

# SignPro DSV

## DYNAMIC SIGNATURE VERIFICATION COMPONENT

SignPro DSV (dynamic signature verification component) is used to determine whether a signature matches the signing behaviour of a particular person.

Everyone's signature varies, but some people are more variable than others. For this reason, a template is used to store a number of signatures collected from an individual over a period of time. This template is then used to measure the consistency of the signatures. Once a template has been fully enrolled a signature can be verified by comparing it with the template set.

Signatures are recorded in the form of dynamic data collected from electronic signature pads. This information allows the speed and acceleration of the pen during the signature to be analysed.

The verification comparison takes into account the full dynamic information. A consistent signature must look similar to the template samples, and must also have consistent dynamic characteristics. This makes it very difficult for one person to imitate another's signature.

The result of a comparison is a value of between 0 (inconsistent) and 1 (a good match).

### Verification Engine

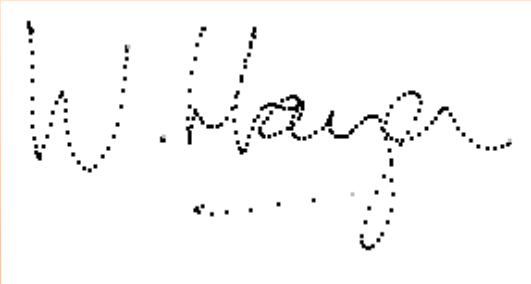
The Verification Component is an ActiveX control which manages the enrolment and verification processes. It can be used with different verification engines, but is normally supplied with the excellent iSign verifier supplied by Communication Intelligence Corporation (CIC).

### Signature Data

All of the SignPro signature solutions can be used to collect signatures for use with the verification component, including SignPro for Microsoft Word and Excel, and SignPro LQ Framework.



A signature which appears to be a series of inked lines is actually collected as a series of points as shown below. The time between each point is known, so allowing the speed and acceleration of the pen to be calculated.



The SignatureScope application can be used to look at the full forensic data stored within a signature : the dynamic data used in the verification process.

Index	Stroke	Data type	Minimum	Maximum	Units	Origin
0	0	X Coordinates	0	32767	5981 per inch	Left
1	0	Y Coordinates	0	32767	16387 per inch	Top
2	0	Temp data	0	Unknown limit	1000 per second	Rate
3	0	Sample Interval	0	Unknown limit	100	Rate
4	0	Pressure	0	255	Unknown	Rate
5	0	SigningLine	[4631, 21747]	[20066, 21747]	Digitizer	





## TEMPLATE ENROLMENT

A signature template is used to record the natural variation of a person's signature. To achieve this successfully, a number of signatures need to be gathered over a period of time, a process referred to as signature enrolment. A number of issues must be considered to improve the template quality including:

- Session enrolment: when a person signs a number of times in quick succession the signatures will be unrealistically consistent. The component ensures there is a minimum time interval between enrolment signatures, ensuring the natural variation is measured. This results in more accurate verification results and reduces the tendency for valid signatures to be rejected because of an unrepresentative enrolment set.
- Duplicated signatures: identical signatures are detected and rejected from the enrolment process

## TEMPLATE MANAGEMENT

The templates are generally contained within 10K of data and can be stored independently of an application. Typically they can be managed in a database indexed by the person's ID.

## SOFTWARE DEVELOPMENT KIT

The Dynamic Signature Verification Component is supplied in the form of a Software Development Kit, including the CIC component and technical documentation. Any developer can create his own application using the ActiveX scripting language.

## DEVELOPMENT SERVICES

Florentis Ltd can provide highly experienced and proficient development services as required.

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