Technology Brief...

January, 2021

J.Gold Associates LLC, 6 Valentine Road, Northborough, MA 01532, USA
www.jgoldassociates.com +1-508-393-5294
Research, Analysis, Strategy, Insight

Inside This Issue

Google's OCTO – It all about Strategic Partnerships

Google, like many companies, has an Office of the Chief Technology Officer (OCTO) that looks at new and upcoming technologies that can help it form a vision and then a strategy for future product offerings, sometimes extending to as much 5-10 years into the future. The distinction in Google's approach that sets it apart from many companies is that not only do they have internal to Google OCTO participants from a variety of disciplines (e.g., SW, AI, networks, chip design, security, etc.), but they've essentially extended the members in their OCTO to include a number of strategic customer-partners that provide valuable insights into just what customers will need in the future. Such an arrangement, while not exclusive to Google in tech and other industries, nevertheless gives Google a major competitive advantage to those that don't do it very well, or don't do it at all.

Google views this as a strategic investment on its part, not only in products, but also in long term customer relationships. But it's not only beneficial to Google. The organizations it partners with also gain access to an elite team of technologists with expertise that they can leverage to help them achieve future impactful technology decisions and/or capabilities custom suited to their unique needs. This helps the customer through some important business transformation they might not be able to make as effectively on its own. Of course, in doing so, Google also learns about new capabilities it can potentially bring to a broader market with new product offerings. And it provides Google with an ability to share knowledge with other customers as it learns lessons working with early adopters of special needs.

"….Google rightly understands that customer-unique requirements that are leveragable to other organizations are critical to producing leading products and enhancing the acceptance of those products. …collaboration with strategic customers can dramatically advance the product capabilities and target those capabilities to real world needs, while also decreasing time to market for new technologies/tools....."

There is a limit to the number of such strategic relations Google can undertake due to resource limits. But because of such strategic relationships designing and deploying real world solutions, Google is able to see new patterns emerge and create new products far more quickly than if it were only looking through an internal lens. Indeed, we estimate that because of such relationships, Google can accelerate new product offerings by 1-3 years, and achieve a more compelling offering than when doing only internal development and then requiring several iterations to "get it right" for the customer.

Examples of some of the key emerging technologies that are being influenced by the OCTO strategy include sovereignty, transparency and trust, future of work, and sustainability. By placing OCTO within the R&D portion of engineering, Google can make bets on interesting projects and interesting customers, while not being driven by the immediate need to generate revenue. And with a distributed worldwide expertise capability available to OCTO, they can pick projects virtually anywhere,

gaining needed insights to worldwide requirements. Further, although many projects are focused on digital transformation and moving to the cloud, OCTO undertakes customer projects that work across all of Alphabet's technologies (Google Cloud Platform. Google Workspace, Chrome Enterprise, locations and mapping, AI, multi-cloud orchestration, etc.).

Some customer examples of strategic partnership operations that Google has highlighted includes Target, Shopify, Major League Baseball, and The Home Depot, among others. And some of the special efforts Google provided included:

- Building out a strategic orchestration capability for a customer's cloud implementation
- Enhancing the experience of either live or online event attendees
- Providing additional security enhancements for ecommerce
- Working with a customer to containerize their apps before Google offered it generally on the Google Cloud Platform

Bottom Line: Google rightly understands that customer-unique requirements that are leveragable to other organizations are critical to producing leading products and enhancing the acceptance of those products. While internal technology resources are important, sharing those resources in collaboration with strategic customers can dramatically advance the product capabilities and target those capabilities to real world needs, while also decreasing time to market for new technologies/tools. By structuring the OCTO in this way, Google has created a strategic advantage engine that will serve it well in being more competitive in the long term.

AWS Embraces Cloud Diversity

At the recent AWS re:Invent conference, Amazon highlighted a number of extensions and additions to the AWS cloud capabilities specifically geared toward remote, edge, Telco and IoT capabilities. AWS is the current leader in cloud and we estimate it has 40%-45% of the overall cloud market. However it still needs to diversify its solutions to support a growing list of specialized cloud requirements that are not served well by use of large centralized data centers, and that are expected to grow substantially in the near term. To this end, it has developed:

- *Amazon Lookout for Equipment* – a product that is targeted at monitoring and reporting the real time status of manufacturing equipment through use of ML by pulling sensor data from various equipment. It learns about normal patterns and alerts if abnormal behavior is detected. Predictive maintenance is a huge opportunity and required to achieve Industry 4.0 capability.
- *AWS Panorama Appliance* – an appliance and service that adds AWS powered computer vision to cameras onsite, and includes prebuilt models and applications for retail, manufacturing, construction, and other industries, as well as connection to the AWS Panorama management console for custom application building. There is also a version of Panorama that OEMs can deploy directly in their cameras.
- *AWS Outposts* – Outposts allows a local, on premise version of AWS to run for companies that want their own localized cloud environment. Outposts is a fully managed service offering with the same AWS infrastructure, services, APIs, and tools. It allows organizations to not have to deal with hardware deployment and/or management issues. In the past, Outposts was only available as a large rack system thus limiting it attractiveness to smaller workloads and/or locations. But AWS is now also making it available in compact 1U and 2 U appliances, which will make it much more attractive for Edge deployed applications.

"…We expect AWS to continue to create specialized components that will allow it to play in an increasingly complex marketplace. While currently ahead of the competition in the amount of diversity it offers, we do expect the other key cloud players to create similar offerings... we believe AWS currently has the broadest specialized cloud enabled offerings in the marketplace and should serve it well in capturing a growing variety of solutions and deployments.…"

- *AWS Snow Family*- fully contained ruggedized appliances for data collection, processing and analysis for use in limited connection or no connection locations. This allows a disconnected version of the cloud to be run at those edge locations that remain stand alone on a temporary basis, and can then be retrieved for data migration to the cloud, and/or be reused at a different location.
- *AWS Wavelength* – an optimized version of AWS specifically for the needs of Telcos, Wavelength extends AWS to 5G networks for deployment of applications and services. It's currently available from Verizon in 10 cities and will go global with roll outs on Vodafone, KDDI and SK Telecom. Wavelength is a key component for delivering edge of network based solutions that will drive revenues for network operators and solution providers by allowing many consumer facing solutions to be easily converted from central AWS deployments.

The above is not an all-inclusive list of specialized AWS capabilities. But it indicates that AWS is willing to create customized solutions for its customers to further its installed base and create attractive market offerings.

Clearly the notion of a "one cloud serves all" environment is not applicable in an ever evolving landscape of services and solutions. Enabling customer choice while maintaining essentially a single deployment and management infrastructure is critical to the growth of cloud computing. While AWS is not alone in diversifying its capabilities (Microsoft and Google are also offering specialized solutions, as are major international competitors like Alibaba, Tencent. Rakuten, Baidu, etc.), it has established a richer and more diverse set of solutions than its primary competitors. It remains to be seen if it can continue to outpace its competitors.

Bottom line: We expect AWS to continue to create specialized components that will allow it to play in an increasingly complex marketplace. While currently ahead of the competition in the amount of diversity it offers, we do expect the other key cloud players to create similar offerings, and some have already done so. Nevertheless, we believe AWS currently has the broadest specialized cloud enabled offerings in the marketplace and should serve it well in capturing a growing variety of solutions and deployments.

Intel vPro Pivots to Security

"…With the new capabilities now being offered in vPro based 11th Gen systems, Intel is moving security front and center, an enhancement to the key management functions previously available. This will make vPro, which in the past has been a relatively small percentage of systems sold, much more attractive to enterprises, and even some small business users. …."

Intel is making a shift with its latest version of vPro for the 11th gen chips. In the past, vPro was primarily geared towards enabling business users to manage and deploy systems with tools and capabilities that appeal to IT staff in large organizations that need to manage many endpoints. It's not that vPro didn't have a major security focus in the past. It has many security centric functions. But it was always a more subtle security message than the one for endpoint management. With the latest release, Intel is putting security front and center and pursuing a more aggressive posture for vPro, and not just for big business. It's doing so across the Intel 11th Gen Core ecosystem, and especially in the EVO branded thin and light flagship products that are becoming so popular in business.

Intel announced its Hardware Shield Technology, which includes:

- AI enabled and hardware accelerated Advanced Threat Detection;
- App and OS protection based on a hardware accelerated hypervisor virtualization capability to maintain OS and app performance;
- Below the OS hardware enhancements to lock down BIOS and prevent firmware attacks and enforce a secure boot environment.

This capability, while previously partially available in some chips, is now available at a new level of performance that Intel claims no longer has a negative impact on

usability and system performance – a critical challenge in earlier implementations.

While Intel provides base level of capability, a collaboration with Microsoft and the leading PC vendors is what makes the technology available in real world situations. For example, Control Enforcement Technology is a Microsoft initiative to enable enforcement of code flow and execution only as the developer intended, and prevent changes or redirection of code that is often used in system attacks. Hardware Shield's new Threat Detection provides telemetry and uses the CPU and GPU to detect and prevent crypto mining and ransomware attacks, enabling PC OEMs to offer a higher level of protection than in previous generations of devices. And with the enhanced capability available in Intel's new Iris graphics subsystem, the level of security processing can be "dialed up" without users seeing any significant affect on their work.

While it's critical that device OEMs support and implement these new technologies, Intel is not only working with the device makers. Intel is working with key software based intelligent threat avoidance systems from BlackBerry (Cylance) and Microsoft Defender to improve their detection and mitigation, and reduce device exposure to data breaches. Ultimately, it's important that to enhance security, you don't negatively affect end user productivity. And that's what Intel expects to accomplish by adding these new functions into the hardware.

Bottom Line: vPro systems, including available in the flagship EVO platform, are being offered by the leading OEMs (e.g., Dell, HP, Lenovo). However, in the past vPro was primarily used to remotely manage systems for patching, app installation and device onboarding. vPro is currently used both internal to enterprises as well as by leading outsourcing vendors (e.g., Accenture). With the new capabilities now being offered in vPro based 11th Gen systems, Intel is moving security front and center, an enhancement to the key management functions previously available. This will make vPro, which in the past has been a relatively small percentage of systems sold, much more attractive to enterprises, and even some small business users. It's not yet clear what the cost uplift of buying a vPro 11th gen system will be, but if it's reasonable, it should go a long way to helping promote Intel vPro Core based systems for business and enterprise users and increase the proportion of vPro enabled systems sold.

J.Gold Associates, LLC
6 Valentine Road
Northborough, MA 01532 USA

Phone:
+1-508-393-5294

Web:
www.jgoldassociates.com

Research, Analysis, Strategy, Insight

About J.Gold Associates, LLC.

J.Gold Associates provides advisory services, syndicated research, strategic consulting and in-context analysis to help its clients make important technology choices and to enable improved product deployment decisions and go to market strategies. We work with our clients to produce successful new product strategies and deployments through workshops and reviews, business and strategic plan coaching and reviews, assistance in product selection and vendor evaluations, needs analysis, competitive analysis, and ongoing expertise transfer.

J.Gold Associates provides its clients with insightful, meaningful and actionable analysis of trends in the computer and technology industries. We have acquired a broad based knowledge of the technology landscape and business deployment requirements, and bring that expertise to bear in our work. We cover the needs of business users in enterprise and SMB markets, plus focus on emerging consumer technologies that will quickly be re-purposed to business use.

We can provide your company with a trusted and expert resource to maximize your investments and minimize your risk. Please contact us to see how we can help you.