Quarticle

Qarta™
a Quarticle product

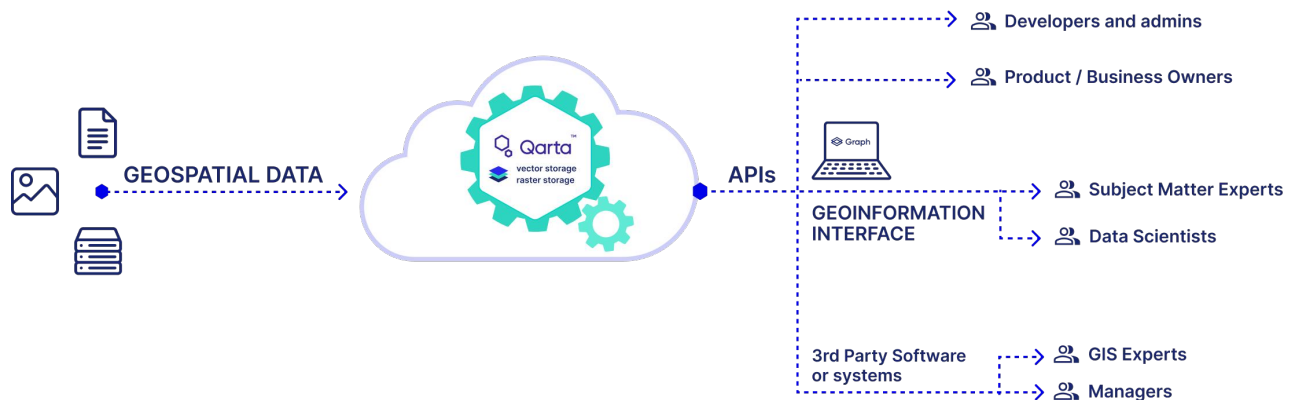# Product Brief

Qarta™ Product Brief v.1.9

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Product Overview

Leaders across industries use geospatial information to identify business areas lacking crucial insights. To eliminate blind spots and deliver impactful solutions, extensive and rapid analysis is essential.

To meet the high demands of today's market, we've developed Qarta™, a powerful, cloud-native, and highly scalable geo-intelligence engine. Qarta™ is designed to deliver geo content quickly, flexibly, and securely, delivering efficient and effective business value.
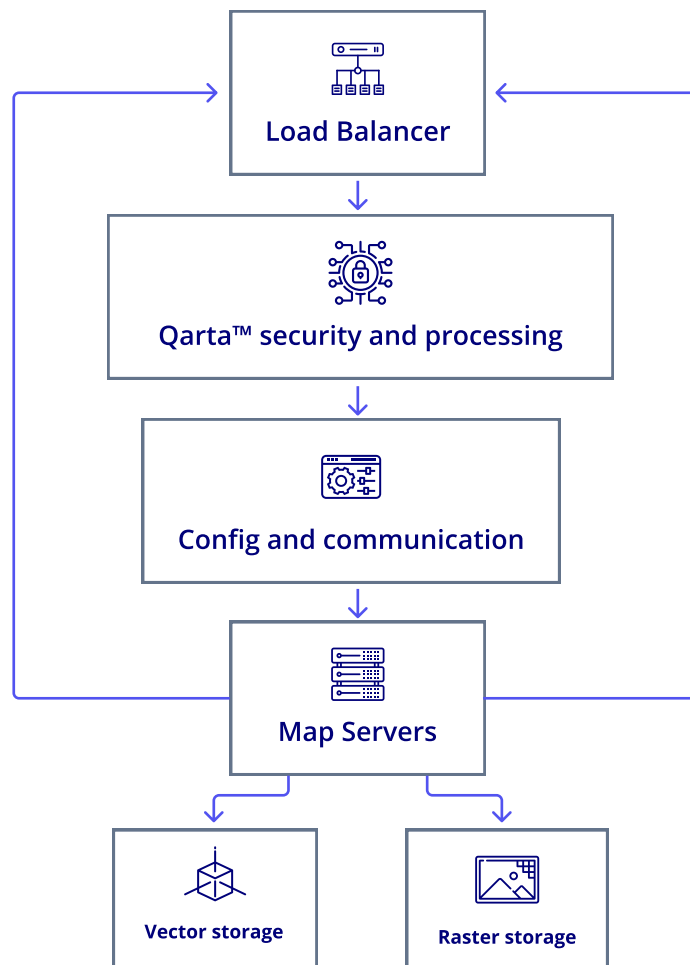
Qarta™ at a glance

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™ 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™ 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.

Qarta™ achieved

22X times faster speed*
with 3 layers

9X times faster speed*
with 1 layer

*compared to other GIS vendors

The Qarta™ Experience

Streamlined API integration

Qarta™ is a powerful tool that can function as your API. You can integrate it into existing applications and user interface, or use it with our front-end solution, Graph.

Fast speed

Qarta™ has a load balancer for optimizing resource consumption and response time ensuring results in seconds.

Optimized back-end for any analysis

Qarta™ has a complete back-end for performing speedy network optimization and catchment area analysis which are appropriate for many industries including logistics and distribution companies.

Flexibility

Qarta™ integrates geocoding & reverse geocoding from various providers and comes with a free and open-source geocoder from OpenStreetMap. Qarta™ uses open-source map servers such as Geoserver, and MapServer and can emulate other map servers.

Transparency

Statistics are provided for all operations and users at all times. With integrated databases and graphic handlers, Qarta™ offers meaningful insights into your service consumption.

Security

Security is based on JSON Web Token (JWT) allowing a safe connection between our platform and clients. User security is warranted by using signed and encrypted JSON tokens which make the connection reliable.

Versatility

Data received from map servers is converted from XML format to JSON (or other formats), depending on the client's request. In addition, the information is optimized on a designated image grid for dynamic and cached vector and raster data images.

Standardization

We use REST API and Swagger. REST is commonly used to create interactive applications that use web services. Swagger allows you to describe the structure of your API in a machine-readable format.

Manageability

User and role management are designed to be flexible and user-friendly. This system operates isolated from the backend map servers, making it efficient for large organizations with diverse access requirements.

Enterprise-readiness

Qarta™ seamlessly integrates with Azure Active Directory while featuring its dedicated security infrastructure designed for diverse roles and user access rights.

Scalability

Qarta™ brings cloud scalability for your quarter endings and monthly reporting. It scales horizontally, when higher performance demand and data load increase, and scales down when you have lower needs for data analytics.

Cloud-readiness

Qarta™ is a Software-as-a-Service (SaaS) offering, which Quarticle runs in your preferred cloud provider environment and in alignment with your cloud services spending and budgeting. We use Kubernetes and work with any cloud provider including Google Cloud, AWS, and Microsoft Azure.

GeoServer Capabilities

Qarta™ 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
  Vector: Shapefiles, External WFS, PostGIS, ArcSDE, DB2, Oracle
  Spatial, MySql, SQL Server.
  Raster: GeoTiff, JPG, and PNG (with world file), image pyramid,
  GDAL formats, Image Mosaic,
  Oracle GeoRaster, NetCDF.
- Web Processing Services: e.g. Geospatial algorithms, including those from JTS, can be called through GeoServer's WPS interface
- GeoWebCache, tiles, and caches map images from a variety of sources such as WMS-C, WMTS, TMS, Google Maps KML, and Virtual Earth;

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™ is suited for a variety of industries

Insurance & Insurtech

Logistics & Distribution

Fintech, Web3, Banking

Utility

Public Administration

Media & Telecommunications

Real estate

Police, Military & Intelligence Agencies

Retail & Geomarketing

Environmental, social, & corporate governance (ESG)

Let's discuss how you can leverage the power of Qarta™
to revolutionize your business.

Reach out at **contact@quarticle.ro**

Quarticle is an innovative company founded to help organizations harness the power of geospatial information and drive informed decision-making for their businesses. We use cloud-native technology and are enterprise-ready, delivering geocontent in a fast, flexible, and secure way for the world's largest corporations. Businesses use our products and services to translate real-world geospatial information into actionable insights and reach their full geolocation potential.

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