
NIAGARA
SUMMIT
2026
SEAMLESS CONNECTIVITY,
POWERFUL INTELLIGENCE
TRIDIUM

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TRIDIUM

Build your first NCS cloud app in minutes

NIAGARA SUMMIT 2026 DEVELOPER

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Outline

- Niagara Cloud Suite public APIs
- Autogenerated client-code
- Integrating NDS with BI tools

Typical workflow

- Create / scaffold the app
- Integrate the Niagara Cloud APIs
- Write your client code
  - Retrieve data from the cloud
  - Do something with the data

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- Create / scaffold the app → application framework ✓
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    → UI : charts, diagrams, widgets, etc.
    → “headless”: analytics, reports, etc.

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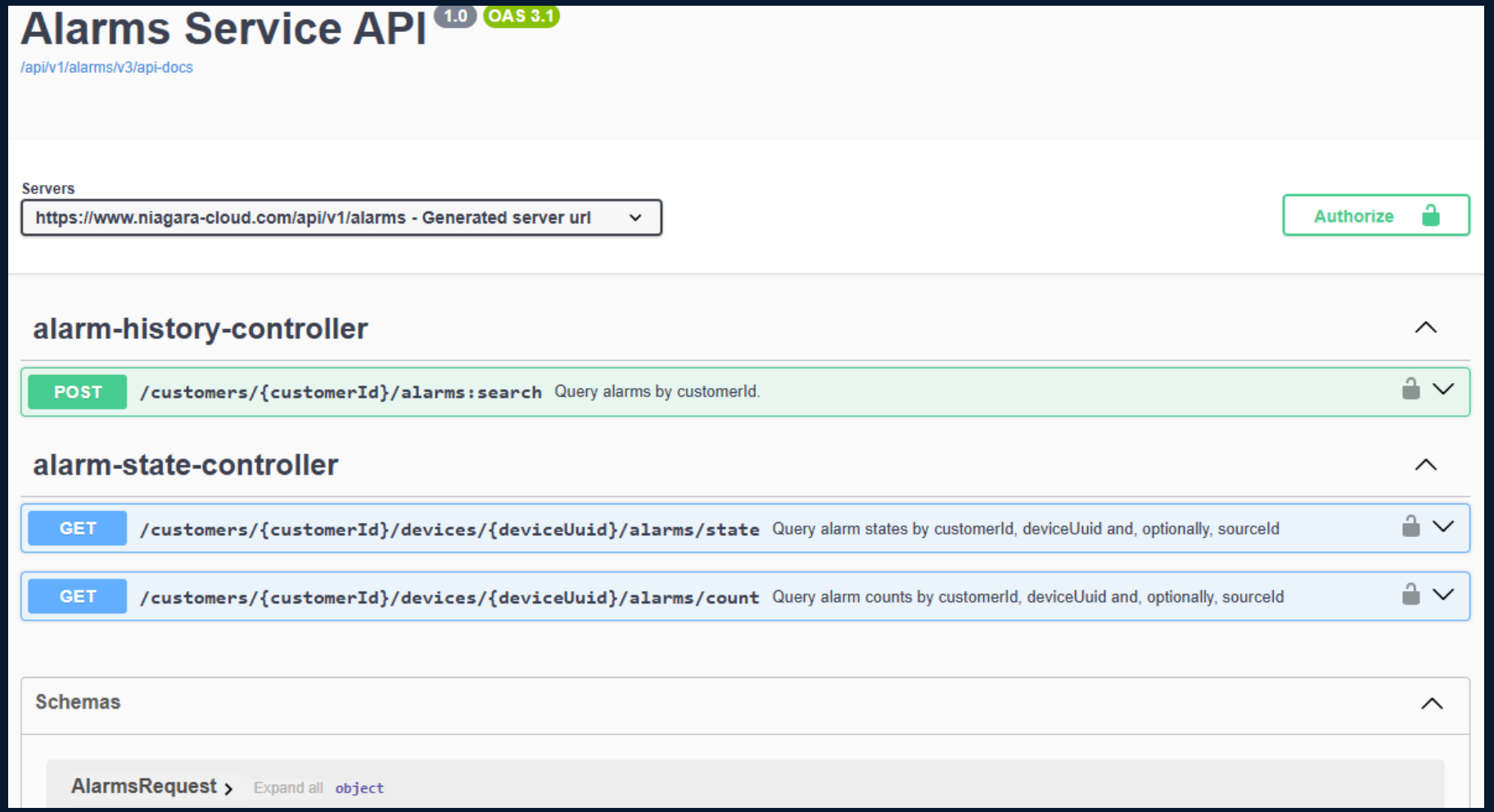
Niagara Cloud Suite APIs

https://www.niagara-cloud.com

- Alarms API
  - /api/v1/alarms
- History/Telemetry API
  - /api/v1/egress
- Control API
  - /api/v1/control
- Entity Model API
  - /api/v1/entitymodel

API Specs

https://www.niagara-cloud.com/api/v1/alarms/swagger-ui/index.html



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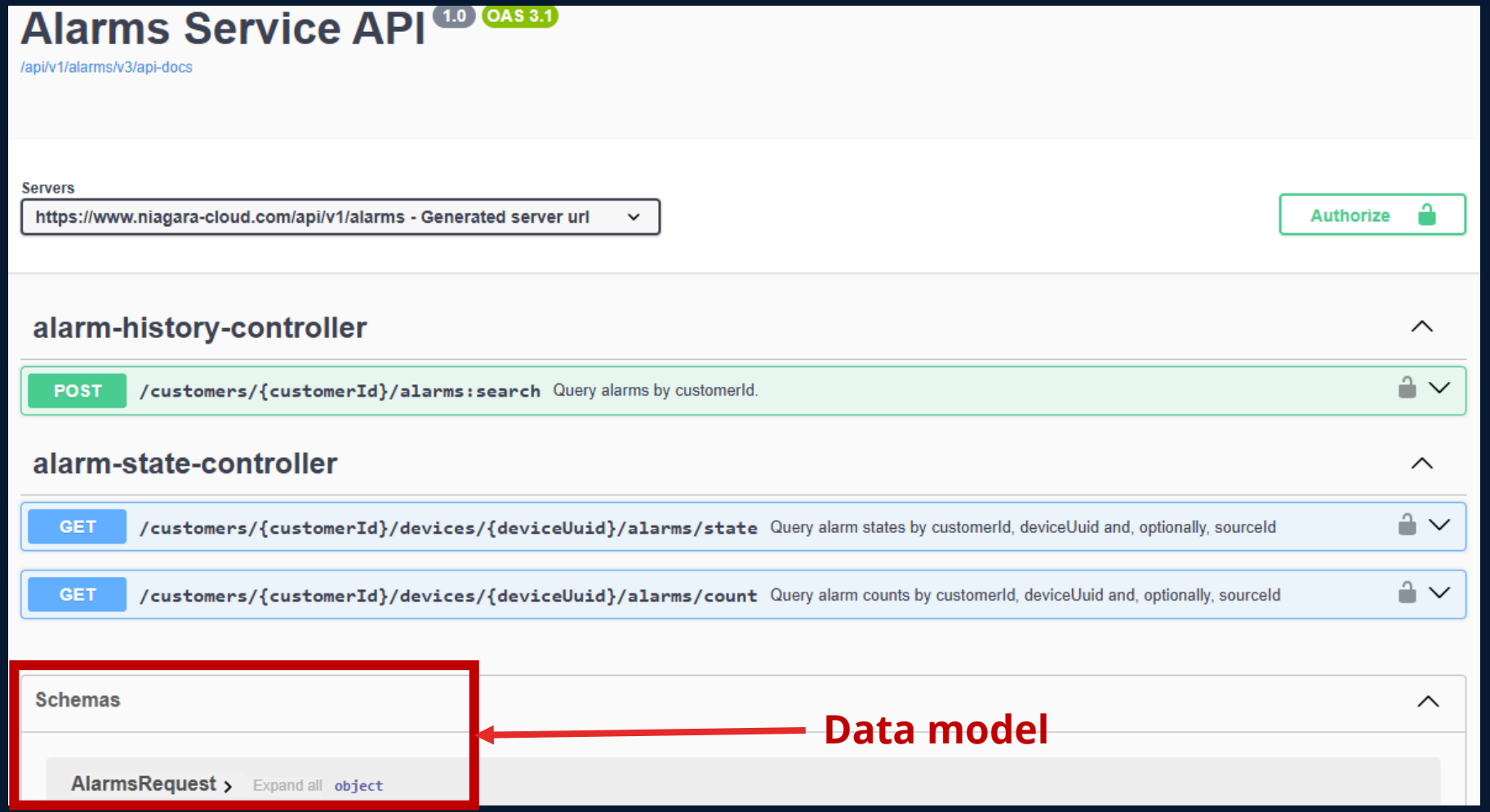

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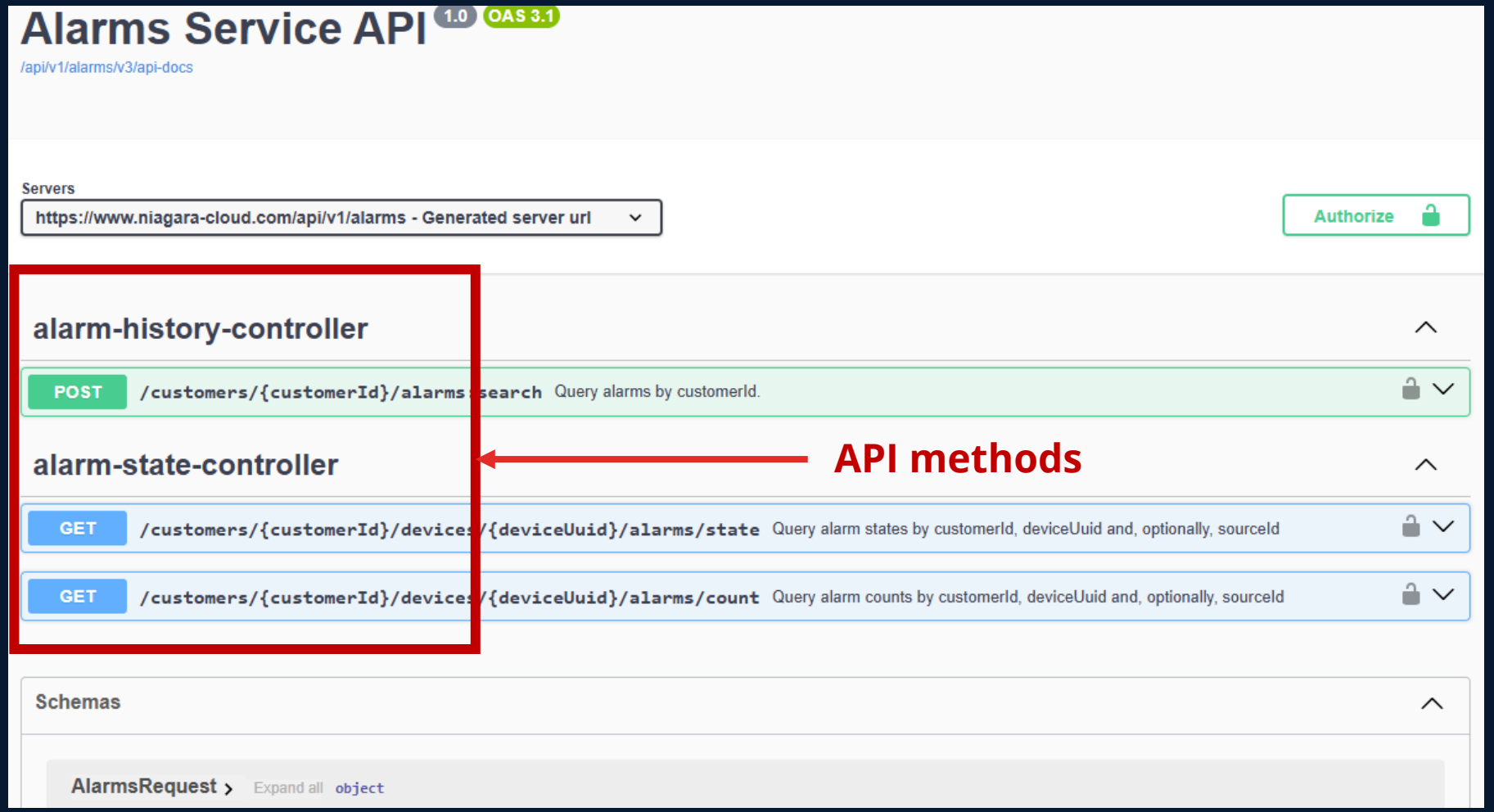

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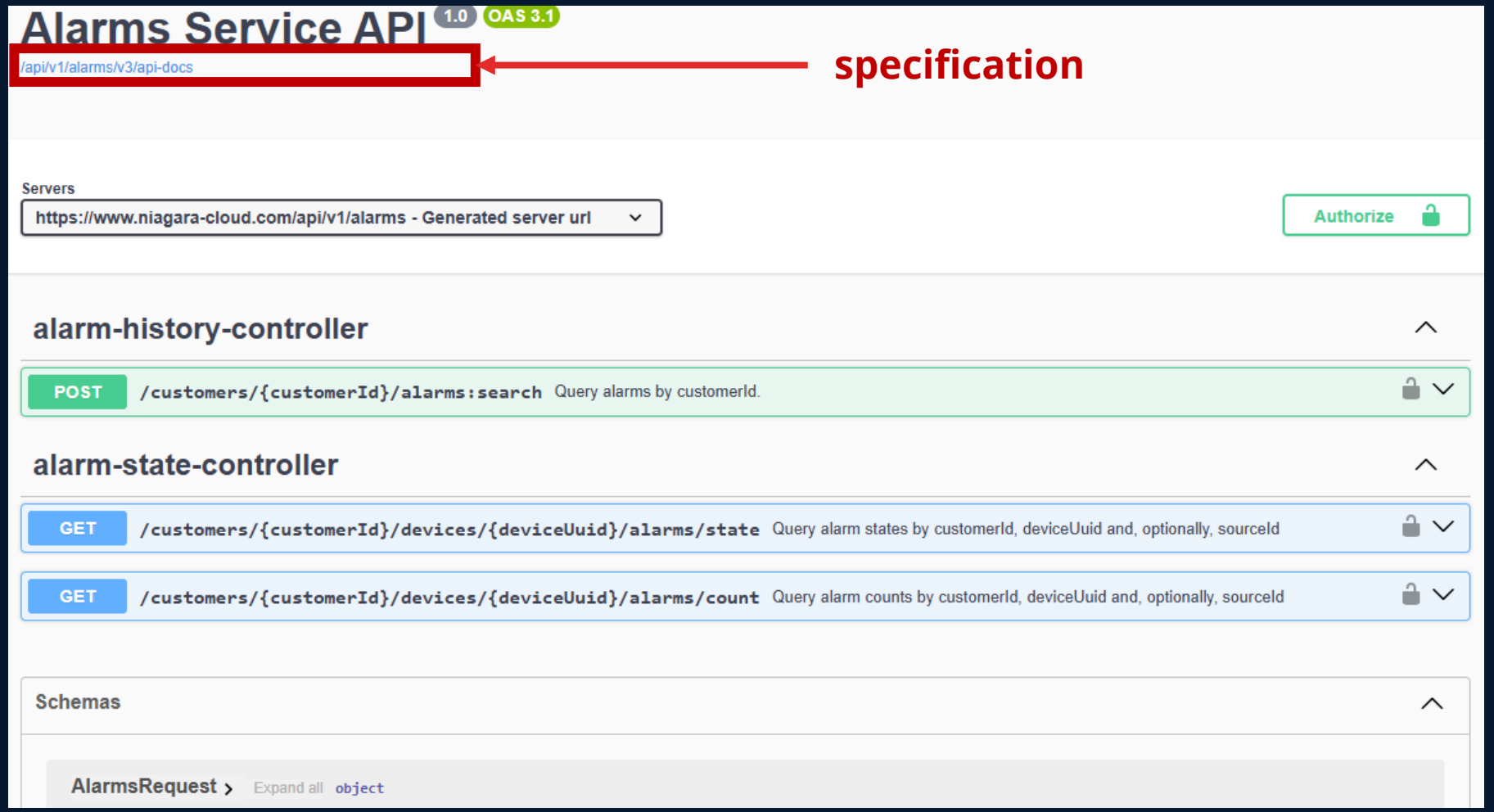

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API client code

API client code

Auto-generated

API client code

AI generated

API client code

OpenAI

API client code

OpenAPI

OpenAPI

- Swagger spinoff (Wordnik / SmartBear Software)
- V3 → Specification language for HTTP APIs (open standard)
  - Consistent structure and syntax ✓
- Toolset for complete API lifecycle
  - Requirements, design, configuration, deployment, testing ✓

Why OpenAPI?

✓ Correct
✓ Complete
✓ Consistent

The OpenAPI generator

`https://github.com/OpenAPITools/openapi-generator`

API clients	ActionScript, Ada, Apex, Bash, C, C# (.net 2.0, 3.5 or later, .NET Standard 1.3 - 2.1, .NET Core 3.1, .NET 5.0. Libraries: RestSharp, GenericHost, HttpClient), C++ (Arduino, cpp-restsdk, Qt5, Tizen, Unreal Engine 4), Clojure, Crystal, Dart, Elixir, Elm, Eiffel, Erlang, Go, Groovy, Haskell (http-client, Servant), Java (Apache HttpClient 4.x, Apache HttpClient 5.x, Jersey2.x, OkHttp, Retrofit1.x, Retrofit2.x, Feign, RestTemplate, RESTEasy, Vertx, Google API Client Library for Java, Rest-assured, Spring 5 Web Client, Spring 6 RestClient, MicroProfile Rest Client, Helidon), Jetbrains HTTP Client, Julia, k6, Kotlin, Lua, N4JS, Nim, Node.js/JavaScript (ES5, ES6, AngularJS with Google Closure Compiler annotations, Flow types, Apollo GraphQL DataStore), Objective-C, OCaml, Perl, PHP, PowerShell, Python, R, Ruby, Rust (hyper, reqwest, rust-server), Scala (akka, http4s, scalaz, sttp, swagger-async-httpclient, pekko), Swift (2.x, 3.x, 4.x, 5.x, 6.x), Typescript (AngularJS, Angular (9.x - 19.x), Aurelia, Axios, Fetch, Inversify, jQuery, Nestjs, Node, redux-query, Rxjs), XoJo, Zapier
Server stubs	Ada, C# (ASP.NET Core, Azure Functions), C++ (Httplib, Oat++, Pistache, Restbed, Qt5 QHTTPEngine), Erlang, F# (Giraffe), Go (net/http, Gin, Echo), Haskell (Servant, Yesod), Java (MSF4J, Spring, Undertow, JAX-RS: CDI, CXF, Inflector, Jersey, RestEasy, Play Framework, PKMST, Vert.x, Apache Camel, Helidon), Julia, Kotlin (Spring Boot, Ktor, Vert.x), PHP (Flight, Laravel, Lumen, Mezzio (fka Zend Expressive), Slim, Silex, Symfony), Python (FastAPI, Flask), NodeJS, Ruby (Sinatra, Rails5), Rust (rust-server), Scala (Akka, Finch, Lagom, Play, Cask, Scalatra)

The OpenAPI generator

`https://github.com/OpenAPITools/openapi-generator`

API clients	40 languages
Server stubs	16 languages

Any language...

Standalone library

https://repo1.maven.org/maven2/org/openapitools/openapi-generator-cli/7.20.0/openapi-generator-cli-7.20.0.jar

```
java -jar openapi-generator-cli.jar generate \
  -g java \
  -i alarms.json \
  -o ncs-alarms-client \
  --group-id com.tridium \
  --artifact-id ncs-alarms-client-java \
  --artifact-version 0.1
```

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```
java -jar openapi-generator-cli.jar generate \
  -g javascript \
  -i alarms.json \
  -o ncs-alarms-client
```

As local dependency

Example (Maven project)

```
<dependency>
  <groupId>com.tridium</groupId>
  <artifactId>ncs-alarms-client-java</artifactId>
   <version>0.1</version>
   <scope>system</scope>
  <systemPath>
   ${project.basedir}/lib/ncs-alarms-client-java-0.1.jar
  </systemPath>
</dependency>
```

Maven plugin, with local spec file

```
<plugin>
  <groupId>org.openapitools</groupId>
  <artifactId>openapi-generator-maven-plugin</artifactId>
  <version>7.20.0</version>
  <executions><execution>
    <goals><goal>generate</goal></goals>
    <configuration>
      <generatorName>java</generatorName>
      <inputSpec>${project.basedir}/resources/alarms.json</inputSpec>
      <configOptions>
        <sourceFolder>src/gen/java/main</sourceFolder>
      </configOptions>
    </configuration>
  </execution></executions>
</plugin>
```

Maven plugin, with URL spec

```
<plugin>
  <groupId>org.openapitools</groupId>
  <artifactId>openapi-generator-maven-plugin</artifactId>
  <version>7.20.0</version>
  <executions><execution>
    <goals><goal>generate</goal></goals>
    <configuration>
      <generatorName>java</generatorName>
      <inputSpec>https://www.niagara-cloud.com/api/v1/alarms/v3/api-docs</inputSpec>
      <configOptions>
        <sourceFolder>src/gen/java/main</sourceFolder>
      </configOptions>
    </configuration>
  </execution></executions>
</plugin>
```

Example #1

- Language: Java
- Framework: Spring
- Project: Maven
- IDE: IntelliJ

Example #1

- Time: 15 minutes
- Lines of code:
  - manually written: ~100 loc
  - reused (auth templates): ~100 loc
  - generated: ~7,000 loc
  - spec file: ~1,000 loc
- Savings: ~98.78% generated code

Auth

Bearer token (JWT) example

```
AlarmStateControllerApi api = new AlarmStateControllerApi();
ApiClient client = api.getApiClient();
client.setBasePath(alarmsUrl);
HttpBearerAuth auth =
    (HttpBearerAuth)client.getAuthentication("bearerAuth");
auth.setBearerToken(tokenSupplier);
…
List<AlarmCount> alarmCounts =
    api.getAlarmCounts(customer, deviceUuid, null);
```

Notes

- Additional dependencies may be needed
- WebApp auth vs User auth vs Device auth
- Paginated API responses

To sum up

… alternatively

The Art of Seamless Integration: A Journey with NDS API

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Buildings : Data-Mine

1. Alarms
2. History
3. Live Data
4. Schedule
5. Model

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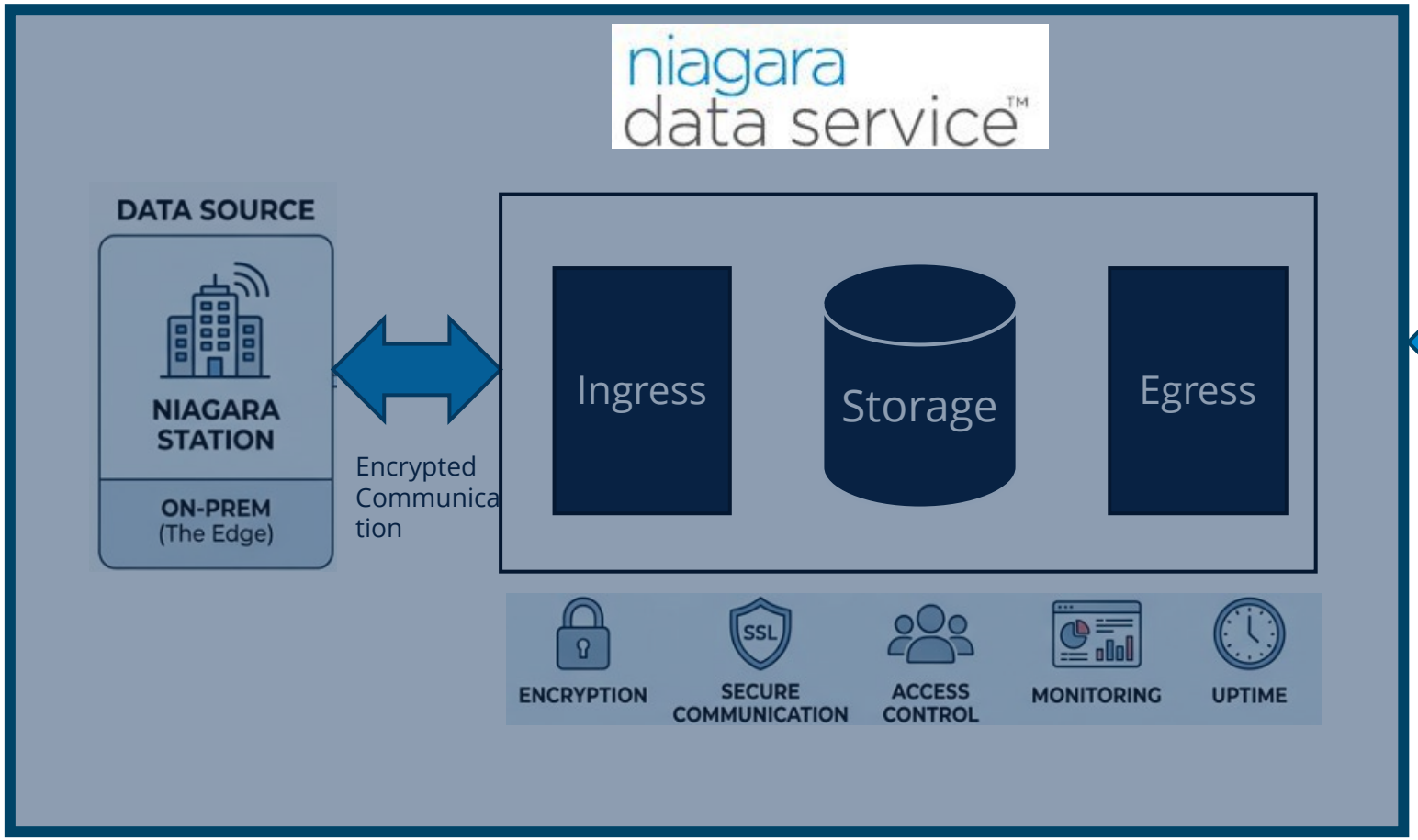
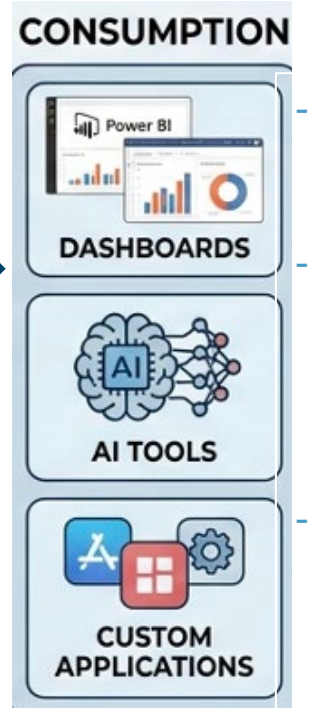
Unlocking Building Data with NDS

1. Data collection
2. Connectivity to other controllers

Unlocking Building Data with NDS





- Focus on Application
- Make it friendly for Web developers
- Faster to market with less cost to implement

Analytics & AI tools

- Partner tools (Forge, Conexao, Autodesk Tandem, Elipsa…)

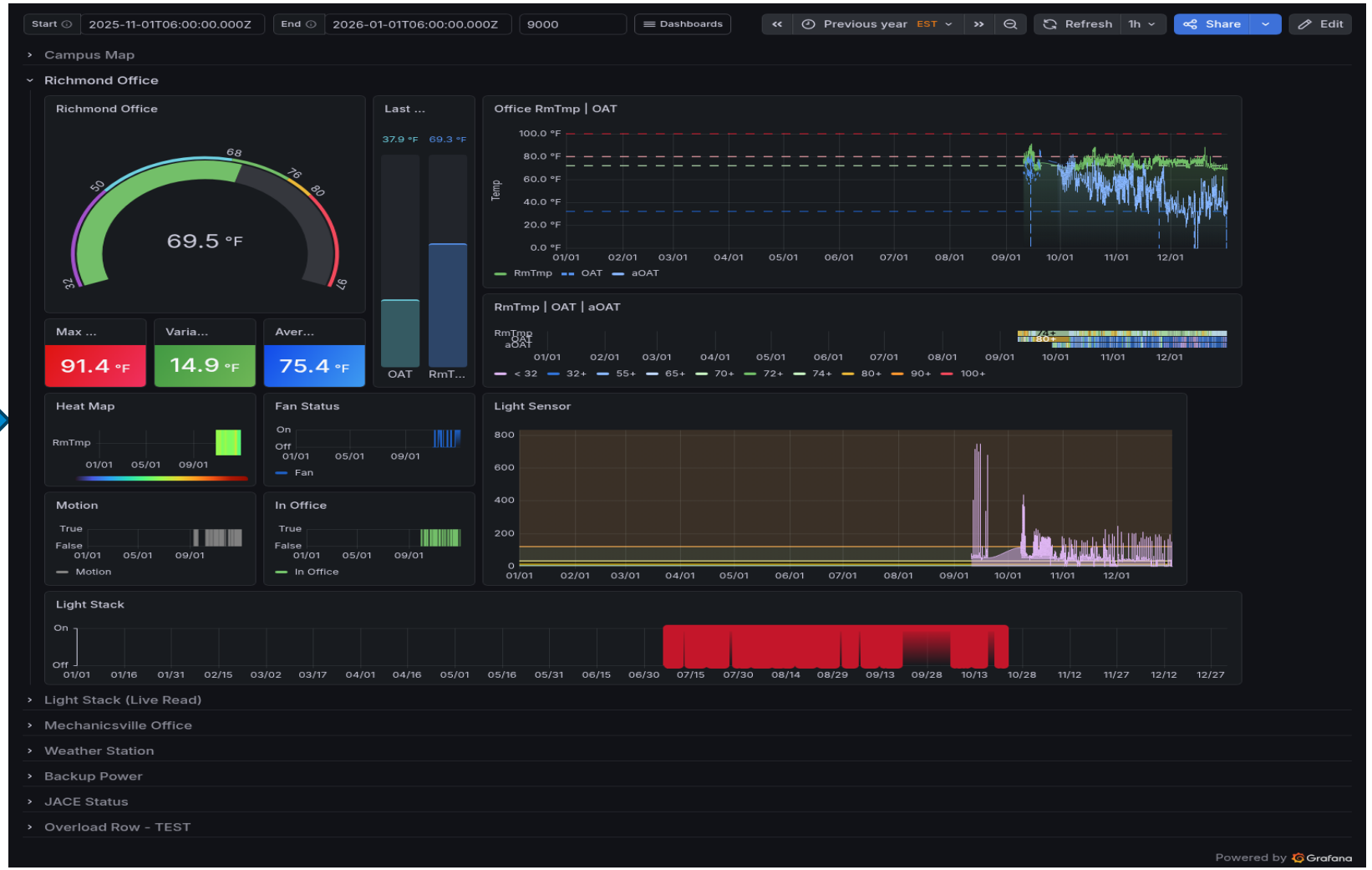
Prerequisites

- Niagara Stations with NDS subscription registered to NCS and is sending data.
  - Copy the System GUID and Cloud ID of the points

- Service account created in NCS Portal

Pattern: Data Visualization

niagara data service™



Pattern: Business Intelligence

niagara
data service™

Open Integration

- Integration with your preferred applications
- Extends Niagara’s "universal adapter"

Thank you

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UP NEXT:
Q&A

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Q&A

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