ARGUS®

ARGUS **ALL-IP COMBI-TESTER** IN **PRACTICE**

ADSL
VDSL
GigE
ISDN
POTS
LTE
Cu
TDR
LQ
Copper Box
Data 10110101011
IP TV
Vo IP
MOS
PESQ
PC
USB
WLAN

ADSL
VDSL
GigE
SFP
Bonding
LAN cabling
ISDN
POTS
LTE
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TDR
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Data 10110101011
IP TV
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PC
USB
WLAN

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INFORMATIONSTECHNIK mbH

What is All-IP?

What exactly is All-IP and why does it affect every telephone subscriber?

Telephony is changing. Old-fashioned analogue crossbar switching was replaced by digital ISDN switching technology years ago. Still, this too was tied to exclusive lines for many years.

That is now changing rapidly, as while the switching technology remains digital, exclusive lines are no longer being connected. Instead, the internet, which was originally conceived as a purely packet-switching data transfer network, is increasingly being used for all applications. The great advantage is that only a single infrastructure and switching technology needs to be maintained; today's bandwidths are sufficient for the demand.

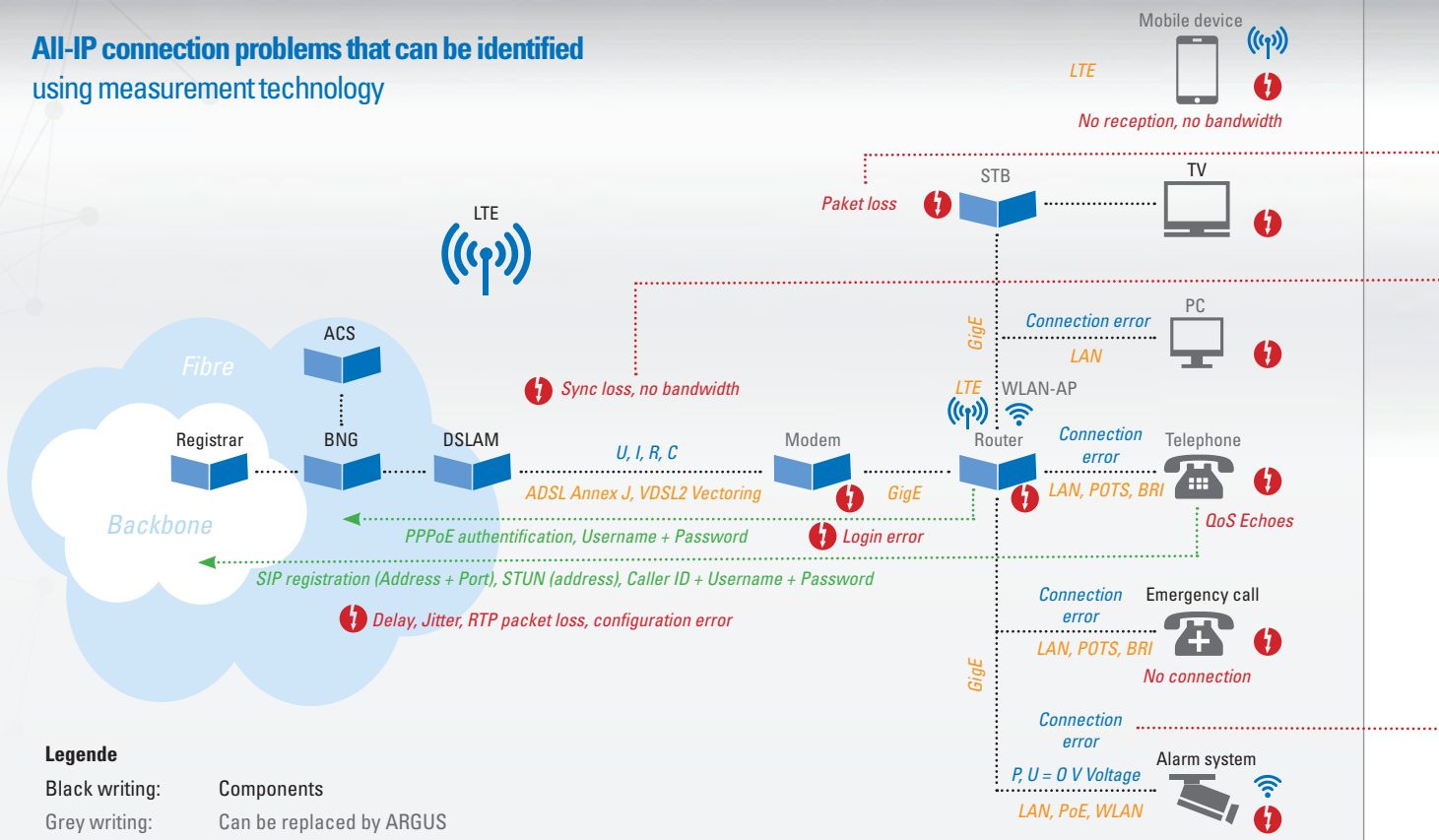
What is changing due to All-IP?

What is changing due to All-IP?

This fundamentally changes how subscribers connect to the network. The old splitter that used to merge telephony and internet is now a thing of the past, and the lower frequency range previously reserved for telephony (such as ADSL Annex B) can also be used for data transmission (ADSL Annex J).

The telephone is now connected to the IAD via POTS or ISDN interface or directly as IP-telephone to the customer's LAN via IP-telephone or WLAN and linked to the provider's backbone via an ADSL/VDSL modem. During calls, speech is digitalised and compressed using a codec (e.g. G.711) and then packed in RTP packets (speech/data packets, formerly B-channel) which are then transmitted to a registrar service via UDP/IP along a path previously negotiated using SIP protocol (signalling, formerly D-channel).

All-IP connection problems that can be identified
using measurement technology



Legende

Black writing:	Components
Grey writing:	Can be replaced by ARGUS
Blue writing:	Physical problems such as R, C, I, sym, asymmetry,...
Green writing:	Protocol structure with error potential
Orange writing:	Interfaces available for connection
Red writing:	Fault/problem

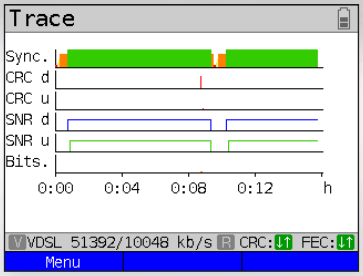
What needs to be tested in All-IP?

What needs to be tested in All-IP?

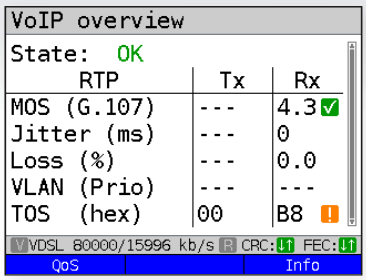
For one thing, the transition from ISDN to All-IP means that voltages can no longer be measured on the subscriber lines, which also means that there is feed on the exchange side either. Additionally, connection to the exchange is only possible with authentication using user name and password, which are required in addition to the PPP subscriber data of the data link.

Just one incorrectly configured port or missing IPv6 address means that the connection cannot function. It is also possible that after a conversion, speech packets are delayed or even lost at certain times of the day due to varying bandwidth requirements, resulting in degraded quality of service. Additionally, echoes or even lost connections must be expected due to sync loss.

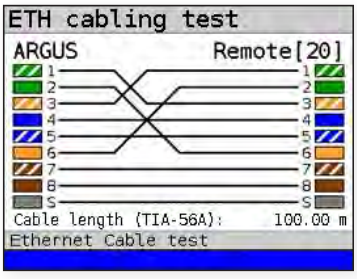
Paket loss



Sync loss



Faulty LAN cabling



Particularly for applications such as emergency call buttons for persons needing assistance or alarm systems, where the availability of the connection is paramount, it must be ensured that the DSL connection cannot be affected or interrupted by external interference or adjacent lines.

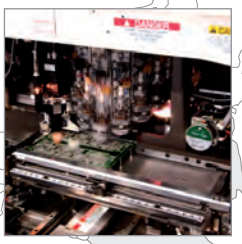
Thus, when selecting tools and measuring instruments for converting, commissioning and maintaining All-IP connections, you need to make sure these have the necessary range of functions. They also need to document that everything was properly tested and qualified at the time of commissioning.

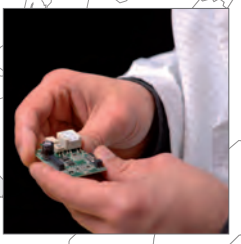
IN USE THROUGHOUT EUROPE

intec Gesellschaft für Informationstechnik mbh is successfully developing products for the international telecommunication markets for more than 25 years. We now specialize in high-quality, value telecom handheld testers and have established ourselves as one of the leading providers of xDSL, ISDN, IP and fibre measurement technology in Europe and abroad.

Our ARGUS® testers simplify the day-to-day work e.g. when it comes to physical line qualification and troubleshooting on the last mile, on xDSL and ISDN as well as on Ethernet and the triple play services based thereon.

Our customers have appreciated the quality of our products and services for many years. This trust in our products has enabled us to supply more than 90,000 ARGUS® testers throughout the world during the last 20 years – a large majority of which have been delivered to international companies such as Deutsche Telekom, KPN, Austria Telecom or OTE.





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ARGUS OVERVIEW 2016 / 2017

	165	162	155	152	151	42 plus	42 basic	3u NT	3u plus	3u basic
VDSL Vectoring	✓	✓	✓	✓	✓					
VDSL Bonding[2]		✓[2]								
ADSL[1]	✓	✓	✓	✓	✓	✓	✓			
SHDSL	✓		✓							
ETH 10/100 BT	✓	✓	✓	✓	✓	✓				
ETH 1000 BT	✓	✓	✓	✓	✓					
FTTx / GPON[2]	✓[2]	✓[2]								
BRI U + BRI S/T TE	✓	✓	✓	✓		✓		✓	✓	✓
BRI S/T NT	✓	✓	✓	✓				✓		
PRI/E1	✓	✓	✓							
POTS	✓	✓	✓	✓		✓		✓	✓	✓
LTE[2]	✓[2]	✓[2]	✓[2]	✓[2]	✓[2]					
Line Scope	✓	✓	✓	✓	✓					
TDR	✓	✓	✓	✓[2]	✓					
LQ				✓						
Copper Box	✓	✓	✓	✓	✓					
LAN cabling[2]		✓[2]								
ETH-TDR	✓	✓	✓	✓	✓					
RFC2544	✓									
IP tests	✓	✓	✓	✓	✓	✓[2]	✓			
Down. / Upload	✓	✓	✓	✓	✓	✓[2]				
IPTV	✓	✓	✓	✓	✓	✓[2]				
VoIP + MOS	✓	✓	✓	✓	✓	✓[2]				
	165	162	155	152	151	42 plus	42 basic	3u NT	3u plus	3u basic

✓ inclusive
✓ optional
✓ minimum one DSL interface is part of the standard package

[1] Annex may vary depending on country
[2] On request/customer specific