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# ASM 고객 도입사례

2024년 2월 6일

윤광택 상무/Recorded Future Korea

공격접점(Attack Surface)

## **External ASM**



## 북한 라자루스 해킹 그룹 최근 1년 TTP

Compromise Accounts (and the formation floating of the formation float	Reconnaissance 10 techniques	Resource Development 7 techniques	Initial Access 9 techniques	Execution 13 techniques	Persistence 19 techniques	Privilege Escalation 13 techniques	Defense Evasion 42 techniques	Credential Access 17 techniques	Discovery 30 techniques	Lateral Movement 9 techniques	Collection 17 techniques	Command and Control 16 techniques	Exfiltration 9 techniques	Impact 13 techniques
Comparing de Controlle (a) Application (Mindelle (a) Application (Mind	ctive Scanning (0/3)	Acquire	Drive-by	Command and	Account	Abuse Elevation	Abuse Elevation	Adversary-in-	Account	Exploitation of	Adversary-in-	Application	Automated	Account Access
Commendation of Commendation o	ormation (0/4)	Compromise Accounts (0/3)	Facing	Container		Access Token	Access Token	(0/4)		Internal	Collected	Communication		Data Destruction
Amales   Continue	ormation (0/3)		External Remote	Command	Autostart	Boot or Logon		from Password		Lateral Tool	I Tool Audio Capture	Removable	Over	for Impact
Accounts (a) Primaring (bits) and provided (bi	rmation (0/6)	Capabilities (0/4)	Hardware	Exploitation for	Initialization	Execution (0/14) Boot or Logon		Credential	Discovery	Remote Service	Collection	Encoding (0/2)	Protocol (0/3)	
Composition of the control of the co	shing for	Accounts (0/3)	(0/0)	Communication	Browser	Scripts (0/5)			Dashboard	Hijacking (0/2)	Hijacking	Obfuscation (0/3)	Channel	Disk Wipe (0/2)
Capabilities (prince)   Capa	rch Closed	Capabilities (0/6)	Through Removable Media	Scheduled	Client Software	ise System Itware Process (0/4)		Credentials (0/2)	Discovery  Cloud Storage Object	Services (0/6)	Data from Cloud	Resolution (0/3)	Over Other Network	Service (0/4) Firmware
Helationship   Shared Modules   Shared M	rch Open Technical	Capabilities (0/6)	Compromise (0/3)	Serverless	Create Mo	Modification (0/2)	Domain Policy Modification (0/2)	Capture (0/4)	Container and	Removable	Configuration	II Fallback	Over Physical	Inhibit System
Software Deployment Tools Defense Evasion Office Services User Execution Place	bsites/Domains (0/3)		Relationship Valid	Shared Modules	System	Event Triggered	Guardrails (0/1)	Authentication Process (0/7)	Debugger Evasion	Deployment	Data from	Ingress Tool	Exfiltration Over Web	Network Denial of
External Remote Services User Execution Windows Management Instrumentation Windows Management Instrumentation Instrumentation Windows Management Instrumentation Process (injection Proc			Accounts (0/4)	Deployment Tools	Event Triggered Execution (0/16)	Exploitation for Privilege	Defense Evasion	Authentication	Discovery		Data from Local		Scheduled	Resource
Windows Management Instrumentation    Flow   Implant Internal Impact   Instrumentation   Implant Internal Image   Implant				Services (0/2)	Services	Hijack Execution	Permissions Modification (0/2)	Authentication Request	Discovery  Group Policy	Authentication III	Data from Network Shared	Layer Protocol	Transfer Data to Cloud	System
Modify Authentication Process (or)   Valid Accounts (or)   Valid A				Management	Flow (0/12) Implant Internal	Injection (0/12)	Hijack Execution	Network	Network Service		Data from Removable	Port Protocol	Account	Shutdown/Repool
Office Application   Security   Server Software   Component   Traffic Signaling (g/g)   Modify System   Modify System Signaling (g/g)   Modify System   Modify					Modify	Task/Job (0/5)	(0/9)	OS Credential Dumping (0/8)			8.000 St. 00			
Startup Pre-OS Boot (0/5)   Modify Authentication   Modify Authentication   Certificates   Signaling (0/2)   Web Service   Modify Cloud Compute   Infrastructure (0/4)   Modify Cloud Compute   Traffic   Signaling (0/2)   Modify System   Image (0/2)   Modify Registry   Image (0/2)   Image					Office	Accounts (9/4)		Application	Password Policy		Collection (0/3)	Software	I	
Scheduled Task/Job Server Software Component Traffic Signaling (Q/2)  Valid Accounts  Scheduled Modify Cloud Compute Infrastructure (Q/4)  Modify Registry Steal Web Session Cookie Unsecured Credentials (Q/7)  Steal or Forge Kerberos Tickets (Q/4)  Process Discovery Query Registry  Unsecured Credentials (Q/7)  Software  Video Capture  Video Capture  Video Capture  Video Capture  Video Capture  Discovery Query Registry  Remote System Discovery Software  Software					Startup (0/6)		Modify Authentication	Authentication	Peripheral Device		Capture (0/4)	Signaling (0/2)		
Server Software Component  Traffic Modify System Image (0/22)  Valid Accounts  Network Boundary Bridging (0/27)  Network Boundary Bridging (0/27)  Steal Web Session Cookie Unsecured Credentials (0/7)  Remote System Discovery  Software  Steal Web Session Cookie Unsecured Credentials (0/7)  Software					Scheduled		Modify Cloud Compute	Kerberos	Permission Groups Discovery (0/3)	0	Video Capture	(4)3)		
Signaling (0/2) Image (0/2) Unsecured Unsecured Credentials (0/7) Discovery  Valid Network Boundary Bridging (0/2) Software					Component (0/5)		Modify Registry	Steal Web						
Accounts Bridging (ap) Software					Signaling (0/2)	"	Image (0/2)	Unsecured Credentials (0/7)						
Obfuscated Files or						"	Bridging (0/1)		Software Discovery (0/1)	11				

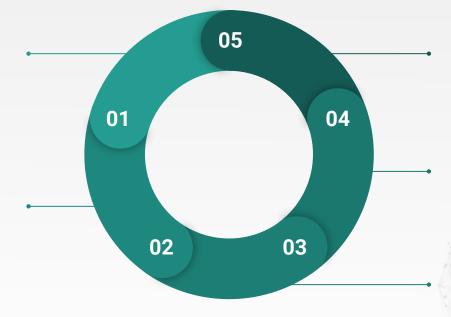
## **ASM Lifecycle**

#### 1. 자산대상식별

기업의 자산 식별(데이터센터/클라우드) Managed/Unmanaged Shadow IT

#### 2. 호스트/IP/Port

외부접근 가능여부 접근 가능한 포트



#### 5. 조치

패치/설정변경/접근제어 등

#### 4. 취약점/설정오류

CVE/Misconfiguration 스캐닝

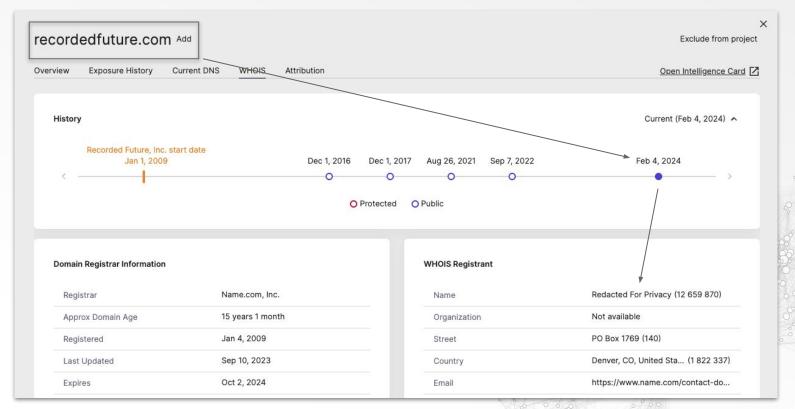
#### 3. 애플리케이션 식별

Version 식별에 따른 기술지원 종료 여부 확인 우리회사의자산중 외부에노출된 자산은무엇인가?

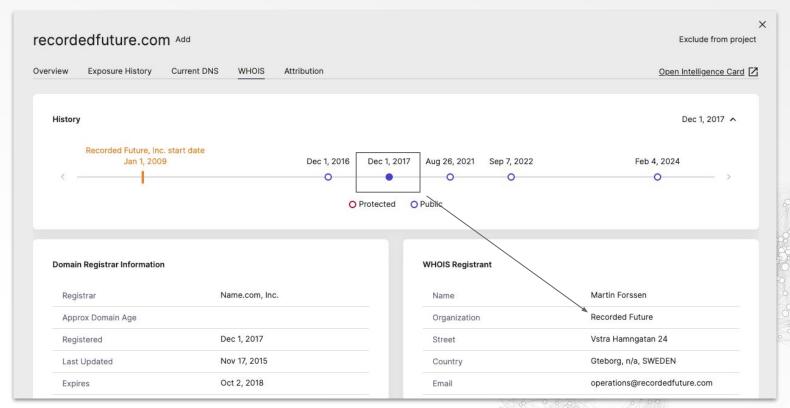
#### 활용예) WHOIS 등록 정보



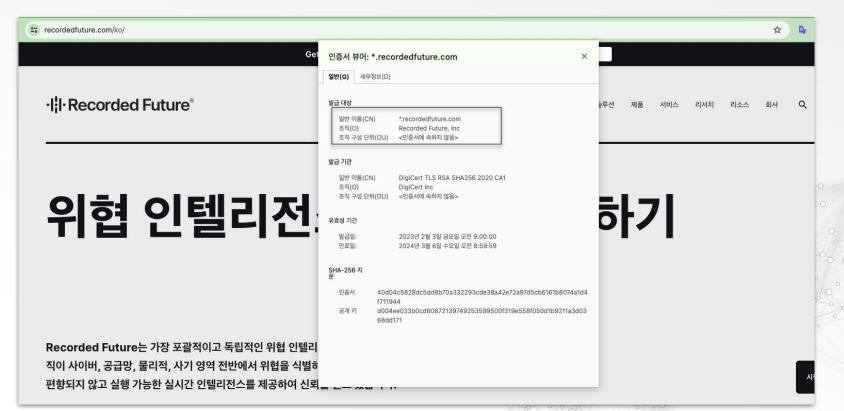
#### 활용예) WHOIS 등록 정보



#### 활용예) WHOIS 등록 정보



#### 활용 예) SSL 인증서의 등록 정보



#### Total Internet Inventory™ 에서 자산 식별

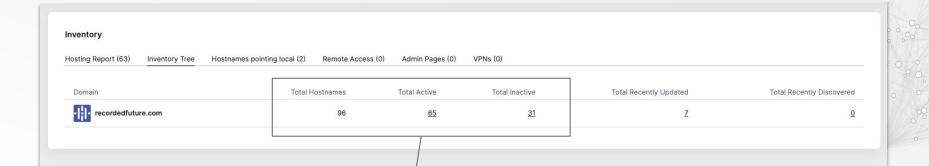
- **2억4천+호스트** 실시간 트래킹
- 580M+ 도메인 트래킹
  - o 1500 TLDs 지원
  - o gTLD/ccTLD
- 세계 최대 과거/현재 DNS 히스토리 아카이빙
- 지속적으로 IP 주소 스캔
- 10+년, 아래 정보를 포함하는 구조화된 데이터 보유:
  - WHOIS
  - SSL Certificates
  - 현재 및 과거 DNS
  - IP 등록



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# 외부에 노출된 호스트명/IP/Port

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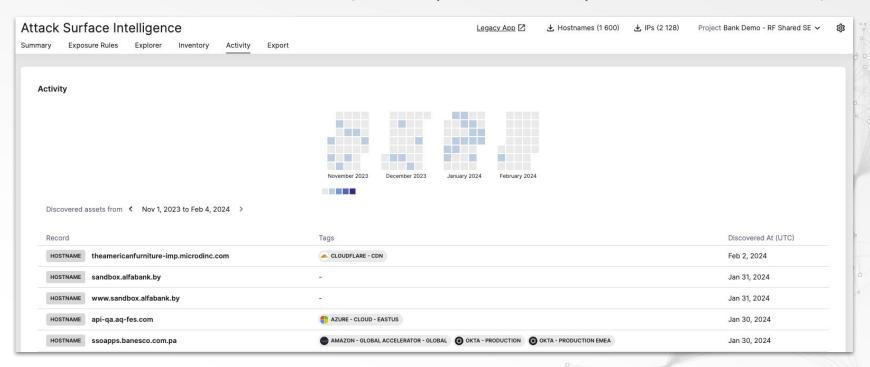


96 vs. 65

다양한 방법으로 호스트식별(다크웹, 코드저장소, 인터넷스캐닝 등등)

Add to Downloads + ∷≡ View Downlo	Add to Downloads +				2000		277	
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				View Bulk Jobs (0)	Screenshots	Show Filters (0)	₹ 3
Hosting Company		Ports	IPs		Tags	Rank	Hostname	
Cloudflare, Inc.		80 <b>2</b> 443 <b>2</b> CLOUDFLARE	104.18.43.111	⊝1	CLOUDFLARE - CDN Add	13 613	recordedfuture.com	
Cloudflare, Inc.		80 <b>a</b> 443 <b>a</b> CLOUDFLARE	172.64.144.145					
HubSpot, Inc.		80 <b>a</b> 443 <b>a</b> CLOUDFLARE	199.60.103.2	⊕1	100 HUBSPOT - MARKETING	132 626	go.recordedfuture.com	
Cloudflare, Inc.		80 <b>a</b> 443 <b>a</b> CLOUDFLARE	104.18.43.111	⊕ 1	CLOUDFLARE - CDN	1 690 953	blog.recordedfuture.com	
Cloudflare, Inc.		80 <b>a</b> 443 <b>a</b> CLOUDFLARE	104.16.51.111	⊕1	Z. ZENDESK - CUSTOMER SERVICE SUITE CLOUDFLARE - CDN	3 480 699	support.recordedfuture.com	
Cloudflare, Inc.		80 <b>2</b> 443 <b>2</b> CLOUDFLARE	104.18.43.111	<b>⊕</b> 1	△ CLOUDFLARE - CDN	4 941 191	app.recordedfuture.com	
	<b>E</b> >	80 🖺 443 🖺	104.18.43.111	⊕1 ⊕1	CLOUDFLARE - CDN  CLOUDFLARE - CDN	4 941 191 9 717 047	_	

#### 다양한 방법으로 호스트식별(다크웹, 코드저장소, 인터넷스캐닝 등등)



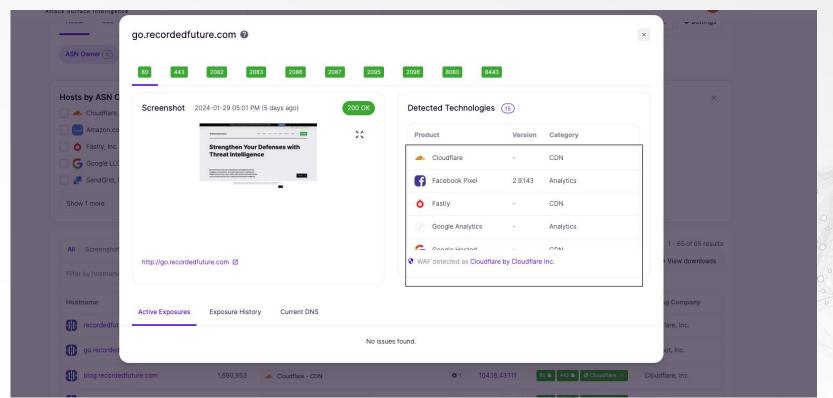
#### 다양한 방법으로 호스트식별(다크웹, 코드저장소, 인터넷스캐닝 등등)

Attack Surface Intelligence			Legacy	App ☑	业 IPs (2 128)	Project Bank Demo - RF Shared SE 🗸
Summary Exposure Rules Explorer Inventory	Activity Export					
Inventory						
Hosting Report (1 503) Inventory Tree Hostn	names pointing local (38) Remote Access (59)	Admin Pages (20)	VPNs (12)			
Counts by Panel All 🗸						
Hostname	IP		Port	Service		Target
Open Exposed Credentials (1)	esco.com G 34		443	Fiori Launchpad Login Panel -	Detect	<u>Target</u> ☑
wwv Open Exposed Credentials (1)	nesco.com G 34		443	SAP NetWeaver Portal - Detec	t	Target [2]
wwv Open Exposed Credentials (1)	nesco.com G 34		443	SAP Fiori Login Panel - Detect		Target [2]
1 1624	<b>3 66</b> Ba		443	FORTINET FORTIOS Management	Interface Panel - De	tect <u>Target</u> [2]
activesync.sberbank.hr	EN 21		443	Microsoft Exchange Admin Ce	nter Login Panel - De	etect <u>Target</u> [2]

어떤서비스를 수행하는 애플리케이션

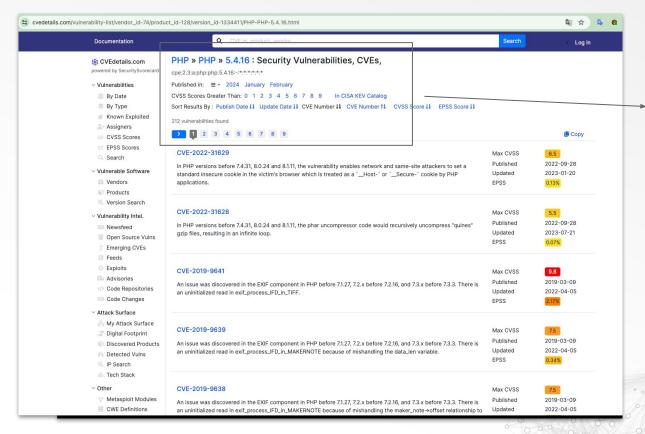
#### 애플리케이션 식별

#### 취약점 DB에서 CVE 조회



#### 애플리케이션 식별

#### 취약점 DB에서 CVE 조회 결과가 내 시스템에도 동일하게 존재하는가?



PHP V. 5.4.16을 사용하면 취약점이 212개 존재?

RF에는 224개의 취약점 기록 보유

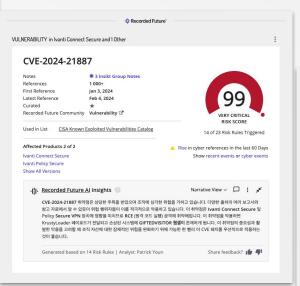
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# 실제 노출된 취약점/설정오류

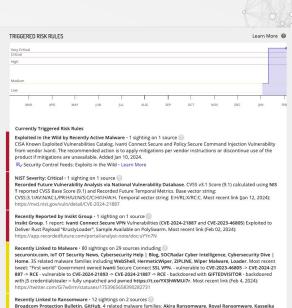
#### 우선순위에 따른 취약점 스캔 CVE-2024-21887



24년 1월17일 기사

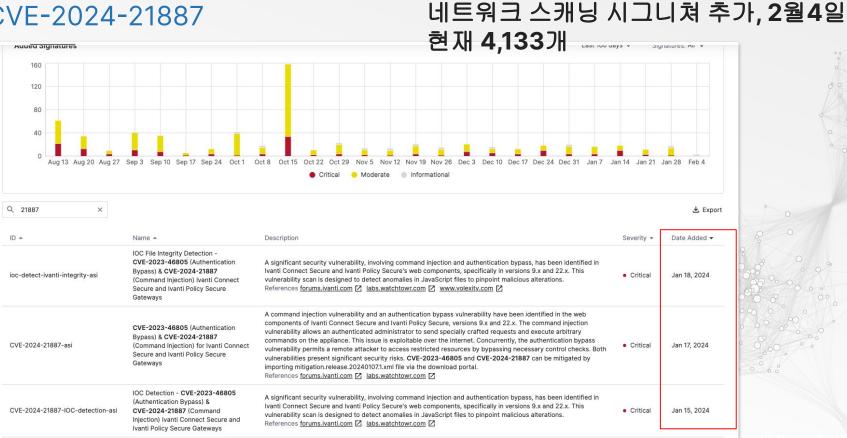


1월10일 CISA 공지 2월2일 공격샘플



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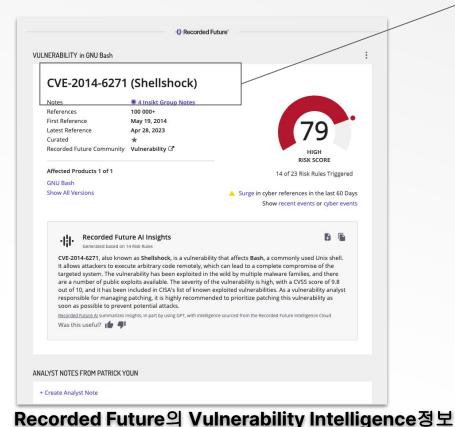
#### 우선순위에 따른 취약점 스캔 CVE-2024-21887



긴급을 요하는 공격 취약점을 중심으로

#### 우선순위에 따른 취약점 스캔

#### Shellshock (CVE-2014-6271)



취약점 경고시, 정탐? 오탐?

그외,

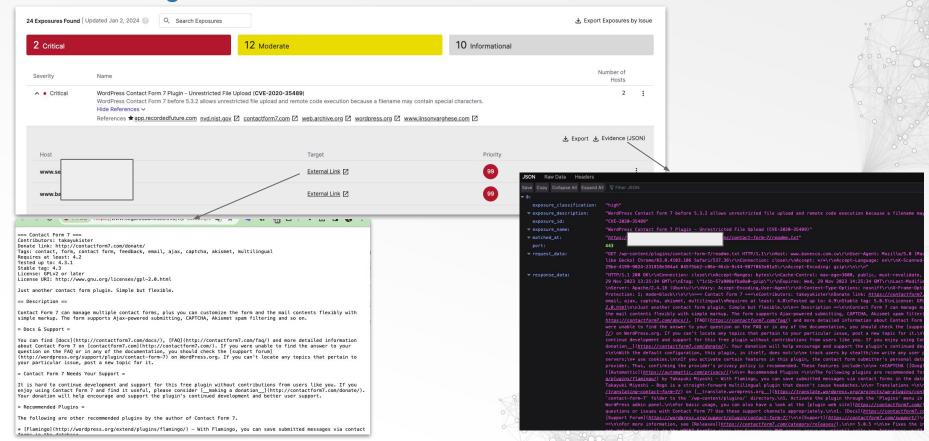
- 설정파일에서 DB접근 ID/PWD
- Cross Site Scripting
- Default ID/PWD

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# 운영관리 조치(Mitigation)

### 위험 완화(Risk Mitigation)

#### Patch/Configuration변경/네트워크 접근제어



## 지속적인 공격 접점 관리

#### 패치여부/예외 처리 등



Exposures by Host

o.info

Exposure History

User

Mute List

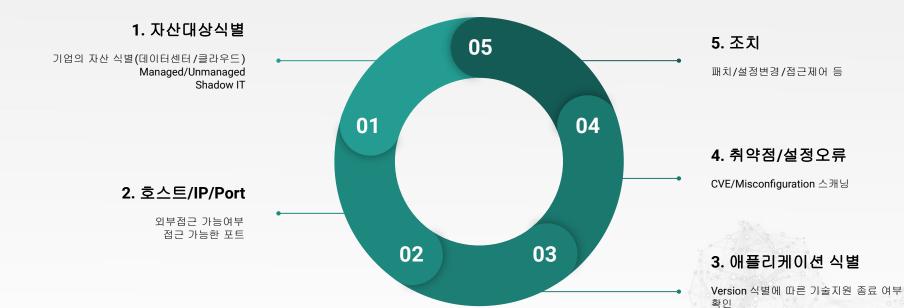
patrick.youn@recordedfuture.com

drew.gidwani@recordedfuture.com

Signature Library



### 위험관리 라이프사이클



<u>"데모부스</u> 방문하세요"

감사합니다.