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To our valued stakeholders:

In recent months, you may have noticed the flurry of activity at Digitech Systems, especially as it relates to ImageSilo®. The beta web interface has been getting rave reviews from those using it, especially those on mobile devices, and the upcoming Windows client is looking marvelous. Additionally, we are about to cross the threshold to a series of significant changes to the infrastructure through which ImageSilo is delivered. I wanted to take a moment and share some thoughts related to how Digitech Systems is evolving to deliver the next generation of intelligent content management.

### A revolution in the consumption of technology...

Since 1999, ImageSilo has remained the industry leading on-demand ECM system. In fact, over the past 18 years, our customers have enjoyed 99.9973% uptime – an unheard of standard for such a lengthy period of time. I attribute these results to four things: (1) we are incredibly blessed, (2) we have an incredibly talented and dedicated staff of engineers and administrators, (3) ImageSilo's software was designed from the ground up to run as a multitenant service, and (4) we made it our business to become subject matter experts in every aspect of the operations of our environment. Every one of our engineers is expected to be fully trained, qualified, and highly proficient in every aspect of our offering, whether that be networking, databases, Windows, Linux/Unix, load-balancers, storage arrays, fibre channel, etc. We went to great pains to architect systems, power, network, and databases that are highly available, fault-tolerant, and exceedingly performant to scale. I'd say this level of expertise is what made Digitech Systems, and hence ImageSilo, unique in the industry. We've witnessed a sea change as software vendors moved to the "cloud" (or whatever current terminology of the day). Many, if not most, focused on how they could convert their current enterprise offering into a cloud offering – ignoring the need to be masters of all aspects of operations of such a service and the need to have a system specifically designed to be multi-tenant, highly scalable and always available. Needless to say, we and our partners and customers have been extremely blessed.

We've had a front seat in the revolution in how enterprises consume their technology. As one might guess, conversations with customers and prospective customers back in 1999 and into the 2000s were considerably different than they are today as organizations with vision adopted ImageSilo and similar online services. Recall, this was before Salesforce was offering their services, when Amazon was only selling books online, and Google had just emerged.

Then, in 2004, Amazon did something truly unique – they began offering their first Amazon Web Service. Their aim was to offer computing services to organizations on which to run their own applications. The concept of using shared infrastructure wasn't new (in fact it had been around since the days of mainframes and mini's) – but how they went about it was truly groundbreaking. Today, Amazon Web Services (AWS) is considered the foremost provider of on-demand computing platforms. Although their primary competitors are Microsoft Azure and Google Cloud, AWS is far and away the market leader.



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## New opportunities...

I've personally been watching AWS for over a decade, much of that time waiting for their technology to mature...and waiting for the on-demand market in general to mature.

Approximately four years ago, it finally became apparent that AWS had a widely accepted, highly scalable and extremely fault-tolerant offering that could someday meet the needs of Digitech Systems and our customers. Then we started diving in deep. We wanted to identify the wide array of services that may have some impact on our business. We needed to pinpoint the potential pitfalls while identifying the details of the opportunities to provide the next generation computing platform for ImageSilo. Finally, over three years ago, Digitech's executive team made a decision: we were going to throw significant time, energy, and resources into proving or disproving the technology for use in ImageSilo. The conclusion we came to was that our potential use of AWS provided numerous benefits, including:

- Highly durable and available storage – much more than anything we could offer. AWS's storage (known as S3) is designed to provide 99.999999999% (that's eleven 9's) durability over a given year. That means if you stored 10,000,000 objects, you could expect to lose a single object every 10,000 years. This is accomplished by storing multiple copies of objects in multiple data centers simultaneously. From an availability standpoint, the failure of entire data centers (or "Availability Zones") would be undetectable by customers. Furthermore, AWS uses the concepts of "regions". A region is a geographic area (Northern Virginia, Northern California, Ohio, Oregon, Canada, Ireland, Frankfurt, London, Tokyo, Seoul, Singapore, Sydney, Mumbai, Sao Paulo, and Beijing), each of which contains multiple Availability Zones. Whereas each region is completely independent, Availability Zones within a region are connected through high-speed, low-latency network connections. Regions are also interconnected via high-speed network connections, but their latency (which is governed by the speed of light over a given distance) is higher than those within a region. To further enhance availability, we could opt to have data automatically duplicated between regions. This would provide the ability to continue operations in the event of a total failure of S3 storage in a region (as some may recall this rarity occurred in February 2017).
- Unlimited storage scalability. Use of S3 would offer the ability to expand to a global scale without the need to deal with the limitations of CIFS and NFS storage filers.
- Ability to dynamically scale web, application, and automation servers as load increased or decreased. In other words, adding additional customers needn't require manually adding additional servers to provide for the load they would generate. As we detect any performance degradation due to increased load, we could automatically launch additional systems to carry that load. Furthermore, when the load decreased, we could automatically discard those systems.
- SQL Server management and expandability. Our use of Microsoft SQL Server on AWS would allow us to more quickly and efficiently scale to handle additional system load as well as additional customers.



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- Ability to upgrade systems transparently. Rather than having to take servers out of production to upgrade them, we can simply create new ones (automatically) running newer versions of ImageSilo, deploy them, and then discard the old versions at will.
- Access to unlimited network bandwidth. AWS operates one of the most expansive, highest- capacity global networks in the world. Use of this network not only gives us extremely high-throughput access to our customers, but also between regions to allow timely replication of data in geographically diverse locations.
- Ability to provide ImageSilo locally in foreign markets to meet regulatory requirements and provide physical proximity to improve performance for those customers.
- Ability to maintain completely redundant ImageSilo offerings in multiple regions. By taking advantage of the wide array of offerings (many of which are outlined above), we can provide a new level in high-availability as we can fail over to different geographically diverse regions in the event of a catastrophe that affects a particular location.

Many people have a misconception about what AWS is – often thinking that it’s a platform for running virtualized servers. It certainly does that, but it is only a miniscule segment of the expansive technology stack available. I’d suggest taking a look at their site (<https://aws.amazon.com/products/>). As you’ll see, they offer a dizzying array of products, each with a well-designed API that allows independent software developers such as Digitech Systems to integrate them to provide next-generation computing platforms.

#### The investment made...

After much investigation, consideration, and deliberation, we decided to begin the long-term process of moving ImageSilo to AWS. Before we could start, we had to make some significant investments – not just in people and time to gain operational, architectural, and design expertise, but also in software development. In addition to more than three years spent developing our engineering expertise, our software developers spent more than two years to integrate support for object-based storage systems into ImageSilo in order to migrate away from file-based storage. Earlier this year, we released ImageSilo R82 and subsequently R83 which included full support to store documents, e-forms, web cache, system data, and report archives in S3, AWS’ object-based storage.

#### Why object-based storage?

File-based storage systems, such as network attached storage using CIFS or NFS, store files in a directory structure familiar to most computer users – files get placed into directories and are accessed by traversing a directory structure. These file-based storage systems have significant limitations in terms of scalability. As the file system is expected to scale to hundreds of millions (or billions) of files, the performance of those systems lags significantly; sometimes failures occur. Object-based storage systems store and access files in a completely different manner. As data (known as an object) is written to such a system, an object key is generated (or specified). This object key is much like a pointer to a file. There is no need to traverse a directory structure to locate the object – you simply pass the object key to the storage system, and it returns the original data. Many object-based storage systems (such as AWS S3) are limitless in their



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capacity. In fact, back in April 2013, S3 surpassed two trillion (2,000,000,000,000) objects stored.

### Will my information be secure?

Our engineering philosophy at Digitech Systems is data integrity, then data security, then data availability – in that order. Data integrity is first and foremost, as there is no point in securing or providing data if it is lost or altered. Data security comes before availability as we believe that securing your data is paramount to making it available; in other words, we don't sacrifice the security of your data in exchange for making sure it's available. Our ImageSilo engineering and administration teams have a particularly intense security posture – just ask our vendors. Most of them have never encountered a company with such a monomaniacal focus on security, even compared to their banking, government, and healthcare clients. As you might imagine, we felt it necessary to fully vet Amazon's security against our own rigorous standard. Not only were we pleasantly surprised, we found that it was fully assessed by third party auditors. You can check out <https://aws.amazon.com/compliance/services-in-scope/> and see the AWS products to be used by ImageSilo are compliant with SOC1/2/3, PCI, ISO 9001/27001/27017/27018, FedRAMP Moderate and High, DoD CC SRG IL2/IL4, HIPAA BAA, IRAP, MTCS, and C5.

In addition to AWS' security, our team will be utilizing best practices to ensure your information remains safe. ImageSilo's use of S3 for data storage utilizes AES-256 to automatically encrypt all data at rest *BEFORE* it is written to S3. If a customer doesn't already have an encryption key configured in ImageSilo for storing data, a random key will automatically be generated and used to ensure that data stored to S3 is always encrypted and secured. All network communications will be encrypted or performed over Digitech's private data lines. Any external access to the AWS-hosted components of ImageSilo will use industry standard SSL encryption to ensure security of data in transit. The information stored in SQL Server databases will be encrypted using AES-256. Needless to say, ImageSilo will continue our track record in setting the gold standard for security as we move to AWS.

### What are the performance benefits?

In addition to the benefits we will see from our ability to scale as load increases and the benefits of having unlimited bandwidth, we expect to see significantly improved access times to documents. The latest ImageSilo document viewing technology (introduced in R82) eliminated the need for web servers to cache documents before the viewer could access them. Although that was a healthy improvement, once documents are stored in S3, the viewer will retrieve the documents directly from their encrypted S3 storage, eliminating the additional steps and network hops necessary to retrieve them from the existing file-based storage systems.

### What are the rollout plans for S3?

ImageSilo engineers are currently hard at work certifying our new redundant, high-capacity data lines which connect our ImageSilo data centers directly to AWS (bypassing the internet). Once those are verified to be fully operational and secured, we will begin transitioning report archives and system data (i.e. e-form definitions) from our data centers to S3. We expect that process to take a few days and to be completely transparent to our users. Afterwards, we will begin transferring customer data groups from our file-based storage arrays to S3. Once again, this process of transitioning data from one storage system to S3 is expected to be completely



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transparent to our users. We have extensive experience in transparently transferring data between storage arrays in the past with our built-in features that allows users to continue to retrieve data from the original storage until it is fully synchronized to S3. Transferring the vast quantity of data stored in ImageSilo will take many weeks, even over high-capacity data lines.

**After the S3 transition, what comes next?**

In the coming months, we will begin to deploy automation servers in AWS. This will allow us to offer numerous benefits, including the ability to significantly scale up our backend automated processes such as data imports and automated workflow processing. We don't expect any customer impact related to deploying those servers as they will simply be adding capacity. Additionally, we will install new arrays of web servers in conjunction with new SQL server database clusters. Transitioning data to new SQL database clusters is a task our engineering team has performed numerous times and will involve scheduled maintenance windows to allow individual databases to be transferred and/or synchronized to the new clusters. We will be sure to communicate these maintenance windows to you as that information becomes available. Eventually, after transitioning certain other ancillary servers and services (such as FTP/FTPS) to AWS, our entire ImageSilo infrastructure will operate within AWS. As the cloud revolution continues, we will continue to keep our ear to the ground to stay ahead of the technology changes, especially as it relates to the infrastructure providers such as AWS.

Looking back over the past 20 years at Digitech Systems, I am humbled and awed by the opportunity afforded to us to serve you. Looking forward, I am extremely excited about ImageSilo and future services on which we are already hard at work. The rapid advancement of technology, coupled with the unique, extensive experience we have gained over the last 18 years with ImageSilo, puts us in a unique position to develop our next generation platform, which will give users the ability to effortlessly manage *all* of their content, and more importantly, intelligently drive the information in that content to its logical conclusion.

God willing, we will do just that. Stay tuned!

We are incredibly grateful for your business. We take the responsibility and trust which you have placed in us very seriously, and we will continue to work diligently to continue to earn that trust every day.

God bless each of you and your families.

Most Sincerely,

*Scott O. Matthews*

Scott O. Matthews  
Chairman, Chief Technology Officer  
Digitech Systems, LLC