Security and Distributed Cloud Services

April 2023

Welcome to the product release notes for F5® Distributed Cloud Services. Each month, the product team will provide additional details on key features and enhancements in every release.

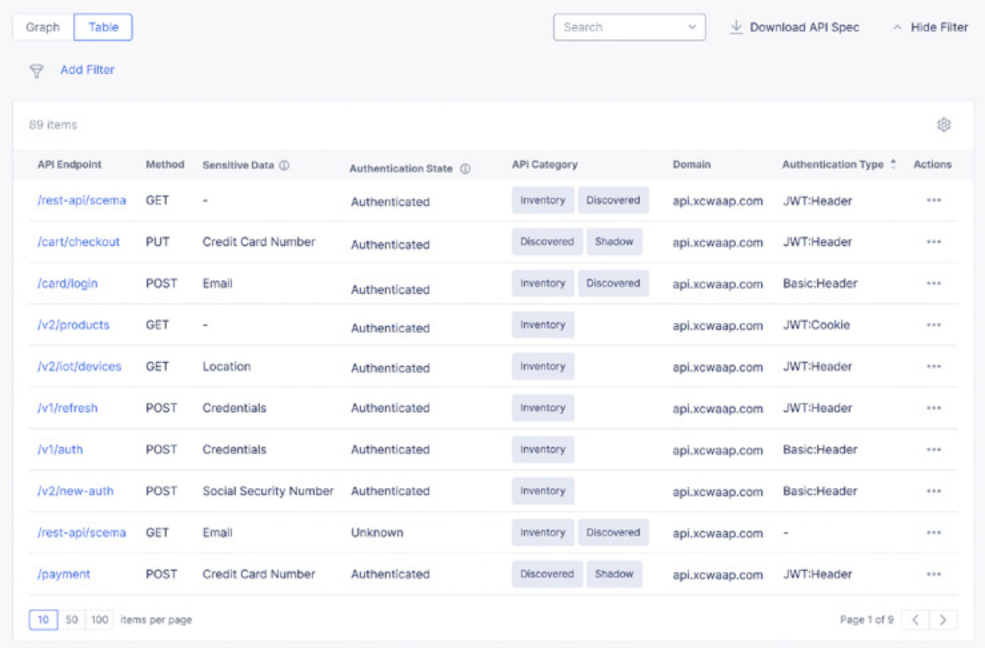
Distributed Cloud Web Application and API Protection (WAAP)

API PROTECTION

API Authentication Discovery

API Authentication Discovery identifies the authentication state and type of APIs within an application. The service can document authentication types based on the OpenAPI spec or their location within each API call, easily associating this data with app endpoints for analysis.

Authentication information that is part of a known OpenAPI spec can be automatically enforced, while unauthenticated traffic can be stopped in its initial stages, removing the need for origin API gateways to handle requests. This capability helps to augment API gateway functionality, delivering enhanced visibility, oversight and control over API behavior, authentication, and access. This enables organizations to identify gaps in API authentication, control access, and stop unauthorized access attempts to APIs and the back-end systems and data they connect.



API Endpoint	Method	Sensitive Data	Authentication State	API Category	Domain	Authentication Type	Actions
/rest-api/scema	GET	-	Authenticated	Inventory Discovered	api.xcwaap.com	JWT:Header	•••
/cart/checkout	PUT	Credit Card Number	Authenticated	Discovered Shadow	api.xcwaap.com	JWT:Header	•••
/card/login	POST	Email	Authenticated	Inventory Discovered	api.xcwaap.com	Basic:Header	•••
/v2/products	GET	-	Authenticated	Inventory	api.xcwaap.com	JWT:Cookie	•••
/v2/iot/devices	GET	Location	Authenticated	Inventory	api.xcwaap.com	JWT:Header	•••
/v1/refresh	POST	Credentials	Authenticated	Inventory	api.xcwaap.com	JWT:Header	•••
/v1/auth	POST	Credentials	Authenticated	Inventory	api.xcwaap.com	Basic:Header	•••
/v2/new-auth	POST	Social Security Number	Authenticated	Inventory	api.xcwaap.com	Basic:Header	•••
/rest-api/scema	GET	Email	Unknown	Inventory Discovered	api.xcwaap.com	-	•••
/payment	POST	Credit Card Number	Authenticated	Discovered Shadow	api.xcwaap.com	JWT:Header	•••

Figure 1: API Authentication Discovery and Validation—discover and view the authentication status, details, and risk score of all APIs. This also includes the ability to create protection or blocking rules.

JSON Web Token (JWT) Discovery

F5 Distributed Cloud WAAP now discovers header, payload, and signature information in JWTs, identifying useful fields for downstream analysis and visibility. The new WAAP capabilities enable discovering and analyzing the headers, payloads, and signatures within JWTs that may be indicators of compromise. It can detect user roles or user IDs and identify sensitive data in JWT payloads which can be used to guide remediation efforts to shore up and further protect insecure endpoints.

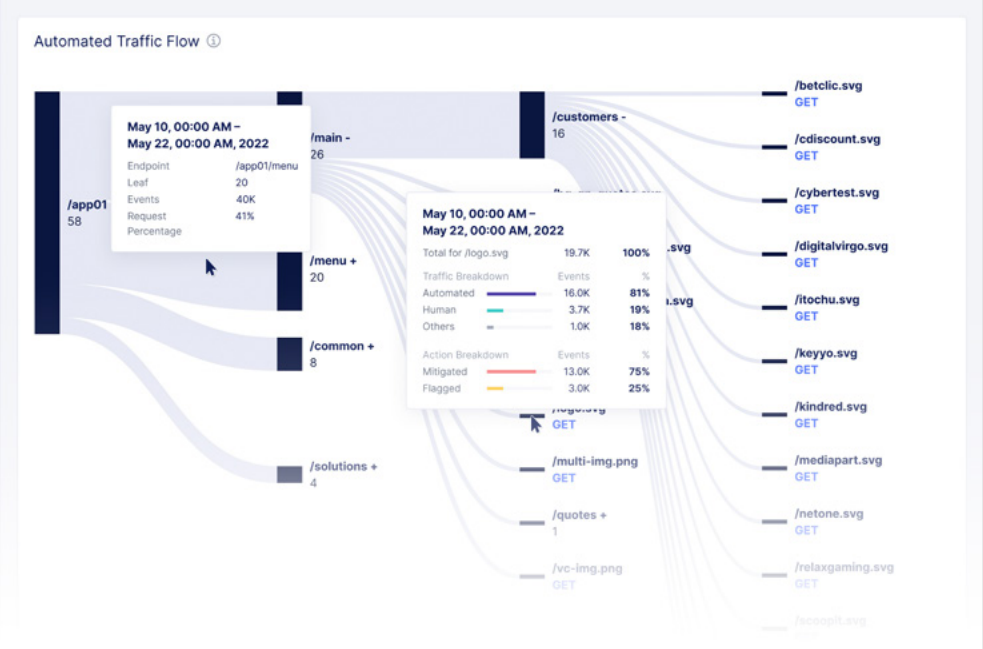
Increase in OpenAPI Schema Upload Limits (Up to 2.0 MB)

The platform now supports the upload of schema files up to 2.0 MB in size, allowing users to upload larger, more complex API schemas. This includes handling a larger number of endpoints, more details, and examples within each schema file.

BOT DEFENSE

New Protection Coverage Report

The Protection Coverage Report offers an in-depth exploration of traffic-flow patterns across secured endpoints, enabling users to analyze the proportion of flagged versus mitigated traffic for each endpoint. Paths are categorized by application and by function, such as login or checkout, making the reports more intuitive and highlighting the business value created by the protection.



May 10, 00:00 AM – May 22, 00:00 AM, 2022

Endpoint	/app01/menu
Leaf	20
Events	40K
Request Percentage	41%

May 10, 00:00 AM – May 22, 00:00 AM, 2022

Total for /logo.svg	19.7K	100%
Traffic Breakdown	Events	%
Automated	16.0K	81%
Human	3.7K	19%
Others	1.0K	18%
Action Breakdown	Events	%
Mitigated	13.0K	75%
Flagged	3.0K	25%

Figure 2: The new Protection Coverage Report page provides an in-depth look at traffic-flow patterns.

Cloudflare Connector for F5 Distributed Cloud Bot Defense

The Cloudflare Connector for Distributed Cloud Bot Defense enables Cloudflare CDN customers to easily integrate F5's bot-management service in the Cloudflare console. Once the F5 Connector module is deployed on Cloudflare, users will be able to view traffic statistics and security reports in the Console dashboard. The Cloudflare Connector highlights the F5 mission to protect any app deployed either on-premises, in the cloud, hybrid, or on third-party e-commerce platforms or CDNs. For more information, visit this Bot Defense page.

WEB APPLICATION FIREWALL (WAF)

WAF Signature Staging is Now Available

Signature staging is a new mechanism to evaluate new and/or modified attack signatures for a period of time before they are placed into operational/enforcement mode. The F5 Security Research Team frequently releases new signatures, updates existing signatures to improve their efficiency, and in some rare cases deletes signatures to avoid duplicates.

Some users prefer to place new and updated signatures into staging mode to give them time to review security events where these new or updated signatures are triggered and to tune policies before moving them into operation/enforcement mode. This new functionality will help users limit issues in their environment related to new signatures including incorrectly blocking good traffic and/or the generation of false positives. Additional guidance on setting this up can be found in the WAF how-to documentation.

Cookie Tampering Protection

Cookie tampering can be used in attacks such as session hijacking, where cookies with session identification information are stolen or modified by an attacker. This new functionality prevents attackers from modifying the value of session cookies. It can be configured by navigating to HTTP Load Balancer > Web Application Firewall > Cookie Protection section in the load balancers configuration.

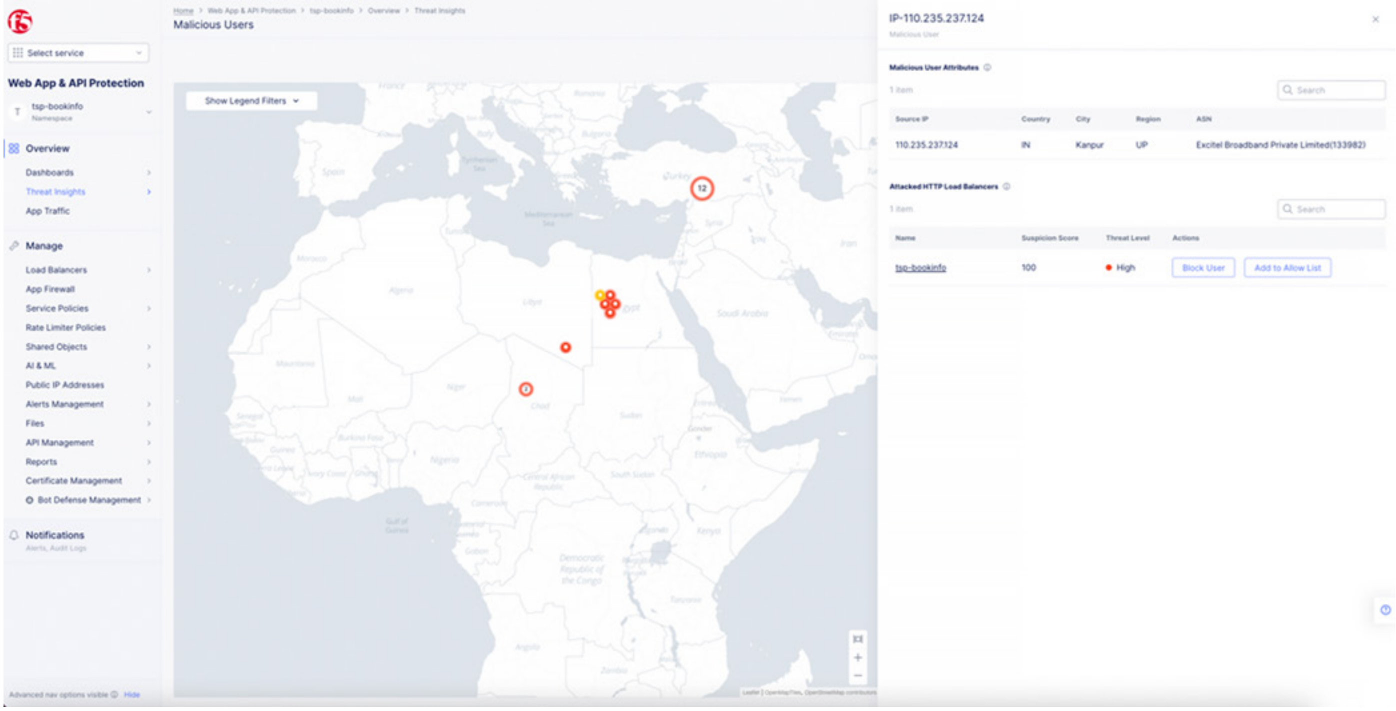
WAAP

Announcing WAAP Scheduled Reports

The WAAP Scheduled Reports feature lets you schedule reports (daily, weekly, or monthly) with summary results (from one or more namespaces) to be emailed to users specified in the user groups. The feature is configured in the Manage > Reports section.

New Dashboard for Malicious Users

The new Malicious Users dashboard provides a global view of attackers for a specific namespace, along with the ability to drill down into specific malicious user details. This provides users greater context about potentially malicious clients that interact with their applications, including User, Country, City, Region, ASN, and Source IP, with easy filtering and drill-down capabilities. Users can easily track the most ominous threats with risk scoring and threat level assessments to quickly allow or deny any client from the UI.



Malicious Users

IP-110.235.237.124

Malicious User

Malicious User Attributes

1 item

Source IP	Country	City	Region	ASN
110.235.237.124	IN	Kanpur	UP	Excitel Broadband Private Limited(133982)

Attacked HTTP Load Balancers

1 item

Name	Suspicion Score	Threat Level	Actions
tsp-bookinfo	100	● High	Block User Add to Allow List

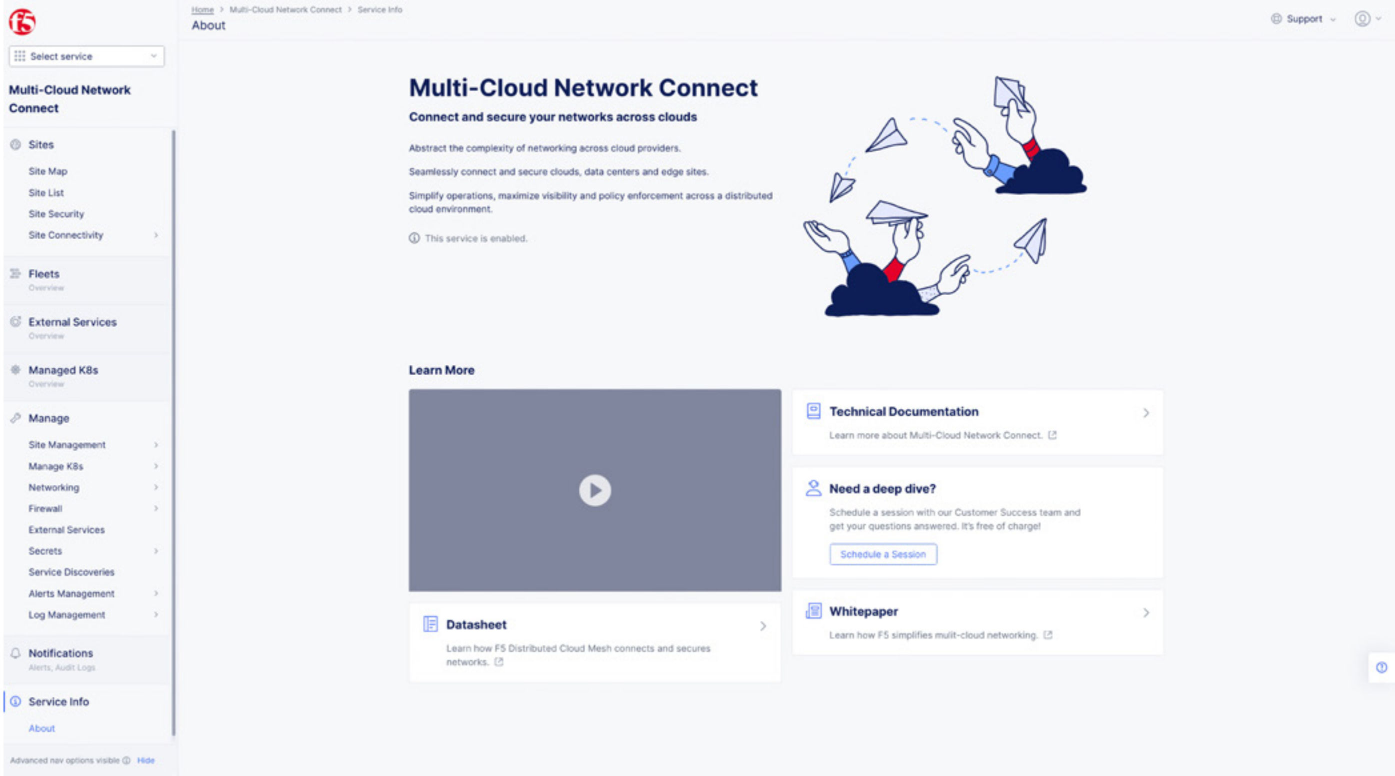
Figure 3: The new Malicious User dashboard provides greater context about potentially malicious clients.

Application and Network Performance

MULTI-CLOUD NETWORKING

UI Change: Renaming "Cloud and Edge Sites" Tile to "Multi-Cloud Network Connect"

For the release of F5 Distributed Cloud Network Connect, the tile previously labeled “Cloud and Edge Sites” has a new name and a new landing page. The Multi-Cloud Network Connect landing page provides convenient access to feature overviews, quick start guides, and technical documentation. The previous default screen and all other features and content are available via the navigation sidebar, which remains unchanged. Future releases will add more network-specific features to this tile.



Multi-Cloud Network Connect

Connect and secure your networks across clouds

Abstract the complexity of networking across cloud providers.

Seamlessly connect and secure clouds, data centers and edge sites.

Simplify operations, maximize visibility and policy enforcement across a distributed cloud environment.

This service is enabled.

Learn More

Technical Documentation

Learn more about Multi-Cloud Network Connect.

Need a deep dive?

Schedule a session with our Customer Success team and get your questions answered. It's free of charge!

Datasheet

Learn how F5 Distributed Cloud Mesh connects and secures networks.

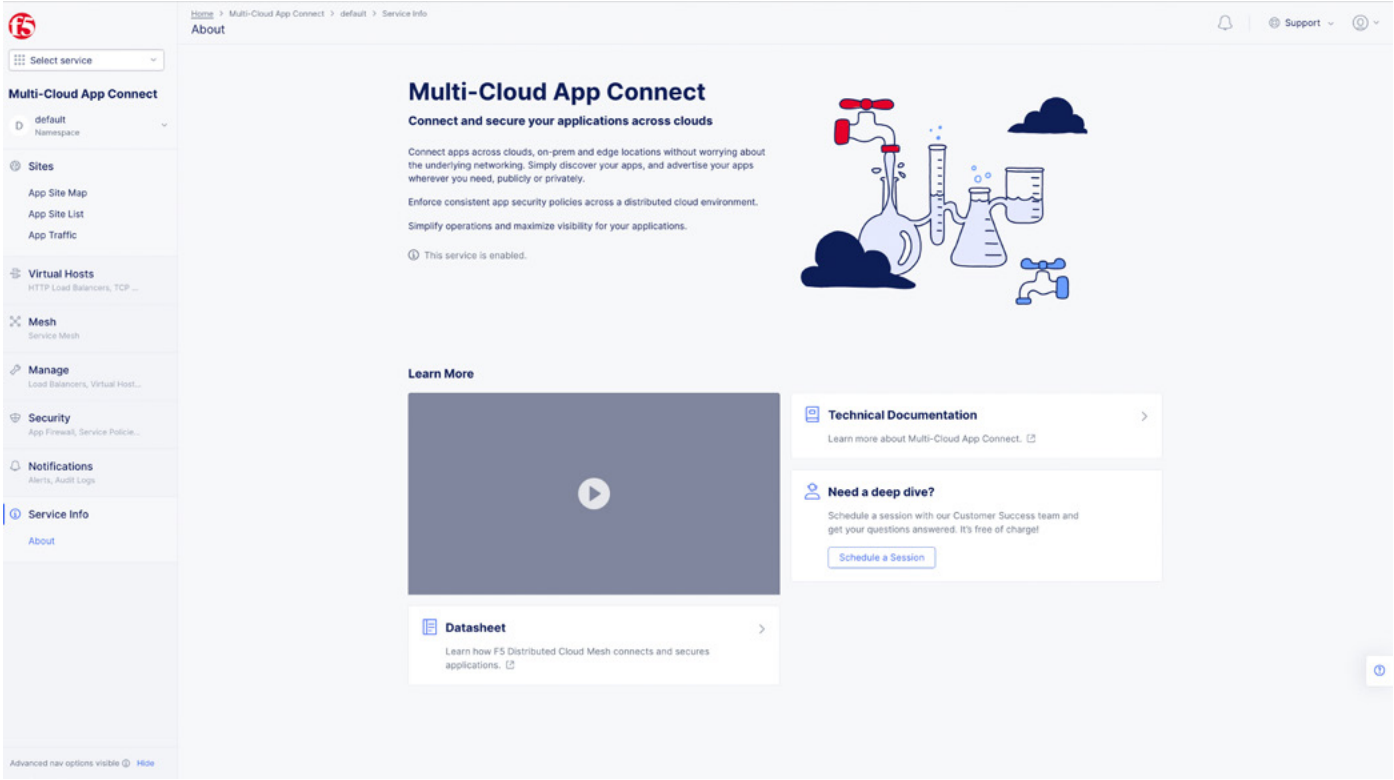
Whitepaper

Learn how F5 simplifies mulit-cloud networking.

Figure 4: The new Multi-Cloud Network Connect tile in the console.

UI Change: Renaming "Load balancers" Tile to "Multi-Cloud App Connect"

For the release of Distributed Cloud App Connect, the tile previously called “Load balancers” has a new name and a new landing page. The landing page for Multi-Cloud App Connect provides convenient access to feature overviews, quick start guides, and technical documentation. The previous default screen and all other features and content are available via the navigation sidebar, which remains unchanged. Future releases will add more application delivery and interconnect features to this tile.



Multi-Cloud App Connect

Connect and secure your applications across clouds

Connect apps across clouds, on-prem and edge locations without worrying about the underlying networking. Simply discover your apps, and advertise your apps wherever you need, publicly or privately.

Enforce consistent app security policies across a distributed cloud environment.

Simplify operations and maximize visibility for your applications.

This service is enabled.

Learn More

Technical Documentation

Learn more about Multi-Cloud App Connect.

Need a deep dive?

Schedule a session with our Customer Success team and get your questions answered. It's free of charge!

Datasheet

Learn how F5 Distributed Cloud Mesh connects and secures applications.

Figure 5: The new Multi-Cloud App Connect tile in the console.

New Site Type: Secure Mesh

The Secure Mesh site serves as a network gateway for managing network connectivity, security, and application interconnect and delivery across various on-premises scenarios such as Edge, Data Center, Co-location, and Branch. Secure Mesh is intended for virtual and physical form factors such as KVM, certified third-party hardware, and F5 Distributed Cloud gateway appliances. This site type is useful for securely connecting locations that have existing application infrastructure, and for presenting Distributed Cloud resources to users at specific locations.

Performance Enhancement Mode Now Supported for All Site Sizes and Types

Performance Enhancement Mode is now supported for all sizes and types of sites. Performance Enhancement Mode allows a choice to optimize the networking at a site for L7 app delivery (the current default) or L3 site-site connectivity. The mode for a site can be changed at any time, but applying the change will disrupt all network traffic to/from that site for up to five minutes.

Site Topology Added for Azure VNET Site

This feature gives a visual representation of the site topology for Azure VNET Sites, both Standalone VNET and Hub VNET. With the ability to view details about each VNET, subnets, number of deployed Mesh instances, route tables, and more, you can gain a better understanding of your infrastructure and identify potential issues. This, in turn, helps you optimize your network performance, troubleshoot more effectively, and make informed decisions about your infrastructure.

HTTP and TCP Load Balancers Support Multiple Custom TLS Certificates

Customers can upload their own TLS certificates and Intermediate certificate chains to the Distributed Cloud platform for use as certificate objects. Those objects can be used across multiple HTTP and TCP load balancers while maintaining centralized management to simplify certificate updates. This new capability is available under Manage > Certificate Management section of Multi-Cloud App Connect service.

Application Performance and Reliability

DISTRIBUTED CLOUD CONTENT DELIVERY NETWORK (CDN)

Support for Summary View of CDN Access Logs

F5 Distributed Cloud CDN now supports the ability to view a summary of CDN Access Logs.

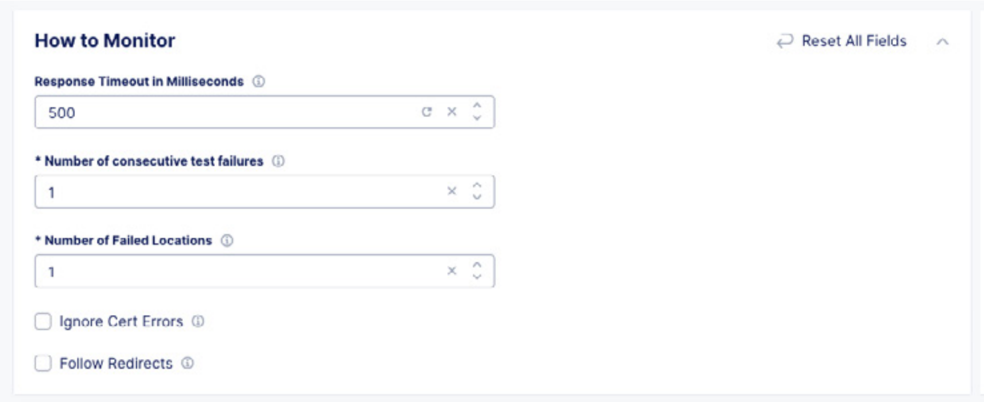
Spliced Downloads and Large File Support

Distributed Cloud CDN now supports the ability to separatee larger files into smaller segments to improve download speed and efficiency. The previous file size limit was 50MB, but that limit has been removed. After splicing a file from the origin, the CDN serves the file segments concurrently to clients that utilize an HTTP range request. Clients can resume a download if it has been interrupted.

SYNTHETIC MONITORING

More Granularity of Timeout Thresholds in the Products

HTTP(s) and DNS Monitor timeout units have changed from seconds to milliseconds, enabling finer control over alerting thresholds.



How to Monitor

Response Timeout in Milliseconds: 500

* Number of consecutive test failures: 1

* Number of Failed Locations: 1

□ Ignore Cert Errors

□ Follow Redirects

Figure 6: This image reflects the change in HTTP(s) and DNS Monitor units to milliseconds.

DNS

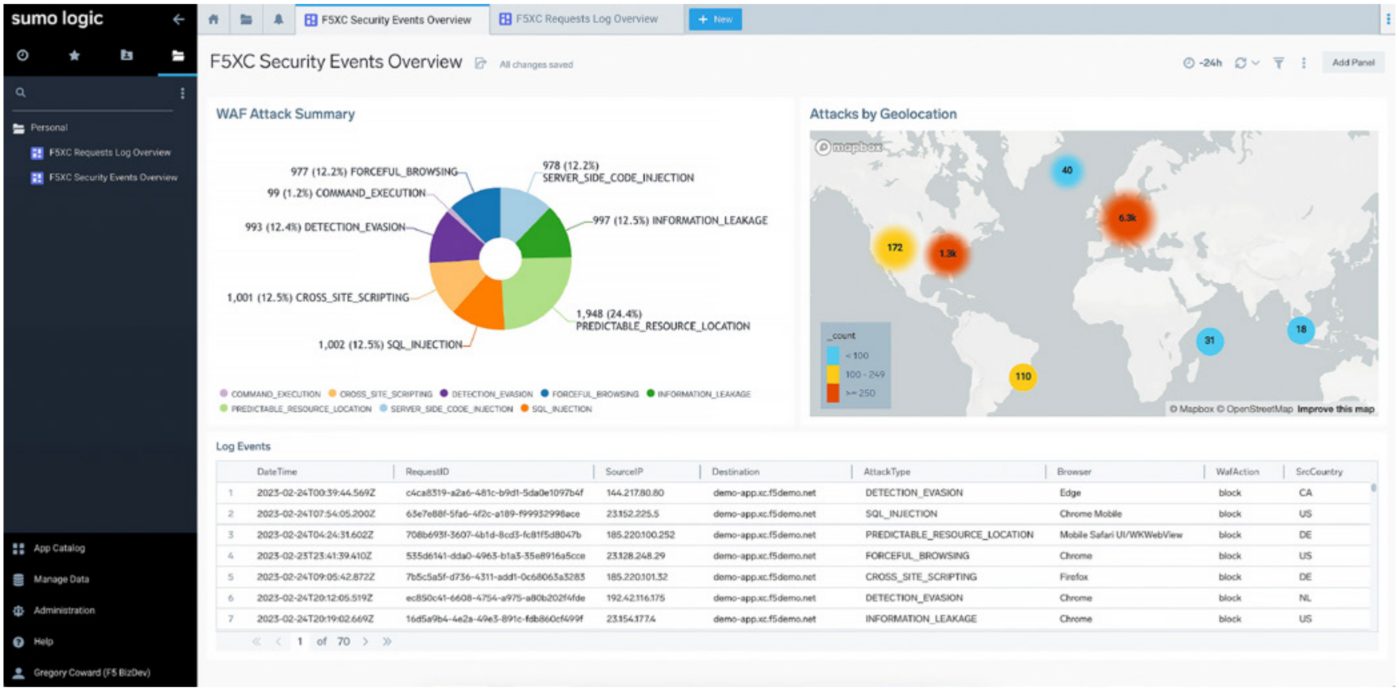
Number of DNS Records Can Now Be Displayed in the DNS Zones Listing

It is now possible to display on the DNS zones listing page the number of DNS records contained in each DNS zone. This is done through an additional field named "Number of DNS records" that can be added as part of the listing.

GLOBAL LOG RECEIVER

Support Added for Sumo Logic and New Relic Targets

This release adds support for Sumo Logic and New Relic as targets for the Global Log Receiver feature. This allows customers using those vendors to send their logs more easily, rather than having to use the generic HTTPS endpoint. For more information about adding Sumo Logic logs to your Global Log Receiver, read this DevCentral article.


sumo logic
Personal
F5XC Requests Log Overview
F5XC Security Events Overview
App Catalog
Manage Data
Administration
Help
Gregory Coward (F5 BizDev)
F5XC Security Events Overview
F5XC Requests Log Overview
+ New
All changes saved
-24h
Add Panel
WAF Attack Summary
977 (12.2%) FORCEFUL_BROWSING
99 (1.2%) COMMAND_EXECUTION
993 (12.4%) DETECTION_EVASION
1,001 (12.5%) CROSS_SITE_SCRIPTING
1,002 (12.5%) SQL_INJECTION
978 (12.2%) SERVER_SIDE_CODE_INJECTION
997 (12.5%) INFORMATION_LEAKAGE
1,948 (24.4%) PREDICTABLE_RESOURCE_LOCATION
COMMAND_EXECUTION
CROSS_SITE_SCRIPTING
DETECTION_EVASION
FORCEFUL_BROWSING
INFORMATION_LEAKAGE
PREDICTABLE_RESOURCE_LOCATION
SERVER_SIDE_CODE_INJECTION
SQL_INJECTION
Attacks by Geolocation
mapbox
40
6.3k
172
1.3k
31
18
110
_count
< 100
100 - 249
>= 250
© Mapbox © OpenStreetMap Improve this map

F5XC Security Events Overview

Log Events

	DateTime	RequestID	SourceIP	Destination	AttackType	Browser	WafAction	SrcCountry
1	2023-02-24T00:39:44.569Z	c4ca8319-a2a6-481c-b9d1-5da0e1097b4f	144.217.80.80	demo-app.xc.f5demo.net	DETECTION_EVASION	Edge	block	CA
2	2023-02-24T07:54:05.200Z	63e7e88f-5fa6-4f2c-a189-f99932998ace	23.152.225.5	demo-app.xc.f5demo.net	SQL_INJECTION	Chrome Mobile	block	US
3	2023-02-24T04:24:31.602Z	708b693f-3607-4b1d-8cd3-fc81f5d8047b	185.220.100.252	demo-app.xc.f5demo.net	PREDICTABLE_RESOURCE_LOCATION	Mobile Safari UI/WKWebView	block	DE
4	2023-02-23T23:41:39.410Z	535d6141-dda0-4963-b1a3-35e8916a5cce	23.128.248.29	demo-app.xc.f5demo.net	FORCEFUL_BROWSING	Chrome	block	US
5	2023-02-24T09:05:42.872Z	7b5c5a5f-d736-4311-add1-0c68063a3283	185.220.101.32	demo-app.xc.f5demo.net	CROSS_SITE_SCRIPTING	Firefox	block	DE
6	2023-02-24T20:12:05.519Z	ec850c41-6608-4754-a975-a80b202f4fde	192.42.116.175	demo-app.xc.f5demo.net	DETECTION_EVASION	Chrome	block	NL
7	2023-02-24T20:19:02.669Z	16d5a9b4-4e2a-49e3-891c-fdb860cf499f	23.154.177.4	demo-app.xc.f5demo.net	INFORMATION_LEAKAGE	Chrome	block	US

« ‹ 1 of 70 › »

Figure 7: Distributed Cloud Global Receiver offers native support for Sumo Logic, so users can easily connect a Distributed Cloud tenant to their Sumo Logic environment to work with security event data.

Modern Application Delivery

APP STACK

Deploy Mesh Sites on Edge or Data Center Using a Simplified Workflow
Users can easily deploy Mesh sites in edge locations or data centers via a simplified workflow in the Distributed Cloud Console. This feature enables customers to configure Mesh sites just as they do today with App Stack sites. Users can share common code with the App Stack sites since the code is similar.

Please see the full Distributed Cloud Changelog for additional information, including more new enhancements plus known issues and caveats. We hope you find the information contained in these release notes useful. If you have any feedback please email CS_DistributedCloudTeam@f5.com.