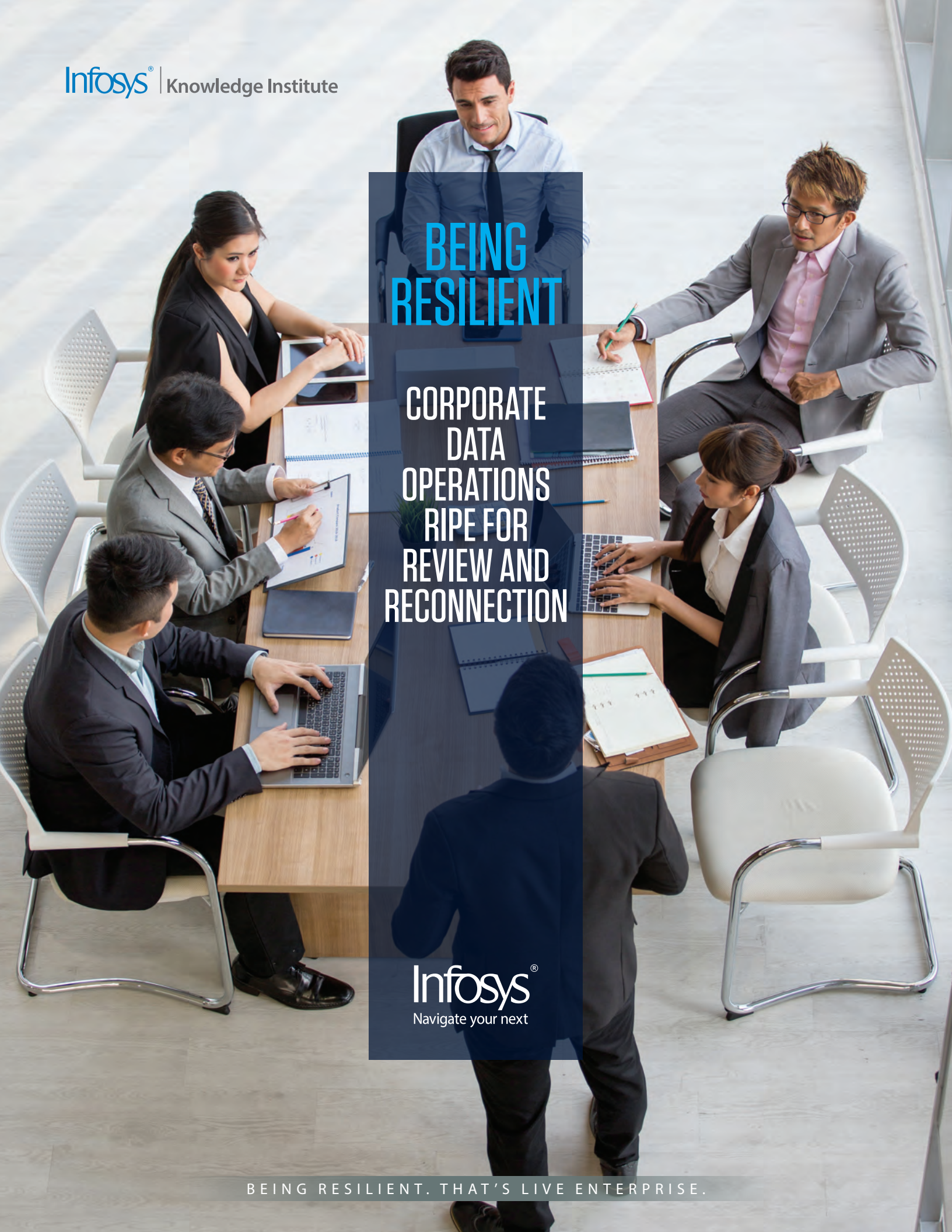
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BEING RESILIENT. THAT'S LIVE ENTERPRISE.

Fourteen years have passed since mathematician Clive Humby first shared his observation that "data is the new oil." The aphorism proved instrumental in his work building the Tesco Clubcard into a loyalty program powerhouse for the supermarket chain. The phrase has continued, inspiring TED Talks;[1] Medium posts; and articles in Wired,[2] The Guardian,[3] and The Economist[4] to debate its particulars. Many of these discussions stray from Humby's original point: Data, like oil, is valuable only after it is refined into a useful or meaningful form.[5]

Companies from supermarkets to social media firms have taken the original sentiment to heart, staffing up with systems architects, data scientists, and marketers to extract crude info and transmute it into gold. This wildcatting phase has been expensive and complex. Companies invested in new data and analytics capabilities and units across their organizations, which led to highly paid teams' springing up like mushrooms scattered across a field. These teams use different systems and follow different methods to achieve the same goal: the refinement of data into new profits.

If Humby's quip had been a newborn child, it would now be a teenager. Data and analytics teams inside companies have developed signs of maturity, and have progressed beyond the youthful wildcat phase. To follow the oil analogy, it is time to move from drilling to production and the harvest phase. The economic disruptions of the COVID-19 pandemic make this shift more urgent. The majority of CFOs surveyed in March 2020 by Gartner plan to reduce spending plans this year.[6] As companies shift from the data equivalent of wildcat drilling to methodical harvesting, they must also look at ways to take cost out of their data and analytics efforts. By streamlining such efforts, companies will unlock new capabilities by connecting data systems and sources that never before reached one another.

Three steps to streamline data and analytics

Streamlining data and analytics will require heavy effort. Data sprawl develops in the normal course of business. Companies will change strategies, merge with other organizations, migrate to new systems, and adjust to new regulatory rules. Frequently they will take those actions and leave the proper data management until later. And later often never comes.

First, companies must **assess and optimize their underlying technology**. For some operations, this may be a first strategic look at the

systems that have taken root. If that is true, companies will find opportunities to optimize at many layers in the technology stack, including:

- Computing capacity.
- Storage.
- Software.
- Hardware appliances.

Further, companies focused on cutting costs can rationalize resources — computing, storage, software, and the whole data estate — by examining performance and cost together. This will naturally lead to retirement of some software tools and elimination of hardware appliances.

Shifting away from hardware and older software prepares an organization to migrate its system to cloud platforms, which offer savings, flexibility, and the promise of uplifted capabilities. Think of the process as migrating from an ad hoc technology jungle to a deliberately planned garden in the clouds. One company hacking its way through its data jungle discovered it had more than 400 software tool contracts with different vendors. Until companies modernize their underlying data estate, they cannot take the next step to streamline data services and analysis. Efficiency-creating tools such as artificial intelligence-driven chatbots can work only on a modernized system.

When a company modernizes its data systems and migrates to cloud platforms, that company also sets the stage for significant software cost savings. In one instance, in three years, a multinational investment bank was able to cut its software costs from $66 million a year to $31 million while modernizing its systems. Modernizing also leads to savings on the hardware side. A luxury department store chain reduced its computing and storage costs by $500,000 by shifting to web-based storage and shedding old computing appliance systems.

The same business also managed to save $1.7 million by studying its cloud usage and cutting back on underused services.

Next, companies must **study the service layer** with an eye toward finding opportunities to streamline, centralize, automate, and rightshore. Studying the value of activities, switching to self-service, and automating where possible will enable productivity gains. Efficient and strategic data analysis supports strategic business operations and decisions by generating new insight from the refined data, and by quickly supplying data-supported answers to new business questions. Richer data sets will empower data scientists to create sharper insights that can drive business closer to that data alchemy that produces digital truths and, ultimately, profits.

> Companies can begin streamlining their data services and analysis only after modernizing their underlying data estate

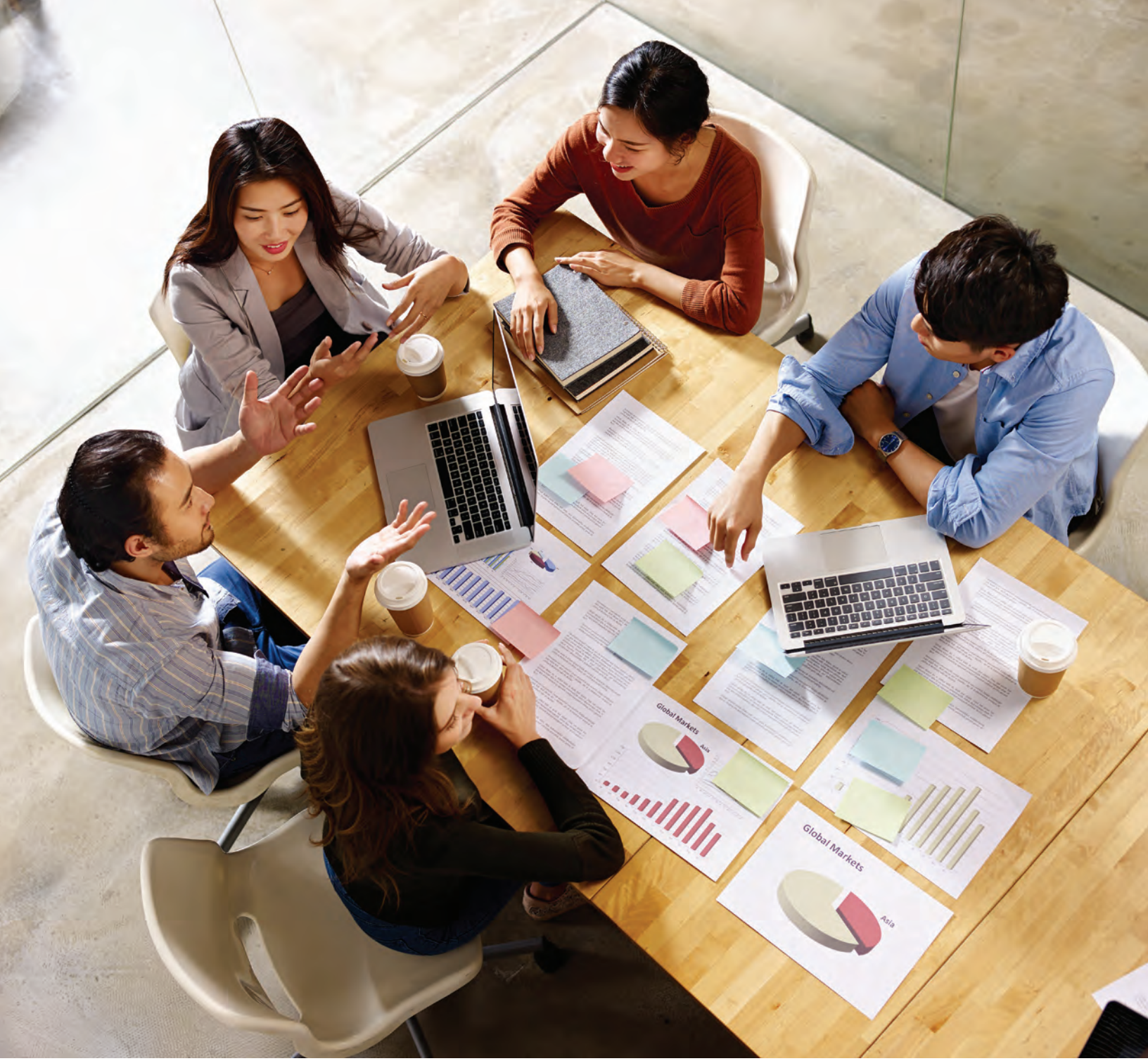
Over the course of three years, one high-tech manufacturing business succeeded in cutting $26 million in annual tech infrastructure costs by spending $20 million on cloud migration efforts. On the programming side, a U.S. telecommunications company cut costs 52% by shifting from a traditional app support and development model to following Agile and DevOps principles. This change saved money as the company cut nonstrategic work, retrained staffers, and automated basic tasks.

To be sure, this shift from the way "we have always[7] done it" will meet resistance. Business units and data specialists will naturally resist ceding control of their data (and therefore power). Innovative firms must find a middle ground by sharing data and developing a process to allow some specialists to maintain control of bespoke systems or information. In shifting to its Agile stance, the previously mentioned telecom company cross-trained staffers to improve efficiency and standardize processes.

Of course, not everything can be consolidated or federalized. A global agribusiness that had been relying on the power of its big data has also learned that it should remain attuned to provincial dynamics right down to the input of planters and region-to-region variances. When that is possible, be sure to create a method to connect that unique unit to the larger data and analytics systems. This conduit ideally begins as a component of a larger enterprise data strategy that connects all data sources.

With technology, coding, and business operations optimized and clarified, companies can **improve how the business delivers data and analytics**. The first-order value of simply knowing what technology the company buys and asking why the company buys these things will itself provide some cost relief. In one instance, a bank discovered it had 450 software tool contracts with technology product vendors. Even for a large organization, that's over the top.

Efficiency has its limits, and companies must also balance the value of redundancy with the cost of keeping two or more similar tools or systems in order to retain resilience and backup plans. Regulators in some industries have gone so far as to require companies to document their plan for exiting one cloud platform for another or maintaining multiple cloud vendors.[8] Here, data and analytics workloads can be moved between providers, with thought given to price, reliability, and distance from the customer.[9]



As data systems migrate to the cloud and to open-source software options, companies have a widening range of options for how to "do" data and how to pay for it. This openness and flexibility allow for an evolving mix of internal technology, contract partners, and service bundling. Further, options ranging from asset takeovers to consumption-based pricing to as-a-service models give companies even more flexibility in how they manage their data and analytics operations.

Cost savings and new capabilities

The area of data and analytics has been such a new and valuable one, that companies do not typically think about it as an area where they can reduce spending. Optimizing technology, standardizing processes, and automating nonstrategic work are quick ways to get firms through the crisis with their armories intact. And by taking a holistic view of data and analytics, companies will not only find ways to cut costs but also develop new capabilities for data scientists and business leaders to put to work.

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