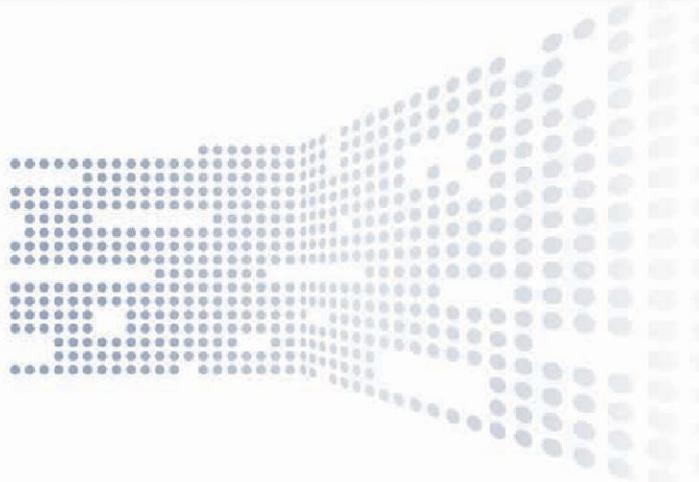


THE ADVANTAGES OF 'ALL-IP' FOR SMEs



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Mittelstandsinitiative
digitalize your business
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ISDN is history - All-IP has arrived. Take the first steps!



Digitalisation affects both the present and future for all businesses. Already it characterises the way in which we communicate with customers and colleagues across different channels and devices.

Digitalisation is all about change - towards the optimisation, virtualisation and simplification of all business operations. And this change is demonstrated in many guises: we are writing fewer emails and are increasingly using chats and instant messaging. Web-based messenger services like WhatsApp have replaced SMS messaging, and we use Skype for free calls across the country and abroad.

Introduced in the early nineties, ISDN represented the first wave of "digitalisation" of voice transmissions. A few years later, IP telephony marked the next step towards the convergence of all communication channels in business and since then has altered the whole concept of corporate communications.

Now, the move to 'All-IP' presents both challenges and opportunities in the field of future digitalisation.

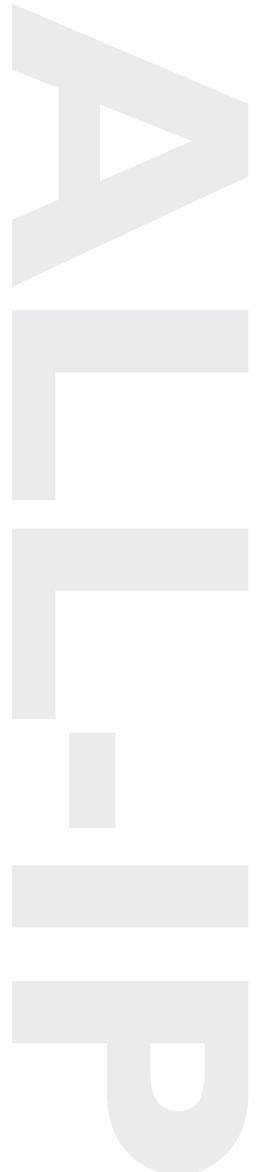
All-IP enables voice and video conferencing, fax, E-Mail, instant messaging and presence features in a single network, based on the universal Internet Protocol. These provide significant technological and economic advantages not possible with ISDN. The rise of distributed work environments, employees constantly on the go, different preferences for devices (BYOD) and flexible working are difficult to achieve with current ISDN technology.

All-IP communication will radically change this: the IP-based convergence of all channels for both internal and external communications will facilitate collaboration more easily, speed up overall business processes – and give companies a real competitive edge.

So, now is the time to seize the opportunities arising from the transition from ISDN to All-IP!

In this whitepaper we explain in more detail what “All-IP” means for your business and how you can benefit from today.

Dr. Ralf Ebbinghaus,
CEO, Swyx Solutions AG



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Who provides what and how to prepare?

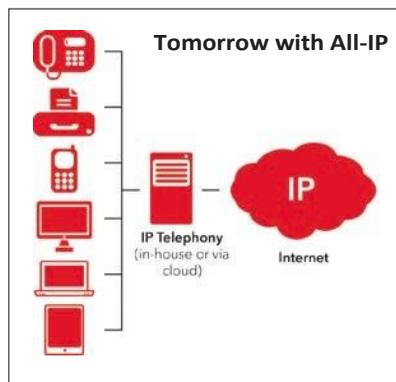
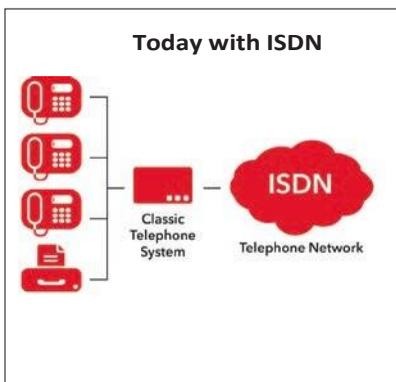
Moving to IP

By 2025, British Telecom has plans to migrate all of its customers on to the IP network. So although the date when ISDN and PSTN networks will be switched off is still some years away, companies should be aware of how they will support communications now, as any decisions made today will have a significant impact in the future.

Indeed, many businesses have already chosen to replace both their legacy phone systems and the associated communication networks in favour of IP telephony and SIP trunking services respectively, resulting in reduced costs and a multitude of other business benefits.

Why is this happening?

ISDN is now an obsolete technology that no longer meets today's performance requirements and incompatibilities between different types of connection can now be avoided in the long term. This also results in both power and cost savings. With the conversion to All-IP, fixed and mobile network convergence is supported because IP-based voice telephony works equally well in both networks. In addition, IP-based communication systems that use the Internet as their transport medium, are as resilient as conventional ISDN lines.



How can companies prepare?

First of all you need to clarify your needs: what applications and devices do you need to successfully communicate and collaborate, internally or externally

Also, to some extent we need to ask whether existing telephony solutions actually still meet the increasing demands of the market in terms of mobility and flexibility. Ultimately though this is not the only decision that is important, you need to consider whether in the future you will reduce CAPEX investment and instead rely on the cloud, or continue with ISDN in the meantime and search for a digital provider of IP connections that can replace it later.

Conclusion

With the transition to All-IP and the new range of services and functions, communications can be extended and also made more flexible. And because the IT and telephony infrastructure is simplified and merged there are also large cost savings because of lower maintenance by external or internal technicians.

Also, more applications can be merged in addition to telephony including back office applications such as accounts or CRM. Scalability is a further plus point: phone numbers and extensions can be easily managed and you can simply add new users and end devices. This rule also applies to the extension of new functions. Remote or field-based personnel can easily be integrated into the corporate network and have access to all the functions they would expect in the office, via mobile devices. Other features of IP telephony or of All-IP can also be found in heightened voice quality during calls by taking advantage of "high definition audio". Finally, thanks to regular software updates, users can start using new features and functionality as soon as they become available.

ALL-IP

Practical questions and answers to All-IP

1 Does my business need to make the switch overnight?

The transition to an IP-based connection is not a question of "either/or". Both ISDN and IP can co-exist in the company without any issues, so that it is possible to gradually, step-by-step replace your analogue or ISDN-based connections with IP as needed in the future.

2 Is All-IP only about adding more functionality or are there also tangible and practical benefits to business processes and workflow?

In particular the integration of telephony into existing business processes and existing applications promises to reduce overall workload: phone numbers no longer need to be selected from a list or directory, you can simply highlight and click from your PC screen. Or you can improve collaboration within the enterprise and with business partners with the integration of 'presence' (showing status e.g. available, in a meeting etc.)—regardless of location thanks to the seamless integration of different devices on the corporate network.



3

Can existing devices be used with All-IP?

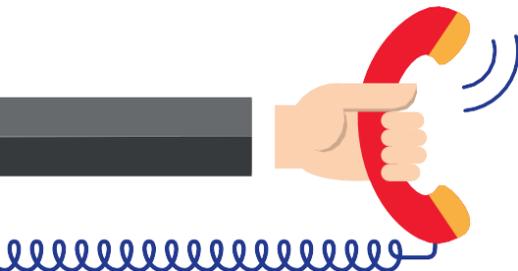
It is possible to continue to use existing IT equipment and devices with appropriate adapters or gateways. For special applications such as alarm systems, door entry systems or payment terminals for card payments, compatibility must be clarified with the manufacturer or provider. However, with all devices especially phones, if you continue with older models then you must accept there you may have functional restrictions and you will be excluded from taking advantage of further developments in the future, that can have a negative impact on your competitiveness.



4

How fast does my Internet connection need to be?

In relation to telephony and the transfer of computer data, a bandwidth of 120 Kbit/s is necessary per phone call. It is not necessary to be concerned with high download rates, because these are usually significantly higher than upload speeds - at least for ADSL connections. However with an SDSL connection the set bandwidth for upload and download speeds are identical.



How IP communications supports your business

The way we communicate both at home and at work has evolved at a phenomenal rate. Customers now search for and buy product or services on their smartphones. Within businesses, employees work in virtual teams, even if they are spread across the globe. In turn the demands on networks grow.

A single All-IP based communications and data platform is the key to greater flexibility and simplicity for voice and data communications. The protocol also supports the convergence of fixed and mobile networks, as it is used for both technologies. This provides opportunities for harmonisation and synergy, reduces operating costs and streamlines existing IT infrastructure.

The conversion to All-IP means you retain all the standard analogue/ISDN functionality such as multiple voice channels and numbers, comfort features such as caller ID, forwarding,

blocking calls etc., plus many other functions too. In short: With the transition to All-IP you don't lose anything, rather you gain more flexibility through the extra intelligence in the network.

Communications infrastructure is more flexible

Especially for small and medium-sized enterprises the transition to All-IP technology represents a huge opportunity to optimise their entire communications infrastructure, bring them up to date and future-proof their technology. In addition there is a high degree of scalability. Whether you have new or additional sites or company expansion, the supply and service portfolio can be set up as needed and again easily "retro-fitted" as required. Also using a Smartphone app, mobile users can be fully integrated with corporate communications. This reduces costs and increases single number reach and availability

Cost reductions

Lower costs are realised due to the simplified infrastructure of an All-IP network that means less hardware and reduced maintenance.

Improved processes

By switching their telephone systems to IP, small and medium-sized enterprises will not only benefit in terms of technical simplification and lower costs, but significant improvement of processes, for example, collaboration within the company and/or with customers and suppliers. But an IP-PBX is more than just telephony.

You can easily migrate from your old telephone system and switch to unified communications software. Now you can not only call; you can bundle all communication channels on to a

single platform. So you can always be reached by whatever channel you prefer or is most appropriate at a particular time. Smart features like video calling, instant messaging, intelligent call forwarding or presence information make every-day work easier and you can improve your competitiveness, through instant access to more knowledge, as well as simple and fast communications.

Secure connections

With All-IP telephony the system integrates seamlessly into a company's overall data infrastructure. This means that the telephony data is protected in the same way as all other corporate data. All existing options for encryption can be applied accordingly.

Feature Check – All-IP

| | |
|---|--|
|  | + Unified infrastructure |
|  | + Rapid scalability (additional users, voice channels) |
|  | + Integrating all staff and devices (PC, laptop, Smartphones, tablets) |
|  | + Location independence (Internet connection insufficient) |
|  | + Flexibility in choice of the operating model for IP PBX (cloud or in-house) |
|  | + Cost savings through simpler administration and maintenance |
|  | + Increasing competitiveness |
|  | + Increased productivity through effective collaboration |
|  | + Future Proofing – As All-IP forms basis for future developments |
|  | + Protection of Investment |

Why wait? Start now

The speed of migration to All-IP, depends on the implementation strategy you choose. It is true that an interim use of both ISDN and IP together ensures that you can integrate the advantages of the new IP technology into an existing ISDN environment

However with the prolonged use of ISDN you will be limited in maximising the full extent of All-IP benefits.

This includes the ability to form virtual teams across different locations, and in turn, thanks to an integrated IP conference solution, the ability for users to 'meet' together, simply by dialling in, whether from a deskphone or any other device such as a smartphone. And with All-IP you can also show live product videos and demos to show customers or use real-time collaboration between internal teams to solve a problem or work on a joint project.

In switching telephone connections from ISDN to IP, you can conveniently, if necessary, revert back to the original infrastructure.

The optimal migration rate

With the transition to IP technology, the speed of the migration of your infrastructure is crucial, as this will dictate either a rise or reduction in investment costs. By managing the IP migration into smaller steps, you can more easily manage the new technology as it bedded in. This also means that existing maintenance contracts can be taken into account, the company's productivity is maintained and the probability of downtime during the changeover will be reduced.

The use of a so-called 'gateway' simplifies the gradual replacement of ISDN technology with IP. So you can benefit from IP communications before the actual transition to All-IP within the company network. When you fully migrate to IP, you can conveniently, if necessary, revert back to the existing infrastructure, as necessary.

IP Telephony – In-house or cloud

In-house or cloud? The decision to move to All-IP and adopt IP telephony also poses a number of decisions: should the IP-PBX be located within the company or operated by a service provider in a data centre? How and why should you choose one against the other?

In-house

With an in-house solution the IP-PBX is located at your own company premises. The software is operated in your own data centre and own hardware. The solution is managed in-house (or via a third party provider such as a reseller) and the company pays for the relevant number of software licences and on-going upgrades. Advantage: The data for all applications used by the IP-PBX remain in-house. The downside: The IP-PBX needs to be installed, operated and continually maintained.

Cloud

With a cloud-based solution the telephone system is hosted in a service provider's highly secure data centre. With the exception of adding new devices or users, no further installations are required. Automatic updates enable the software solution to

be kept up to date and maintenance and support is taken care of by the service provider. The switch to All-IP is faster to handle too, as you only need to download software on to end devices. Costs are based on monthly fees or even flat rates. This means that cloud represents low investment in the short-term and full scalability with flexible packages and access to a large range of services. It also means you can test additional features according to your own budget and if they prove worthwhile these can then be applied to all or some users, as and when you need.

Swyx can offer both – with the same identical functionality no matter what you choose

Regardless of whether in-house or in the cloud: with Swyx you know you will always make the right decision in terms of IP telephony!



Four questions about the digitalisation of collaboration based on All-IP



Martin Claßen,
CTO at Swyx Solutions AG

All-IP belongs to the future: For companies, the question is not whether they should make their communications fit for tomorrow's requirements, but how. What you need to consider is explored by Martin Claßen, Chief Technology Officer (CTO) of Swyx Solutions AG.

Mr. Claßen, what does the change to All-IP mean for companies?

The switch is an important step in the increased digitalisation of communication and collaboration. Even if migration poses challenges to companies, it also creates significant opportunities: with All-IP, they can optimize their entire infrastructure, because the technology bundles all communication channels and considerably simplifies the IT and telecommunications set-up. In this way, All-IP provides the basis for making business processes more efficient as well as improving the information exchange and cooperation within the company over the long term.

How does Swyx help companies take advantage of All-IP?

With our software-based communication solution, we enable companies to seamlessly switch from ISDN to ALL-IP. In this way, they can achieve the switchover without any disruption to normal business operation and profit from fully optimised and connected communications. Our solution offers numerous functions that go far beyond the performance of a traditional

telephone system. Presence functions and instant messaging simplify information exchange and improve accessibility. Thanks to intelligent call forwarding, callers can be quickly directed to the most appropriate contact persons.

Because Swyx supports a wide range of endpoints and platforms, our solution makes mobile working easier and improves collaboration between different locations. Employees can use all of their features in a location-dependent manner and thanks to our "One Number" concept are always accessible via a single telephone number, regardless of whether they are on the road, working from home or in their company office.

In addition, our solution provides deep integration possibilities with existing IT infrastructures and applications such as CRM or ERP systems. This allows companies to design their processes to be particularly efficient and customer-focused. For example, staff can see all of a caller's details, can welcome customers by their name and view their most recent orders.

What role does cloud communications play in relation to the forthcoming migration to All-IP?

Cloud-based communications are becoming increasingly important:

some companies are using the All-IP conversion as an opportunity to shift their communications directly into the cloud. The benefits of cloud-based communications includes high flexibility and cost-efficiency. With the cloud, companies can reduce their investment and operational expenditure, as well as lower administration and maintenance costs. In doing so, in the short-term they can easily and quickly access desired services on-demand, with the freedom to release them at a later date if they no longer need them. This pays off particularly for SMEs, who can react dynamically to changes in the market.

The decision for or against the cloud must be made by every company depending on its individual requirements and infrastructure. Our solution offers an identical range of functions in various variants and operating platforms. In this way, our customers are optimally prepared for tomorrow's communications and can flexibly decide whether to use Swyx as a classic on-premise variant or as part of a public or private cloud solution. If you do not immediately want to get rid of your in-house telephone system, this can also be supplemented with selected cloud services as required. A future migration from an on-premises solution to the cloud is also possible without any issues.

ALL-IP

What should companies pay attention to?

Enterprises should tackle the All-IP transition proactively and with plenty of notice, so that they do not get caught up in the process and have enough time to clarify individual questions. The first step is complete an evaluation to determine specific needs. On this basis, companies can define the requirements for a future-proof communications solution and develop a suitable migration strategy.

When selecting a communications solution, you need to ensure it is scalable and can be adapted to a company's particular requirements. This ensures

that the solution meets specific needs and allows companies to react flexibly as their needs change over time.

Support for All-IP is provided by qualified specialists. Our Swyx partners bring many years of experience and expertise in the areas of telecommunications and software and can help with all types of questions, from the selection of a communications solution through to deployment. Our strong network of resellers ensures that companies find a competent partner in their region.

Mr Claßen, thank you for the interview.

All-IP in use

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Wouldn't it be nice if all applications and devices could speak a single language and everyone in a company could easily communicate regardless of the medium, data, voice or multimedia?

What if there were no longer traditional desktop phones for staff? Instead calls were made using headsets and Bluetooth or any Internet-enabled end device such as Office PC, laptop, tablet or Smartphone. And built-in microphone and speakers would enable hands-free.

Imagine if, thanks to IP telephony, employees could always be accessible using the same number, whether they are at the office, at a customer meeting, in a hotel on business or in a home office? And all of this regardless of which device they use?

Wouldn't it be great if you could increase the quality of service in your company thanks to best voice quality and optimal availability and in turn increase customer satisfaction because your staff could initialise all calls directly from their email clients (e.g. Outlook), PC, Smartphone or Tablet?



With All-IP, "Would" and "Could" are in the past, because switching to modern IP technology opens up totally new application possibilities and potential synergies for your corporate communications.

Swyx speaks IP – from the start

Swyx sets new standards in the corporate communications for SMES - and has been doing so for over 15 years. Because Swyx's software-based IP communications solutions bundle all communications via a single user interface, it can be deployed easily and securely over your existing IP network.



So all employees and end devices can take advantage of integrated, unified communications (UC). Messaging, rich presence, video communication,

application sharing, and the customizable SwyxIt! Skin concept: All these and many more features of Swyx make customer communications today efficient and intuitive for all employees as well as being future-proofed for tomorrow.

As the European market leader, the Dortmund based company has over 1,200 authorised resellers throughout Europe with additional offices in the UK and France. Swyx distributes software solutions in five languages as well as a range of phones and devices. In addition to on-premises solutions, Swyx also offers cloud-based versions of its software through well-known partners including Deutsche Telekom

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Glossary of terms – All-IP

ADSL – asymmetric digital subscriber line is a broadband Internet connection using a normal telephone line. The download bandwidth is higher than the upload bandwidth.

Cloud computing – the automated and dynamic deployment of IT services such as software, storage, computing capacity or other functionality over an IP network

Collaboration – the term refers to anytime, anywhere digital co-operation between different groups

Downstream – direction of data transfer from the server of an Internet service provider to the customer's computer

Gateway – converter for connecting computer networks based on different network protocols, such as IP or ISDN Gateway

IP or IP-telephony – the Internet Protocol (IP) is the technological foundation on which the Internet and modern enterprise networks operate. It can be used also for the management of all internal and external telephone traffic over the data network. Thus, by using a software-based IP PBX it is possible to deliver all the functionality of a classic PBX, but also provide many new telephony functions for users across the network, both in the office and on the road.

SDSL – a broadband Internet connection, where the download bandwidth and the upload bandwidth are identical

PBX (in-house/cloud) - a classic telephone system is static and inflexible, since functions are restricted from the beginning and new features can only be added via software updates from the telephony vendor. The alternative is a software-based PBX delivered via the cloud. There is no need to have a dedicated transmission network as voice traffic can use the company's existing data network. This lowers costs and speeds up communication for all, regardless of location.

UC or Unified Communications (UC) – the integration of telephony, voice and video conferencing, fax, E-Mail, instant messaging and presence on a single IT platform.

Upstream – direction of data transmission from the customer's computer to the server of an Internet service provider

License – In the field of software, this is the right to use a copy of a piece of software. It should be noted that there are different license models, for example single-user licenses for single users and multi user licences for groups.



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