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The biggest IT question facing most small business owners today is whether to migrate data and software to the cloud. From a strict IT perspective, many solid reasons favor migrating to the cloud. But similarly, good reasons also support remaining on the ground with your on-premise office server. This research paper evaluates the cloud question from the practical perspective of a small to midsize door, frame, and hardware distributor. The research suggests you should consider migrating to a cloud environment.

But, your evaluation must also include what best fits your staff, your customers, and of course your budget. Given reasonable caveats, Software for Hardware believes that cloud migration makes sense from a staff, cost, and client perspective for most door, frame, and hardware distributors. Shifting the IT environment from a local in-office server to a cloud-hosted environment provides door distributors dramatic benefits in terms of staff access, system reliability, data security, and long-term operating cost.





Cloud, Cloud, Cloud. You hear "cloud" everywhere. People stream music and movies from the cloud as well as store

the Cloud

their photos and videos in the cloud. Businesses house their data and access software in the cloud.

But what does cloud really mean? According to Wikipedia, "Cloud computing is the on-demand availability of computer system resources, data storage and computing power without direct active management by the user." Think of the cloud as a huge hard disk not in your computer, but rather located on the internet at a cloud server facility.





Cloud-Based Server

A dedicated server is a specific physical piece of hardware that serves only your company.

A **cloud-based server** is a server capability that lives off-premises in a data center.



What is Cloud Computing?

Access to data storage, software and servers through any internet-connected device.





After exhaustive research of different cloud providers, Software for Hardware decided to build our cloud offering within Amazon AWS. Given that software such as Software for Hardware is a "mission critical" application for a door, frame, and hardware distributor, AWS became the clear choice.

According to Canalys, the largest providers of cloud services are Amazon AWS, Microsoft Azure, and Google Cloud. These three companies host nearly 60% of the world's cloud traffic. Interestingly, Amazon reported in their 2020 Earnings Statement that AWS generated \$45.3B of Amazon's total revenue which created 63% of Amazon's total profit. Consumers know Amazon as the dominant online retailer, but domination of the world's cloud technology market truly drives Amazon's company profit.

In 2020, cloud services grew 33% to \$142

billion annually. Gartner Research projects approximately 20% annual growth over the next few years. These numbers tell a story of a business economy now embracing a mass migration to the cloud.

However, the majority of door, frame, and hardware distributors (DFH) remain tied to their local in-house server. Due to cost concerns, DFH companies historically lag behind most industries in adopting new technology. For example, Software for Hardware introduced DFH project management automation software nearly 25 years ago, yet experts estimate that 30% of DFH companies continue operating without automation software and manually quote, detail, and manage jobs. DFH companies resist new technology largely from fear of increased costss but the right cloud partner can help the typical small to midsize DFH business actually reduce IT operating costs.





Security

Many DFH companies in 2020 suffered cyber-attacks and ransomware attacks due to out of date or no installed security software. Michael Schecter, IT Manager, Software for Hardware, commented, "I saw far too many catastrophic IT issues in 2020 due to both hardware failures and security failures." Schecter continues, "Small businesses often believe that cybercriminals only attack big companies

with deep pockets. Actually, it's the reverse. Cyber criminals target small companies because they make easy targets with little or no real security systems in place. In 2020 I personally helped two DFH companies recover from very expensive and destructive ransomware attacks." As a result of the ransomware risk, Software for Hardware offers clients a free 1-hour IT

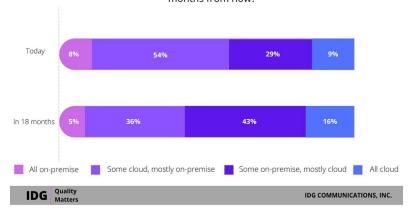
consulting session to review their back-up and security protocols.

"Small companies have become prime targets."

—Michael Schecter, IT Manager at Software for Hardware

Shifts To The Cloud Continue

- 1. Which statement best describes your organization's total IT environment today?
- 2. Which statement best describes your organization's total IT environment 18 months from now?







Cloud environments provide system redundancy, consistent backup procedures, and state-of-the-art cyber security technology. Maintaining your data and software in the cloud dramatically reduces the risk of system downtime or a security breach. A study commissioned by Salesforce reported that **94% of businesses** that migrated to the cloud reported significant improvement in data and systems security.

Ransomware remains the most common and destructive cyber-attack today, according to cyber research firm BlackFog. In 2020, 57% of all ransomware attacks worldwide targeted small businesses. According to Informa Tech, every 11 seconds a U.S. business fell victim to cyber attacks and 43% paid \$10K-\$50K. In fact, 13% paid over \$100K. A survey conducted upon senior IT executives found 46% of all small businesses suffered a ransomware attack in 2020 and 75% of those paid ransom. At the current rate, the vast majority of small businesses will soon suffer a ransomware attack. In April 2020, Infrascale reported 21% of small to midsize businesses have no "data protection" plan or processes.

71% of ransomware attacks targeted small businesses in 2019. The average cost to the company is approximately \$130,000. Only a minority of that amount

was ransom. The remaining amount was lost business, cyber security, legal costs, consultant fees, etc.

Ransomware is typically activated when someone clicks a link in a phishing email or downloads an email attachment. Once activated, it can immediately take over the infected computer and network while encrypting all data and files.

Even newer systems are vulnerable if not updated for known security issues. As an example, the WannaCry ransomware attack in 2017 hit thousands of users simply because they missed a Windows update.

Two Types of Ransomware

Locker ransomware — locks users out of their devices. This simple form of ransomware can sometimes be restored by cybersecurity experts.

Crypto ransomware — encrypts data.

Sophisticated and requires a unique decryption key to restore access and data. When ransomware launches, a message from the hackers usually appears with the ransom demand to restore access to your files and data. Often the message contains a threat to publish sensitive data or share customer information with your competitors. Ransom demands usually request payment in bitcoin or another cryptocurrency.





Your PC ran into a problem and needs to restart. We're just collecting some error info, and then we'll restart for you.

20% complete



"A new ransomware attack is detected every 11 seconds."

—David Balban, eWeek

How to Recover from an Attack

Ransomware attacks can bankrupt a small business. The cost typically far exceeds just the ransom demand. Downtime during the attack can result in lost profits, reputation damage, and extensive technical support and legal fees. Many companies, especially those maintaining on-premise data servers, elect to purchase cyber liability insurance. Cyber insurance provides coverage for:

- Cyber extortion demands
- Costs of consultants (technical & legal)
- Data breach costs
- Investigation into a cyber attack

This coverage can also pay for business interruption expenses, including the profits your company loses dealing with the attack. Without a doubt, cybercriminals are increasingly targeting small businesses. The best protection lies in beefing up your IT security, and educating your employees.

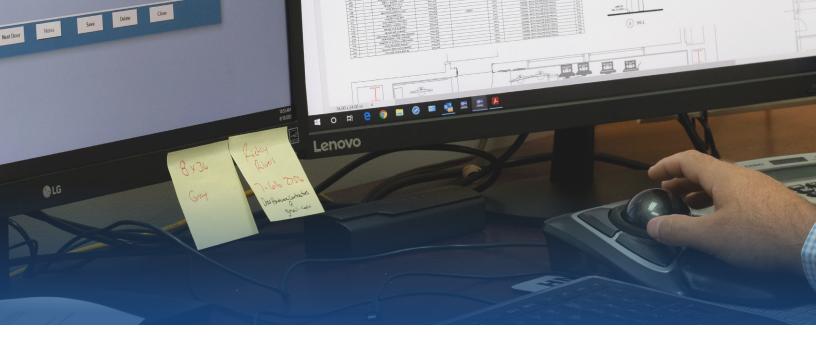
Preventive Measures

The industry think tank Financial Services Information Sharing and Analysis Center recommends these practices to help prevent ransomware attacks:

- Educate employees to maintain awareness and report any issues.
- Provide examples and repercussions of successful ransomware exploits.
- Perform regular phishing tests to assess your employees' readiness.
- Include ransomware protocols in your incident response and continuity plan
- Include steps to isolate or power off affected devices that have not been completely corrupted.

In addition to cyber threats, many small businesses migrate to the cloud simply to enhance their operations and become more efficient and competitive. The cloud creates numerous benefits for a small business. This whitepaper focuses on the six largest benefits for small to mid-size DFH distributors.





2 Access

Nearly every business today understands the need to provide remote, work-at-home access for employees. For businesses relying upon on-premise servers, providing remote access became an entire IT project. However, in a cloud environment, every employee possesses immediate 24/7 access via standard internet access, whether working from the office, home, or while traveling. Ease of access for your staff directly improves the productivity and agility of your business.

"Cloud computing is simple and cost-effective."

—Marius Mihalec, Forbes Magazine

3 Cost

Interestingly, small and mid-size door, frame, and hardware companies report cost as the main reason they avoid technology upgrades. However, migrating to the cloud actually reduces cost over time.

According to Inbound Logistics, businesses experience "a 16% average reduction in operational costs, a 15% reduction in IT spending, and a nearly 17% reduction in average IT maintenance costs" after migrating to the cloud. These cost savings are achieved by eliminating the purchase and upgrade of server hardware and security software. Plus savings from reduced downtime and higher staff productivity. Plus, for small businesses that outsource IT support, the hourly IT costs also decrease as systems support moves to the cloud provider. An in-office server could suffer a surprise hardware failure which can involve many thousands of dollars.

These surprise expenses do not happen in a cloud environment. Cloud provides businesses a stable and predictable monthly expense schedule.





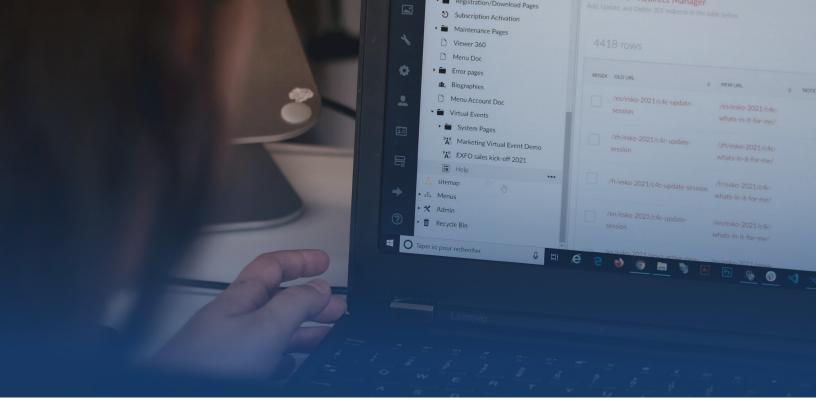
4 Space

On-premise servers provide users workspace only to the size of the server. Today, typical work files involve images, video, audio, and other content requiring huge amounts of storage. As a result, companies using an on-premise office server regularly incur hardware upgrade costs to keep pace with space needs. The cloud enables your business to store large amounts of data and increase storage requirements immediately and at any time. No need to purchase hardware, call an IT tech, or suffer downtime during the upgrade. This immediate ability to re-size your server space capacity increases the productivity and agility of your business.

5 Innovation

Advancement in technology creates opportunities for innovation. Innovation in work processes and innovation in customer services. The cloud provides immediate access to information from suppliers, vendors, and customers. The cloud enables forward thinking companies to leverage new technology devices, such as mobile devices, to create new ways to communicate and interact with customers. Improved methods to monitor jobs, order products, or communicate changes become far easier when companies store and provide access to data via the cloud.

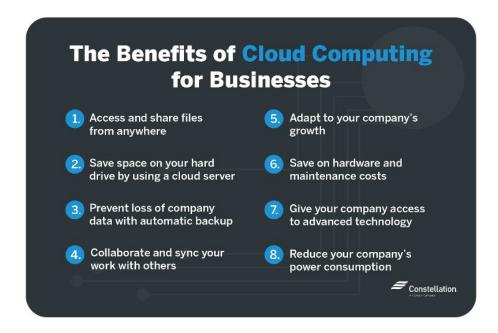




5 Enhance Productivity

As mentioned previously, ease of access and space flexibility both lead to increased productivity. *Artificial Intelligence and Neuroscience* reported a 2020 study that the cloud helps small businesses assist customers faster. Easy data access,

from any location, enables employees to work faster and more productively to support customer requests. Ultimately, productivity relates to efficient customer service.





Risks of Migrating to the Cloud 1 Control



If you maintain tight governance over your IT environment and prefer to know exactly the tools, software, and procedures used to secure your infrastructure, then cloud may not be for you. In a cloud infrastructure, you transfer control of

your security, backup procedures, and software updates to your cloud provider. Most businesses gladly hand over these responsibilities, but relying on another party may not be a comfortable situation for someone who demands total control.

Access

The entire concept of cloud depends on maintaining reliable and speedy internet access. A slow or unreliable internet connection cripples the cloud model, reduces productivity and increases staff frustration. Hence, before shifting to cloud, check with your current internet provider to obtain the best quality connection service possible. Upgrading your internet provider service involves low cost with high payback.

"The advantages of cloud computing outweigh any potential downsides."

—Shawn Freeman, Founder of TWT IT Group

Cost

Previously we stated cost as a benefit, but now we list cost as a risk. What gives? Many studies confirm that migrating to the cloud creates short-term cost reduction. But, critics point to the cellular telecommunications industry as an example of an initially low-cost service becom-

ing more expensive over time. However, according to Statistica Research, while cell service prices escalated from 1997 through 2009, the introduction of new low-cost competitors stabilized and lowered average prices through 2020.





Migrating to the cloud involves making a business decision. Your ability to make effective and timely business decisions will drive increased productivity and profitability for your company. However, most business managers struggle with making timely decisions. Corporate Wellness Magazine breaks down the decision-making process into four steps.

1. Identify your problem and goal

When deciding whether to migrate to the cloud, first clearly document the problem you are solving. Maybe it's IT headaches, or staff remote access, or cost reduction. Clearly state the problem and then identify a realistic goal. Focusing on the problem and the target goal makes decision making process much clearer.

2. Evaluate the alternatives

Corporate Wellness Magazine emphasizes the importance of using a data-driven decision-making approach. Analyze the outcome of implementing cloud. For example, if IT headaches and downtime are your problem, maybe an alternative solution is hiring a full-time IT professional

to your staff. Evaluate if that alternative makes sense. Also, place this technology decision in context to other IT decisions you've made in the past.

3. Consider consequences

Consider all the negative outcomes that could occur. In some cases, you may not know of a potential threat or hardship down the road but considering the options will only make you more prepared. Do not forget to consider the consequence of no decision. If you do nothing, does the problem eventually go away or just get worse?

4. Make and Monitor the decision

In order to make the decision a success, it is essential to monitor the impact of the decision and monitor the decision based on what you documented as the problem and goal. You can facilitate growth within your business when you are able to make big decisions and analyze what works best and what can be adjusted.





Based on the research presented, data suggests that cloud offers numerous benefits for small and mid-size door, frame, and hardware distributors. While DFH companies often lag in adopting new technology, the cloud presents six clear and immediate benefits in: security, access, space, innovation, productivity and cost.

In terms of security, every business today, unfortunately, must plan and protect from ransomware attack. Cyber attacks and breaches of security are becoming more common within all types of companies and small businesses are becoming the most frequent target. On-premise servers may no longer be the most viable option for your organization to house and protect company and customer data. Beyond security, industry experts recommend that implementing a cloud IT environment for your small- to mid-sized business can enhance growth and productivity.

Regardless of the many benefits, the most challenging aspect of migrating to the cloud may be simply the actual decision process. As most business leaders know, decision-making often involves unknowns and delay. This paper presents a 4-step process to help you make decisions in a methodical and timely manner to drive increased productivity and profitability in your business. Migrating your software and data to the cloud is one such decision.

Software for Hardware believes that cloud computing will help our customers work more safely, more productivity and at a lower cost. To that end, existing SFH customers can migrate to SFH Cloud™ seemlessly and at a surprisingly low monthly price.

To discuss if SFH Cloud[™] migration could benefit your business, contact us at info@softwareforhardware.com or 770-945-2463 x3.





Based in Atlanta, GA since 1996, Software for Hardware® provides productivity and project management software to commercial door, frame and hardware distributors across the U.S. and Canada. Nearly 1,000 door industry professionals rely on Software for Hardware® to improve their business productivity, client responsiveness, and bottom line profitability. As a result, Software for Hardware® has become the fastest growing software company in the industry and the software of choice for door distributors.

Distributors across North America contact Software for Hardware® seeking new technology and advice to help manage these transitions and position their business to operate more efficiently and profitably.

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