AWS Outposts – Hybrid Cloud that Will Define the Next Generation of Cloud Consumption

We now have AWS Outposts as a generally available service which you can order today. Outposts is an AWS built and owned rack using AWS hardware and software to deliver their services within your data center. The Outposts solution also easily taps into existing AWS logical constructs including security and networking (VPC) for easy integration with the rest of your infrastructure.

You will use your native AWS tools (console, CLI, SDK) and presumably deployment tools (CloudFormation, Terraform, Chef, etc.) because Outposts uses the same underlying APIs and constructs as other cloud-hosted AWS infrastructure.

> "With AWS Outposts, customers can extend the AWS experience on-premises for a truly consistent hybrid cloud experience" – quote from promotional video

I'm super happy to see this new offering hit the production market. From conversations I've had with a variety of sources at re:Invent, the uptake is already strong and only going to increase now that the product is in GA.

Let's begin with the most important question about AWS Outposts…

Why is AWS is Bringing Outposts to You?

The answer is rather simple: we aren't moving to AWS fast enough. Slower than hoped speed on migration/adoption of AWS native infrastructure opens the door for two important issues which Andy Jassy and the AWS team need to remove:

- **Competitive landscape** – VMware and Microsoft aim to keep workloads on-premises and sell

cloud-like infrastructure offerings to keep the customer account control and workload ownership. Azure Stack is a full cloud platform which aligns the closest to Outposts and also comes with OEM hardware managed by Microsoft and 3rd party partners.
- **Inertial Continuum** – Less access true cloud infrastructure, usual due to data access and latency, means that old practices continue and incumbent providers will sell on the comfort of how you've done things until now.

Despite the growing use of other architectures for hybrid deployments, it just makes sense that the AWS model of deployment and shared responsibility for the platform will lead many organizations to begin an aggressive journey to making their world cloud-native on the leading cloud platform.

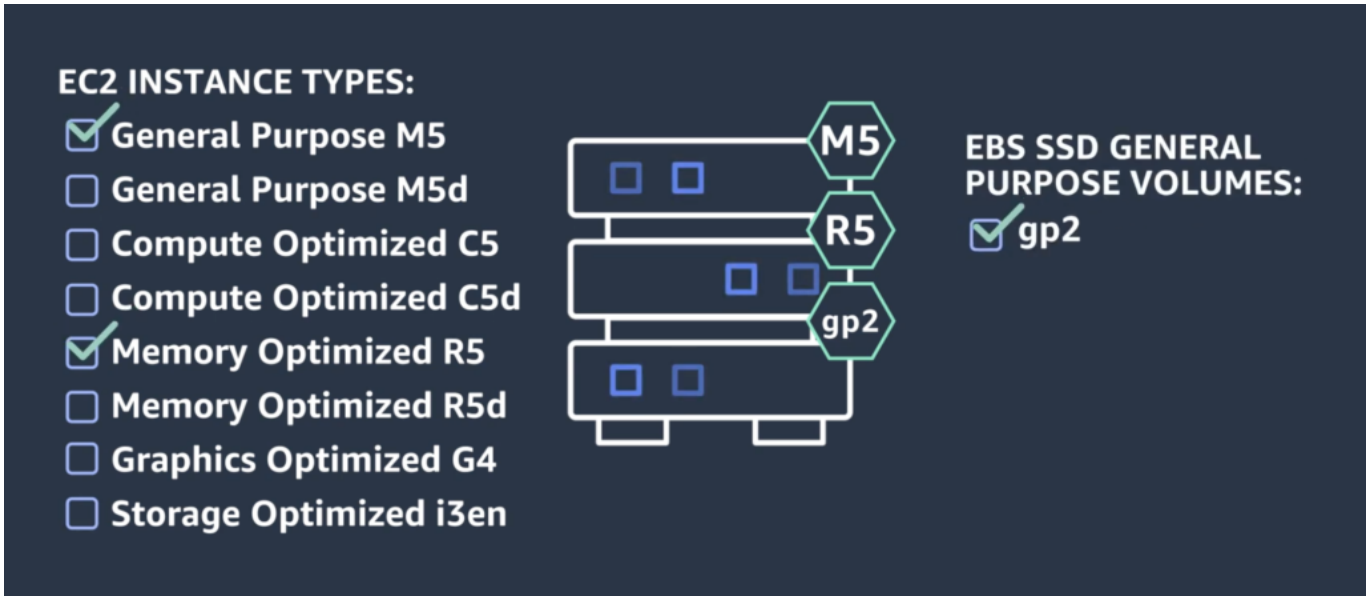
What's In the Box?

Much like Brad Pitt's character in Seven, many of us systems and enterprise architects want to know something…

This is the description of what's available in the current GA release as of December 2019 as part of the AWS re:Invent announcement:

- **EC2 (Elastic Compute Cloud)** – EC2 compute options based on some pre-configured combinations (see catalog section below)
- **EBS (Elastic Block Storage)** – GP2 storage is the only storage being offered at the moment but that will inevitably see some changes as the adoption increases and customer feedback drives changes to include other storage tiers
- **ECS (Elastic Container Service)** – The leading container platform on AWS now easily deployable in your own data center
- **EKS (Elastic Kubernetes Service)** – K8s the easy way for those who don't want to deal with the challenge of K8s deployment and administration
- **RDS (Relational Database Service)** – Currently offering PostgreSQL and MySQL in preview form
- **EMR (Elastic Map Reduce)** – Big Data goodness including support for Apache Spark, Hadoop, HBase, Presto, Hive, and other Big Data Frameworks

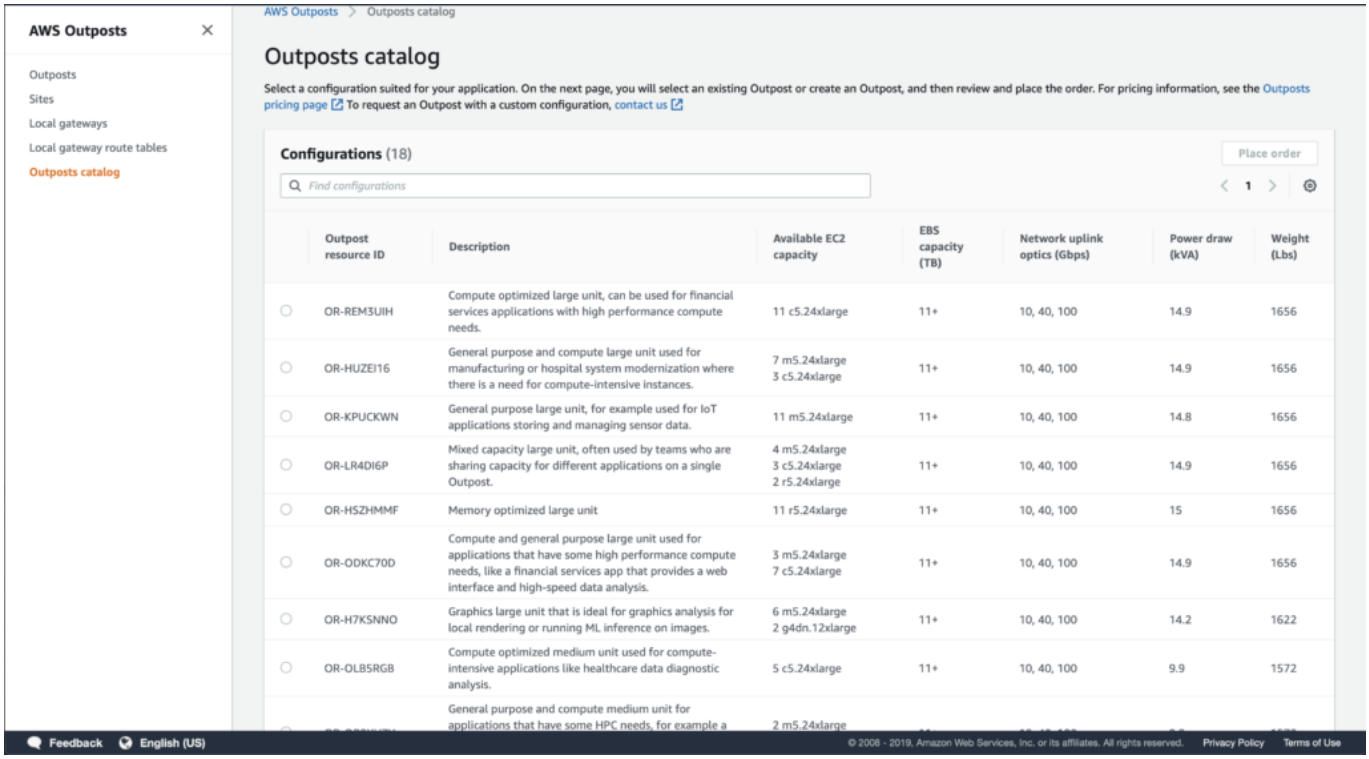
Outposts is also much more than just the initial deployment. This is a new operational model. AWS owned, customer operated, and partner managed. You can opt to manage updates/upgrades through a few methods including partners and AWS services teams.



The locations available for deployment today with the GA launch include North America (United States), Europe (All EU countries, Switzerland, Norway), and Asia Pacific (Japan, South Korea, Australia).

The Outposts Catalog

My favorite time of year used to be getting the Sears Christmas Wish Book in September which previewed the goodies you can ask Santa for the upcoming Christmas season. Now you can bust open the AWS Outposts catalog and get something for the person who has everything!



You can see in the image above that there are pre-defined configurations of instance types and storage capacity. This is one of the interesting things about AWS because as elastic as the Elastic Compute Cloud is, it is fixed in how much they will allow you to use on their host hardware configurations.

No oversubscription option here as you may have enjoyed with VMware which is also why many are still looking at VMware Cloud on AWS with VMware Cloud Foundation locally as their hybrid option. The same will go for Azure and the on-premises Azure Stack options.

Does it Scale?

It's also worth noting that the purchase of AWS Outposts is not quite as on-demand as other solutions. The purchase of AWS Outposts is done on a 3-year term which covers the EC2 and EBS capacity across the full period using no upfront, partial upfront, and all upfront payment options. Other services used (e.g. RDS, EKS, ECS) will be billed on-demand along with any data egress and data transfer charges which align with current AWS data transfer pricing.

Scaling of AWS Outposts allows up to 16 racks to be treated as a single capacity pool. The AWS team has already noted that future scaling is hopefully going to allow thousands of racks to be spanned as a single capacity pool. Even the most aggressive AWS consumer today should be satisfied with those numbers.

Big Goals for Outposts Revenues and Adoption

The end goal will be a significant amount of revenue (relative to the current 0$ for on-premises) as part of the ongoing AWS revenue stream, potentially double-digit percentage within 5 years according to some conversations on the re:Invent show floor. There should be little uncertainty that an AWS hybrid infrastructure will prove to be the leader within the first 12 months of operations compared to any alternatives.

It will be interesting to see how AWS reports adoption numbers in future earnings calls and through the AWS Summits in 2020. This is also a massive opportunity for services and support partners through the APN (AWS Partner Network) to be a part of deployment and design of AWS Outposts solutions for their customers.

My opinion is that this offering beating the secondary VMC on AWS which is still in beta also signifies that AWS is once again reminding everyone who is leading the charge on tomorrow's hybrid cloud. That said, don't doubt the power of VMware ecosystems needing to stay VMware-native which gives a big opportunity to use the AWS Outposts running VMware Cloud Foundation to extend a near-zero touch hardware option for operating your hybrid cloud.

It's Not About the Hardware

Let's dial it back for a moment to remind everyone what AWS Outposts is and is not. It's built on hardware but that is simply the packaging for the real thing that is being sold. AWS is delivering a methodology. This is a way for customers to use cloud-native and native cloud infrastructure to rebuild, replatform, and relocate their applications, workloads, and data, to AWS.

Sub-10ms latency connections using Direct Connect to AWS Outposts and AWS Local Zones will open the doors to more data-intensive applications being able to live in AWS infrastructure. If you bring the data, the rest of the workloads will follow.

You bring the data center and uplinks, AWS brings the rest. A beautiful pairing.

The full launch blog is available here which even has a full walkthrough of the configuration and

more on the networking:
https://aws.amazon.com/blogs/aws/aws-outposts-now-available-order-your-racks-today/