A secure data transmitter component for the SwissDec ELM/SalaryDeclaration V4 system

SwissDecTX 4.07

Our first customer has passed all certification tests for his salary application on June 26, 2009 and obtained the official SwissDec 2.2 certification on September 7, 2009. Since then, fifteen more applications successfully passed the SwissDec certification tests across all regions of the country for SwissDec version 2.2, 3.0 and now 4.0.

The SwissDecTX transmitter satisfies <u>all</u> SwissDec technical transmission requirements including data validation, digital signature, encryption, interoperability tests, transmission logging, as well as rich response formatting to HTML! SwissDecTX is 100% ready for production with SwissDec ELM v4.

Axel Rietschin Software Developments   http://www.softwarecomponents.ch

Goals

- Makes salary data transmission (*much*) easier
- Implement all SwissDec security requirements (digital signatures, encryption, error handling, result formatting…)
- Easily accessible (any language or environment)
- Fully "SwissDec certifiable" – guaranteed!
- Easy integration with existing applications: DLL, COM, .NET, scripting, command-line…, Delphi, PROGRESS, VB6… we've done all this already!

What SwissDecTX is <u>not</u>

- Not a payroll application
- Not an end-user program
- Not an XML salary data generator

➡ You create the data (e.g. ICHAGCompany.xml) SwissDecTX sends it to the Web Service, using SwissDec protocols and strong security.

What is SwissDecTX?

- Secure SwissDec salary data transmitter for…
  - .NET managed code (C#, VB.NET,…)
  - COM (interoperability with VB6, Delphi, PROGRESS…)
  - Classic DLL binding (C, C++, WINDEV,…)
  - Command-line interface (any dev. environment)
- Takes care of XML validation (XSD schemas)
- Takes care of all transmission technical issues
- Optional disk-based transmission log
- Point and click GUI configuration tool
- Command-line utility, XML Helpers, XSLT formatting

Communication

- SOAP + WS-Security
- Supports HTTP and HTTPS (with authentication)
- Supports HTTP Proxy (with proxy authentication)
- X509 client and server certificates
- Message signing and time stamping
- Message encryption & decryption
- Verification of replies (signatures, timestamps)
- "EIV" file generation, raw SOAP messages & replies

Configuration

- GUI configuration tool
  - Certificate installer / selector
  - Web Service URL configuration, quick interop test (suitable for the certification), transmission tests, optional log
  - Encryption option
- Settings saved to registry
  - Opportunity to configure at setup time
  - Most settings available programmatically
- Command-line tool supports certificate installation

Configuration & Test Tool

Test: Interoperability
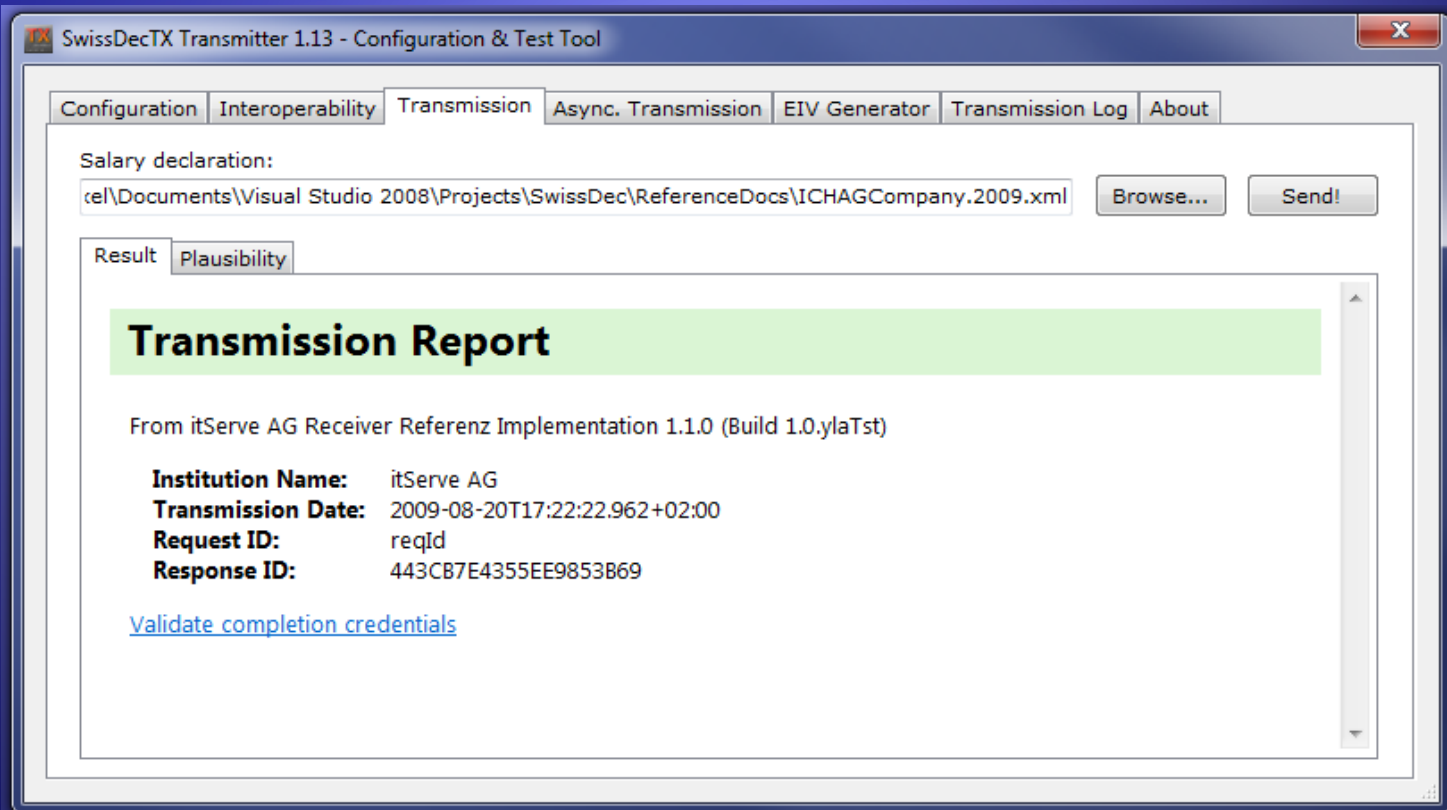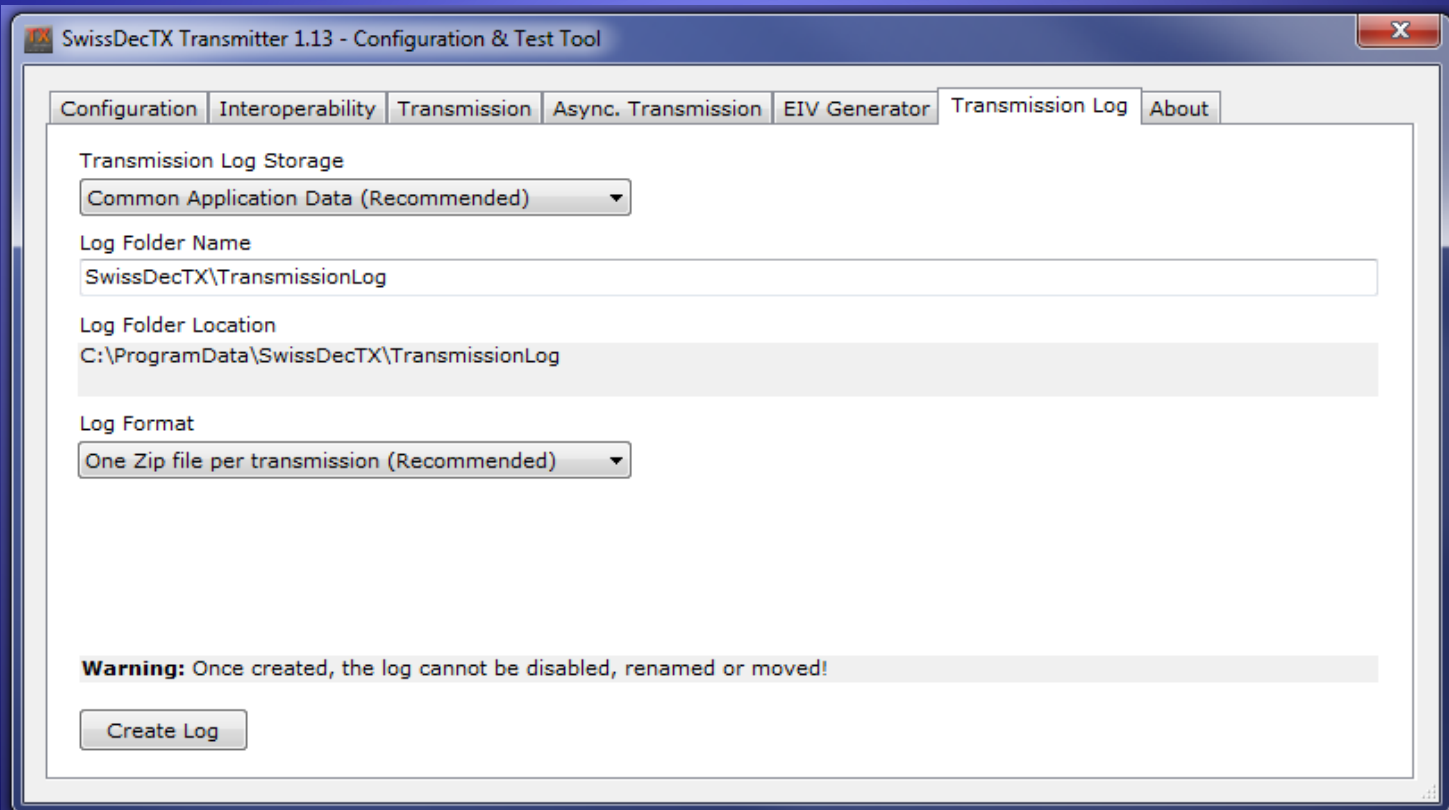
Test: Transmission

Test: Plausibility Report
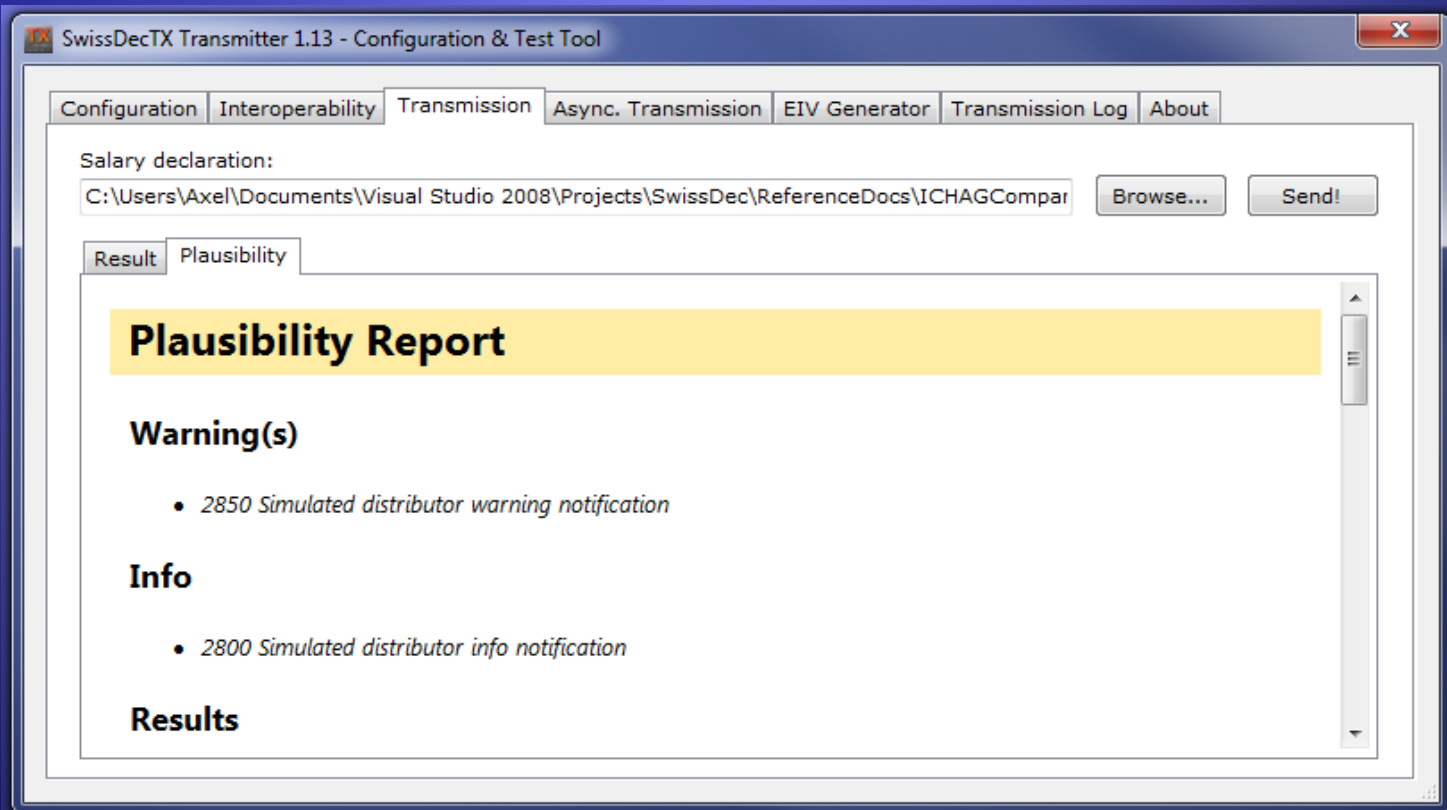
Test: EIV File Creation
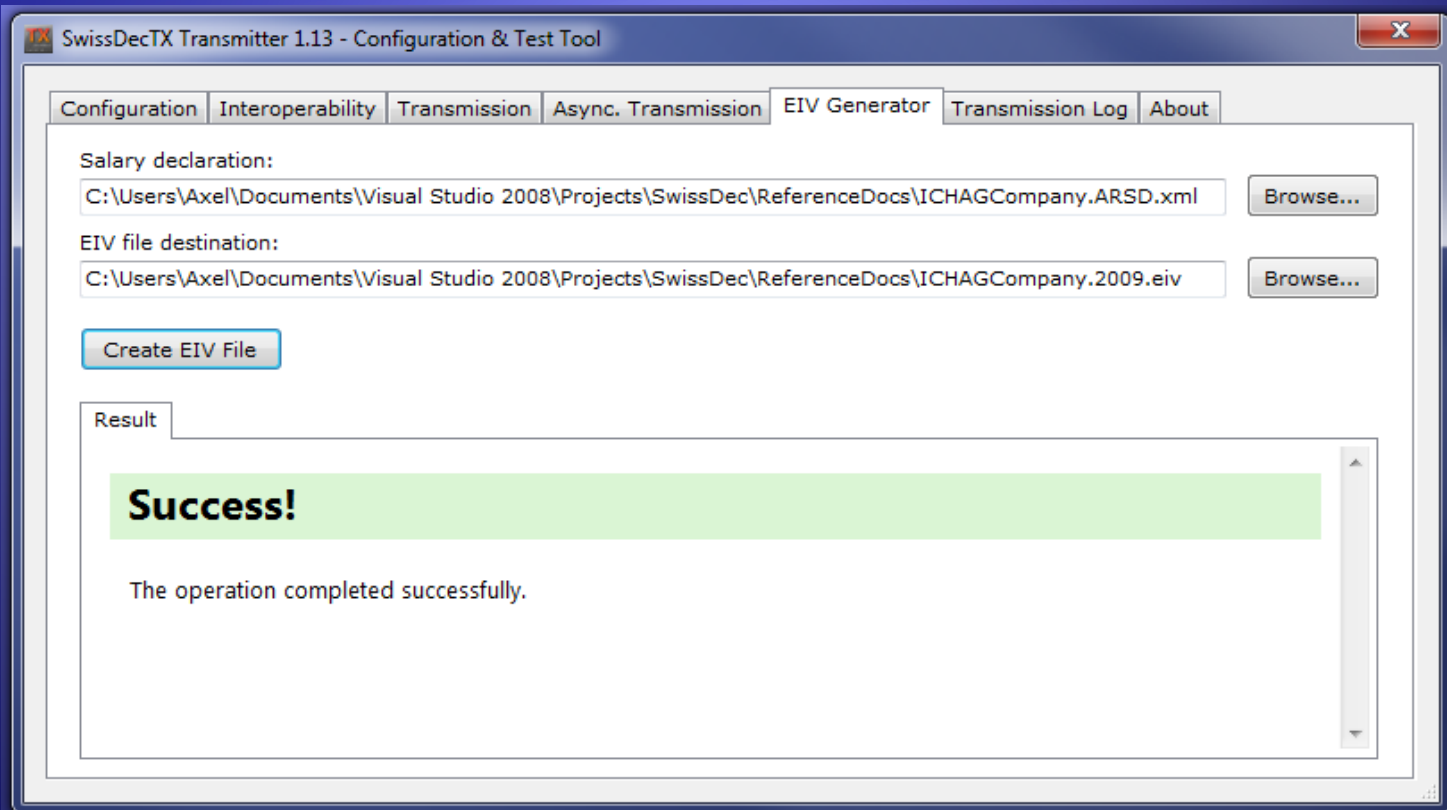
Transmission Log Config

Transmission Log

Installation

- Standalone silent installer (.exe)
- Pulls pre-requisites from web (DotNetFX 2.0)
- Transmitter assemblies goes to GAC
- DLL wrapper, command-line tool and configuration tool goes to \Program Files\SwissDecTX4
- Installation location is fixed
- Tiny package (~ 1.5MB) to bundle with your product and run once at install time
- Depends only on .NET 2.0, works on .NET 3.x / 4.x

System Requirements

- Same as .NET 2.0 SP1

- Baseline: Windows 2000 SP4 or later

- Windows XP, Vista, Windows 7, Windows 8, Server versions supported, 64-bit edition available upon request

- Only depends on .NET 2.0 SP1, no need to push .NET 3.x /4.x down to XP/W2K/Vista clients

- Clients can be *anything* (native, COM, .NET, ...)

How to use it?

- Application creates XML declaration data
- Application invokes transmitter
  - Transmitter signs/encrypts/transmits data
  - Transmitter decrypts/checks/saves replies
  - Transmitter maintain transmission journal
  - Transmitter formats replies to HTML
- Application reads and displays/stores results
- Just a few lines of code to transmit/receive!

Transmit a Salary Declaration

```csharp
try {

    var tx = new Transmitter();

    // Declare variables, create/load declaration data…

    tx.DeclareSalary(xmlDoc, out result, out messageSent, out
            messageReceived, out plausibility, out jobFinished,
            out transmissionDateUtc);

    // save / interpret results

} catch (Exception ex) {
    // Handle all errors here
}
```

Diagram

(future)

| Human operator, any app, any language, even .bat or scripts! | C/C++, any DLL aware app (Windev, ...) | VB6, Delphi, Excel, PROGRESS, scripting languages, COM clients | C#, VB.NET, MCPP, Delphi.NET, any .NET language, environment | Unix, AS/400, Linux, any LanMan, NFS, SOAP or HTTP client |

| **SwissDecTX.exe** (command line tool) | **SwissDecTX.dll** (C-callable wrapper) | **SwissDecTX.Transmitter** (COM interop, TLB) | | **SwissDecTX Gateway** (File-based and WS) |

SwissDecTX Transmitter 4.x Runtime

.NET Framework 2.0 / 3.x / 4.x

Development kit

- Transmitter API is <u>fully</u> documented (CHM file)
- Small code samples (C++, C# and VBS)
- Integrate and start transmitting in a day or less!
- Current state (03.2014)
  - Stable transmitter, in production, fully tested over more than 12'000 secure transactions on the test servers
  - Fifteen customer applications **certified** since Sept 7, 2009
  - Available <u>now</u> (get the demo and transmit today!)
  - SDK, language bindings, samples and documentation still evolving, optional "gateway" in development, XML Helpers

Licensing, maintenance

- Licensed "per application" regardless of number of developers or application copies sold
- **No redistribution royalties** for runtime components: **flat fee pricing model**.
- Maintenance and support plan available
- Free fully functional demo (locked to test servers)
- (Upcoming optional SwissDecTX Gateway will be licensed "per installation", more details TBA)

Future?

- SwissDecTX v4.00, compatible with SwissDec v4 specifications, **is already available** for you to prepare for SwissDec v4 certification.

- We'll track future SwissDec specification updates and provide timely support for them, as we did for SwissDec 2.2, 3.0 and now SwissDec 4.0

About Us

- Extensive development experience, ranging from device drivers to internet-scale distributed systems
- Experience in creating and supporting custom APIs and frameworks for other developer's use
- Strongest C/C++/COM and Windows platform skills
- Strong .NET experience (since 1.0 beta1 in 2000!)
- Experience in working with small and large companies and teams

Call to action: contact us now!

Axel Rietschin Software Developments

36, Rue de Carouge

1205 Genève

(022) 321.70.22 (English and French spoken)

info@softwarecomponents.ch

http://www.softwarecomponents.ch