Technical Assessment

Senior Backend Software Engineer – Envio Systems GMBH

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Envio is a technology service provider for building automation and agriculture. Our customers are some of the largest utilities, property portfolio managers, and public/government entities on Earth.

 At envio we are:

Collaborative - We believe teams solve big problems together

Resourceful - Workable solutions exist for every problem

Resilient - Try a dozen things a hundred different ways if that is what it takes

Disruptors - We invent things people didn't know they needed but can't live without

Pioneers - We take on complex challenges using new tools

Each one of our values is a part of our everyday interactions.

For this Technical Assessment we would like to have a better understanding of your thought process and the potential solutions you would provide. Read through the question below and provide us with the following;
- → A visual representation of the solution.
- → A description of each component, the relation between the components, the tools you would use, etc.

No implementation is required, be thorough with descriptions and specifications, specifically in terms of services used.

Question:

How would you design a solution with the following criteria?

We have multiple buildings located internationally. Each building has multiple devices. Each building has a minimum of 100 devices. With each device generating data every 10 seconds.

Within each building there is a Gateway server (device in which any piece of software can be deployed), which sends and receives data to and from the devices.

We provide our clients with a Web app to view a full summary of the data (averages, min, max, charts, etc) as they don't require all of the extracted information.

For security reasons, the Web app can't have direct access to the service where raw data (data coming directly from the devices) is stored. In addition, we are legally required to process and handle data within the same country in which it originated. For example, if the building is in the U.S., the data should be stored only within the U.S.

And finally, we would like to provide our teams with an endpoint (a specific URL) through which they can access raw data or more advanced analysis for one or more buildings.

We look forward to seeing your solutions.