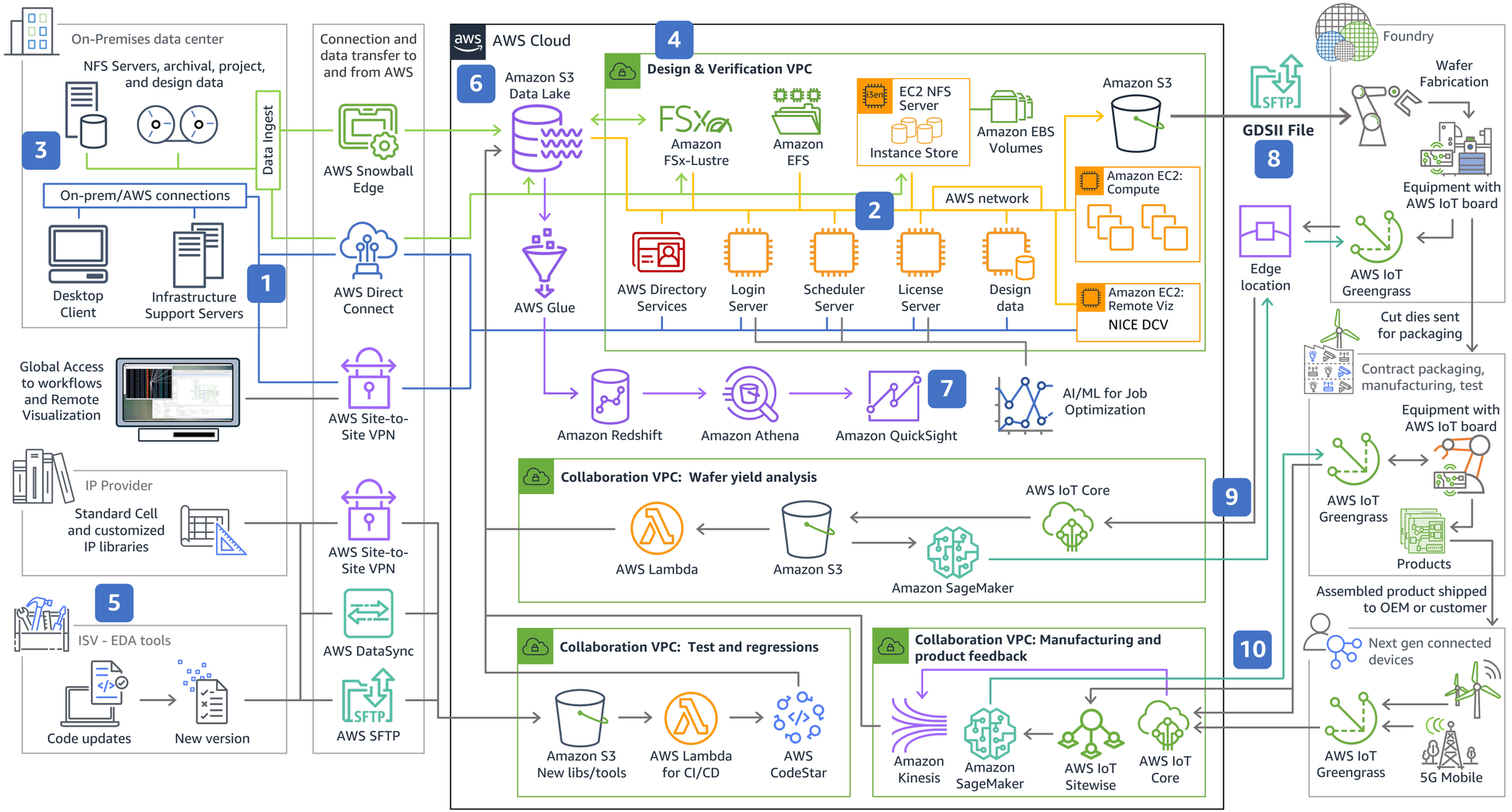
Semiconductor and Electronics on AWS

Enabling collaboration and innovation from customer specification to silicon

Architectural deep dive into AWS services, data movement, analytics, and collaboration across the design process.



1. Connect to AWS using **AWS Direct Connect** and **AWS Site-to-Site VPN**.
2. Launch services necessary for proof of concept (Amazon S3 bucket, login server, license server, etc.)
3. Determine data needed, and transfer to storage services: **Amazon S3**, **Amazon FSx for Lustre**, **Amazon EFS**. This includes tools, IP characterization, design, project & yield data, product feedback.
4. Launch and configure the entire semiconductor design workflow on AWS.
5. Enable collaboration with IP providers and tool vendors.
6. Convert the previously created S3 bucket (back in step 2) into a data lake.
7. Build an analytics pipeline leveraging the data lake. **Amazon QuickSight** dashboard insights lead to cost optimization and faster time to market.
8. Transfer your GDSII file to the foundry using **AWS SFTP** or other transfer method available on AWS.
9. Collaborate with the foundry to analyze wafer yields and optimize manufacturing with real-time inference.
10. Collaborate with contract manufacturers and gather device data to track defects and optimize with real-time inference at the equipment location using **AWS IoT Greengrass**.

AWS Reference Architecture