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Welcome to the Tortoise QuickTake podcast. Thank you for joining us. Today, senior members of Tortoise provide a timely update on trending topics in the market.

Vince Rupp: Hi I'm Vince Rupp, Client Portfolio Manager at Tortoise. I'm joined today by Matt Weglarz, Tortoise Portfolio Manager of our passive investment strategies. We're going to kick-off a discussion about Tortoise's new area of focus in the essential asset space - digital infrastructure. Matt, to kick off this discussion, please tell us – What is digital infrastructure?

Matt Weglarz: Thanks Vince. So, digital infrastructure is the backbone of the digital revolution. It is the hardware, software, services and security that help us transfer, store and process digital information efficiently and securely. As the world economy becomes increasingly reliant on processes backed or even managed by technology, there is tremendous investment and growth needed in digital infrastructure in order to allow us to continue to function in our everyday lives.

Vince Rupp: Can you describe the indices that we have in the digital infrastructure space?

Matt Weglarz: Sure. The digital infrastructure indices that we recently launched include the Tortoise Global Cloud Infrastructure IndexSM and the Tortoise Global Digital Payments Infrastructure IndexSM.

The Tortoise Global Cloud Infrastructure IndexSM represents companies that provide cloud infrastructure services, software, equipment and data center infrastructure that facilitates, supports or supplies the cloud computing industry.

The Tortoise Global Digital Payments Infrastructure IndexSM represents companies involved in electronic transactions and payments, including facilitating, processing, settling or reconciling electronic payments, or providing related software, hardware and services including credit card networks and merchant acquirers and processors.

Vince Rupp: How does digital infrastructure fit into the essential assets universe?

Matt Weglarz: That's a great question, Vince. At Tortoise, we invest across the infrastructure spectrum, including energy infrastructure, sustainable infrastructure, social infrastructure and now we have developed these digital infrastructure indices as a natural extension.

Infrastructure is defined as the basic physical and organizational structures and facilities, such as buildings, roads and power supplies needed for the operation of a society or enterprise. Essential assets are those assets and services that are indispensable and necessary to the functioning of our infrastructure, our economy and our society as a whole.

Digital infrastructure meets both definitions. Enterprises vital to our society are increasingly reliant on the Cloud; electronic payments constitute well over half of the payments made in the United States and is the preferred payment method of every generation in the United States.

In our view, cloud and electronic payments infrastructure is required for the continued functioning of our society and essential to the majority of enterprises that utilize the technology built on this infrastructure.

Vince: Why are we focused on digital infrastructure?

Matt Weglarz: Well at Tortoise, we strive to fulfill the needs of the market, which includes creating sector-defining indices to fill voids where they exist in the market or improve upon existing indices. Our digital infrastructure indices accomplish both of these goals.

Additionally, at Tortoise we strive to do things better, faster and smarter. Those companies that do things better, faster and smarter should have a competitive advantage over those that don't. The new age of digital infrastructure provides companies



and processes with a more effective, less expensive, more secure way to operate, process, transfer and store information. The companies that provide this digital infrastructure are poised to benefit immensely as businesses increasingly rely on technology for their process and data needs.

Vince Rupp: How is digital infrastructure the same as say, traditional infrastructure, and can you tell us how is it different?

Matt Weglarz: Sure. Like the infrastructure that Tortoise has traditionally invested in, digital infrastructure must be built out, maintained and enhanced to accommodate more users or maintain service to existing users. Companies that provide the infrastructure that underlies all of that should benefit as they build out opportunistically and also to meet market demands.

However, maintaining and developing digital infrastructure is less capital intensive than traditional infrastructure. Software can be updated multiple times with relative ease, and replacing a server is not nearly as difficult as replacing a water pipeline. However, digital infrastructure is also not nearly as long-lived as traditional infrastructure, which is to be expected with much less upfront capital investment required.

Vince Rupp: So, what are the growth prospects for companies in this space?

Matt Weglarz: Well that was the really attractive part for us when we began to explore different types of more modern infrastructure. Revenues in the global payments market are expected to grow at a CAGR of 7% for the foreseeable future. And that is all payments, regardless of type, growing almost double global GDP. Now on top of that the continued aggressive shift towards using electronic and mobile instead of traditional cash payments, global electronic payments are expected to grow at a CAGR of 15% through 2022, and mobile payments are expected to grow even faster at a CAGR of 19% over that same period.

Now that's fast, but the cloud industry is growing even faster. Revenues for public Cloud are expected to grow at a 22% CAGR through from 2017-2022, with private Cloud expected to grow at a CAGR of 45% over that same period. Demand for cheaper, more efficient cloud-based computing power is expected to continue to be robust.

One interesting part of the story for these investments, is how the cash flows for both of these spaces are fee-based in nature. Components of the electronic transactions value chain all take a portion of each transactions net to compensate for whatever role they played in seeing that transaction to settlement. Most of the companies in the Tortoise Cloud Infrastructure

IndexSM earn their revenues from subscription-based or similar agreements, with very low attrition rates for the cloud service providers, and that number going lower as cloud services get more comprehensive and the time, difficulty and cost involved in switching gets increasingly cumbersome.

Vince Rupp: Can you talk a little about some key trends driving digital infrastructure?

Matt Weglarz: Well, just like with traditional infrastructure, digital infrastructure is an essential asset that has a large impact on our daily lives. First, let's talk about electronic payments. How many of you Venmo or PayPal your friends or family when you owe them money? Have you paid a small vendor or retailer such as a cab driver using square? Is it painful to watch someone in front of you at the grocery store write a check instead of paying with credit? Our Tortoise Global Digital

Payments Infrastructure IndexSM is intended to represent the companies capitalizing on electronic payment trends that support being able to pay for anything, at any time, instantly.

Seeing the impact of cloud infrastructure is less obvious, but just as noticeable when you look for it. Just think about when you go to work in the morning the Salesforce app you might use is hosted in the public cloud. When you sign into your computer each morning, you might do so over VMware in a private cloud environment. Behind the scenes, MobileIron or some security technology protects the connection and the data that is transmitted over remote devices, coordinating the private cloud's interaction with public domains.

Talking about growth expectations for an industry is one thing, and while the expected growth is certainly attractive, the ability for people to relate to digital infrastructure and see how it affects their everyday lives, is, for us, a very powerful story.



Vince Rupp: Thanks for this introduction to the Tortoise digital infrastructure indices, Matt. And thank you for joining us for our first digital infrastructure podcast. Stay tuned for future podcasts on this exciting new initiative at Tortoise.

Thank you for joining us. And stay tuned for our next cast. Have topics you want covered or other feedback to share? Write us at info@tortoiseadvisors.com.

The Tortoise Global Cloud Infrastructure IndexSM represents the existing global cloud infrastructure landscape. It is a proprietary, rules-based, modified market capitalization-weighted, float-adjusted index comprised of companies that are materially engaged in the cloud infrastructure industry, including cloud systems/ services, cloud management software, cloud hosting, cloud security, cloud hardware and cloud data centers.

The Tortoise Global Cloud Infrastructure IndexSM (the "Index") is the exclusive property of Tortoise Index Solutions, LLC.

Cloud = Tortoise Global Cloud Infrastructure Total Return IndexSM, a proprietary, rules-based, modified capitalizationweighted, float-adjusted index comprised of companies that are materially engaged in the cloud infrastructure industry, including cloud services, cloud management software, cloud hosting, cloud security and cloud hardware. Technology = The NASDAQ Composite Index, a broad-based capitalization-weighted index of stocks in all three NASDAQ tiers: Global Select, Global Market and Capital Market. Equities = MSCI World Index, a broad global equity index that represents large and midcap equity performance across 23 developed markets countries. It covers approximately 85% of the free float-adjusted market capitalization in each country and does not offer exposure to emerging markets. Sharpe ratio is the excess return per unit of risk in an index (total return minus risk free rate divided by standard deviation). Risk free rate is the interest an investor would expect from a risk-free investment and is based on the BofA Merrill Lynch 3-Month Treasury Bill Index, an unmanaged index that measures returns of three-month treasury bills. Standard deviation is a statistical measure of the historical volatility of the index, usually computed using monthly returns. Sortino ratio is calculated as the measure of total return per unit of downside risk in an index. Downside risk or deviation reflects the square root of sum of squared deviations of monthly total returns below 0% divided by total number of months, on an annualized basis.

The characteristics provided for the index are illustrative of the characteristics of an asset class and are not indicative of the performance of any investment product. The historical data of the index prior to its inception date was calculated on the same basis on which the index is currently calculated. Past characteristics are no guarantee of future results. It is not possible to invest directly in an index.

The Tortoise Global Digital Payments Infrastructure IndexSM (the "Index") is the exclusive property of Tortoise Index Solutions, LLC. Payments = Tortoise Global Digital Payments Infrastructure Total Return IndexSM, a proprietary, rulesbased, modified capitalization-weighted, float-adjusted index comprised of companies that are materially engaged in electronic transactions, from merchant processing and settlement, real time record keeping, settlement networks, and Fintech products/services that facilitate the ease, efficiency, and/or speed of digital payments. Technology = The NASDAQ Composite Index, a broad-based capitalization-weighted index of stocks in all three NASDAQ tiers: Global Select, Global Market and Capital Market. Equities = MSCI World Index, a broad global equity index that represents large and mid-cap equity performance across 23 developed markets countries. It covers approximately 85% of the free floatadjusted market capitalization in each country and does not offer exposure to emerging markets. Sharpe ratio is the excess return per unit of risk in an index (total return minus risk free rate divided by standard deviation). Risk free rate is the interest an investor would expect from a risk-free investment and is based on the BofA Merrill Lynch 3-Month Treasury Bill Index, an unmanaged index that measures returns of three-month treasury bills. Standard deviation is a statistical measure of the historical volatility of the index, usually computed using monthly returns. Sortino ratio is calculated as the measure of total return per unit of downside risk in an index. Downside risk or deviation reflects the square root of sum of squared deviations of monthly total returns below 0% divided by total number of months, on an annualized basis.

Index return data: Bloomberg.

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