Dynamic Detection of Vulnerability Exploitation in Windows

Dynamisk detektion af udnyttelse af sårbarheder i Windows

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Abstract

Write something very clever here and read it through 10000 times

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Introduce something here

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Conclude something please

Abbreviations

ETW Event Tracing for Windows. 3, 5

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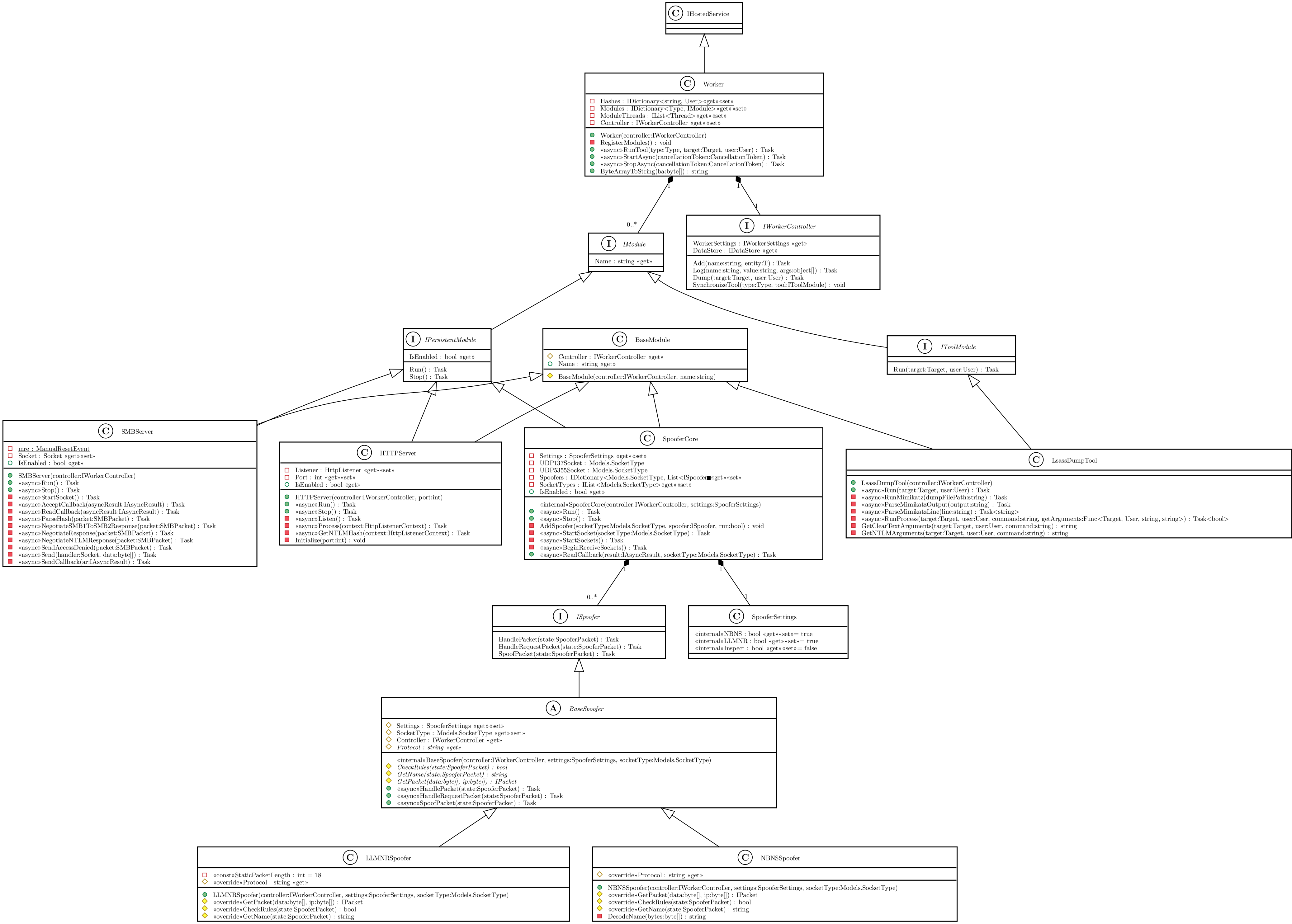
.1.1 Worker class diagram


C IHostedService
C Worker
Hashes : IDictionary<string, User>«get»«set»
Modules : IDictionary<Type, IModule>«get»«set»
ModuleThreads : IList<Thread>«get»«set»
Controller : IWorkerController «get»«set»
Worker(controller:IWorkerController)
RegisterModules() : void
«async»RunTool(type:Type, target:Target, user:User) : Task
«async»StartAsync(cancellationToken:CancellationToken) : Task
«async»StopAsync(cancellationToken:CancellationToken) : Task
ByteArrayToString(ba:byte[]) : string
1
1
0..*
1
I IModule
Name : string «get»
I IWorkerController
WorkerSettings : IWorkerSettings «get»
DataStore : IDataStore «get»
Add(name:string, entity:T) : Task
Log(name:string, value:string, args:object[]) : Task
Dump(target:Target, user:User) : Task
SynchronizeTool(type:Type, tool:IToolModule) : void
I IPersistentModule
IsEnabled : bool «get»
Run() : Task
Stop() : Task
C BaseModule
Controller : IWorkerController «get»
Name : string «get»
BaseModule(controller:IWorkerController, name:string)
I IToolModule
Run(target:Target, user:User) : Task
C SMBServer
mre : ManualResetEvent
Socket : Socket «get»«set»
IsEnabled : bool «get»
SMBServer(controller:IWorkerController)
«async»Run() : Task
«async»Stop() : Task
«async»StartSocket() : Task
«async»AcceptCallback(asyncResult:IAsyncResult) : Task
«async»ReadCallback(asyncResult:IAsyncResult) : Task
«async»ParseHash(packet:SMBPacket) : Task
«async»NegotiateSMB1ToSMB2Response(packet:SMBPacket) : Task
«async»NegotiateResponse(packet:SMBPacket) : Task
«async»NegotiateNTLMResponse(packet:SMBPacket) : Task
«async»SendAccessDenied(packet:SMBPacket) : Task
«async»Send(handler:Socket, data:byte[]) : Task
«async»SendCallback(ar:IAsyncResult) : Task
C HTTPServer
Listener : HttpListener «get»«set»
Port : int «get»«set»
IsEnabled : bool «get»
HTTPServer(controller:IWorkerController, port:int)
«async»Run() : Task
«async»Stop() : Task
«async»Listen() : Task
«async»Process(context:HttpListenerContext) : Task
«async»GetNTLMHash(context:HttpListenerContext) : Task
Initialize(port:int) : void
C SpooferCore
Settings : SpooferSettings «get»«set»
UDP137Socket : Models.SocketType
UDP5355Socket : Models.SocketType
Spoofers : IDictionary<Models.SocketType, List<ISpoofer■«get»«set»
SocketTypes : IList<Models.SocketType>«get»«set»
IsEnabled : bool «get»
«internal»SpooferCore(controller:IWorkerController, settings:SpooferSettings)
«async»Run() : Task
«async»Stop() : Task
AddSpoofer(socketType:Models.SocketType, spoofer:ISpoofer, run:bool) : void
«async»StartSocket(socketType:Models.SocketType) : Task
«async»StartSockets() : Task
«async»BeginReceiveSockets() : Task
«async»ReadCallback(result:IAsyncResult, socketType:Models.SocketType) : Task
C LsassDumpTool
LsassDumpTool(controller:IWorkerController)
«async»Run(target:Target, user:User) : Task
«async»RunMimikatz(dumpFilePath:string) : Task
«async»ParseMimikatzOutput(output:string) : Task
«async»ParseMimikatzLine(line:string) : Task<string>
«async»RunProcess(target:Target, user:User, command:string, getArguments:Func<Target, User, string, string>) : Task<bool>
GetClearTextArguments(target:Target, user:User, command:string) : string
GetNTLMArguments(target:Target, user:User, command:string) : string
1
1
0..*
1
I ISpoofer
HandlePacket(state:SpooferPacket) : Task
HandleRequestPacket(state:SpooferPacket) : Task
SpoofPacket(state:SpooferPacket) : Task
C SpooferSettings
«internal»NBNS : bool «get»«set»= true
«internal»LLMNR : bool «get»«set»= true
«internal»Inspect : bool «get»«set»= false
A BaseSpoofer
Settings : SpooferSettings «get»«set»
SocketType : Models.SocketType «get»«set»
Controller : IWorkerController «get»
Protocol : string «get»
«internal»BaseSpoofer(controller:IWorkerController, settings:SpooferSettings, socketType:Models.SocketType)
CheckRules(state:SpooferPacket) : bool
GetName(state:SpooferPacket) : string
GetPacket(data:byte[], ip:byte[]) : IPacket
«async»HandlePacket(state:SpooferPacket) : Task
«async»HandleRequestPacket(state:SpooferPacket) : Task
«async»SpoofPacket(state:SpooferPacket) : Task
C LLMNRSpoofer
«const»StaticPacketLength : int = 18
«override»Protocol : string «get»
LLMNRSpoofer(controller:IWorkerController, settings:SpooferSettings, socketType:Models.SocketType)
«override»GetPacket(data:byte[], ip:byte[]) : IPacket
«override»CheckRules(state:SpooferPacket) : bool
«override»GetName(state:SpooferPacket) : string
C NBNSSpoofer
«override»Protocol : string «get»
NBNSSpoofer(controller:IWorkerController, settings:SpooferSettings, socketType:Models.SocketType)
«override»GetPacket(data:byte[], ip:byte[]) : IPacket
«override»CheckRules(state:SpooferPacket) : bool
«override»GetName(state:SpooferPacket) : string
DecodeName(bytes:byte[]) : string