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SOLO Server

Application Notes



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SOLO SERVER

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With the license management system SOLO Server from Concept Software offers MARX every CRYPTO-BOX user the possibility to renew or extend software licenses directly. Clients handle their orders via an automatic ordering system. This framework handles also every charging procedures and actualizes the licenses on the CRYPTO-BOX.

SOLO Server minimizes the effort for software vendors and distributors and speeds up license handling.

Advantages for the software distributor

- Fast and easy license updates and demo upgrading
- Time effort will be reduced
- Marginal efforts for handling
- Assumption of the complete charging procedures, incl. documenting and handling of discounts and compensation.
- Powerful marketing tool - easily read out of client data, fast generating and sending of email campaigns and succes control of marketing projects
- Getting sales figures very fast

Advantages for clients

- Fast and easy license updates
- Upgrading demo versions directly
- Easy payment
- Control about order and shipping state

CRYPTO-BOX and SOLO Server - your external "back office" for license updates. Get more details: www.marx.com/solo.

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1. Automatic license management

1.1 Requirements

The license management technology (based on the SmarxOS Web API) provides automated on-line update for application and document licenses.

The system contains (a) client-side components (used to access the CRYPTO-BOX) and (b) server-side components (to be deployed on Web server). SOLO Server can be considered as a higher abstract layer built on top of Web API.

- a) The client-side component is the same as used for any Standard Web API from MARX: it is implemented as a COM object for Microsoft Internet Explorer and as a plug-in for Mozilla/Firefox.

The component provides access to the CRYPTO-BOX from within client's Web browser.

Client side requirements:

- Hardware: SmarxOS formatted CRYPTO-BOX USB (firmware 2.2 or higher);
- Driver: CRYPTO-BOX/CrypToken USB driver must be installed;
- Client component:
 - SMRXWEB COM-object for Microsoft Internet Explorer;
 - npWebSec plug-in for Mozilla;
- Operation System/Browser:
 - Windows Vista/XP/2000: Microsoft Internet Explorer v5.1 (or higher), Mozilla v1.4 (or higher), Firefox 1.0 or higher;
 - Linux32/64: Mozilla v 1.4 (or higher)

- b) License update commands are generated on the server side, encrypted and MIME-encoded, embedded into HTML/JavaScript page, sent to the Web browser, decrypted and executed by the client component. Commands execution results are encrypted, MIME-encoded and sent back to the server.

Server side requirements

- Application: Customized Web application with OLM module (ASP.NET 2.0);
- Web Server with ASP.NET 2.0 support
 - OS: Windows XP/2000/2003
 - IIS 6.0 or higher

See chapter 8.15 (SmarxOS Compendium) for more details on WEB API basics.

1.2 Creating an update plan with SmarxOS Application Framework

As part of the CRYPTO-BOX Protection Kit the SmarxOS Application Framework enables creating update plans. Content of these schemes are data objects which contain license data (counter, expiration date, individual data, etc.).

The system provides generation of license update scripts for all types of supported projects:

- AutoCrypt (automatic software protection);
- Implementation with API (API-based software protection);
- Document Protection.

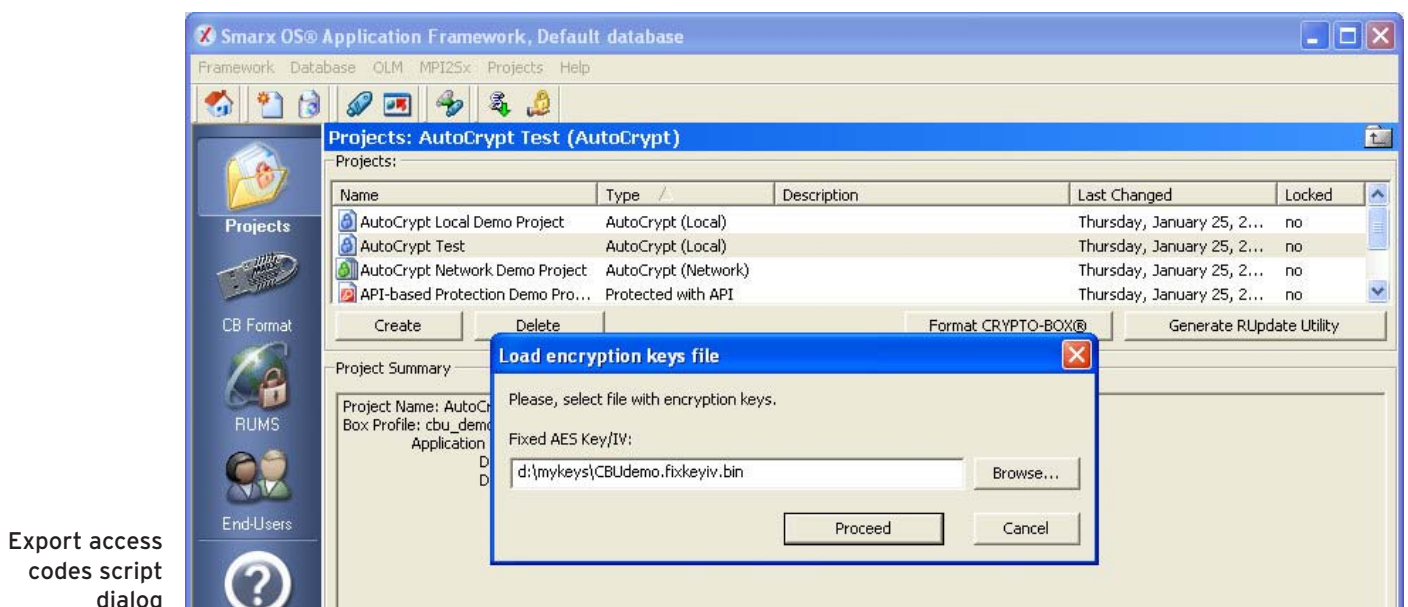
License update scripts generation

SmarxOS Application Framework provides generation of script files, needed for automated license update. These files are generated in XML-format and could be of two types:

- CRYPTO-BOX access codes scripts
- License update plans scripts

CRYPTO-BOX access codes (UPW, APW, Fixed AES Key/IV, Client Public RSA Key, Distributor Private RSA Key) are needed to perform client-server handshake authentication, CRYPTO-BOX verification and read/write access to partitions and data objects.

To generate access codes script launch the SmarxOS Application Framework (SxAF), open desired project and select menu item “Export access codes” in menu “OLM”.

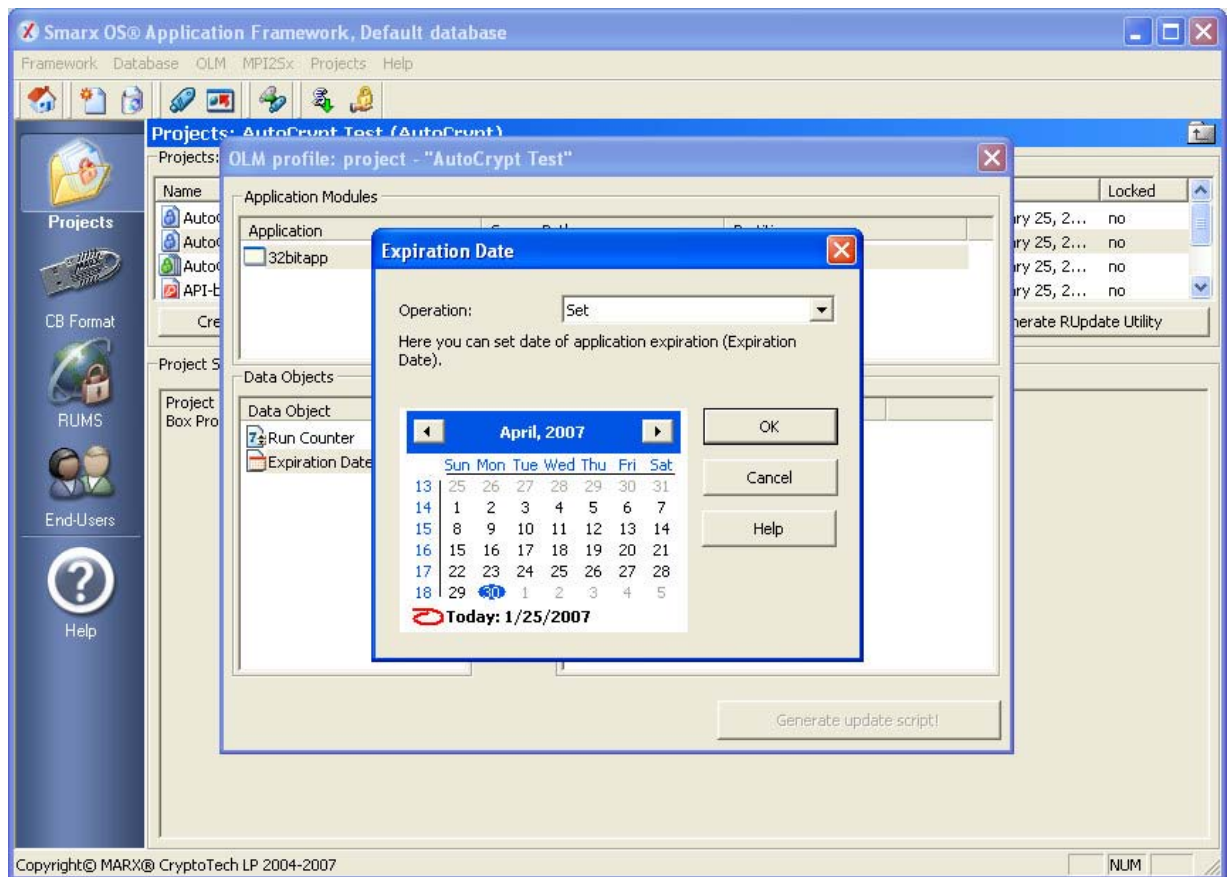


The Export access codes dialog will ask for binary file, containing Fixed AES Key/IV. This file can be obtained from MARX upon request, while the rest of required data is taken from the TRX-file, assigned to the chosen project. After Fixed AES Key/IV file was selected, click on the “Proceed” button.

The generated file should be deployed on Web Server, to be used with OLM application. Usually, only one access codes script file is needed, cause it corresponds to CRYPTO-BOX profile, unique for every MARX customer.

License update plans scripts contain list of license check conditions (performed before update) and list of license update operations to be done. It is possible to generate one or more license update plans for each project in SmarxOS Application Framework. In other words, each project could have several license update plans, depending on licensing and distribution policy.

To generate license update access codes script launch the SmarxOS Application Framework, open desired project and select menu item “Generate update scripts” in the menu “OLM”.



Generate license
update script
dialog

Select inside the license update script dialog an application (or partition) at the top of the window, then select DataObject to be updated (changed) from the left part of the window and click the “>” button to add the DataObject to the update sequence (right window). A new window opens which allows you to change DataObject settings.

Repeat the steps above for other applications or DataObjects and click on “Generate update script!” button. Generated files (one or more) should be deployed on Web Server, to be used with OLM application. Each license update script file corresponds to unique remote update plan for selected project.

1.3 Demo for evaluating the license management system

The demo is implemented as MS VS2005 project (MARX-OLM-Demo) and contains the following files:

\OLM-Demo.sln	solution file
\OLM\Login.asp	the startup page of the online demo\OLM-Demo.sln
\OLM\Upload.aspx*	license update script upload page. This page applies to the evaluation demo only, in the customer's solution a set of license update plans will be predefined.
\OLM\CheckLicense.aspx	RYPTO-BOX validation and license check script generation page
\OLM\LicenseStatus.aspx	license check results processing and submit ticket form generation page
\OLM\ UpdateLicense.aspx	ticket validation and license update script generation page
\OLM\UpdateStatus.aspx	the last page of the online demo, displays the results of license update
\OLM\App_Code*.*	customizable interface classes (Constants.cs JSTag.cs, OLM.cs)
\OLM\bin\WebLM.dll	OLM module implemented as .NET DLL, which encapsulates internal functionality
\OLM\data\access.xml	demo CRYPTO-BOX access codes script
\OLM\pics*.*	images used in the online demo



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1.4 Four Steps to update the license

1	The client chooses at the website of the software vendor the page for updating licenses.
2	The user chooses the preferred license update plan (the plans have to be published at the server). There is a link between every product and the collection of update plans.
3	After choosing an update script the client will be forwarded to an order form automatically and SOLO Server takes care for charging and payment.
4	With the confirmation the CRYPTO-BOX will be updated automatically and the software is activated.

CRYPTO-BOX® certifications



MARX Software Security GmbH
Vohburger Strasse 68
D-85104 Wackerstein

MARX CryptoTech LP
4485 Tench Road #310
Suwanee, GA 30024 U.S.A.

Tel. +49 (0) 8403/9295-0
Fax +49 (0) 8403/1500
contact-de@marx.com

Phone (+1) 770 904 0369
Fax (+1) 770 904 3893
info@cryptotech.com

www.marx.com