figure 19- Thunderbird certificate settings

### 3. BROWSER CONFIGURATION

#### 3.1 MOZILLA FIREFOX CONFIGURATION

On Firefox Tools→Options window Advanced→Encryption tab click the Security Devices button.

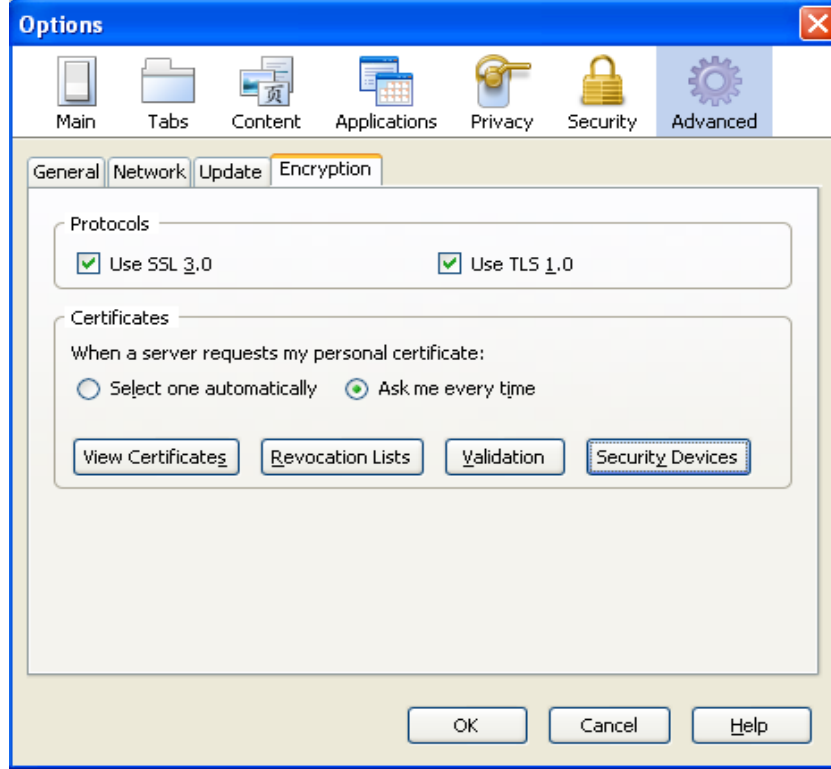


Figure 20- Firefox security configuration

On Device Manager window click the “Load” button, and enter module information (Module name: “akis pkcs11”, Module filename: “C:\WINDOWS\system32\akisp11.dll”) for Akis pkcs11 dll. Security module is loaded successfully message is displayed. Firefox can now be used with AKiS smart card.

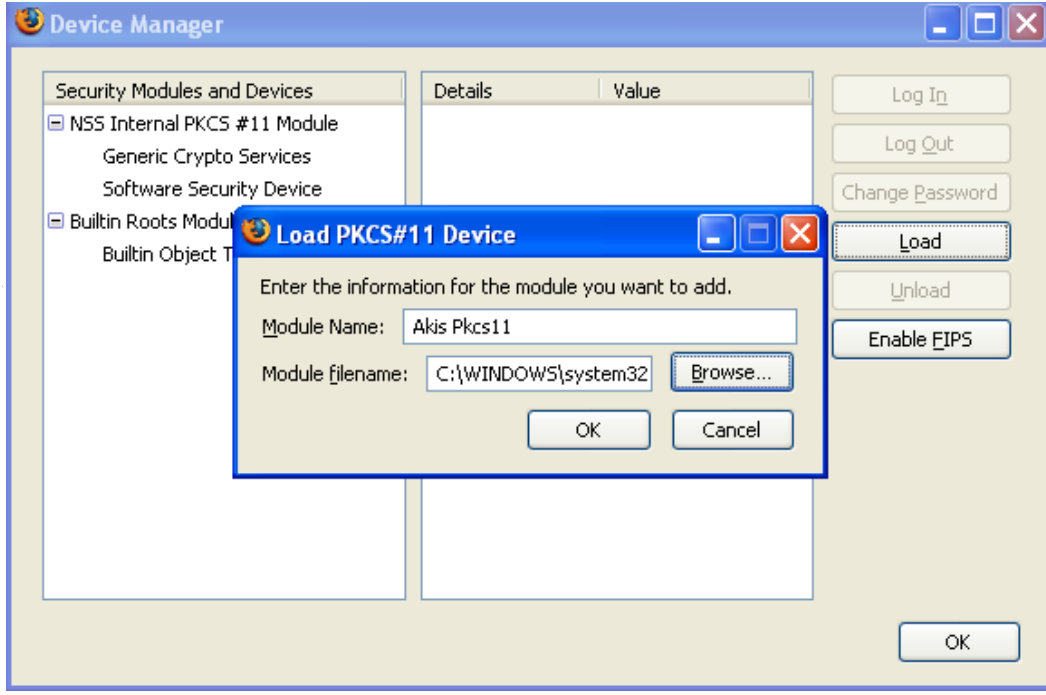


Figure 21- Firefox pkcs11 module settings

## 4. AKiS CARD EXPLORER TOOL

Akis Administrator Package creates a shortcut to reach appropriate card viewer program. According to the Java Run Time Environment (JRE) version in your system this shortcut calls the AKiA.jar or Cpp-AkisKartIzlemeAraci.exe programs. Jar file is called when your system has a JRE6u10 or over. The other program in exe format is called when your system has a JRE below than JRE 6u10 version.

If you have any JRE version installed on your system, you may reach the Cpp-AkisKartIzlemeAraci.exe program manually by following the path : C:\Program Files\AKIS\AKiA. Unfortunately, we do not suggest you to use this exe format program, because it is the version which is included in older package versions and our updates are made on the new program called AKiA.jar.

### 4.1 AKiA

AKiA which exists in Akis Administrator Package, helps you to explore and manage Akis smart cards inserted to the smart card readers in your system. AKiA tool is a java based software and there is also another package for Linux systems.

After the AKiS Administrator Package is installed, AKiA shortcut icon is inserted to the Desktop. When the tool runs, the window in Figure is displayed.

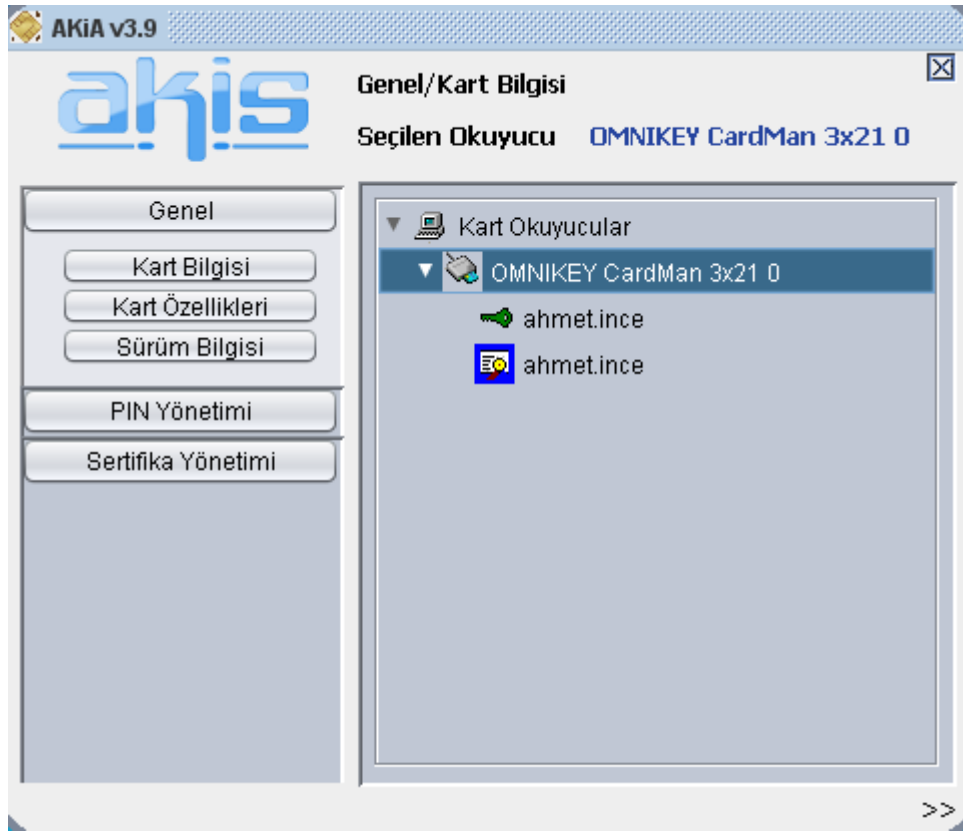


Figure 22 - AKiA

AKiA is described according to default settings in this document.

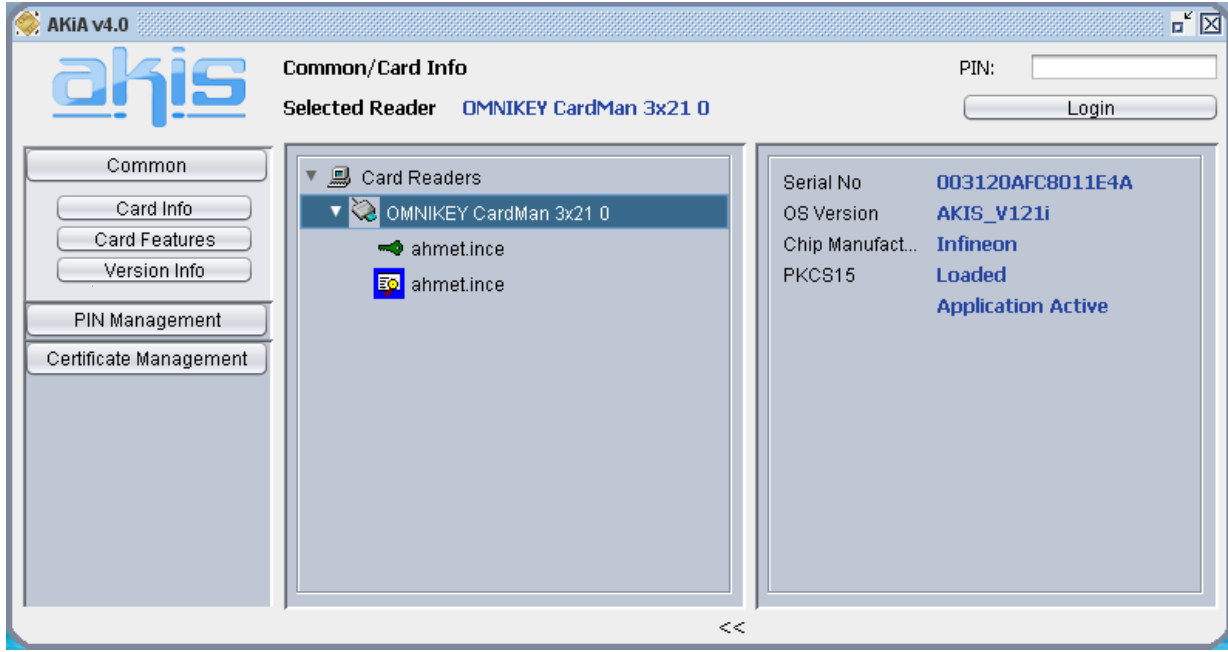


Figure 23 – AKiA main window

When a smart card reader is selected, AKiA's information window located in the right is opened and information about the card inserted in the card reader is displayed.

When Card Features button is clicked, smart card's detailed information is displayed.

PIN Management tab helps you to manage PKCS15 application's PIN and PUK. PIN/PUK can be changed by clicking Change PIN and Change PUK button. Blocked PIN can be unblocked by clicking Unblock PIN button.

Buttons under Object Management tab are disabled on default usage.

Certificate Management tab helps you to manage certificates under PKCS15 application. You can display a certificate, export a certificate, and upload a certificate from this tab. Show Certificate button displays certificate's basic features. Export button exports the certificate to any directory that the user chooses. Upload to System button uploads the certificate under Console Root Personal directory.

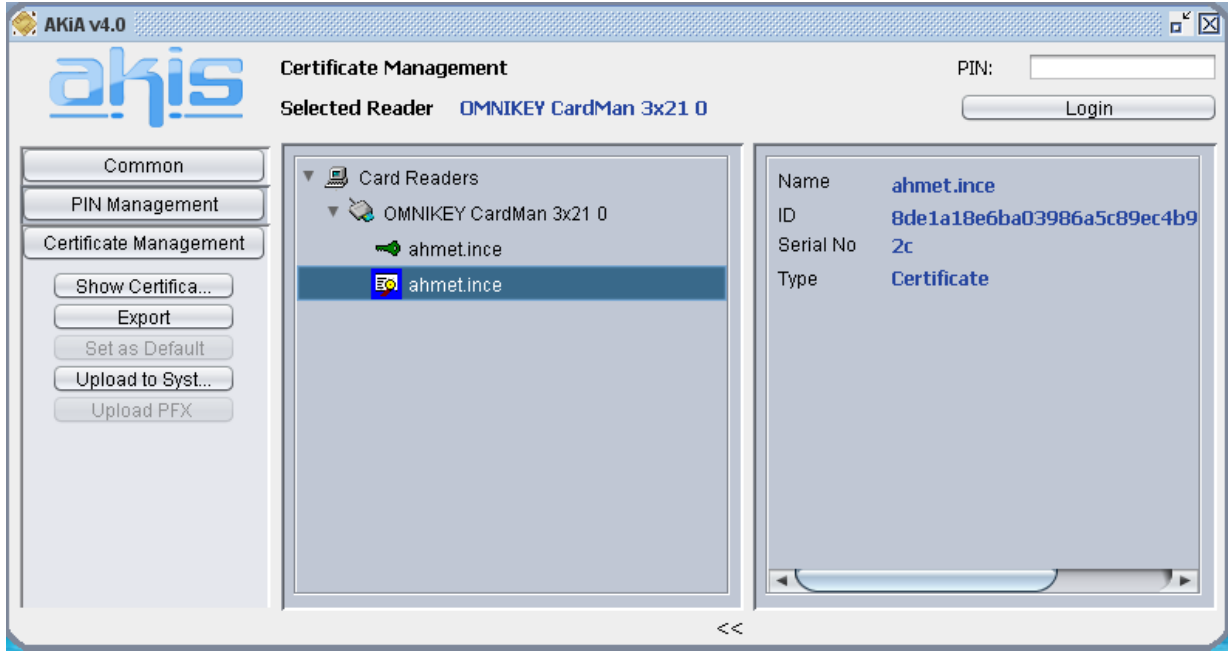


Figure 24- AKiA certificate management window

On card readers tree, PKCS15 objects in smart cards are displayed. These can be key, certificate, or data objects. Default certificate's icon is highlighted in blue.

Users can login to the card by entering PKCS15 applications PIN and clicking the Login button on the right top corner of AKiA. Login is required for listing the private objects on the card. When AKiA is closed, user logouts automatically from the card. User should relogin.

## 4.2 NON JAVA BASED AKIS CARD EXPLORER

If your system does not have a JRE6u10 or upper version, you can use Cpp-AkisKartIzlemeAraci.exe which has a user interface as shown below.

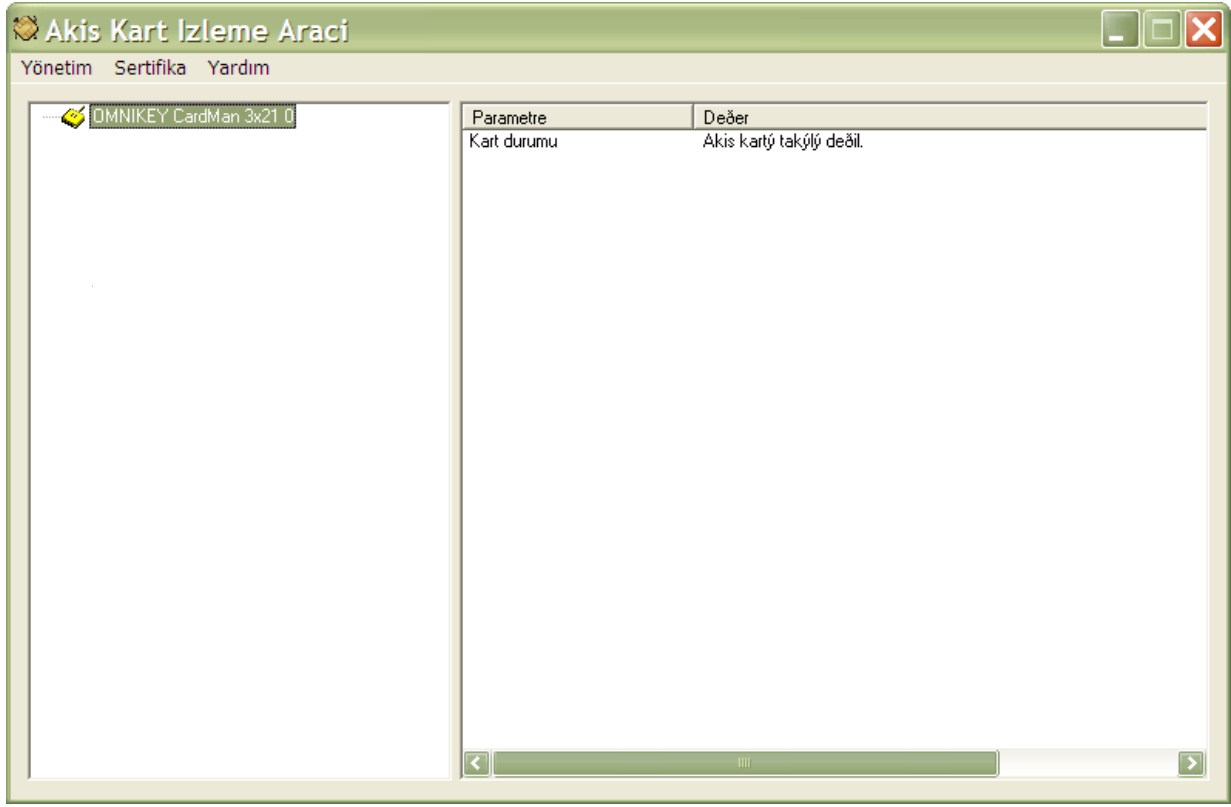


Figure 25- Non Java based Akis Card Explorer

## 5. AKiS DIAGNOSTIC TOOL

If you have problems with any operation using AKiS PC Interface software, you can use this tool to find the reason of the problem or error.

You can follow the path Start > All Programs > AKiS > Akis Teşhis Aracı (in Windows XP) to execute the tool which has a user interface shown as below:

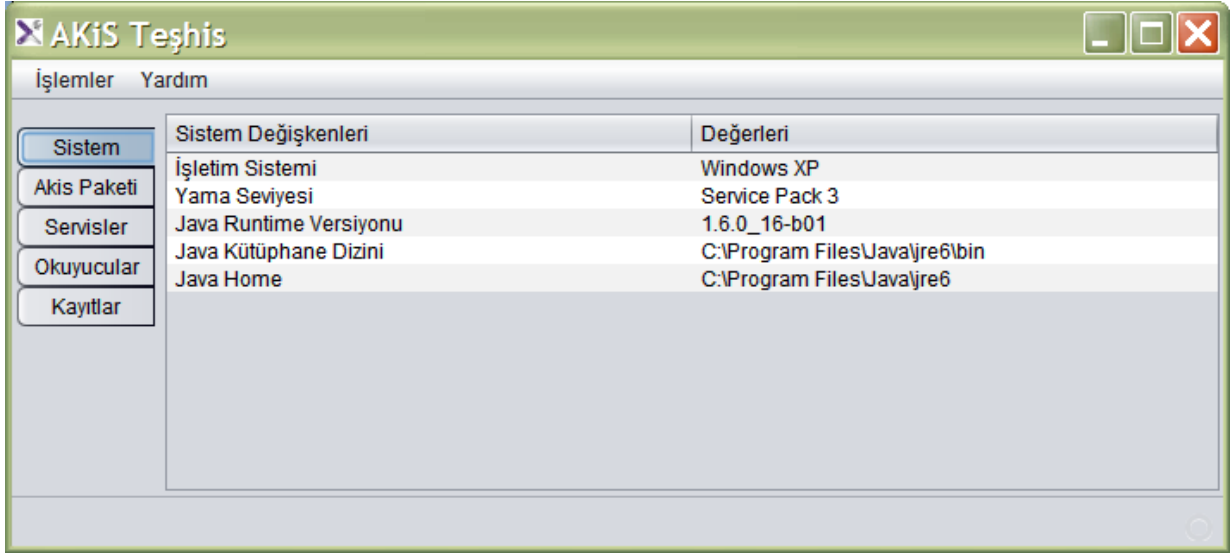


Figure 26- AKiS Diagnostic Tool main window

You can check the related system and environment information from the tabs on the left. If you can not see any problem here, then you should create report or package to send it to your system administrator to solve the problem.

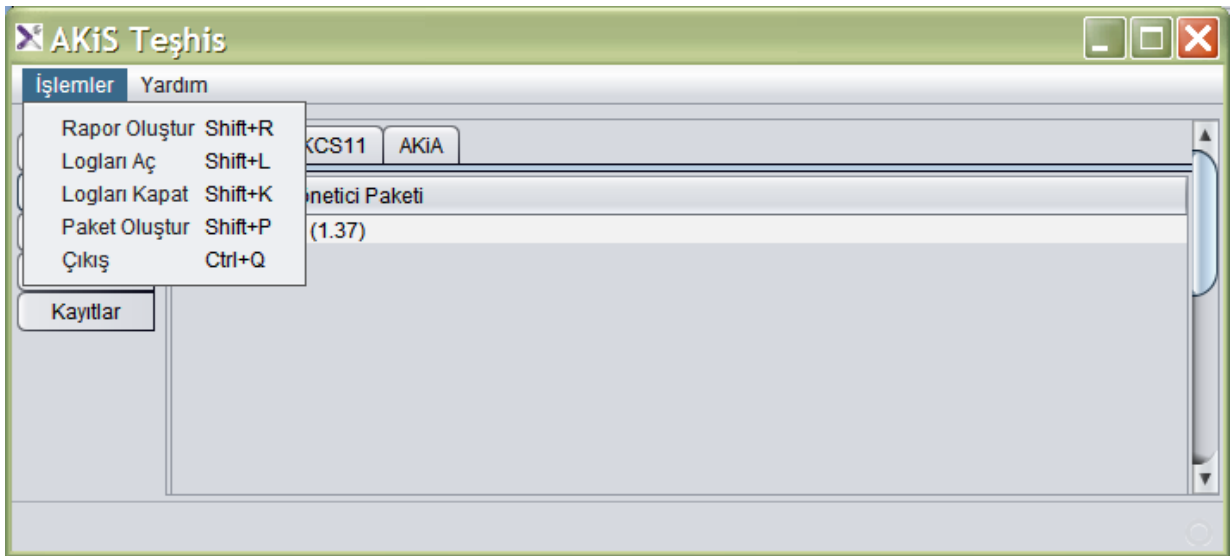


Figure 27- AKiS Diagnostic Tool Operation Menu

As seen in Figure , there are some operations under the “İşlemler” menu field.

Rapor Oluştur Operation, collects information about the system and environment related to the AKIS PC Interface and creates a report.

Logları Aç Operation, activates logging of akisp11.dll, akiscsp.dll and AKiA. After this operation, you should regenerate the scenario that produces the error. By this way, the errors are written to the log files of the programs mentioned.

Logları Kapat Operation, deactivates logging of akisp11.dll, akiscsp.dll and AKiA.

Paket Oluştur Operation, creates a .zip package which includes log files of akisp11.dll , akiscsp.dll, and AKiA and the report file inside. Created .zip file should be submitted to the system administrator to solve the error or problem. The system administrator can forward the package to AKiS support team by email (destek@akiskart.com.tr).