



Qarta<sup>TM</sup>

a Quartile  
product

# Product Brief

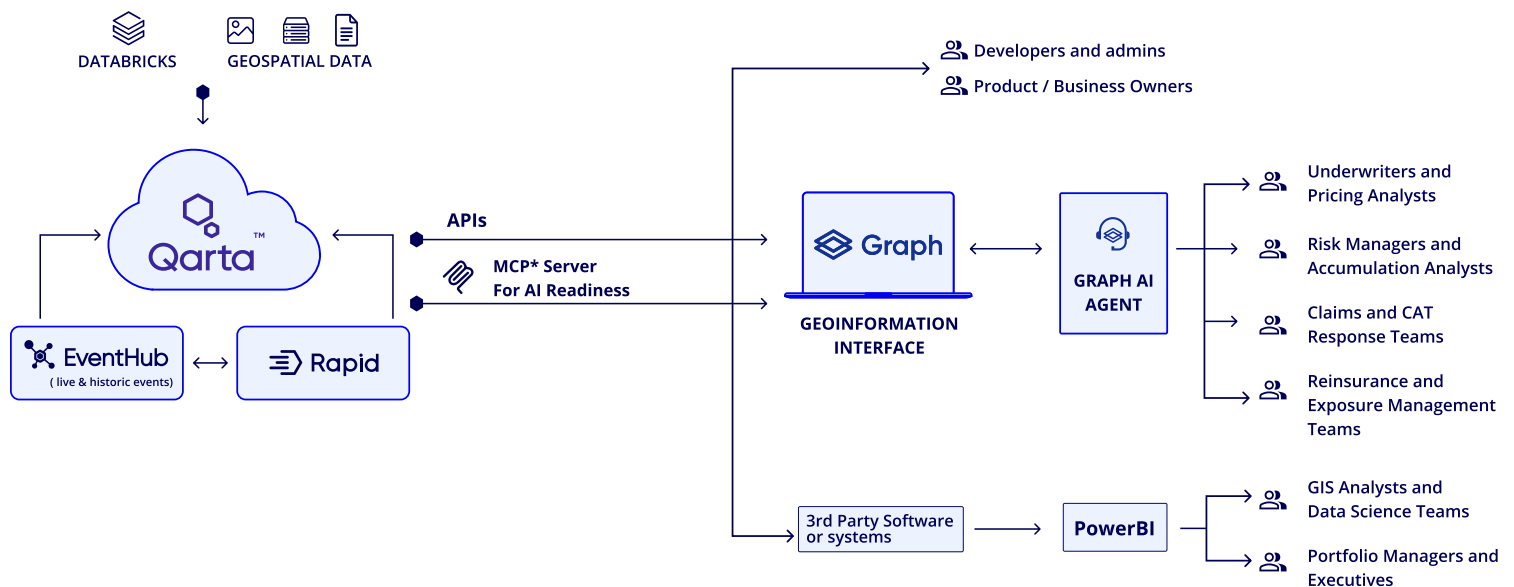
# Qarta™

## GeoIntelligence Engine for Insurers

Qarta™ is a powerful, cloud-native geo-intelligence engine built for insurers who need fast, flexible, and secure access to spatial risk insights. It enables real-time accumulation control and high-speed spatial queries, whether you're enriching policy data, assessing CAT event impact, or supporting underwriting decisions at scale. Insurers use Qarta™ to:

- ◆ **Enrich policy and exposure data**
- ◆ **Perform high-speed geospatial queries across millions of records**
- ◆ **Deploy live risk intelligence inside underwriting systems via API**
- ◆ **Scale confidently during renewals or CAT seasons**
- ◆ **Maintain data sovereignty and compliance in any deployment**

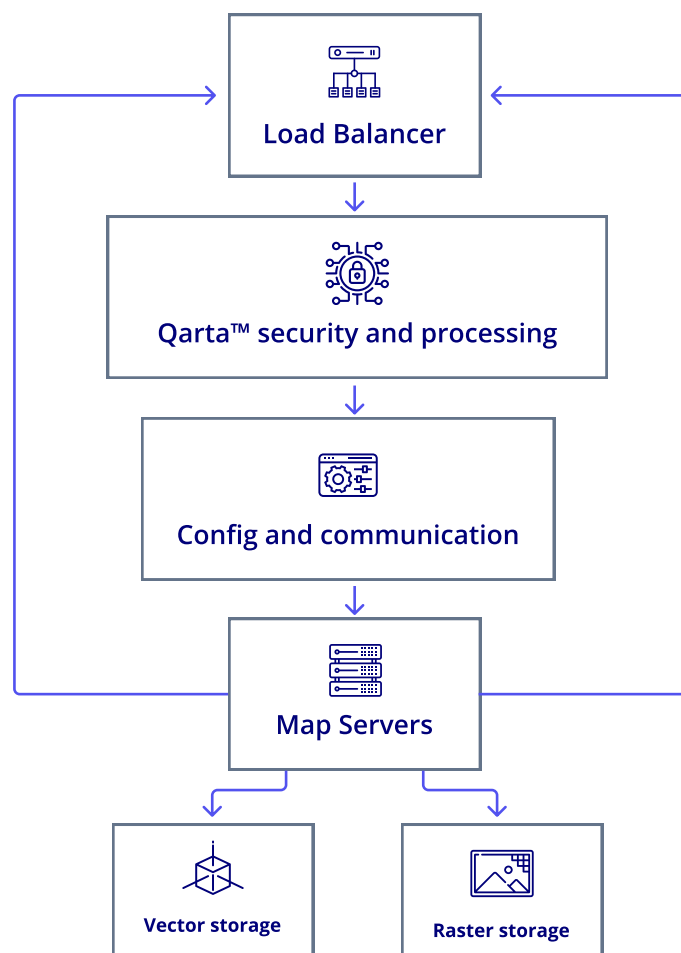
## Qarta™ at a Glance



## How it works

Established GIS server vendors continue to rely on VM-oriented architecture, which reduces system flexibility and increases hardware and software costs. In contrast, Qarta™ operates more efficiently by breaking tasks into smaller, easily executable bundles. By automatically distributing the workload through a load balancer to all available nodes, Qarta™ ensures a swift process. Once a task is completed, the next task is immediately sent to the next available node or pod.

## Architecture scheme



## Performance stats

Based on our research and analysis, Qarta<sup>TM</sup> has a faster response time than other traditional solutions for Critical Business Applications. It can handle over 800,000 requests per second, meaning you can access data in seconds, rather than hours or days. After performing tests against other GIS vendors, Qarta<sup>TM</sup> achieved 22 times faster speed with 3 layers and 9 times faster speed with 1 layer, showing that in an accelerated environment, it is significantly more competitive than other GIS vendors.



## The Qarta<sup>TM</sup> Experience: Built for Real-World Insurance Workflows



### Streamlined, API-First Integration

Qarta<sup>TM</sup> functions as a powerful API that can be embedded into your existing underwriting, pricing, or claims systems using an industry-standard REST API. You can also pair it with our front-end solution, Graph, for interactive risk visualization.



### Optimized for Performance

A dedicated load balancer ensures optimal resource use and sub-second response times. Qarta<sup>TM</sup> supports high-speed spatial operations like catchment analysis and accumulation control, handling even the most complex workloads quickly and efficiently.



## Flexible Geocoding and Interoperability

Qarta™ integrates with geocoding and reverse geocoding providers and includes a built-in open-source option via OpenStreetMap. It supports both GeoServer and MapServer, and can emulate other GIS engines, providing unmatched compatibility.



## Enterprise-Grade Security

All communication is secured using JSON Web Tokens (JWT), ensuring encrypted, signed access between client applications and the Qarta™ engine. Built-in user authentication and role-based access ensure platform integrity and reliability.



## Transparency and Monitoring

Track platform usage and performance at all times with built-in statistics for users and operations. Qarta™ provides real-time visibility into service consumption.



## Full System Interoperability

Connect with third-party hazard datasets, policy administration systems, and internal tools to unify risk and exposure data in a single environment.



## Broad Format and Standards Support

Qarta™ supports:

- Input/output formats: JSON, GeoJSON, CSV, XML, WKT
- Raster/vector standards: GeoTIFF, PostGIS, Oracle Spatial, SQL Server, etc.
- Open protocols: WMS, WFS, WMTS, WPS, and more via GeoServer



geojson



csv



GeoTiff



PostGIS



Oracle Spatial



Microsoft SQL Server™



### **Enterprise Scalability, Access Control, and Cloud Readiness**

Qarta™ is engineered to support large-scale insurance organizations with diverse access needs, flexible deployment models, and high-performance requirements. Whether you're scaling across underwriting teams or integrating with corporate infrastructure, Qarta™ is ready from day one.



### **Flexible User and Role Management**

Designed for enterprise environments, Qarta™ provides isolated user and role management, independent of the backend map servers. This architecture makes it efficient for organizations managing multiple teams, departments, or geographic regions with differing access levels.



### **Horizontal Scalability on Demand**

Qarta™ scales horizontally in response to increased demand, ideal for quarter-end reporting, renewal season surges, or CAT event spikes. It automatically scales down during off-peak periods, optimizing resource consumption without sacrificing performance.



### **Enterprise-Readiness and Single Sign-On**

Qarta™ integrates seamlessly with Azure Active Directory and other identity providers, enabling single sign-on (SSO) and role-based access across your organization. The dedicated security infrastructure supports granular permissions and enterprise-grade access policies.



### **Cloud-Ready and Deployment Flexible**

Offered as a Software-as-a-Service (SaaS), Qarta™ can be deployed in your preferred cloud provider environment, like Google Cloud, AWS, or Microsoft Azure. It aligns with your cloud architecture, IT budget, and security policies. Qarta™ uses Kubernetes for container orchestration, ensuring consistency across environments.



## Standards-Based and Interoperable

Built on REST API and Swagger, Qarta<sup>TM</sup> supports standardized, machine-readable integrations that accelerate development and platform alignment. Swagger allows for seamless documentation and integration into interactive insurance applications and services.



## Versatile Data Handling

Qarta<sup>TM</sup> supports format conversion and image optimization for raster and vector data. Incoming data from map servers is converted from XML to JSON (or other formats) based on client needs and rendered on a designated image grid for fast, dynamic, and cached visual outputs.

# GeoServer Capabilities

Qarta<sup>TM</sup> operates with Geoserver, which has the following capabilities:

- Serves maps in various formats for various purposes: Web Feature Service (WFS), Web Map Service (WMS), Web Coverage Service (WCS), Web Processing Service (WPS), Web Map Tile Service (WMTS)
- Serves Maps in 2D and 3D
- On the fly reprojecting
- Geocoding to find a particular address, a particular x y coordinate, or any place or point.
- Works with a variety of data sources

# Implemented Standards

- Catalogue Service for the Web (CSW)
- Filter Encoding (FE)
- Geographic JSON (GeoJSON)
- Georeferenced Tagged Image File Format (GeoTIFF)
- Geography Markup Language (GML)

- Keyhole Markup Language (KML)
- Simple Features for SQL (SFSQL)
- Styled Layer Descriptor (SLD)
- Web Map Tile Service (TMS)
- Web Coverage Service (WCS)
- Web Feature Service (WFS)
- Web Feature Service - Transactional (WFS-T)
- Well-Known Text (WKT)
- Web Map Service (WMS)
- Web Map Service - Tile Caching (WMS-C)
- Web Map Tile Service (WMTS)
- Web Processing Service (WPS)

## **Qarta<sup>TM</sup> is suited for:**



**Underwriters and  
Pricing Analysts**



**CAT Modelers and  
Risk Managers**



**Reinsurance and  
Exposure Teams**



**Compliance and  
Regulatory Reporting**



**Geospatial Analysts**

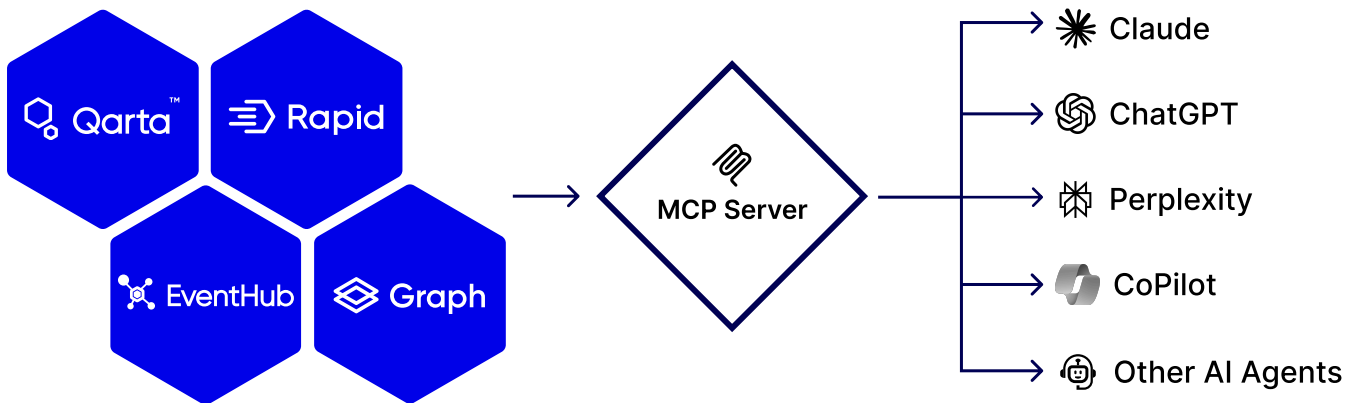


**IT and Data Engineering**



## AI Integration & AI Readiness with MCP Server

The Model Context Protocol (MCP) unifies Quartile's product ecosystem (Qarta™, Graph, RAPID, and EventHUB) through a single, secure AI integration layer.



### What MCP Delivers:



#### Seamless integration:

Single AI integration layer across all Quartile products.

#### Real-time, context-rich AI:

AI models gain access to live organizational data.

#### Efficiency and scalability:

Removes redundant integrations and reduces maintenance.

#### Future-proof and Secure:

Modular, extensible, enterprise-grade privacy and compliance.

This fully AI-enabled platform empowers insurers to harness AI-powered spatial analytics tailored to their unique needs, driving smarter decisions and unlocking greater business value.



Quartile delivers next-generation, cloud-native geo-intelligence solutions that empower organizations to manage, analyze, and distribute geospatial data at scale—securely, flexibly, and with industry-leading performance. Founded by experts from SwissRe, Oracle, HPE, Google, and ESRI, we specialize in delivering the fastest, most reliable geo-intelligence solutions for demanding enterprise projects.



## Ready to See Qarta™ in Action?

Discover how Qarta™ supports real-time accumulation control, data enrichment, and risk analysis tailored to your workflows.



**Schedule a meeting**

### Company Information

**Headquarters:** Baden, Switzerland  
**Development Centers:** Arad and Timișoara, Romania  
**Founded:** 2019  
**Core Expertise:** Cloud-native  
GeoServer-as-a-Service in any environment

✉ [contact@quartile.ch](mailto:contact@quartile.ch)

🌐 [www.quartile.ch](http://www.quartile.ch)

📍 Quartile GmbH, Zürcherstrasse 23, 5400 Baden, Switzerland

