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26 Billion Connected Devices By 2020 Will Dramatically Change Things



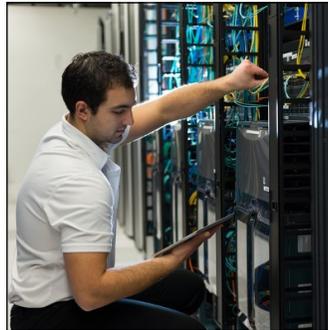
The incorporation of mobile devices into day-to-day life has changed the culture

significantly. In fact, when Apple introduced "iPhone" less than a decade ago, Steve Jobs famously said, "It's like your life in your pocket."



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4 Ways to Equip Your Business With the Technology it Needs



In a world where time is a luxury that the average business owner lacks, it can be burdensome to come up with new technology initiatives. The main issue that this presents is that it can be difficult to improve your operations if your technology's growth is stunted. Stagnate technology deployment can be detrimental to your business's success.

Therefore, it's recommended that you take a moment to seriously consider the last time you significantly improved an aspect of your company by integrating new technology. This could be as simple as purchasing new workstations or

server hardware, or upgrading to a new software that knocks the socks off of your legacy applications. If you can't remember the last time you made an improvement like this for your technology, we have news for you; it's probably holding your business back from accomplishing bigger and greater things.

Be Open to Change

You've heard the old adage, "Nothing risked, nothing gained." It applies to IT, too. If you're unwilling to make changes to your network, you won't be able to reap any of the many benefits that upgrading your infrastructure might yield.

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How You Approach Technology Affects Your Entire Budget



Chances are that when you begin going through your expense reports, one of the most glaring expenses your business has is payroll. It is possibly the most crucial cost you will be subject to. In fact, small businesses need to realize that by hiring employees, a large portion of your operational budget is out the window. To properly grow a business, you may need to take an alternative view to the traditional business model; including your technology management.

Annual Budgeting is a Must

When you set up a budget for your business, you first have to estimate all the expenses you absolutely have to take on in order to operate your business properly.

These include:

- Rent/Mortgage
- Insurance
- Procurement costs
- Payroll and requisite taxes
- Marketing and sales
- Utilities (electric, water, Internet, etc.)
- Estimated maintenance costs

About Celera Networks

We are a technology consulting firm specializing in technology implementation and management for businesses. We're known for providing big-business, Enterprise-Level IT services to small and medium-sized businesses.

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VoIP is the Ultimate Solution for Your Communication Woes



One major technology pain point businesses have revolves around communication. If your clients and prospects can't effectively reach your staff, customer support and productivity is weakened. Customers need more out of your phone system, and VoIP solutions offer more features with less expenses.

As defined by Gartner's IT glossary, Voice over Internet Protocol (VoIP) is:

[...] based on an IP standard that is capable of transporting voice and data packets over the same network. Unlike circuit-switched networks, IP doesn't require a dedicated connection for an entire call. Voice signals are converted to packets that are sent across the network and reassembled in the correct order when they reach their destination. VoIP services can be deployed over the Internet or private IP networks (LAN/WLAN).

Why should your business invest in a powerful VoIP solution? There are several

reasons, but the most prominent one is that it's a huge opportunity to save on your business's operation expenses. Here are three reasons why VoIP is a significant contender for your business's primary communications solution.

- **Cost Savings:** As already mentioned, VoIP has the ability to reduce communication costs every month in operational expenses. Legacy telephone companies are known for bundling together services that your business might not necessarily utilize, meaning that you're wasting money paying for services that aren't needed. A VoIP solution allows you to select from a variety of services, and you only pay for the ones that you use.
- **Simple to Set Up:** Because VoIP uses your Internet to transmit your voice, there are no extra wires that need to be added to your business's infrastructure. There's no overhaul of your entire cabling infrastructure to add new lines. Of course, this simplicity comes with a downside; your Internet connection must be stable and your bandwidth needs to

be able to handle the increased traffic.

- **Versatility:** If you're new to VoIP, you'll be glad to hear that it's super easy to use on several different types of devices. You can access your VoIP account through your browser, even if you're on the move. All you need is an IP-enabled phone. This helps you stay productive even when you're not in the office.

Celera Networks has all of the tools and skills available to equip your business with powerful VoIP solutions that let you stay connected with both your customers and your employees. Depending on your business's unique needs, you might need more than simple IP voice services. We can equip your business with video chat, instant messaging, and much more, as needed. Just give us a call at (617) 375-9100 to learn more.



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How You Approach Technology Affects Your Entire Budget

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- Legal & accounting fees
- Licenses & fees
- Office supplies
- Travel costs
- Interest & depreciation

This may be a daunting task, especially if you are new to business and new to a market. Once you ascertain what it costs to run your business annually, you have to be confident that you have the demand necessary to facilitate taking on these costs. By completing this task, you can attempt to play out different scenarios to get a better grasp on what is possible for your business over the next year. If you want to implement any major change to your business strategy, you'll

want to include it at this stage. Technology can be a significant expense, when you take into consideration that the costs are represented by several of the variables listed above. Not only do you need to procure the technology systems, but you need to improve the depreciated computing systems, to meet the specifications required to operate efficiently. You also have to consider the costs of IT support, since these systems are notoriously hard to predict. This often results in runaway technology costs that sap both the capital and operational budget.

At Celera Networks, we provide solutions that can assist your business to ward against those runaway technology

and support costs. Our comprehensive managed services offering delivers small and medium-sized businesses the opportunity to get all the technology support they need, for a consistent monthly flat-rate. With our remote monitoring and management solution, we can provide proactive maintenance to the machines attached to your network to ensure they remain reliable. We also make available help desk support and even on-site support for those times when remote support isn't an option. These managed IT services can be indispensable for a business searching for a way to navigate...



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4 Ways to Equip Your Business With the Technology it Needs

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Ask Your Team

One of the best ways you can find out how you can improve technological innovation in the workplace is by asking your team what they feel could be improved on. You might just find that they need better technology in order to perform their jobs to the best of their ability. If this is the case, they'll appreciate you asking how to make their jobs easier.

Where Do You Want to Be?

Consider where you want your business to be in the next five, ten, or even fifteen

years. What technology could you use to achieve this goal? Is your current technology holding you back? If you consider how your use of IT affects your business model, you might be able to justify taking the time to innovate and introduce new solutions for your business.

Outsource the Responsibility

If you and the rest of your staff simply don't have time to even consider IT innovation, you're in luck. Celera Networks's outsource IT management and consultation services are capable of taking on this responsibility so you don't have to. We can provide your business with pro-

fessional technology consultation that can help you make educated decisions about the future of your business.

Celera Networks knows exactly how the small and medium-sized business wants to operate its technology infrastructure. We can work with you to ensure that it's always operating at maximum capacity. This will help both you and your employees get more done throughout the workday. Give us a call at (617) 375-9100 to learn more.



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Two-Factor Authentication: An Easy Way to Make it Hard for Hackers



Have you heard the news? Passwords are old-school methods of authenticating account logins. If you want to

maximize the security of your business, using two-factor authentication is your best bet.

Why Passwords Aren't Good Enough

Passwords might have been valuable once upon a time, at the dawn of computing when hacking was in its infancy, but thanks to advanced hacking techniques, finding out a user's password has grown increasingly easy. In fact, all a hacker needs to do so is to trick a user into forking over sensitive information by posing as someone with authority through an email message or phone call (a tactic known as "phishing"). That's right; it's really that easy.

Granted, not all business professionals will fall for these simple tricks. Still, that doesn't mean that your employees, who aren't nearly as skeptical as you, won't unintentionally throw your business under the bus by handing out your credentials like it's candy on Halloween. As the owner of your business, it's your respon-

sibility to make sure that all of your infrastructure's bases are covered.

Introducing Two-Factor Authentication

In the most basic terms, two-factor authentication is a way to make it more difficult for hackers to access your accounts. This is typically done by using a separate security credential that only you have access to. This additional security measure is often enough to dissuade hackers from attempting to access your network (or bank account, email, Facebook, etc.). For them, it's simply a matter of risk and effort, versus the reward. If the return on investment isn't worth the effort, they'll probably leave you alone.

"There are plenty of two-factor authentication choices out there."

Some of the most popular methods of two-factor authentication include:

- **SMS Message:** A secondary code is sent to your smartphone. All you have to do is enter it when your account prompts you to and you'll have access to your account.

- **Email to a Secondary Address:** If you'd rather not receive your authentication code with your phone, you can simply check your secondary email address for it.
- **Voicemail:** You can even have your security code sent to your phone's voicemail, or in an automated voice call.
- **Two-Factor Authentication Apps:** Some accounts, like Google and Microsoft, allow for easy authentication simply by connecting your account to an application on your smartphone.

There are plenty of two-factor authentication choices out there. Celera Networks can help equip your business with the highest quality standard for your organization's security solutions. Our services range from providing preventative measures, remote monitoring, and even offering two-factor authentication. Reach out to us at (617) 375-9100 to find out more about how Celera Networks can assist your business.



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Nanotechnology Holds the Key to Doubling Computing Power



Early in July, IBM announced that they have developed an

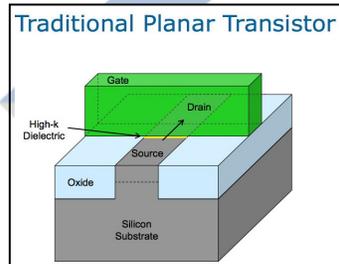
ultra-dense computer chip that has roughly four times the computing capacity of today's most powerful chips. These prototype chips, and ones they will develop to fuel computing into the next decade and beyond, are the result of the evolution of 21st century informatics.

Moore's Law is an observation made in a 1965 paper by the co-founder of Intel, Gordon Moore. Moore's Law suggests the number of transistors per square inch on integrated circuits will double every year since they were invented and would continue to do so. This theory has seen some difficulty entering its fifth decade. That's not to say that this "law," that has held up well for decades, has been proven false, but eventually, it will inevitably fail. In an interview for Time magazine, renowned theoretical physicist Michio Kaku said:

"...we will see the collapse of Moore's Law. In fact, already, we see a slowing down of Moore's Law. Computer power simply cannot maintain its rap-

id exponential rise using standard silicon technology. Intel Corporation has admitted this."

To counteract this prediction, the scientists at IBM, Intel, AMG and other research facilities, have begun using alternative materials to produce a density that allows for billions of transistors to be built into a single chip. This presents a challenge for these manufacturers to consistently produce chips that pushes computing capabilities forward. IBM's new chips are made from a silicon-germanium alloy that produces the necessary semiconducting material needed to successfully produce integrated circuits for transistors. Currently, the most advanced

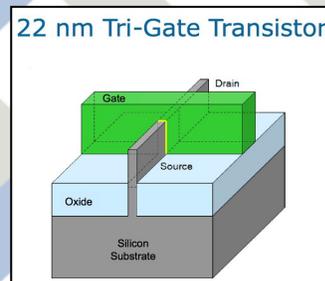


commercially available chip, Intel's i7-5960X processor has 2.6 billion transistors, and is built with a 22-nanometer process with their Tri-Gate 3D design. IBM's newest chips have 20 million transistors and are built with a 7-nanometer process. To put that in perspective,

the width of a human hair is between 80,000 and 100,000 nanometers. This comparison explains how these manufacturers are producing so many transistors in such a small space, as the average computer chip is the size of a postage stamp.

As computing systems have become more predominant in the 21st century, the progress of computing, and the sustained viability of Moore's Law, relies on these nano technicians' ability to find materials that will facilitate tens of billions of transistors. As of now, they have been able to do so, but eventually, we may need to look elsewhere to get more from our technology.

Do you think this technology



will be developed to sustain Moore's Law into the next decade, or will it fail?



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We partner with businesses in many different vertical markets throughout the New England area. The Celera team is focused on customer service and we strive to eliminate IT issues before they cause expensive downtime.

Our goal is for our clients to continue to focus on what's most important - their business.

Our dedicated staff is known for going the extra mile and doing what it takes for our clients to be successful with their technology investments.

Your firm's success is our success.

Tech Fun Fact

The UNIVAC 80/90 was a solid state computer. It could read 80 column and 90 column punch cards.

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