



API Samples

Described Version:	Smarx OS 2.21.7.110
Also Applicable For:	Smarx OS 2.x
Target Platforms:	Windows Vista 32/64, XP, 2000, Linux, Mac OS
MARX Hardware:	CRYPTO-BOX® USB

Implementation with an API:

Smarx OS unleashes the full power of the CRYPTO-BOX USB system, providing you with efficient, flexible, and convenient ways to protect your software and data against piracy and unauthorized usage. It supports Windows Vista/XP/2000, Linux, and Mac OS. Depending on the platform (OS) and programming environment used, SmarxOS API (CBI-OS local and network API, DO API, RFP API) is supported in different formats, as:

- **Static libraries**
- **Dynamic libraries (DLL/SO/Framework)**
- **Native DLL/SO/JNILIB**
- **Managed DLL**
- **COM/ActiveX**



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1. Introduction

SmarxOS allows MARX customers adding hardware protection to software products running under all popular platforms:

- Windows 32 and 64 (now including Vista!);
- Linux 32 and 64;
- MAC OSX (Intel Duo and PPC hardware architecture).

Most programming environments for these platforms are supported. SmarxOS API (including CBIOS and DO API) is implemented for all operating systems mentioned above as **one source code used for all platforms**. This approach allows developers to use SmarxOS API even for cross-platform development. See more details below.

2. Utilizing Smarx OS® API for different environments

Depending on the platform (OS) and programming environment used, SmarxOS API (CBIOS local and network API, DO API, RFP API) is supported in different formats, as:

- Static libraries;
- Dynamic libraries (DLL /SO/ Framework);
- Native DLL/SO/JNILIB;
- Managed DLL;
- COM/ActiveX

Static libraries provide the most secure way of linkage. This format is supported for all Linux programming environments as well as for Windows and MAC OSX.

Dynamic libraries – DLL (Windows), SO (Linux), Framework (MAC OSX) allow easy, but less secure linkage.

Managed DLL is .NET specific format, supported for Microsoft® Visual Studio 2003.NET, Microsoft® Visual Studio 2005.NET and Borland Developer Studio 2006.

COM/ActiveX is the Windows platform specific interface standard. This interface format is universal and can be used from almost any Windows programming environment. Required Smarx OS ActiveX objects are included to CBUSetup.exe smart setup utility and are installed and properly registered together with CRYPTO-BOX USB driver.

Native DLL (Windows), SO (Linux), JNILIB (MAC OSX) are specific to Java environment (Windows, Linux and MAC OSX correspondingly).

3. Using command-line SmarxOS Tools

The following table contains programming environments currently supported by SmarxOS® API:

OS	Programming Environments And Languages		CBIOS API		DO API		RFP API
			local	network	local	network	
Win64	Microsoft Visual Studio 2005 (64bit)	C/C++	static library	static library	static library	static library	static library
		C#.NET	managed Dll	managed Dll	managed Dll	managed Dll	managed Dll
			COM	COM	COM	COM	COM
		VB.NET	managed Dll	managed Dll	managed Dll	managed Dll	managed Dll
			COM	COM	COM	COM	COM
		C++.NET	managed Dll	managed Dll	managed Dll	managed Dll	managed Dll
			COM	COM	COM	COM	COM

Win32	Microsoft Visual Studio 2005 (.NET 2.0)	C/C++	static library	static library	static library	static library	static library
		C#.NET					
		VB.NET	managed Dll	managed Dll	managed Dll	managed Dll	managed Dll
			COM	COM	COM	COM	COM
	C++.NET	managed Dll	managed Dll	managed Dll	managed Dll	managed Dll	
		COM	COM	COM	COM	COM	
	Microsoft Visual Studio 2003 (.NET 1.1)	C#.NET	managed Dll	managed Dll	managed Dll	managed Dll	managed Dll
			COM	COM	COM	COM	COM
		VB.NET	managed Dll	managed Dll	managed Dll	managed Dll	managed Dll
			COM	COM	COM	COM	COM
C++.NET	managed Dll	managed Dll	managed Dll	managed Dll	managed Dll		
	COM	COMrjkmrj	COM	COM	COM		
	Microsoft Visual Basic 6.0		dynamic Dll	dynamic Dll	dynamic Dll	dynamic Dll	dynamic Dll
			COM	COM	COM	COM	COM
	Microsoft Visual C++ 6.0		static library	static library	static library	static library	static library
	MinGW, MSYS 1.0.10		static library	static library	static library	static library	static library
	Microsoft Office2003	Access (VBA)	COM	COM	COM	COM	COM
		Word (VBA)	COM	COM	COM	COM	COM
		Excel (VBA)	COM	COM	COM	COM	COM
	Borland Developer Studio 2006	Delphi	static library	static library	static library	static library	dynamic Dll
		C/C++	static library	static library	static library	static library	static library
		Delphi.NET	managed Dll	managed Dll	managed Dll	managed Dll	managed Dll
		C#.NET	managed Dll	managed Dll	managed Dll	managed Dll	managed Dll
	Borland Delphi 2005		static library	static library	static library	static library	dynamic Dll
			COM	COM	COM	COM	COM
	Borland Delphi 7.0		static library	static library	static library	static library	dynamic Dll
	Borland C++ Builder 6.0		static library	static library	static library	static library	static library
	Borland Delphi 6.0		static library	static library	static library	static library	dynamic Dll
Borland C++ Builder 5.0		static library	static library	static library	static library	static library	
Borland Delphi 5.0		static library	static library	static library	static library	dynamic Dll	
Java JDK 1.4		native Dll	native Dll	native Dll	native Dll	native Dll	
REALbasic 2006		dynamic Dll	dynamic Dll	dynamic Dll	dynamic Dll	dynamic Dll	
Linux 32	GCC 3.2.2, Mandrake 9.1		static library	static library	static library	static library	static library
	Kylux 3.0 Mandrake 9.1	C Builder	static library	static library	static library	static library	static library
		Delphi	static library	static library	static library	static library	static library
	Java JDK 1.4		native SO	native SO	native SO	native SO	native SO
	REALbasic 2006		dynamic SO	dynamic SO	dynamic SO	dynamic SO	dynamic SO

Appendix

Appendix A – Distributors

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Appendix B - CryptToken Certifications and MARX Memberships



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