



# Aspire

Advanced Software Protection:  
Integration, Research and Exploitation

## D6.03

### ASPIRE Demonstration

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<b>Editor:</b>	Bjorn De Sutter
<b>Dissemination Level:</b>	Public
<b>Revision:</b>	1.1

#### **Abstract:**

By means of online videos, we demonstrate the ACTC; the ADSS; the individual protections; the project use cases, goals and outcomes; and the lessons learned.

#### **Keywords:**

Demonstration Videos, Screencasts, Presentations



## Editor

Bjorn De Sutter (UGent)



## Contributors (ordered according to beneficiary numbers)



The ASPIRE Consortium consists of:

Ghent University (UGent)	Coordinator & Beneficiary	Belgium
Politecnico Di Torino (POLITO)	Beneficiary	Italy
Nagravision SA (NAGRA)	Beneficiary	Switzerland
Fondazione Bruno Kessler (FBK)	Beneficiary	Italy
University of East London (UEL)	Beneficiary	UK
SFNT Germany GmbH (SFNT)	Beneficiary	Germany
Gemalto SA (GTO)	Beneficiary	France

**Coordinating person:** Prof. Bjorn De Sutter  
**E-mail:** [coordinator@aspire-fp7.eu](mailto:coordinator@aspire-fp7.eu)  
**Tel:** +32 9 264 3367  
**Fax:** +32 9 264 3594  
**Project website:** [www.aspire-fp7.eu](http://www.aspire-fp7.eu)

### Disclaimer

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## Executive Summary

To demonstrate the project's concepts and results, 30 videos have been (or shortly will be) published on the ASPIRE-FP7 Software Protection Demonstration channel on YouTube. In addition, 1 private video demonstrates confidential results.

## Revision History

Compared to v1.0, v1.1 lists several more videos as released on YouTube, that were previously not yet ready for release. Furthermore, the order to of the videos changed, such that the long video that presents the major outcomes and results immediately follows the introductory video on top of the demonstration channel play list.



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## Section 1 Demonstration Videos

*Section Authors:*

Bjorn De Sutter (UGent)

In line with the demonstration plan provided in Deliverable D6.02, in the final months of the ASPIRE project, and in the first months after the official end date of the project, a series of videos were published on the ASPIRE-FP7 Demonstration YouTube channel. The URL for this channel is

[https://www.youtube.com/channel/UCntMGBjHr\\_oW5wEd5JgjD6g](https://www.youtube.com/channel/UCntMGBjHr_oW5wEd5JgjD6g)

All videos are also listed in the ASPIRE-FP7 Project Demonstrations YouTube playlist at

[https://www.youtube.com/playlist?list=PLWwJ31jD3OCG4tq-\\_CXOQMWxSTgnyXliR](https://www.youtube.com/playlist?list=PLWwJ31jD3OCG4tq-_CXOQMWxSTgnyXliR)

Some overall changes to the plan as described in D6.02 are that (i) here and there, the number of videos foreseen to be devoted on a project aspect has been altered, e.g., because two foreseen shorter videos were combined into one longer video, (ii) to avoid leaking security-sensitive information that attackers of the industrial partners' business products could use, some protections are demonstrated on toy software instead of on the project use cases, (iii) one video remains private because the Consortium considered it impossible to provide a meaningful demonstration without leaking confidential information; (iv) no demonstration video of multi-threaded cryptography was made, as this protection could not be automated and was hence not integrated in the ACTC anyway.

It speaks for itself that all software and hardware used in the production of the videos can also be used by the partners of the project to give live demonstrations of the IP each partner is allowed to disseminate.

1. Video title: 01 - ASPIRE Project Overview & Goals  
 Video URL: <https://www.youtube.com/watch?v=ZShBr6Bd24A>  
 Video length: 9:55  
 Responsible content & scenario: UGent  
 Responsible production: UGent  
 Release date: 27 September 2016  
 Dissemination level: Public  
 Corresponding section D6.02: 3
  
2. Video title: 02 - Major Outcomes and Results of ASPIRE  
 Video URL: [https://www.youtube.com/watch?v=cTXQe\\_ubETo](https://www.youtube.com/watch?v=cTXQe_ubETo)  
 Video length: 18:46  
 Responsible content & scenario: UGent  
 Responsible production: UGent  
 Release date: 6 January 2017  
 Dissemination level: Public  
 Corresponding section D6.02: 3
  
3. Video title: 03 - ASPIRE Experimental Setup  
 Video URL: <https://www.youtube.com/watch?v=BNMtgwUp1Ck>  
 Video length: 5:45



- Responsible content & scenario: UGent  
Responsible production: UGent  
Release date: 12 October 2016  
Dissemination level: Public  
Corresponding section D6.02: 2.1
4. Video title: 04 - Digital Rights Management Use Case  
Video URL: <https://www.youtube.com/watch?v=iV-ATSShd7A>  
Video length: 5:01  
Responsible content & scenario: UGent  
Responsible production: UGent  
Release date: 6 December 2016  
Dissemination level: Public  
Corresponding section D6.02: 4.1
5. Video title: 05 - Software License Management Use Case  
Video URL: <https://www.youtube.com/watch?v=MPyey16rh5l>  
Video length: 5:09  
Responsible content & scenario: UGent  
Responsible production: UGent  
Release date: 14 October 2016  
Dissemination level: Public  
Corresponding section D6.02: 4.2
6. Video title: 06 - One-Time Password Generator Use Case  
Video URL: <https://www.youtube.com/watch?v=O3H47zikzu8>  
Video length: 4:54  
Responsible content & scenario: UGent  
Responsible production: UGent  
Release date: 31 October 2016  
Dissemination level: Public  
Corresponding section D6.02: 4.3
7. Video title: 07 - ASPIRE Compiler Tool Chain Part 1: Tool Flow Design & Implementation  
Video URL: <https://www.youtube.com/watch?v=WxkMDqQVkmQ>  
Video length: 9:57  
Responsible content & scenario: UGent  
Responsible production: UGent  
Release date: 13 November 2016  
Dissemination level: Public  
Corresponding section D6.02: 5.1
8. Video title: 08 - ASPIRE Compiler Tool Chain Part 2: Annotations & Configuration  
Video URL: [https://www.youtube.com/watch?v=inMQIZ\\_OTNI](https://www.youtube.com/watch?v=inMQIZ_OTNI)  
Video length: 11:35  
Responsible content & scenario: UGent  
Responsible production: UGent  
Release date: 5 November 2016

- Dissemination level: Public  
Corresponding section D6.02: 5.2
9. Video title: 09 - ASPIRE Compiler Tool Chain Part 3: Live action  
Video URL: <https://www.youtube.com/watch?v=PzsbItNfZFW>  
Video length: 7:04  
Responsible content & scenario: UGent  
Responsible production: UGent  
Release date: 5 November 2016  
Dissemination level: Public  
Corresponding section D6.02: 5.3
10. Video title: 10 - Demonstration of ASPIRE White-Box Cryptography Tools  
Video URL: <https://www.youtube.com/watch?v=uPDVTyXvuOs>  
Video length: 7:14  
Responsible content & scenario: NAGRA, UGent  
Responsible production: UGent  
Release date: 6 November 2016  
Dissemination level: Public  
Corresponding section D6.02: 6.1
11. Video title: 11 - Demonstration of Data Obfuscation Techniques  
Video URL: <https://www.youtube.com/watch?v=VDVhWro8to0>  
Video length: 7:57  
Responsible content & scenario: FBK, UGent  
Responsible production: UGent  
Release date: 19 October 2016  
Dissemination level: Public  
Corresponding section D6.02: 6.3
12. Video title: 12 - Demonstration of Client-Side Code Splitting  
Video URL: <https://www.youtube.com/watch?v=utrXa-Fs9VQ>  
Video length: 3:35  
Responsible content & scenario: SFNT, UGent  
Responsible production: SFNT, UGent  
Release date: 14 October 2016  
Dissemination level: Public  
Corresponding section D6.02: 6.4
13. Video title: 13 - Demonstration of Control Flow Obfuscations  
Video URL: <https://www.youtube.com/watch?v=9c7nXpwOrV0>  
Video length: 9:57  
Responsible content & scenario: UGent  
Responsible production: UGent  
Release date: 10 October 2016  
Dissemination level: Public  
Corresponding section D6.02: 6.5
14. Video title: 14 - Demonstration of Anti-Callback Stack Checks  
Video URL: <https://www.youtube.com/watch?v=1e2mQjUGFXI>  
Video length: 4:46



- Responsible content & scenario: UGent  
Responsible production: UGent  
Release date: 13 September 2016  
Dissemination level: Public  
Corresponding section D6.02: 6.9
15. Video title: 15 - Demonstration of Anti-Debugging by means of Self-Debugging  
Video URL: <https://www.youtube.com/watch?v=oNb9XwH1mL4>  
Video length: 9:29  
Responsible content & scenario: UGent  
Responsible production: UGent  
Release date: 5 Dec 2016  
Dissemination level: Public  
Corresponding section D6.02: 6.7
16. Video title: 16 - Demonstration of Offline Code Guards  
Video URL: <https://www.youtube.com/watch?v=Ra72pF2XmNw>  
Video length: 11:16  
Responsible content & scenario: UGent  
Responsible production: UGent  
Release date: 5 Dec 2016  
Dissemination level: Public  
Corresponding section D6.02: 6.8
17. Video title: 17 - Demonstration of Renewable White-Box Cryptography Tool Support  
Video URL: [https://www.youtube.com/watch?v=\\_lwxtYGnH2A](https://www.youtube.com/watch?v=_lwxtYGnH2A)  
Video length: 7:15  
Responsible content & scenario: NAGRA, UGent  
Responsible production: UGent  
Release date: 14 November 2016  
Dissemination level: Public  
Corresponding section D6.02: 6.19
18. Video title: 18 - Demonstration of Anti-Cloning Protection  
Video URL: <https://www.youtube.com/watch?v=r9fO0HN3aTs>  
Video length: 3:56  
Responsible content & scenario: NAGRA, UGent  
Responsible production: UGent  
Release date: 18 November 2016  
Dissemination level: Public  
Corresponding section D6.02: 6.14
19. Video title: 19 - Demonstration of Client-Server Splitting Protection  
Video URL: <https://www.youtube.com/watch?v=tQdLXfbTv0w>  
Video length: 6:52  
Responsible content & scenario: FBK, UGent  
Responsible production: UGent  
Release date: 12 October 2016  
Dissemination level: Public  
Corresponding section D6.02: 6.12



20. Video title: 20 - Demonstration of Code & Data Mobility Protection  
Video URL: <https://www.youtube.com/watch?v=zLe0q6wn8Tc>  
Video length: 8:29  
Responsible content & scenario: UEL, UGent  
Responsible production: UGent  
Release date: 6 December 2016  
Dissemination level: Public  
Corresponding section D6.02: 6.11
21. Video title: 21 - Demonstration of Control Flow Tagging Protection  
Video URL: <https://www.youtube.com/watch?v=e2bz-qINiOk>  
Video length: 8:06  
Responsible content & scenario: GTO  
Responsible production: GTO  
Release date: 4 January 2017  
Dissemination level: Public  
Corresponding section D6.02: 6.10
22. Video title: 22 - Demonstration of Diversified Cryptography Library  
Video URL: <https://www.youtube.com/watch?v=FI3hSsP1b3c>  
Video length: 6:23  
Responsible content & scenario: GTO  
Responsible production: GTO  
Release date: 4 January 2017  
Dissemination level: Public  
Corresponding section D6.02: 6.2
23. Video title: 23 - Demonstration of Protection Reaction Mechanisms  
Video URL: <https://www.youtube.com/watch?v=JV9LseuFIUI>  
Video length: 6:35  
Responsible content & scenario: GTO  
Responsible production: GTO  
Release date: 4 January 2017  
Dissemination level: Public  
Corresponding section D6.02: 6.15
24. Video title: 24 - Demonstration of Native Code Diversity in Space  
Video URL: [https://www.youtube.com/watch?v=Hvo5uV\\_w7wU](https://www.youtube.com/watch?v=Hvo5uV_w7wU)  
Video length: 7:49  
Responsible content & scenario: UGent  
Responsible production: UGent  
Release date: 11 December 2016  
Dissemination level: Public  
Corresponding section D6.02: 6.16
25. Video title: 25 - Demonstration of Remote Attestation  
Video URL: <https://www.youtube.com/watch?v=VMLi1paezUM>  
Video length: 5:16  
Responsible content & scenario: POLITO  
Responsible production: POLITO  
Release date: 7 January 2017

- Dissemination level: Public  
Corresponding section D6.02: 6.13
26. Video title: 26 - Demonstration of Native Code Diversity in Time  
Video URL: <https://www.youtube.com/watch?v=vmM0MxttAF8>  
Video length: 7:47  
Responsible content & scenario: UGent  
Responsible production: UGent  
Release date: 13 December 2016  
Dissemination level: Public  
Corresponding section D6.02: 6.18
27. Video title: 27 - Demonstration of the ASPIRE Metrics Framework  
Video URL: <https://www.youtube.com/watch?v=-lIOi78HWBs>  
Video length: 12:24  
Responsible content & scenario: UGent  
Responsible production: UGent  
Release date: 8 December 2016  
Dissemination level: Public  
Corresponding section D6.02: 7.2
28. Video title: 28 - Demonstration of ASPIRE Attack Modelling and Decision Support System Light  
Video URL: <https://www.youtube.com/watch?v=tw-t-VKkdBH8>  
Video length: 08:18  
Responsible content & scenario: UEL  
Responsible production: UEL  
Release date: 10 January  
Dissemination level: Public  
Corresponding section D6.02: 7.1, 7.3
29. Video title: 29 - Demonstration of the ASPIRE Decision Support System - Full  
Video URL: [https://www.youtube.com/watch?v=pl9p5Nqsx\\_o](https://www.youtube.com/watch?v=pl9p5Nqsx_o)  
Video length: 11:00  
Responsible content & scenario: POLITO  
Responsible production: POLITO  
Release date: 4 January 2017  
Dissemination level: Public  
Corresponding section D6.02: 7.4
30. Video title: 30 - Lessons Learned in the ASPIRE Project  
Video URL: <https://www.youtube.com/watch?v=T0Jdhuifsjc>  
Video length: 4:21  
Responsible content & scenario: UGent  
Responsible production: UGent  
Release date: 2 Jan 2017  
Dissemination level: Public  
Corresponding section D6.02: 8
31. Video title: 31 - Bytecode Diversity in Space  
Video URL: none, only available in ASPIRE SVN repository



Video length: 4:09  
Responsible content & scenario: SFNT, UGent  
Responsible production: SFNT, UGent  
Release date: 12 October 2016  
Dissemination level: Confidential  
Corresponding section D6.02: 6.17