



Layer7 Roadmap & Update

Aran White
Head of Product Management

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Disclaimer

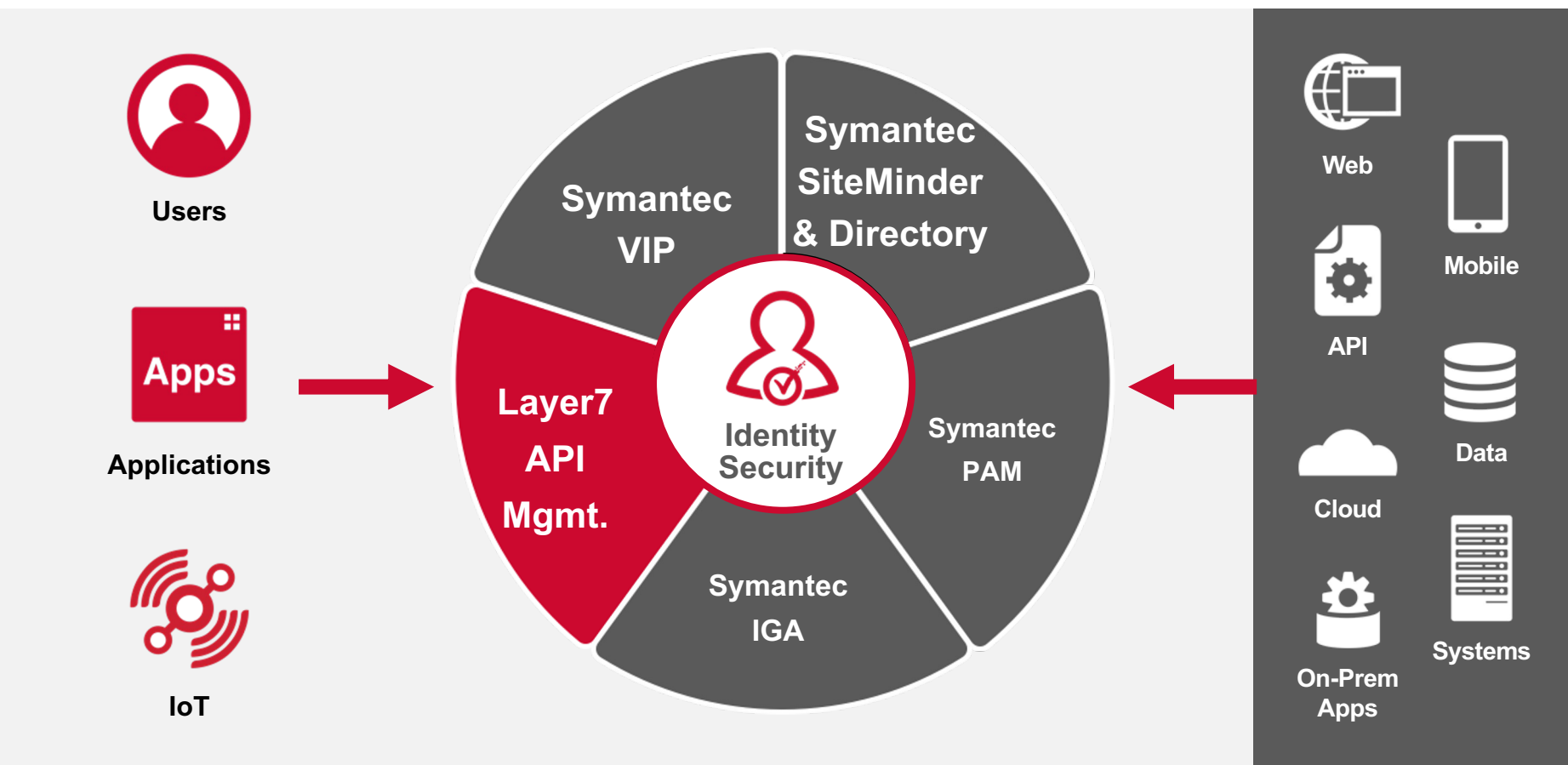
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Identity & Access Management from Symantec

Layer7 API Security & Management

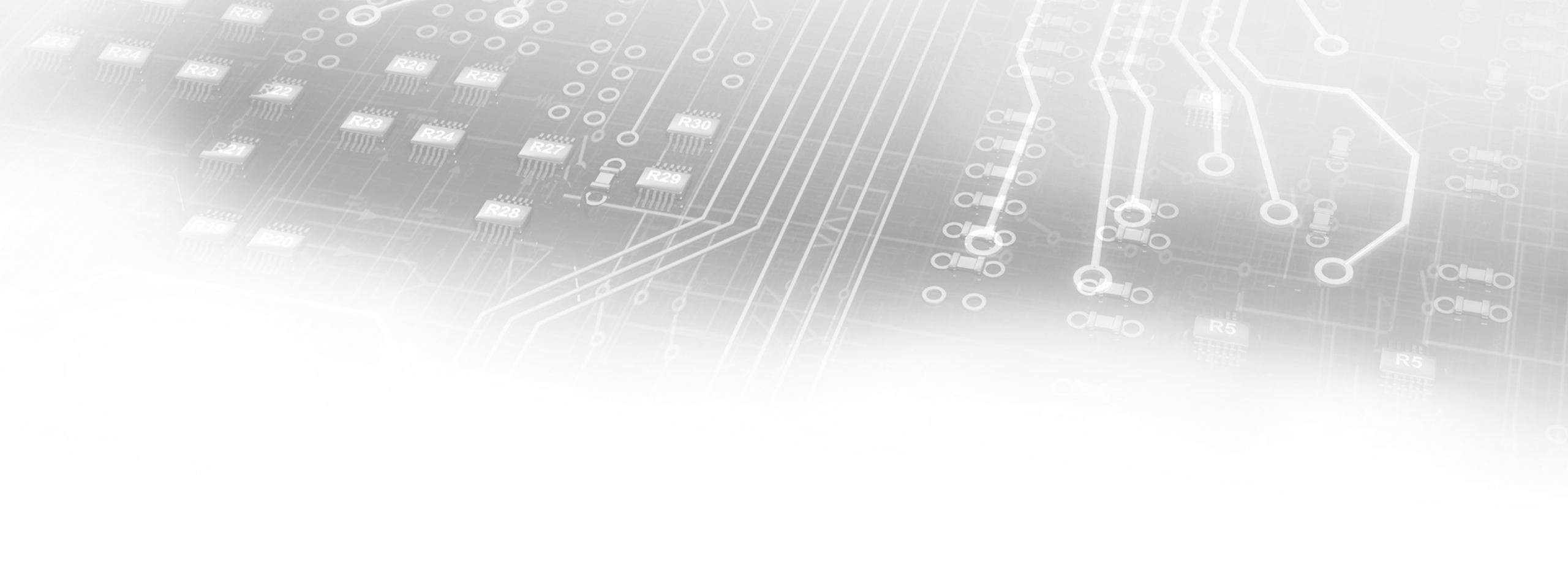


Key Capabilities

- Advanced API Protection
- Threat Protection
- AuthN and AuthZ Enforcement
- Full API Security
- Secure Microservices
- Developer API Portal

Value Delivered

- API Governance
- Least privileged access for APIs
- API Documentation
- Token Management



Layer7 Solution Priorities and Vision



Layer7 API Management Solution Priorities

Provide a leading API management security solution with frictionless deployment and management, removing barriers to using the Layer7 solution for managing internal and external APIs.



Security – Enhance integrations and capabilities to support emerging authentication technologies along with risk-based analysis



Management - Centralize management via unified APIs and Console with a focus on automation



Developer Experience – Expand developer-facing portal to include more documentation options and integration points



Policy – Enrich CI/CD pipeline support and as well as protocols/assertions



Monitoring and Performance – Extend business analysis through increased performance metrics and analysis of API traffic data



Community – Empower the Layer7 community to foster sharing and collaboration

Layer7 Customer Engagement

Multiple approaches for customers to more closely engage with the Layer7 team

CAB Customer Advisory Board

- Quarterly session with select customers
- Share latest product enhancements
- Allow customers to interact and share experiences
- Share roadmap and provide a forum to provide feedback on priorities

EAP Early Adopter Program

- Invitation-Only Program
- Customers commit to upgrading to latest release within 100 days of GA
- Customers get special access to Engineering
- Provides a great approach to get early feedback while giving customers extra help during the upgrade

Community <https://community.broadcom.com/>

- Navigate to the “Layer7 API Management”
- Interactive forum where customers can interact with each other as well as the Layer7 team
- Includes recent announcements, events and tutorials
- Home for experimental features

Office Hours

- Monthly Tech Call
- Content for practitioners
- Deep dive content and conversation
- Advanced topics and open Q&A

Training

IMS Academy (<http://imsacademy.broadcom.com/>)

- Product and New Feature Training
- Focused on providing short videos
- Centered around specific use cases and capabilities
- Rich set of resources for API Management

API Academy (<https://apiacademy.co/>)

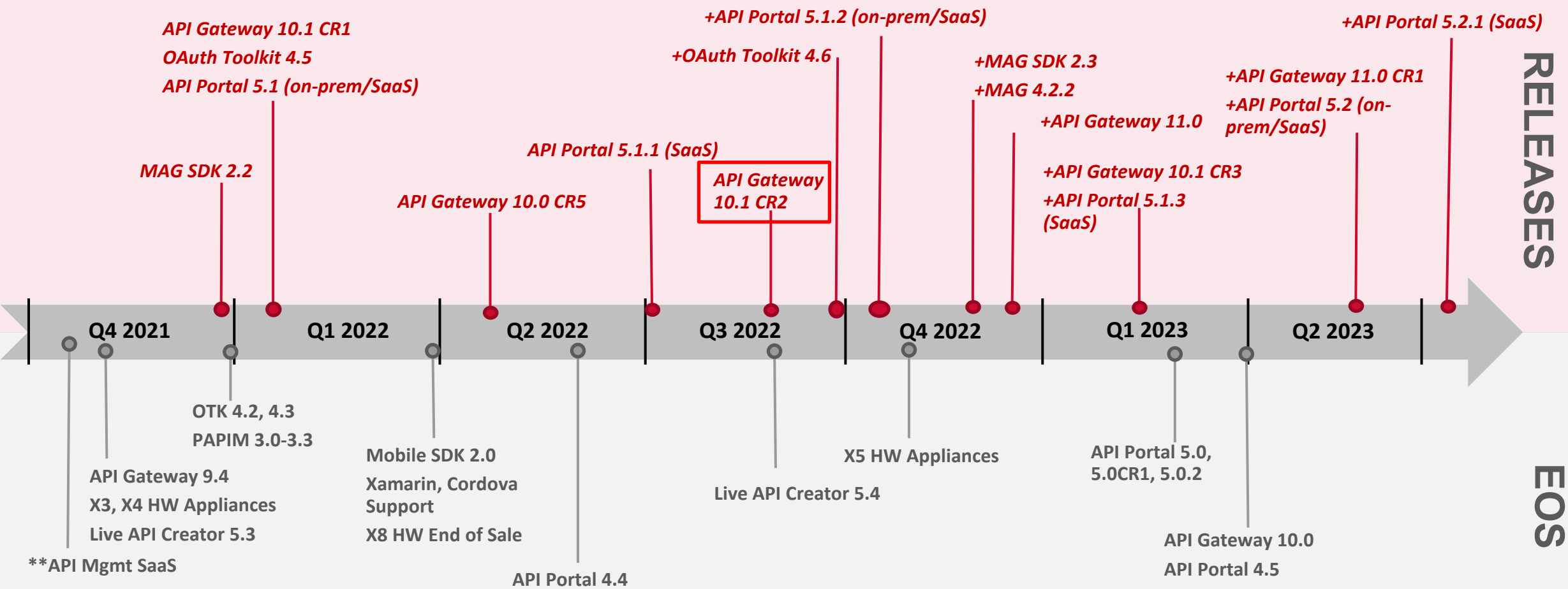
- Certification programs: API Security Architect, API Designer, and API Product Manager
- How-To videos
- Blogs on industry themes
- Podcasts
- Tech Talks



Release Timing and Key Features



Layer7 Roadmap Release and EOS Snapshot



+ Represents future plans - actual release naming and timing subject to change.
** Full SaaS with gateways only. SaaS portal managing on-prem gateways continues to be supported

NOTE: All dates are calendar year quarters



API Gateway 10.1 Key Capabilities (through CR02)

- TLS1.3 (TLS v1.1 and TLS v1.0 are disabled)
- Support for RSASSA-PSS Signature Algorithms
- Support for New JSON Web Signatures (PS256, PS384, PS512)
- Support for Kerberos Authentication when Token Compression is Enabled
- Enhanced Security for Gateway System Settings Exports
- Support for Java 11-Compatible HSM Client
- Additional Luna Partition Policy Changes for Luna HSM Users (Policies 2, 5,6, 17, and 33)
- Custom Assertion SDK for Java11
- New Connect to Outbound WebSocket Assertion
- ESXi7.0 Support
- Platform Support Updates - AdoptOpenJDK 11.0.13, Tomcat 9, MySQL Connector 8.0.26, etc.
- Container Support for Luna HSM
- Debugging of Encapsulated Assertions
- Security Hardening for Common Criteria
- Enhanced Process CORS Request
- Secure XML Messaging Java Library Upgrade
- New Cluster Wide Property for Security Hardening
- Encode/Decode JSON Web Token Assertion - New Option
- Route via HTTP(S) Assertion - New Options
- Policy and Encass References by Name
- DFDL Processor Upgrade
- Hazelcast 5 Client Support *
- [Preview] WebSocket/HTTP port consolidation
- [Experimental] GraphQL

* Hazelcast do not provide backward compatibility, please review docs

Portal 5.1 Key Capabilities (through 5.1.1)

- Rate Limits and Quotas for API Management
 - streamlined management of rate limiting & throughput quota capabilities across organizations and APIs, enabling preconfigured Rate Limits and Quotas to be reused during API publishing
- Portal Dashboard: Proxy Errors List
 - Portal administrators can now view any proxy connectivity issues and API/API key deployment issues from the dashboard using the Proxy errors list
- Enhanced Synchronization for API Plans and Account Plans
 - improved reliability for plans synchronization operations
- Organizational Tagging
 - manage and group related organizations by way of tagging
- Portal API (PAPI) Updates
 - new API endpoints and multiple improvements on existing endpoints
- Helm Chart Improvements
 - configurable liveness probe & other chart improvements
- Support for MySQL 8.0.26
 - expanding support for compatibility with cloud-based MySQL versions
- Miscellaneous library updates
 - addressing CVEs, including recent log4j vulnerabilities
- Rate and Quota Limit at API per Organization Level
- View API list by Organization
- Workflow Enhancement to include Application deletion

For a complete list of enhancements please see:

<https://techdocs.broadcom.com/us/en/ca-enterprise-software/layer7-api-management/api-developer-portal/5-1/release-notes-api-developer-portal.html>

OAuth Toolkit (OTK) and Mobile SDK Key Capabilities

OTK 4.5.1

- 3rd Party OpenID Connect (OIDC) Authentication support
 - provides integration with the VIP Authentication Hub and other external OIDC providers enabling a more secure user authentication experience enriched with Multi-Factor Authentication (MFA) and risk-based rules.
- Audience Restriction Support
 - provides more granular control to client applications to restrict access to specific resources.
- Mutual TLS-based OAuth Client Authentication
 - provides enhanced security required to support standards such as FAPI for Open Banking to ensure access tokens are bound to client certificates.
- Performance Enhancements for MySQL and Cassandra
 - provide customers with more guidance for tuning their databases for optimal performance.
- Hashed Secret Storage
 - provides the ability to ensure client credentials are stored securely and protected from any unauthorized access.

For a complete list of OTK enhancements please see:
<https://techdocs.broadcom.com/us/en/ca-enterprise-software/layer7-api-management/api-management-oauth-toolkit/4-5/release-notes.html>

Mobile SDK 2.2

- iOS 14 and Android 12 Certification
 - ensures applications built on the Mobile SDK remain compatible with the latest mobile operating systems
- RSA-PSS and TLS 1.3
 - Provides enhanced security
- Third-Party App Authentication
 - Expanded user authentication support for browser-based authentication when redirected to a third-party app as part of the authentication flow
- iOS Web Service Authentication
 - supported using “ASWebAuthenticationSession” to authenticate a user
- Added to disable SSL Pinning
 - allows for simplified developer testing

For a complete list of SDK enhancements please see:
<https://techdocs.broadcom.com/us/en/ca-enterprise-software/layer7-api-management/mobile-sdk-for-ca-mobile-api-gateway/2-2/release-notes.html>

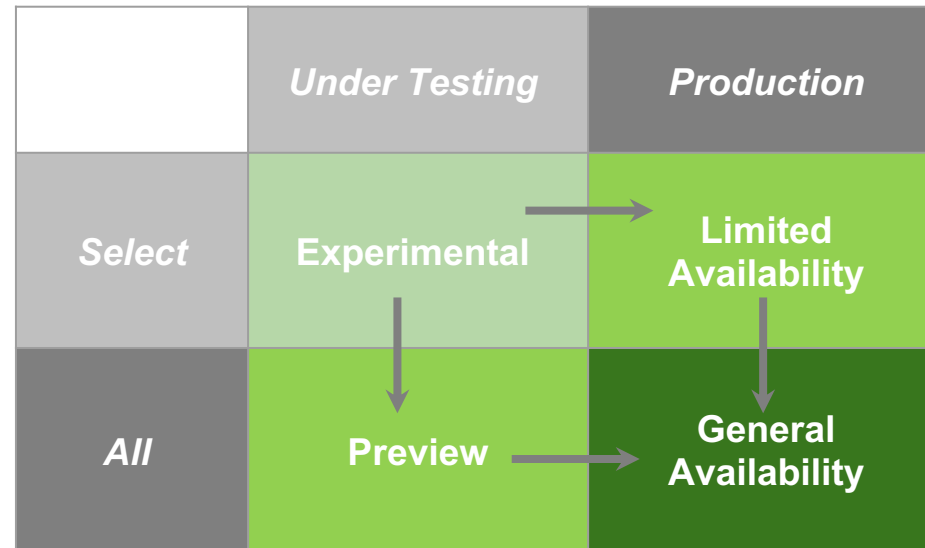


Layer7 Progressive Delivery (Early Access)



Progressive delivery

- **[Experimental]** - experimental features with limited testing, distributed in ***non-official releases***
- **[Preview]** - nearly completed feature for beta testing in non-production env. Distributed in ***official releases***, hidden under feature flag if possible
- **[Limited Availability]** - features first rolled out to customers willing to adopt early in real-life. Backward compatibility not guaranteed.
- **[General Availability]** - all customers in production env



Accelerator Week 5th Sept

- Upgrade CryptoComply for Java to 3.0.2.1
- 10.1 CR2 New Feature Demo Videos
- Certify configuration for JMS over MQ v9.x
- Read O/S environment variables
- JSON Schema Validation V6, V7
- XSLT 3.0 Support
- Postman Collection for PAPI calls
- API Hub Training Materials
- Portal accepting Graphman Bundle POC
- Postman Collection - Custom Page Bundle
- Ability to install OTK without requiring GW restart - POC
- Certify OTK DB with AWS Aurora DB
- MAG get started and troubleshooting videos
- Portal HA 'active-passive' on Docker Swarm
- Integrating External reporting tools with Portal analytics data
- Usage Reporting
- Updates to AMQP Tactical assertion

Progressive delivery

- **[Experimental]** – GraphQL
- **[Preview]** – Web Sockets
- **[Experimental]** – Debian Appliance
- **[Experimental]** – gRPC

Coming soon

- **[Experimental]** – XSLT 3
- **[Experimental]** – JSON Schema Validation 6X 7X
- **[Experimental]** – Environmental variable support in policy
- **[Preview]** – graphman API
- **[Experimental]** Decouple OTK from Portal
- **[Experimental]** Rate Limits & Quotas for API per Application
- **[Experimental]** Quota Consumption Report by API per

	<i>Under Testing</i>	<i>Production</i>
<i>Select</i>	Experimental	Limited Availability
<i>All</i>	Preview	General Availability



Layer7 Infrastructure Management (L7iM) Vision

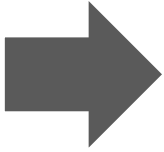


Config Management (Layer7 Infrastructure Management)



Config Management & Beyond (L7iM)

New Config
Bundle and
API Support



Automation
and Scripted
Migrations

- Fast readable format
- Support for migrations
- Bootable config
- Container support

```
{  
  "subjectDn": "cn=www.google.com",  
  "expiry": "Mon Feb 21 03:36:33 UTC 2022",  
  "trustAnchor": false,  
  "usageDescription": "Sign Server, Sign SAML",  
  "certBase64": "MIIEiDCCA3CgAwIBA...",  
  "revocationCheckPolicyType": "USE_DEFAULT"  
}
```

Hint: double-click to select code

```
{  
  "type": "folder",  
  "path": "/migrationTest",  
  "contents": [  
    {  
      "type": "policy",  
      "name": "MyPolicyInclude",  
      "cksum": "5a97e170408dc1d7a1d08d6f5bee42a7ced4b9ea"  
    },  
    {  
      "type": "service",  
      "name": "My Test REST API",  
      "resolutionPath": "/myrestest/*",  
      "cksum": "30963d42f18a2828147a3386c7be44978f17c801"  
    }  
  ]  
},  
{  
  "type": "folder",  
  "path": "/utils",  
  "contents": [  
    {  
      "type": "policy",  
      "name": "Route to GraphQL Backend",  
      "cksum": "30963d42f18a2828147a3386c7be44978f17c801"  
    }  
  ]  
}
```


Config Management - Layer7 graphman

Graphman

mutations

POST Set Cluster Property

POST Create Certificate

POST Update Certificate

POST Delete Cluster Property

POST Delete Trusted Cert

queries

POST All Trusted Certs

POST All Trusted Certs (dates)

POST Trusted Cert for a DN

POST All Cluster Properties

POST Cluster Property by Name

POST Config summary

Graphman pi30

Bundles and migration

Everything

Service and dependencies

Folder and subfolders

Policy and dependencies

Config entities (CRUD)

All entities

Web Api Services

Policy Fragments

Encass Configs

Trusted certs

Cluster-wide props

JDBC Connections

Soap Services

Schemas and Dtds

Compare gateways

POST Source Summary

POST Target Summary

PI Planning updates



Layer7 Work completed - PI30: June – Aug

API Gateway

- Release of API Gateway 10.1 CR2
 - Common Criteria related changes
 - Critical bug fixes
 - JDK11 Update
 - Apache HTTP Client Update
- Common Criteria Updates (continued)
- Hazelcast 5.x Upgrade
- GraphQL Assertion Tech Preview
- DFDL 3.3.0 Upgrade
- Debian Appliance for API Gateway 11.0 (continued)
- Ephemeral Gateway
- Allow Private Keys & Certs to be selected Dynamically
- WebSocket Inbound support over the same HTTP port
- [Kafka Consumer Tech Preview](#)
- graphman updates

OAuth Toolkit

- FAPI 1.0 Advanced Profile Completion
- RFC 7591 Software Statement Support
- Token exchange grant based on RFC8693
- Device authorization grant based on RFC8628
- Enforce Rate Limiting for OTK Endpoints

Mobile SDK

- Log Management Improvements - continued from PI29
- Exception Handling Improvements - continued from PI29
- Remove use of Query Parameters for Token Revocation
- Remove use of Query Parameters for Social Login Access Tokens
- SSL Pinning Updates to allow for flexibility

API Portal

- Release of API Portal 5.1.1 (SaaS Only)
 - Rate Limits & Quotas for API per Organization
 - PAPI improvements for Applications and API groups endpoints
 - TSSG/Gateway Enrollment improvements
 - Legacy SAML SSO sync redesign
- Audit Logs maintenance
- Default Rate Limits & Quotas for API per Organization
- Quota Consumption Report by API per Org.
- PAPI improvements for API Plans and Application Request
- Fully customized email templates to support localization
- Public API Catalog & documentation without Authentication
- Managing Organization Visibility and RL&Q from API Details
- UI updates to use new PAPI applications endpoint
- TLS1.3 Support for Portal UI and PAPI
- Support for MariaDB for external DB (best effort)
- Support Portal Deployment on GKE
- Alerts for Expiring/Expired Certificates

Layer7 Work in Progress - Current PI31: Sept – Dec

API Gateway

- Release of API Gateway 11
 - Debian Based Appliance
 - JDBC Driver update
 - Active Dir integration for SSH
 - Apache HTTP Client Update
- Common Criteria Certification (conclusion)
- FIPS certification lib updates
- SFTP Library updates
- MQ JMS driver updates
- Embedded Hazlecast assertion v5 support
- Ephemeral Gateway
- Kafka Consumer
- **[preview]** graphman

OAuth Toolkit

- OTK 4.6 Release
- FAPI 1.0 CIBA Profile support
- Cassandra 4.x driver 4.x performance improvements
- OTK Helm chart deployment
- Token exchange grant based on RFC8693
- Device authorization grant based on RFC8628
- Enforce Rate Limiting for OTK Endpoints



Mobile

- MAG 4.2.2 Release
- SDK 2.3 Release
- Android 13 support
- iOS 16 support
- Android key Storage updates
- Updated Encryptions mechanism (Android)

API Portal

- Custom page support
- 5.1.2 Release
- PAPI Updates
- [App Requests, Registration Requests]
- Support Editing of Proxy Name and URL (resolves WSDL download port issue)
- Portal Dispatcher Improvements for CIDR configuration
- SAML SSO: support for onboarding multi-org users
- Disable local logins
- **[Experimental]** Decouple OTK from Portal
- **[Experimental]** Rate Limits & Quotas for API per Application
- **[Experimental]** Quota Consumption Report by API per Application
- Debian Appliance

Layer7 Capabilities for Future Consideration

API Gateway

- Container & Cloud native config, docs and features
- Websockets enhancements to allow multiple websockets services on a shared port next steps
- Additional authentication schemes for JDBC connections
- MariaDB support for SSG DB
- Extended support for API Gateway without DB
- gRPC protocol support
- SNI Support
- API gateway as an ingress controller for K8s
- K8S API discovery and control
- XSLT 3 Support for the XSLT Assertion
- Gateway support for Redis for inter-gateway communication

OAuth Toolkit

- FAPI 1.0 PAR Support
- FAPI 2.0 Support
- Shared Signals Support
- Separate DB read vs. write connections for improved multi-region support

Mobile SDK

- iOS 17
- Android 14

API Portal

- API Products to define pre-packaged APIs along with usage limits
- Decouple Portal-OTK-Gateway configs
- Rate Limits & Quotas for API per Application API Key
- PAPI JWT support for Authentication and user org/role mapping
- Integration with external Identity Providers to register Applications and API Keys
- Gateway Health and control options
- Debian OVA

Layer7 Infrastructure Manager (L7iM)

- Graphman bootstrapping for ephemeral gateway mode
- Mappings and Migrations
- Gateway Health and management
- PAPI next gen monitoring & reporting

Call for input

Layer7 Office Hours - September 2022

By: [Bill Oakes](#)


Do you have questions or feedback to share with our Layer7 API Management experts? This month, the team will provide an update on the OAuth Toolkit (OTK) 4.6 release, which contains many new and exciting features in support of Open Banking as well as additional grant types for Token Exchange and Device Authorization. The team will provide key highlights and demonstrate some of these new capabilities.

Thursday, September 22 at 8am PST/11am EDT

<https://symantec.broadcom.com/api-management-office-hours>

1. [Experimental Feature] - GraphQL Assertion

1Recommend



Broadcom Employee

Aran White

Posted 20 days ago

REPLY

With this new experimental capability, Layer7 Gateway policies can be configured to validate incoming GraphQL queries and mutations against a GraphQL schema specified at design time. GraphQL query and mutation requests use their own syntax, different from JSON which creates the need for this additional capability to interpret and validate these structures. The GraphQL schema is provided at design time by either pasting it from an external source or by simply pointing to your GraphQL endpoint for introspection. You can use this capability to validate incoming GraphQL requests from external sources prior to directing them to GraphQL endpoints protected by the Layer7 Gateway. You can also make your own 'GraphQL subset' API where only parts of the backend schema are allowed.

If you would like access to this assertion please send a direct message or respond to this thread.

GraphQL Schema Validation Properties

Target Message

☒ Request

☐ Response

☐ Other Message Variable:

Validation Schema:

```
type Account {
  id: String
  branch: String
  currency: String
  type: String
  balance: String
  owner: String
  nickname: String
}
```



Thank you

