IOT317-R

Learn the essentials of ML inference with AWS IoT Greengrass

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AWS re:Invent

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Inference @ Edge with AWS IoT Greengrass

Ways to deploy ML model to the AWS IoT Greengrass core

- AWS IoT Greengrass ML connectors

- AWS NEO-DLR Runtime

- Deploy as AWS IoT Greengrass ML resources

AWS IoT Greengrass provides runtimes and precompiled framework libraries to the hardware accelerators

AWS IoT Greengrass Machine Learning Runtimes and Precompiled Libraries

Machine learning runtimes and libraries are required for your ML models to perform in

Download the model type for your platform.

Raspberry Pi | Nvidia Jetson TX2 | Intel Atom

Choose the download link for your model type.

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Model type	Version	License	Link
MXNet	1.2.1	Apache License 2.0	Download
TensorFlow	1.4.0	Apache License 2.0	Download
Deep Learning Runtime	1.0.0	Greengrass License	Download
Chainer	4.0.0	MIT License	Download

Overview architecture
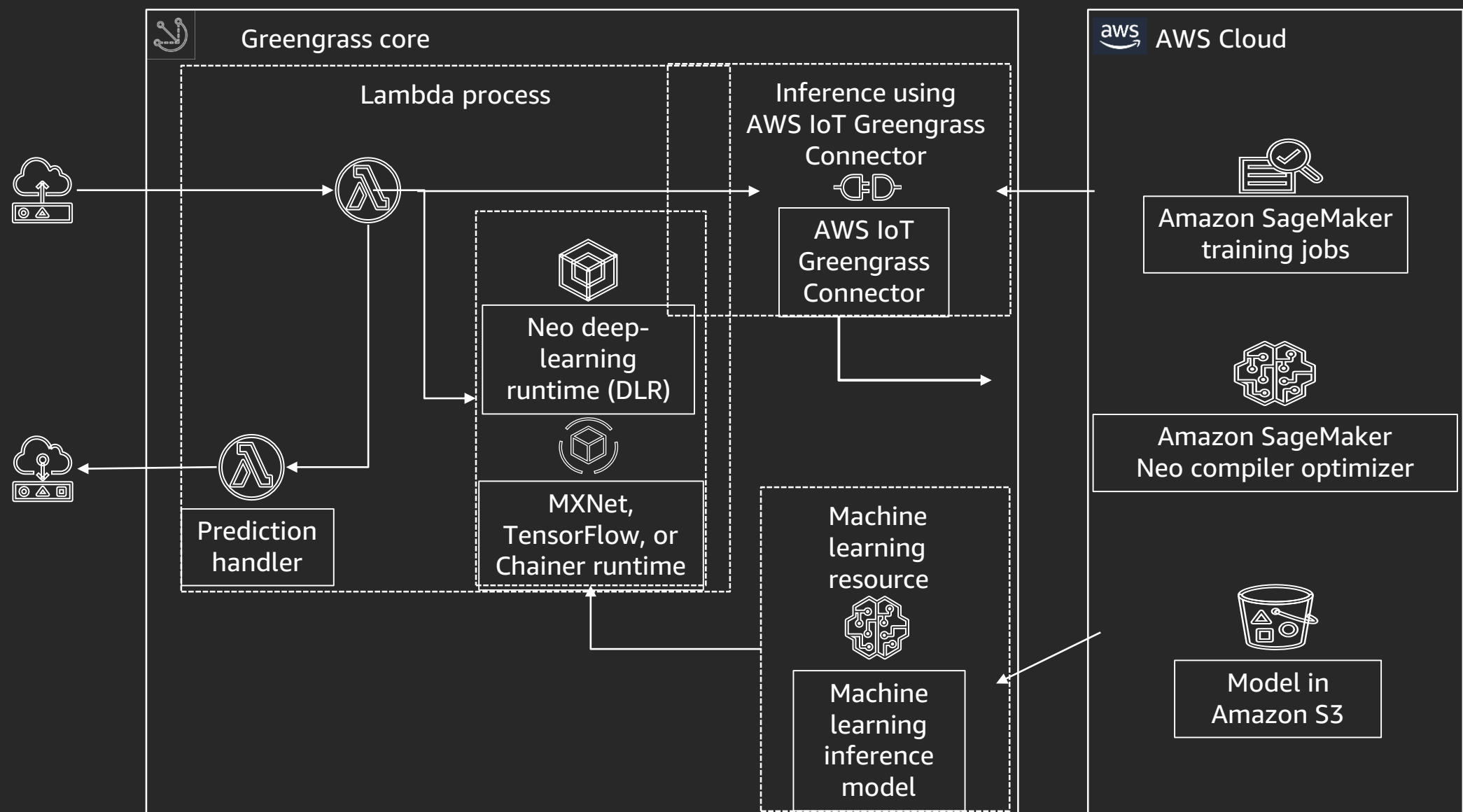
Let's build the solution

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AWS IoT Greengrass Machine Learning Inference (MLI)

We will be building the pre-trained model solution
in the AWS IoT Greengrass ML Inference Solution
Accelerator

Link: https://amzn.to/33ti76C
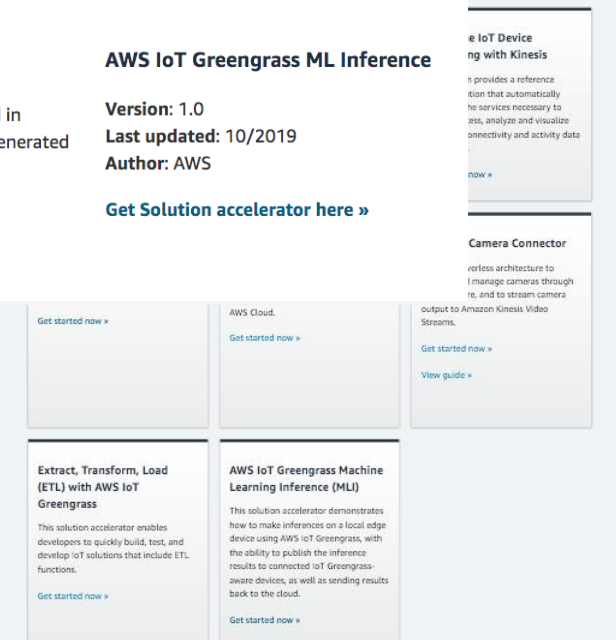
Description of steps

Step 1: Upload a pre-trained ML model to S3 - https://bit.ly/2plLs4a

Step 2: Create the following resources using the AWS CloudFormation - http://bit.ly/2P0JLnJ
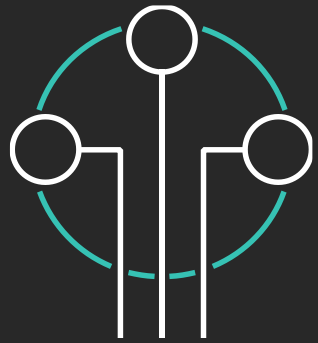
1. AWS IoT Greengrass core
2. Lambda functions for the image acquisition and prediction handling
3. AWS IoT Greengrass ML resources
4. AWS IoT Greengrass subscription to send the prediction results back to the cloud

Step 3: Creates the AWS IoT Greengrass core on an Amazon Elastic Compute Cloud (Amazon EC2) and starts the AWS IoT Greengrass core - http://bit.ly/33rqcc2
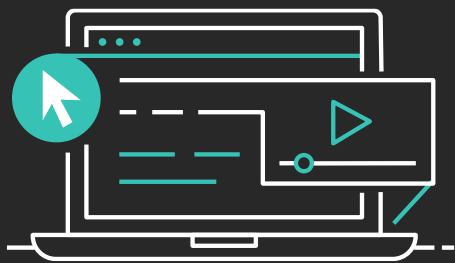
Step 4: Monitor the output from AWS IoT Core test client - http://bit.ly/2MN87hF

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