

# a GLOBAL focus

ADDRESSING GLOBAL BUSINESS NEEDS  
THROUGH MICROSOFT® EXCEL-BASED  
AUTOMATION TECHNOLOGY

## Microsoft® Excel Automation in “The Cloud”

*Learn how Excel-based automation in the Cloud can assist organizations to gain a technical edge*

Cloud computing has been receiving tremendous buzz lately, but what does it really mean for your organization? Are there security risks? Is it a positive change?

Cloud computing consists of hardware and software resources made available on the Internet by third-party services. These services typically provide access to advanced software applications and high-end networks of server computers. Discover the origins of Cloud computing and how companies from all markets can benefit from moving to the Cloud.

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## Part I - Observing current computer technologies through an automotive lens

Someone once, very profoundly said “We love our cars.” That same enduring love for a machine can be said today, we love our computers. One could now argue that our computers are more loved than our cars. So to gain insight into the acceptance and future of high tech computer technologies like Cloud computing, online storage, one can take a look at the history of our second love, the automobile.

In the early 1800s Tomas Davenport invented the first battery electric car. The idea of a gas station with tanker trucks and a country-crossing pipeline distribution network for gasoline had not been developed. However, there was a fuel available: electricity. Switzerland, lacking fossil fuels of its own, developed electricity for its railway network to reduce its dependence on foreign energy. Advancements and innovation rolled along in the 1800s from lead-acid batteries to Thomas Edison’s Electric Vehicle (EV) using nickel-alkaline batteries. EVs dominated showrooms and nine out of ten vehicles sold were electric.



Battery for the electric car (geek.com)

In the early 1900s a few key breakthroughs fueled the shift from popular EVs to the mighty gas burning engine. Most important was the manufacturing process and assembly line. Henry Ford began his motorized assembly line in 1910 producing gas-powered cars in volume, one every three minutes. The assembly line reduced the unit cost nearly by half.

Recently, pollution, climate change, foreign oil, and technology achievements have brought the benefits of EV technology back to the public. Toyota, in 1997, unveiled the first production hybrid gas-electric vehicle at the Tokyo Auto Show; it was introduced worldwide in 2001. By 2010 the Toyota Hybrid sold more than two million vehicles. This represented a significant shift and acceptance of the (new) technology. Nearly every major company produces one or more flagship hybrid vehicles.

What’s next in the automobiles future? The Plug-in Electric Vehicle. The next advancements in technology come in the area of efficient batteries, regenerative braking and lightweight engineering. They combine to solve many of the problems of the ICE. The REVA Electric Car Company, established in 1994 in Bangalore, India, launched its electric car, the REVAi, in 2001. In 2011 the Nissan Leaf, a 100% battery vehicle, began full-scale production and delivered the first commercially available EV vehicle in decades. If previous acceptance of this technology can gauge the future, the plug-in vehicle will become the next car we love.

Modern computer technology has taken a very similar path of advancement. One notable difference is the shorter timeline involved with the first programmable computer (the German Z1) invented in 1936. Technology and our inventions drove the advancement from vacuum tubes in the 1940s thru the transistors and the integrated circuit in the 1950s. The modern computer’s history hit its stride with large systems by players such as IBM with the System/360 Mainframe. In the late 1960s the first network surfaced with four host computers connected together forming the initial ARPANET (Internet’s birth) in 1969.

In 1972 IBM released the 3270, a terminal or display device, to communicate with IBM mainframes. This client-server approach allowed businesses to connect thousands of terminals to one central machine. All the application processing executed on the mainframe and the display device simply painted a picture. The client-server model

centralized applications and resources, eased scalability, enhanced data security, and reduced costs. Global Software Inc., founded in 1973, embraced this model with financial applications on IBM Mainframe systems still in use today.

Atari found its way into homes in 1972 and it was not until the late 1970s that Apple came on the market with the first consumer computers. In 1979 Apple computers reached over one million in sales. By the 1980s we saw the first Windows computers from Microsoft including WordPerfect, an application launching the word processor revolution.

Manufacturing, miniaturization and technological achievement propelled the mainframe world into the era of the personal computer. Power once reserved for a dedicated machine the size of an office became accessible on the desktop of business and personal users. The 1980s and 1990s saw personal computers dominate the landscape. The innovation continued with small size being king. Smart phones, introduced into the world by BellSouth in 1993, led the way propelling the desktop power into the size of your palm.

As the hardware advanced, the United States Department of Defense funded a new network and set of protocols at universities and labs to build a worldwide basis of communications. One major concept that grew from this funding was the TCP/IP model or Internet Protocol suite. This defined how computers and networks generate, transmit and receive messages and data. A lab called CERN, the European Organization for Nuclear Research, set the stage for the online world in 1991 with the launch of the first 'website' in its hypertext project. In the 1990s, the pace of the technology was amazing. New operating systems popped up monthly from Apple and Microsoft.

The late 1990s and early 2000s brought new problems such as viruses denial of service attacks, and offline ATMs. As popular as the internet has become it inherently attracts cyber criminals. Trojan and other malicious codes have

become complex and sophisticated creating a new avenue for identity and data theft, one of the most disruptive crimes in the modern computer age.

Despite the risks, Companies must take advantage of the internet and world-wide-web. 78% of Internet users conduct product research online according to the Pew Internet & American Life Project.<sup>1</sup> The rewards of internet marketing, collaboration and customer service can make businesses stand out and dominate their competition. According to HubSpot, 67% of B2B companies and 41% of B2C companies have acquired a customer through Facebook.<sup>2</sup>

## Part II- Cloud Computing

That brings us to the tools and software that run today's companies. From those first mainframes that housed a company's data and the green screens that accessed that data in text, to the powerful evolving desktop applications like Global Software, Inc.'s Microsoft® Excel-based Spreadsheet Server, companies need to continue to keep their technologies moving with the innovators. The evolution from large central computers to every desktop having a powerful workstation mirrors that of the early EVs moving to ICE automobiles. Technology, shrinking cost, assembly lines and innovation brought this early power to the palm of your hand.

What's next for business tools and software? The Cloud. AMI predicts that by 2014, small business spending on Cloud computing will reach nearly \$100 billion.<sup>3</sup> Cloud Computing is a Web-based service which hosts a variety of programs that a person would use on a daily basis. The "Cloud" is the remote desktop where the applications are stored. Instead of installing programs such as Microsoft Word, Excel, Outlook on a person's computer, the programs are run on a remote desktop owned by another company. If you've ever used a web-based email service such as Hotmail, Yahoo! Mail, or Gmail, you're already familiar with Cloud computing. The emails and storage are not on your computer but are on the email service provider's Cloud.

<sup>1</sup>Pew Research Center, 2010

<sup>2</sup>HubSpot, 2011

<sup>3</sup>AMI Partners, 2010

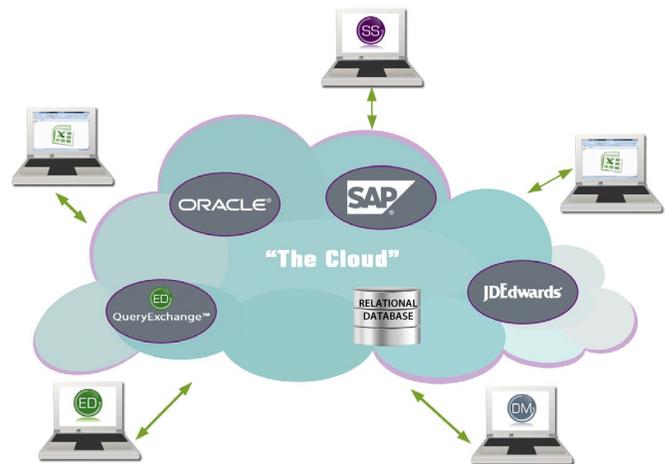
So why should businesses use Cloud computing? What can it provide for them? For one, It reduces cost. IBM claims Cloud cuts IT labor costs by up to 50% and improves capital utilization by 75%.<sup>4</sup> The CDP (Carbon Disclosure Project) found that by adopting Cloud computing, U.S. companies can achieve annual energy savings of \$12.3 billion by 2020.<sup>5</sup> It's no longer a necessity to own the latest and greatest piece of hardware. The user's computer only needs to run the software for the Cloud computing (such as a Web browser) and the Cloud network will provide all the programs you need.

The accessibility of Cloud computing is very useful as well. Companies who provide Cloud computing services have data centers running all the time in a protected, well-maintained environment. Users can access their applications and data anytime anywhere as long as there is an internet connection. There is not a reliance on hard drive on a computer in an office or on a corporation's internal network. If weather disturbances shut down an office, the data is safe and secure at the Cloud company's facility and still accessible in locations where there is internet connectivity. Companies need to be evaluating not if the Cloud is should be employed, but how can they leverage this technology?

Global Software, Inc. is committed to keeping pace with ever-changing technology. With Microsoft® Excel-based automation solutions like Spreadsheet Server and EDASH Powered by the Cloud-based QueryExchange™, users will never be out of touch with their data.



Global's analytic reporting solutions empower companies that have made the leap to hosted and virtual systems in the Cloud and those who are still considering the move. Global's flagship Spreadsheet Server platform allows companies to perform detailed financial reporting and analysis, dynamically in Excel, from international systems hosted in the Cloud or within a company's network.



Through rigorous testing in both Oracle® and SAP® technical laboratories, Global has achieved the status of certified SAP® Solution Partner and Oracle® Validated Integration Solution Partner status. With these distinctions, Global Software, Inc. has proven it is well-equipped to integrate the Microsoft® Excel platform with the Cloud technology.

The overwhelming benefits of Cloud-based systems, documents, email, chat, presentations, spreadsheets and a number of other aspects far outweigh the anxiety associated with web-based systems. In 2010, Elon University researchers conducted a survey of about 900 Internet and tech experts and social analysts; 71% of these experts predicted that by 2020 we will be working primarily through web-based applications.<sup>6</sup> Partnering with leaders like Global Software, Inc. that understand this historic evolution and have a strategic vision of the future will provide a technological edge for your organization.

<sup>4</sup>IBM, 2010

<sup>5</sup>Carbon Disclosure Project, 2011

<sup>6</sup>Elon University, 2010

## About the Author: Harry Powell

Harry Powell serves as Global Software, Inc.'s Vice President, Research & Development and is the author of Global's Microsoft Excel Automation Technology Road Map. Harry Powell also served as Captain in the United States Air Force and earned his BE in Computer Science from the US Air Force Academy, in Colorado Springs, Colorado.

## About Global Software, Inc.

Global Software, Inc., is the author of the Microsoft® Excel Automation Road Map Strategy and the No.1 provider of MS Excel-based automation solutions to the leading ERP platforms. Global's Spreadsheet Automation Suite is comprised of Spreadsheet Server, Executive DASH, Powered by the QueryExchange™ and Enterprise Budgeting. Global's products are used in 40 countries and support over 4,000 customers and 175,000+ users worldwide.

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## CONTACT US:

Leo Pyman | Senior Solutions Specialist T. +1. 800.861.7628, Ext 265 | Email: [Leo\\_Pyman@teamcain.com](mailto:Leo_Pyman@teamcain.com) | [teamcain.com](http://teamcain.com)  
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