

CYBER-DETECT In a nutshell :

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*A LORIA spin-off
 A breakthrough technology based on
 'Morphological Analysis'
 And now used by military administration*



is research unit composed of :
 the University of Lorraine,
 INRIA and CNRS



Targeted topics

| | |
|---------------------------------------|--|
| SU-FCT02-2018-2019-2020 subtopic 2 | Technologies to enhance the fight against crime and terrorism - subtopic 2: Digital forensics in the context of criminal investigations |
| SU-FCT02-2018-2019-2020 subtopic 4 | Technologies to enhance the fight against crime and terrorism - subtopic 4: Open |
| SU-GM03-2018-2019-2020 | Pre-commercial procurements of innovative solutions to enhance security |

Competencies

- *Organisation competencies*
 - World licence of Morphological analysis© solutions
 - Focus on highly protected, highly obfuscated binary codes
 - Detection of unknown or targeted malware
- *Organisation experience in the European project*
 - Academic experience (i.e. FP7)
- *The skills you can bring*
 - Fast and scalable comparison of binary code, similarity measurement
 - Accurate functionality identification
 - Generic de-packing framework, payload extraction

Project idea

- *Describe your project idea*
 - Investigation support for malwares and compromised devices
 - For the police and judiciary authorities
 - Automatic report based on forensic tools



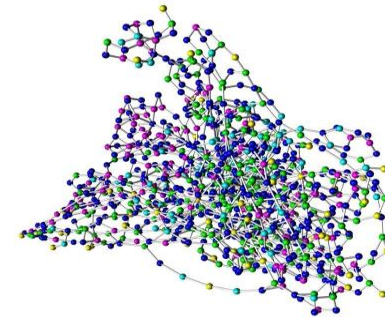
- = Family extraction
- = Self-protection witnesses
- = Functionality identification
- = Clustering
- = OS function usage,
- = Behavioral description

```

mov [rbx], eax
push_ dword [rbp+010]
push_ ebx
call_ 0x404040
mov [rbp+014], esi
push_ dword [rbp+018]
push_ dword [rbp+01c]
jgq_ xll
jgq_ xll
jgq_ xll
jgq_ xll
mov [rbp+1], ebx
jgq_ xll
mov_ dword [rbp+040812a]
cmp_ dword [rbp+1], 0x0
jgq_ xll
mov_ dword [rbp+1]
push_ dword [rbp+040814c]
call_ 0x404040
jgq_ dword near [rbp+0404010]
jgq_ xll
jgq_ xll
mov_ dword [rbp+04]
push_ ebx
push_ ebx
push_ dword 0x402770
push_ ebx
call_ 0x0084
push_ ebx
call_ 0x0084
mov_ dword [rbp+040812a], 0x0
jgq_ xll
call_ 0x0084
push_ dword [rbp+020]
push_ dword 0x40814c
call_ 0x404040
push_ dword [rbp+020]
push_ dword [rbp+020]
call_ 0x00000000
jgq_ xll
jgq_ xll
push_ dword 0x403765
push_ dword [rbp+020]
call_ 0x0084
push_ dword [rbp+020]
push_ dword [rbp+020]
call_ 0x00000000
jgq_ xll
push_ dword [rbp+020]
call_ 0x0084
jgq_ xll
push_ dword 0x40408
call_ 0x00000000
mov_ ebx, 0x40408
jmp_ 0x40408

```

Sample name: Email-Horm.Win32.Bagle.a
 Number of nodes: 1022



- *List of the complementary skills you need for your consortium*
 - Knowledge on European norms, working organisation, security management
 - Interfaces with current tools (IDA, Sriptable, I/O, RPC)
 - IOT, mobile phone and networks