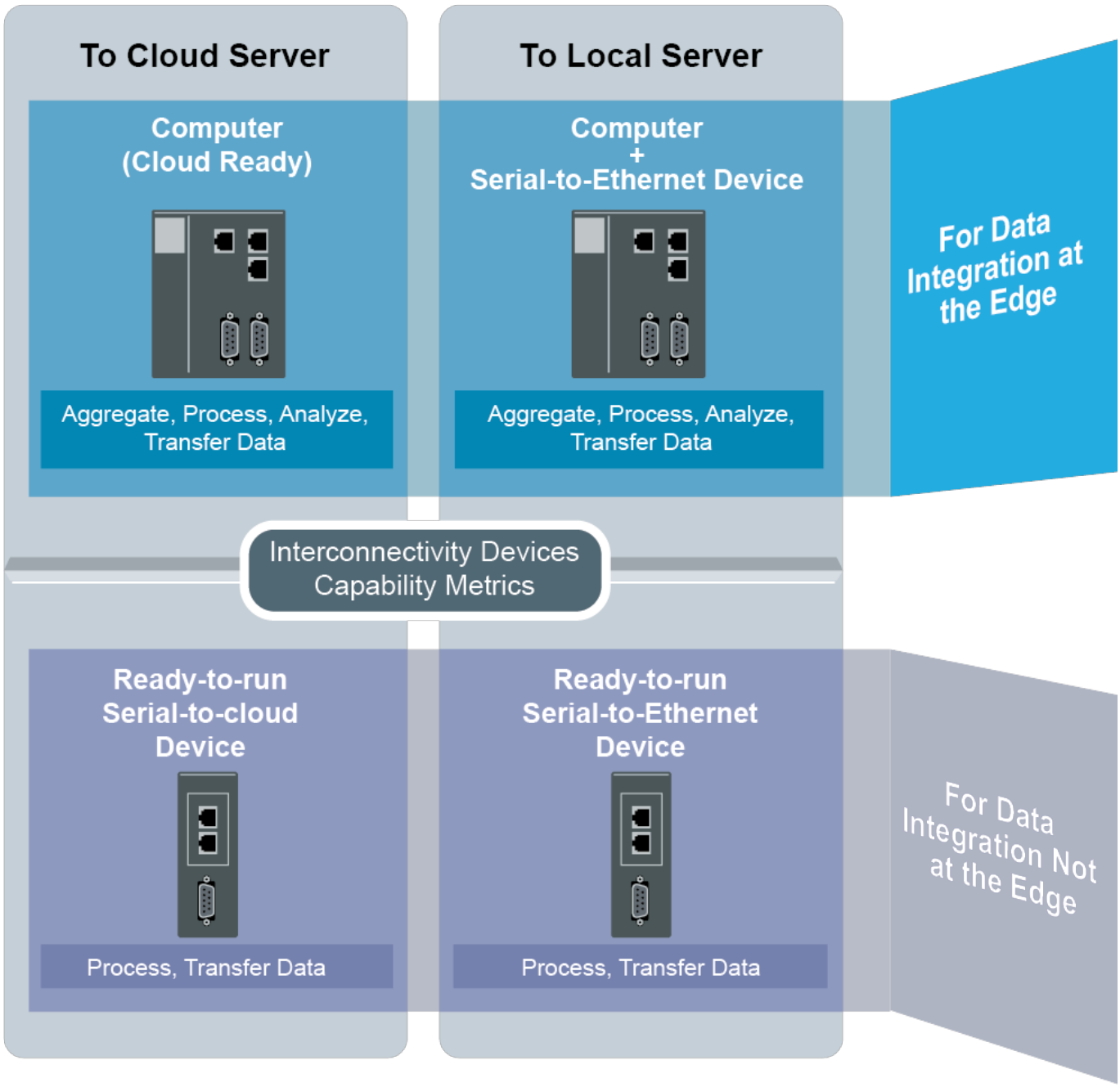
Is the Cloud Necessary to Bring Serial Devices Into IIoT Applications

The rationale behind IIoT deployment is to collect data from end devices to get actionable insights.
But where do we store these large volumes of data? As data users, we need to ask ourselves some
key questions. We point out what you need to verify before you decide whether it is necessary to
store your data in cloud systems.



"Originally, we began to collect data from wellhead applications to understand production output. Now, my manager wants me to collect more data from field-site sensors
such as RTU or meters to build an application to increase OEE. So I am thinking whether it would be moroe effective to send the field data to the cloud and analyze it through cloud systems?" These lines of thought about cloud connectivity are becomming now more and more commonplace in all types of industries as the benefits
of the Industrial Internet of Things(IIoT) cannot be ignored by managers anymore. However, before implementing cloud systems into IIoT applications, several factors need your consideration, In this article we point out what you need to verify before you decide to go cloudwards, we can help you choose the best-fit devices to

cinect your field devices to the cloud

Should I Store field Data in the Cloud

The rationale beind IIoT deployment is to collect data from end devices to get actionable insights. But, where do we store these huge amounts of data? As data users, we need to ask ourselves some key questions:

- Are the field devices in my application mostly distributed in various locations?
- Does my organization havethe ability to maintain its own data server, meaning do I have the money and expertise to either keep up the computing power that my application requreis or ensure data storage capacity for collected field data?
- Does my application need to be able to access field data form anywhere and anytime?
- Will my application need to be scaled up over time?

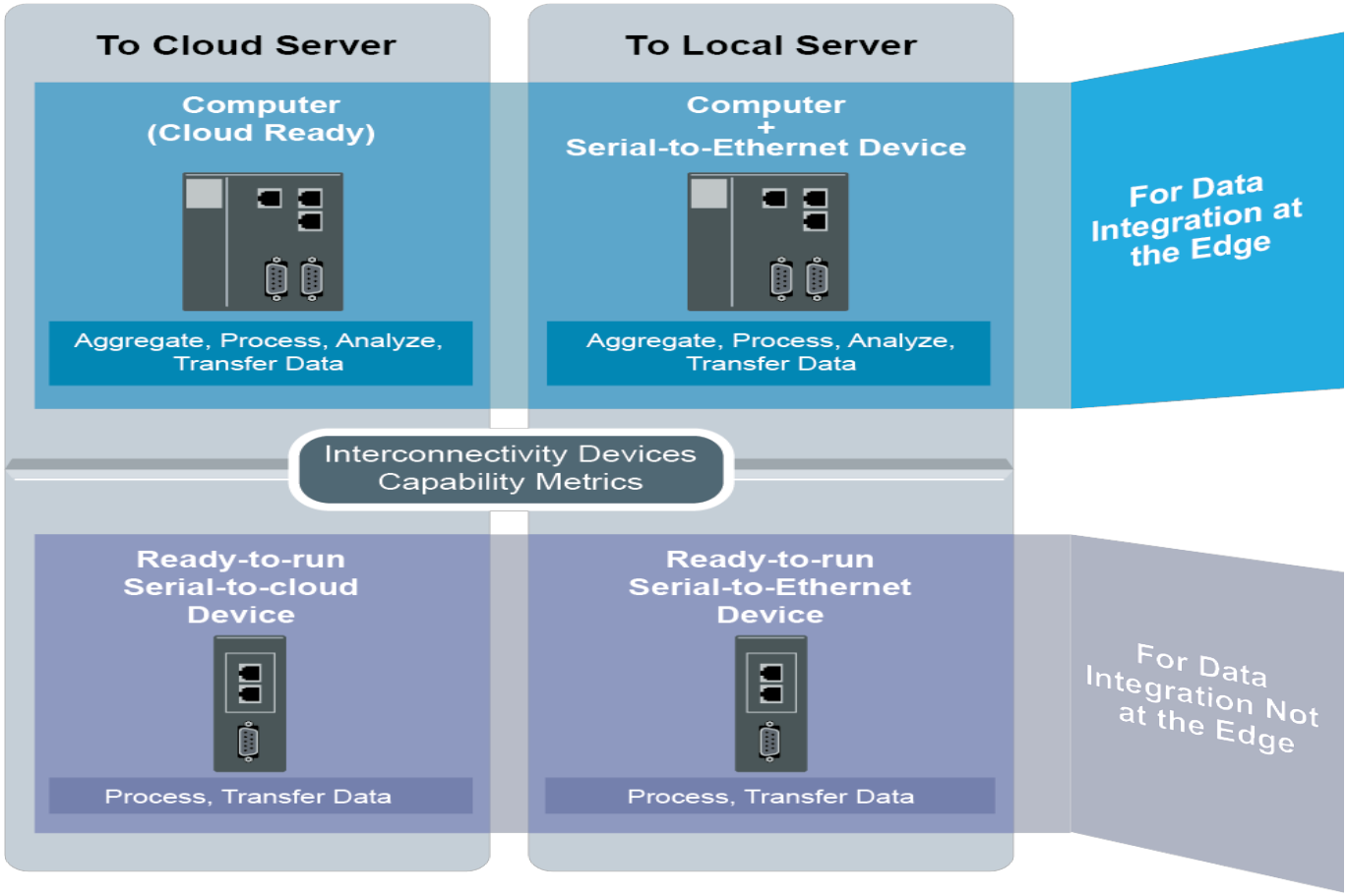
If your answers are mostly "Yes" to the above questions, then it is a good idea to get your devices connected to the cloud. So you have made your decision to connect to the Cloud. Nw, you have to deal with the all-too-familiar problem of choosing interconnectivity devices that meet the requirements of your application

Choosing Interconnectivity Devices to the Cloud Based on Your Demands

Once you decide to put your field data onto the cloud, the first challenge you will face is that many edge devices do not speak a language that the Internet understands. The ability of interconnectivity devices to connect to the cloud is key should you chosse the cloud as your backend data server. In addition to the southbound (supporting protocols for your device) and northbound (supporting cloud connections) capabilities of your network, data integration is another factor that need to be considered. In some applications, data analysis or network integration tasks may take place on the edge, and in other, it may happen in the cloud. These factors will greatly influence your choice of interconnectivity devices for your IIoT deployment

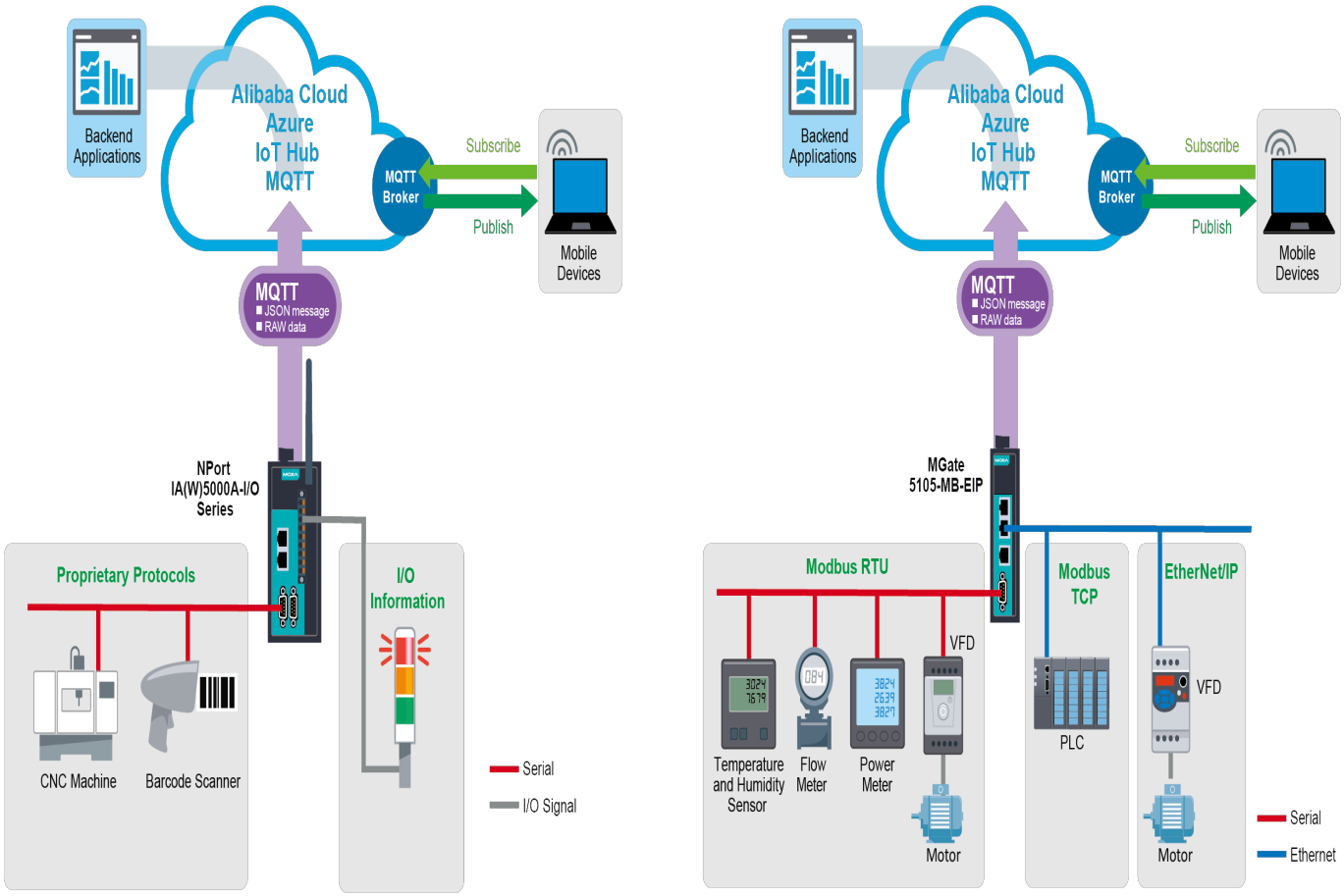
The following figure shows the interconnectivity Devices Cpability Metrics, outlining

the suggested interconnectivity devices by mapping your data integration needs with the selected backend data server



For applications where data integration does not need to take place at the edge, a simple ready-to-run serial-to-cloud device can save you a lot of effort and front-end costs**The Fast Track to Bring Your Serial Devices to the Cloud**

Moxa´s ready-to-run serial-to-cloud devices, the NPort IA(W)5000A-I/O Series and MGate 5105-MB-EIP Series bring multiple types of field data, including serial, I/O, Modbus, and EtherNet/IP, onto different cloud plattforms. These devices have built-in SDK for Microsoft Azure and Alibaba Cloud for easy and quick cloud adoption, and they support generic MQTT that connects to Amazon AWS cloud and other private clouds.



Furthermore, Moxa´s device servers and protocol gateways not only offer multiple serial-to-cloud combinations, but are also desgined to simplify your device configuration. With their intuitive UI, you will only have to do a few steps to complete all the settings.Refer to the tech notes to see how easy it is to set up NPort and MGate Products with cloud systems.