



Dragonfli Group:

Enabling Secure Business

Convegence 2023 - Cybersecurity



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Region's Challenges

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Region's Differentiator

CYBERSECURITY LANDSCAPE

- 50 Billion IoTs will be added this year; over 85% will be vulnerable**
- >\$200 Million – cost of a single cyber attack in 2023**
- >60,000 - # of times corporations will be targeted this year**
- 30% of all successful attacks due to the supply chain**
- \$265B will be the cost of ransomware by 2031**
- 3.4 Million cybersecurity jobs are unfilled today**

Source: McKinsey & Co. 2023

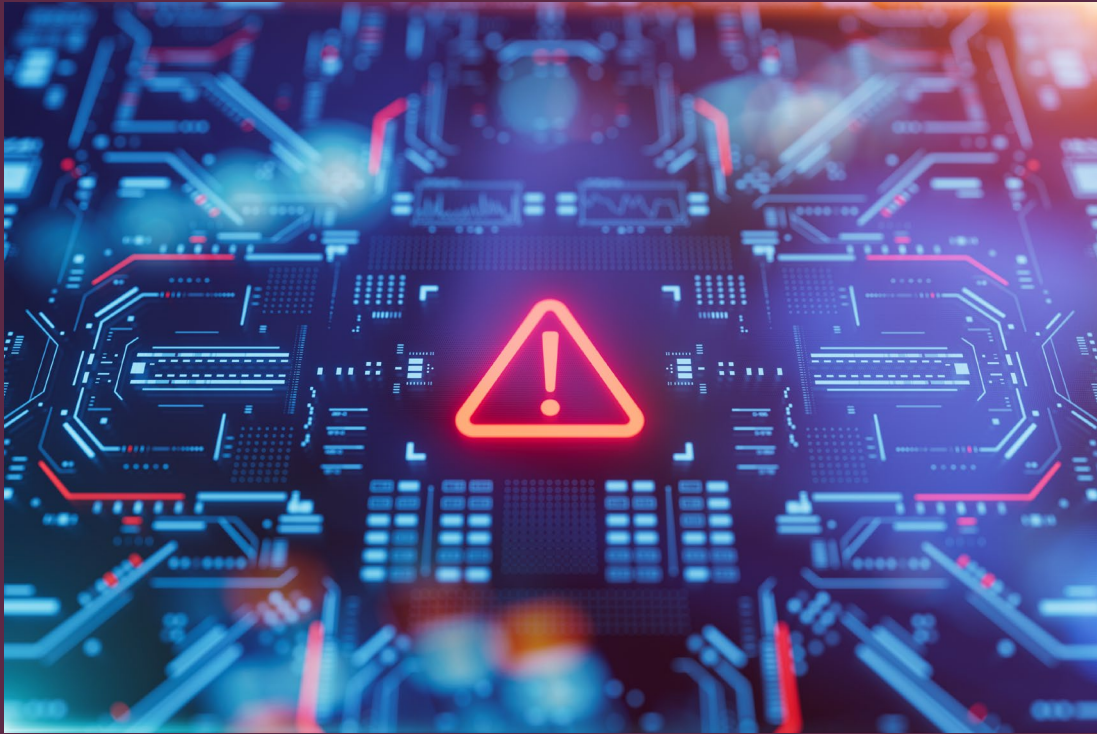
HOW DO YOU STACK UP?

Rules – Dragonfli's Threat Intelligence Team:

1. 30 minutes
2. No active scanning
3. Only use publicly available sources

YOU'RE AT RISK

91% - high-risk vulnerabilities



Source:

Dragonfli Group Threat Intelligence Team 09/22/23

You.

Are.

Vulnerable.

Powhatan Bon Air Richmond Highland Springs Quinton New Kent Reservation

Regular View Raw Data

General Information

Hostnames

Domains

Country **United States**

City **Richmond**

Organization

ISP

ASN

Open Ports

80 443

// 80 / TCP -1064442564 | 2023-09-07T18:47:37.228617

Apache httpd 2.4.37

HTTP/1.1 302 Found
 Date: Thu, 07 Sep 2023 18:47:34 GMT
 Server: Apache/2.4.37 (rocky) OpenSSL/1.1.1k
 Location: https://
 Content-Length: 211
 Content-Type: text/html; charset=iso-8859-1

// 443 / TCP -1641050025 | 2023-09-02T18:26:04.141274

CherryPy httpd 18.5.0

HTTP/1.1 303 See Other
 Date: Sat, 02 Sep 2023 18:26:03 GMT
 Server: CherryPy/18.5.0
 Content-Type: text/html; charset=utf-8
 Location: https://login.
 Vary: Accept-Encoding

Norfolk Virginia Beach

Regular View Raw Data

TAGS: vpn

General Information

Hostnames

Domains

Country **United States**

City **Virginia Beach**

Organization

ISP

ASN

Open Ports

22 53 80 123 443 500 9100 49152

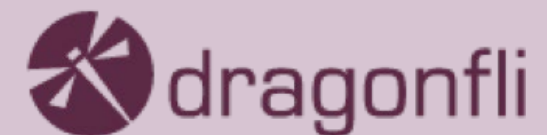
// 22 / TCP -498399610 | 2023-09-20T05:59:06.899965

OpenSSH 7.4p1 Debian 10+deb9u6

SSH-2.0-OpenSSH_7.4p1 Debian-10+deb9u6
 Key type: ssh-rsa
 Key: AAAAB3NzaC1yc2EAAAADAQABAAQDQXrDEiMBtaPVVTRCjGHYTLfwCbSU5vrt9HJjJupQzdzJ/T
 JhnlwKEXaGMZ8ouuvl6Itkb4mqI+ac f6NY5c+73NNeHu7HD00gu1sUVGbc6G0B lAp1dyNNMK8tu
 0KIpiEeMsQJ+DtZpVAisR6t0/vr9sCAYrYvvZv++TncemQzz1gGwA5u8uSCQP5JeAMA9rFU3MhmP
 QfJFfyD5xmHU5910e1dyBDnTGL lbr/ICiZwLu+1BF3GjshhF0aANLU1q1BpxsKEDw6u86F3PoQBa
 nLiV+N/2GHCxwo7N2FnxAk89j0HPTqsbzwYBmXrXS3xKE0ZDKtUQUmWOCV6PAPyTpnN3
 Fingerprint: 8a:75:c8:f9:65:8a:69:78:30:f3:f1:78:67:ea:30:9c

Kex Algorithms:
 curve25519-sha256
 curve25519-sha256@libssh.org
 ecdh-sha2-nistp256

Source:
 Dragonfli Group Threat Intelligence Team 09/22/2023



Vulnerabilities

Note: the device may not be impacted by all c

CVE-2023-3817 Issue sur
may be v
functions
to check
Where th
obtained
Service.
paramet
large q p
compute
present,
unneces
applicati
obtained
of Servic
number
those oth
affected
Also vuln
comman
OpenSSL
The OpenSSL 3.0 and 3.1 FIPS providers are not affected by this issue.

CVE-2023-0466 The function X509_V_FLAG_CHECK_POLICY does not enable certificate verification. Applications that check need to explicitly enable X509_VERIFY_FLAGS_CHECK_POLICY. Applications that use X509_VERIFY_FLAGS_CHECK_POLICY checks are disabled by applications that use X509_VERIFY_FLAGS_CHECK_POLICY.

CVE-2023-0465 Applications that use X509_VERIFY_FLAGS_CHECK_POLICY checks are disabled by applications that use X509_VERIFY_FLAGS_CHECK_POLICY.

CVE-2023-0464 A security vulnerability in OpenSSL related to the X509_VERIFY_FLAGS_CHECK_POLICY flag that include policy checks. This vulnerability can be exploited to cause an exponential use of computational resources, leading to a denial of service.

CVE-2022-37436 Prior to the release of OpenSSL 3.0.11, the X509_VERIFY_FLAGS_CHECK_POLICY flag was not set by default. This allowed an attacker to bypass certificate verification checks by setting the X509_VERIFY_FLAGS_CHECK_POLICY flag to 0.

CVE-2022-36760 Inconsistent handling of the X509_VERIFY_FLAGS_CHECK_POLICY flag in OpenSSL 3.0.11 and earlier versions. This allowed an attacker to bypass certificate verification checks by setting the X509_VERIFY_FLAGS_CHECK_POLICY flag to 0.

CVE-2022-31813 A vulnerability in OpenSSL 3.0.11 and earlier versions allowed an attacker to bypass certificate verification checks by setting the X509_VERIFY_FLAGS_CHECK_POLICY flag to 0.

CVE-2022-30556 A vulnerability in OpenSSL 3.0.11 and earlier versions allowed an attacker to bypass certificate verification checks by setting the X509_VERIFY_FLAGS_CHECK_POLICY flag to 0.

CVE-2022-29404 A vulnerability in OpenSSL 3.0.11 and earlier versions allowed an attacker to bypass certificate verification checks by setting the X509_VERIFY_FLAGS_CHECK_POLICY flag to 0.

CVE-2022-28615 A vulnerability in OpenSSL 3.0.11 and earlier versions allowed an attacker to bypass certificate verification checks by setting the X509_VERIFY_FLAGS_CHECK_POLICY flag to 0.

CVE-2022-2068 In addition to the c_rehash shell command injection identified in CVE-2022-1292, the c_rehash script does not properly handle command injection. This places in the script hashed were possible. This script is used in a manner where it is possible to execute arbitrary commands with the privileges of the user running the script. This is an obsolete and should be removed from the command line tool. Fixed in OpenSSL 3.0.0, 3.0.1, 3.0.2, 3.0.3.

CVE-2022-1292 The c_rehash script does not properly handle metacharacters in the command line. This allowed an attacker to execute arbitrary commands with the privileges of the user running the script. Use of the c_rehash script was replaced by the OpenSSL 3.0.3 (Affected 1.1.1-1.1.1r, 1.0.2zd).

CVE-2022-0778 The BN_mod_sqrt function contains a non-prime modulus. This allowed an attacker to cause a memory read, or write of a single zero byte, in a pool (heap) memory location beyond the header value sent. This could cause the process to crash. This issue affects Apache HTTP Server 2.4.54 and earlier.

CVE-2019-0196 A vulnerability was found in Apache HTTP Server 2.4.17 to 2.4.38. Using fuzzed network input, the http/2 request handling could be made to access freed memory in string comparison when determining the method of a request and thus process the request incorrectly.

CVE-2019-0190 A bug exists in the way mod_ssl handled client renegotiations. A remote attacker could send a carefully crafted request that would cause mod_ssl to enter a loop leading to a denial of service. This bug can be only triggered with Apache HTTP Server version 2.4.37 when using OpenSSL version 1.1.1 or later, due to an interaction in changes to handling of renegotiation attempts.

CVE-2018-17199 In Apache HTTP Server 2.4 release 2.4.37 and prior, mod_session checks the session expiry time before decoding the session. This causes session expiry time to be ignored for mod_session_cookie sessions since the expiry time is loaded when the session is decoded.

CVE-2018-17189 In Apache HTTP server versions 2.4.37 and prior, by sending request bodies in a slow loris way to plain resources, the h2 stream for that request unnecessarily occupied a server thread cleaning up that incoming data. This affects only HTTP/2 (mod_http2) connections.

CVE-2006-20001 A carefully crafted If: request header can cause a memory read, or write of a single zero byte, in a pool (heap) memory location beyond the header value sent. This could cause the process to crash. This issue affects Apache HTTP Server 2.4.54 and earlier.

Headwinds



We are behind with Tech Workers

Metropolitan Statistical Area (MSA)	10 Year Annual Tech Job Growth	Average 2022 Tech Job Wages (Avg.)	10 Year Worker Productivity Growth	10-Year GDP Growth (All Industries)
Mature Digital Infrastructure MSAs <i>(Based on Consultants List)</i>	7.6% Avg.	\$116,233	33.5%	64.6%
RVA & 757's Direct Competitors <i>(Based on Alliance and GRPs lists)</i>	7.3%. Avg.	\$103,473	30.0%	56.8%
USA – Total	6.4%	\$111,800	31%	47.4%
I-64 Innovation Corridor	4.4% Avg.	\$105,900	24.5 %	33.0%

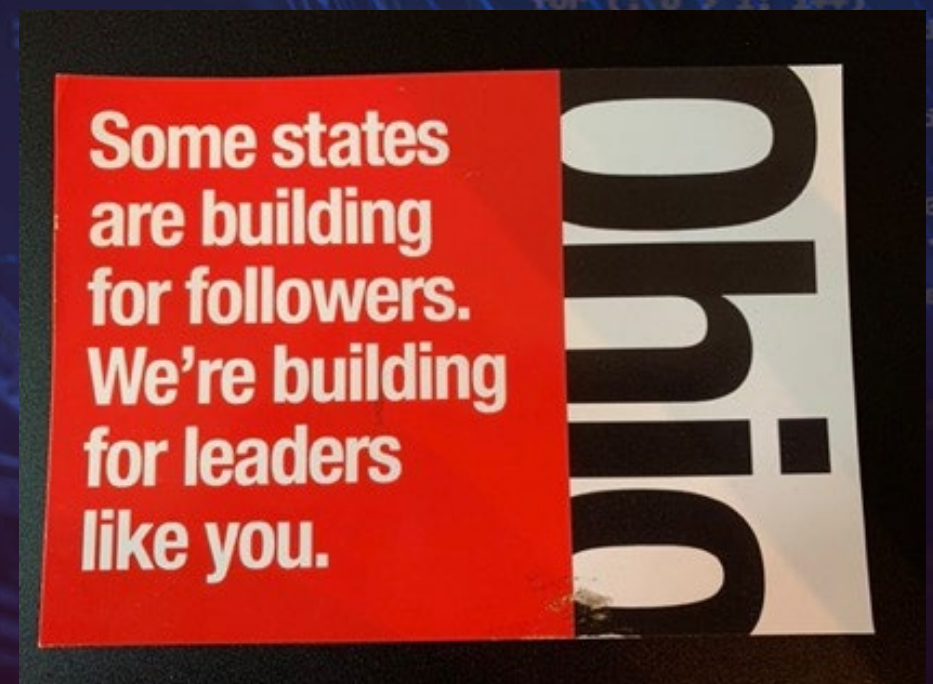
Our competition
is fierce

Ohio's Economic Development Effort's Focus on recruiting tech talent:

Videos Pushed through Social Media



Postcard Mailers



Tailwinds

```
    for (i in e) {
      if (r = t.call(e[i], i,
        ) else if (a) {
          for (; o > i; i++)
            if (r = t.call(e[i], i,
        ) else
          for (i in e)
            if (r = t.call(e[i], i,
      return e
    },
    trim: b && !b.call("\uffeff\u00a0") ?
      return null == e ? "" : b.call(e
    } : function(e) {
      return null == e ? "" : (e + "
    },
    makeArray: function(a, t) {
      var n = t || [];
      return null != e && (Object.prototype
    },
    isArray: function(a, t) {
      var n = t || [];
      return a
    }
  }
}
```

**National Security /
Cybersecurity
Industry is Our
Bright Star** 

1

**We Already Have a National
Competitive Advantage.**

Location Quotient (LQ)

LQ is basically a way of quantifying how concentrated a particular industry, cluster, occupation, or demographic group is in a region as compared to the nation. It can reveal what makes a particular region “unique” in comparison to the national average.

I-64 Corridor – National Security / Cybersecurity - **TODAY**

	I-64 Innovation Corridor	Richmond	Hampton Roads	Philadelphia	Charlotte	Atlanta	Jacksonville	Washington, DC	Denver	Pittsburgh	Nashville	Columbus	Orlando- Tampa	Raleigh
Current Cluster Empl	37,895	9,516	28,202	20,620	5,908	12,691	9,673	100,126	11,815	4,953	3,893	10,839	13,683	3,859
Current LQ	3.63	2.02	5.04	1.02	0.64	0.63	1.85	4.28	1.05	0.62	0.52	1.39	0.72	0.81

757 is #1.

Combined, RVA and 757 is second in the entire country just behind Wash., D.C.

I-64 Corridor – National Security / Cybersecurity in **2030**

	I-64 Innovation Corridor	Richmond	Hampton Roads	Philadelphia	Charlotte	Atlanta	Jacksonville	Washington, DC	Denver	Pittsburgh	Nashville	Columbus	Orlando-Tampa	Raleigh
Current Cluster Empl	37,895	9,516	28,202	20,620	5,908	12,691	9,673	100,126	11,815	4,953	3,893	10,839	13,683	3,859
Current LQ	3.63	2.02	5.04	1.02	0.64	0.63	1.85	4.28	1.05	0.62	0.52	1.39	0.72	0.81
LQ 2030	3.43	2.02	4.73	0.98	0.69	0.66	1.77	4.20	1.09	0.63	0.55	1.35	0.73	0.87

Competition will pick up, but we will still be at the very top in 2030

2

This equals TONS of jobs.

Top 20 Industries by Employment in I-64 Innovation Corridor

NAICS	Industry	Empl 2020Q3	Avg Ann Wages	LQ
7225	Restaurants and Other Eating Places	97,645	\$17,861	1.07
6111	Elementary and Secondary Schools	84,727	\$43,145	1.12
6221	General Medical and Surgical Hospitals	52,794	\$67,125	0.92
3366	Ship and Boat Building	41,480	\$75,665	24.20
5511	Management of Companies and Enterprises	34,044	\$116,114	1.52
5613	Employment Services	32,724	\$39,973	1.05
9221	Justice, Public Order, and Safety Activities	31,183	\$59,833	1.69
9281	National Security and International Affairs	30,434	\$90,470	5.19
6211	Offices of Physicians	30,407	\$93,801	1.15
4451	Grocery Stores	29,227	\$25,935	1.12
6113	Colleges, Universities, and Professional Schools	28,242	\$58,421	0.99
5617	Services to Buildings and Dwellings	27,482	\$29,474	1.10
2382	Building Equipment Contractors	26,616	\$55,191	1.17
4523	General Merchandise Stores, including Warehouse Clubs and Supercenters	24,389	\$26,843	1.24
5413	Architectural, Engineering, and Related Services	23,412	\$83,383	1.49
6241	Individual and Family Services	22,636	\$30,019	0.83
8131	Religious Organizations	20,637	\$22,717	1.23
5222	Non-depository Credit Intermediation	19,636	\$125,014	3.48
5415	Computer Systems Design and Related Services	18,236	\$89,208	0.83
7139	Other Amusement and Recreation Industries	17,355	\$20,448	1.40

3

**Cybersecurity supports ALL of
our growth industries.**

Both Regions' Economic Development Efforts Are Focused on These Opportunities

RVA Target Industries

- Corporate Services
- Information Technology
- Finance & Insurance
- BioScience
- Advanced Manufacturing
- Supply Chain
- Food & Beverage

757 Target Industries

- Advanced Manufacturing
- Business & Shared Services
- Distribution & Logistics
- Food & Beverage Processing
- Information Technology
- Offshore Wind



What is needed now?

1

**World-class Digital
Infrastructure.**

VIRGINIA'S I-64 INNOVATION CORRIDOR: RICHMOND REGION AND HAMPTON ROADS

The World's Next Global Internet Hub



I-64 INNOVATION CORRIDOR

A handful of key cities around the world make the internet work. They are global internet hubs and all are moving closer that this is about to change.

The world's next global internet hub isn't a fly by but rather a megaregion in Virginia that extends from the Richmond area to the Hampton Roads region. The 4,000 square mile area in Central and Southern Virginia is just two hours south of Washington, D.C. It is often called the I-64 Innovation Corridor.

The key to the I-64 Innovation Corridor becoming a global internet hub is combining the digital assets of both the Richmond area and Hampton Roads to create a sophisticated digital ecosystem. There is an established list of core characteristics of what assets a global internet hub. When you view the Richmond area and Hampton Roads together, we have seven of these core components.

10 Largest Global Internet Hubs
(ranked by Metropolitan Revenue for International Internet Connectivity)

1. Frankfurt
2. Singapore
3. London
4. Amsterdam
5. Paris
6. Hong Kong
7. Marseille
8. Stockholm
9. Miami
10. Vienna

Salina Colina Landing at Virginia Beach

Cybersecurity Expertise

Virginia's I-64 Innovation Corridor Digital Assets

1. Infrastructure	2. Innovation Centers
3. Education	4. Talent Pool
5. Research	6. Government
7. Quality of Life	8. Global Connectivity

The Megaregion's Educational Assets

The I-64 Innovation Corridor is home to world-renowned, research, colleges and universities.

1. Research University Centers	2. Research Centers	3. Research Institutes
4. State Universities	5. Private Universities	6. Community Colleges
7. Technical Schools	8. Trade Schools	9. Vocational Schools
10. Military Schools	11. Religious Schools	12. Other Schools

Megaregion Digital Infrastructure Providers

1. Internet Service Providers

2. Network Centers and Communications Providers

3. Data Centers and Hosted Services

4. Network Exchanges

5. Software-Defined Networking Providers

6. Satellite Carriers

7. Cloud Service Providers

8. Managed Network Service Providers

9. Network Security Providers

10. Network Monitoring Providers

11. Network Optimization Providers

12. Network Performance Providers

13. Network Reliability Providers

14. Network Scalability Providers

15. Network Security Providers

16. Network Performance Providers

17. Network Reliability Providers

18. Network Scalability Providers

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96. Network Performance Providers

97. Network Reliability Providers

98. Network Scalability Providers

99. Network Security Providers

100. Network Performance Providers

2

Homegrown talent that stays
here.

Where do Alumni of Postsecondary Institutions in the I-64 Innovation Corridor reside?

	Associate or Certificate	Bachelor's or Higher	Total
Virginia Beach-Norfolk-Newport News, VA-NC MSA	41.7%	23.6%	29.0%
Richmond, VA MSA	26.2%	21.9%	23.1%
Washington-Arlington-Alexandria, DC-VA-MD-WV MSA	3.6%	17.2%	12.8%
New York-Newark-Jersey City, NY-NJ-PA MSA	0.9%	4.1%	3.1%
Atlanta-Sandy Springs-Alpharetta, GA MSA	1.7%	2.6%	2.3%
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD MSA	0.6%	1.7%	1.3%
Charlotte-Concord-Gastonia, NC-SC MSA	0.9%	1.4%	1.3%
Baltimore-Columbia-Towson, MD MSA	0.6%	1.6%	1.3%
Raleigh-Cary, NC MSA	0.8%	1.3%	1.1%
Miami-Fort Lauderdale-Pompano Beach, FL MSA	0.7%	1.1%	1.0%
Los Angeles-Long Beach-Anaheim, CA MSA	0.4%	1.1%	0.9%
Dallas-Fort Worth-Arlington, TX MSA	0.7%	0.8%	0.8%
Houston-The Woodlands-Sugar Land, TX MSA	0.6%	0.7%	0.7%
Charlottesville, VA MSA	0.4%	0.7%	0.6%
Chicago-Naperville-Elgin, IL-IN-WI MSA	0.3%	0.8%	0.6%
Durham-Chapel Hill, NC MSA	0.4%	0.6%	0.5%
Tampa-St. Petersburg-Clearwater, FL MSA	0.6%	0.5%	0.5%
Orlando-Kissimmee-Sanford, FL MSA	0.5%	0.5%	0.5%
Jacksonville, FL MSA	0.7%	0.4%	0.5%
Roanoke, VA MSA	0.3%	0.5%	0.4%

Source: Chmura's JobsEQ®

3

Unifying the RVA-757 Cyber Industry.

Get in Touch

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