

# Symbian Platform Security: Granting Sensitive Capabilities

(AllFiles, CommDD, DiskAdmin, MultimediaDD, NetworkControl,  
DRM & TCB)



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# Background

- In Symbian Platform Security, access to certain functions is restricted by capabilities
- Developers can access most of the capabilities through Symbian Signed
  - Refer to the backup material (slide 8-) for further clarification
- Some of the capabilities are considered as sensitive and are split in this presentation as follows:
  - The five (AllFiles, CommDD, DiskAdmin, MultimediaDD & NetworkControl)
  - DRM & TCB
- Applications can receive sensitive capabilities through Symbian Signed for Nokia
- If the developer is a Symbian Self Certifier, Nokia can also recommend Symbian to give the developer access to the mentioned capabilities
- The developer can use Symbian Developer Certificates to test the application on a live device
  - For the sensitive capabilities these are granted only if the developer can also receive the final acceptance for the application



# Need for sensitive capabilities

Capabilities are used to access certain APIs to create certain functionality:

- TCB: Antivirus, File encryption
- DiskAdmin: ES TARM (device management)
- CommDD: VPN/IPsec and firewalls
- AllFiles: only a few isolated and rare cases
  - A general purpose “file manager” functionality cannot be accepted (due to copy protection / DRM-related issues)
- MultimediaDD / NetworkControl: VoIP applications + more in-depth access to multimedia and network

A process cannot load a DLL with a smaller set of capabilities than itself:

- All-TCB (All except TCB): MTM, FEP & Browser Plug-ins
- The capabilities are not “actively used” – used only for DLL loading purposes



# Granting the Five

1. Developer fills in the Symbian Signed Capability Request Form (download it from <http://www.symbiansigned.com/app/page/overview/testcriteria>).
2. Developer sends the form to [nokia.testing@nokia.com](mailto:nokia.testing@nokia.com)
  - This is provided by the developer at the latest when requesting the Developer Certificate
  - This is needed to provide enough technical information of the capability need
3. Technical justification is checked
3. Each case is evaluated and handled in a board which convenes biweekly
4. The developer is guided to Symbian Signed for Nokia for final certification
  - Legal framework is handled at the time of registration
  - The sensitive part of the application is packaged into an embedded SIS, if architecturally feasible
  - Developer pays for the testing and signing
  - Application is tested against Symbian Signed and Nokia criteria (see [www.forum.nokia.com/testing](http://www.forum.nokia.com/testing) for the excluded test cases)



# Granting TCB & DRM

- Both TCB and DRM capabilities enable an application to access sensitive DRM-related material
- Nokia has licensed the DRM material under CM-LA and WMDRM agreements and is liable for maintaining the integrity of the DRM solutions
  - If any developer application breaks the integrity, Nokia will have to pay according to the liability clauses



# Granting TCB & DRM or Self Certification Rights

1. The developer fills in the Symbian Signed Capability Request Form and sends it to [nokia.testing@nokia.com](mailto:nokia.testing@nokia.com)
  - This is provided by the developer at the latest when requesting the Developer Certificate
  - This is needed to provide enough technical information of the capability need
  - This also applies to any Symbian Self Certifier requesting access to any of the seven sensitive capabilities
2. Technical justification is checked
3. Due to high liability, each case requires a business relationship and legal agreement between Nokia and the developer



# Granting TCB & DRM or Self Certification Rights

## 4. When the case is accepted:

- Legal framework is created by the Nokia business owner
- The developer is guided to Symbian Signed for Nokia for final certification
- If the developer is a Symbian Self Certifier, Symbian is notified about the decision and they will grant the access to the capabilities
- This acceptance is per application
- The developer pays for the testing and signing
- Application is tested against Symbian Signed and Nokia criteria



# Backup material



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# Java Verified and Symbian Signed

## -Industry-wide application testing programs-

Application  
running on  
Symbian OS

[www.symbiansigned.com](http://www.symbiansigned.com)  
Symbian OS devices

Common test criteria

Symbian, Nokia, SonyEricsson,  
Sendo, Siemens, Orange,  
T-Mobile, Handango



Digitally  
signed  
applications

Channels  
operators,  
aggregators.

Utilizing the  
programs does  
not cost  
anything



Java™ ME  
application

[www.javaverified.com](http://www.javaverified.com)  
MIDP 1.0 & 2.0

Common test criteria

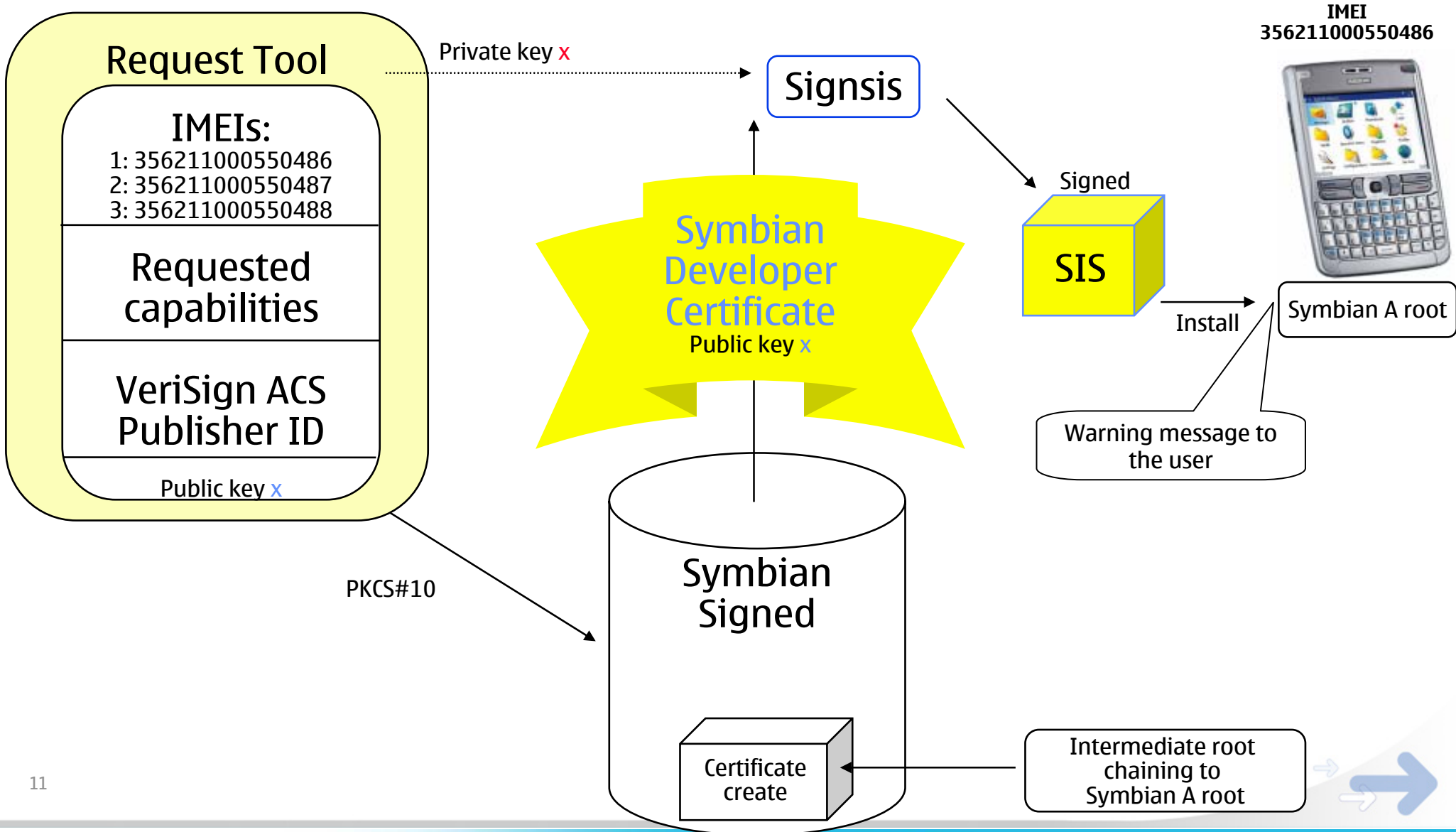
Sun, Motorola, Nokia, Siemens,  
SonyEricsson, Vodafone, Samsung,  
Orange, T-Mobile, LG, Handango

# Symbian Signed – services

- UID (Unique Identifier)
  - “Social security number” for the application
- Developer certificate
- Application testing and signing
  - Getting your application Symbian Signed
  - Use a “for Symbian OS logo”
  - Get the application listed on a Symbian Signed application catalogue
- Freeware certification



# Symbian Developer Certificate - details

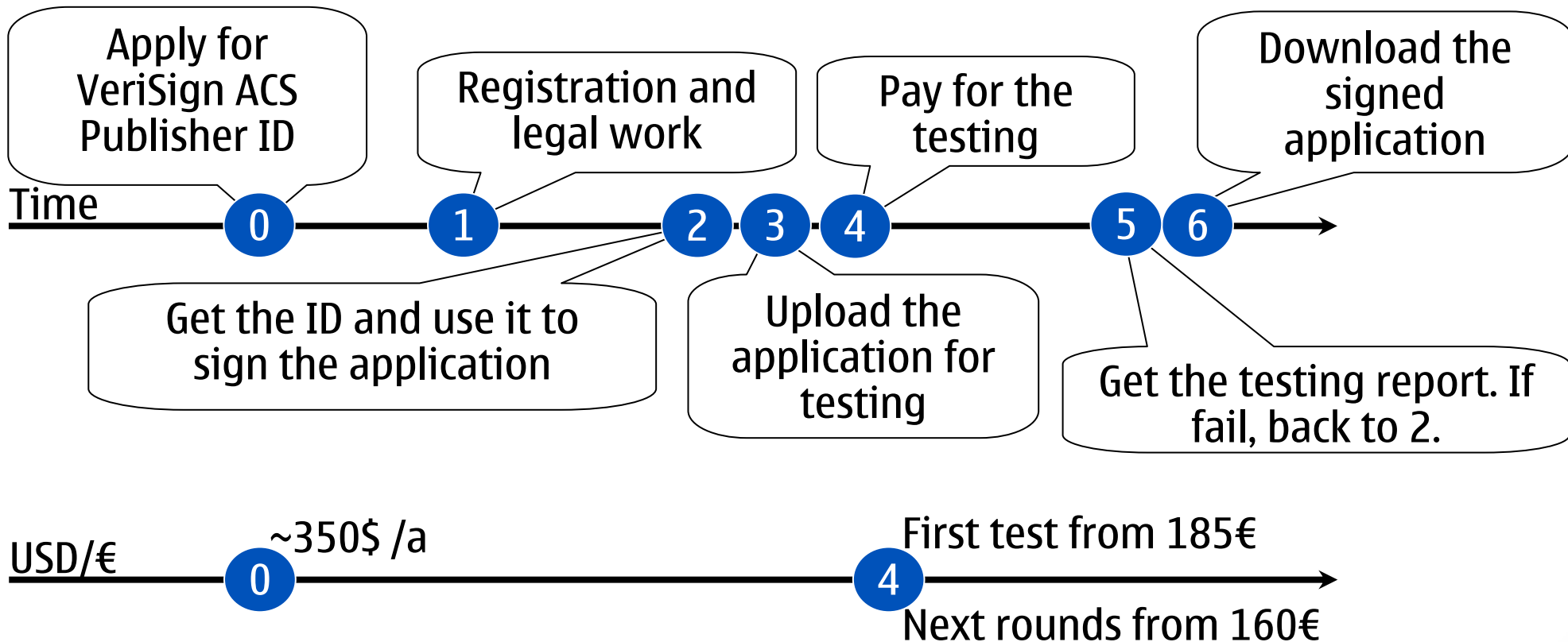


# Symbian Developer Certificates

Number of IMEIs	Authentication	Capabilities
1	Symbian Signed account	LocalServices, UserEnvironment, NetworkServices, Location, ReadUserData, WriteUserData, SWEvent, SurroundingsDD, ProtSrv, PowerMgmt
20	VeriSign ACS Publisher ID and Symbian Signed account	As above + ReadDeviceData, WriteDeviceData, TrustedUI
> 20	VeriSign ACS Publisher ID, Symbian Signed account and licensee support	As above + DRM, NetworkControl, MultimediaDD, TCB, AllFiles, CommDD, DiskAdmin



# Symbian Signed process



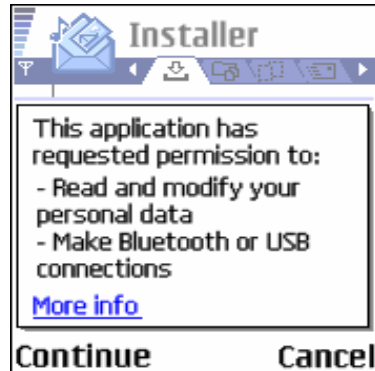
# Access to capabilities

## Unrestricted

(60% of APIs)

## User-Grantable (at installation time)

ReadUserData  
WriteUserData  
NetworkServices  
LocalServices  
UserEnvironment



Implementations  
may vary!

## Symbian Signed

The user-grantable  
capabilities  
+  
Location  
ReadDeviceData  
WriteDeviceData  
PowerMgmt  
SurroundingsDD  
ProtServ  
TrustedUI  
SwEvent

## Licensee/Platform Approval

Symbian Signed  
capabilities

+  
DRM  
TCB  
Manufacturer

DiskAdmin  
AllFiles  
CommDD  
MultiMediaDD  
NetworkControl  
S60