

# connect

a magazine by Spearline

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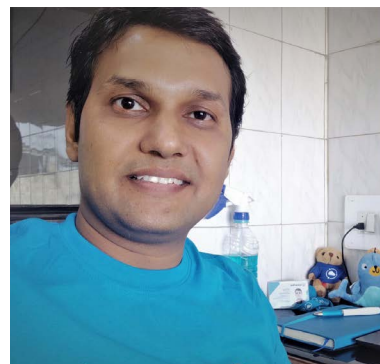
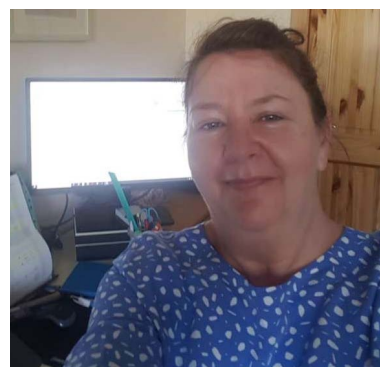


ADAPTING

# Making it work from home

We at Spearline want to thank each and every one of our fantastic team members for being so flexible to accommodate our needs during these unprecedented times. We hope that all of you were safe and comfortable over these past few months.

**Thank you.**



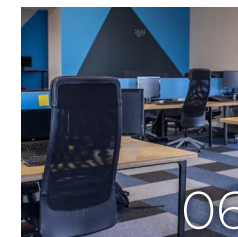
**Left to Right:** David Limrick Chief Financial Officer, Ravi Patel Software Engineer, Marena Murray HR Assistant, Mike Palmer Chief Marketing Officer, Lorraine McCarthy Chief People & Culture Officer, Colman McCaffrey Chief Operations Officer, Jigar Barot Backend Developer, Scott Kent Testing Support Specialist, Vlad Klein Senior Lead Architect, Brian Mullins Software Engineer, Daniel Popielnicki System Administrator

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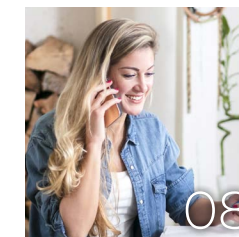
### FEATURES.



**What can Audio Quality Management do for business?**



**Challenges caused by latency for remote working networks.**

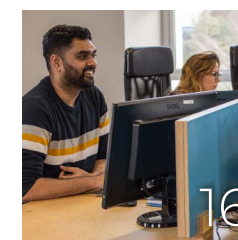


**What has remote working meant for Spearline?**

### ARTICLES.



**Return on investment for unified communications**



**Spearline news**

### INTERVIEWS.



**Patrick O'Connor**  
Quality Assurance Manager, Spearline



**John Joe Barry**  
Customer Engagement Manager, Spearline



**Ola Budak**  
Technical Solutions Architect, Spearline

**connect**  
by Spearline

Welcome to the latest issue of Connect, the Spearline magazine. Through it, we communicate and connect with all of Spearline's stakeholders, internally and externally.

We discuss a wide range of topics including adapting to home office spaces, interviews with team members, providing support to our local communities, as well as other company news and insights, this issue has it all. More of you will enjoy articles about how we monitor issues that impact the telecoms industry.

Every one of us has a shared interest in connecting with each other and our customers through global communications, no matter how far apart.

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## FOREWORD

# A word from Spearline CTO Matthew Lawlor



Matthew Lawlor  
CTO, SPEARLINE

Welcome to the latest edition of the Spearline magazine 'Connect', offering you insights into our company, as well as the latest news and updates in the telecommunications industry, with a specific focus on connectivity and audio quality measurement.

It has been a testing few months for the world due to the recent COVID-19 pandemic. Many companies have now adopted a remote working lifestyle in order to survive, and provide the necessary support to all our health heroes working to fight this virus. Spearline decided early on that it was in the best interest of our employees and their families for staff to work from home. Since implementation in March, home working has been a great success.

Spearline wants to ensure the safety of our staff, while also ensuring that our customers are looked after and kept fully informed. There has been a high strain on networks due to increased remote working and entertainment consumption for those communities in lockdown. Spearline has been closely monitoring the impact of the Covid-19 pandemic on global telecommunications infrastructure. As well as increased demand and strain on telecoms infrastructure, network providers have been further affected by restrictions that limit access to key sites for maintenance work, along with the movement of personnel and equipment. This has led to variable network performance in many areas.

Spearline's platform has been able to highlight these changes through its

aggregated information and data points in order to better understand the impact of demand changes on networks in these unprecedented times. In this issue, you will learn how Spearline has provided support to our customers during this pandemic.

While we have become accustomed to this new remote working lifestyle and to helping customers from our homes, we look forward to a safe and gradual return to the office in the coming months. To keep updated on Spearline's latest news, from product developments to industry insights, take a look at our website [www.spearline.com](http://www.spearline.com).

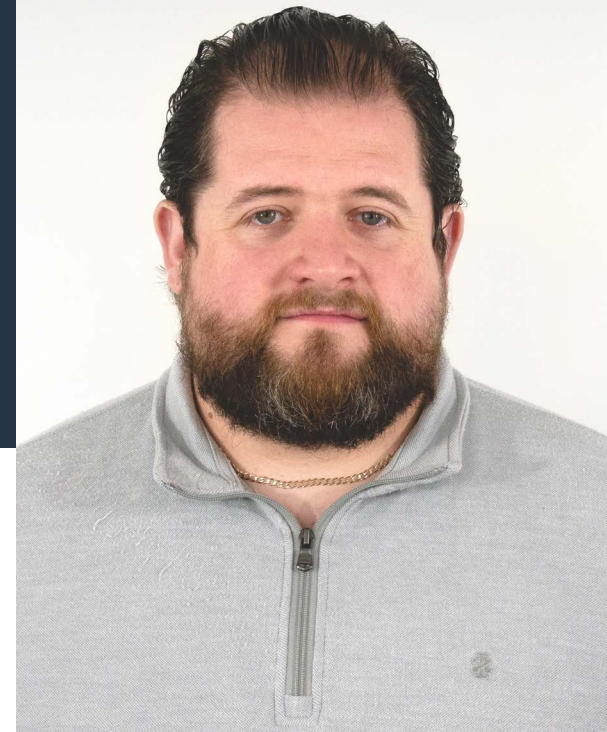
Whether you are an existing or prospective customer, a current or future team member, a business partner, or another stakeholder, our objective is to communicate with you. We aim to keep you informed and connected with Spearline.

I hope you enjoy reading Connect and we look forward to your feedback.

*Matthew Lawlor*

## INTERVIEW

## Patrick O'Connor provides an inside look into the role of Quality Assurance Manager.



As a telecoms or contact center professional, do you ever wonder what happens behind the scenes for products of the highest standard to reach you?

On a recent podcast interview, we spoke with Patrick O'Connor, Quality Assurance Manager at Spearline, who gives us some behind the scenes insights and describes his team as customer representatives.

### How would you describe your role with Spearline?

*I'm the QA manager at Spearline and I've been working in the area of QA for about 10 years. What QA stands for is Quality Assurance. We're the last stop before the customers receive the product and we're that last check before it's issued, just to make sure everything is the way it should be. In some ways, we are a customer representative. Half of the role is part of the development team with the other half being the customer. The role becomes a nice healthy mix of everything and in between. Our goal is to make sure that what we produce is to the quality we all expect and we're putting our best foot forward for our customers.*

### In regards to the project pipeline, where do you see QA?

*Regarding the pipeline, we are the last thing that happens. Any feature, any bug fix, anything like that, will get QA verified. Verified is where someone from QA is taking a look at it and fixing any issues. One of the big things we do is we want to make sure that if the development team adds a new feature, it doesn't break existing functionality, which can sometimes happen. We have what's called a regression suite for that, which means even though the fix or new feature is in the number section, we'll also check the campaign section*

*as well as checking the manual tester. We need to be careful as we never know what happened under the hood or some unusual knock-on effect might have happened. A big part of what we do is making sure that the new features don't imp the existing ones.*

### When you test the platform to ensure the customers have optimal customer experience without any issues, is there any danger of being too careful?

*While there's no real danger of being too careful, you could be too pedantic for sure. We have a complex platform, so there's millions, if not billions, of ways of making numbers and making campaigns. Even with the best automation in the world, you're not going to hit every single one of those so it's about picking our spots and making sure we get the best coverage in the time we have available to actually do it and not go down rabbit holes at the last second.*

### What types of programs and languages do you use?

*Similarly enough to what the development team use, we use Python. We do that just to keep things simple, meaning we're not having to chop and change between various different languages and technologies. Python is a great language, it's easy to understand*

*and it's very well supported with any new features we want to try. There are various different modules or plugins we use to do our work. One of which we heavily rely on is called Selenium, which is how we interact with the browser. If you were to see one of our programs running, it would look like the computer is erratic because the mouse would literally be moving around the screen on its own. This happens because we want to simulate what the user does. Selenium allows this to happen.*

*It's less time-consuming and more efficient allowing the computer to cover something in two hours that would take me two weeks. If I'm away from my desk for a meeting, the computer is doing my work for me. So Selenium is that bridge for us. It takes our Python script and it's able to feed those commands into Chrome and actually do those button clicks and enter text and much more.*



To listen to the complete interview check out the Spearline Podcast. The perfect platform for our listeners to get to know more about the company and the people working there, providing industry insights and top tech thoughts from around the world.

## GUEST FEATURE

# What can Audio Quality Management do for business?



by Moshe Beauford  
TECHNOLOGY JOURNALIST,  
UC TODAY

UCToday is the world's leading Unified Communications & Collaboration publication, incorporating Customer Experience and Emerging Technologies. Their technology journalist, Moshe Beauford, recently sat down with Chief Marketing Officer (CMO) Mike Palmer, discussing this topic.

Today's enterprises face a complex network of management requirements, as real-time voice and data, and asynchronous applications compete for valuable network resources. Two elements remain ongoing challenges for contact centers, including the quality of service they offer (QoS) as well as the nature of the experience (QoE) provided.

Knowing this is key, especially because voice remains the number one point of contact for customers who want to reach support. If this experience is not executed without flaws, it can cause friction in the customer experience and impact an enterprise's bottom line. Spearline CMO, Mike Palmer, agrees with this notion, and in a recent sit down with UC Today, he shared:

**Taking the AQM leap is worthwhile**  
"Institutions that focus on audio quality management give priority to mission-critical customer communication. And investing in international inbound toll-free and toll monitoring services

can have a meaningful impact on an organization – even if leadership is not aware that some of its calls fail to connect", according to Palmer. Consequently, decreased revenue and reduced customer loyalty may become a reality for companies that fail to leverage the strength of audio quality management. "Only about four percent of consumers give feedback to support improvement (i.e., complain). Technical issues may have a repeated impact," he added.

### What does AQM do for CX?

"Taking a systematic approach to audio quality management supports continuous CX improvement", according to Palmer. He even stressed that enterprise leaders must take a proactive stance on audio quality management. He added, "Opting to find issues before customers do, means enterprises no longer rely on customers to alert them when something goes awry."

The audio channel is a technical

connection between two humans. When the quality is good – the environment is suitable for a conversation. When quality is poor, it becomes a source of distraction and frustration for customers. "Studies show, as audio quality decays, the credibility of a speaker's message, too, diminishes. And reduced quality requires an intensified effort by listeners and can even affect the emotional state of callers."

### IT departments must embrace AQM Technology

IT departments are starting to take on more responsibility as network and telecommunications services become increasingly flexible. "Where carriers used to support and manage call routing changes, teams now manage time-of-day routing, overflow, and more," Palmer added.

Network and telecom service costs money, and operational leadership is under pressure to manage these costs.

It is this notion that often comes with a less clear service-level commitment from providers – he noted.

This is where Spearline shines – assisting in reducing downtime, helping build customer loyalty and brand reputation,

providing call detail records, and event recording. Spearline also produces all the clinical data needed to investigate the root cause of issues so contact centers can resolve any challenges that arise.

Any interruptions or flaws in the delivery of communications services can have a notable influence on the human-to-human conversation and quality of the voice channel.





WORKING FROM HOME

# Challenges caused by latency for remote working networks.



by Patrick Lynch  
SOFTWARE ENGINEER

In light of recent events, there is a vast majority of people that have adapted to the work from home lifestyle. However, because multiple devices are being used more than usual, they can encounter problems due to high network latency.

Residences and communities covered by cable and copper-wire links with reduced capacity would be among the first affected. Be mindful that the whole family sharing a single Wi-Fi network should also expect delays, all signing in at once to operate, keeping connected, and entertained.

Latency is a major annoyance that can interrupt important conversations and cause irritation between callers. Latency, or more famously known as 'lag', is the time delay from when you speak to when the other person hears your voice.

Phone calls are normally made between two remote locations, so there will always be some natural delay. More extreme delays increase the conversational challenge. Latency can be caused by a number of factors in the call path, including the number of network hops and the chain of hardware components that ultimately link the call.

## What effects does latency have?

High latency is a frequent cause of poor quality voice or video interaction across a network, and it can have a very significant impact on the effectiveness of communications. Workgroup collaboration and customer engagement can suffer and have a real impact on business. A common cause of poor VoIP (Voice over Internet Protocol) calls, high latency value can lead to great difficulty in conducting conversations and cause frustration.

Echo, overlapping noises i.e. talking over one another, 'slow calls', interrupted calls, and disturbed synchronization between voice and video during conferencing are all common effects of poor latency. Whether working from the office or from home, latency is a serious issue that can affect everyone easily.

## How does one measure Latency?

Latency can be measured in one or both

directions and is quantified in terms of milliseconds (ms). Latency is measured in two ways:

- One-way latency is the time it takes for a data packet to travel in one direction only and it is generally used to diagnose network problems.
- Two-way latency, also known as 'round trip latency', measures the round trip time and this figure is used to calculate MOS (mean opinion scores).

For VoIP calls, a one-way latency of 20 ms is normal; a latency of even 150 ms is barely perceptible and thus acceptable. But anything more than that, the quality and consistency of the call starts to decline. Latency is utterly unacceptable at 300 ms or greater. The International Telecoms Union (ITU) of the United Nations recommends (ITU-T G.114) no more than 150ms latency (one-way) for voice calls. Beyond 150ms (300ms round

trip), call quality declines to the point of unacceptable and completely non-productive.

## Latency testing

Voice is a real-time application and latency does impact human interaction. With international call connections that do cross the globe, and do transit multiple networks, there are challenges, but tolerable latency that supports good conversation is possible.

Today's users have very high expectations regarding the quality of phone calls, and there are many issues that can occur with a voice connection, including latency. Now more than ever, businesses depend on clear communication channels in their customer interactions, and more and more are taking a truly proactive approach to audio quality management.

By implementing the Spearline latency test you will be allowed to proactively

”

Today's users have very high expectations regarding the quality of phone calls, and there are many issues that can occur with a voice connection ...

”



We further explored how to test the latency levels that your organization is experiencing globally in our whitepaper 'Is voice latency impacting your business growth?' You can read more about it by visiting <https://www.spearline.com/whitepapers>. Latency is one of the many problems your business and your customer could potentially face. In our Spearline blog, we examine other problems such as Jitter, Telephone Echo, and more.

COVER STORY

# CEO Kevin Buckley discusses what remote working means for Spearline



by Kevin Buckley  
CEO, SPEARLINE

I ask myself, “what does this new lifestyle mean to the company today, and how does Spearline go about helping in that environment for our customers?”

At Spearline, we’re all about making sure that the connectivity into the work environment is good, particularly within contact centers. But the world is changing as we know well, and working from home has become a bigger part of the day-to-day routine. We’ve been doing tests such as quality testing, connection testing, and latency testing, right down to the contact center to date. But now that people are increasingly working from home, the focus has shifted to communications quality at remote worker endpoints.

Spearline is no different than any other company. All of our employees, across the world, are working from home. How do we make sure that the flexibility and the connectivity are getting right down to the home? And how do we ensure that when you’re working from home,

you have the same experience as you would in the workplace?

In regards to contact centers, this has been a significant challenge for every single one around the world. They are very much team led; driven by call stats, with big screens up on the wall collecting data. They have a hierarchy, with a team leader looking over agents and a manager above the leader, these structures will have to change. The biggest aspects of all those structures are firstly trust, and secondly making sure that your environment at home is the same environment or similar to the one you have inside the contact center.

For that, you need excellent connectivity, making sure your audio quality and your data connectivity with chat are absolutely perfect. To date, we’ve been very successful in helping our customers to communicate with their customers, but, we at Spearline are now venturing into a place where 100% of our staff are going to be working remotely. So the quality of communication as we collaborate together is key. As businesses adapt to work from home type environments, the quality of those team collaborations and communications is going to impact both their productivity and the quality

of their outputs.

I truly believe that Spearline has an obligation to our customers to ensure that we help provide that conversation and connectivity necessary to overcome these challenges. I think some people do find it very lonely, and they struggle with it. For me personally, I think that we should advise our own teams that we do keep up interaction with one another. Every employee should be doing at least two video calls a day with another colleague to keep communication flowing and to look out for one another. And if they’re talking remotely to our customers, they should be having these video calls face-to-face. Strong connectivity is necessary for that requirement to happen.

It’s well and good to do an audio call, but you can’t beat connectivity and that human interaction. Everyone tells us that when you are working from home, your routine should remain similar to your office routine. If you get up in the morning, you have your breakfast, you go for your shower, you go for a jog; whatever it is you do, stick to that routine, and then begin your working day. Sticking to your usual routine will help with your mindset. Employees should dress the same and



do everything as if they were in the office. It is important to make sure that your productivity stays at a high or even higher standard than you had before. Therefore, social interaction is critical.

I’m a person who loves social interaction, I love talking to people, I love collaborating with people. So, I think it’s vital we keep progressing that collaboration with one another. So making sure that you have high connectivity into your home and into a remote working office needs to be achieved. And connectivity which allows you to just work on documents isn’t good enough anymore. It has to be audio, it has to be video, it has to be data. We have to go right across the spectrum, and work is needed to achieve that.

I believe we have a future helping businesses optimize their employee productivity in that home environment space. I don’t think any business really stands out from another business unless it has a true purpose. At Spearline, we have that true purpose. We’re trying to help businesses to communicate better, whether that’s right into your data center, right down to the contact center, or right down to the home, we’re going to achieve that for customers when

they work with us. Our stats show that when you work with Spearline, in the first year, we increase your connectivity by over 2%. Now 2% might not sound that high, but if you’re running at a 97.5 connectivity rate into a contact center, that’s not a pretty place to be. We can guarantee within the first 12 to 18 months that we’ll lift you up to a 99.55% stat. I think that’s a really exciting metric because we can show companies that they’re achieving what they want to achieve. We’re making sure that our customers are able to keep the lines of communication flowing with their customers. And talking to customers through just voice or video no longer suffices, it may be through data, it can be through chat. We can’t have latency and we must make sure to have ping times down as well.

It is a really interesting time for Spearline, and I think that’s reflected in our growth over the last three to four years. There has been a complete adoption of our software and our products around the world by our customers. We value what our customer has to say and what we are helping them to achieve. At Spearline we try to be proactive rather than reactive and that’s what we’re training our customers to be all times. They see Spearline as the

company that’s proactive, not reactive. If they have a number down, Spearline can flag it before the customer is even aware.

We are helping to make it easier for telecommunication teams to work on their day-to-day jobs, to spend their time implementing new services rather than handling tickets. Let Spearline handle this side of the business, allowing you to work on what’s important, looking after your people and customers.



If you are interested in listening to the full interview between Spearline CEO Kevin Buckley and CMO Mike Palmer where they explore further how the company is providing the necessary support to the remote working environment, tune in the second season of the Spearline Podcast today. Sharing industry insights and information from our home to yours.



Co. Cork, Ireland

Co. Waterford, Ireland

Ahmedabad, India

Bucharest, Romania



# Staying customer focused with John Joe Barry, Customer Engagement Manager



Spearline takes customer relationships very seriously. Ultimately, the Customer Engagement Manager (CEM) is the single point of contact for customers, supporting them during their interactions with the Spearline Platform, which is a cloud-based SaaS solution.

*The role of a Customer Engagement Manager at Spearline is to build a long-lasting, relationship with the customer, ensuring they have a positive experience with the company, and that they get the most out of our products and services. The role entails having regular contact with customers to get to know them and their organization, allowing us to present the most relevant solutions and offerings.*

*There are many different definitions of CX, but for us, it's basically customer engagement, and how the customer feels about the experience of interacting with the Spearline brand.*

*CX is an internal function within the organization that flows beyond us on the front-facing side as customer engagement agents; every other department, such as marketing, development, and testing support internally, feeds into the customer experience. We really value our customers and strive to provide a level of support that meets their individual needs.*

Our co-founder and chief technical officer (CTO), Matthew Lawlor describes

it very simply - we test toll and toll-free numbers globally for connectivity, quality, and PDD, so ultimately, that's the service that we provide. That service is provided by a platform that enables customers, in real-time, to automate testing, and also there's an analytics function where they can see results on quality performance, measure connectivity, and Post Dial Delay.

*We also provide real-time alerting so if you're an organization with globally dispersed contact numbers, we can let you know within two-three minutes if your customers are having issues connecting to those numbers or the quality on those connections are not to a standard that will promote a positive customer experience. That enables our customers to get a head start on addressing those issues. The ultimate goal is that the impact on your customers is minimized.*

*I think it's very important to have that single point of contact, and where that comes from for me, is my own personal experience in having, for example, utilities at home. If I have an issue, and I ring the support team and I am referred to several different departments, I end up feeling frustrated and it seems like no-one can address my problem.*

*With customer engagement, we're who our customers come to if there's an issue, or if they have a problem or a question. We filter that internally, but they know they have our email, they have our number, so we're there to support them, and I think that is very important as far as providing a level of service that supports our customer's needs.*

*My preference is always face to face contact in a web conference call or going and visiting our customers. We're trying to promote this idea that we go and visit our customers once a year. The thinking is that you'd sit down and have your formal meeting, go through this is what we're doing for you, this is what we're seeing, these are the trends, these are the analytics, then discuss, okay, what problems have you? Ultimately, what we're here to do is address a problem and make it easier for our customers, and then go break some bread, and sit down, and find out a bit more about the individual, and about the person behind the title or the role. For me, that's my favorite method of communication.*

# Return on investment for Unified Communications



by Lorraine Kelleher  
PARTNER RELATIONSHIP SPECIALIST

Learn about the return on investment that Unified Communications providers enjoy with Spearline.

## Return on investment:

Unified Communications (UC) providers must ensure that their resources are being used efficiently. In a market that is becoming increasingly competitive, well-informed choices can help a provider to gain an advantage over its competitors. Return on investment, or ROI, is a performance measure that is used to evaluate choices in order to ascertain which investment opportunity would be optimal for a given organization.

Proactive identification of technical issues has led to improved service quality and reliability, and to considerable cost savings for UC providers around the world. The ROI achieved by these organizations highlights the value of a strong quality assurance program. UC providers are now able to proactively monitor their services, allowing them to respond to a situation before it has a broad impact on their customers. Networking expert, Terry Slattery of NetCraftsmen states that "Active path testing is particularly important because it identifies network

and application problems and is particularly useful for voice". Active path testing looks at the full call path between users in a voice call.

## Importance of Unified Communications:

Ofcom, the UK's communication regulator reported a 17% decline in the volume of calls made in recent years. However, crucially the average business is receiving 34% more calls now than it did five years ago. It seems that while social conversations have moved to other channels, business communications are very much leveraging the power of voice calls. This means that organizations are now more reliant than ever on a strong voice infrastructure. In today's world, there are grave concerns about the carbon footprint of businesses; so many choose to conduct meetings through calls or video calls where possible to minimize travel. Provided there is a strong connection and a high level of audio quality, these calls can be as beneficial, if not more advantageous than traditional face-to-face meetings.

During the Covid-19 pandemic of 2020, lockdowns have been implemented across the globe, with many businesses forced to operate through a work-from-home model. This has dramatically increased the volume of calls and video calls made through UC providers. This has necessitated that workers are

able to connect and collaborate easily with their colleagues. The ability of a UC provider to deliver high quality, uninterrupted, and reliable services to its customers has become more crucial than ever before.

With so many providers available on the market, maintaining and consistently enhancing relationships with consumers is essential for determining the provider's success. Organizations predominately choose a single UC provider for their communication services. However, it is imperative to note that even these consumers may use an alternative provider when communicating with external organizations. These experiences enable users to trial the service quality and ease of alternative toolsets. This can influence a customer's decision to move to a new provider if problems such as audio quality issues arise. Once the decision has been made to move to a different provider, it is highly unlikely that the business will ever return to its former supplier. And yet, despite the ubiquitous nature of communication and collaboration technologies, a few key issues still plague the virtual meeting experience.

## Poor audio quality:

Failure to connect to a call or conference is not the only predicament that can be faced when trying to use unified communications services. One, in

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bad audio quality; it can make or break a meeting. If the quality of a call is poor, teams may misunderstand the information that they are hearing

particular, stands out as the largest threat to productivity: bad audio quality; it can make or break a meeting. If the quality of a call is poor, teams may misunderstand the information that they are hearing, this can lead to copious amounts of time being spent on repeating the same points. Research has shown that this can have a detrimental impact on businesses, especially in the case of a time-sensitive project. A study commissioned by LoopUp, reveals that poor conference call practices can cost businesses up to \$33 billion each year through lost time and diminished productivity.

When a particular UC provider began experiencing some issues with their audio quality, they decided to reach out to Spearline for assistance. Within two months of testing, there was an 85% decrease in their failure rate. This significantly reduced fault rate allows highly-skilled engineers to reclaim their time instead of focusing on fire-fighting problems. Additionally, it had the benefit of helping the business to better understand and control their network; as well as improving their customer experience which leads to both customer retention and growth. Instances, where measured audio quality fell below the desired threshold, triggered alerts and resolver teams were provided with full CDRs (Call Detail Records) and event recordings to support a speedy investigation and

root cause analysis for faster and more effective issue resolution.

During any communication, a key issue that stems from poor audio quality is susceptibility to background noise. This can be amplified during conference calls, as each participant introduces a number of individual factors and potential problems into the call. Background noise is not only a hindrance to the meeting, but it can also have a substantial negative impact on the health of the participating individuals. The National Institute for Occupational Safety and Health details that background noise can increase stress levels and exacerbate stress-related conditions such as high blood pressure and migraines. The stress caused by background noise may decrease higher brain function and impair learning and memory. The human brain struggles to process multiple stimuli at the same time and therefore reacts to the loudest source of input.

When a conference call suffers from audio issues, including echo, background noise, poor volume, or static, the brain has to work harder to focus on the most important source of the sound. Organizations actively want to avoid these situations as it lowers employee productivity and increases frustrations. Therefore, businesses tend to invest resources

in the best performing UC provider. Providers should continually monitor their numbers to ensure that they are providing the best service possible to their customers.

## Importance of audio:

Research has detailed that individuals are more accepting of a grainy image on the screen than they are of poor audio quality during a conference call. A study from USC has also shown that a lower quality of audio leads to a perceived lack of credibility or intelligence on the subject matter being discussed. Subsequent to the release of their study, Schwarz and Newman offered this advice: "Make sure you have good sound quality. Your credibility depends on it". Audio quality is crucial, especially for organizations that conduct their sales pitches through such channels or who use these platforms to collaborate on work. One must also consider the benefits to number testing that are more difficult to quantify numerically such as a rise in Net Promoter Score (NPS) and customer satisfaction scores.

By investing in a proactive telecommunications monitoring solution such as Spearline, UC providers can show their customers that they are dedicated to providing the optimal service at all times and that they are taking a proactive approach to monitor their numbers.





#### EVIDENCE

### Insights derived from

Taking the Philippines, South Africa, Brazil, and China as representative cases, we highlight our findings from the Spearline database - datasets of call testing metrics include call connection failure and audio quality measurements.

#### Emerging markets as drivers of global economic growth

By definition, EMEs are developing and growing, and typically grow much faster than advanced economies. In 2019, China and India recorded real GDP growth of 5.8 and 7.0 respectively, while the USA reported a modest growth of 2.3%. Not only are the EMEs growing faster than advanced economies, but they are also becoming more integrated into the global economy.



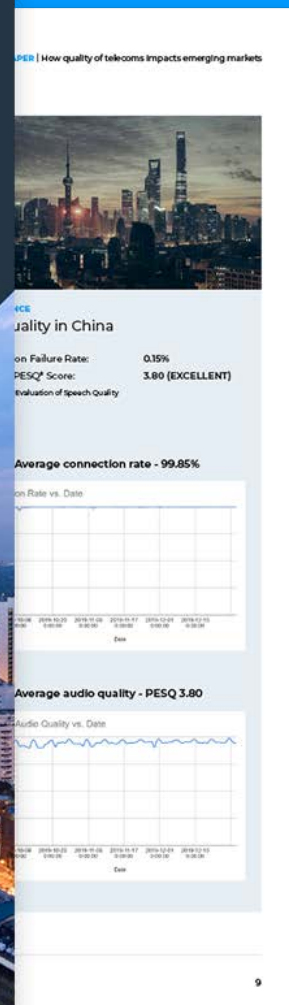
#### WHITEPAPER

## How emerging markets are affected by the quality of their telecoms infrastructure.

An investigation into how the quality of telecoms infrastructure impacts the development of emerging markets.

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## INTERVIEW

## Ola Budak shares her insights on the necessity of Spearline testing



One of the key important roles in the pre-sales process and a dynamic position in the company, the Technical Solutions Architect provides the necessary support for the wide range of test types that is available at Spearline. We recently interviewed our very own Technical Solutions Architect, Ola Budak, in a podcast where we talked about her vital role here in the company and why testing is so important for businesses.

### What does your role as a technical solutions architect involve?

I am involved in the pre-sales process, as well as assisting all teams (enterprise solutions managers (ESMs), customer engagement managers (CEMs), development, product, and marketing) and existing customers, from platform training to test configurations and drafting new test type specifications.

### What are a few key advantages of your role?

Some of the key advantages of my role are knowing the platform inside out and being an expert on Spearline's full range of products and services. This enables me to communicate what we do very clearly and accurately with existing and prospective customers.

Another key advantage is getting to work with all the different teams and departments in the company, the ever-evolving dynamics of the role, and the best part is the satisfaction of when we are the first to identify the issue and to hear that the customer resolved it successfully.

### Why is testing so important?

Let's imagine a number is not accessible due to capacity at the same time every day and customers cannot connect to it. This issue can be easily missed as the customer may never complain because they may never call this number again and, as a result, they will never use the organization's service. If companies with international contact numbers proactively monitor the performance of those numbers, they can resolve the issue before it becomes customer-impacting.

As a result, organizations can deliver excellent and error-free services. Spearline enables multinational companies to improve and transform global telecommunications to a higher level so SLA / QoS within global networks are constantly reaching high standards.

### How is Spearline testing different from other similar companies?

Spearline replicates the end customer experience. We benchmark so that organizations can fairly compare how their phone numbers are performing. They have access to the numbers and full control of how and when they want to test them. Our customers have real-time alerting - they never miss a fail and can react right away. There is no hardware installation required allowing big testing possibilities. There is constant coverage expansion - we currently have servers in 70 countries. We have a dedicated 24/7 support team and assign customer engagement managers (CEMs) to customer accounts so that they can maximize the return. You can learn more about our varied test types on the website at: <https://www.spearline.com/test-types>.



To listen to the full podcast interview "Why you should be developing solutions with customers in mind", be sure to visit our website where Ola further explains how important number testing is and keeping your customers in mind.



# Spearline news

We at Spearline are delighted to share with you a number of key developments happening in 2020:



## Spearline SIP Route Tester

Spearline SIP Route Tester allows you to configure your own trunk and carrier routes in real-time to support testing. You now have the ability to create a campaign, add SIP trunks, and configure them with the trunk name, termination gateway, and dialing options.

### Benefits:

More flexibility. You're in the driver's seat! You will be able to configure SIP trunks, carrier codes, and dialing formats directly from the Spearline Platform without ever having to place a request with our development team to set up.

Save time. With the power to configure SIP trunks yourself, it means you can get started straight away.

Full visibility of all your SIP trunks in one central place. You will have the added benefit of being able to edit straight from the portal, including changing the CLI (caller line identification) whereby you set the number you want to dial out with.

Free of charge! Spearline SIP Route Tester won't cost you anything extra.



## Spearline executive reports

We've been working hard on creating a flexible engine that will allow us to create reports quickly so that our customers can get the important data they need to make crucial decisions in their business.

### Executive reports will contain:

Individualized commentary highlighting unique issues and trends relevant to your business.

Country-by-country benchmarks on audio quality, connection rates, and the post-dial delay. This will allow you to compare and benchmark your telecoms infrastructure's performance against others in your industry.

Contact your dedicated Spearline Customer Engagement Manager today to discuss your individual requirements.



## Spearline SMS Verifier

Mobile has fundamentally transformed consumer behavior and expectations. Currently, 5 billion people globally send and receive SMS messages - about 65% of the world's population.

With such a rise in popularity of mobile usage around the world, we are delighted to share that since February 2020, our customers are able to test the sending of an SMS message to a destination specified by them, via the Spearline API.

### Why Spearline SMS Verifier?

Test SMS messaging and delivery before it's sent to your customer, across an international network between your organization and your customers. Know with certainty whether an SMS

message has been received, either "sent" or "failed to send" by the intended party.

Access real-time reporting and analytics via Spearline API polling.

### How does Spearline SMS Verifier work?

The Spearline server stands in place of your customer's server and checks if the text message was received.

SMS Verifier is an extension to the Spearline API that allows you to test the sending of an SMS message to a destination specified by you.

You will have access to live data which will highlight which SMS messages were received, and which ones weren't.





## Multinationals around the world trust Spearline to optimize their customers' telecoms experience.

In 2009, Spearline developed the first-ever automated testing platform to proactively monitor dial-in and dial-out for toll and toll-free (Freephone) numbers globally.

The Spearline Platform was developed in response to a customer need for an innovative product that did not exist at the time. The need was to solve a frustrating and expensive problem in the telecommunications industry.

As a result, Spearline provides an in-country number testing solution. Crucially, its customers can check if their numbers are operating without having to be physically in a particular country.

Spearline has global coverage and operates a support service 24 hours per day, 365 days per year for its international customers.

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