Oracle launches its Blockchain Cloud Service at OpenWorld 2017

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In August 2017, Oracle officially joined the Hyperledger project, and now it is launching its Blockchain Cloud Service (BCS). This new cloud-based, 'industry neutral' blockchain platform, announced at OpenWorld 2017, is the result of two years of research and numerous client engagements across several industries.

It was created with the aim of helping enterprises securely extend business processes beyond corporate boundaries, and accelerate B2B transactions. The company expects to make it easy for its customers (and their partners and customers) to experiment with different blockchain use cases, and bring life to new business models and revenue streams.

THE 451 TAKE

Oracle arrived late to the cloud party, and is making sure that does not happen with blockchain. The company is among the early believers, and is committed to making it easy for enterprises to experiment with blockchain via its recently launched industry-neutral – i.e., not specific to any industry – blockchain cloud service. Easy integration with other existing applications within and across enterprises, quick network expansion and member on-boarding, and quick and easy smart contract creation and deployment are all key capabilities from a business-value point of view. However, that is 'just' the technology. The hard part will be to bring together industry suppliers and buyers to adopt a new way of doing business.

CONTEXT

In the quest for a more connected digital economy, enterprises are still facing inefficiencies in business processes, as well as cost and security challenges. In essence, the qualities of blockchain technology enable the level of automation, security, transparency and trust that centrally controlled business networks cannot provide. It also promises to significantly reduce transaction costs by cutting out the middlemen.

Blockchain technology is maturing in B2B scenarios led by financial and supply-chain-related issues. However, organizations find it difficult to move from pilot projects to production, and are looking for resilient and robust offerings to help them overcome those challenges.

STRATEGY

With its new cloud-based, horizontal blockchain-as-a-service offering, Oracle aims to enable enterprises to explore different blockchain use cases without having to set up new infrastructure for each use case. It is a PaaS offering that leverages Hyperledger Fabric v1.0, and the company plans to evolve the platform's capabilities as customer needs dictate.

A key capability the company offers is integration with Oracle, customer and partner applications for specific industry use cases. Other capabilities include scalability and performance, and the ease of creating smart contracts and on-boarding participants.

TECHNOLOGY

Oracle BCS uses the company's public cloud, and leverages its cloud infrastructure capabilities such as the Application Container Cloud Service, Identity Cloud Service, Event Hub Service, Cloud Storage and NoSQL Cloud Service. It is also available on the Oracle Cloud Machine (OCM) for on-premises deployment. In the future, the company has plans to leverage its bare-metal cloud service as well.

In order to enable faster customer implementations, BCS is also offered as a managed service – for example, Oracle can create, start and manage all required containers, monitor and upgrade BCS instances, and troubleshoot BCS instance problems, among other things.

Oracle chose Hyperledger because the project has an open governance structure for the development of block-chain, and provides a permissioned and modular blockchain fabric designed for enterprise requirements. Greater scalability and confidentiality were also important criteria for the company when selecting the foundation for its blockchain cloud service.

If blockchain is to become an efficient distributed system within and among enterprises, integration with other data sources, applications and systems of record cannot be overlooked. According to Oracle, BCS enables integration with existing Hyperledger Fabric applications, as well as other applications for enterprise resource planning, supply chain management, general ledger and customer experience within the enterprise and across companies.

Integration with business intelligence applications and interoperability with other blockchains (beyond those using Hyperledger Fabric) are in the works, with plans to be made available in 2018.

Smart contracts (computer protocols/algorithms that automatically enforce and execute the terms of a contract whenever the conditions of the contract are met) lie at the heart of any blockchain because they hold the rules for processing transactions.

According to Oracle, deploying smart contracts requires significant preparation work on the enterprise side, and the company is investing in making this process as easy and user-friendly as possible by integrating declarative tools that enable users to create smart contracts as human-readable terms and conditions.

Security-related enhancements include defense-in-depth leveraging Oracle's Identity Cloud Service incorporating behavioral authentication and key management service support, and data-at-rest encryption enhancements.

Trusted business networks can be formed and extended across multiple, independent BCS instances (Oracle Cloud or OCM) and other Hyperledger Fabric-based blockchains. Peers (nodes) can conduct transactions over multiple private channels.

CUSTOMERS

Establishing blockchain business networks is challenging because they need suppliers, as well as buyers, as participants to make the concept work. This is referred to as a minimum viable ecosystem (MVE). Oracle claims that currently, about a dozen projects run on its platform, and another 12 are in planning stages.

Oracle does not necessarily seek specific enterprises as customers for its blockchain-as-a-service offering; however, financial services and supply chains will be two big focus areas for the company given the relative maturity of those markets in terms of blockchain experimentation and usage.

Other evolving areas include government (birth/death certificates, passports, digital voting), healthcare (electronic health record, clinical trials, anti-counterfeit drugs) and IoT (tamper-proof IoT sensor data). For these to succeed, however, Oracle must become proficient in helping its customers establish MVEs in each. This will require a strong professional services commitment by Oracle.

Fees were not revealed, but pricing will likely be transaction-based, and will depend on how large the network is (number of nodes/peers).

COMPETITION

AWS has teamed up with Digital Currency Group to create a blockchain-as-a-service offering for financial services firms.

BlockApps is an emerging vendor that is commercializing blockchain technology as an enterprise-grade application development and integration platform. It's building on the latest enhancements to proven blockchain open source implementations, and tackling real-world business problems that it believes blockchain can help solve.

Chain Inc offers its Chain Core platform based on the Chain protocol. It's positioned as an enterprise-grade blockchain infrastructure designed to build financial service applications.

Ethereum, a Swiss nonprofit, is a platform that supports open source code and smart contracts, and decentralized applications can be built and deployed on top of it. It is used as a foundation for several other blockchain startups. In 2017, large banks such as JPMorgan Chase and ING, technology giants such as Intel and Microsoft, and other organizations (30 in total) formed the Enterprise Ethereum Alliance to focus on enterprise use cases of Ethereum.

IBM's Blockchain Platform, along with a series of consulting services, enable organizations to quickly activate, develop, operate, govern and secure their own blockchain-enabled business networks. It is based on the Hyperledger Fabric v1.0 framework and Hyperledger Composer blockchain application development tool, and runs in the IBM Cloud.

Microsoft offers blockchain as a service to develop, test and deploy blockchain applications. It recently announced its Coco Framework, which is intended to reduce the complicated development techniques needed to meet the operational and security needs of enterprises. It also offers a distributed governance model for blockchain networks – establishing a 'network constitution' whereby members can vote on all terms and conditions governing the consortium and the blockchain software system.

R3 leads a consortium partnership of over 80 leading banks to design and deliver distributed ledger technologies to global financial markets. It collaborates with its partner banks on research, experimentation, design and engineering to bring the users of blockchain technology into the design and production process. Corda, its open source distributed ledger platform, was specifically designed to record and manage agreements between financial institutions.

SWOT ANALYSIS

STRENGTHS Oracle's BCS is a solid offering backed by two years of research and client engagements, and Oracle's longstanding expertise in database technology and software.	**WEAKNESSES** Pricing the service right and building a profitable revenue model will be key to making it worth the effort.
OPPORTUNITIES Blockchain is a foundational technology with huge potential for the future. Adoption of this technology will likely be gradual and steady. Being early to the game has its risks, but also its rewards.	**THREATS** Some of Oracle's competitors are taking a 'wait and see' approach, but others such as IBM and Microsoft have also launched similar, enterprise-grade blockchain platforms. Defining a clear value proposition and differentiation will be key.